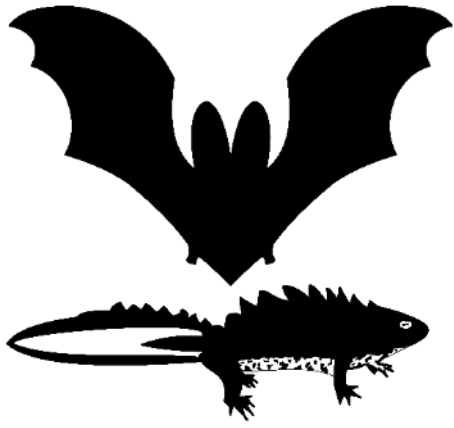




AEWC^{Ltd}

Animal Ecology & Wildlife Consultants

Bat Survey Report

61 Long Lane

**Ickenham
Uxbridge
Middlesex
UB10 8QU**

Brigitte de Coriolis

**19-019-BS
September 2020**

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Summary

- AEWCLtd were commissioned by Christopher James Architecture on behalf of their client to undertake a detailed bat survey at 61 Long Lane, Ickenham, Uxbridge, UB10 8QU to help inform the proposed development of the site.
- This report details the results of the original surveys, which were carried out between June and August 2019 by Daniel Whitby and Brigitte de Coriolis, both qualified NE licensed ecologists, as well as the update survey which was carried out on the 23rd July 2020 by Brigitte de Coriolis.
- The surveys of the site have confirmed that the house is a roost. The 2019 surveys identified a small maternity or satellite roost of brown long-eared bats (*Plecotus auritus*) with the presence of a pregnant female on 21st June and a likely juvenile bat on 12th August within the loft void. Additionally, the 2020 survey identified a small satellite roost for common pipistrelle (*Pipistrellus pipistrellus*) in one of the dormers.
- Therefore, a Natural England development licence will be required for works to proceed. This will encompass a Mitigation Strategy to ensure that the development is designed to protect bats during the construction phase and to minimise long term impacts upon the local bat population. The design of the proposed development and the proposed timeline of works must be fully discussed with the ecologist to ensure appropriate mitigation is included. An Outline Method Statement is provided in Section 6 of this report.
- While no bats were recorded emerging from the garage, this building still has low potential for roosting bats and as such, the same methodology will be adopted for soft stripping both the house and garage, to ensure that if bats are present in the garage they will not be injured.
- The roof of the new apartment block and any associated outbuildings must not be lined with a modern breathable roofing membrane, it must have a traditional Bitumen Type 1F (with a hessian Matrix) roofing felt. Polypropylene filaments used in the manufacture of modern breathable underlays are known to entangle and kill bats and warranty can be invalidated; therefore, they must not be used in known or potential bat roosts and cannot be used at sites with EPS licences for replacement bat roosts. This applies to all new roof areas.

This report has been prepared by AEWCLimited, with all reasonable skill, care and diligence within the terms of the Contract with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

The information and data which has been prepared and provided is true and has been prepared and provided in accordance with the Professional Guidance and 'Code of Professional Conduct' issued by the Chartered Institute of Ecology and Environmental Management (CIEEM). We confirm that the opinions expressed are our true and professional bona fide opinions.

1 Introduction

- 1.1 AEWC Ltd were commissioned by Christopher James Architecture on behalf of their client to undertake a detailed bat survey at 61 Long Lane, Ickenham, Uxbridge, UB10 8QU to help inform the proposed development of the site.
- 1.2 A Preliminary Bat Roost Assessment carried out by GS Ecology in April 2019 identified droppings within the main loft void of the house typical of long-eared bats. The house is therefore a confirmed bat roost, and further surveys were required to confirm the species and type of roost present.
- 1.3 This report details the results of the bat survey and outlines recommendations in relation to bats and the proposed development of the site.

