



Stage 1 Bat Survey – Caversham Court Gazebo

Client: Reading Borough Council

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1 Summary

Proposal Outline	It is proposed to carry out a suite of conservation works on the Grade II listed Gazebo located within Caversham Court Gardens.
Survey area and Zone of Influence	The building is a 17 th century, two storey gazebo with brick walls and clay roof tiles. A raised causeway accesses the first floor. The building is set in 1.3ha of public gardens. No trees or other structures will be affected.
Surveys Undertaken	A Stage 1 bat survey comprising a daytime bat walkover and potential roost assessment was undertaken on the 26 th of March 2026. An online desk study to look for features of interest within 2km of the site was also undertaken.
Results	During the Stage 1 survey no evidence of bats was recorded. However, features with potential to support roosting bats were recorded across the building. The desk study revealed that there are no designated sites within 2km for which bats are the primary reason for the designation. The nearest EPSL granted for bats related to a common pipistrelle and brown long-eared bat roost 298m to the north of the building.
Limitations	There were no limitations on the survey.
Evaluation	The building was considered to have medium potential to support roosting bats.
Potential Impacts	The proposed works will have a direct impact on the potential roost features.
Recommendations	Further survey will be necessary to confirm the presence or likely absence of bats from the building. Ideally, the survey should consist of two dusk emergence surveys undertaken during the active season (May – September) and ideally spaced at least one month apart.

