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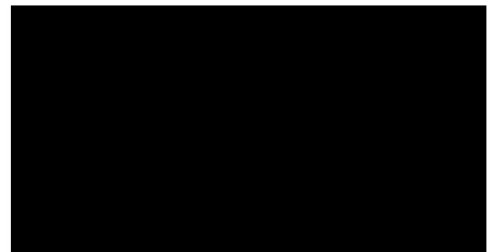
Report prepared for: Mr Marco Vignali

For the Site of: Land Adjacent to 45 Kentish Lane, Herts, AL9 6NG

Version:	Written by:	Checked by:	Final:
Draft	Martin O'Connor 10/07/2020		
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Cherryfield Ecology has prepared this report for the named clients use only.

Ecological reports are limited in shelf life, Natural England usually expect reports for licenses to be no more than 12 months old and therefore should the project not proceed within 12 months of this report an updated survey should be undertaken in order to check for changes that may have occurred on site. Information is believed to be accurate at the time of survey; recommendations are made without bias based on good practice guidelines within the industry. However, species presence and ecological parameters can change over time.



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Emergence and Activity Bat Survey (EBS)

0.0 Non-Technical Summary

0.1 Background -

This report follows national guidelines Collins (2016) allowing for dusk and dawn surveys and recommends mitigation and compensation if considered necessary. If a deviation from the guidelines has been made this will be detailed in the Method Section.

The following report details the findings and recommendations for the site of Land Adjacent to 45 Kentish Lane, Herts, AL9 6NG.

The client commissioned Cherryfield Ecology to undertake an EBS as the proposals include for building a new dwelling on the plot, with associated landscaping and infrastructure.

0.2 Results and Findings -

Following a stage 1 ecological assessment undertaken on 02/04/2020 further surveys were recommended. This included for three surveys on a single tree to the front of the site, it is understood the remaining trees are remaining in situ. These surveys have shown a likely absence of bats using the tree, with no emergence or re-entry on any of the surveys.

0.3 Impact Assessment and Recommendations -

No impacts foreseen.

No further surveys are considered necessary, however sensible precautions and enhancements are provided in section 4, please refer.

1.0 Introduction

1.1 Aim

The aim of this survey is to gather additional information from the site to establish species, population and entry/exit points of bats to aid in the design of mitigation and compensation for bats in the development. The information is used to help inform a licence application (if required) and to inform the client and their architect/planner of necessary changes in the design that maybe required to ensure bats are protected during works.

1.2 Background information

The client, Mr Marco Vignali, has commissioned Cherryfield Ecology to undertake an EBS for the site of Land Adjacent to 45 Kentish Lane, Herts, AL9 6NG. Planning permission is being sought to build a new dwelling, along with associated infrastructure.

This survey has checked all buildings, trees (from ground level only) or structures due to be affected by the proposals for bats, signs of bats or habitat value e.g. crevices, gaps or holes that cannot be checked for a variety of reasons. In addition, surveyors have been positioned around the building, tree or structure to allow for emerging/re-entering bats to be watched for.

The inspection(s) was conducted on the 14/07/2020, 28/07/2020 and 11/08/2020.

The survey can only ever provide a 'snapshot' of the site at the time of the survey and circumstances may change following this report. Health and Safety restrictions or obstructions may limit the ability to find or see emergence, re-entry and/or evidence. Biological records have been requested to give the report context and allow a study of the surrounds. The information is often sensitive and therefore a synopsis is provided.

The survey can be conducted between May and September with the optimal season for surveying maternity colonies limited to mid-May to August inclusive, however it can also be limited due to bad weather, when bats are less active.

Summary of legislation and National Planning Policy that protects bats in England:

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

- Wildlife and Countryside Act 1981 as amended.
- Countrywide and Rights of Way Act 2000.
- Natural Environment and Rural Communities Act 2006.
- National Planning Policy Framework (“NPPF”).
- Circular 06/05.

This legislation makes it illegal to:

- Intentionally or deliberately kill, injure or capture bats.
- Deliberately disturb bats, whether at roost or not.
- Damage, destroy or obstruct access to bat roosts.
- Possess or transport a bat or any part of a bat, unless acquired legally.
- Sell, barter or exchange bats, or any part of a bat.

A bat roost is well-defined by the legislation as the ‘resting place’ of a bat. However, the word roost is used to describe this resting place and is generally accepted as the word describing where a bat or bats rest, feed or sleep.