Aims and objectives

- 1.4 The objectives of the survey were to:
 - Identify the potential of the building on the site to support roosting bats;
 - Identify whether bats are present using the buildings on site;
 - Estimate the size and status of any existing bat roost within the building;
 - Determine the potential impacts on any bat roost from the proposed development schedule; and
 - Provide information for use in the design and development of ecological mitigation and enhancement measures where appropriate.

Site Location

- 1.5 The proposed development site is located at 61 Long Lane, Ickenham, Uxbridge, UB10 8QU at central grid reference TQ 078 857. The site is located in Ickenham, a residential area to the north of Uxbridge across the A40 main road. The site is bordered by residential housing and associated gardens, and the surrounding landscape comprises agricultural fields and pasture to the east, with mature tree boundaries and small pockets of woodland, and Swakeleys Estate to the west, with a band of woodland along the River Pinn. Yeading Woods LNR lies 1.6km SE across the A40 and Frays Farm Meadows SSSI/Frays Valley LNR lies 2km to the west. See Figure 1.

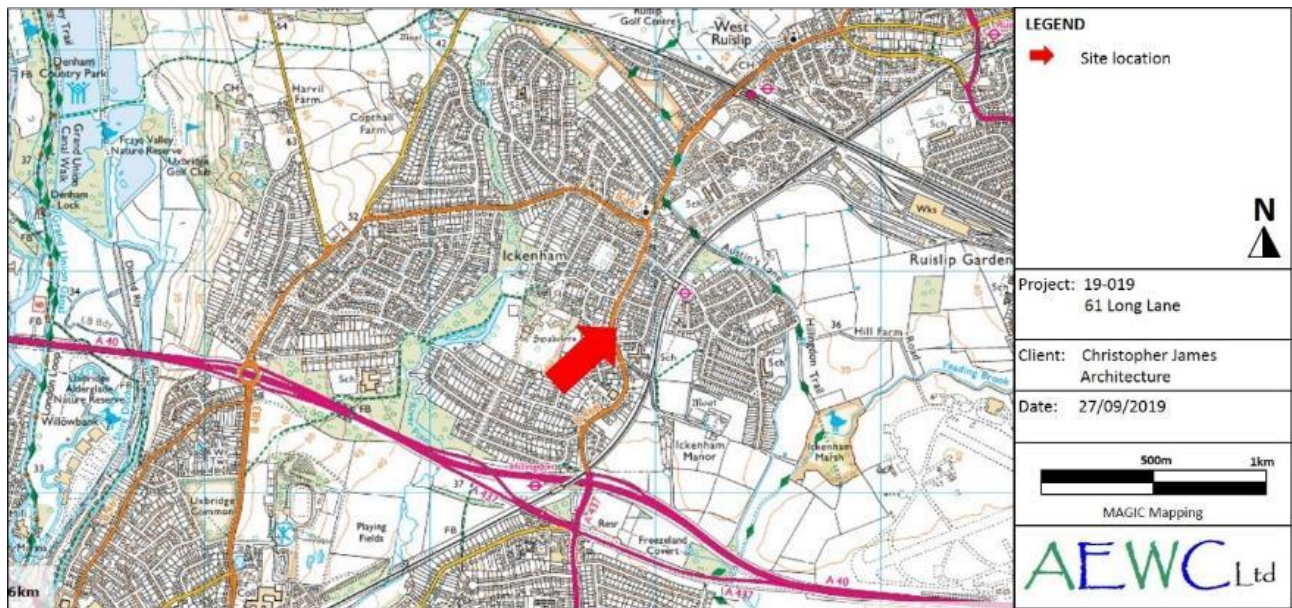


FIGURE 1: SHOWING THE LOCATION OF THE SITE

- 1.6 The site comprises a detached, two-storey house and separate large garage set within a large, mature garden. The house is of brick construction with a complex pitched roof clad in clay tile. The main roof is L-shaped with a catslide and two dormers to both the western and eastern pitches. The single-storey extension to the north-eastern corner is also L-shaped. The garage is single-storey and of brick construction with a pitched, clay tile roof.



FIGURE 2: SHOWING THE BUILDINGS SUBJECT TO SURVEY.

