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Bat Scoping Report

Site Name

Stonehurst – North Lodge

Issue Date

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Client

Mr and Mrs Edge

Author

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Project No: 10344

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About the Author

This report has been prepared by Joshua Harwood, a Consultant Ecologist at The Ecology Co-op, with 9 years' survey experience. He has a Level 1 bat survey class licence. As an Associate member of the Chartered Institute for Ecology and Environmental Management (CIEEM), he is bound by their code of professional conduct.

About the Reviewer

This report has been reviewed by Sam Lunn, who is a Principal ecologist with 12 years' experience. He has a Level 2 bat survey licence and has prepared several European Protected Species licences for bats. As a Full member of the Chartered Institute for Ecology and Environmental Management (CIEEM), he is bound by their code of professional conduct.



Report Summary

Purpose	The Ecology Co-op was commissioned by Mr and Mrs Edge to undertake a bat scoping assessment at Stonehurst, North Lodge further to a proposal to redevelop the existing property to serve additional residential units through the conversion of loft spaces and garage plots whilst also seeking to amend aspects of the property such as skylights and additional windows in line with the buildings original concept
Context	This site is situated in a rural location with Wakehurst botanical gardens located immediately west of the site and wider grassland and woodland habitats to the east. The site ownership comprises a number of old buildings, the proposed works focused upon the north lodge dwelling only.
Key findings	The building was assessed as having moderate suitability to support roosting bats, with bat droppings confirming a roost in void 1. Due to survey limitations resulting in areas of the proposal not being accessed or fully assessed this has been elevated to 'high' on a precautionary basis. It is worth noting that the current development proposals do not seek to damage or destroy all aspects of the site. Habitats within the zone of influence of the proposals were considered to be of potential value to bats for foraging/commuting/dispersal purposes.
Recommendations	The property has been determined to offer moderate to high suitability for roosting bats with sections of the property unavailable to survey during the initial scoping survey. It is recommended that where possible an aerial assessment (such as drone) is used to view sections of the roof's ridge line should these areas be confirmed to be impacted. As the property has a high suitability for roosting bats, in line with best practice guidance, three bat surveys between May and September are required to inform a suitable impact assessment. This may be reduced to two surveys should additional assessment determine the overall suitability be moderate, and/or detailed plans for the development proposal can determine that there will be a reduction in impacts to areas currently assessed at the time of this reports issue.
Further survey requirements	A minimum of three bat emergence/re-entry surveys are required to determine the importance of this building to bats as without further surveys the level of impact upon bats cannot be fully assessed. To ensure adequate coverage of all potential roost features, it is estimated that to cover the entirety of the main house building a minimum of seven observers will be required for each survey visit to observe all suitable roost features. To ensure that the survey effort conforms with interim guidance on the use of night vision aids, produced by the Bat Conservation Trust, a minimum of nine night vision cameras (NVA's) with infra-red lighting to support surveyors will be required. As proposed works may not impact the entirety of the dwelling and the segmented sections and aspects of the property it may be appropriate to reduce the surveyor and NVA requirements and focus upon specific areas to be impacted though this will be based upon more detailed information on proposed works in combination with a suitably qualified ecologists' best judgement.



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1 INTRODUCTION

1.1 Purpose of the Report

The Ecology Co-op has been commissioned to undertake a bat scoping assessment of North Lodge by Mr and Mrs Edge. This report presents the findings of a walkover survey and building inspection for occupation by bats, undertaken by Joshua Harwood, BSc (*Hons*), an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and Natural England Level 1 bat survey class licence holder (licence number available upon request), on 13th March 2025. Whilst this report has maintained a focus on assessing potential impacts upon roosting bats and bat activity within the proposal's zone of influence, it has also considered the potential for any other protected/notable species and/or habitats to be adversely affected.

The proposals for the site comprise conversion of a garage plot into residential accommodation along with minor alterations to the building's fabric, such as inclusion of additional skylights and windows. Recommendations for further surveys that are likely to be required to inform a planning application and Ecological Impact Assessment are provided, if necessary. Where appropriate, measures to avoid, mitigate and/or compensate for significant adverse effects are outlined.

This report is intended to inform the client and the appropriate planning authority of the potential impacts that this development proposal may have upon roosting bats as well as identifying potential impacts to commuting routes and foraging habitat of value. Where bat roosting potential or physical evidence of bats has been identified, further survey effort will be required in order to complete an impact assessment to inform a planning application.

1.2 Background

The site is located at Stonehurst House, Selsfield road, Haywards Heath, RH17 6TN The central grid reference for the site is TQ 34340 31691.

The site comprises a single storey dwelling which is currently being used as a residential property and associated garage blocks. The property is located in a rural setting north of Haywards Heath and located opposite Wakehurst botanical garden.

The location of the study building is based on a site plan provided by Gould Baxter and is illustrated on aerial imagery in Figure 1.

The proposed development/project comprises the redevelopment of the existing property to serve additional residential units through the conversion of loft spaces and garage plots whilst also seeking to amend aspects of the property such as skylights and additional windows in line with the buildings original concept (see Figure 4, Figure 5, Figure 6 and Figure 7).



Figure 1. Aerial image showing the location of the site (indicated with a red outline). Image produced courtesy of Google maps (map data ©2025 Google).

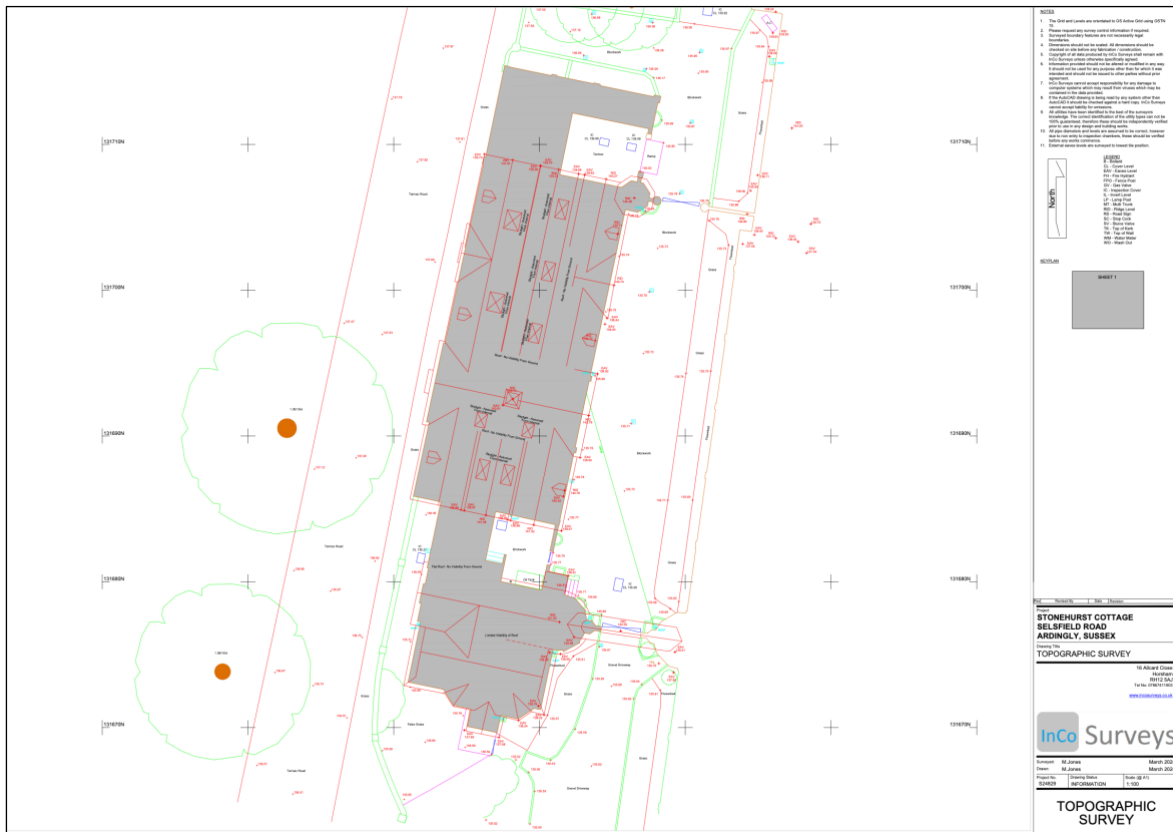


Figure 2. Topographical survey of the proposed development at north lodge. Image provided courtesy of Gould Baxter, image produced by InCO Surveys, project number S24829, dated March 2024.