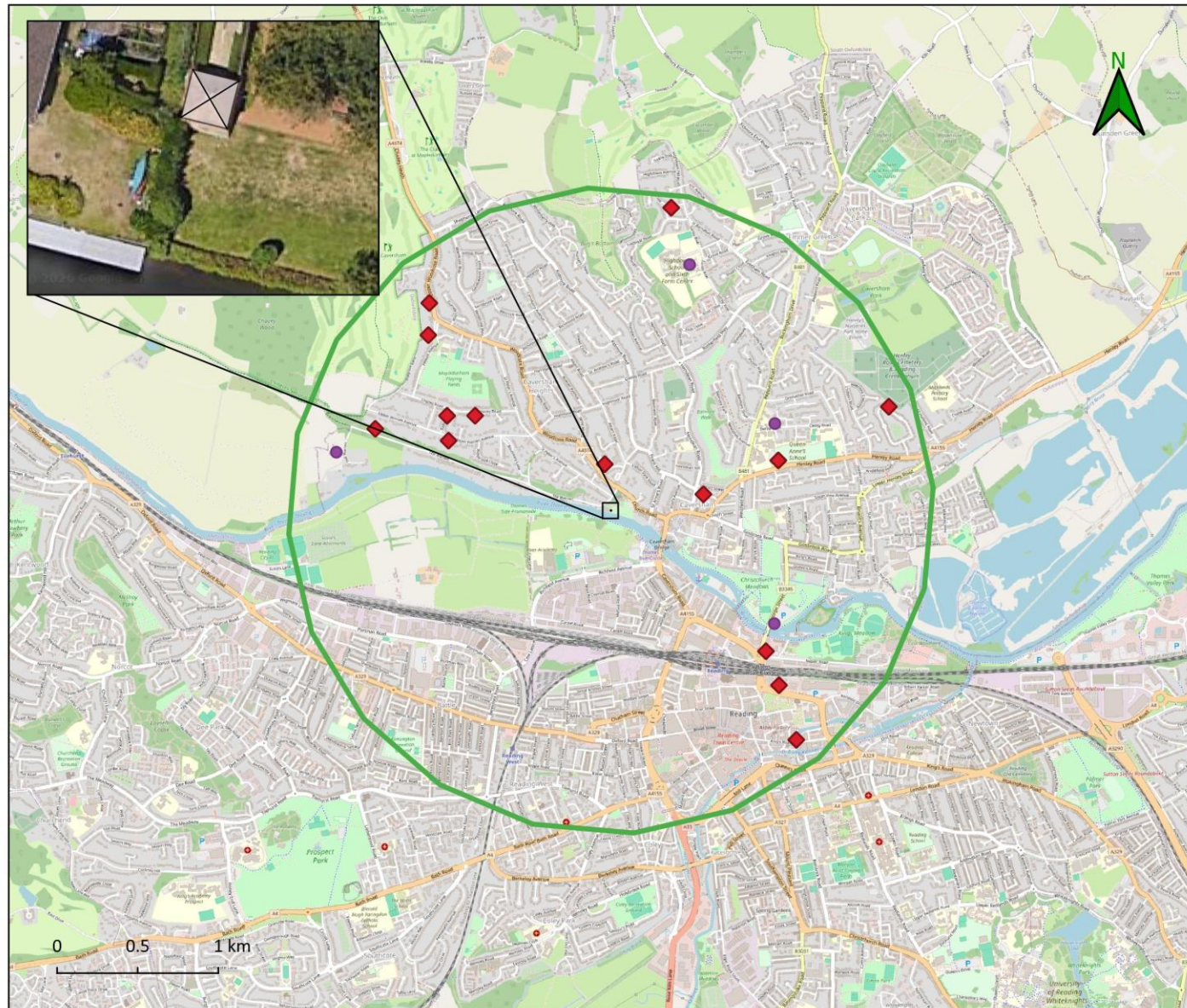
2 Introduction

2.1 Survey area

- 2.1.1 The building surveyed is the Gazebo located within Caversham Court Gardens, close to the bank of the River Thames. The structure is two storeys in height and is approached from the north by a raised causeway, providing access to the first floor. This level was previously open to the public but has been closed off for at least two years.
- 2.1.2 The Gazebo is understood to date from mid-17th century and is designated as a Grade II listed structure. The walls are of brick construction with exposed panels of flint, and the roof is pyramidal with clay tiles. The building footprint is approximately 4.3 square metres.
- 2.1.3 The gazebo is cantered within Caversham Court Gardens, which were laid out between 1660 and 1681, and are listed as Grade II in the National Register of Historic Parks and Gardens. The gardens spread over three terraces on the north bank of the River Thames and cover an area of 1.3 hectares with the lower two terraces featuring lawns and mature trees and the upper terrace the site of the Old Rectory and kitchen gardens. Caversham Court is accessed from Church Road (RG4 7AD, grid reference SU 70835 74810). A site plan is shown in [Figure 1](#).

2.2 Background and development proposals

- 2.2.1 Following a structural report a suite of internal and external conservation works are planned to include timber repairs, repointing and the installation of reinforcing window bars and, a new timber support post and foundation, and repair work to the west wall plate. During a structural investigation on 27th November 2025, a Nathusius' pipistrelle (*Pipistrellus nathusii*) was discovered on the ground and taken into care. CA Ecology were then contracted to carry out a stage one bat survey.



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Figure 1

Client	Reading Borough Council
Project	Caversham Court Gazebo
Title	Location Plan
Date	April 2026

Location Information

RG4 7AD

SU 70835 74810

- ◆ Bat EPSLs
- Bat roost records
- 2km buffer

Map data available under the Open Database License <http://www.openstreetmap.org/copyright> & Google, Imagery ©2026 Airbus, Maxar Technologies Map data ©2026

2.3 Purpose and scope

2.3.1 CA Ecology Ltd was contracted to conduct a Stage 1 bat survey including a Preliminary Ecological Appraisal (PEA) for bats within the application site boundary along with a Preliminary Roost Assessment (PRA) of the building.

2.3.2 The key aims and objectives of the survey are to:

- Conduct an internal and external inspection of the building(s), to look for evidence of roosting bats and evaluate the potential of the building(s) to support roosting bats.
- Establish baseline conditions and collect robust data in order to allow an assessment of potential impacts of the proposals upon bat populations on and off site;
- Establish any requirements for more detailed or further surveys, taking a proportionate approach and ensuring the provision of information is appropriate for the environmental risk associated with the development;
- Identify key constraints to the project and make recommendations for design options to avoid significant impacts;
- Identify the mitigation and enhancement measures that may be required, following the mitigation hierarchy;
- Identify the opportunities offered by the project to deliver ecological enhancement and support conservation of bat populations.

3 Methodology

3.1 Preliminary ecological appraisal for bats and desk study

3.1.1 The MAGIC website is reviewed for information on designated sites for which bats are the qualifying feature or key feature of interest within 2km radius of the building and details of European Protected Species Licences granted for bats within 2km of the building. Using a combination of OS map and online aerial imagery, an estimate of the proportion of suitable commuting and foraging habitat surrounding the site along with connectivity to other suitable areas of habitat is made. Measurements of the distance to nearest woodland and water are also recorded. Company owned records of bats and their roosts within 2km are considered from previous work in this area of Berkshire. The client/client's agent is also consulted as to whether previous survey at the site has been undertaken. This data is then taken together and used to inform the overall assessment.

