



# BAT SURVEY

58 LOMBARD DRIVE, CHESTER-LE-STREET

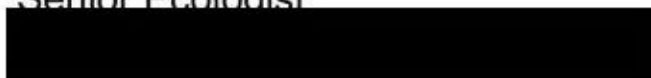


DECEMBER  
2020  
DRAFT

**CLIENT** Mr Sean Brennan  
**PROJECT NAME** 58 Lombard Drive  
**PROJECT NUMBER** 6453

**LEAD AUTHOR** Mike Perkins  
**POSITION** Senior Ecologist

**CONTACT DETAILS**



REPORT VERSION	STATUS	DATE	CHANGES	AUTHOR	PROOF READ	VERSION APPROVED BY
R01	Final	Nov 2020	1 <sup>st</sup> Issue	MP	DG	DG

*Copyright to all written or recorded work howsoever held on whatever medium is vested in E3 Ecology Ltd. On settlement of all agreed fees, written work produced specifically for the named clients is thereafter regarded as joint copyright between the named client and E3 Ecology Ltd. No attempts should be made to reproduce any element of this report for commercial or other purposes, without explicit prior written permission from E3 Ecology Ltd.*

*Subject to the clause below, the consultant agrees to keep all the information obtained from the client confidential where the client so specifies in writing, save where such information is known to the consultant already or exists already in the public domain until (i) the information enters the public domain; (ii) the consultant is given the same information by a third party; (iii) the consultant is released from its confidentiality requirement by the client; or (iv) 3 years have elapsed since the formation of the contract.*

*The consultant may disclose in whole or in part any information or knowledge obtained from the client to a third party where required by law, court order or any governmental or regulatory authority. If the consultant becomes aware or has a reasonable belief that the client or any director, officer, agent, employee or subcontractor of the client has breached or is likely to breach any legislation, regulation, court order, or term or condition of any licence permit or consent ("licences") the consultant shall be entitled to bring all relevant details as the consultant sees fit to the attention of the relevant authority including the police or the statutory nature conservation body and shall also be entitled to request the relevant authority to remove from any licence the name of any officer, director or employee of the consultant which appears on such licence.*

## CONTENTS

<b>A.</b>	<b>SUMMARY.....</b>	<b>5</b>
<b>B.</b>	<b>INTRODUCTION.....</b>	<b>6</b>
B.1	CURRENT DEVELOPMENT INFORMATION .....	7
<b>C.</b>	<b>METHODOLOGY .....</b>	<b>8</b>
C.1	SCOPE OF STUDY .....	8
C.2	DESK STUDY .....	8
C.3	PRELIMINARY FIELD STUDY METHODOLOGY .....	8
C.3.1	PRELIMINARY ASSESSMENT .....	8
C.3.2	DAYTIME BAT RISK ASSESSMENT (STRUCTURES).....	9
C.3.3	PRELIMINARY SURVEY - EQUIPMENT .....	10
C.3.4	PRELIMINARY SURVEY – DATES & ENVIRONMENTAL CONDITIONS.....	10
C.4	PERSONNEL .....	10
C.5	ASSESSMENT METHODOLOGY .....	10
<b>D.</b>	<b>RESULTS.....</b>	<b>12</b>
D.1	DESKTOP STUDY .....	12
D.1.1	PRE-EXISTING INFORMATION .....	12
D.1.2	CONSULTATION.....	12
D.2	DAYTIME RISK ASSESSMENT.....	12
D.2.1	HABITATS.....	12
D.2.2	BUILDINGS.....	13
D.3	OVERVIEW OF SITE SUITABILITY .....	15
<b>E.</b>	<b>SITE ASSESSMENT .....</b>	<b>17</b>
E.1	ASSESSMENT OF SURVEY FINDINGS.....	17
E.2	LIMITATIONS AND CONSTRAINTS.....	17
<b>F.</b>	<b>IMPACT ASSESSMENT .....</b>	<b>18</b>
F.1	DIRECT DEVELOPMENT IMPACTS .....	18
F.2	INDIRECT IMPACTS ON LOCAL POPULATIONS.....	18
<b>G.</b>	<b>RECOMMENDATIONS .....</b>	<b>19</b>
G.1	FURTHER SURVEY .....	19
G.2	AVOIDANCE AND MITIGATION STRATEGY.....	19
G.2.1	SITE DESIGN .....	19
G.2.2	WORKING METHODS AND BEST PRACTICE.....	19
G.2.3	COMPENSATION.....	20
G.3	MONITORING .....	20
<b>APPENDIX 1.</b>	<b>LEGISLATION .....</b>	<b>21</b>
NATIONAL PLANNING POLICY .....		21
RELEVANT LEGISLATION .....		23
PRIORITY SPECIES .....		24
<b>APPENDIX 2.</b>	<b>BAT ECOLOGY .....</b>	<b>25</b>
<b>APPENDIX 3.</b>	<b>BATS AND DEVELOPMENT.....</b>	<b>28</b>