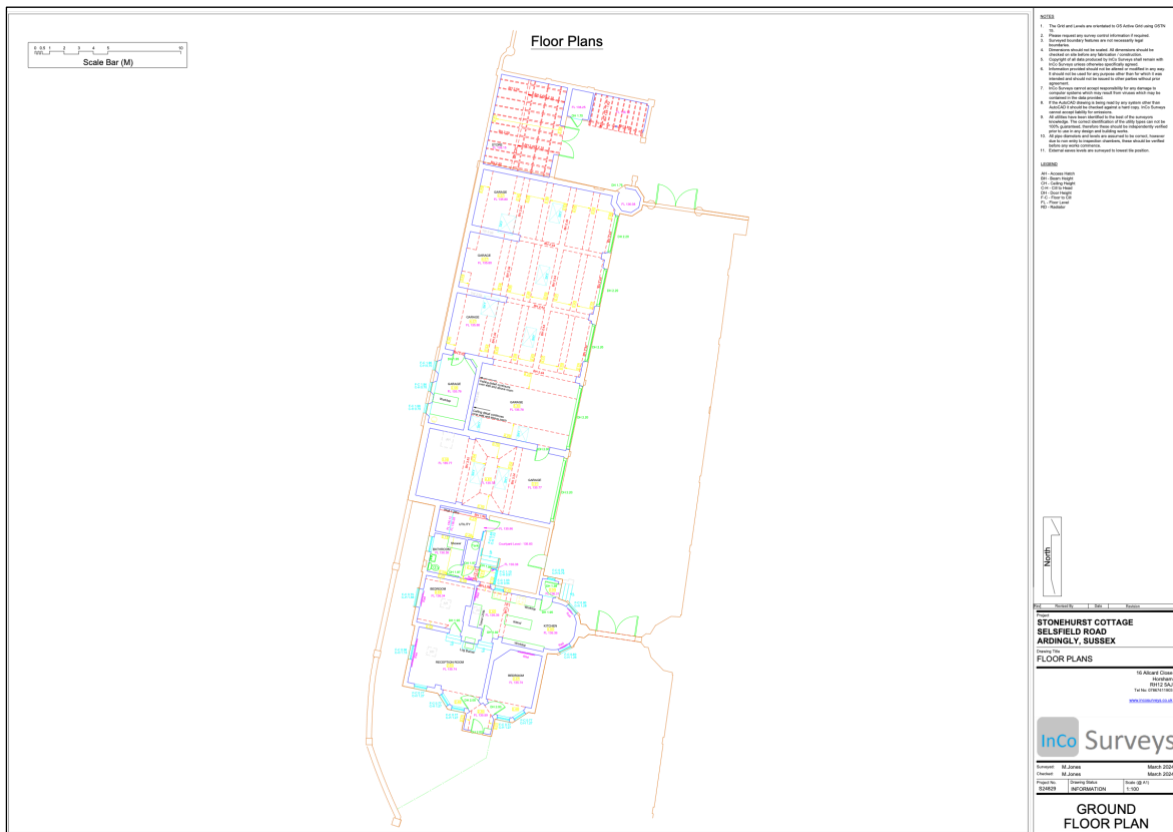


Figure 3. Existing floor plans of the proposed development at north lodge. Image provided courtesy of Gould Baxter, image produced by InCO Surveys, project number S24829, dated March 2024.

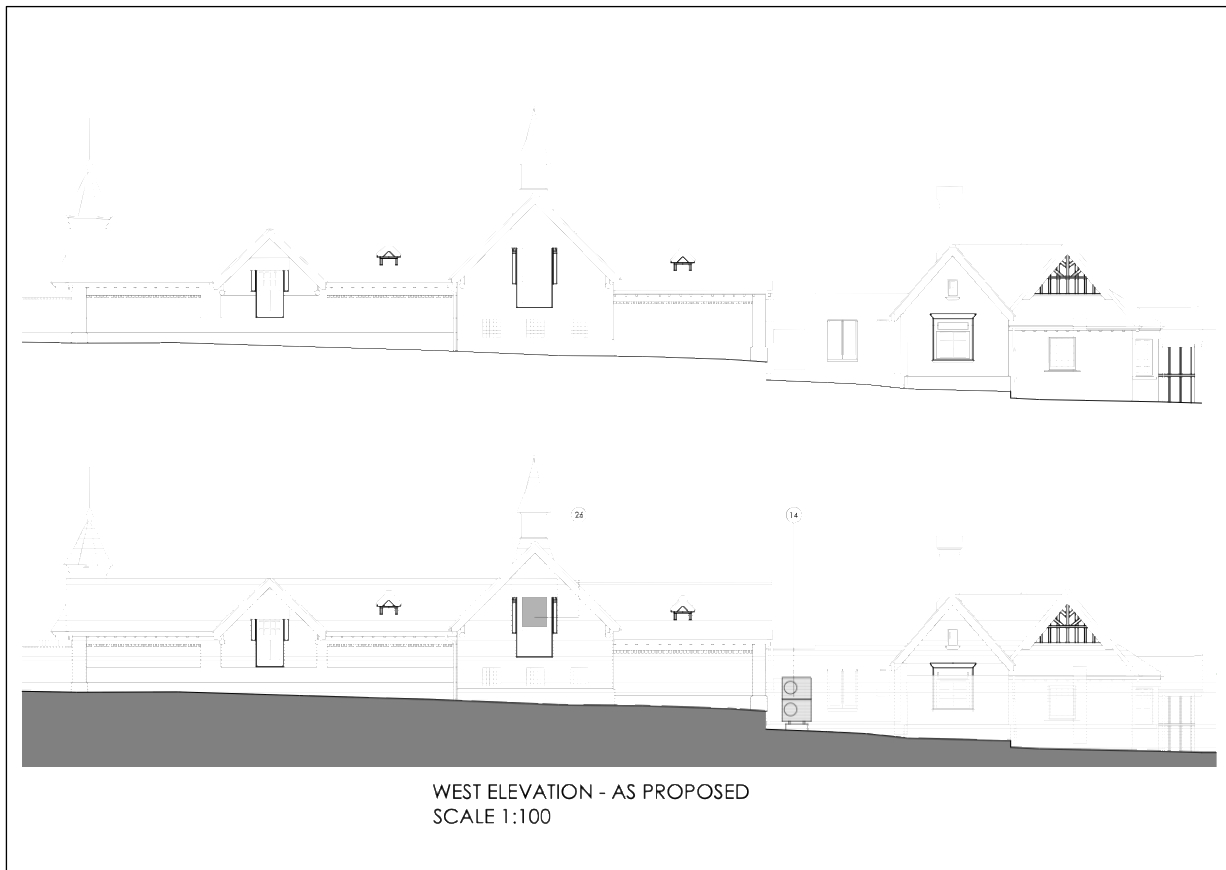


Figure 4. View of the western elevation with the existing layout illustrated in the top layout and the proposed to the bottom. Image provided courtesy of Gould baxter.