2.0 Methods

The survey follows the national guidelines Collins (2016) and the following equipment is available for the inspection:

- Torches (e.g. LED Lensar type).
- Ladders (Standard 4m telescopic surveying ladder).
- Endoscope where holes, cracks and crevices are accessible.
- Mirrors (extendable and movable mirror face).
- Binoculars (Pentax close focus).
- Thermometer/hygrometer.
- Camera.
- Sample bags for collecting droppings and feeding evidence.
- Echo Meter Touch, EM3, and Pettersson D240X.
- IR night vision (when required) Sony HD Camcorder, Spec IR lights.
- FLIR one Thermal Imaging Camera (when required).

Surveyors are positioned around the building(s), tree or structure in order to cover all elevations. The survey then observes for emerging or re-entering bats from suitable features such as holes, cracks and crevices. Notes on commuting and foraging bats are also made in the surrounds.

If a deviation from the guidelines has been made the reason and justification will be explained below: -

No deviation made for this survey set.

2.1 Limitations

This survey provides a snap -shot of the site at the time of the survey(s) only. Bats are highly mobile and can and do turn-up from time to time unexpectedly. All care has been taken to ensure the results and recommendations are suitable to the context of the development and the information gathered on surveys.

Table 1: Habitat value (likelihood) of bat presence assessed against Collins (2016) guidelines *Source: Adapted from Collins (2016) pp 35, Table 4.1.*

Likelihood of bat presence (Habitat Value)	Features that bats can and will use, regardless of evidence being present.
Confirmed Bat Presence	Bats are found to be present during the survey. Evidence of bats is found to be present during the survey.
Higher likelihood of bat presence.	Pre-20th century or early 20th century construction. Agricultural buildings of traditional brick, stone or timber construction. Large and complicated roof void with unobstructed flying spaces. Large (>20 cm) roof timbers with mortice joints, cracks and holes. Entrances for bats to fly through. Poorly maintained fabric providing ready access points for bats into roofs, walls, bridges, but at the same time not too draughty and cool. Roof warmed by the sun, in particular south facing roofs. Weatherboarding and/or hanging tiles with gaps. Low level of disturbance by humans. Bridge structures, follies, aqueducts and viaducts over water and/or wet ground.
Moderate and Lower likelihood of bat presence.	Modern, well-maintained buildings or built structures that provide few opportunities for access by bats. Small, cluttered roof space. Buildings and built structures comprised primarily of prefabricated steel and sheet materials. Cool, shaded, light or draughty roof voids. Roof voids with a dense cover of cobwebs and no sections of clean ridge board. High level of regular disturbance. Highly urbanised location with few or no mature trees, parkland, woodland or wetland. High levels of external lighting.
Negligible likelihood of bat presence.	No features suitable for roosting, minor foraging or commuting.

Notes on using this table

- 1 The features listed here may not be indicative of use of the site by bats during winter or spring.
- 2 Pre-1914 buildings may present the greatest likelihood of providing roost space for bats due to their design, materials used and age. Pre-1990 buildings, especially when close to good foraging habitat, and with favoured features such as cavity walls and soffits, also have a high likelihood of providing roost sites for some bat species.
- 3 Post-1990 buildings are generally less likely than older buildings to house roosts; however, some modern designs provide access to suitable roosting spaces for bats. Pipistrelles in particular occupy modern buildings and built structures providing that there are suitable access gaps (> 8mm) and provided the structure has appropriate characteristics for roosting.

3.0 Results

The following section details the results of the desk study, inspection and survey, it includes MAGIC information, biological records data and map/aerial photo information. The results detail the building, structure or tree (numbered for reference) description of any evidence found and habitat value if no evidence has been located.

3.1 Desk Study

The desk study is centred on Grid Ref - TL261045 and postcode - AL9 6NG.