## TABLES

TABLE 1: GUIDELINES FOR ASSESSING THE POTENTIAL SUITABILITY OF PROPOSED DEVELOPMENT SITES FOR BATS, BASED ON PRESENCE OF HABITAT FEATURES WITHIN THE LANDSCAPE. ....	8
TABLE 2: GUIDELINES FOR ASSESSING THE POTENTIAL SUITABILITY OF PROPOSED DEVELOPMENT SITES FOR BATS, BASED ON PRESENCE OF ROOSTING HABITAT FEATURES (STRUCTURES).....	9
TABLE 3: DAYTIME SURVEY CONDITIONS.....	10
TABLE 4: PERSONNEL .....	10
TABLE 5: ECOLOGICAL RECEPTOR VALUATION.....	10



---

TABLE 6: OVERVIEW OF SITE SUITABILITY FOR BATS .....	15
TABLE 7: NATIONAL PLANNING POLICY FRAMEWORK: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT .....	21

**FIGURES**

FIGURE 1: SITE BOUNDARY .....	6
FIGURE 2: SITE AND SETTING .....	7

## A. SUMMARY

E3 Ecology Ltd was commissioned by Mr Sean Brennan in October 2020 to undertake a bat risk assessment of 58 Lombard Drive, Chester-le-Street. It is proposed to extend the existing 2<sup>nd</sup> floor of the property over the garage, add a rear single storey extension and, remove the conservatory roof and replace with a new lean to roof.

An initial site inspection was undertaken on 30<sup>th</sup> October 2020 and comprised a detailed inspection of the structure on site.

The building to be affected is a modern semi-detached property. Habitats surrounding the property are largely of low to moderate suitability with areas of mature amenity trees and mature urban gardens. Potential roosting features on the property included a continuous gap within the plastic bargeboard on the gable end and several gaps within the ridge line mortaring. Overall, the property is considered to be of moderate suitability within a low to moderate suitability setting.

Further bat emergence and re-entry surveys are recommended during the active period (May to August inclusive) to assess the potential bat use of the structure.

Detailed impacts and mitigation will need to be confirmed once further recommended surveys have been undertaken. However, potential impacts of the development in order of conservation significance are:

1. The loss of potential crevice roosting opportunities.
2. Disturbance or harm to bats that may be using the buildings at the time of proposed works.
3. Increased lighting which could impact on bat foraging and commuting habitat within the adjacent area.

Key mitigation measures are likely to include:

- Building works will not commence until the further recommended survey work has been undertaken. If following on from the further recommended survey works a bat roost is proven on site, **works will not commence in those areas until a Natural England licence has been obtained.** Bat roosting mitigation/enhancement may be required, but the specifics of mitigation requirements will need to be determined once further survey work is undertaken. This is most likely to include provision of crevice roosting opportunities for pipistrelle bats within the new development.
- External lighting that may reduce bat use of the buildings will be avoided. High intensity security lights will be avoided as far as practical. Where security lights are required, these will be of minimum practicable brightness, be set on a short timer and will be motion sensitive only to larger objects.

The local planning authority and Natural England are likely to require the means of delivery of the mitigation to be identified. It is recommended that mitigation and enhancement proposals are incorporated into the master-planning documents.

*If you are assessing this report for a local planning authority and have any difficulties interpreting plans and figures from a scanned version of the report, E3 Ecology Ltd would be happy to email a PDF copy to you. Please contact us on 01434 230982.*

## B. INTRODUCTION

E3 Ecology Ltd was commissioned by Mr Sean Brennan in October 2020 to undertake a bat risk assessment of 58 Lombard Drive, Chester-le-street.

The purpose of this report is:

- To detail the results of the survey work of the buildings and trees on site that has been undertaken for bats.
- To provide recommendations to be incorporated into the design for the site.
- To provide recommendations for further survey work, where required.
- To set out the mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant effects.
- To identify appropriate enhancement measures.

The site is located within the Chester-le-Street at an approximate central grid reference of NZ275533.

The figures below illustrate firstly the site boundary and secondly, to provide context, the broad habitats present on site and within an approximate 500m buffer zone.



**FIGURE 1: SITE BOUNDARY**  
(Reproduced under licence from Google Earth Pro.)



**FIGURE 2: SITE AND SETTING**  
(Reproduced under licence from Google Earth Pro.)

### **B.1 CURRENT DEVELOPMENT INFORMATION**

It is proposed to extend the existing 2<sup>nd</sup> floor of the property over the garage, add a rear single storey extension and remove the conservatory roof and replace with a new lean to roof. Detailed development proposals are not currently available.

## C. METHODOLOGY

### C.1 SCOPE OF STUDY

The scope of the study, in terms of the survey area and the desk study area, is based on professional judgement. The scope has been determined based on the site's characteristics, the nature of the surrounding area, the development proposed at the time of reporting and the likely associated zone of influence.

For this site the survey area comprised the green line boundary as defined within the figure in section B. The survey area included all potential roost sites within and adjacent to the survey area, which may be affected by the proposed development.

The desk study included an assessment of land-use in the surrounding area and a data search covering a 2km buffer zone (see below for further detail).

The level of survey effort employed at the site has taken account of the recommendations within the Bat Conservation Trust Good Practice Survey Guidelines<sup>1</sup>.

