Preliminary Bat Roost Assessment

University College School, Hampstead

A Report To: Ed Toovey Architects
Report Number: 161626-01-RevA
Date: November 2023

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Quality Assurance

Date	Version	Author	Checked by	Approved by
20/11/2023	Final	Zeina Farhat (Ecological Project Officer)	Harry Stone ACIEEM (Senior Ecological Consultant)	Jamie Fletcher ACIEEM (Principal Ecological Consultant)

Declaration of Compliance

This study has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of Practice for Planning and Development". The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Disclaimer

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment. Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

Validity of Data

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, it may be necessary to undertake an updated survey to allow any changes in the status of bats on site to be assessed, and to inform a review of the conclusions and recommendations made.

Non-Technical Summary

Project Background

In September 2023 Ed Toovey Architects commissioned Middlemarch to undertake a Preliminary Bat Roost Assessment at University College School, Hampstead. This assessment is required to inform a planning application associated with the development of new teaching accommodation.

Scope of Survey

A Preliminary Bat Roost Assessment of the buildings and trees was carried out on site in line with the specifications detailed in Bat Mitigation Guidelines (English Nature, 2004) and Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016). The assessment was conducted on 24th October 2023 by Harry Stone (Senior Ecological Consultant), and Zeina Farhat (Ecological Project Officer).

Summary of Key Bat Features

A single bat box in the northern corner of the site and the roof of B2 provide potential roosting habitat for bats. The remaining buildings and all trees do not provide potential roosting habitat for bats. Suitable foraging and commuting habitat is largely restricted to the site boundaries, with all such habitat understood to be retained as part of the proposed development.

Potential Impacts on Bats

All impacted buildings have been assessed as having negligible potential to support roosting bats. The one building identified as having high potential to support roosting bats, building B2, is not due to be impacted by the proposed works. It is understood that a number of trees will be removed; however, none of the trees on site were found to provide roosting habitat for bats. A single bat box was recorded in the north-eastern corner of the site. Commuting and foraging bats may be impacted by the proposed works, particularly at the site's eastern boundary. The primary risk is increased levels of artificial lighting, both during the construction phase and upon completion of the proposed works.

Recommendations

R1 **Buildings B1, B3, B4, B5, B6 and B7:** These buildings have been assessed as having negligible potential to support roosting bats. The survey data obtained for the site is valid for 12 months from the survey date. If works to the surveyed buildings have not commenced within this timeframe it will be essential to update the survey effort to establish if suitable features have developed and if bats have colonised buildings in the interim. In the unlikely event that a bat is found during demolition works all works must immediately cease and a suitably qualified ecologist should be contacted.

R2 **Building B2:** Building B2 has been assessed as having high potential to support roosting bats, due to the presence of an old roof on the middle section which was not fully inspected. This building is not to be impacted by the proposed works therefore no further survey work is required at this stage. Should the proposed works change, an inspection of the roof and likely bat emergence surveys will be required to determine presence/absence of roosting bats.

R3 **Trees:** All trees on site were considered to have negligible potential to support roosting bats. The survey data obtained for the site is valid for 12 months from the survey date. If proposed site works have not commenced within this time frame it will be essential to update the survey effort to establish if the trees have developed features that could be used by roosting bats in the interim. In the unlikely event that a bat is found during works to the trees all works must immediately cease and a suitably qualified ecologist should be contacted.

R4 **Scheme Design:** The proposed development should be designed to minimise effects on bats in accordance with ecological mitigation hierarchy as set out in the National Planning Policy Framework (NPPF), and the National Planning Practice Guidance (NPPG).

R5 **Lighting:** In accordance with best practice guidance relating to lighting and biodiversity any new lighting should be carefully designed to minimise potential disturbance and fragmentation impacts on sensitive receptors, such as bat species.

Contents

1. Introduction

1.1 Project Background

In September 2023 Ed Toovey Architects commissioned Middlemarch to undertake a Preliminary Bat Roost Assessment at University College School, Hampstead. This assessment is required to inform a planning application associated with the development of new teaching accommodation.