Table 2: Weather records -

Date	Survey	Time: from/to	Weather: Start	Weather: Finish
14/07/2020	Dusk	20.58 to 23.00 SS: 21.13	Temp: 19.6 °C Humidity: 55% Cloudy: 90% Wind: 0/12 Rain: None	Temp: 15 °C Humidity: 80% Cloudy: 100% Wind: 1/12 Rain: None
28/07/2020	Dusk	20.40 to 22.40 SS: 20.55	Temp: 19 °C Humidity: 44% Cloudy: 20% Wind: 1/12 Rain: None	Temp: 13 °C Humidity: 69% Cloudy: 10% Wind: 1/12 Rain: None
11/08/2020	Pre-dawn	04.10 to 06.00 SR: 05.40	Temp: 22 °C Humidity: 63% Cloudy: 100% Wind: 0/12 Rain: None	Temp: 18 °C Humidity: 71% Cloudy: 100% Wind: 0/12 Rain: None

3.2 Magic:

The following statutory sites have been located on the search (see Figure 1) -

- A single SSSI/LNR is located to the east, approx. 1.7km from the site. Known as Northaw Good Wood.
- Three EPS licences are found in the search area. None of these are closer than 1km from the site. These are 2009-982, 2010-1812 and 2013-6057, all include for pipistrelle.

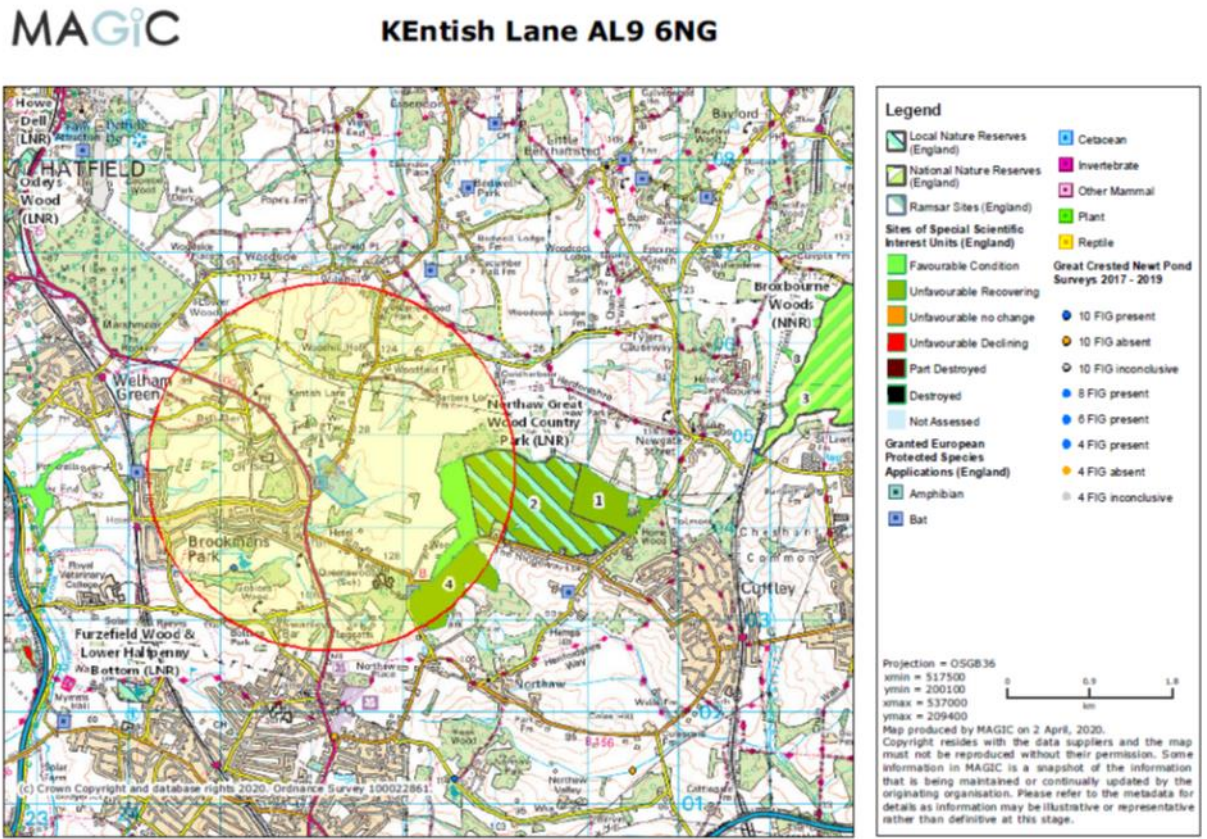


Figure 1: Magic search

3.3 Biological Records Data:

A 2km data search of existing records for protected species and nature reserves has been commissioned, below details the results and site context:

Biological records were obtained from Herts Environmental Records Centre (2020).