3.2 Zone of Influence

3.2.1 The ZoI for bats is the area where a development may affect roosting, foraging, or commuting bats. It is defined by combining:

- Desktop review: Existing bat records, designated sites, and surrounding habitats.
- Site assessment: Identification of potential roosts, foraging areas, and commuting features such as hedgerows, treelines, and watercourses.
- Species ecology: Consideration of species present and their typical foraging ranges.
- Impact pathways: Direct impacts (roost loss) and indirect impacts (disturbance, lighting, habitat severance).
- Professional judgement: Integration of habitat connectivity, survey evidence, and published guidance (CIEEM, BCT) to set ZoI boundaries.

3.2.2 The ZoI ensures all areas potentially affected by the development are identified for assessment and mitigation.

3.3 Stage 1 survey – daytime bat walkover and potential roost assessment

3.3.1 A walkover is undertaken to assess suitability of features for roosting and foraging or flight paths, including recording locations of any lighting fixtures. Features with potential to support roosting bats that will be directly affected by the proposals are then subject to a potential roost assessment.

3.3.2 The potential roost assessment comprises an external and internal inspection of the building/s. The external inspection is undertaken from the ground and all external aspects of the building are inspected for bats or evidence of bats. During the internal inspection all available parts of

the loft space are accessed using a ladder where necessary. Using close-focusing binoculars and a high-powered torch, a systematic search is undertaken to look for bats or evidence of bats. Evidence looked for includes: bat droppings on external surfaces such as walls, windows, window seals, soffit boards and tile surfaces, bat droppings or live or dead bats within the loft space, scratch marks and grease marks around possible access and egress points, piles of insect remains, staining of favoured roost locations or around access points, bat-fly pupal cases, and distinctive odour. The characteristic chittering noise is also listened for along with noise of movement of bats within crevices and echolocation calls within any loft voids. Where necessary an endoscope and/or torches and mirrors are used to check inaccessible crevices.

3.3.3 Where evidence of bats is present in the form of droppings a sample of the guano is taken and retained for later analysis, where necessary, using the following protocol:

- A sample of guano is selected that is dry and has had minimal exposure to sun and water
- Wearing gloves, droppings are collected and placed into a clean Eppendorf tube
- If samples are taken from different locations gloves are changed and a new sample tube is used
- Samples are then placed individually in plastic bags labelled with the date and location of sample collection
- Samples are then stored in a cool, dry place ready for later analysis where necessary

3.3.4 Where appropriate, a tell-tale is then set out to assist in recording information about how bats are using the roost. A tell-tale comprises a white polythene sheet cut into approximately 2x3m sections. The sheets are placed under the roost to align with the roost location above; weights may be added to keep a sheet in place. In roosts where there is more than one species suspected to be present or several roost locations indicated by locations of piles of droppings more than one sheet may be laid out. The location of each tell-tale within the loft space and the date it was set out is noted.

3.3.5 As evidence of bats, even at maternity roosts can be limited, inconspicuous or not present at the time of survey, the potential of the building to support roosting bats is also assessed. This includes looking for suitable access points and potential roost locations including, but not limited to: slipped or missing tiles, missing mortar, lifted lead flashing, gaps behind or into cladding or hanging tiles, gaps and cracks in walls or around windows and doors, gaps at eaves or behind barge and soffit boards, access into cavity wall. Internally, the suitability of the loft void for bats is assessed and the number and location of access points are noted.

3.3.6 The number of locations and aspect of potential access points is taken into consideration along with the number of potential roost locations, any history of use of the site by bats and results of the desk study, together with the surrounding habitat and connectivity to water and woodland,

to give overall potential for the building to support roosting bats (see Table 1 below).

- 3.3.7 Further consideration for the building to have potential for non-classic winter use is given following the rationale provided in Figure 4.1 of the BCT Good Practice Guidelines

Table 1: Buildings are categorised as follows:

Building Suitability	Description
Confirmed	Building with confirmed roost presence either in the form of droppings, bats present or other incontrovertible signs.
High	Building or structure has a numerous suitable access points and potential roost locations, suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time with good connectivity to high quality foraging habitat. Buildings with potential for high conservation status roosts such as maternity sites or classic hibernation sites are included in this category.
Medium	Building has some features suitable for use by roosting bats. Unlikely to support a roost of high conservation status.
Low	Building has features likely to be used opportunistically but does not provide conditions for use on a regular basis or by large numbers of bats.
Negligible	No features suitable for use by roosting bats or features where the potential of use by roosting bats is so low as to be negligible.
N.B. The potential of the building will be affected by the surrounding habitat i.e. a feature on a building next to a floodlit car park may get negligible potential, whilst the same feature on a building next to a woodland with a stream may get low or even medium potential.	

