Bat Survey Report and Swift (*Apus apus*) Mitigation Strategy

Oakhurst Centre

West Chiltington Lane

Coneyhurst

Billingshurst

West Sussex

RH14 9QG

NGR: TQ 10595 24591

16th August 2024

Sylvatica Ecology Ltd

Company Registration Number: 07705793

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It should be borne in mind that the behaviour of animals can be unpredictable and may not conform to standard patterns recorded in scientific literature. Therefore, this report cannot predict with absolute certainty that animal species will occur in apparently suitable locations or habitats, or that they will not occur in locations or habitats that appear unsuitable.

In order to minimise the likelihood of adverse effects on protected animal species over time, it is accepted good practice, in accordance with Natural England (NE) (formerly English Nature) guidance for ecological surveys to be repeated should works be deferred for over 12 months from the date of initial survey.

It is the duty of the landowner, developer and operations managers to act responsibly and to comply with current environmental legislation if protected species are suspected or found prior to, or during works.

The recommendations and information contained within this report are based on the information provided on the development works prior to the surveys being carried out. Should the development proposals change then the findings and recommendations contained within would potentially require revision.

The findings within this report do not constitute legal advice. Should this be required, then a suitably qualified professional practitioner should be contacted.

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1.0 SUMMARY

1.1 This report presents the findings of evening emergence bat surveys carried out at the Oakhurst Centre, West Chiltington Lane, Coneyhurst, Billingshurst, West Sussex, RH14 9QG, NGR: TQ 10595 24591. A previous preliminary ecological assessment (Sylvatica Ecology Ltd 2024) identified two buildings, one of which had bat droppings present within (Building A) and another building(Building B) that exhibited features that had a moderate potential for roosting bats.

1.2 The survey work used the guidance detailed within Bat Surveys Guidelines for Professional Ecologists – Good Practice Guidelines (BCT 2023a) and the Interim Guidance Note on Surveys and Night Vision Equipment (BCT 2022) as the basis to the survey methodology.

1.3 A single soprano pipistrelle was observed emerging from the southern face of Building A. Common pipistrelle foraging and commuting was observed and recorded around this building. Noctule and soprano pipistrelle foraging and commuting was also recorded, with a low number of brown long eared passes recorded. No bats were observed emerging from Building B.

1.4 The building contained a roost for a commonly occurring bat species that was likely to be a day/ transitional roost. In the absence of any licencing and mitigation, disturbance, damage and destruction of this roost would constitute an offence under the Wildlife and Countryside Act 1981. The recommendations outlined within this report, enable the works to proceed under licence, which in this case, the recommended licence would be the Low Impact Class Licence. Any licence would normally require that planning permission has been obtained, prior to the application.

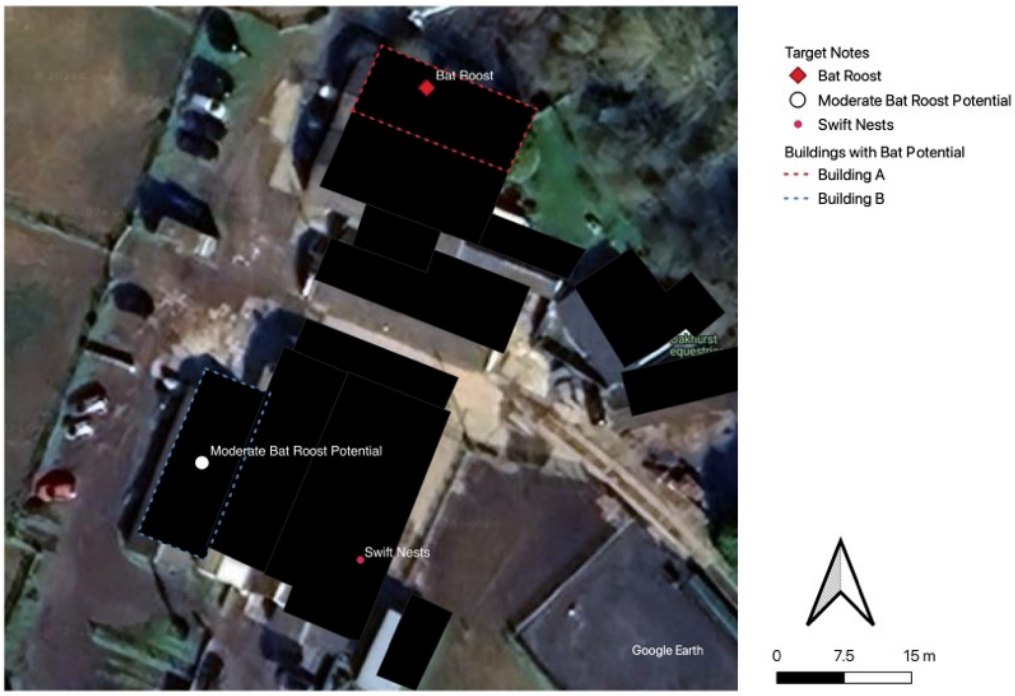
1.5 Measures relating to the mitigation and compensation of swift (Apus apus) have been recommended within this report. Swift nesting was observed within the stables at the southeastern corner of the site survey area. As all nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), measures to ensure that this legislation are not breached have been provided, which include measures to ensure that this species can continue to utilise this location during the construction phase and post construction.

