Kingfisher Ecology Ltd

Ecological, Arboricultural and Sustainable Solutions

Preliminary Roost Assessment

Of

Hindon Lane Barn, Tisbury, Wiltshire, SP3 6QA

On behalf of:

Mrs Pippa Fowler

September 2018

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Summary

- Kingfisher Ecology Ltd has been commissioned by Mrs Pippa Fowler to conduct a Preliminary Roost Assessment at of the barn at Hindon Lane, Tisbury, Wiltshire. SP3 6QA. in accordance with BS 42020:2013 Biodiversity code of practice for planning and development.
- The survey was undertaken on 24th August 2018 by Adam Lewins BSc (Hons) Ecology, MRSB, AIFM GradCIEEM. Adam Lewins holds a Natural England European Protected Species Licence for Bats - (Bat Class Level 2 Licence ref: 2016-25057-CLS-CLS).
- The purpose of the Preliminary Roost Assessment is to assess whether Hindon Lane Barn contains roosting bats or provides potential for roosting bats.
- An internal and external assessment of the site was undertaken by licenced bat ecologist Adam Lewins bat class level 2 licence ref: 2016 25057 CLS CLS to find potential roosting features for bats with reference to; Collins, J. (ed) (2016*) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust. London. ISBN-13 978-1-872745-96-1. and Mitchell-Jones, A. J. Mcleish, A. P. (2004) *Bat Worker Manual (3rd edn)*. Joint Nature Conservation Committee.
- The site is composed of an old stone barn and a mosaic of mature trees, improved grassland, tall ruderal and dense and scattered scrub. The site sits within a rural location with surrounding dwellings, open pasture and managed gardens.
- The condition of the building is poor, there are gaps and missing mortar in the stone wall on the south elevation. There are also gaps in the eaves, around the joists and above the doorways.
- An online data search was undertaken on 14th September 2018 using Magic Map to check for records of geographical features surrounding the site that are suitable for foraging and roosting bats.
- The barn has been confirmed as a bat roost and 3 Phase 2 activity surveys will be required to assess the roost. The Phase 2 surveys will consist of 2 dusk emergence surveys and 1 dawn return to roost survey between May and September with at least 2 surveys between May and early August in order to capture potential maternity roosts.
- Wildlife enhancements have been recommended as part of this assessment in line with the National Planning Policy Framework (NPPF) 2019.
- Once the Phase 2 surveys have been completed a detailed Mitigation, compensation and enhancement strategy for bats and birds will be compiled.

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1. Introduction and Site Description

Kingfisher Ecology Ltd has been commissioned by Mrs Pippa Fowler to conduct a Preliminary Roost Assessment at of the barn at Hindon Lane, Tisbury, Wiltshire, SP3 6QA, in accordance with BS 42020:2013 Biodiversity code of practice for planning and development. The survey was undertaken on 24th August 2018 by Adam Lewins BSc (Hons) Ecology, MRSB, AIFM GradCIEEM.

Weather conditions:

- Dry
- 0% cloud
- 21°C
- Beaufort scale: 3-4 south west

Adam Lewins holds a Natural England European Protected Species Licence for Bats - (Bat Class Level 2 Licence ref: 2016-25057-CLS-CLS.

The purpose of the Preliminary Roost Assessment is to assess whether Hindon Lane Barn contains roosting bats or provide potential for roosting bats.

Wildlife enhancements have been recommended as part of this assessment in line with the National Planning Policy Framework (NPPF) 2019.

1.1 Site location

The site is located at Hindon Lane, Tisbury, Wiltshire. SP3 6QA. Grid reference: ST 93599 30434. This land herein referred to in this report as 'the site' or 'application site.' (See Fig. 1. for aerial maps.)

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Figure 1. Aerial views of site location