Middlemarch has previously carried out Preliminary Ecological Appraisal for Ed Toovey Architects at this site. The findings of this survey are detailed in Report RT-MME-158263-01.

To fulfil the above brief to assess the potential for the existing buildings and trees on site to support roosting bats, a Preliminary Bat Roost Assessment was undertaken on 24th October 2023.

All UK bat species are legally protected species, and they are capable of being material considerations in the planning process. A summary of the legislation protecting bats is included within Appendix 1.

1.2 Site Description and Context

Table 1.1 provides a brief summary of the site and its surroundings.

Attribute	Description
Location	University College School, Frognal, Hampstead
National Grid Reference	TQ 26267 85401
Site Area (ha)	0.7 ha
Topography	The site was set upon two distinct levels, with the western part of the site abutting Frognal being largely flat and the eastern part of the site being located on significantly higher tiered ground.
Land Cover (on site)	The site is dominated by buildings and hardstanding, with trees at the site boundaries and a small wildlife area in the northern corner of the site.
Land Cover (site surrounds)	The wider landscape is dominated by residential development with associated gardens. Hampstead Heath is located approximately 660 m north of the site.

Table 1.1: Summary of Site and Surroundings

1.3 Documentation Provided

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.2.

Document / Drawing Number	Author
UCS Project 200 Masterplan Development Design & Access Statement	Ed Toovey Architects
UCS Project 200 East Development Proposed Ground Floor Plan	Ed Toovey Architects

Table 1.2: Documentation Provided by Client

2. Methods

2.1 Desk study

As part of the Preliminary Ecological Appraisal (Report RT-MME-158263-01) an ecological desk study was undertaken. The consultees for the desk study were:

- Natural England - MAGIC website for statutory conservation sites; and,
- Greenspace Information for Greater London CIC.

Middlemarch then assimilated and reviewed the desk study data provided by these organisations. Relevant bat data are discussed in Chapter 3. In compliance with the terms and conditions relating to its commercial use, the full desk study data are not provided within this report.

The desk study included a search for statutory nature conservation sites designated for bats within a 10 km radius of the site.

2.2. Field Survey

A Preliminary Bat Roost Assessment of the buildings and trees was carried out on site in line with the specifications detailed in Bat Mitigation Guidelines (English Nature, 2004)[1] and Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016)[2]. The assessment was conducted on 24th October 2023 by Harry Stone (Senior Ecological Consultant) and Zeina Farhat (Ecological Project Officer). Weather conditions were recorded and are presented in Table 2.1.

Parameter	Condition
Temperature (ºC)	11
Cloud (%)	100
Wind (Beaufort)	F1
Precipitation	Nil

Table 2.1: Weather Conditions During Field Survey

A visual assessment was conducted during daylight hours of the buildings and trees to determine the presence of any Potential Roost Features (PRFs), together with a general appraisal of the suitability of the site for foraging and commuting bats. Please refer to Appendix 2 for a list of example PRFs. Any accessible PRFs were inspected using binoculars, a torch and endoscope for evidence of possible bat presence. Buildings were surveyed externally and internally.

For reasons of health and safety, the survey was only undertaken in areas accessible from 3.5 m ladders.

Based on the PRF's present, the survey area was assessed using the suitability classes detailed within Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016)[2], as

[1] English Nature (2004). *Bat Mitigation Guidelines.* English Nature, Peterborough.

[2] Collins, J. (ed). (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Ed.).* The Bat Conservation Trust, London.

detailed in Table 2.2. Trees with features present that are suitable to support roosting bats (high and moderate suitability) are discussed more fully in the report.

A summary of the trees within the survey area without suitable features to support roosting bats (low and negligible suitability) is provided within the report. Due to their negligible potential to support roosting bats, the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016)[2] recommend no further survey work is required for these tree classes.

Suitability	Description
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 potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed). A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Negligible	Negligible habitat features on site likely to be used by roosting bats.

Table 2.2: Classification of Buildings and Trees with Bat Potential (Adapted from Collins, 2016)[2]

2.3 Constraints

Detailed internal inspections of building B2 and B3 were not conducted at the time of the survey. This is not considered a constraint as they will be not impacted by the proposed development.