2.0 INTRODUCTION

Aims and Objectives of this Study

2.1 This report presents the findings of evening emergence bat surveys carried out on two buildings at the Oakhurst Centre, West Chiltington Lane, Coneyhurst, Billingshurst, West Sussex, RH14 9QG, NGR: TQ 10595 24591. A previous preliminary ecological assessment (Sylvatica Ecology Ltd 2024) identified two buildings, one of which had bat droppings present within (Building A) and another building(Building B) that exhibited features that had a moderate potential for roosting bats.

2.2 ***Figure 1: Site and Location of Buildings***



Legal Status of Bats

2.3 The potential presence of bat roosts within a proposed development site has to be considered as all eighteen of the UK's bat species are protected under Section 9 of the Wildlife and Countryside Act (WCA) 1981 (as amended). The WCA states that *'a person is guilty of an offence if intentionally or recklessly they disturb [a bat] while it is occupying a structure or place which it uses for shelter or protection; or he obstructs access to any structure or place which [a bat] uses for shelter or protection'.*

2.4 Bats are also protected under the Conservation of Habitats and Species Regulations 2017. Bats are listed as European protected species under which it is an offence if;

- *a person deliberately captures, injures or kills any wild animal of a European protected species;*

- *deliberately disturbs wild animals of any such species;*
- *damages or destroys a breeding site or resting place of such an animal.*

2.5 Disturbances of animals include in particular any disturbance which is likely to impair their ability to;

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

3.0 METHODOLOGY

3.1 The survey work used the guidance detailed within Bat Surveys Guidelines for Professional Ecologists – Good Practice Guidelines (BCT 2023a) and the Interim Guidance Note on Surveys and Night Vision Equipment (BCT 2022) as the basis to the survey methodology.

Lead Surveyor

3.2 The survey work and reporting has been led by Richard Law BSc MRes CEnv MCIEEM FLS. Richard has been undertaking ecological survey work within the last 20 years on, a number, of differing locations throughout the United Kingdom for a variety of protected species, including bats (Class 2 2015-12576-CLS-CLS) and birds including barn owl (*Tyto alba*) (licence CL29/00236).

Equipment Used

3.3 Echometer Pro 2 bat detector with iPad processor unit and Bat Box Duet detectors were used to detect bat echolocation. A mixture of night vision equipment was used including: Sionyx Aurora IR camera, a Pulsar Axion 30S thermal imaging camera and a set of Yukon Tracker night vision binoculars. Calls were analysed, when required, identifying species following Russ (2021).

3.4 The night vision observation equipment gave a view of the features of the building surveyed that was not possible with the naked eye, enabling effective observation to continue in the dark. The cameras were installed on tripods, which enabled the surveyor to work normally without having to hold the camera steady. The Axion 30S enables a live feed to be viewed and recorded directly through a suitable tablet, which in this incidence was an iPad Pro. The Sionyx Aurora IR camera provide a wide angled view which is also recorded and fixed throughout the survey.

3.5 ***Figure 2: Surveyor Positions***

Survey Type

3.6 Emergence survey is undertaken to observe bats emerging from roost. In addition to observation, night vision and thermal imaging equipment was used to ensure that features can be effectively viewed in the dark and that any footage can be reviewed following the survey.

4.0 RESULTS

4.1 This section provides an account of the results from the surveys carried out and from the records search. These findings will inform any further recommendations outlined within this report.

