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Report prepared for: Stephen Deering

For the Site of: The Old Vicarage, 6 High Street, Abbots Langley, Herts, WD5 0AS

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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 licences 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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Preliminary Roost Assessment (PRA)

0.0 Non-Technical Summary

0.1 Background

The survey undertaken follows national guidelines Collins (2016) allowing for a day-time inspection and recommends for further surveys 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 The Old Vicarage, 6 High Street, Abbots Langley, Herts, WD5 0AS.

The client commissioned Cherryfield Ecology to undertake a PRA as the proposals include for the refurbishment of the existing building, with erection of orangery, a single storey extension and loft conversion. Plans have not been provided and a verbal description has been given.

0.2 Results and Findings

- The site consists of a detached, Grade II listed, two-storey dwelling.
- No bats or evidence of bats were found on site.
- B1 provides **high** potential for roosting bats due to multiple gaps found between clay roof tile across all aspects of the roof and also gaps found in a small amount of hung tile found to a roof cheek.

0.3 Impact Assessment and Recommendations

B1 – A bat roost may be lost in the development

Presence/Likely Absence surveys will be required (three surveys, a minimum of two weeks apart). ***Please see Section 4.3 for further details.***

The findings outlined in this report are valid for one year, after which updated surveys will be required.

Enhancements and mitigation are recommended (please see Section 4 for further details).

1.0 Introduction

1.1 Aim of the Survey

This survey aims to inform the client of any bat issues that may be present on site and that could affect the development. It recommends for further survey when considered necessary and provides possible mitigation and enhancement should this become required.

1.2 Background Information

The client, Stephen Deering, has commissioned Cherryfield Ecology to undertake a PRA for the site of The Old Vicarage, 6 High Street, Abbots Langley, Herts, WD5 0AS. Planning permission is being sought to carry out the refurbishment of the existing building, with erection of orangery, a single storey extension and loft conversion.

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 features known to be used by bats e.g. crevices, gaps or holes that cannot be checked for a variety of reasons.

The inspection was conducted on the 20/04/2021.

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 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 year-round, however it can be limited due to bad weather and in the winter, when bats are not active, thus evidence and bats are often not found. During these periods, habitat value (likely presence) becomes more important to the assessment of the site.

All 18 species of bat common in the UK (17 known to be breeding) are fully protected under the Wildlife and Countryside Act (as amended) 1981 through inclusion in Schedule

V of the Act. All bat species in the UK are also included in Schedule II of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which transpose Annex II of the Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("Habitats Directive") which defines United Kingdom protected species of animals.

Bats species are afforded further protection by the Countryside and Rights of Way Act 2000; and the Natural Environment and Rural Communities Act 2006.

This combined legislation makes it an offence 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 bats, unless acquired legally.
- Sell, barter or exchange bats.

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 (it may or may not all be used):

- Torches (e.g. LED Lensar type).
- Ladders (Standard 4m telescopic surveying ladder).
- Endoscope where holes, cracks and crevices are accessible.
- Mirrors as above (extendable and movable mirror face).
- Binoculars (Pentax close focus).
- Thermometer/hygrometer.
- Camera.
- Sample bags for collecting dropping and feeding evidence (should this be found).

The assessment allows for a detailed inspection of the site looking for bats, evidence of use by bats e.g. droppings/feeding remains, and features known to be used by bats for roosting e.g. gaps, crevices and holes. Trees and buildings are assessed from ground level only and may require climbed surveys of holes, cracks and crevices.

Biological records data is ordered from the local records centre to provide context and background information. As the data is often sensitive, a synopsis is provided.

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

No deviation from the standard guidelines has been made for this survey.

2.1 Limitations

This survey provides a snapshot of the site at the time of the survey only. Bats are highly mobile and can 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: Roosting features (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 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 Reference – TL094021 and Postcode – WD5 0AS.

Table 2: Weather Records

Temperature	16ºC
Cloud cover	0%
Precipitation	None
Wind	0/12

3.2 MAGIC

The following statutory sites and Natural England Protected Species (NEPS) have been located within the 2km search area (Figure 1):

- There is a single statutory site located within the search area. The Albans Wood local nature reserve (LNR) is located approx. 2km south east from site.
- There are 2 NEPS licences granted for bats within the search area:
  - Brown Long-Eared *Plecotus auritus,* and Common Pipistrelle *Pipistrellus pipistrellus*, approx. 1.9km north of the site (Licence 2012-4154).
  - Common Pipistrelle, approx. 2km south east of the site (Licence 2015-17221).

