PRELIMINARY ECOLOGICAL ASSESSMENT

ROYAL BERKSHIRE HOSPITAL,

17 CRAVEN ROAD, READING, BERKSHIRE

Commissioned by: **GBS Architects**

Report Number: ASW/GBS/145/27/2024
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EXECUTIVE SUMMARY

- The main protected species potential present within this application site, at 17 Craven Road at the Royal Berkshire Hospital, as identified during this ecological investigation, was for: breeding birds and bats only.

- The individual trees, structures and shrubs at this site, all have bird nesting potential, although no active nests were present at this time of year.

- There was no bat evidence present within the ground floor of the garage to be demolished, upon inspection by the licensed bat ecologist, although there was no access into the loft.

- There was though some external bat roosting potential found at this garage, with crevices being present under some slates and also within the damaged front brickwork, for example.

- Such crevices can be used by bat species such as common pipistrelle and soprano pipistrelle, which will readily roost under such features at any building.

- The trees at this site were examined for features that may offer bat roosting potential, with no trees having features that could be used by bats.

- There were no other protected species issues present at the application site, other than the above, especially with the majority of the site being composed of the buildings, grass lawn and bare ground.

- The LPA has asked that the possible presence of badger burrows be investigated as part of this assessment. No badger setts were found or any badger evidence. A couple of rat burrows were found at the top of the garden and there was a possible fox burrow or similar in one corner, under branches and logs.

- Various key recommendations are set out later in this report, including a follow-up bat emergence survey, garden lawn management, the removal of non-native invasive plant species from the garden area, ecological enhancements for the development and relevant best practice guidance being followed at all times by contractors.

- By following these recommendations, the impact on wildlife will be minimised and all legal obligations will be adhered to by the client.

1. INTRODUCTION

- A Preliminary Ecological Assessment was undertaken at the Royal Berkshire Hospital, 17 Craven Road, Reading, Berkshire RG1 5AN, during February 2024, for: GBS Architects.

- The national grid reference for this application site is: SU726728.

- This assessment was required due to the proposed demolition of the front garage as well as the investigation of the wider gardens for any badger evidence.

- The main method used for this assessment, as well as the full results and the recommendations can be found within this report.

- Both this assessment and the report were undertaken and compiled by Mr Andrew S. Waller, Consultant Ecologist, ASW Ecology Ltd, with the help from an assistant ecologist.

- Mr Andrew S. Waller MSc BSc (Hons) MCIEEM, Director of ASW Ecology Ltd - has been a Consultant Ecologist since 1997, and has very extensive experience/knowledge of protected wildlife species/issues including bats, for which he is fully licensed to survey throughout England by Natural England for consultancy purposes (Bat Class 2 Licence Registration Number: 2015-15703-CLS-CLS). He also has Natural England survey licences for great crested newts and barn owls. He has been studying bats for 31 years and wildlife in general for 42 years. He is a Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and meets the requirements of being a Suitably Qualified Ecologist.

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2. METHODOLOGY

2.1 Preliminary ecological assessment

- A daytime based Preliminary Ecological Assessment was undertaken at the application site, on the 5/2/2024 by a qualified and experienced Consultant Ecologist, with an assistant ecologist.

- The method used for assessing habitat types followed that outlined by the Nature Conservancy Council Phase 1 survey methodology (JNCC, 1993). Please see Section 3.8 for the habitats/features at the development footprint, with the relevant codes.

- A 2km radius online data search was also undertaken to support this assessment, so to provide species and habitat information for the wider area.

- Weather conditions were very good: cloudy (8/8CC), dry, cool with a light wind plus visibility was excellent on the ecological assessment visit. During the visit, the application site was assessed for its suitability for various protected wildlife species and habitats. The focus on habitats and protected species potential included on bats, badgers and breeding birds in particular. The key methods used for sites in general are listed below:

- **Bats:** Any buildings present were assessed for the presence of bat evidence such as crumbly bat droppings, staining from the bat's fur/urine or discarded insect wings. As well as the building being assessed for bat roosting potential eg the presence of crevices under slates, roof tiles, ridge tiles, hanging tiles, lead flashing, wooden cladding and behind fascias/guttering boards.

- **Badgers:** The presence of badgers at this site was assessed by finding potential evidence such as setts, latrines, feeding remains, badger paths and for badger hair on any fences

- **Breeding birds:** the presence of occupied or defunct bird nests was the key objective to find in the building as well as current evidence of breeding. Adults bringing in food for young in the nest was also searched for as were alarm calls by breeding adults.