4 Survey findings

4.1 Preliminary ecological appraisal for bats and desk study

- 4.1.1 There are no statutory designated sites within 2km of the site. The 2km surrounding area is predominantly urban in nature being placed within the city of Reading. The River Thames which runs just 12 metres to the south of the gazebo provides a corridor through the city which bats can commute through and provides connectivity to foraging habitat including Rivermead Park on the direct opposite bank and areas of parkland and deciduous woodland to the west. The closest parcel of deciduous woodland is located 66m to the south on the opposite bank of the Thames.
- 4.1.2 CA Ecology has four records of bat roosts within 2km of the site. The closest concerns a Daubenton's bat (*Myotis daubentonii*) maternity roost 1.23km southeast of the site on the north bank of the Thames. This roost was surveyed in 2015 and 50 bats were seen to emerge. Other roosts recorded are a hibernating brown long-eared bat (*Plecotus auritus*), hibernating bat species, and of a juvenile common pipistrelle (*Pipistrellus pipistrellus*) taken into care from a property. Records of roosts are shown on [Figure 1](#).
- 4.1.3 Fourteen (compared to an average of 5*) European Protected Species Licences (EPSL) have been granted for bats within 2km of the site. The nearest is a property 298m to the north that licensed the destruction of a resting place of common pipistrelle and brown-long eared bats in 2017. Other species named in the licences are soprano pipistrelles (*Pipistrellus pygmaeus*), serotine (*Cnephaeus serotinus*) and Daubenton's bats. The only maternity roost affected was a soprano pipistrelle roost located 1.19km west of the site. These records are shown in [Figure 1](#).
- 4.1.4 CA Ecology has six non-roost bat records within a 2km radius of the site, including acoustic records of bats in flight and injured bats brought into care. These include records of *Pipistrellus* species, noctules (*Nyctalus noctula*), common pipistrelles and soprano pipistrelles.

*The average number of EPSL from desk studies conducted from projects across the southeast of England within the past five years from a sample of 70 projects.

4.2 Zone of Influence

- 4.2.1 Given the small scale of the proposed conservation works, the Zone of Influence is considered unlikely to extend beyond the footprint of the Gazebo and the immediately adjacent habitats. No significant effects on the wider landscape are anticipated due to the confined nature of the works.

4.3 Stage 1 survey – daytime bat walkover and potential roost assessment

- 4.3.1 On the 26th of March 2026 the site was visited by Senior Ecologist Allyson Hawkins BA (hons) MSc, with four years' experience of conducting bat surveys. Allyson is currently working toward a level 1 bat licence and was acting as an accredited agent under Claire Andrews BSc (Hons) MCIEEM, a licenced bat surveyor (WML CL16, 2015-12722-CLS-CLS, 2025-86128-CL19/20-BAT). Claire is a bat specialist with over 31 years' experience of conducting bats surveys. Claire is also author and agent of numerous European Protected Species licences and a Registered Consultant for the Bat Mitigation Class Licence.
- 4.3.2 Allyson was assisted by Toby Johnson BSc (hons) MSc, an Assistant Ecologist entering his third year, with experience in bat survey work. Over the past year, he has shadowed on internal and external building inspections at up to ten properties, contributing to assessments of structures for bat roost potential and evidence. He has also undertaken bat box checks from the ground using a torch, carried out numerous dusk emergence surveys over the past two years. He has received training in bat handling, supporting his understanding of survey techniques and roost ecology.
- 4.3.3 All external parts of the building were assessed from ground level, and all internal spaces were accessed and inspected. [Figure 2](#) and Table 2 below show the results of the assessment.

Table 2: Results of internal and external assessment

Feature	Description	
Type of property	The Gazebo is a Grade II listed 17 th century two storey structure with a raised causeway on the northern aspect. The structure is retained as a historical feature of the park and has never been occupied as a dwelling. The walls are constructed from brick with exposed flint panels. The ground floor has a circular window on the southern aspect, and the first floor has large central windows on the east, south and west facing sides.	
Roof	The pyramidal hipped roof is finished with clay tiles. It is understood that it was re-roofed in 2008 and several tiles show signs of lifting.	