MAGiC The Old Vicarage

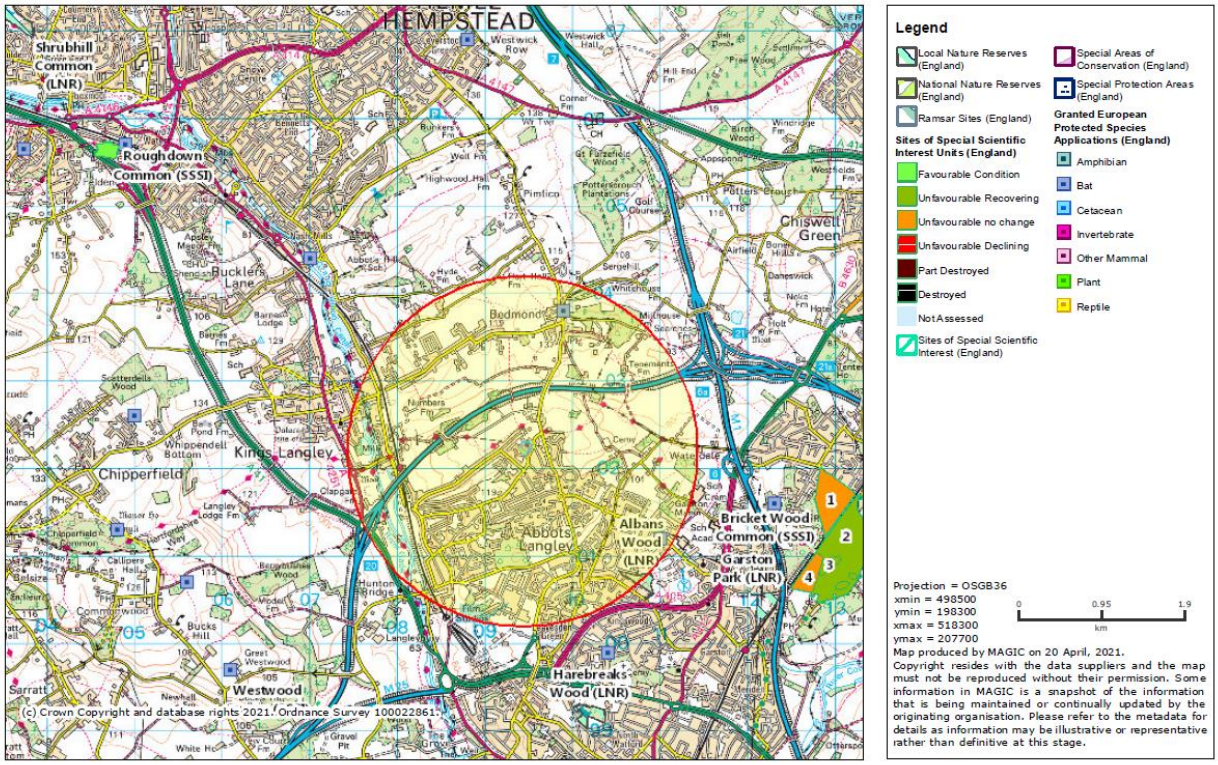

Figure 1: Magic Map Search.

3.3 Biological Records Data

A 1km 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 (HERC, 2021). A total of 206 records were provided from a total of 188 confirmed bat species.

Table 3: Biological Records

Species	Number of Records	Closest record (accuracy)	Most recent record (year)
Brown Long-Eared *Plecotus auritus*	16	70m (100m)	2012
Common Pipistrelle *Pipistrellus pipistrellus*	95	210m (100m)	2019
Daubenton's *Myotis daubentonii*	17	0m (10km)	2010
Natterer's *Myotis nattererii*	34	0m (10km)	2007

Noctule *Nyctalus noctula*	24	850m (1km)	2016
Serotine *Eptesicus serotinus*	1	850m (1km)	2016
Soprano Pipistrelle *Pipistrellus pygmaeus*	4	1.7km (100m)	2011
Unidentified Bat *Chiroptera*	13	1.4km (100m)	2010
Unidentified Long-Eared *Plecotus sp.*	1	1.4km (100m)	2011
Unidentified Myotis *Myotis sp.*	2	1.4km (100m)	2005
Unidentified Pipistrelle *Pipistrellus sp.*	2	1.7km (100m)	2014
Unidentified Vesper *Vespertilionidae*	1	1.6km (100m)	2008