Figure 5. View of the southern elevation with the existing layout illustrated in the top layout and the proposed to the bottom. Image provided courtesy of Gould baxter.

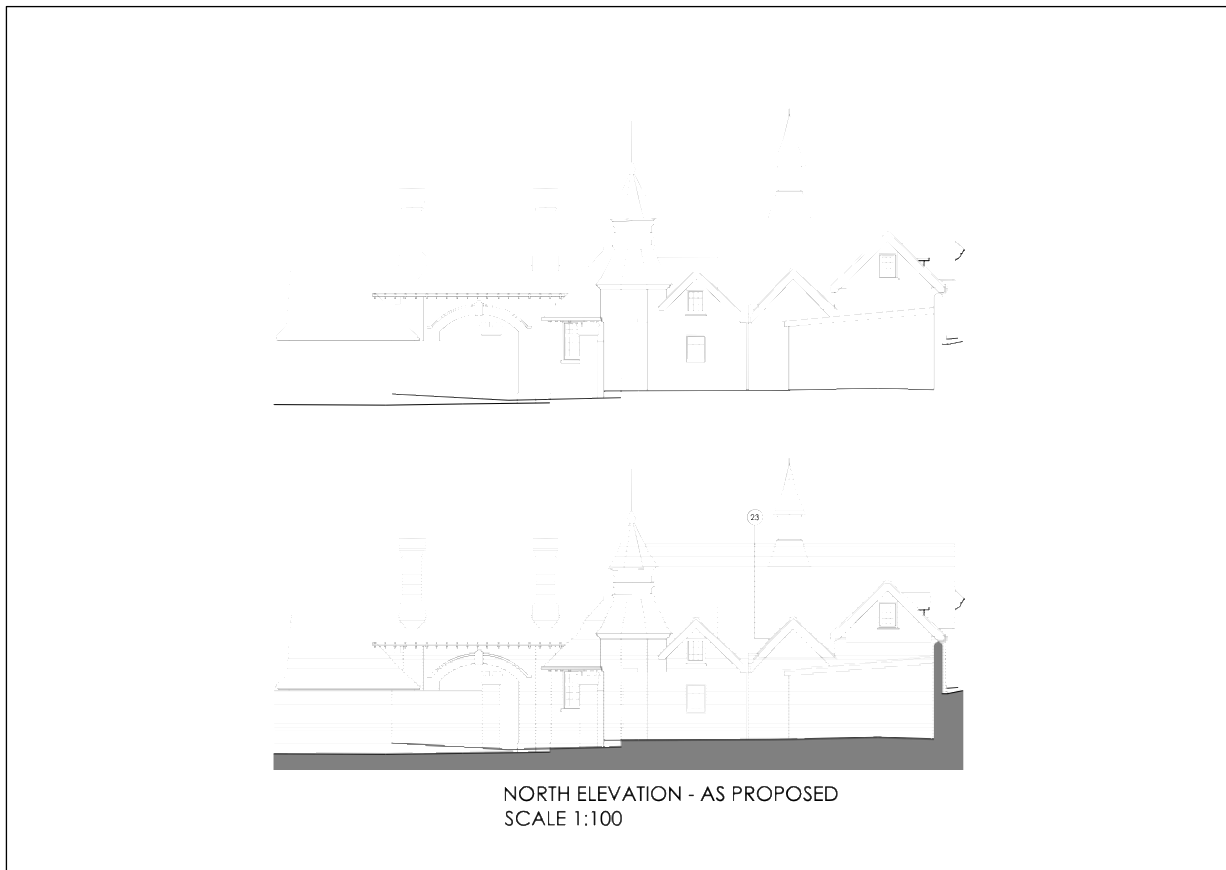


Figure 6. View of the northern elevation with the existing layout illustrated in the top layout and the proposed to the bottom. Image provided courtesy of Gould baxter.

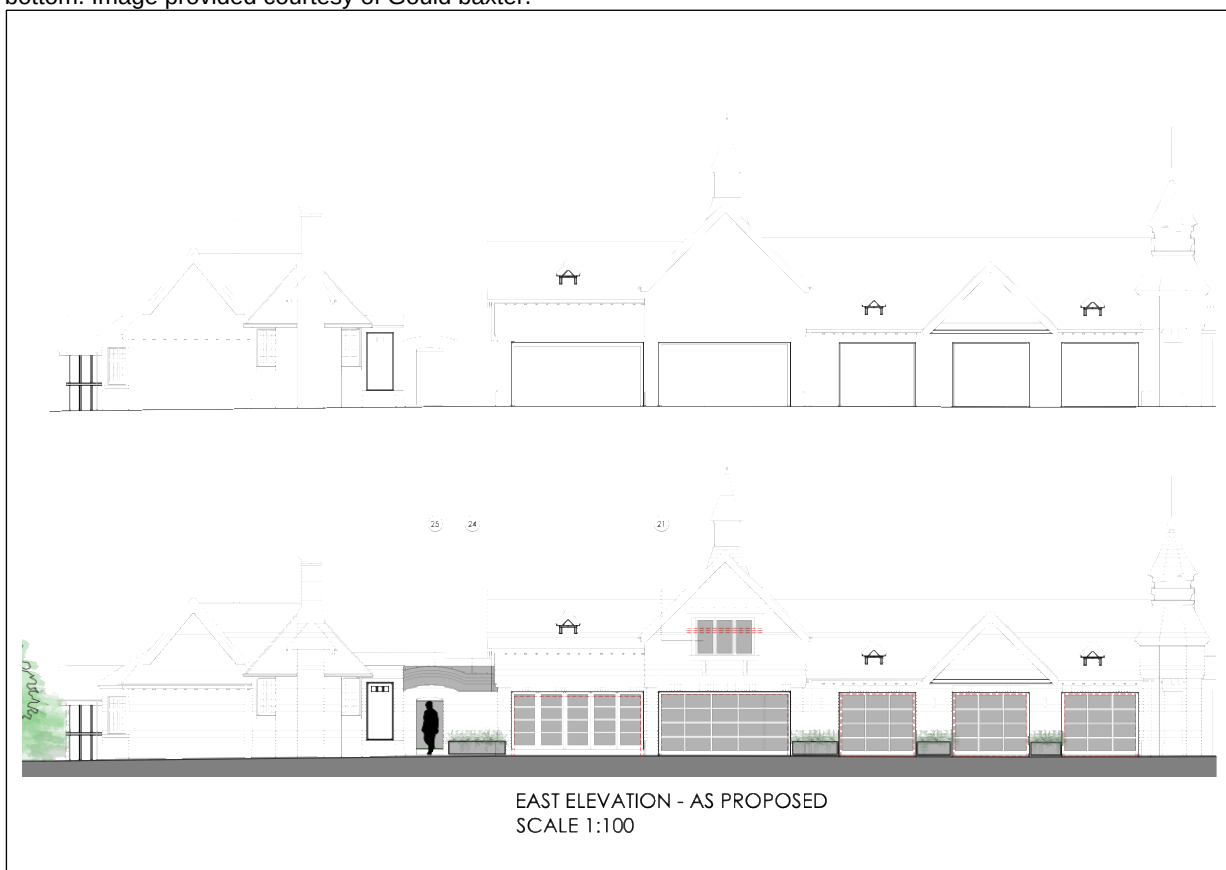


Figure 7. View of the eastern elevation with the existing layout illustrated in the top layout and the proposed to the bottom. Image provided courtesy of Gould baxter.