Legislation

- 1.7 All species of bats are listed on *Schedule 5* of the *Wildlife and Countryside Act 1981 (as amended)* which affords them protection under *Section 9*, as amended. They are also protected under the *Conservation of Habitats and Species Regulations 2017*. In combination, this makes it an offence to:
- intentionally kill, injure or take (capture etc.);
 - possess;
 - intentionally or recklessly damage, destroy, obstruct access to any structure or place used by a scheduled animal for shelter or protection, or disturb any animal occupying such a structure or place; and
 - sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative) or advertise for buying or selling such things.
- 1.8 A roost is defined as ‘any structure or place which a bat uses for shelter or protection’. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present.
- 1.9 Any disturbance of a bat occupying a roost can lead to prosecution. Disturbance can be caused by noise, vibration and artificial lighting. Penalties for breaking the law can include fines of £5,000 per bat, imprisonment and the seizure of equipment.
- 1.10 Furthermore, seven bat species (barbastelle, bechstein’s, noctule, soprano pipistrelle, brown long-eared, lesser horseshoe and greater Horseshoe) are also Species of Principal Importance in England under *Section 41* of the *Natural Environment and Rural Communities Act 2006*.

Development proposals

- 1.11 The proposal for the site is for demolition of the existing house and garage, and replacement with a block of apartments similar to other local developments.

2 Methods

Daytime Assessment

- 2.1 A detailed bat building inspection was undertaken on the 21st June by Daniel Whitby, a Natural England licensed bat ecologist. Additional internal inspections of the loft voids within the house were conducted on the 12th August and 30th August 2019 by Brigitte de Coriolis, a Natural England licensed bat ecologist.
- 2.2 An updated inspection was carried out on the 23rd July 2020 by Brigitte de Coriolis.
- 2.3 A systematic internal inspection of the building was conducted using a high-powered torch to illuminate all areas thought to be suitable for roosting bats. Additionally, an external search around the perimeter of the building was conducted and any possible

access points i.e. gaps and crevices were noted and surveyed with a high-powered torch and ladder as appropriate.

- 2.4 The buildings' suitability for bat roosting was assessed by examining structural features that may influence the suitability of a building to support roosting bats; these include the presence of a roof void, the presence of access points into the building (including gaps beneath barge boards, weatherboarding, soffits and fascias, gaps under lead flashing, gaps within masonry and under loose tiles, gaps between tenon and mortise joints), the complexity and size of any roof void and daytime light levels in the roof void.
- 2.5 The buildings' suitability for roosting bats was also assessed by examining the surrounding habitat. Important habitat features surrounding the structure which may influence roost potential include whether the structure is in a semi-rural or parkland location, its proximity to a significant linear habitat features such as a watercourse, mature hedgerow, wooded lanes or an area of woodland.
- 2.6 All surfaces were also surveyed for signs of bat presence. Features of potential value to bats were surveyed not only for the presence of bats but also for signs that could indicate use by bats, such as:
 - bat droppings that are dry and do not putrefy, but can crumble away to dust;
 - staining of access points used by bats to enter the structure; and
 - feeding remains such as moth and butterfly wings.
- 2.7 Taking account of these architectural, habitat features and signs of presence, the buildings were then assigned a level of roost suitability based the criteria given in the Bat Conservation Trust's Bat Surveys: Good Practice Guidelines (Collins, 2016) and professional judgement. The primary objective of this exercise was to identify the need for further detailed bat survey later in the year, or alternatively to obtain sufficient information that would dismiss the need for further assessment.

Emergence Surveys

- 2.8 The evening emergence surveys were conducted on 21st June, 12th August and 30th August 2019, and on the 23rd July 2020, a time of year when bats are active and maternity colonies should be present. Conditions were good for all bat surveys with warm weather, and any bats present were likely to be active. The emergence surveys began approximately 15 minutes before sunset and finished 1 and a half hours after sunset on each survey.
- 2.9 Bat logger M bat detectors were used for taking time-expanded recordings of any bats when they may emerge from the buildings. These recordings were analysed on Elekon bat analysis software that facilitates species identification.
- 2.10 Professional night vision video cameras were used to film areas of the buildings with the assistance of an external infra-red lamp to accurately identify if bats emerge from that selected area of the building.