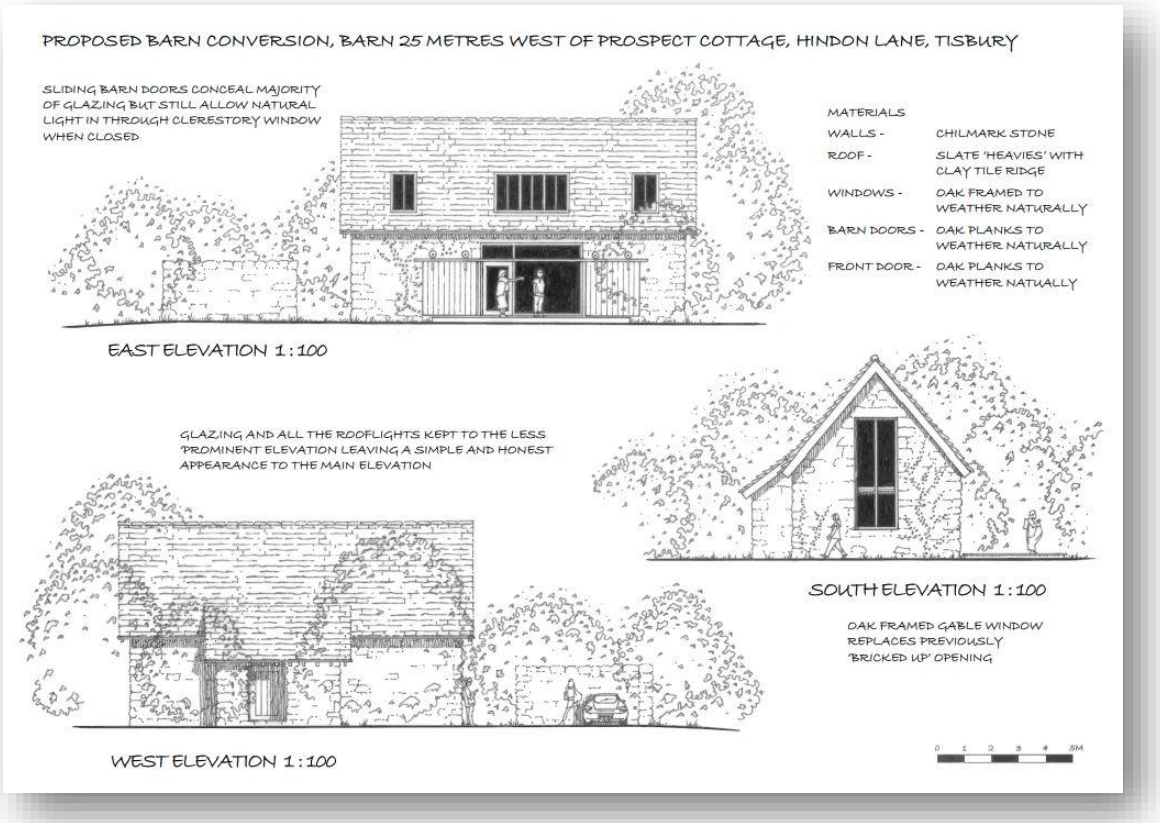
1.2 Site Description

The site is composed of an old stone barn and a mosaic of mature trees, improved grassland, tall ruderal, dense and scattered scrub.
The site sits within a rural location with surrounding dwellings, open pasture and managed gardens.

1.3 Proposed works

It is proposed that the barn, B1, is converted into a two bedroom residential property (see Fig. 2). There will also be a semi wild garden established and a permeable gravel roadway created. A cart shed style open garage will also be built which will allow for a custom bat loft to be built within the roof space.

Figure 2. Elevations of the proposed development



2. Methodology

2.1 Desk study

An online data search was undertaken on 14th September 2018 using Magic Map to check for records of geographical features surrounding the site that are suitable for foraging and roosting bats.

2.2. Preliminary Roost Assessment field study

An internal and external assessment of the site was undertaken by licenced bat ecologist Adam Lewins (bat class level 2 licence ref: 2016 25057 CLS CLS) to find potential roosting features for bats with reference to: Collins, J. (ed) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust. London. ISBN-13 978-1-872745-96-1; and Mitchell-Jones, A. J. McLeish, A. P. (2004) *Bat Worker Manual (3rd edn)*. Joint Nature Conservation Committee.

Table 1. Table showing guidelines for assessing roosting habitats as well as commuting and foraging habitats (Excerpt from Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).)

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[a] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation[b]). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.[c]	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[a] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[a] and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

2.2.1. Internal

An internal inspection of the building was carried out using a Clulite™ CB2 lamp in order to illuminate all areas within the building. An Elekon™ Batlogger M was also used to detect any echolocating bats present in the building. All areas of the building where accessible were carefully inspected to identify any signs of bat habitation including: the bats themselves, bat droppings, urine stains, scratch marks and wear marks.

2.2.2. External

An external survey of the building was undertaken to look for features where bats could enter, exit or roost. Careful observation of features such as the roof and stone walls was done with the use of close focusing binoculars and a Clulite™ CB2 torch. A ladder enabling closer inspection of the potential bat access points was also used together with a Ridgid micro CA-300 endoscope allowing full and thorough assessment of each feature.