1.3 Policy and Legislation

Legal protection applying to all bat species in the UK and any other species relevant to this appraisal, is outlined in Appendix 1 of this report.

The results of this survey will be used to determine the need for further surveys, impact avoidance measures and/or an appropriate mitigation/compensation strategy to ensure compliance with UK wildlife legislation, policy and best practice.

2 METHODOLOGY

The methodologies used for this survey are in accordance with the bat survey guidelines produced by the Bat Conservation Trust¹. Where there has been any deviation from the guidelines due to any site-specific constraints or other circumstances, reasoning and justification has been provided.

2.1 Desk Study

A search of on-line mapping resources has been undertaken to characterise the local context of the site with respect to semi-natural habitats and linear features of value to foraging and commuting bats.

The MAGIC website resource (www.magic.gov.uk) has been used to identify the location of designated sites for nature conservation within 2km and European Protected Species (EPS) licences granted within a 1km radius of the survey site. Priority habitats and ancient woodland, upon the site and within the proposal's zone of influence, have also been identified due to their ecological value and potential to act as important foraging resources for bats.

Priority habitats and ancient woodland are classified as habitats of principal importance. Habitats of principal importance are listed in Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006², which places a duty on Local Planning Authorities to have due regard to biodiversity.

2.2 Field Survey

2.2.1 Roosting Potential

Bats can use a wide range of features for roosting purposes including loft spaces, cavity walls, loose tiles, mortice joints and cracks/gaps in a variety of built structures. They can also be found in trees with holes, splits, cracks, cavities, ivy and loose bark.

A detailed building inspection was carried out, looking for potential access points and Potential Roosting Features (PRFs) that bats could use and any evidence indicating the presence of bats using the building such as rub marks, feeding remains, staining or droppings. This included a ground-based external inspection and internal inspection

¹ Collins, J.(ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn). The Bat Conservation Trust, London..

² HM Government (2006). Natural Environment and Rural Communities Act 2006. Available online at: <https://www.legislation.gov.uk/ukpga/2006/16/section/41>.



of PRFs, such as enclosed loft spaces or roof voids or basements, where safe access was possible. A high-powered torch was used for the internal and external assessment.

The suitability of each feature, or group of features, to support roosting bats has been assessed as either none, negligible, low, moderate, or high, in accordance with best practice guidance¹ (see Table 1) Any evidence confirming the presence of bats was clearly recorded including photos and samples taken (e.g. droppings), where appropriate. Further surveys have been recommended in accordance with best practice guidance and the surveyor's professional judgement, where evidence of a bat roost or PRFs have been identified that would be adversely impacted by the proposal and where precautionary mitigation alone cannot ensure that bats would not be potentially disturbed or harmed.

Table 1. Guidelines for assessing suitability of structures (buildings and trees etc) to support bat roosts.

Suitability	Description of roosting habitats
None	No habitat features on the structure likely to be used by any roosting bats at any time of year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).
Negligible	A structure that does not have any obvious habitat features that are likely to be used by roosting bats. However, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure that has one or more potential roosting features that could support individual roosting bats opportunistically. These features however lack the space, shelter or appropriate conditions, to support larger numbers of bats (such as a maternity roost).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter and suitable conditions for roosting, but are unlikely to support a roost of high conservation significance.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potential for longer periods of time due to their size, shelter, protection and conditions.

2.2.2 Hibernation Potential

The structure and its associated features were assessed for their suitability to be used by hibernating bats. The assessment was carried out in accordance with guidelines produced by BatAbility³ and the bat survey guidelines produced by the Bat Conservation Trust¹. To determine the potential for features to support hibernating bats the following aspects were considered:

- the suitability of features to support roosting bats or to allow access for roosting bats;
- the temperature and humidity conditions likely to be present within the feature during the winter period and the suitability in this respect for it to be used by bats for hibernating;
- the surrounding habitat, in terms of its potential for use by bats outside of the hibernation period for commuting and/or foraging purposes; and
- the presence of known roosts within the structure, or adjacent structures/trees, or surrounding area during the active season.

The potential for use by hibernating bats for each feature, or group of features was assessed as either negligible, low, moderate, or high, in accordance with best practice. Further surveys are recommended where appropriate,

³ Middleton. N. (2019). *Assessing Sites for Hibernation Potential. A Practical Approach, including a Proposed Method & Supporting Notes. Version' Draft/V2.2019.* BatAbility.



considering the feasibility of a hibernation survey for certain PRFs.

2.2.3 Foraging and Commuting Potential

The habitats surrounding the site and within the wider landscape were broadly assessed for their potential to support foraging and commuting bats, and were categorised as negligible, low, moderate or high potential suitability in line with published guidance¹.

2.3 Other Protected and/or Notable Species

Any birds identified, or evidence of nesting birds discovered during the site visit, were recorded. Special attention was paid to notable species such as red-listed Birds of Conservation Concern⁴ and those species afforded special protection on Schedule 1 of the Wildlife and Countryside Act (1981), such as barn owl *Tyto alba*.

Whilst this survey has focussed on bats and no specific searches were made with respect to other protected/notable species, any evidence of such species that was encountered during the site visit was also recorded.

3 RESULTS/OBSERVATIONS

3.1 Desk Study and Granted EPS Licences

Two statutory designated sites are present within a 2km of The Site (see Figure 8). Full details of the designated sites are provided in Table 2 below. None of these sites include bats as a designated feature.

Table 2. Designated sites within 2km of the site.

Site name	Designation	Features listed on citation	Proximity to the site
Chiddingly woods	Wakehurst & Chiddingly woods SSSI	Booth woodland features contain extensive exposures of sandrock supporting rare and unique flora and a range of breeding birds (50 species recorded) in addition the rare crane fly <i>Erioptera nigripalpis</i> has been recorded along with a number of uncommon beetle species.	430m north
Wakehurst woods			435m west
Hook Quarry	Philpot's and Hook Quarries SSSI	Non ecological designation	1.1km east

⁴ Stanbury, A., Eaton, M., Aebischer, N., Balmer, N., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). Birds of Conservation Concern 5: the status of bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man. British Birds 114, pp 723-747..