3. Desk Study

3.1 Statutory Nature Conservation Sites

The site is not located within 10 km of any statutory nature conservation sites designated for the presence of bats.

3.2 Species Records

The data search was carried out on December 2022 by Greenspace Information for Greater London CIC. Records of bat species within a 1 km radius of the survey area provided by the consultee are summarised in Table 3.1. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Survey Area	Species of Principal Importance?	Legislation / Conservation Status
Soprano pipistrelle *Pipistrellus pygmaeus*	80	2020	230 m south-west	✓	ECH 4, WCA 5, WCA 6
Common pipistrelle *Pipistrellus pipistrellus*	133	2020	230 m south-west	-	ECH 4, WCA 5, WCA 6
Nathusius's Pipistrelle *Pipistrellus nathusii*	3	2020	230 m south-west	-	ECH 4, WCA 5, WCA 6
Unidentified bat *Vespertilionidae* sp.	1	2002	270 m south-west	#	#
Noctule *Nyctalus noctula*	31	2020	360 m south	✓	ECH 4, WCA 5, WCA 6
Pipistrelle *Pipistrellus* sp.	8	2019	420 m south-west	#	ECH 4, WCA 5, WCA 6
Unidentified bat *Chiroptera* sp.	1	2010	665 m south-east	#	#
Brown long-eared bat *Plecotus auritus*	1	2009	720 m east	✓	ECH 4, WCA 5, WCA 6
Daubenton's bat *Myotis daubentonii*	2	1993	870 m north-east	-	ECH 4, WCA 5, WCA 6
Leisler's bat *Nyctalus leisleri*	2	2014	985 m north-west	-	ECH 4, WCA 5, WCA 6
Serotine bat *Eptesicus serotinus*	2	2014	985 m north-west	-	ECH 4, WCA 5, WCA 6

Key:

ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest in need of strict protection.

WCA 5: Schedule 5 of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds).

WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods.

Table 3.1: Bat Species Records Within 1 km of Survey Area

4. Survey Results

4.1 Building

Seven buildings (Buildings B1-B7) were recorded on site, which are described below in relation to their potential to support roosting bats. The buildings which will be impacted by the proposed works are Buildings B4, B5, B6 and B7.

Building 1 – Kents Building

External Assessment

Building B1, the Kents Building, comprises of a reception, sports centre, and drama theatre. The building has 2-3 storeys, has large windows throughout, and substantial sections of red brick frontage. The structure had a flat roof that was found to be in good condition (Plate 4.1). There were no bat roosting features identified at the time of the survey.

Internal Assessment

The building consists of a mixture of well used rooms of various sizes with no concealed loft spaces in the building. There were no bat roosting features identified.

Roosting Potential

The building had negligible potential to support roosting bats due to an absence of suitable features.

Plate 4.1: Building 1 overview, western elevation

Building 2 – Main School Building

External Assessment

Building B2 consists of three separate buildings, the north block, the centre block, and the south block, all interconnected by tunnels. It is a listed baroque Edwardian-style red brick building (Plate 4.2) with sections of steep pitched roofs and carved stone on the walls (Plate 4.3). The building was three storeys with large windows on all aspects.

All external brickwork and carved stone looked in good condition with no potential roosting features observed. There were weepholes covered with mesh on all aspects of the building preventing possible access for roosting bats.

Internal Assessment

The building's rooms were found to be unsuitable for roosting bats due to high levels of light and disturbance (Plate 4.6). The roof was not closely inspected due to health and safety constraints and under the understanding that the building was outside of the scope of works.

Roosting Potential

The building's roof has high potential to support roosting bats, due to its size, the age of the building, and generally suspected suitability. The building is however outside of the scope of works.