- **Reptiles/Great Crested Newts:** The presence of both groups was assessed by habitat types present and if suitable for species such as great crested newts in their terrestrial phase and for reptiles such as slow-worm, common lizard, adder and grass snake.

2.2 Constraints

- Due to the timing of this assessment, only the Winter period could be covered. This is a standard constraint for any assessment which can only investigate part of any year.

- As always though, without taking into account any further active surveying or monitoring, this study can only provide a "snapshot" of the presence of wildlife at the site during the period of this study.

- This assessment report is valid for one year only, as per current best practice guidelines for such studies in the UK.

3. ASSESSMENT RESULTS

3.1 Birds

- There were no active bird nests found at the application site at this time of year, although the trees and the buildings do have potential for the occasional hidden bird nest to be present.
- Bird species seen over the application site or nearby during the visit included red kite, herring gull, woodpigeon, feral pigeon, magpie and carrion crow.
- It is highly unlikely though that any rare or notable breeding species could be nesting at this site. The red kite seen would breed in a local woodland and not in these grounds.
- More information on this can be found in the Recommendations section of this report.

3.2 Bats

3.2.1 Building Assessment

Building description:	• Garage: This is a two storey, brick garage, with wooden front doors and a loft space. There are solid walls, guttering, lead flashing and slates on the pitched roof. Ridge tiles present too. The garage is in a very poor condition with large crack in front wall, making this a dangerous structure
External bat survey	• Garage: Large crevices present in front brickwork, where damaged is present in wall due to subsidence, as well as missing bricks, with bat hibernation potential. There are also crevices under missing and lifted slates on the roof plus under lead flashing. Rear window into loft is slightly open as well
Internal bat survey	• Garage: No access into loft as vehicle underneath loft hatch. The ground floor was accessed though and was dark with the front doors closed and cold. Bare walls present and hardly any storage items. Small vehicle parked inside
Bat evidence present	• Garage: None – although no access into loft

Other wildlife evidence present	• Garage: None
Overall bat roost grading for the building	• Garage: **LOW**

3.3 Badger

- There were no badger setts present at the application site. There was also no badger evidence such as latrines, tracks, footprints or hair present at the grass lawns.

- Although badgers are present in the wider area, as shown in the desk study, they are not expected to be present in the application site.

3.4 Reptiles

- There is no reptile potential present at this application site, with no bramble scrub, woodland, tall grassland or tall herbs noted here.

- Reptiles are known to be present in the wider area, as shown from the desk study, although there are no habitats here to attract reptiles.

- No reptiles would therefore be injured or killed at any time by the proposed works at this property.

- Based on these assessment results, reptiles will not be an issue in relation to the development proposal here.

3.5 Great crested newts

- There is no great crested newt potential present at the application site, with no woodland, bramble scrub, tall herbs or tall grassland noted here. There is a small pond within the garden area but this species would not be expected to breed here.

- Great crested newts are known to be present in the wider area, as shown in the desk study but would not be expected at the application site, due to a lack of connectivity. Therefore, great crested newts will not be an issue in relation to the development proposal.

3.6 Hedgehogs

- Hedgehogs are present in the wider area, as shown in the desk study but there were no field signs such as droppings to suggest they have visited the application site. There is some foraging habitat for this species at the site, with the grass lawn noted.

- Hedgehogs are a Priority Species in England within the UK Biodiversity Action Plan. Therefore, it is still vital that hedgehogs are not impacted during the proposed development related works. This should include no uncovered hole left during the works, so there is no risk of hedgehogs becoming trapped especially at night.

3.7 Invasive plant species

- There was the following non-native invasive plant species present at the stated application site:
    - Buddleia
    - Cherry laurel

3.8 Habitats present

- The habitat types present within the overall application site are the following, with the relevant JNCC habitat codes included:

  (a) Pond – G1 – The small garden pond within the wider grounds.
  (b) Amenity grassland – J1.2 – Plants present within the short mown grass lawn include common nettle, creeping thistle, sow thistle, green alkanet, cleavers, chickweed, dandelion, ragwort, ivy, bramble, lords and ladies, common mallow, feverfew, creeping buttercup, lawn daisy and bristly ox-tongue.
  (c) Introduced shrubs – J1.4 – Includes various ornamental shrubs including buddleia and cherry laurel.
  (d) Buildings/structures – J3.6 – Includes the existing garage, sheds, polytunnel, greenhouse and all associated hardstanding areas.
  (e) Bare ground – J4 – Includes most of the landscaped gardens.

3.9 Desk study

- A 2km radius online ecological data search was undertaken by us for the application site. This does not replace a full biological records search, which was not selected by the client, but does contain much of the same information and helps support this report.