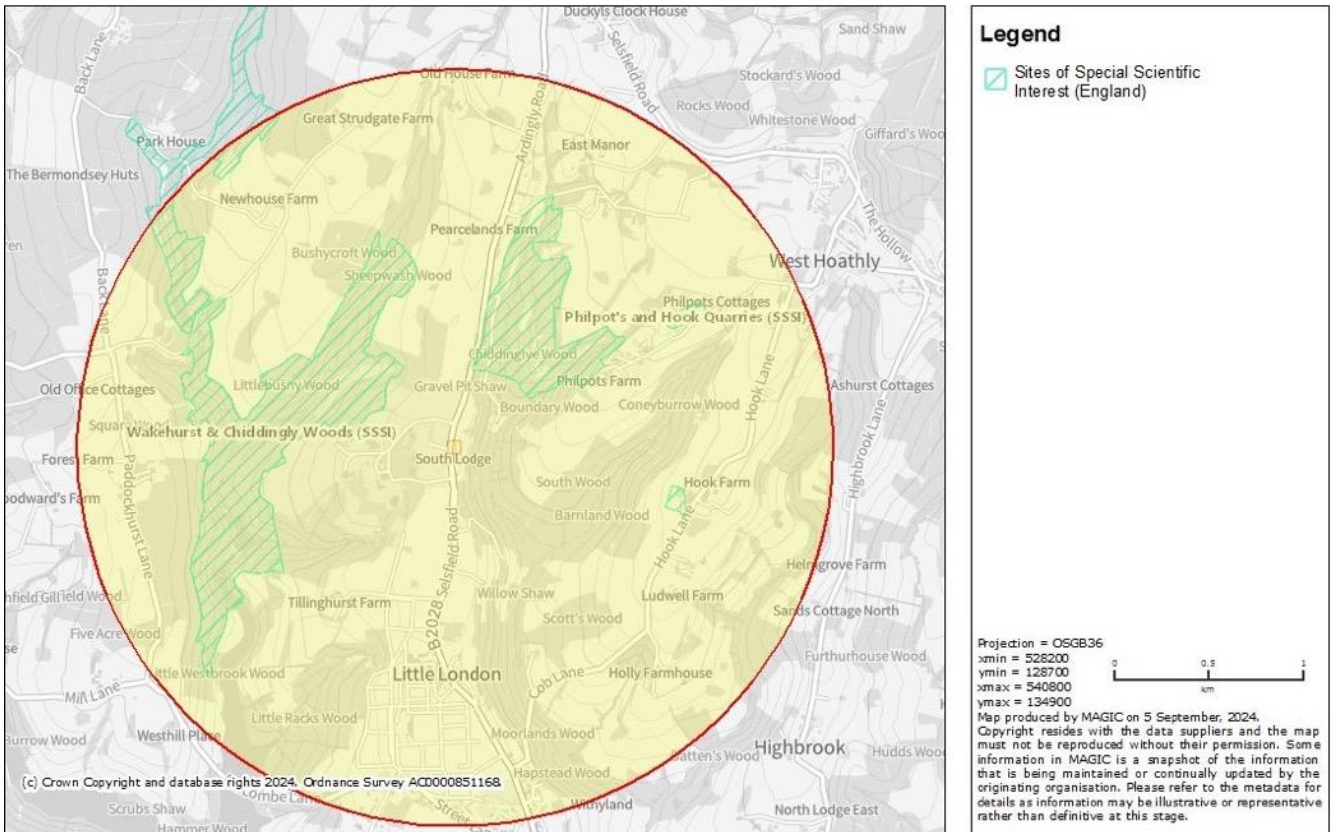


Figure 8. Designated sites within a radius of 2km of the application site. Images produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).

The nearest parcel of woodland to the site is located 100m east of the site with a designated area of woodpasture and parkland located approximately 40m west of the site (see Figure 9).



Figure 9. Priority woodland habitats relative to the site (red square). Image produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0)



There are no EPS licences granted for mitigation projects concerning bats within 1km of the site shown on the Magic Maps website. The closest granted EPS license is located 2.1km north east of the site and concerns bats (species include; common pipistrelle, *Pipistrellus pipistrellus*, Brown long eared bat, *Plecotus auritus* and serotine, *Eptesicus serotinus*).

3.2 Site Context and Surrounding Habitats

This site is located in a rural location north of Haywards Heath. Dense woodland parcels mosaiced with arable and grassland fields surround the site to all aspects. The close surrounding habitats are considered to be of high value for a range of bat species, whilst within the wider landscape there are high value habitats present, including ancient woodland, which provide a variety of habitats that are likely to support a wide variety of bat species.

The site supports a number of large buildings with the north lodge being the northernmost building located on site. The building sits adjacent to the access road with parcels of mown lawn areas noted to the eastern aspect. A treeline is present along the western boundary of the plot acting as a barrier from the adjacent road (B2028).

3.3 Inspection for Bats

3.3.1 Roost Potential

The building inspection identified a confirmed bat roost through the presence of droppings within the loft space. A collection of approximately 20 droppings were identified under the ridge on multiple collar ties, with a peak count of approximately 7 bat droppings on a single beam. These droppings were morphologically similar to long-eared bats (*Plecotus* sp.).

The building is comprised of a single storey residential unit located to the southern aspect of the property with a tower connecting to archway and corresponding tower (the archway and second tower are out of scope of the proposed development). The building then connects further north to a number of garage plots (approximately five entrances existing), the building then extends further north towards a store room. All aspects of the property are considered to be single storey with no cellar or second floors noted to any areas accessed. For the purposes of the bat scoping assessment the property has been divided and named as; the cottage, garages 1 to,5, store room, tower 1 and tower 2 (as per Figure 10 below).

Table 3. Assessment of PRFs on North Lodge building.

Building section	Description of features	Assessment of suitability ¹
The Cottage Exterior	The cottage is formed of exposed brick with small sections of hanging tiles located across the exterior of the cottage and the main roof is formed of multiple pitched roofs with clay tiles. The tiles overall are in good condition, however due to the large number of pitches and areas of tiles naturally a large number across the aspects have either slipped or broken creating crevice spaces suitable for roosting bat species. The gables were considered to be in good condition overall, however the western aspect showed gaps large enough for possible access/egress.	Moderate bat roost suitability
The Cottage Interior	The interior of the cottage is comprised of a number of void spaces. Three void spaces were identified on site with only two accessed at the time of survey. Approximate locations of the voids are illustrated in (Figure 10) <u>Void 1</u>	low bat roost suitability. Confirmed roost



Building section	Description of features	Assessment of suitability ¹
	The void was narrow measuring approximately 2.2m wide, 8m long and 2m tall, with collar ties noted at approximately 1.3m height. There was limited light noted in this void with no roof lining noted and well-kept wooden boards forming the interior of the roof, limited access/egress was noted to this area. A small number of bat droppings (approximately 20) were identified within void 1, these droppings were isolated around the collar ties to the centre of the void with a peak count of seven droppings on a single collar tie. These droppings morphologically resembled long eared bats. A large number of other mammal droppings were also noted throughout the void space. The floor space was comprised of old insulation foam. <u>Void 2</u> This void was located adjacent (just north) to void 1, the voids are connected via a central chimney feature though this has little gaps around making access between the two spaces difficult with no clear or obvious flight lines noted. The void measures the same length as void 1 (approximately 2.2m wide, 8m long and 2m tall) though further connects to the interior void space of tower 1 through a small (~45cm*60cm) opening at the base of the brick wall. The floor space was comprised of wooden boards overlaid upon insulation foam.	
Tower 1 Exterior	A number of lifted tiles are noted across the tower block and a number of these features may have potential to support roosting bat species though no internal inspection was possible with only a small view of the interior space visible from the entrance of Void 2 within the cottage which indicated closed board wooden interior with no obvious access/egress points noted. A bird's nest was noted to the exterior of the tower.	low bat roost suitability.
Garage block 1 to 5 Exterior	The garage block was noted to have several clay tiled pitched roofs running north to south making visibility of these pitches difficult. They also had several sections of hanging tile located to the eastern aspect. The visible roof areas and hanging tiles had a large number that were slipped or missing potentially forming suitable access/egress points for bats or acting as crevice roosts themselves. Only the eastern aspect of this block was able to be assessed.	Moderate bat roost suitability
Garage block 1 to 5 Interior	A loft void was noted inside the southern most garage block that was entered. It was not possible to enter this void space due to the current usage and storage of vehicles within the garage and the height of the loft void exceeding the maximum length of the surveyor's telescopic ladder preventing safe entry for the ecologist and risk of damage to client's property.	N/A
Tower 2 Exterior	The exterior of the tower was in good condition with limited slipped, missing or hanging tiles noted across the feature.	None
Tower 2 interior	The interior of this was accessible and the interior was formed of the same exterior tiles that were not lined, with no access or egress points noted from these features and the interior had been covered with a fire mesh net from ~2m height to prevent bird access. There were no features such as beams noted that could have potential to support roosting bats.	None
The store	Due to the elevations and access at the time of survey the store area was only	Moderate bat