Plate 4.2: Building B2

Plate 4.3: Building B2 Roof

Plate 4.4: Building B2

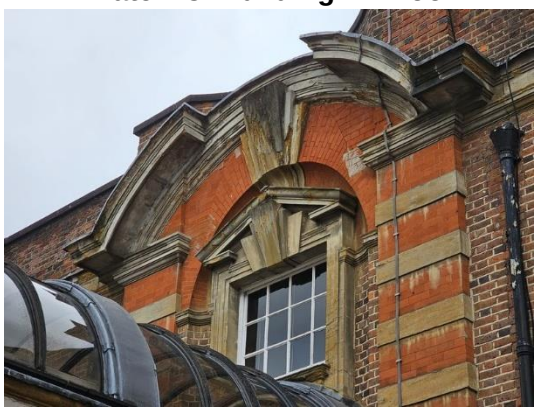

Plate 4.5: Carved Stone

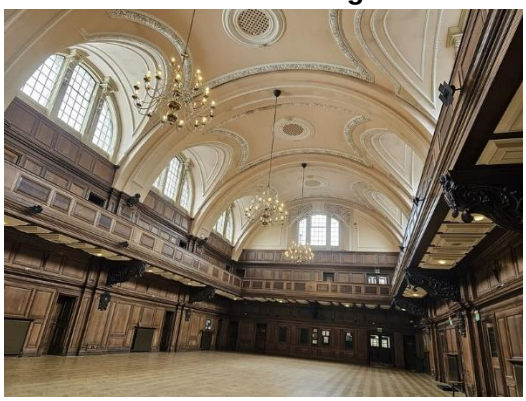

Plate 4.6: Building B2 Internal

Building 3 – Bentham Modern Language Centre

External Assessment

B3 comprises of 2 separate buildings, the Bentham Building to the west and the Modern Language Centre to the east. Both buildings are connected via a corridor constructed from glass and metal

(Plate 4.7). The building comprised two storeys with brick walls and a flat roof. Overall, the external areas of the building were tightly fitted and in good condition with no suitable features for roosting bats. An internal assessment of the building was not undertaken.

Roosting Potential

The building had negligible potential to support roosting bats due to an absence of suitable features.

Plate 4.7 Building B3 overview.

Building 4 – Giles Slaughter

External Assessment

Building 4, the Giles Slaughter building, is a single storey brick-built building with an overhanging feature at ground level (Plates 4.9 & 4.10). The building's roof is flat and used as a tennis court (Plate 4.11). The tennis courts can be accessed via a concrete built staircase with metal handrails on the eastern elevation of the building, which has signs of water damage (Plate 4.12). Overall, the building was modern and in good condition, with no suitable features for roosting bats recorded.

Internal Assessment

The building was found to contain classrooms and associated smaller rooms, none of which were found to be accessible to or suitable for roosting bats. The walls and the ceiling appear to be made of concrete with no loft voids (Plate 4.13).

Roosting Potential

The building had negligible potential to support roosting bats due to an absence of suitable features.

Plate 4.8: Building B3

Plate 4.9: Overhanging feature

Plate 4.10: Overhanging feature

Plate 4.11: Tennis Court Roof

Plate 4.12: Water Damage

Plate 4.13: Classroom

Building 5 – Squash Court

External Assessment

Building B5 is a single storey brick structure with a flat roof. It is faced with timber cladding on the northern aspect (Plate 4.14). The fascia board was tight and flush, providing no roosting opportunities (Plate 4.15).

Internal Assessment

Building B5 is used as a squash court and had high concrete ceilings with no concealed void (Plate 4.16).

Roosting Potential

Building B5 is considered to support negligible bat roosting potential due to an absence of suitable roosting features or evidence of roosting bats.

Plate 4.14: Building B5

Plate 4.15: Flush Fascia Board

Plate 4.16: Squash Court

Building 6 – Facilities

External Assessment

B6, the facilities building, is a single storey brick-built structure. It has a gable slate tiled roof which appeared in good condition, with no slipped, lifted or missing tiles that might provide crevice features for roosting bats (Plate 4.17). There was lead flashing on the base of the chimney with no gaps noted. There were several metal flue pipes coming out of the roof, again with no gaps noted (Plate 4.18).

There were no gaps noted between the sofit box and the brick wall. All the window openings were covered with ventilation panels, but meshing was present over the associated areas, preventing possible access for roosting bats.

Internal Assessment

The majority of the building is used as a boiler room with no concealed roof space (Plate 4.19). The remainder of the building is a used office space and was unsuitable for roosting bats (Plate 4.20).