- The NBN Gateway (with strict permission) and the MAGIC website were all used. The ASW Ecology database was also used for a data trawl for wildlife records as this has collated records in the UK for 42 years.

- The key summary findings, in no particular order, are listed below in relation to species and habitat records most relevant to the proposed development:

Protected Species Licences (9x found)	**Bats:** • EPSM2010-2266-Common Pipistrelle - Brown Long-eared bat - 09/20210-02/2011 • EPSM2012-478- Common Pipistrelle - Soprano Pipistrelle - 09/2012-09/2016 • EPSM2010-2126 Common Pipistrelle - 9/2010-08/2012 • 2014-3941-EPS-MIT- Common Pipistrelle - Soprano Pipistrelle - 10/2014-1/2019 • 2016-22301-EPS-MIT- Common Pipistrelle - 04/2016-04/2021 • 2017-32379-EPS-MIT-Common Pipistrelle - 12/2017-11/2022 • 2019-44194-EPS-MIT- Common Pipistrelle – Soprano Pipistrelle - 02/2020-03/2020 • 2017-28045-EPS-MIT- Daubenton's Bat - 03/2017-03/2022 • EPSM2010-2590- Soprano Pipistrelle - 10/2011-08/2014
Statutory Sites	

	• None
Non-Statutory Sites	• None
Protected Species Records	**Amphibians at 2km**: • Smooth newt • Great crested newt • Common frog • Common toad **Mammals at 2km**: • Hedgehog • Badger • Red fox • Otter • Hazel dormouse • Water shrew **Bats - all recorded at 2km radius**: • Noctule • Serotine • Daubenton's bat • Common pipistrelle • Soprano pipistrelle **Reptiles at 2km**: • Grass snake **Birds at 2km**: • Includes: little egret, smew, lapwing, woodcock, tawny owl, cuckoo, lesser spotted woodpecker, little

	owl, skylark, firecrest, willow warbler, Cetti's warbler, wood warbler, brambling, reed bunting

4. CONCLUSIONS

4.1 Significance of the assessment results

- In summary, the main protected species potential present within this application site, at 17 Craven Road at the Royal Berkshire Hospital, was for: breeding birds and bats only.

- The individual trees, structures and shrubs at this site, all have bird nesting potential, although no active nests were present at this time of year.

- There was no bat evidence present within the ground floor of the garage to be demolished, upon inspection by the licensed bat ecologist, although there was no access into the loft.

- There was though some external bat roosting potential found at this garage, with crevices being present under some slates and also within the damaged front brickwork.

- Such crevices can be used by bat species such as common pipistrelle and soprano pipistrelle, which will readily roost under such features at any building.

- The trees at this site were examined for features that may offer bat roosting potential, with no trees having features that could be used by bats.

- There were no other protected species issues present at the application site, other than the above, especially with the majority of the site being composed of the buildings, grass lawn and bare ground.

- The LPA has asked that the possible presence of badger burrows be investigated as part of this assessment. No badger setts were found or any badger evidence. A couple of rat burrows were found at the top of the garden and there was a possible fox burrow or similar in one corner, under branches and logs.

- The desk study showed that six bat species are present within 2km of the application site, with common pipistrelle, soprano pipistrelle and brown long-eared bat all recorded previously. These three species will roost in buildings as well as in trees.

- The two pipistrelle bat species will readily roost within crevices at buildings, often under slates, roof and ridge tiles, for example. Whilst brown long-eared bats will normally roost in roof voids but can be found behind hanging tiles too.

- Recommendations can be found in the next chapter of this report, in regards to the key actions that now need to be followed at the application site.

4.2 Impact assessment

<u>In the absence of any mitigation measures</u>, the following potential impact status identified from the proposed development related works at the Garage, are currently considered to be:

- **Reptiles:** Without any mitigation, there is no risk of reptiles being injured or killed, during the proposed works within the application site. **Potential impact level: Nil**

- **Great crested newts:** Without any mitigation, there is no risk of newts being injured or killed, during the proposed works within the application site. **Potential impact level: Nil**

- **Bats:** Without any mitigation, bats would be at a risk of being disturbed, injured or killed by the development works at the garage, with a bat roost being destroyed, which would be illegal. **Potential impact level: Low**

- **Badgers:** Without any mitigation, there is no possibility that any badgers could be disturbed by any future development related works at the application site. There is no risk of any badger tunnels being collapsed or any setts being damaged in any way. **Potential impact level: Nil**

- **Nesting birds:** Without any mitigation, potential nesting bird species could be impacted by the proposed works. Bird nests may be present within the shrubs, hedges and trees, during the works and could be disturbed or accidentally damaged or destroyed. However, this risk will of course be eliminated by mitigation options such as a breeding bird watching brief and the correct timing of the stated works. **Potential impact level: Low**

4.3 Summary of the legal protection of relevant wildlife in the UK (Simplified summary only of the legislation – please see other texts for full details)

4.3.1 THE LEGAL PROTECTION OF REPTILES IN ENGLAND AND WALES

In the UK, reptiles are legally protected from intentional killing and injuring, as well as against sale too under the Wildlife and Countryside Act 1981 (as amended). The offences stated may be absolute, intentional, deliberate or reckless (English Nature, 2004).