- 2.11 Two surveyors and two professional night vision cameras were used for the emergence surveys (Figure 3). The surveyors and cameras were positioned to get a good all-round view of the buildings, focusing on features with potential as access points for bats, to record any bats that may emerge.

3 Constraints/Limitations

- 3.1 Bats are difficult to locate in large structures, with so many potential roosting areas, particularly in inaccessible areas such as large buildings, finding the exact roosting site can be difficult, especially male/single bat roosting sites. It should be noted that it is not always possible to identify bat presence by examining externally around buildings as poor weather conditions may have washed away droppings which were deposited on exposed surfaces.
- 3.2 Bats can have seasonal use of buildings and being so mobile may arrive and start using a site after it has been surveyed, or roost somewhere else during the period it was surveyed. For this reason, bats may potentially be present but remain undetected, particularly during daytime assessment.
- 3.3 Due to the layout of the property, notably the proximity of the northern boundary to the house, this posed a constraint on visibility of the full property during the emergence surveys. As it was not possible to monitor all aspects including all of the northern elevation, bats may therefore have emerged from areas that could not be seen by surveyors.

4 Results

Daytime Assessment

- 4.1 The house and garage were found to be in overall good condition, with even and tight-fitting roof tiles and well-sealed lead flashing. Some gaps were noted beneath individual roof tiles on the house, predominantly in the valleys and dormer valleys (Photograph 1). There was also a gap beneath the barge boards on the various gable ends, with potential for gaps at the wall top (Photograph 1). No evidence of bats was identified at any location externally around the house or garage on any of the survey visits.



Photograph 1: *Showing gaps beneath valley tiles and barge board on the house.*

- 4.2 The house has two separate roof voids, one L-shaped void above the double-storey portion of the house and an additional loft void in the single-storey extension. Both voids have a timber construction and are lined internally with bitumen felt, with fibreglass insulation above the ceiling. Bat droppings were identified throughout the main void, of a size and shape typical of long-eared bats. Droppings were scattered along the full length of the void, predominantly below the ridge, with higher concentrations below the intersection of the two ridges and at the southern and western gable ends, where droppings were also found stuck to the gable end walls.
- 4.3 During the internal assessment on 21st June 2019 five brown long-eared bats were identified roosting at individual locations along the ridge of the main void, one of these was handled and confirmed to be a pregnant female. The additional inspection on 12th August 2019 identified two brown long-eared bats roosting together at the ridge of the main void (Photograph 3), one of which had colouration more typical of a juvenile bat. No bats were present during the inspection on 30th August 2019.
- 4.4 The single-storey extension loft void had a very low number of scattered bat droppings (>5) at the western end where it joins the main roof, these were also of a size and shape typical of long-eared bats. No other droppings or evidence of bats was identified anywhere within this loft void or within the garage.
- 4.5 During the update internal assessment, no bats were seen to be present within the roof void, but a number of fresh-looking droppings were noted on top of the accumulations.



Photograph 2: Showing interior of the main void.



Photograph 3: Showing bat droppings within the main void of the house, and two brown long-eared bats present in the main void on 12th August 2019.

Emergence Surveys



FIGURE 3: SHOWING POSITIONS OF SURVEYORS AND CAMERAS, AND EMERGENCE POINT OF LONG-EARED BATS DURING THE SURVEYS.