Survey Meta Data

4.2 ***Table 1: Timings and Weather Conditions***

Date	Location	Sunset/ Sunrise	Survey Start and End	Temp	Rain	Wind Speed (Beaufort Scale) and direction
4th June 2024	Building A	21:10	20:40 to 22:40	15.2°C	None	Southerly 2
10th June 2024	Building B	21:15	20:45 to 22:45	15.5°C	Heavy rain in day, but stopped prior to survey	SW 3
2nd July 2024	Building A & B	21:18	20:50 to 22:50	16.0°C	None	Still
23rd July 2024	Building A	21:00	20:30 to 22:30	22.0°C	None	Easterly (1)

4.3 The bat surveys were carried out at a time of year when bat activity, is considered, to be apparent and within the maternity season (May to July/ August). The weather conditions were appropriate for bat surveys to be carried out.

Bat Survey Results – Building A

4.4 ***Table 2: 4th June 2024***

Time	Species	Passes	Activity and Location
21:00	Noc	1	Brief pass. Heard not seen.
21:42	C.pip	1	Brief pass. Heard not seen.
21:54	Noc	1	Brief pass. Heard not seen.
21:58	S.pip	1	Foraging pass to the south of Building A.
21:50 – 21:59	C.pip	Multiple	Regular foraging and commuting activity to the south of Building A.
C.pip = Common Pipistrelle (*Pipistrellus pipistrellus*) S.pip = Soprano Pipistrelle (*Pipistrellus pygmaeus*) Noc = Noctule (*Nyctalus noctula*)			

4.5 No bats were observed emerging from Building A during this emergence survey. Commuting activity of noctule and common pipistrelle was observed and recorded, notably regular foraging passes of common pipistrelle was observed to the south of Building A, with a single commuting pass of soprano pipistrelle recorded.

4.6 ***Table 3: 1st July 2024***

Time	Species	Passes	Activity and Location
21:47	S.pip	1	Brief pass. Heard not seen.
21:52	C.pip	1	Brief pass. Heard not seen.
21:54	S.pip	1	Emergence from southern face of Building A at gap by garage door.
22:00 – 22:30	C.pip	Multiple	Foraging to the south of Building A
22:01	C.pip	1	Foraging pass to the north of Building A
22:09	C.pip	1	Foraging pass to the north of Building A
S.pip = Soprano Pipistrelle (*Pipistrellus pygmaeus*) C.pip = Common Pipistrelle (*Pipistrellus pipistrellus*)			

4.7 A single soprano pipistrelle bat was observed emerging from a gap at the garage door on the southern face of Building A. Foraging and commuting passes of common pipistrelle and soprano pipistrelle were observed and recorded to the north and south of this building.

4.8 ***Table 4: 23rd July 2024***

Time	Species	Passes	Activity and Location
21:09	C.pip	1	Brief pass. Heard not seen to the north.
21:10	Noc	1	Commuting pass high overhead heading south.
21:12 – 21:25	C.pip	5	Commuting and foraging to the north.
21:26 – 21:31	C.pip	5	Foraging to the south.
21:39	S.pip	3	Commuting and foraging to the south.
21:32 – 21:58	C.pip	18	Regular foraging activity to the south.
21:44	S.pip	1	Brief pass. Heard not seen to the north.
22:18	BLE	1	Brief pass to the north. Heard not seen.
C.pip = Common Pipistrelle (*Pipistrellus pipistrellus*) S.pip = Soprano Pipistrelle (*Pipistrellus pygmaeus*) BLE = Brown Long Eared bat (*Plecotus auritus*) Noc = Noctule (*Nyctalus noctula*)			

4.9 No bats were observed emerging from Building A. Common pipistrelle foraging and commuting was observed and recorded, with soprano pipistrelle commuting and foraging observed and recorded. There was a single brown long eared bat pass recorded to the north.

Bat Survey Results – Building B

4.10 ***Table 5: 10th June 2024***

Time	Species	Passes	Activity and Location
21:28	Noc	1	Commuting pass over head, flying south.
21:42	S.pip	1	Commuting pass to the north of Building B.
21:46	S.pip	1	Brief pass to the south of Building B.
22:07	C.pip	4	Foraging passes to the south of Building B.
C.pip = Common Pipistrelle (*Pipistrellus pipistrellus*) S.pip = Soprano Pipistrelle (*Pipistrellus pygmaeus*) Noc = Noctule (*Nyctalus noctula*)			

4.11 No bats were observed emerging from Building B. A single noctule pass was observed heading south, with two passes of soprano pipistrelle and four passes of common pipistrelle to the south of Building B.