This means that reasonable steps must always be taken to avoid killing or injuring all reptiles if they are known to be present within the development footprint. A criminal conviction for injuring or killing reptiles could result in large fines being imposed, imprisonment and/or seizure of the equipment involved.

4.3.2 THE LEGAL PROTECTION OF BATS IN ENGLAND AND WALES

Introduction

All species of bats in England and Wales are protected by law. Their legal protection derives from two sources:

- the strict species protection provisions of the EU Habitats Directive as implemented in England and Wales by Part 3 of the Conservation of Habitats and Species Regulations 2017 (the **"2017 Regulations, amended by the 2019 Regulations due to Britain leaving the EU"**); and

- Part 1 of the Wildlife and Countryside Act 1981 (as amended).

Conservation of Habitats and Species Regulations 2017 ("2017 Regulations", as amended by the 2019 Regulations)

The 2017 Regulations came into force on 30th November 2017, amended by the 2019 Regulations. They replace the previously applicable regulations (Conservation (Natural Habitats, &c) Regulations 1994 and the 2010 Regulations) in relation to England and Wales. The 2017 Regulations are the principal means by which the EU Habitats Directive is transposed in England and Wales.

The Regulations contain a number of Parts which set out the protection to be afforded to "European Protected Species" ("EPS"), which includes all species of British bats. The list also includes other species which are rare on a European scale, such as great crested newts, otters and dormice.

Under the 2017 Regulations both bats themselves and their "breeding sites and resting places" (most commonly their roosts) are protected.

It is a criminal offence to do the following (note that this is not an exhaustive list of all offences but rather a list of offences which will be of most relevance to developers):

a. to damage or destroy a breeding site or resting place of a bat (even if bats are not present at the time);

b. to deliberately capture, injure or kill a wild bat;

c. to intentionally or recklessly disturb a bat in its roost or to deliberately disturb a group of bats, in particular:

    i. any disturbance of bats which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or

    ii. any disturbance of bats which is likely to impair their ability to hibernate or migrate; or

    iii. any disturbance of bats which is likely to affect significantly the local distribution or abundance of the species to which they belong;

d. to have in one's possession or to control or to transport or to sell or exchange or offer to sell or exchange any live or dead bat or part of a bat which has been taken from the wild; or any part of, or anything derived from, a bat or any part of a bat; and

e. to intentionally or recklessly obstruct access to a bat roost.

The maximum penalty that can be imposed for the above offences is (as at May 2010) a fine of up to £5,000, and/or up to six months imprisonment. The offences can be committed by individuals or by bodies corporate. Where a body corporate has committed the offence, the directors or officers of the company may also be prosecuted if the offence has been committed with their consent or connivance, or is attributable to their neglect.

Wildlife and Countryside Act 1981 ("WCA 1981")

The WCA 1981 protects a wide range of animals, plants and habitats in the UK. All British bat species are afforded protection under Part 1 of the WCA 1981, in addition to the protection they have under the 2019 Regulations.

As regards England and Wales the following offences apply to protect bats under the W&CA 1981:

a. to intentionally or recklessly disturb any bat while it is occupying a structure of place which it uses for shelter or protection (s9(4)(b) WCA 1981);

b. to intentionally or recklessly obstruct access to any structure or place which any bat uses for shelter or protection (s9(4)© WCA 1981);

c. attempting either of the above (s18(1) WCA 1981).

The maximum penalty that can be imposed for the above offences is (as at May 2010) a fine of up to £5,000, and/or up to six months imprisonment. The offences can be committed by individuals or by bodies corporate. Where a body corporate has committed the offence, the directors or officers of that company may also be prosecuted if the offence has been committed with their consent or connivance or is attributable to their neglect (s69(1) WCA 1981).

4.3.3 THE LEGAL PROTECTION OF BIRDS IN ENGLAND AND WALES

All birds have the following legal protection (although there are exceptions for game birds, some waterfowl and designated pest species). This is listed below.