Building section	Description of features	Assessment of suitability ¹
Exterior	able to be viewed from the northern aspect of the site. The store has several pitches formed of clay roof tiles of which the majority in view were well kept and showed no signs of damage such as missing or slipped tiles. Several aspects of hanging tiles were noted to the store, the condition of these features were poorer than adjacent roof tiles with a small number of lifted/missing tiles noted. <i>The assessment of this feature has been elevated from low bat roost suitability to moderate bat roost suitability due to the lack of ability to enter any possible void spaces that may be present and the inability to inspect the roof pitches from the western aspect or from a closer viewpoint to provide a more accurate and detailed assessment.</i>	roost suitability



Figure 10. View of approximate property divisions and void locations (purple boundary = the cottage, red boundary = the garages, yellow boundary's = the towers, blue boundary = the store).

Overall, the bat roost suitability at this site is assessed as 'high', considering the condition of the building and its context within the wider foraging habitat for bats in combination with the survey limitations which may have resulted in suitable features being omitted from assessment. The habitats surrounding the building will offer increased foraging potential and offer flight lines for a variety of bat species emerging/re-entering any potential roosts on the dwelling.

There were no trees contained within the boundary of the site and tree roosting bats would therefore not be a constraint to development.



3.3.2 Hibernation Potential

It would not be typical for bats to be found overwintering in this type of structure. However, due to the uncertain nature of hibernation occurring with the *Pipistrellus* genus unexpected incidents of hibernation could occur (likelihood being low, but not impossible).

Although the site is not what would be regarded as a 'classic' hibernation site there is the potential that bats could be occupying the property over the winter period (e.g. pipistrelle species in small numbers) through.

3.4 Other Protected and/or Notable Species

There are a few access points of the building large enough to accommodate house sparrow *Passer domesticus* and starling *Sturnus vulgaris*, which commonly nest in buildings, though no evidence of their use was found.

3.5 Survey Limitations

An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is therefore possible that some species may not have been present during the survey, but may be evident at other times of the year. Bats will commonly roost in small inaccessible crevices, such as spaces underneath ridge tiles that are impossible to inspect during a scoping assessment. For this reason, habitats and features are assessed for their potential to support bats, even where no direct evidence (such as droppings) has been identified.

Due to the location of the property and its close proximity to the adjacent road, the majority of the western aspect was not visible in places and some sections were not visible fully (i.e higher elevations). Similarly, sections of the garage and store area could not be viewed entirely due to the pitches on the roof and the proximity to the road and height of the building limiting view of the roof areas to the centre and west of the property.

The garage blocks could not be internally assessed at the time of survey, the southern most section of the garage could be entered but the internal loft void could not, the height of the void entrance (~3m) exceeded that of the surveyor's telescopic ladder's safe usage (~2.6m) and the current usage of the garage included vehicles of value which would be at risk of damage. As such the void was not entered.

These limitations are significant and have reduced the ability to fully assess the building for its potential to support roosting bats. As a result, the suitability has been increased to 'high' as a precautionary measure in the hope that three presence / absence surveys can provide sufficient data to form a robust impact assessment.



3.6 Photographs



Photographs 1a (left) and 1b (right). 1a) View of the cottage from the south-eastern aspect of the site with view of the hanging tiles and roof tiles. 1b) View of the cottage from the eastern aspect of the site with view of the hanging tiles that form the eastern aspect of void 1. Tower 1 is visible from the far right of the image.



Photographs 2a (left) and 2b (right). 2a) View of the cottage from the southern aspect of the site with view of the front door entrance visible in photograph 1a shown in the bottom right of the image. 2b) View of the western aspect of the cottages southern roof pitch.



Photographs 3a (left) and 3b (right). 3a) View of the western aspect of the cottage with view of the close proximity of the building and the adjacent boundary wall. View of the garage aspect is noted to the top of the image. 3b) View of the gaps noted to gables on the western aspect of the cottage.



Photographs 4a (left) and 4b (right). 4a) View of loft void 1 from the void entrance with the image taken at the base with of the collar ties noted to the centre of image. 4b) View of void 1's apex with view of the wooden board's tight seals and limited gaps which is consistent across the length of the void.



Photographs 5a (left) and 5b (right). 5a) View of bat droppings located along one of the collar ties within void 1. 5b) View of the collar tie within void 1 with a large disused wasps nest located to the far right of the image.



Photographs 6a (left) and 6b (right). 6a) View of the interior of void 2, facing east with view of the brick wall and the small opening into tower 1's void space. 6b) View of void 2's apex with view of the wooden board's tight seals and limited gaps which is consistent across the length of the void.



Photographs 7a (left) and 7b (right). 7a) View of the exterior of tower 1 as taken from the eastern aspect with view of lifted tiles noted to the center of the image and bird nesting material to bottom right of the towers roof. 7b) Interior view of the towers void as taken from the hole noted in void 2 (photograph 6a).



Photographs 8a (left) and 8b (right). 8a) exterior view of the garage block with the image taken from the eastern aspect, large sections of hanging tiles noted to this feature with view of missing/lifted tiles noted. 8b) view of the missing tiles taken from the base of the southernmost garage block with the missing tiles noted to the centre of the image visible in photograph 8a.



Photographs 9a(left) and 9b (right). 9a) exterior view of tower 2 taken from the northern aspect with view of the well-kept tiles noted across the feature. 9b) interior view of the tower from the base with view of the well-kept boarded roof and the wire mesh to centre of the image.



Photographs 10a(left) and 10b (right). 10a) View of the stores from the northern aspect with view of damaged hanging tiles to the right of the image and well-kept roof tiles across the image. 10b) view of the stores as taken from the eastern aspect of the site with a view of tower 2 located to the far right of the image.



Photograph 11. View of the property from the northern aspect of the site facing south with view of the property to the right of the image.



4 ECOLOGICAL CONSTRAINTS AND OPPORTUNITIES

4.1 Bats

4.1.1 Roost Potential

In accordance with the Bat Conservation Trust guidelines, the overall suitability of the building/structure/trees to support bats is rated as 'high'. The works to the property would not impact the entirety of the building impacting only select features. The proposed development has the potential to impact upon features that have the potential to support bats roosts, not yet identified.

It is recommended that prior to additional survey effort, if possible, an aerial survey (such as drone) is undertaken to assess the sections of roof that were not able to be assessed such as the roof pitches beyond the easternmost pitch. In addition, a loft inspection of the garage void space using an enhanced length ladder to ensure surveyor safety. The above assessments are not considered essential at this stage but may however be able to further assess the building reducing the required scope of assessment.