- 4.6 **21st June 2019** – Weather conditions were good for the survey (18°C and calm with 75% cloud cover at 21:23) and any bats present were likely to be active. The survey recorded low levels of bat activity; with only occasional common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) foraging passes recorded, with bats approaching the site from the south-east and north-west. A single noctule bat (*Nyctalus noctula*) commuted over the halfway through the survey. No bats were observed emerging from either the house or garage during the survey. It is therefore likely that the five brown long-eared bats seen within the loft void during the daytime assessment used an access point not visible to surveyors to emerge from the building, as none were recorded emerging during this survey.
- 4.7 **12th August 2019** – Weather conditions were good for the survey (17°C and clear with a slight breeze at 20:31) and any bats present were likely to be active. Two brown long-eared bats were recorded emerging from the southern gable end of the house, from below the barge board at the apex, and are likely the two seen during the internal inspection prior to the emergence survey starting. Bat activity was slightly higher than the first survey, with regular common and soprano pipistrelle foraging activity to the east of the house in the garden, a couple of long-eared bat passes and a single commuting noctule partway through the survey. Foraging bats approached from the south-east and west. No bats emerged from the garage during the survey.

- 4.8 **30th August 2019** – Weather conditions were good for the survey (19°C and clear with a light breeze at 19:54) and any bats still present were likely to be active. Bat activity was very similar to the second emergence survey, with regular common and soprano pipistrelle foraging activity in the garden and over the house into adjoining gardens, where bats approached predominantly from the south. Two long-eared passes were recorded with the bat originally seen approaching from the west and then returning west shortly after, and a single Leisler's bat (*Nyctalus leisleri*) commuted over the site. No bats emerged from the house or garage during the survey.
- 4.9 **23rd July 2020** – Weather conditions were good for the survey (21°C and overcast with a light to moderate breeze at 21:03) and any bats present were likely to be active. Five common pipistrelle bats were recorded emerging from the apex of the southernmost dormer on the eastern roof pitch. The survey recorded low levels of bat activity with occasional common or soprano pipistrelle passes. No bats emerged from the garage during the survey.

5 Conclusions & Recommendations

- 5.1 The house is a confirmed bat roost; several thousand droppings were identified within the main loft void and brown long-eared bats have been confirmed present in the void on two occasions: 21st June (five bats) and 12th August 2019 (two bats). From the numbers present, level of droppings, and the presence of a pregnant female on 21st June and a likely juvenile bat on 12th August, the house most likely supports a small maternity or satellite roost for brown long-eared bats.
- 5.2 Additionally, the top-up survey on 23rd July 2020 recorded five common pipistrelles emerging from a single location on the apex of a dormer. This species has not previously been recorded roosting in the building, and this is therefore considered to be a satellite roost rather than a main maternity roost for this species.
- 5.3 A lack of any mitigation could result in a negative impact on common pipistrelle and brown long-eared bats through potential death, disturbance or loss of roost space.
- 5.4 Therefore, a Natural England development licence will be required for works to proceed. This will encompass a Mitigation Strategy to ensure that the development is designed to protect bats during the construction phase and to minimise long term impacts upon the local bat population.
- 5.5 There are three tests detailed in the Conservation of Habitats and Species Regulations (2017) which must be satisfied before a Natural England licence can be issued to permit otherwise prohibited acts:
- 1 Regulation 53(2)(e) states that licences may be granted for “preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment”.

- 2 Regulation 53(9)(a) states that a licence may not be granted unless the licensing authority (Natural England) is satisfied that “there is no satisfactory alternative”.
 - 3 Regulation 52(9)(b) states that a licence cannot be issued unless the licensing authority (Natural England) is satisfied that the action proposed “will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range”.
- 5.6 For Natural England to be able to issue such a licence, full planning permission must first be obtained as this will satisfy tests 1 and 2, described above. Test 3 can be satisfied by measures to ensure that minimal disturbance to bats is caused by the development works and that the work includes the adequate replacement of any roosts that are lost.
- 5.7 These measures must be detailed in a method statement to be included in the licence application that, if granted, forms part of the licence. An Outline Method Statement is provided in Section 6 below.
- 5.8 Natural England licenses are usually completed by an ecological consultant who must be suitably qualified to carry out the mitigation (for example, holds a licence to survey for bats). The design of the proposed development and the proposed timeline of works must be fully discussed with the ecologist to ensure appropriate mitigation is included.
- 5.9 The licence application will require surveys in the most recent active season prior to works commencing, therefore if works do not take place before May 2021, top up surveys will be required. The licence can only be applied for once planning permission has been granted.
- 5.10 While no bats were recorded emerging from the garage, this building still has low potential for roosting bats and as such, the same methodology will be adopted for soft stripping both the house and garage, to ensure that if bats are present in the garage they will not be injured.