3. Survey Results

3.1 Desk Study

Figure 3. Statutory designated wildlife sites within a 2km radius of the site

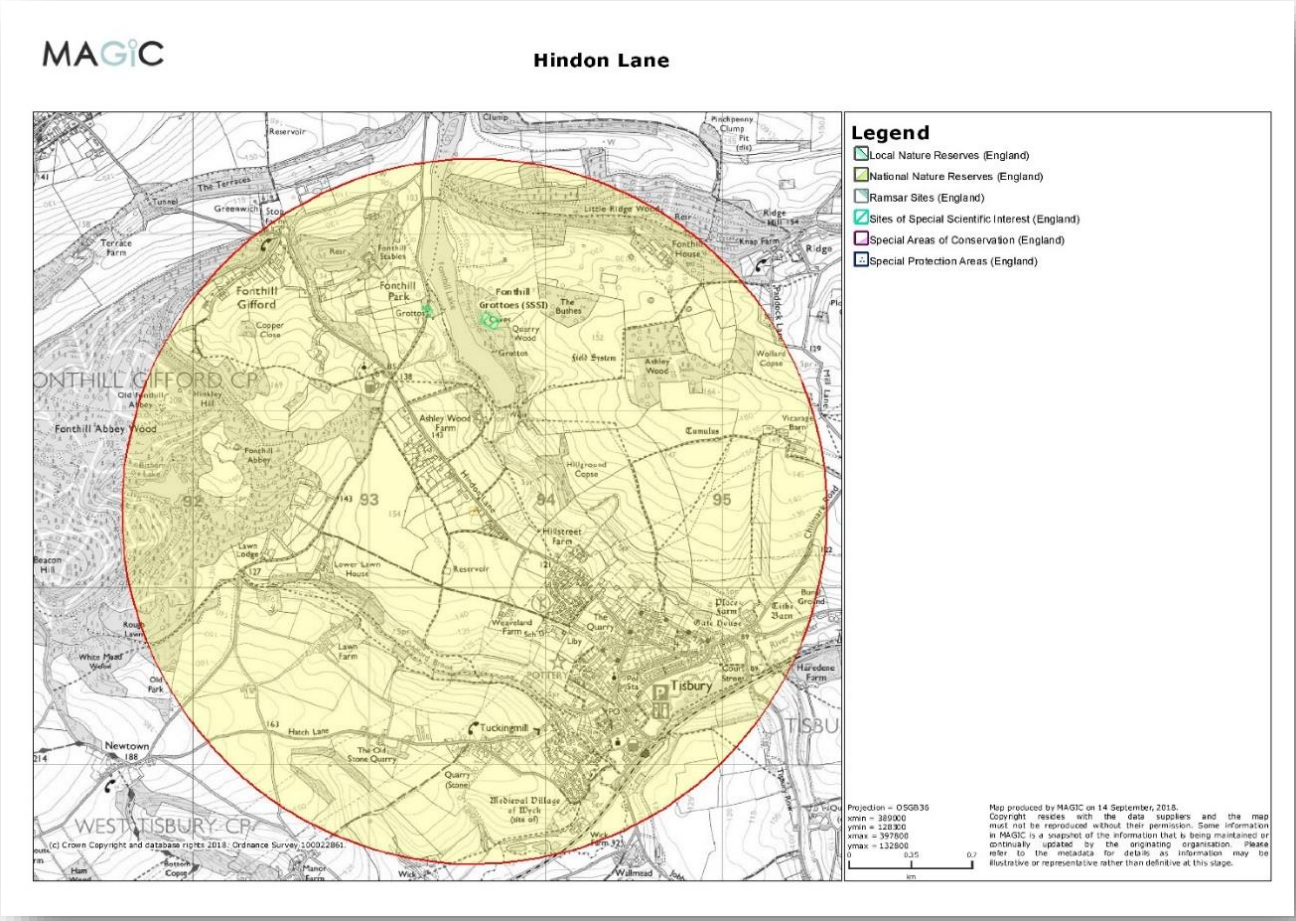


Table 2. Statutory designated wildlife sites within a 2km radius of the site

SITE NAME	DESCRIPTION	Distance from site	STATUS
Fonthill Grottoes	Subterranean follies	1000m N	SSSI

3.1.2 Features suitable for bats

The land surrounding the site is suitable for foraging and roosting bats. Many of the buildings in the immediate vicinity of the development site could provide potential bat roosting features.

The surrounding area is rural, and well connected to fields and small patches of woodland thanks to numerous hedgerows and rows of mature trees. There is also flowing and standing water in

the surrounding area. Furthermore, Fonthill Grottoes are located 1045m north of the site, Fonthill Grottoes are of considerable importance as it is the sixth largest hibernaculum in Britain.

3.1.3 Records of bats

The following bat species have been recorded in the surrounding area:

- Greater horseshoe (*Rhinolophus ferrumequinum)*
- Lesser horseshoe (*R. hipposideros)*
- Natterer's (*Myotis nattereri)*
- Daubenton's (*M. daubentoni)*
- Whiskered (*M. mystacinus)*
- Brandt's (*M. brandti)*
- Brown long-eared (*Plecotus auritus)*
- Bechstein's (*Myotis bechsteini)*
- Barbastelle (*Barbastella barbastellus)*

3.2 Field Study for Preliminary Roost Assessment

The barn is comprised of solid stone walls with a pitched asbestos sheet roof above a wood frame. There are open doorways into the barn.