Table 3: Bat records

Species	Number of records	Closest record (accuracy)	Most recent record (year)
Bats	33	Four figure references only (10km or more)	2018
Brown long eared <i>Plecotus auritus</i>	4	140m (1km accuracy)	2018
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>			

Common pipistrelle <i>P. pipistrellus</i>	P.	46	0m (1km accuracy)	2018
Noctule <i>Nyctalus noctula</i>		2	460m (1km accuracy)	2018
Natterer's <i>Myotis nattereri</i>	<i>Myotis</i>	78	570m (1km accuracy)	2017
Daubentons <i>daubentonii</i>	M.	76	570m (1km accuracy)	2017

3.4 Site Location and Surrounds:

The site is located in Hertfordshire, Brookmans Park and is surrounded by local density housing in the immediate local. Table 4 details the commuting, feeding and habitat features in a 1km radius of the site.

Table 4: Habitat features suitable for bat use

Feature	Description
Water course	No named watercourses are found in the search area. Small drainage ditches are scattered around the general area.
Water bodies	Two unnamed ponds are located to the south, the first is approx. 300m from site and a further larger pond to the south approx. 700m from site.
Woodland	Woodland block and strips are found to the rear of the site, with small blocks located to the north and south, the blocks are no more than 200m from site, with strips leading to them.
Linear e.g. hedgerows	Garden hedging and tree lined roads are found to the immediate surrounds.
Pasture/arable/grassland	Amenity dominates the area, with a large open field to the rear boundary, this appears to be improved.
Other	n/a

3.5 Building, Tree or Other Structure

The following section details the structure(s) reference, bats located, evidence located and observed emergence/re-entry (see Figure 2 for site plan).

Building/tree/structure reference - T1

3.6 Observations

Table 5: Results and observations of the surveyors located around the building, tree or structure.

Surveyor	Building, Tree or Structure	Dates and Times and survey type	Bat Activity Observed
Kate Hair (KH)	T1	14/07/2020 20.58 to 23.00 SS: 21.13	Common pipistrelle (CP) <i>Pipistrellus pipistrellus</i> heard from 21.33 until 22.08, thereafter no further bats heard.
KH	T1	28/07/2020 20.40 to 22.40 SS: 20.55	CP heard from 21.29 until the end of the survey. The bats were passing along the road and into the site.
Rob Beer (RB)	T1	11/08/2020 04.10 to 06.00 SR: 05.40	CP heard and seen from 04.48 to 05.25 passing along the road and over to the reserve a little further up the lane.
Summary of survey -			
No bats emergence or entered the tree on any of the survey dates. There are bats using the site for foraging and commuting purposes.			