Feature	Description
Potential bat access points (See Figure 2 for locations)	1. Missing mortar. 
	2. Gap between brick and timber. 
	3. Gaps around timber frame. 

Feature	Description
	4. Lifted roof tiles. 
	5. Missing mortar at hip of roof. 
	6. Access at the eaves. 
	7. Missing plaster with access to wall cavity. 

Feature	Description
	8. Gap above doorframe into wall cavity. 
	9. Gap between timber and wall. 
	10. Split in beam. 
	11. Missing plaster on ceiling. 

Feature	Description	
	12. Holes in wall in electrical cupboard.	
Lighting features (See Figure 2 for locations)	Two ground level uplighters were present adjacent to the building. These were the only artificial light sources present in or around the structure.	
Potential roost locations	Between the roof tiles and roof membrane, underneath ridge tiles, within gaps in the timber frame, in cavities inside the walls, inside splits in timber beams, and inside cavities in plaster.	
Loft description and accessibility	There was no internal loft space present in the structure.	

Feature	Description		
Evidence of bats	No evidence of bats was found during the external or internal inspection of the structure.		
Potential of building to support roosting bats			
Maternity/ Satellite Roost	Hibernation Roost	Transitional or day Roost	Night or Other Roost
Medium	Medium	High	High
Overall suitability	Medium		

4.4 Limitations

- 4.4.1 The initial surveys and subsequent surveys were carried out with no limitations and in line with BCT Good Practice Guidelines 2023 and the Chartered Institute of Ecology and Environmental Management (CIEEM) Bat Mitigation Guidelines (Reason and Wray, 2023).

Figure 2

Client	Reading Borough Council
Project	Caversham Court Gazebo
Title	Stage 1 Survey Results
Date	April 2026