All birds, their eggs and nests are protected by law under the Wildlife and Countryside Act 1981 (as amended). It is an offence to kill, injure or take any wild bird, or to take or destroy their eggs. It is also illegal to take, damage or destroy the nest of any wild bird while it is in use or being built (RSPB, 2001). No provisions can be made for the destruction of occupied bird nests, eggs, or young for development purposes, and no licences are available for this purpose.

Certain rare and/or vulnerable bird species such black redstart, barn owl, red kite, peregrine and hobby are specially protected under Schedule 1, and have the following additional legal protection:

- It is an offence to intentionally (or recklessly, in England and Wales only) disturb any wild bird listed on Schedule 1 whilst it is nest building or is at (or near) a nest with eggs or young; or disturb the dependent young of such a bird.

4.3.4 THE LEGAL PROTECTION OF GREAT CRESTED NEWTS IN ENGLAND AND WALES

Great crested newts have strong legal protection under both British and European legislation. This is briefly summarised below:

Great crested newts are legally protected under provisions within the Wildlife and Countryside Act 1981 (as amended), the Conservation Regulations 2010 and the Countryside and Rights of Way Act 2000. Taken together, it is illegal to:

- **Intentionally or deliberately capture or kill, or intentionally injure great crested newts.**
- **Deliberately disturb great crested newts or intentionally or recklessly disturb them in a place used for shelter or protection.**
- **Damage or destroy a breeding site or resting place.**
- **Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection.**
- **Possess a great crested newt, or any part of it, unless acquired lawfully.**
- **Sell, barter, exchange or transport or offer for sale great crested newts or parts of them.**

The maximum penalty that can be imposed for the above offences is (as at May 2010) a fine of up to £5,000, and/or up to six months imprisonment. The offences can be committed by individuals or by bodies corporate.

4.3.5 THE LEGAL PROTECTION OF BADGERS IN ENGLAND AND WALES

In the UK, the Protection of Badgers Act 1992, is the most relevant to this mammal species. Under this legislation, it is illegal to injure, kill or take any badger or attempt to do so without a special licence. It is also illegal to dig for a badger, and to damage, destroy or obstruct access

to any part of a badger sett, or to allow a dog to enter the sett, or to disturb a badger whilst it is occupying a sett.

Certain offences can be caused by reckless, intentional or wilful behaviour, and the Act should always be read in detail for the exact wording.

Penalties for such offences can be severe, and can include fines of up to £5,000 per offence eg per badger sett or per badger, and/or up to six months imprisonment.

5. RECOMMENDATIONS

5.1 Requirement for a follow-up bat emergence survey

- Due to the existing garage having some bat roosting potential, a follow-up bat emergence survey will need to be undertaken, in suitable weather conditions.

- Such a follow-up survey would adhere to current best practice for surveying bats by the Bat Conservation Trust (BCT, 2023) where a site such as this, with **Low bat roost potential**, warrants a specialist bat survey of **1x night based bat survey visit** by experienced bat surveyors with specialist bat detectors.

- This bat dusk survey must be undertaken between early May to August when bats are most active.

- Such a survey would especially focus on if a bat roost is present or not at the existing garage; the number of bats present; and where the main bat access points are. The survey would also focus on any key bat commuting routes at the site as well as any key foraging areas.

- This bat survey should use ideally a sufficient number of experienced bat surveyors with bat detectors and night vision cameras (NVAs), and begin before sunset and last for approximately 2 hours. All bat sightings and bat roosts must be clearly mapped and with bat sonograms provided for the future report.

- Further bat survey visits would only be required if an actual bat roost is found during the first visit.

- **Additionally, it is understood that the garage is a dangerous structure and will need to be demolished as soon as possible. If the structure is in such a poor condition that it must be demolished before May, to protect local residents, then it is possible that an external endoscope survey with ladders is undertaken at height of the brickwork and slates, if safe to do so. The loft needs to be ideally checked for bat evidence if the vehicle below can be moved and if also safe to do so.**

5.2 Best practice guidelines – Breeding birds and development

- As per any development related site, the general advice is that no vegetation eg trees, shrubs, hedges and bushes should be removed during the bird nesting season as all bird nests are fully protected by law, and this includes whilst a nest is being built by the adult birds.

- This includes both buildings and bird boxes, where nesting birds have been shown to be present including feral pigeons in lofts.

- If any nests are present within the boundaries of the proposed development footprint during the clearance phase, then these must be left alone until the young birds have fully fledged from the nest and no further breeding attempts are to take place.

- The main bird nesting season in the UK, currently runs mainly from mid-January to September, but sometimes birds can start breeding before or after this period eg birds have been found by us nesting in early January at other sites due to milder winters.

- Therefore, September to mid-December are the best months for such vegetation clearance works.