4.12 ***Table 6: 1st July 2024***

Time	Species	Passes	Activity and Location
21:55	C.pip	1	Brief pass. Heard not seen.
22:01	C.pip	3	Foraging pass to the south of Building B.
22:07	C.pip	2	Foraging around the south of Building B.
22:16	C.pip	1	Brief commuting pass to the north of Building B.
22:28	BLE	1	Heard not seen. Brief pass to the south.
C.pip = Common Pipistrelle (*Pipistrellus pipistrellus*) BLE = Brown Long Eared Bat (*Plecotus auritus*)			

4.13 No bats were observed emerging from Building B. Common pipistrelle commuting and foraging passes were observed and recorded, mostly to the south of Building B. A single brief pass of brown long eared bat was recorded to the south.

5.0 DISCUSSION AND RECOMMENDATION

5.1 A single soprano pipistrelle was observed emerging from the southern face of Building A. Common pipistrelle foraging and commuting was observed and recorded around this building. Noctule and soprano pipistrelle foraging and commuting was also recorded, with a low number of brown long eared passes recorded. No bats were observed emerging from Building B.

Roost Categorisation

5.2 ***Table 7: Roost Type Definitions (BCT 2023a)***

Roost Type	***Naturel England Definition***
Day Roost	A place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer
Night Roost	A place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used by the whole country
Feeding Roost	A place where individual bats or a few individuals rest or feed during the night but are rarely present by day
Transitional/ Occasional Roost	Used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
Swarming Site	Where large numbers of males and females gather during later summer to autumn. Appear to be important mating sites.
Mating Sites	Where mating takes place from late summer and can continue through winter
Maternity Roost	Where female bats give birth and raise their young to independence
Hibernation Roost	Where bats may be found individually or together during winter. They have a constant cool temperature and high humidity
Satellite Roost	An alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

5.3 The maximum number of bats present within the application area is likely to be one. These were low numbers of bats and it is not likely to constitute a maternity colony of soprano pipistrelle. The low numbers and species of bat recorded were indicative of these being a ***day/ transitional roost*** for low numbers of a common bat species.

Impact Assessment

5.4 Any works to the building that would impact the location where bats have been found to be roosting would constitute either a disturbance or destruction of the roost present here.

5.5 Without mitigation, any impact is likely to be permanent and would result in both the disturbance and likely destruction of the soprano pipistrelle roost. These carried out without licence would constitute an offence under the Wildlife and Countryside Act (1981).

Mitigation Licencing

5.6 A mitigation licence is required as it is predicted that there will be disturbance of the roost, as a result, of the works a mitigation licence is required from Natural England. The licence would require the production of a method statement of works, which would include measures such as hand removal of the roof tiles and any cladding under the supervision of a licenced ecological consultant and the use of bitumen felt, rather than a semi-breathable membrane, under any tiles, so to avoid causing injury or death to bats through entanglement.

5.7 Two bat boxes would be installed prior to the works. These could be installed in the adjacent trees and could consist of types that would be specific to the bat species present. For soprano pipistrelle, these would take the form of a Schwegler 2F general purpose bat box installed within adjacent trees. Should any bats be found during the works, then they can be relocated to these.

5.8 Replacement roost locations would then be installed into the newly developed areas. These would utilise bat access tiles/ bricks, the type and design would be suitable to the design of any newly constructed location.

5.9 To account for the foraging activity of bat species within the local area, particularly the foraging to the south along the treeline, any lighting installed at the property will conform to the specifications which are outlined within BCT Guidance Note (2023b). This will reduce any light pollution would have on nocturnal activity of fauna, namely bat species, some of which are extremely sensitive to light pollution. Light spill into adjacent habitats will be reduced and avoided by the following:

- *All luminaries will lack UV elements; metal halide and fluorescent sources will be avoided,*
- *A warm white light spectrum on external lighting will be adopted (<2700kelvin) to reduce the blue light component,*
- *LED luminaries will be used where a sharp cut off is required to avoid light spill into adjacent habitat,*
- *External luminaries will feature wavelengths higher that 550nm to avoid the component of light most disturbing to bats,*
- *Column heights of external lighting will be limited,*
- *Luminaries will be mounted on the horizontal plane, with no upwards tilt,*
- *Security lighting will be set on motion sensors and on short timers (<1min).*

Summary

5.10 The building contained a roost for a commonly occurring bat species that was likely to be a day/ transitional roost. In the absence of any licencing and mitigation, disturbance, damage and destruction of this roost would constitute a crime under the Wildlife and Countryside Act 1981. The recommendations outlined within this report, enable the works to proceed under licence, which in this case, the recommended licence would be the Low Impact Class Licence. Any licence would normally require that planning permission has been obtained, prior to the application.