6 Outline Method Statement

- 6.1 This outline method statement is to identify the mitigation and compensation that will be implemented under a European Protected species Licence to Natural England for the works to commence on the site to renovate the existing property. This mitigation is designed to ensure that bats are not detrimentally impacted by development works on the site, that there is no loss of ecological viability and the favourable conservation status of the species in the local area is not affected by the proposed development.

Mitigation prior to site works.

- 6.2 An EPS licence must be applied for before works can commence on site. An EPS licence will require all mitigation and compensation measures to be fully detailed within the licence application to ensure no bats are harmed during the works and that replacement roosts are provided which are outlined in this document. The licence requires updated survey results for the active season immediately prior to works commencing on site.
- 6.3 Timing of the proposed works is not confirmed as planning has not been granted. The full program of works will need to be discussed and agreed with a licenced bat ecologist before proceeding, and the timeline of works will be specified within the EPS licence. Commencement of works must avoid the summer breeding period (May to August inclusive) due to the presence of a maternity colony, as well as the hibernation period (November to February), therefore licensable works must be conducted in September/October or March/April.
- 6.4 Prior to works commencing, alternative roosting provision must be installed in a suitable location on site, in the form of bat boxes suitable for the species and roost types identified present. One chambered bat box (suitable for brown long-eared bats) and one crevice bat box (suitable for common pipistrelles) will be installed in a suitable location on site and will serve as a safe place to relocate any bats found during works to any roof areas and hanging tiles.

Mitigation during the development

- 6.5 The house and garage must be fully examined by a licensed bat worker immediately prior to starting any stripping work for any bats present. All potential roosting areas identified must be soft stripped; this will involve hand removal of material, exposing potential roosting areas including the roof tiles, ridges, timber joints and internal fittings such as door frames. For this building this will require sensitive removal of the roof and hanging tiles, bitumen felt lining and lead flashing over a period of days.
- 6.6 When works commence, a licensed bat worker will provide a toolbox talk for all workers on site, detailing the procedure to follow in the unlikely event a bat is found during works (detailed below).
- 6.7 Stripping must only be conducted when the air temperature is sufficiently high (at least 8°C) so as to not risk harming bats which may be found. Any soft-stripping work on

and around the building, including the roof, will have to be spread out over more than one day, the stripping work creates disturbance and changes the microclimate of the roosts in the building, spreading the work over a number of days provides opportunity for bats to move to an alternative roost site during the works of their own volition.

- 6.8 Any stripping work of the building of any of the main areas known to be used by bats as indicated above will need to be carried out or supervised by a licensed bat worker at all times. This must include all known roosting areas as well as any potential roosting areas which may be used by bats.
- 6.9 If in the unlikely event a bat is found present during the works being conducted on the site at any time, then a licenced bat consultant must be contacted immediately and the procedure to follow in the event a bat is found present must be followed.
- 6.10 Lighting, especially any relating to high-powered floodlights, throughout the site will need to be agreed with the Licenced bat ecologist to ensure there is no impact on bats present or an offence may be committed.