Evidence of bats was observed within the barn, with droppings found in the south east corner of the barn.

The condition of the building is poor, there are gaps and missing mortar in the stone wall on the south elevation. There are also gaps in the eaves, around the joists and above the doorways.

Figure 4 and Table 3 show the results of the Preliminary Roost Assessment.

Figure 4. Preliminary Roost Assessment map of building B1 with Target Notes

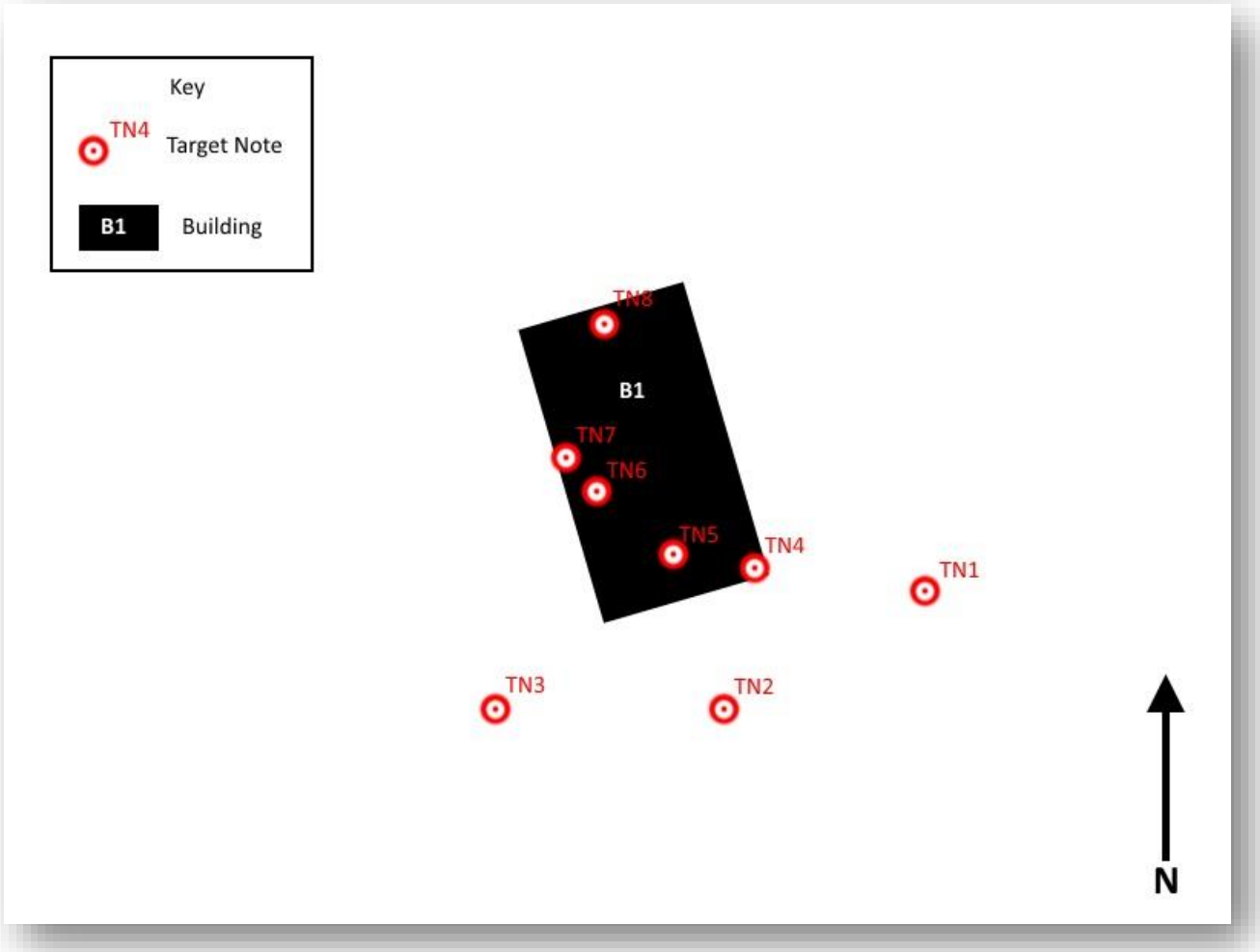


Table 3. Table to provide a description and supporting images of B1

Target Note	Description	Supporting image
TN1	Image showing the external structure of the building from the south east. Solid stone walls with asbestos sheet roofing. Image also shows the gaps in the eaves.	
TN2	Image showing the external structure of the building from the south. Solid stone walls with asbestos sheet roofing. Image also shows the gaps in the stones in the corners of the buildings. It also shows the gaps around the joists.	