Roosting Potential

Building 6 is considered to support negligible bat roosting potential due to an absence of both suitable roosting features and evidence of roosting bats.

Plate 4.17: Building B6

Plate 4.18: Flush Lead Flashing

Plate 4.19: Boiler Room

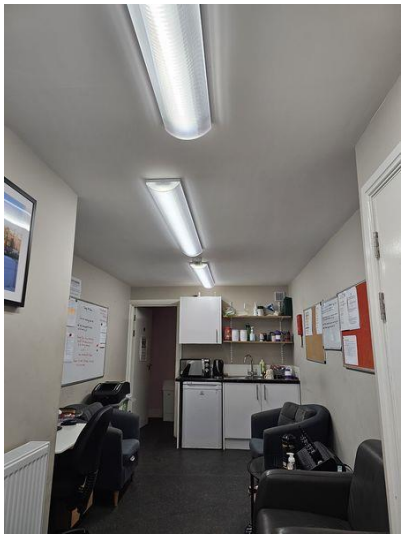

Plate 4.20: Facilities Office

Building 7

External Assessment

Building 7 is a small single storey hut with tightly fitted timber walls and a felt gable roof which is in good condition (Plate 4.21 and 4.22). There were no gaps noted between the roof and the timber beams (Plate 4.23), allowing no potential roosting opportunities for bats.

Internal Assessment

The building internals were in good condition and in active use for equipment and tools storage. No evidence of roosting bats, or suitable roosting opportunities such as crevices were identified.

Roosting Potential

The building has negligible potential to support roosting bats due to an absence of features.

Plate 4.21: Building B7

Plate 4.22: Building B7

Plate 4.23: Tightly Fit Timber

Bat box

One bat box was located in the northeastern corner of the survey area. It was inspected and found to be unused and heavily cobwebbed. The bat box is not to be impacted by the proposed works.

Plate 4.24: Bat Box

Plate 4.25: Heavily Cobwebbed Bat Box

4.2 Trees

Trees with Low or Negligible Potential to Support Roosting Bats

The site's trees were primarily situated at its boundaries (Plate 4.26), with some smaller scattered trees present between the buildings (Plate 4.27). Species present during the survey were Turkey oaks *Quercus cerris,* pear *Pyrus* sp., cherry *Prunus* sp., birch *Betula* sp., apple *Malus sp.,* cypress

trees *Cupressus sp.,* red oak *Quercus rubra,* crab apple *Malus sp*., lime *Tilia* sp., and hornbeam *Carpinus betulus.*

The age of the trees ranged from sapling to semi mature, and presented no features for roosting bats (e.g. knotholes, woodpecker holes). The trees are therefore classified as having negligible potential for roosing bats due to the absence of features.

Plate 4.26: Boundary Trees

Plate 4.27: Individual Trees

4.3 Site and Surrounding Habitats

Trees at the site boundaries and vegetation at the site's eastern boundary and northern corner provide some foraging and commuting habitat for bats. The site is otherwise dominated by buildings and hardstanding, containing limited foraging and commuting habitat for bats. The wider landscape is suburban containing residential housing interspersed with parks and other green spaces. Hampstead Heath is situated approximately 750m northeast from the site.

Habitats within 1 km of the site suitable for roosting, commuting and foraging include:

- Residential houses and associated gardens;
- Running water and standing waterbodies;
- Pockets of woodland;
- Churches, schools, hospitals and associated grounds;
- Golf courses with associated open grassland habitats; and,
- Railway lines with vegetated banks.

5. Impact Assessment

5.1 Summary of Proposals

The proposals involve demolishing buildings B4 (Glies Slaughter), B5 (Squash Court), B6 (Facilities) and B7. A number of trees will also be removed. This is required to facilitate the construction of new teaching accommodation on the footprint of these buildings. The remaining buildings, trees and single bat box within the site will not be impacted by the proposals.

5.2 Summary of Key Bat Features

Roosting Bats

A single bat box in the northern corner of the site and the roof of B2 provide potential roosting habitat for bats. The remaining buildings and all trees do not provide any potential roosting habitat for bats.