Therefore, in accordance with the guidelines three bat emergence/re-entry surveys are required to determine the importance of this building to bats as without further surveys the level of impact upon bats cannot be fully assessed. To ensure adequate coverage of all potential roost features (across the entire property), it is estimated that seven observers will be required for each survey visit to observe all suitable roost features. To ensure that the survey effort conforms with interim guidance on the use of night vision aids, produced by the Bat Conservation Trust⁵, nine night vision cameras supported by infra-red lighting will be used to support surveyors. It may be possible to have a reduced surveyor and camera effort focusing upon areas proposed to be impacted should further assessment be possible and determine that areas previously not accessible are assessed as negligible or none for bat roosting potential, and/or submission of detailed drawings confirming the areas to be impacted and if any rejuvenation works (such as re tiling the roofs) are required.

⁵ Bat Conservation Trust (2022). Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys.

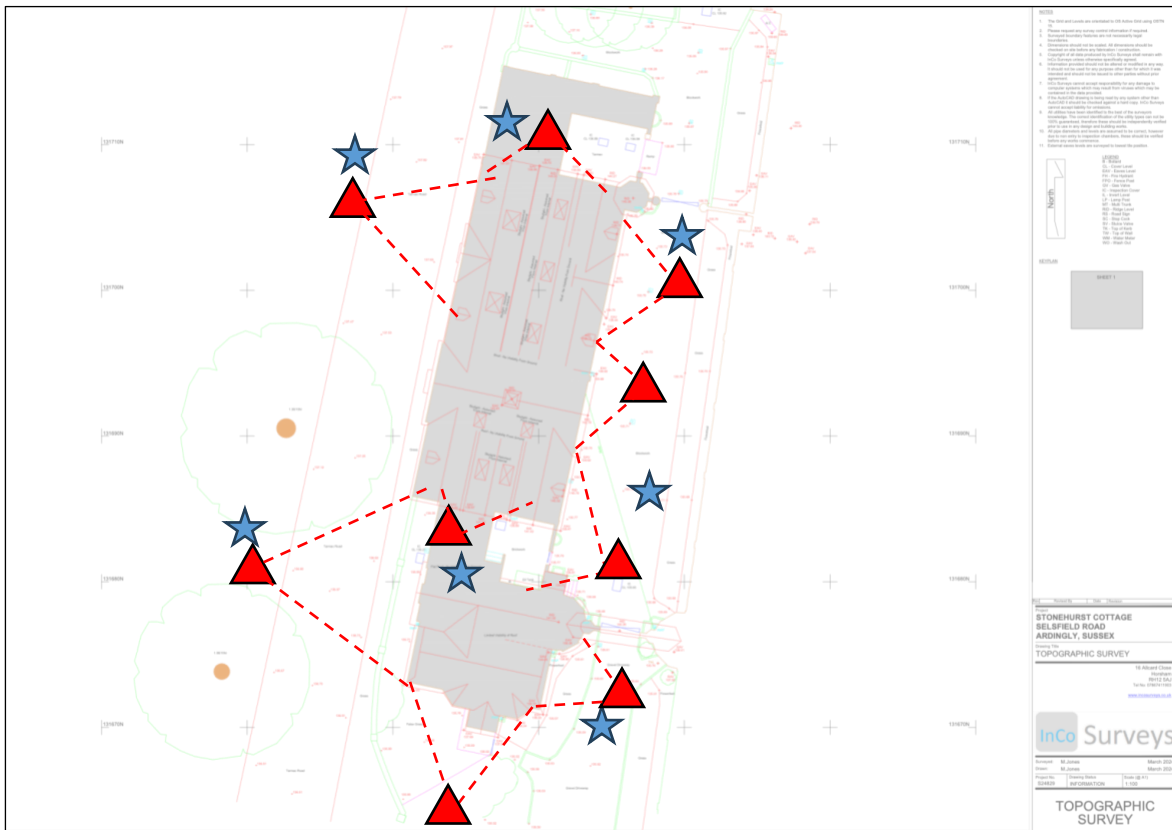


Figure 11. View of proposed surveyor (blue star) and night vision aid (red triangle) locations in order to adequately cover all features of potential roost suitability located across the building. Approximate field of views for night vision aids is illustrated with a red dashed line.

These surveys can be undertaken between May and mid-September (although only one of the three surveys can be undertaken in September as it is a sub-optimal month). These surveys will be completed at dusk, during suitable weather conditions for bat activity to observe any bats emerging or re-entering roosts. Surveyors will use ultrasonic recording equipment to try and establish the species of bat present. If bats are discovered, further surveys to classify the nature of the roost (day/maternity/social) may be required.

The identification of a bat roost also means that careful timing of the development may be required in order to avoid impacts on bats, a precautionary 'soft strip' of tiles supervised by a licensed and suitably qualified bat ecologist and provision of permanent bat roosting features into the development will also be required, the nature of which will be dependent on the outcome of the surveys.

An EPS licence will be required for any actions that would directly disturb, modify or destroy a bat roost. This would include measures to replace the existing roosting habitat such as designing integral bat roosting opportunities into the building fabric such as bat tiles and internal voids/access points for bats, depending on the scale of impact.

4.1.2 Hibernation Potential

The building overall is assessed as having low hibernation potential for bats. The features that could be used for hibernation include roof tiles and hanging tiles which would be impossible to fully investigate bat use over the winter period without dismantling the features, and hence potentially destroying a bat roost. Therefore, in this instance no further surveys for winter roost potential are recommended. Instead, mitigation must be implemented to reflect the risk that bats may use this building for hibernating during the winter. This must include timing the works to the building in the period between mid-March and the end of October to avoid disturbing bats that could



be in hibernation.

4.2 Other Protected and/or Notable Species

Since the building has potential to support nesting birds such as house sparrow and swallow, demolition and/or construction work upon the building should be timed outside of the nesting bird season (avoiding 1st March–31st August). If this is not possible, the building should be subject to nesting bird checks by a suitably qualified ecologist as appropriate to the works. If an active nest is identified, a minimum exclusion zone for all works within 5m radius of the nest must be established to protect it from disturbance until the young have fledged.

4.3 Biodiversity Enhancement Opportunities

The developer is encouraged to consider including integral bat roosting opportunities into the building fabric such as bat tiles and/or internal voids/access points for bats. For example, Schwegler 2FR bat tubes could be built into the south, west and east facing elevations and purpose designed bat tiles onto the south-facing pitched roof. Alternatively, 2FE Schwegler Wall-Mounted bat shelters could be installed upon the external faces of the building close to the eaves of the building on the south or eastern face. Site specific site enhancement opportunities will be provided following the additional surveys recommended to be more in line with the site's current biodiversity values. It is important to note that other examples of biodiversity features are available but any chosen must be first reviewed and approved by a suitably qualified ecologist.

If any bats or other protected species are found during the development, work must be stopped immediately, and an ecologist must be contacted for advice.

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op.



APPENDIX 1 – Wildlife Legislation and National Planning Policy

The following text is intended for general guidance only and does not constitute comprehensive professional legal advice. It provides a summary of the current legal protection afforded to bats.

All bat species in the UK are included in Schedule II of the Habitats Regulations 2017, which transpose Annex II of the Council Directive 92/43/EEC 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora ("The EC Habitats Directive"). As such all bat species in the UK are defined as 'European Protected Species (EPS).

Four species of bat (Bechstein's bat *Myotis bechsteinii*, Barbastelle bat *Barbastella barbastellus*, greater and lesser horseshoe bats, *Rhinolophus ferrumequinum* and *R. hipposideros*) are also listed on Annex IV of the EC Habitats Directive. This requires the designation of a series of sites which contain important populations of these species as Special Areas of Conservation (SACs).

All species of British bat are also fully protected under the Wildlife and Countryside Act (1981), as amended, through inclusion in Schedule V.