TN3	Image showing the external structure of the building from the south west. Solid stone walls with asbestos sheet roofing. Image also shows the gaps in the eaves.	
TN4	Image showing the droppings found in the south east corner of B1.	
TN4	Image showing the area the droppings were found in the south east corner of B1.	
TN5	Image showing the abandoned swallow nest near the apex.	
TN6	Image showing the abandoned Wren's nest on the west wall.	

TN7	Image showing the gaps above the door on the west elevation.	
TN8	Image showing the internal structure of B1. The roof is timber framed with asbestos sheeting.	

4. Evaluation and Recommendations

The following conclusions are based upon the current survey findings and represent a snapshot of the site at the time of survey. Many protected species are highly mobile, and an update survey of the site may be necessary if the site is not developed within the next 12 months.

4.1. Preliminary Roost Assessment

The evaluation and recommendation for each of the affected buildings in the proposed development are provided below.

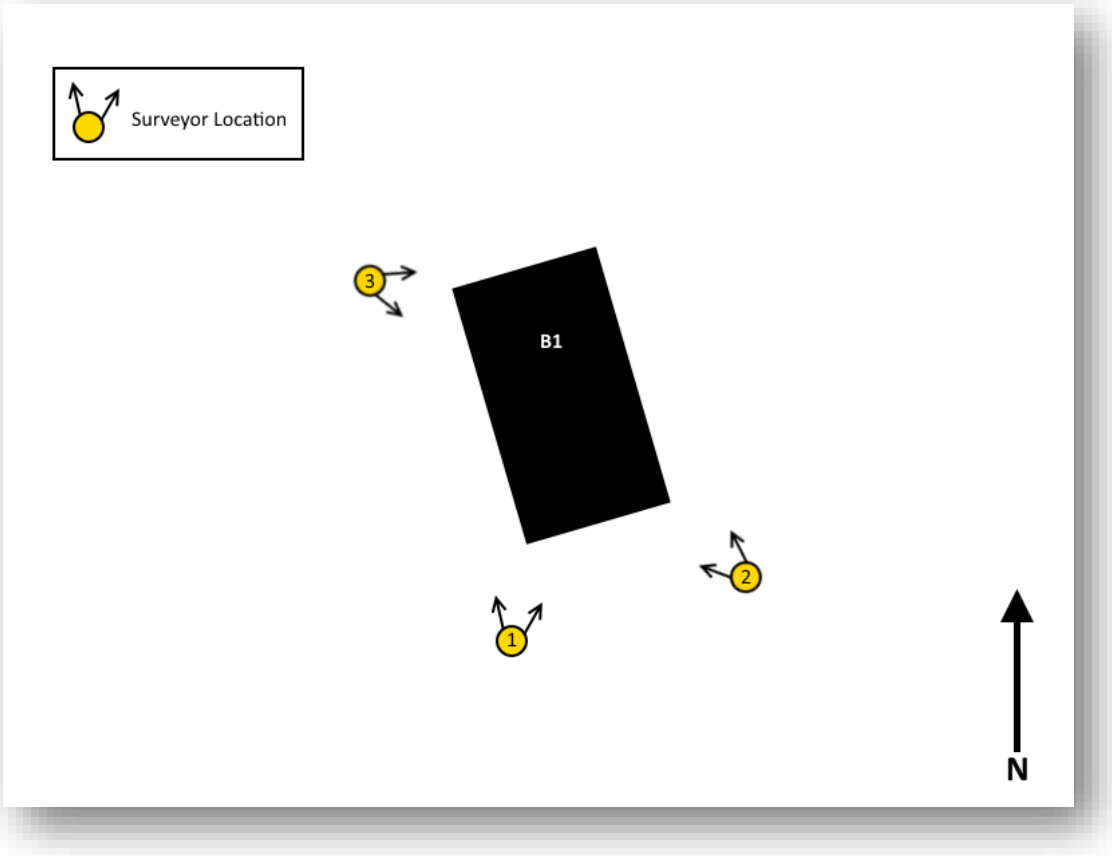
Due to the geographical location of the site, it is assumed that the surrounding woodland and linear features such as hedgerows, rivers and woodland are used by foraging and commuting bats.