- Although it is possible for a consultant ecologist to physically search any buildings and vegetation at a site to ensure no hidden nests are present beforehand.

5.3 Vegetation management at the application site

- It will be important that the grass lawn at the application site is managed as they are now as very short mown.

- This would remove any possibility of reptiles using any new unmanaged tall vegetation for shelter or foraging purposes, then possibly entering the development footprint by accident. This is a reasonable step to avoid any possible impact on these species.

- This pro-active approach should continue especially up to the end of the development phase.

5.4 Ecological enhancements for the development scheme

The following recommendations are for the client to install where appropriate, in regards to enhancing the biodiversity of the site, post-development for wildlife:

5.4.1 Bat boxes – To be revised after the bat dusk survey has been completed since a new bat loft may have to be additionally recommended as direct compensation

- It would be possible to install 3-4x bat boxes at the site boundaries, for bats to use for roosting purposes.

- The bat box model proposed would be the 2F Schwegler Bat Box and this is a high quality bat box which will be used by a number of different bat species, including for the bat species recorded here. This box is made of woodcrete and is a long lasting box.

- The bat boxes can be located onto any trees if possible, so there is a better chance of them being used by bats. Or onto buildings if needed.

- Bat boxes should be installed at least 6 metres up a tree trunk, facing mainly South-east or South-west but also 1x box facing West or North, so different microclimates are available and with enough space for bats to fly under the box easily. No artificial lighting must illuminate any of the installed bat boxes as this would deter bats from using the boxes.

- The NHBS is a good ecological equipment supplier and this bat box model can be purchased from them. The web link for this bat box is:

  http://www.nhbs.com/title/158629/2f-schwegler-bat-box-general-purpose

5.4.2 Wildlife friendly planting

- It would be highly advantageous that wildlife friendly planting can be introduced to any new landscaping scheme, by the use of night scented plants, which will attract insects which bats, for example, will prey on.

- Native plants should always be chosen ideally since these species will have the most benefits to wildlife. But the occasional non-invasive hybrid or exotic would be fine.
- Suitable border plant species can include corn flower, field poppies, mallow, evening primrose, ox-eye daisy, primrose and yarrow.

- Herbs can also be very good for insects and include borage, coriander, marjoram, fennel, lavender, rosemary, mint and thyme.

- Trees, shrubs and climbers suitable for insects, so to benefit bats, include rowan, dog rose, elder, gorse, guilder rose, hawthorn, blackthorn, silver birch, English oak, hazel, honeysuckle, ivy and jasmine. Further information can be provided on the above.

5.4.3 Bats and lighting

- It will be important that dark corridors are allowed for bats at night along the site boundaries. This will mean that bats, can use local gardens and greenspaces, especially whilst commuting between sites. This can be ensured by the use of dark buffer zones.

- Artificial lighting can cause a vacuum effect at greenspaces and at other sites, where such artificial light will pull flying insects at night away from areas where bats feed. So adjacent darker areas will have less insects for bats to survive on and that negatively affects the life cycles of the insect species present (BCT, 2018).

- The future lighting scheme must be bat friendly and adhere to best practice on this aspect. There must be no UV elements to the new lighting and no metal halide or fluorescent sources used (BCT, 2018).

- Additionally, a warm white spectrum should be used, with no blue light components. LED luminaires should also be used, as this has a reduced impact on bats.

- In regards to any future lighting, it would be beneficial for both insect populations and for bats, any new security lighting is set on motion sensors and with short timers (1 minute).

- Light spillage must also be curtailed, with reduced glare and light spillage with lighting near to windows.

- Such lighting within dwellings can be recessed. Lighting must be directed to where it is required only and baffles or hoods should be used to achieve this.

- Screening by vegetation such as new trees, bushes and shrubs can also be used to mitigate the effects of any new lighting scheme.

- The following latest best practice guidance note must be read and followed, in regards to how lighting affects bats and how to mitigate this at a site:

  https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

5.4.4 Bird nest boxes

- Bird boxes can be installed at the site and 1-2x suitable bird box models are recommended below.

- The 1B Schwegler Nest Box would be a good model to have installed at the site. This model would benefit blue and great tits especially.

- New bird nesting boxes should be installed as widely spaced apart as possible. The exact number of boxes will need to be appropriate for the size of the application site as nest boxes should not be located close together. But between 1-2x boxes would be suitable, with the trees or buildings if need be, being the most suitable locations. The NHBS is a good ecological equipment supplier and this nest box model can be purchased from them. The web link for this bat box is:

  http://www.nhbs.com/1b-schwegler-nest-box

- In general, bird boxes should be spaced widely apart, away from any bird feeders, quite high up a tree or building (ideally at least 5 metres up from ground level but higher in urban areas ideally), facing North to East only and away from cats.