Commuting and Foraging Bats

Suitable foraging and commuting habitat is largely restricted to the site boundaries, where it is understood to be retained as part of the proposed development.

5.3 Potential Impacts on Bats

All impacted buildings have been assessed as having negligible potential to support roosting bats. Building (B2) has been identified as having high potential to support roosting bats, but is not due to be impacted by the proposed works. It is understood that a number of trees will be removed; however, none of the trees on site were found to provide roosting habitat for bats. A single bat box was recorded in the northeast corner of the site.

Commuting and foraging bats may be impacted by the proposed works, particularly at the site's eastern boundary. The primary risk is increased levels of artificial lighting, both during the construction phase and upon completion of the proposed works. A recommendation as to avoiding and mitigating the impacts of lighting on bats is made in Chapter 6.

6. Recommendations

All recommendations provided in this section are based on Middlemarch's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

R1 **Buildings B1, B3, B4, B5, B6 and B7:** These buildings have been assessed as having negligible potential to support roosting bats. The survey data obtained for the site is valid for 12 months from the survey date. If works to the surveyed buildings have not commenced within this timeframe it will be essential to update the survey effort to establish if suitable features have developed and if bats have colonised buildings in the interim. In the unlikely event that a bat is found during demolition works all works must immediately cease and a suitably qualified ecologist should be contacted.

R2 **Building B2:** Building B2 has been assessed as having high potential to support roosting bats, due to the presence of an old roof on the middle section which was not fully inspected. This building is not to be impacted by the proposed works therefore no further survey work is required at this stage. Should the proposed works change, an inspection of the roof and likely bat emergence surveys will be required to determine presence/absence of roosting bats.

R3 **Trees:** All trees on site were considered to have negligible potential to support roosting bats. The survey data obtained for the site is valid for 12 months from the survey date. If proposed site works have not commenced within this time frame it will be essential to update the survey effort to establish if the trees have developed features that could be used by roosting bats in the interim. In the unlikely event that a bat is found during works to the trees all works must immediately cease and a suitably qualified ecologist should be contacted.

R4 **Scheme Design:** The proposed development should be designed to minimise effects on bats in accordance with ecological mitigation hierarchy as set out in the National Planning Policy Framework (NPPF), and the National Planning Practice Guidance (NPPG): The ecological mitigation hierarchy requires all development schemes to apply to following principles:

- *Avoidance* – the proposed development should seek to avoid/minimise losses of features with bat potential, in the first instance and incorporate these features in the landscaping layout of the scheme accordingly. Similarly, protection measures for retained features and surrounding habitats should be considered to prevent incidental damage or disturbance during the construction phases. These measures will help to reduce the likelihood of impacting bats and minimise losses of suitable bat roosts and habitat.
- *Mitigation* – where significant harm cannot be wholly or partially avoided, adverse should be minimised by design or through the use of effective mitigation measures such as minimising light spill (see below).
- *Compensation* – where unavoidable losses occur and mitigation cannot be provided, compensation for significant residual harm will be required as a last resort or planning permission could be refused. Where there is a significant effect

on a bat roost, a compensation strategy sufficient to obtain a development licence from Natural England may also be required.

R5 **Lighting:** In accordance with best practice guidance relating to lighting and biodiversity (Miles et al, 2018[3]; Gunnell et al, 2012[4]), any new lighting should be carefully designed to minimise potential disturbance and fragmentation impacts on sensitive receptors, such as bat species. Examples of good practice include:

- Avoiding the installation of new lighting in proximity to key ecological features, such as trees at the site boundaries and vegetation at the site's eastern boundary and northern corner.
- Using modern LED fittings rather than metal halide or sodium fittings, as modern LEDs emit negligible UV radiation.
- The use of directional lighting to reduce light spill, e.g. by installing bespoke fittings or using hoods or shields. For example, downlighting can be used to illuminate features such as footpaths whilst reducing the horizontal and vertical spill of light.
- Where the use of bollard lighting is proposed, columns should be designed to reduce horizontal light spill.
- Implementing controls to ensure lighting is only active when needed, e.g. the use of timers or motion sensors.
- Use of floor surface materials with low reflective quality. This will ensure that bats using the site and surrounding area are not affected by reflected illumination.
- For internal lights, recessed light fittings cause significantly less glare than pendant type fittings. The use of low-glare glass may also be appropriate where internal lighting has the potential to influence sensitive ecological receptors.