5. Evaluation and Recommendations

Table 4. Evaluation and recommendations for buildings and trees

Building Number	Evaluation and recommendations
B1	The barn has been confirmed as a bat roost. Bat droppings were found in the south east corner of the barn. The droppings in the older roof void section of B1 are typical of a small bat such as a Lesser horseshoe bat *(Rhinolophus hipposideros).* These droppings have been confirmed by DNA analysis as Lesser Horseshoe droppings (see appendix one). **The barn has been confirmed as a bat roost and 3 Phase 2 activity surveys will be required to assess the roost. The Phase 2 surveys will consist of 2 dusk emergence and 1 dawn return to roost survey between May and September with at least 2 surveys between May and early August in order to capture potential maternity roosts.**

Figure 5. Dusk bat emergence surveyor location map for Hindon Lane Barn



Open habitat enhancements

It is recommended that enhancements to the vegetation of the site after development could be made that will benefit local wildlife. Night scented plants may be incorporated into the landscaping to attract moths and other insects that will benefit species such as bats. Examples of night scented plants that could be incorporated into a planting scheme are as follows:

Climbers:

- Dog rose *Rosa canina*
- Common ivy *Hedera helix*
- Jasmine *Jasminium officinale*
- Blackberries and raspberries *Rubus spp*.
- Dwarf honeysuckle *Lonicera xylosteum*
- Common honeysuckle *Lonicera periclymenum*

Bedding plants:

- Nottingham catchfly *Silene nutans*
- Bladder campion *Silene vulgaris*
- Flowering tobacco *Nicotiana sylvestris*

- Common soapwort *Saponaria officinalis*
- Night scented stock *Matthiola longipetala*

Lighting

Artificial light influences bat behaviour. Light falling on bat roosts can delay bat emergence, which can considerably reduce foraging time, particularly just after dusk which is the peak foraging period. Illuminating bat roosts can also increase avian predation. Disturbance to roosts can have a detrimental effect to the future of a colony.

Continuous lighting repels certain bat species. Studies have shown that slower broad-winged species such as long-eared bats, barbastelle, greater and lesser horseshoe bats, and *Myotis* spp. tend to avoid artificial light.

However, bat species including noctule, serotines, pipistrelles and Leisler's can exploit artificial light sources such as street light due to the increased localised insect concentrations providing increased foraging potential.

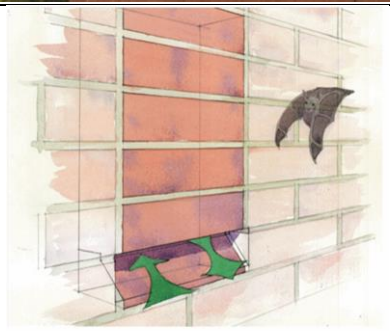
It is understood that no lighting is to be installed as part of the proposed works. However, should lighting be required, it is strongly recommended to be directional with a narrow white beam which illuminates only the required areas on the ground. Light sources such as Light Emitting Diodes (LEDs) could be used as the light emitted is more directional with a white, narrow, instant beam. Security lighting should be timed and activated by motion sensors in order to reduce light pollution.

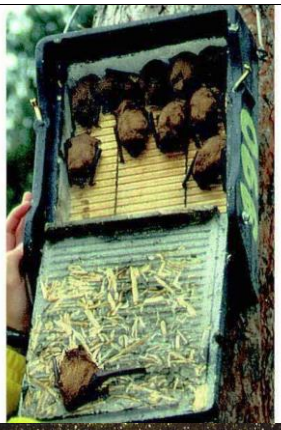
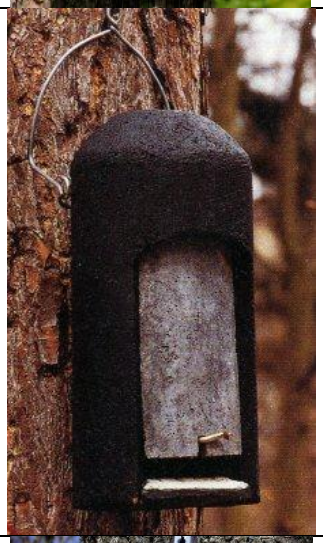
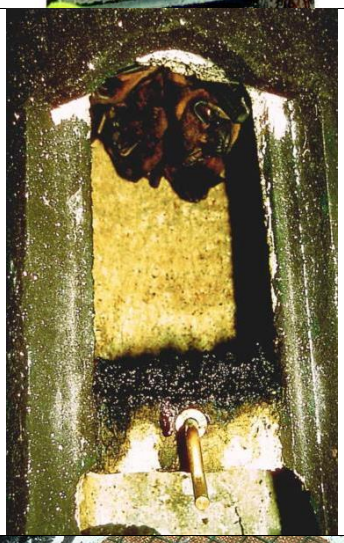
Enhancements for Bats

The following material requirements illustrate enhancement features for bats which can be incorporated into a building:

- Integrated bat boxes provide an enclosed space for bats to roost and rest and can be more aesthetically subtle than hanging bat boxes.
- Free access bat brick allow bat to access a roof void that has been allocated as a bat roost.
- Use only traditional type 1F bitumen roof liner. Woven or long strand roof liners such as Tyvek™ must be avoided as bats can get tangled up in the fibres causing potential bat mortalities.
- Timber treated with products deemed safe to use on bat roosts must be used. Details of products can be found using Natural England Guidance Technical Information note TIN092 – Bat Roosts and Timber Treatment Products. The following figures illustrate some of the enhancements that can be incorporated into built structures and trees.