6.0 SWIFT MANAGEMENT AND MITIGATION

6.1 Evidence of swift (*Apus apus*) nesting was observed within the stable unit at the southeastern corner of the site. Two swift nests were observed within the stable building at this location.

6.2 ***Figure 3: Location of Building with Swift Nesting***

6.3 To ensure that multiple nesting opportunities, above the amount currently available, new nesting opportunities should be designed into the scheme. This will allow swifts choice over their nest sites during development and post-development as well as providing increased nesting opportunities. It is recommended that the new nest boxes are installed within any newly built structures, where possible. These integral boxes are relatively inconspicuous as they are designed to only show the small entrance hole.

6.4 These boxes do not need maintenance and there is evidence that residents of properties with integrated nest are generally positive about these additions and that the use of integrated boxes within housing developments are unlikely to deter prospective occupiers (Roberts 2017). These universal boxes are used by a variety of species, not just swifts, including house sparrow (*Passer domesticus*) and starlings (*Sturnus vulgaris*) which are also species that have shown population declines in the UK (Day

et al 2019). These integrated boxes should be fitted in groups of at least 3 or more, spaced at least 1m apart, close to the roofline and away from windows and doors. The flightline for the boxes needs to be at least 5m so avoid areas where trees (taking into account expected tree height) or buildings could block this flightline (Day *et al* 2019). Further information on the universal integrated nest box can be found online at https://www.swift-conservation.org/universal_swift_nest_brick02.pdf.

Construction Phase Mitigation

6.5 Breeding birds are protected, making it an offence to intentionally (or recklessly) kill, injure or take any wild bird, and to take, damage or destroy the nest of any wild bird while that nest is in use or being built, or take or destroy an egg of any wild bird. Given the known presence of nesting swifts it is recommended that where possible all demolition works are undertaken outside bird nesting season (generally March to August inclusive) when the risk of encountering nesting birds is minimised. As all nests are protected, if this is not possible, a suitably experienced ecologist would be required to check the buildings, immediately prior to works being carried out (within 24hrs). If birds were found to be breeding at this time in these locations, clearance works would not be permitted to proceed until the young had fledged the nest and at least a 10m works exclusion zone be placed around the nest.

6.6 Renovation of the existing buildings have the potential to disrupt, damage or destroy roost sites through repairs that block access or fill in gaps used by nesting birds. A Construction Environmental Management Plan (CEMP) must be produced that details the renovation measures that will allow any nesting opportunities to be retained and formalised so that the buildings will be weather-tight and there is no future risk of the feature being lost. Full details will be provided in the CEMP of possible methods needed during the renovation scheme as well as detailing the legal protection afforded to nesting birds.

6.7 Demolition has the potential to disturb nesting birds close to this noise and dust-generating activity. No demolition will be permitted in close proximity to building with known swift nest will be permitted during the nesting season for the species May-July. Full details of timing of works will be provided within the CEMP.

6.8 Ensuring that existing nesting opportunities are available throughout the project will increase the likelihood that swifts will continue to breed on the site throughout the project and post-development. The phasing of this work will be provided within the CEMP.

Post Development Mitigation

6.9 Lighting throughout the development should avoid up lighters and streetlights adjacent to nest boxes or known nesting sites to ensure that light spillage does not impact these features. The use of baffles on external lights can be used to minimise the light spillage onto building elevations with nesting birds.

6.10 Following completion of the proposed development the site will be subject to a landscape and ecological management plan detailing measures to manage the site's green spaces. The universal swift boxes integrated into any structure do not require any maintenance. However, it will be necessary to ensure that trees planted do not grow too tall where they are located near the flight-lines into the nest boxes or known nest sites. It is strongly recommended that new residents are provided with information on swifts and other nesting birds that may use the integral nest boxes and where nest sites are retained. This information should detail the purpose of the nest boxes, what species might use them and why they are needed. This will help foster an understanding between the new residents and the wildlife on site and will help ensure the retention of these features on site long term.