All species of bat are listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). Section 41 of the NERC Act lists the habitats and species of principle importance. This places a statutory duty on all public bodies, including planning authorities, under Section 40, to take, or promote the taking by others, steps to further the conservation of habitats and species of principal importance for the conservation of biodiversity in England (commonly referred to as the 'Biodiversity Duty'). This duty extends to all public bodies the biodiversity duty of Section 74 of the Countryside and Rights of Way (CROW) Act 2000, which placed a duty only on Government and Ministers.

Under the above legislation it is an offence to:

- kill, injure or take any individual bat of any species;
- possess any part of an individual bat, either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by bats for shelter, rest, protection, or breeding;
- intentionally or recklessly disturb these species whilst using any place of shelter or protection; or
- deliberately disturb bats in such a way as to be likely to impair their ability to:
 - survive, to breed or reproduce, to rear or nurture their young; to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong;
- keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from a bat.

It is also an offence to set and use articles capable of catching, injuring, or killing bats (for example a trap or poison), or knowingly cause or permit such an action. There is also protection under Schedule 6 of The Wildlife and Countryside Act 1981 (as amended) relating specifically to trapping and direct pursuit of bats.

A European Protected Species Licence (EPSL) in relation to bats is required from Natural England for any work that would result in an otherwise unlawful activity (e.g. damage to a bat roost). A license can only be issued to permit otherwise prohibited acts if Natural England are satisfied that all the following three tests are met:



- the proposal is for ‘preserving public health or public safety, or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment’;
- there is no satisfactory alternative; and
- the action authorised by the license will not be detrimental to the maintenance of bat populations at a favourable conservation status in their natural range.

A bat roost is defined by the Bat Conservation Trust’s Bat Surveys—Good Practice Guidelines 3rd Edition as “the resting place of a bat”. In general, the word roost is interpreted as “any structure or place, which any wild bat uses for shelter or protection.”

Bats tend to re-use the same roosts; therefore, legal opinion is guided by recent case law precedents, that a roost is protected, whether or not the bats are present at the time. This includes summer roosts used for resting during the day and/or breeding; or winter roosts, used for hibernating.



APPENDIX 2 – Reducing Impacts of Artificial Light

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts to other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness.

Guidelines issued by the Bat Conservation Trust⁶ should be referred to when designing the lighting scheme. Note that lighting designs in very sensitive areas should be created with consultation from an ecologist and using up-to-date bat activity data where possible. The guidance contains techniques that can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. This includes the following measures:

Avoid lighting key habitats and features altogether

There is no legal duty requiring any place to be lit. British Standards and other policy documents allow for deviation from their own guidance where there are significant ecological/environmental reasons for doing so. It is acknowledged that in certain situations lighting is critical in maintaining safety, such as some industrial sites with 24-hour operation; however, in the public realm, while lighting can increase the perception of safety and security, measurable benefits can be subjective. Consequently, lighting design should be flexible and be able to fully consider the presence of protected species.

Apply mitigation methods to reduce lighting to agreed limits in other sensitive locations – lighting design considerations

Where bat habitats and features are considered to be of lower importance or sensitivity to illumination, the need to provide lighting may outweigh the needs of bats. Consequently, a balance between a reduced lighting level appropriate to the ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved. The following are techniques which have been successfully used on projects and are often used in combination for best results:

- dark buffers, illuminance limits and zonation;
- sensitive site configuration, whereby the location, orientation and height of newly built structures and hard standing can have a considerable impact on light spill;
- consideration of the design of the light and fittings, whereby the spread of light is minimised ensuring that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Consideration should be given to the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures. Consider no lighting solutions where possible such as white lining, good signage, and LED cat's eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times;
- screening, whereby light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding;
- glazing treatments, whereby glazing should be restricted or redesigned wherever the ecologist and lighting professional determine there is a likely significant effect upon key bat habitat and features;
- creation of alternative valuable bat habitat on site, whereby additional or alternative bat flightpaths,

⁶ Bat Conservation Trust and Institute for Lighting Professionals (2018) Guidance note 8. Bats and Artificial Lighting. <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>



commuting habitat or foraging habitat could result in appropriate compensation for any such habitat being lost to the development;

- dimming and part-night lighting. Depending on the pattern of bat activity across the key features identified on site it may be appropriate for an element of on-site lighting to be controlled either diurnally, seasonally or according to human activity. A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use.

Demonstrate compliance with illuminance limits and buffers

- *Design and pre-planning phase*; it may be necessary to demonstrate that the proposed lighting will comply with any agreed light-limitation or screening measures set as a result of your ecologist's recommendations and evaluation. This is especially likely to be requested if planning permission is required.
- *Baseline and post-completion light monitoring surveys*; baseline, pre-development lighting surveys may be useful where existing on or off-site lighting is suspected to be acting on key habitats and features and so may prevent the agreed or modelled illuminance limits being achieved.
- *Post-construction/operational phase compliance-checking*; as a condition of planning, post-completion lighting surveys by a suitably qualified person should be undertaken and a report produced for the local planning authority to confirm compliance. Any form of non-compliance must be clearly reported, and remedial measures outlined. Ongoing monitoring may be necessary, especially for systems with automated lighting/dimming or physical screening solutions.

Lighting Fixture Specifications

The Bat Conservation Trust recommends the following specifications for lighting on developments to prevent disturbance:

- Lighting spectra: peak wavelength >550nm
- Colour temperature: <2700K (warm)
- Reduction in light intensity
- Minimal UV emitted
- Upward light ratio of 0% and good optical control

Further reading:

Buglife (2011) A review of the impact of artificial light on invertebrates.

Royal Commission on Environmental Pollution (2009) Artificial light in the environment. HMSO, London. Available at: <https://www.gov.uk/government/publications/artificial-light-in-the-environment>

Rich, C., Longcore, T., Eds. (2005) Ecological Consequences of Artificial Night Lighting. Island Press. ISBN 9781559631297.

CPRE (2014) Shedding Light: A survey of local authority approaches to lighting in England. Available at: <http://www.cpre.org.uk/resources/countryside/dark-skies/item/3608-shedding-light>

Planning Practice Guidance guidance (2014) When is light pollution relevant to planning? Available at: <https://www.gov.uk/guidance/light-pollution>



Institution of Lighting Professionals (2021) Guidance Notes for the Reduction of Obtrusive Light GN01:2011.
Available at: <https://www.theilp.org.uk/resources/free-resources/>

Voigt, C.C., Azam, C., Dekker, J., Ferguson, J., Fritze, M., Gazaryan, S., Hölker, F., Jones, G., Leader, N., Lewanzik, D. and Limpens, H., 2018. *Guidelines for consideration of bats in lighting projects*. Unep/Eurobats.
Available at:
https://cdn.bats.org.uk/uploads/pdf/Resources/EUOBATSGuidelines8_lightpollution.pdf?v=1542109376



APPENDIX 3 – DNA analysis of bat droppings

Results

Sample ID: EG-2050-1

Sample information:

Sample type: Faecal

Species group: Bats

Suspected species:

Site Location: RH17 6TN

Comments: Stonehurst - North Lodge Void 1

Laboratory information:

DNA Extraction Code: EG-2025-0390

Identification method: qPCR

Analysis Procedure Notes:

All UK bat species tested for - only a single species detected in this sample.

Laboratory Comments:

None

Species Identified:

Species 1: Plecotus auritus (Brown long-eared bat)

qPCR Ct Value: 20

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