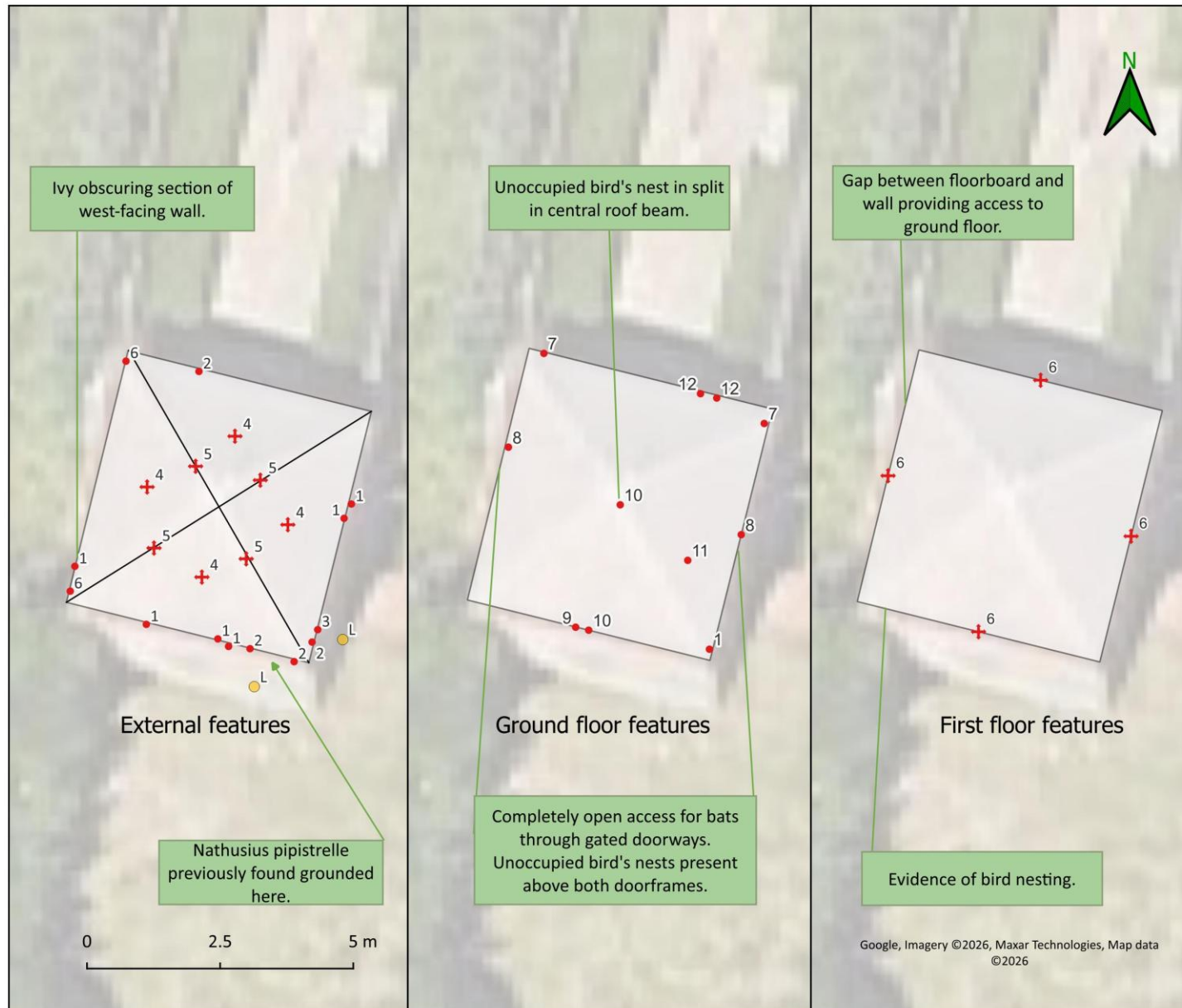
Key

Potential roost feature (PRF)

- + Multiple
- Single
- -L: Ground level uplighters

Numbers indicate type of PRF as follows:

1. Missing mortar
2. Gap between brick and timber
3. Gap around timber frame
4. Lifted roof tiles
5. Missing mortar at hip of roof
6. Access at the eaves
7. Missing plaster with access to wall cavity.
8. Gap above doorframe into wall cavity.
9. Gap between timber and wall
10. Split in beam
11. Missing plaster on ceiling
12. Holes in wall in electrical cupboard



5 Evaluation, potential impacts and recommendations

Evaluation

- 5.1.1 The building supports several access points that could be used by bats to gain access into potential roosts. Potential roost locations include between the roof tiles and roof membrane, underneath ridge tiles, in cavities inside the walls, inside splits in timber beams and inside cavities in plaster and within the structure itself.

5.2 Potential impacts

- 5.2.1 Bats are protected from killing and injury and their roosts are protected from destruction, damage and disturbance whether bats are present or not (see [Appendix 1](#) for full details).
- 5.2.2 The proposed works will directly affect potential roost features as internal repairs would remove some access points into the wall cavity. Exterior repairs including replacing missing mortar and timber repairs would affect several exterior roost features. Currently no maintenance works are planned which affect the roof.
- 5.2.3 There are no predicted impacts of the proposed works on any other roosts. The proposal will not cause any fragmentation or isolation as no trees or mature shrubs are to be felled. Indirect impacts such as disturbance will be negligible as the works are limited in scale.

5.3 Recommendations

- 5.3.1 Further survey will be necessary to determine the presence or likely absence of bats from the building. This is because potential roost features will be directly affected as a result of the proposed works. The survey should consist of two dusk emergence surveys undertaken during the active season (May – September) and ideally spaced at least one month apart.
- 5.3.2 In line with the National Planning Policy Framework (NPPF) and local planning policy (see [Appendix 1](#)), measures to protect and enhance biodiversity, along with providing net gains, on site should be incorporated into the scheme. In order to preserve the integrity of the listed building whilst maintaining potential roost features for bats, bespoke mitigation needs to be designed. This will be detailed after the completion of Stage 2 surveys.

6 References

- 6.1.1 Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn). The Bat Conservation Trust, London.
- 6.1.2 Defra, J. a. (2012). UK Post-2010 Biodiversity Framework.
- 6.1.3 MAGIC. (accessed 30.03.26). MAGIC Map. Retrieved from (<http://magic.defra.gov.uk>)
- 6.1.4 Reason, P. F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Chartered Institute of Ecology and Environmental Management, Ampfield.