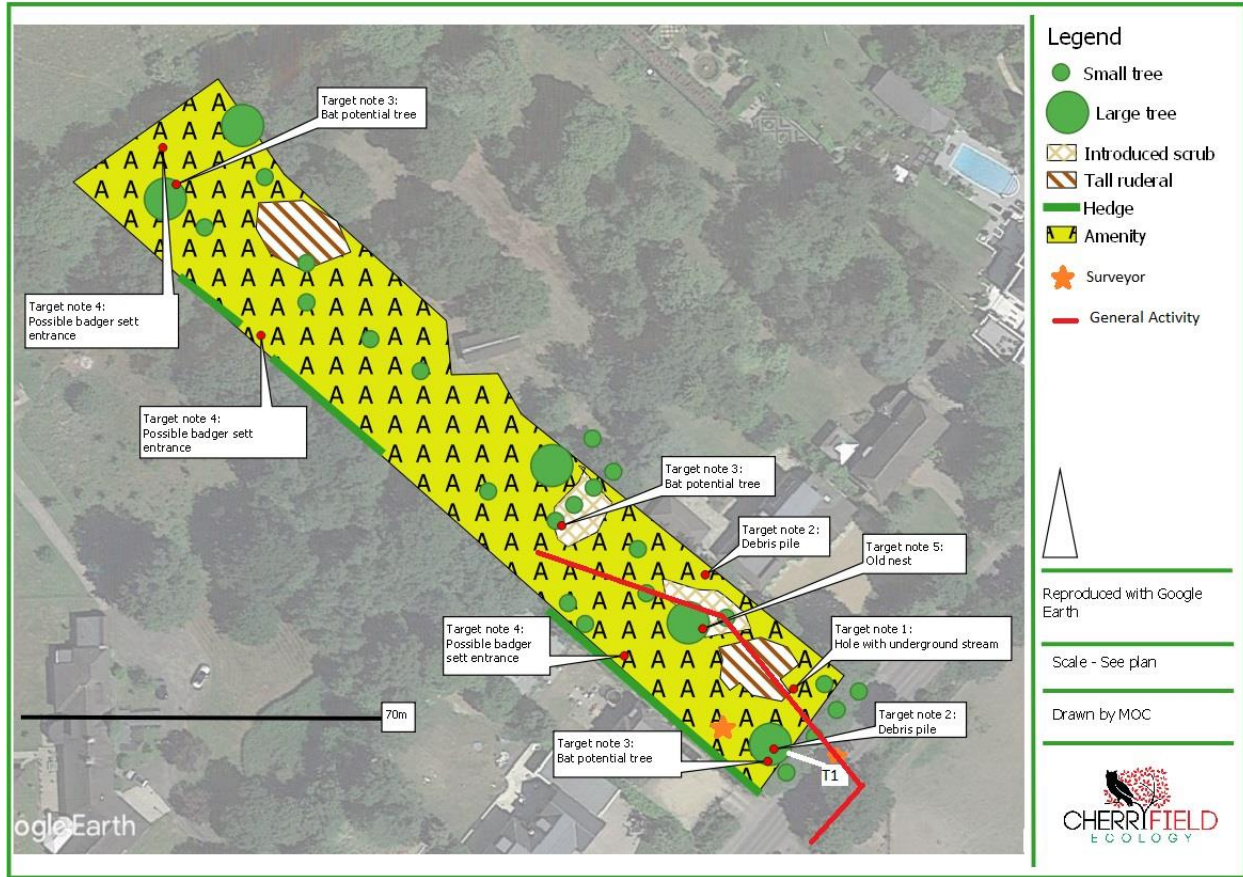


Figure 2: Site plan

4.0 Conclusions, Discussion, Impacts and Recommendations

The following section details the conclusions, discussion and recommendations in the context of the proposed works.

Building/tree/structure reference - T1

4.1 Conclusion and Discussion

The development will involve building a new dwelling on the plot, with associated landscaping and infrastructure. No bats have been found to be using the tree over the course of the surveys and therefore a likely absence of bats roosting has been found.

4.2 Potential Impact

Impact assessments must be proportionate to the scale of the development (CIEEM, 2018) and the following details a proportionate impact assessment based on current information -

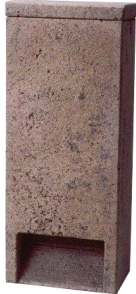
Table 6: Impact assessment

Impact	No impacts foreseen.
Characterisation of unmitigated impact on the feature	n/a
Effect without mitigation	n/a
Mitigation and/or enhancement	See table 7
Significance of effects of residual impacts (after mitigation)	n/a

4.3 Recommendations

The following table details the recommended mitigation and enhancements required

Table 7: Mitigation and enhancements

Work	Specification
<p>Enhancement</p>	<p>Bat tubes can be built into the building (see Figure 3), these can be faced in any product to suit the dwelling and require no maintenance once installed.</p> <p>These should be installed at the apex of gable ends or at eave height, facing south/southwesterly where possible.</p> <p>They should not be installed near ledges in order to prevent domestic cats from predated on bat using them in the future.</p> <div style="text-align: center;">  <p>Figure 3: Example of bat tube</p> </div> <p>Commuting bats maybe using the grounds and surrounds - therefore any tree, hedges or linear feature should be retained were possible.</p>
<p>Lighting</p>	<p>Any lighting near or shining onto any trees, especially those with bat boxes in or commuting routes shown to be present at further survey stage should be designed to minimize the impact it has on potential bat roosting and commuting.</p> <p>Lighting should be in-line with the BCT lighting guidelines (Bats and Lighting in the UK (Bat conservation trust, 2018) https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/)</p> <p>This lighting should be of low level, be on downward deflectors and ideally be on PIR sensors. Using LED directional lighting can also be a way of minimizing the light spill affecting the habitat. No up-lighting should be used.</p> <p>This will ensure that the roosting and commuting resources that the bats are likely to be using is maintained.</p>

5.0 References

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, September 2018. Chartered Institute of Ecology and Environmental Management, Winchester, online at <https://www.cieem.net/data/files/ECIA%20Guidelines.pdf>

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Office of the Deputy Prime Minister (2005). Circular 06/2005: Biodiversity and Geological Conservation. Para.99 <http://www.communities.gov.uk/documents/planningandbuilding/pdf/147570.pdf>

Records: Herts Environmental Records Centre, (2020) Records Data, HERC