7.0 REFERENCES

Bat Surveys

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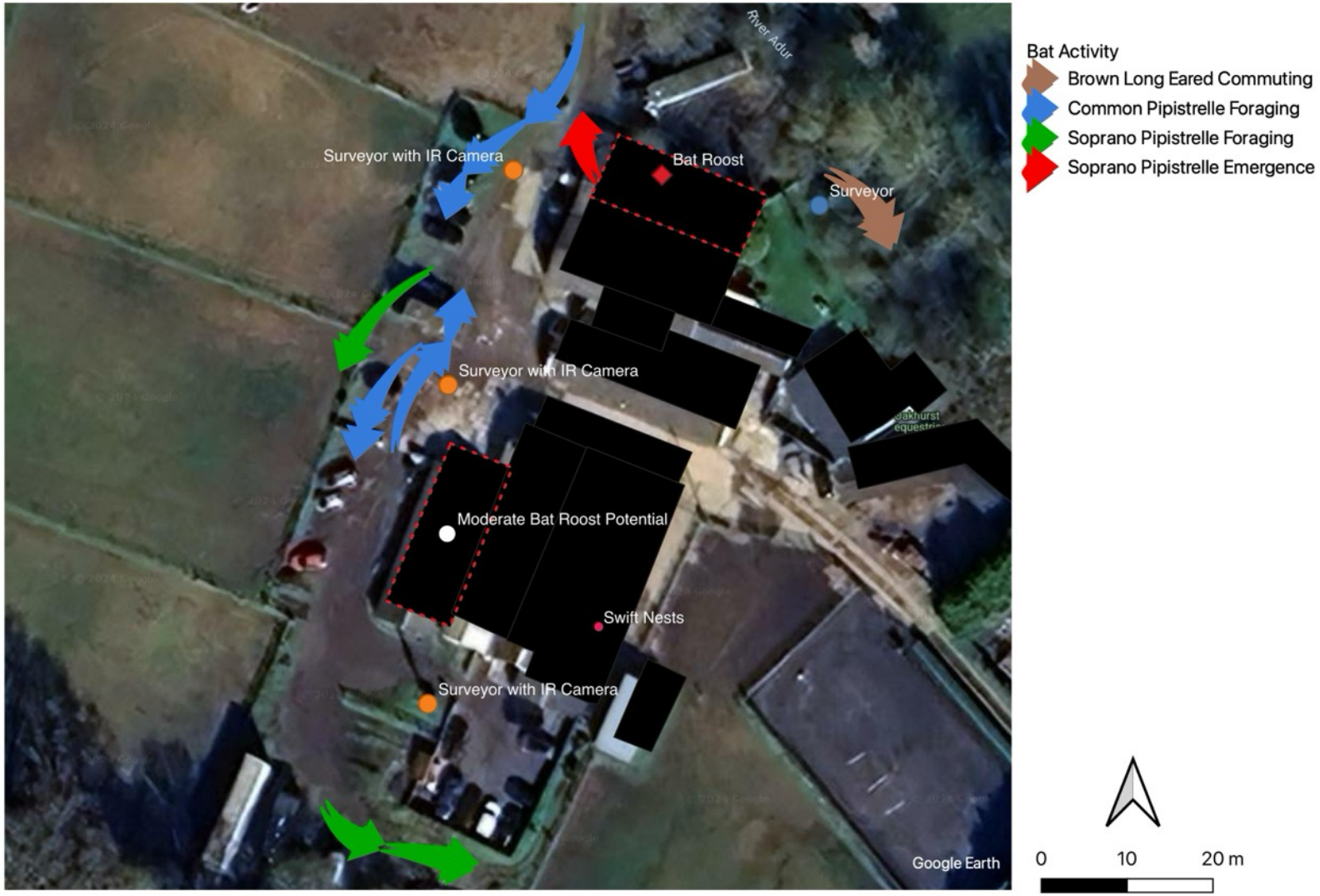
8.0 SURVEYOR VIEWS AND PHOTOS OF BUILDING

Plate 1: Sothern View of Building A with Emergence Location	***Plate 2: Northern Surveyor Position of Building A***
	
Plate 3: Northwestern Surveyor Position – Building B	***Plate 4: Southeastern Surveyor Position – Building B***
	

9.0 SUMMARY MAP OF BAT ACTIVITY AND EMERGENCE



10.0 RECOMMENDED MITIGATION AND COMPENSATION FEATURES

Schwegler General Purpose Bat Box

1FE Schwegler Bat Access Panel

Images from NHBS.com

Vivaro Pro WoodStone Swift Nest Box

Images from NHBS.com