3.4 Site Location and Surrounds

The site is located in Abbots Langley, Hertfordshire and is surrounded by high density urban sprawl and arable fields 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 in the general area

Feature	Description
Water course	There are no significant water courses within the search area.
Water bodies	An unnamed water body is found approx. 515m north east.
Woodland	Areas of woodland are found approx. 330m south west, 585m north west, 770m north west and 950m north east.
Linear e.g. hedgerows	In addition to hedgerow found along the boundaries of the site, there are residential and agricultural hedgerow in the general area with moderate links to the wider landscape.
Pasture/arable/grassland	Amenity grass is found approx. 485m south west. Most of the wider surrounds, especially to the north, north east and north west consist of arable with the nearest arable field found approx. 260m north west.
Other	The M25 motorway is found approx. 500m north.

3.5 Building, Tree or Other Structure

This section details the structures reference and description (see Figure 14 for Site Plan).

Building/tree/structure reference – B1 (Main Building)

3.5.1 Description

3.5.2 General

The site consists of a Grade II listed, two-storey dwelling.

3.5.3 External

B1 is a brick-built structure with a complex open gable roof design and clay roof tile. The building has some areas of render present. There are three chimneys and also metal rainwater goods. Soffits are timber built. Windows and doors are timber framed. There is a small flat roof section of the building to the rear which is lined with bitumen felt roofing material.

Figure 2: Front elevation of B1.

Figure 3: Side elevation of B1.

Figure 4: Side and rear elevations of B1.

Figure 5: Side and rear elevations of B1.

3.5.4 Internal

Internally B1 has a single large loft space. Some sections of the loft space have bitumen felt underlining the roof, with some areas lined with what appears to be a type of plaster board. The loft space is partially boarded with insulation found to the rest. A water tank and associated infrastructure is also found to be present.

Figure 6: Example of B1's loft space.

Figure 7: Example of B1's loft space.

Figure 8: Example of B1's loft space.

3.6 Bats, Evidence or Likelihood of Bat Presence

The following table details the results of the surveys:

Table 5: Bats, evidence or likelihood of bats being present.

Bats found	No bats were found at the time of the survey.
Evidence of bat use	No evidence of bats was found at the time of the survey.
Potential for bat use	Level of likelihood of presence – B1 – High. Multiple gaps are found across all aspects of the building's roof. These gaps and crevices are found between loose and or missing clay roof tile. There is also a small amount of hung tile found to a roof cheek which also has suitable gaps and cervices in which roosting bats could utilize. Given the number of gaps and type, coupled with the surrounds, B1 is considered to be of high potential for roosting bats.  Figure 9: Example of multiple gaps between loose and or missing roof tile.  Figure 10: Example of small amount of hung tile found to roof cheek.

Figure 11: Further example of gaps between loose and or missing roof tile.

Figure 12: Further example of gaps between loose and or missing roof tile.

Figure 13: Further example of gaps between loose and or missing roof tile found on the roof of the front porch area.

3.7 Supplementary Observations

There were no other protected species found at the time of the survey.

Figure 14: Site Plan.

4.0 Conclusions, Discussion and Recommendations

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

Building/tree/structure reference – B1 (Main Building)

4.1 Conclusion and Discussion

The proposals include for the refurbishment of the existing building, with erection of orangery, a single storey extension and loft conversion. The site consists of a detached, Grade II listed, two-storey dwelling. No bats or evidence of bats were found at the time of the survey, however suitable potential roosting features were found. This includes multiple gaps are found across all aspects of the roof. These are found between loose and or missing clay roof tile. There is also a small amount of hung tile found to a roof cheek which also has suitable gaps and cervices in which roosting bats could utilize. Given the number of gaps and type, coupled with the surrounds, B1 is considered to be of high potential for roosting bats.

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	A bat roost may be lost in the development.
Characterisation of unmitigated impact on the feature	A bat roost could be destroyed when the buildings are demolished resulting in a low-level loss/impact at a local level.
Effect without mitigation	Without mitigation individual bats could be killed, injured or trapped during the works.
Mitigation	See Table 7
Significance of effects of residual impacts (after mitigation)	If lost roosts are replaced by bat boxes, the effects would be negligible.

4.3 Recommendations

B1 - **Presence/Likely Absence surveys** will be required (three surveys, a minimum of two weeks apart).

A total of four surveyors to cover B1 will be required. These surveys must be undertaken within the May to September window (with September considered sub-optimal). Two of these surveys will need to be undertaken during the optimal timeframe of mid-May to August.