- Further appropriate bird box models are available including for house sparrows, starlings, robins and wrens. Advice can be given by the ecologist on these different models for the new builds. The NHBS is the best supplier for these bird boxes.

5.4.5 Insect nest boxes

- Insect nesting boxes can also be provided in the new landscape scheme. Such bug boxes should be installed in a warm and dry place at the site, near to vegetation. Such boxes will benefit lacewings, solitary wasps, ladybirds and other species.

- Suitable models from the NHBS include the following, with one of each box being appropriate:

  - Schwegler Clay and Reed Insect Nest –

  https://www.nhbs.com/equipment/nest-boxes-habitats-and-feeders?hPP=30&idx=titles&p=0&hFR%5Bsubjects_equipment.lvl1%5D%5B0%5D=Nest%20Boxes%2C%20Habitats%20and%20Feeders%20%3E%20Insect%20Boxes&is_v=1&qtview=181090

  - Solitary beehive –

  https://www.nhbs.com/equipment/nest-boxes-habitats-and-feeders?hPP=30&idx=titles&p=0&hFR%5Bsubjects_equipment.lvl1%5D%5B0%5D=Nest%20Boxes%2C%20Habitats%20and%20Feeders%20%3E%20Insect%20Boxes&is_v=1&qtview=186142

5.4.6 Hedgehog doorways in fence panels

- It is also proposed that pre-fabricated holes in any boundary fence panels are permitted at regular intervals at the property, so that hedgehogs are able to commute within the local landscape, without any blockages in their pathways.

- The new doorway should measure 13cms x 13cms in terms of width and length so hedgehogs can fit through.

- The following web link from the Wildlife Trusts provides very useful information on creating new hedgehog doorways:

  https://www.wildlifetrusts.org/actions/how-create-hedgehog-hole

5.5 Removal of non-native invasive plant species

- The cherry laurel at the top of the site must be removed completely from the site as this species can be very invasive. This single plant has already been damaged so might as well be eradicated.

- The buddleia bush too can be removed close to the garage, although this does have some benefit to insects.

- **Within the new landscaping scheme, no non-native invasive plant species must be installed at any time.**

- Further information and advice can be given by the ecologist on the plant species that are to be proposed within any future landscaping.

6. REFERENCES

(1) Altringham, J.D. (2003) British Bats. HarperCollins*Publishers*, London.

(2) Arnold, N.E. (2002) A Field Guide to the Reptiles and Amphibians of Britain and Europe. Collins, London.

(3) Bat Conservation Trust (2018) Bats and artificial lighting in the UK – Bats and the Built Environment Series. Guidance Note: 08/18. BCT, London.

(4) Collins, J. (Ed) (2023) Bat Surveys for Professional Ecologists – Good Practice Guidelines (4th Ed). Bat Conservation Trust, London.

(5) English Nature (2004) Reptiles: guidelines for developers. English Nature, Peterborough.

(6) Entwistle, A.C. et al (2001) Habitat Management for Bats. JNCC, UK.

(7) Mitchell-Jones, A.J. (2004) Bat Mitigation Guidelines. English Nature.

(8) RSPB (2001) Wild Birds and the Law. RSPB, Sandy. UK.

(9) Treweek, J. (1999) Ecological Impact Assessment. Blackwell Science Ltd, UK

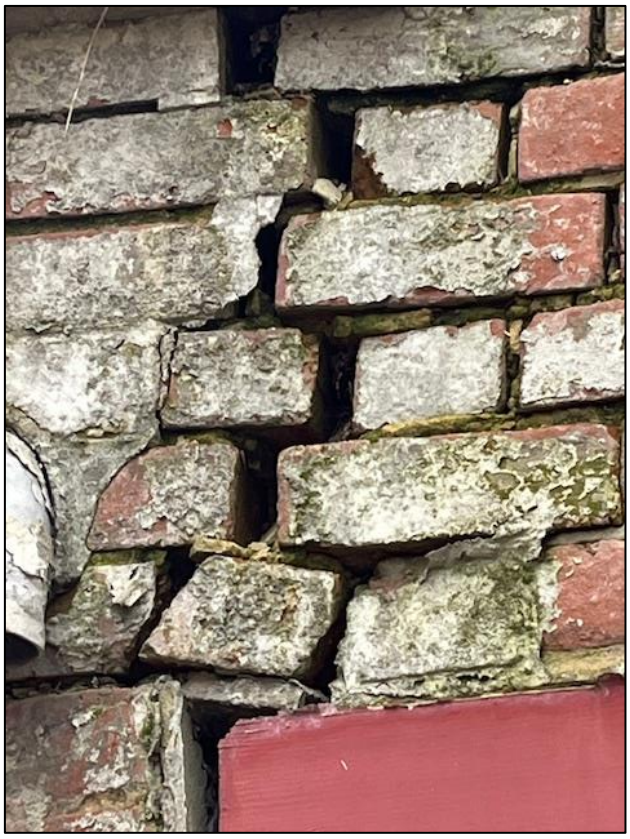
APPENDIX 1:

PHOTOGRAPHS A-J

(All photo are dated from 5/2/2024)

Photograph A
The existing garage had some bat roosting potential

Photograph B
The interior had no bat roosting evidence but the loft could not be accessed due to being blocked by the vehicle parked underneath



Photograph C
There was damage due to subsidence, at the garage frontage, with crevices with bat roosting potential

Photograph D
The crevices under some of the roof slates, also had bat roosting potential

Photograph E
The lifted crevices under slates and lead flashing all have some bat roost potential

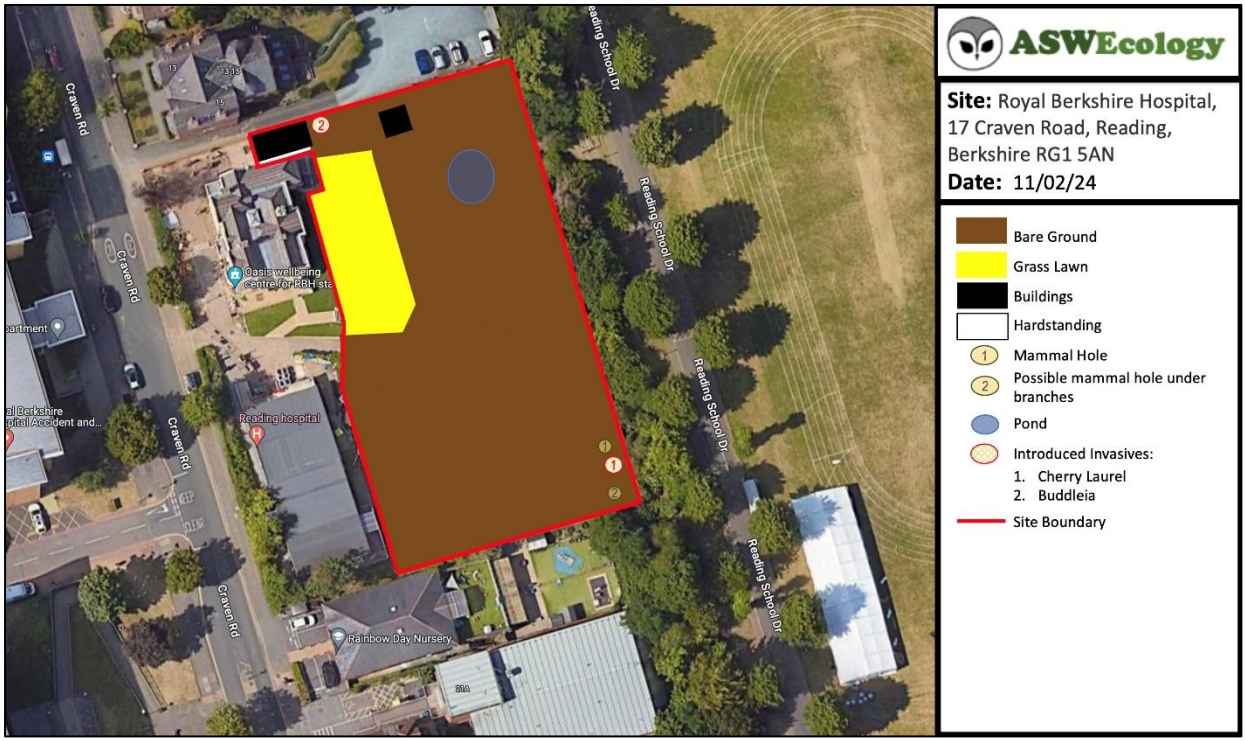
Photograph F
The rear window of the garage is slightly open, which could provide bat and nesting bird access too

Photograph G
The greenhouse had no bat roost potential

Photograph H
The short mown grass lawn had little ecological potential on the wider site, with no evidence of badgers

Photograph I
The landscaped grounds also had no badger evidence

Photograph J
The only burrows found were brown rat entrances at the top of the site

APPENDIX 2:

MAP A – PHASE 1 HABITAT MAP WITH TARGET NOTES