Table 5. Suggested types of bat roost enhancements and locations

Location	Supporting image 1	Supporting image 2
Building (Schwegler 1FQ Bat Roost)		
Building (Habibat bat box)		
Building (Hopper style access for lesser horseshoe bats)		
Building (Tudor hand-made bat tile)		

Building Bat tile		
Tree (Schwegler 1FF Bat Box)		
Tree (Schwegler 2FN Special Woodland Bat Box)		
Tree (Schwegler 1FS Large Colony Bat Box)		

Outline mitigation strategy

If roosting bats are found to be present, a European Protected Species Mitigation Licence (EPSML) will have to be applied for. The EPSML application will include a detailed Method Statement that sets out a mitigation strategy to ensure the proposed works on the properties will not be detrimental to the **Favourable Conservation Status (FCS)** of bats in their natural range.

The Method Statement will cover all development activities with the potential to affect the bat roosts and bat activity on site. It is recommended that the following elements are included or given consideration in the Method Statement:

- Alternative roosting opportunities during the works could be provided through the installation of bat boxes in suitable mature trees adjacent the property.
- The works should be undertaken when bats are least likely to be present and at times of year when they are least vulnerable to harm and disturbance.
- All site workers should be given a Toolbox Talk prior to the works, to inform them of the presence of bat roosts, the protection afforded to bats and a suitable working approach.
- Prior to any works commencing, a roost check should be conducted by a licensed bat worker to catch any bats present and move them into one of the newly installed bat boxes.
- A licensed bat worker should supervise the soft-strip of the property until all suitable roosting features, including the roofing sheets, have been removed by hand. Any bats seen during the soft strip should be captured and placed into one of the bat boxes.
- No breathable roofing membranes should be used on the properties as bats can get tangled in this and die. Bitumen felt (also known as type 1F) should be used instead.
- All mature trees and hedges within the vicinity of the property should be retained to preserve existing foraging and commuting habitat.
- Any external lighting that is required should be located away from the access points and will point away from the newly created access points.
- To monitor bats' use of the replacement roosts and inform appropriate remedial action (if necessary), a physical check of the created roost features and bat boxes should be undertaken by a licensed bat worker in years one and three following the completion of the development.

6. Survey Limitations

The survey undertaken provides a snap shot of time, if the site is not developed within the 12 months following the initial site visit, then a follow up survey should be undertaken to assess whether the ecology on the site has remained the same or has changed.

7. Legislation and Species Information

The Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 form the cornerstone for species and habitat protection in England and Wales.

All native bat species are fully protected under the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017.

Taken together, these instruments make it illegal to:

• Deliberately (or recklessly in Scotland) capture, injure or kill a bat.

• Deliberately (or recklessly in Scotland) disturb a bat in a way that would (significantly in Scotland) affect its ability to survive, breed or rear young (or hibernate or migrate in England, Wales and Northern Ireland) or (significantly in England, Wales and Scotland) affect the local distribution or abundance of the species.

• Damage or destroy a roost [this is an 'absolute' offence and need not be deliberate or intentional].

• Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.

All bat species and their roosts (whether occupied or not) are afforded strict legal protection. Any activities likely to result in damage or disturbance to bat roosts can only be undertaken under derogation from the Conservation Regulations. In England, this mechanism is administered by Natural England, who is able to issue European Protected Species Mitigation (EPSM) licences to allow activities impacting bats and their roosts. EPSM licences will only be granted under the proviso that mitigation is implemented that will minimise any impacts on the conservation status of the species.

The protection of animals listed on WACA Schedule 5 from intentional killing, injury and taking, possession and sale. Places used for shelter and protection are also protected against intentional disturbance, obstruction, damage and destruction. Species on Schedule 5 include:

- Bats (all species)
- Dormice
- Water Vole
- Great Crested Newt
- Otter
- All UK reptile species
- Common amphibians
- Certain invertebrates including Stag Beetle
- The protection of plants listed on Schedule 8

The Environmental Damage (Prevention and Remediation) Regulations 2009

These Regulations implement Directive 2004/35/EC of the European Parliament and of the Council on environmental liability regarding the prevention and remedying of environmental damage.
If you or your business carry out an activity that causes environmental damage you will have to remedy the damage. You will no longer have to be prosecuted first. If there is a risk of damage from your business activities, you must prevent such damage occurring.
Under the regulations, environmental damage is:

- damage to surface or underground water
- contamination of land where there is a significant risk to human health
- damage to natural habitats and species and protected sites.