[3] Miles, J., Ferguson, J., Smith, N. and Fox, H. (2018) *Bats and artificial lighting in the UK. Bats and the Built Environment Series*. Bat Conservation Trust and Institution of Lighting Professionals.
[4] Gunnell, K., Grant, G. and Williams, C. (2012) *Landscape and urban design for bats and biodiversity*. Bat Conservation Trust.

7. Drawings

Drawing C161626-01 – Preliminary Bat Roost Assessment

526200

526300

185500

185400

185300

B3

B2

B4

B7

B5

B6

B1

0 25 50 m

Legend

- Site boundary
- Building with high bat roost potential
- Building with negligible bat roost potential
- Building impacted by the development

N

Project
University College School, Hampstead

Drawing
Preliminary Roost Assessment

Client
Ed Toovey Architects

Drawing Number	Revision
C161626-01	00
Scale @ A3	Date
1:900	November 2023
Approved By	Drawn By
ZF	KB

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C161626-01

Appendix 1

Relevant Legislation

Bats and the places they use for shelter or protection (i.e. roosts) receive legal protection under the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2017, states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats; or
- damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2017 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Changes have been made to parts of the Habitats Regulations 2017 so that they operate effectively from 1st January 2021. The changes are made by the Habitats Regulations 2019, which transfer functions from the European Commission to the appropriate authorities in England and Wales.

All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

The obligations of a competent authority in the 2017 Regulations for the protection of species do not change. A competent authority is a public body, statutory undertaker, minister or department of government, or anyone holding public office.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, *or obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection*.

*Reckless offences were added by the Countryside and Rights of Way (CRoW) Act 2000.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The reader should refer to the original legislation for the definitive interpretation.

The following bat species are Species of Principal Importance for Nature Conservation in England: barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*. Species of Principal Importance for Nature Conservation in England are material considerations in the planning process. The list of species is derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006.

Appendix 2

Examples of Potential Roost Features

External Features
• access through window panes, doors and walls; • behind peeling paintwork or lifted rendering; • behind hanging tiles; • weatherboarding; • eaves; • soffit boxes; • fascias; • lead flashing; • gaps under felt (even including those of flat roofs); • under tiles/slates; • existing bat and bird boxes; and • any gaps in brickwork or stonework permitting access into access to cavity- or rubble-filled walls.
Internal Features
• behind wooden panelling; • in lintels above doors and windows; • behind window shutters and curtains; • behind pictures, posters, furniture, peeling paintwork; • peeling wallpaper, lifted plaster and boarded-up windows; • inside cupboards and in chimneys accessible from fireplaces. • within attic voids: • the top of gable end or dividing walls; • the top of chimney breasts; • ridge and hip beams and other roof beams; • mortise and tenon joints; • all beams (free-hanging bats); • the junction of roof timbers, especially where ridge and hip beams meet; • behind purlins; • between tiles and the roof lining; and • under flat felt roofs.

Potential Roost Features (Adapted from Collins, 2016)[2]

Trees
• Bat, bird and dormouse boxes on trees; • Cankers (caused by localized bark death) in which cavities have developed; • Compression forks with included bark, forming potential cavities; • Cracks/splits in stems or branches (both vertical and horizontal); • Crossing stems or branches with suitable space between for roosting; • Ivy stems with diameters in excess of 50 mm with suitable roosting space behind (or where a roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk); • Man-made holes (e.g. cavities that have developed from flush cuts); • Natural holes (e.g. knot holes) arising from naturally shed branches, or cavities created by branches tearing out from parent stems; • Other hollows or cavities, including rot holes and butt rots; • Partially detached or loose, platy bark; • Woodpecker holes; or, • Other features that offer a place of shelter.

Potential Roost Features (Adapted from Collins, 2016)[2]