Compensation mitigation and monitoring

- 6.11 The building currently provides multiple potential access points and roost features under roof tiles and hanging tiles and within the loft voids, and the proposed new building will need to replace these roosting areas.
- 6.12 Any new roof areas or proposed cladding such as tile hanging or weatherboarding on the new building must be lined with a traditional type 1F bitumen roofing felt with a hessian matrix, this will include any areas beneath hanging tiles or weatherboarding to be fitted with a lining as well. A modern breathable or plastic lining cannot be used as polypropylene filaments used in the manufacture of modern underlays are known to entangle and kill bats and warranty can be invalidated; therefore, they must not be used in known or potential bat roosts and cannot be used on any site with an EPS licence for bats.
- 6.13 A dedicated bat loft must be created as mitigation for the loss of the existing void, and this is proposed to be created in the void over Apartment 8. A replacement bat loft has been agreed with the client of minimum dimensions 5.6 x 5 x 2.3 (L x W x internal height) and must be uncluttered (not trussed) – see Figure 4. The loft must have a timber ridge, this can be enhanced for long-eared bats by incorporating parallel timbers in between sections of rafters to provide a double ridge cavity, and triangular wedges to provide additional roosting crevices.
- 6.14 New access points will be created in the roof of the new apartment block, to provide access for bats into the batten space for crevice-dwelling species such as pipistrelles and through into the new dedicated bat loft for long-eared bats, in as similar a location as possible to existing access points.

- 6.15 Lighting around the new building should be sensitively designed and must not illuminate replacement roosting areas or access points. Baffles and motion sensors can be used on external lighting to minimise light-spill and lighting time.
- 6.16 The above mitigation will ensure that there is no loss of ecological availability and the favourable conservation status of the species is not detrimentally affected.

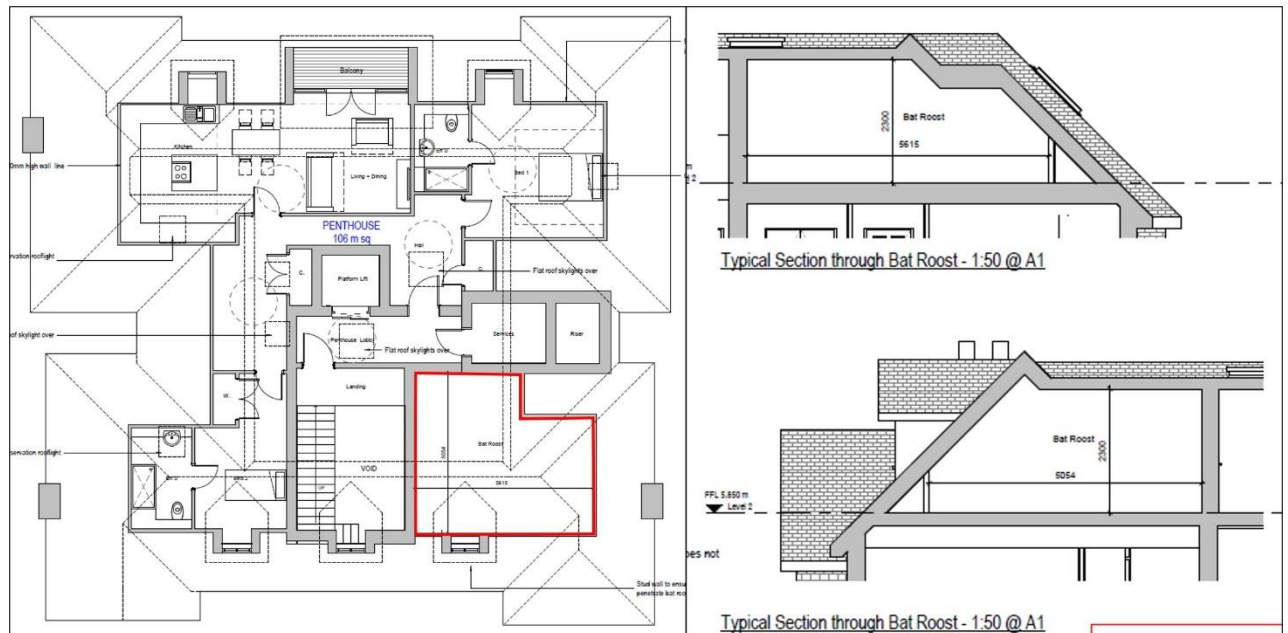


FIGURE 4: SHOWING PROPOSED DEDICATED REPLACEMENT BAT LOFT.

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