The regulations apply to:

- private businesses
- farming
- manufacturing
- construction and demolition
- waste management
- forestry
- public sector – schools, hospitals and government departments or agencies
- individuals and voluntary organisations.

If you or your activities threaten to cause, or have caused, environmental damage you must:

- take steps to prevent the damage (or further damage) occurring
- inform the Environment Agency or other authorities who will tell you what you must do to repair the damage.

The Environment Agency, Natural England and local councils are responsible for administering and enforcing the regulations, depending on the type of damage involved. If the Environment Agency must repair the damage for you, you will have to pay the costs.

If you don't comply with the regulations, you can be prosecuted, fined and/or imprisoned.

The regulations provide that, for certain economic activities, where there is a imminent risk of environmental damage, the operator must take steps to prevent it, and if it has occurred must prevent further damage. Where damage has occurred the enforcing authority must assess the damage and identify remedial measures. It must then serve a remediation notice on the responsible operator specifying what remediation is required.

Breach of specified provisions of the Regulations is an offence punishable:

1. on summary conviction, with a fine not exceeding the statutory maximum or to imprisonment for a term not exceeding three months or both; or
2. on conviction on indictment, with a fine or to imprisonment for a term not exceeding two years or both.

Countryside & Rights of Way Act 2000

The CRoW Act strengthened parts of the Wildlife and Countryside Act to include the term 'reckless' when considering whether an offence is intentional. Thus, if it can be demonstrated that sufficient knowledge of the likelihood of an offence is known, then prosecution will follow.

Natural Environment & Rural Communities (NERC) Act 2006

The NERC Act firmly places a duty on Local Authorities to conserve biodiversity. The Act required the publication of a list of the living organisms and types of habitat which are of principal importance for the purpose of conserving biodiversity: the Section 41 List. The conservation of species on this list forms part of the duty of Local Authorities to conserve biodiversity. Species on the list include:

- All species of UK bat
- All species of UK reptile
- All species of UK amphibian
- Otter, dormice, water vole and hedgehog
- Birds including Skylark, Cirl Bunting and Yellowhammer
- Invertebrates including the butterflies Wall, Dingy Skipper and Brown Hairstreak.

Nesting Birds

All wild birds are protected under part 1 of the Wildlife and Countryside Act, 1981. Therefore, in the UK it is an offence to:

Take, damage or destroy the nest of any wild bird whilst it is being built or in use.

Kill, injure or take any wild bird.

Take or destroy the eggs of any wild bird.

To avoid committing an offence no works should be carried out on a structure/ feature that is being used by nesting birds. Nesting is deemed to be over when the young have fully fledged.

Certain species which are listed in Schedule 1 of the Wildlife and Countryside Act receive special protection. In these cases any form of intentional or reckless disturbance when they are nesting or rearing dependant young constitutes an offence.

National Planning Policy Framework (NPPF) 2019

Chapter 15 - Conserving and enhancing the natural environment

Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services - including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads

The scale and extent of development within these designated areas should be limited. Planning permission should be refused for major developments other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;

b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and

c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.

Habitats and biodiversity

To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

The following should be given the same protection as habitats sites:

a) potential Special Protection Areas and possible Special Areas of Conservation;

b) listed or proposed Ramsar sites; and

c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

The presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site is being planned or determined.

Hedgerow Regulations 1997

Important hedgerows are protected from removal by the Hedgerow Regulations 1997. Criteria are used to identify whether a hedgerow is one of importance for ecological, historical or landscape reasons.

8. References

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www.habibat.co.uk

www.nhbs.com

9. *Appendix One* – Bat Dropping DNA Analysis

WARWICK
THE UNIVERSITY OF WARWICK

EcoWarwicker
Ecological Forensics

25 September 18

Re: Identification Results for Adam, Kingfisher Ecology

Job number 12770, received 07 September 2018
Sample labelled: PF2408
PCR amplification successful. DNA sequence:
ATGACCAACATTCGAAAGTCCCACCCACTATTTAAAATTATCAATGACTCATTCATTGA
TCTACCTGCCCCATCAAGTATTTCCTCCTGATGAAACTTTGGATCCCTACTAGGAGTA
TGCC
Phylogenetic analysis identification: *Rhinolophus hipposideros*

Confirmed by maximum likelihood, maximum parsimony, bootstrap 100%.

Best regards,

Professor Robin Allaby

The results and conclusions in this report are based on an investigation of mtDNA sequence analysis. The results obtained have been reported with accuracy. The interpretation represents the most probable conclusion for the DNA sequence obtained rather than the sample provided given current levels of species data. It should be borne in mind that different circumstances might produce different results. Therefore, care must be taken with interpretation of the results especially if they are used as the basis for commercial recommendations.

Professor Robin Allaby

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