The findings outlined in this report are valid for one year, after which updated surveys will be required.

Enhancements and mitigation are recommended (please see Section 4 for further details).

4.4 Recommended Mitigation and Enhancements

The following two tables detail the possible outcomes following further survey, table 7 details works if bats are found and table 8 if no bats are found.

Table 7: Proposed mitigation and compensation if bats are found following further survey.

Work	Specification
General Information	No development will occur until bat surveys consistent with the Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition) (Collins et al. 2016) have been undertaken in the appropriate survey season, May to September (Mid-May to August optimal). The Three Tests to be answered before planning can be granted (NE, 2017): *Test 1:* Regulation 53(2)(e) states: a licence can be granted for the purposes of "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".

	Test 1 can be achieved via the 'imperative reasons of overriding public interest'. Although not for the ecologist to determine the planning officer will on grant of consent. *Test 2*: Regulation 53(9)(a) states: the appropriate authority shall not grant a licence unless they are satisfied "that there is no satisfactory alternative" Test 2 would be achieved on the grant of consent as no other sites have been considered for the development. *Test 3:* Regulation 53(9) (b) states: the appropriate authority shall not grant a licence unless they are satisfied "that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range." Test 3 will be achieved once full emergence/re-entry surveys are conducted and full mitigation appropriate to species and population has been designed and implemented via an NEPS licence issued from the statutory authority (Natural England), if this becomes necessary following a dusk and pre-dawn survey.
Mitigation	Based on Mitchell – Jones, (2004), ***subject to change following surveys.*** Under licence, demolition of suitable bat roosting features e.g. roof tile etc. will require the supervision of a bat licensed ecologist. The suitable bat roosting features e.g. hung tile. will be stripped by hand only. All areas across the roof/wall tops/hung tile etc. will be checked for bats i.e. endoscope (where possible) and via destructive search. If bats are found, these will be removed by hand (Ecologist only) and placed in bat boxes that will be in place before works begin. Bat boxes will be installed. These will be no less than 3m above ground level and away from any neighbouring ledge to prevent local cats predating on bats using the boxes. A minimum of two Schweglar 1FF or similar boxes (Figure 15) will be hung on the trees at a minimum of 3m from ground level and face south/southwesterly. These boxes are known to be used by crevice and void dwelling species.  Figure 15: Schweglar 1FF bat box

	A traditional bitumen felt (hessian backed only) is to be used it must be of the type 1F only. Bat tubes can also be built into the building (Figure 16). These require no maintenance, can be installed on a gable end, no less than 3m above ground level, face south or north and can be faced in any material to provide an aesthetic matching the reminding building.  Figure 16: Example of bat tube Commuting bats maybe using the grounds and surrounds – therefore, any tree, hedges or linear feature should be retained were possible.
Lighting	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 minimise the impact it has on potential bat roosting and commuting. 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/* 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. This will ensure that the roosting and commuting resources that the bats are likely to be using is maintained.
Timing	Once the NEPS licence is obtained, works can occur during the designated timeframe; it is best to avoid the maternity (mid-May to August) and hibernation (December to March) seasons. It is not always necessary if the roost can be shown to be a day roost of common species.

	Works will be timed in order to take advantage of mild weather conditions. Several consecutive nights with temperatures no lower than 7ºC to avoid disturbing potentially hibernating bats. Ideally, the demolition will occur when bats are active and can be moved to alternative roosts in the area e.g. Autumn when bats are moving away from summer roosts to mating roosts.

Table 8: Proposed precautions and enhancement if bats are not found following further survey.

Work	Specification
Precautions to be undertaken during works.	The following must be undertaken – • All works must be undertaken within 12months of this report, thereafter a material change check will be required to check for changes that could affect potential bat habitat. • If a bat is found at any point whatsoever during works, works will stop and further advice will be sought.
Enhancements to provide a net gain as per the LPA's duty.	A minimum of two Schweglar 1FF or similar boxes (Figure 17) will be hung on the trees at a minimum of 3m from ground level and face south/southwesterly. These boxes are known to be used by crevice and void dwelling species.  Figure 17: Schweglar 1FF bat box Bat tubes can also be built into the building (Figure 18), these require no maintenance and can be hidden by facing the tube with the cladding/brick etc. for aesthetics .

	 Figure 18: Example of bat tube
Lighting	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 minimise the impact it has on potential bat roosting and commuting. 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/* 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. This will ensure that the roosting and commuting resources that the bats are likely to be using is maintained.

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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