7 Appendix 1 - Legislation and policy guidance

7.1 Legal protection

- 7.1.1 Bats and their roosts receive full protection (with few exceptions). Under the Conservation of Habitats and Species Regulations 2017 (as amended) * it is an offence to:
- Deliberately capture, injure or kill a bat
 - Deliberately disturb - insofar as to impair its ability to survive, reproduce or rear young, hibernate, migrate, or significantly affect distribution and abundance
 - Damage or destroy a breeding site or resting place - even if no bats present
 - Possess or control, sell, exchange, offer for sale or exchange or to transport any live or dead specimen or anything derived from a bat
- 7.1.2 Further protection is provided in England under Section 9 of the Wildlife and Countryside Act (as amended), which adds the following offences:
- To intentionally or recklessly disturb bats whilst occupying a structure or place used for shelter or protection (which means disturbance remains an absolute offence)
 - To intentionally or recklessly obstruct access to any structure or place used by bats for shelter or protection
 - To sell, advertise for sale, offer for sale, possess, or transport any live or dead or any part of a bat
- 7.1.3 Additional protection is provided for soprano pipistrelle, noctule and brown long-eared bats, all of which are included on a list of species of principal importance for the conservation of biodiversity in England, created by the Secretary of State as a requirement under section 41 (S41) of the Natural Environment and Rural Communities Act 2006 (NERC Act).
- 7.1.4 Under section 40 of the NERC Act all public bodies have a duty to have regard to conservation and biodiversity when carrying out their functions, the S41 list is a guide for decision makers when implementing their duty. This duty extends to all public bodies the duty of Section 74 of the Countryside and Rights of Way Act 2000, which placed a duty on government ministers.

* In 2019 changes were made to the 2017 regulations by the Conservation of Habitats and Species (Regulations 2019). Most of these changes involved transferring functions from the European Commission to the appropriate authorities in England and Wales. All other processes or terms in the 2017 Regulations remain unchanged.

7.2 National planning policy

7.2.1 The National Planning Policy Framework (NPPF) and the supporting ODPM circular 06/2005 provides the basis for making planning decisions with respect to conserving and enhancing the natural environment. It specifically sets out how the planning system should minimise impacts on biodiversity and provide net gains, including establishing coherent ecological networks. In addition to confirming that the presence of a protected species is a material consideration in the making of planning decisions, it sets out a list of principles, which local planning authorities should follow when determining planning applications. These include:

- ‘if significant harm resulting from a development cannot be avoided...adequately mitigated, or as a last resort compensated for, then planning permission should be refused.’
- ‘...opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.’
- The circular goes on to make it clear that Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System states it is essential that the presence or otherwise of protected species and the extent that they may be affected by the proposed development, is established before planning permission is granted.

7.3 Local planning policy

7.3.1 The Reading Borough Local Plan, adopted in November 2019, sets out the planning policies that guide and manage new development within the borough up to 2036. This document replaces the previous Core Strategy and associated development plan documents. Policy M12: Biodiversity and the Green Network sets out that “on all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible.” Development should:

- Protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and
- Provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable.

In exceptional circumstances where the need for development clearly outweighs the need to protect the value of the site, and it is demonstrated that the impacts cannot be: 1) avoided; 2) mitigated or; 3) compensated for on-site; then new development will provide off-site compensation to ensure that there is “no net loss” of biodiversity. Provision of off-site compensation shall be calculated in accordance with nationally or locally recognised guidance and metrics. It should not replace existing alternative habitats, and should be provided prior to development.

7.4 Biodiversity Action Plans and Biodiversity Opportunity Areas

- 7.4.1 The United Kingdom Biodiversity Action Plan (UK BAP) is a national strategy drawn up by UK Government to conserve threatened native species and habitats. The UK post-2010 Biodiversity Framework 2012 (Defra, 2012) means that the listing of species and habitats on the S41 list and its associated requirements under the NERC Act supersedes the UK BAP. However, the UK BAP action plans remain relevant to conservation aims and objectives. The UK BAP is supported by a series of Local Biodiversity Action Plans (LBAPs) which translate the targets identified in the UK BAP into targets for species and habitats appropriate to the local area. Each LBAP identifies those habitats and species considered most important in that area, commonly an LBAP will identify a number of habitats and species for which “action plans” have been prepared. In the Southeast region, the Biodiversity Opportunity Areas will be the focus for delivery of UK BAP habitats targets.
- 7.4.2 In 2009 The Southeast Biodiversity Forum has identified Biodiversity Opportunity Areas (BOAs), which represent a targeted landscape-scale approach to conserving biodiversity and the basis for an ecological network. BOAs identify where the greatest opportunities for habitat creation and restoration lie, enabling the efficient focusing of resources to where they will have the greatest positive conservation impact.