### C.2 DESK STUDY

Initially, the site was assessed from aerial photographs and 1:25,000 Ordnance Survey maps. Following this, a data search was submitted to the local bat group in November 2020, requesting data relating to bats. In addition, a search was made of the MAGIC website<sup>2</sup> for any Natura 2000 sites within 10km, where the development may have the potential to lead to indirect disturbance of these sites, and any relevant Impact Risk Zones that indicate development proposal could potentially have adverse impacts on protected sites.

### C.3 PRELIMINARY FIELD STUDY METHODOLOGY

#### C.3.1 PRELIMINARY ASSESSMENT

The potential suitability of the habitats within the survey area in relation to commuting and foraging bats was classified as negligible, low, moderate or high, based on guidelines provided by the Bat Conservation Trust<sup>3</sup> and detailed within the table below.

<b>TABLE 1: GUIDELINES FOR ASSESSING THE POTENTIAL SUITABILITY OF PROPOSED DEVELOPMENT SITES FOR BATS, BASED ON PRESENCE OF HABITAT FEATURES WITHIN THE LANDSCAPE.</b> <i>(TO BE APPLIED USING PROFESSIONAL JUDGEMENT, TABLE 4.1 BAT SURVEY GUIDELINES)</i>	
<b>Suitability</b>	<b>Commuting and foraging habitats</b>
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.  Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.  Habitat that is connected to the wider landscape that could be used by bats for foraging such as

<sup>1</sup> Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition). Bat Conservation Trust

<sup>2</sup> Multi Agency Geographic Information for the Countryside ([www.magic.gov.uk](http://www.magic.gov.uk))

<sup>3</sup> Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition). Bat Conservation Trust



	trees, scrub, grassland or water.
High	<p>Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland tree lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>

### C.3.2 DAYTIME BAT RISK ASSESSMENT (STRUCTURES)

A daytime assessment was made of all structures affected by the proposed development, in order to evaluate their potential for supporting bat roosts, and, where present, to record signs of use by bats.

Structures were inspected internally only following guidance from CIEEM on assessing occupied buildings during the UK coronavirus pandemic 2020. Binoculars and extendable ladders were used to assist with the inspection for droppings and other field signs externally.

The building was examined for potential roost access points indicated by clean crevices, urine marks, polished wood or stonework and droppings. Particular attention was given to sheltered areas under the eaves of buildings, window ledges and towards the tops of windows where droppings are less likely to have been washed off.

Structures were categorised as having negligible, low, moderate or high suitability to be used by roosting bats, based on guidelines provided by the Bat Conservation Trust<sup>4</sup> and detailed within the table below.

<b>TABLE 2: GUIDELINES FOR ASSESSING THE POTENTIAL SUITABILITY OF PROPOSED DEVELOPMENT SITES FOR BATS, BASED ON PRESENCE OF ROOSTING HABITAT FEATURES (STRUCTURES)</b> <i>(TO BE APPLIED USING PROFESSIONAL JUDGEMENT, TABLE 4.1 BAT SURVEY GUIDELINES)</i>	
<b>Suitability</b>	<b>Roosting Habitats</b>
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
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).
High	A structure with one or more potential roost site 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.

Note that comments on the state of the structures within the site relate solely to their potential use by bats and must not be taken as a professional assessment of the structural integrity or safety of the structures. For example, descriptions of walls and roofs being in 'good' or 'poor condition' relate to likely provision of roost sites for bats, potential access routes to roost sites, and likely persistence of field signs such as droppings and feeding remains, which will not persist in exposed conditions. Maternity roosts are less likely to be present in cool, exposed, damp and draughty locations which may develop in a building in poor condition.

<sup>4</sup> Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition). Bat Conservation Trust

### C.3.3 PRELIMINARY SURVEY - EQUIPMENT

- Binoculars
- Digital camera
- Extendable ladders

### C.3.4 PRELIMINARY SURVEY – DATES & ENVIRONMENTAL CONDITIONS

DATE	TEMPERATURE °C	CLOUD COVER %	PRECIPITATION	WIND CONDITIONS
30.10.20	9	75	Dry	F1

## C.4 PERSONNEL

The table below details the personnel who undertook the survey work.

Name	Position	Professional Qualifications	Natural England Survey Licence Numbers
Mike Perkins	Senior Ecologist	BSc MSc ACIEEM	2018-34088-CLS-CLS

Further details of experience and qualifications are available at [www.e3ecology.co.uk](http://www.e3ecology.co.uk).

## C.5 ASSESSMENT METHODOLOGY

The relative value of the ecological receptors (habitats, species and designated sites) was assessed using a geographical frame of reference. For designated sites this is generally a straightforward process with the assigned designation generally being indicative of a particular value, e.g. Sites of Special Scientific Interest are designated under national legislation and are therefore generally considered to be receptors of national value. The assignment of value to non-designated receptors is less straightforward and as recognised by the Guidelines for Ecological Impact Assessment produced by the Chartered Institute of Ecology and Environmental Management<sup>5</sup>, is a complex and subjective process and requires the application of professional judgement.

When assessing the value of species and habitats, relevant documents and legislation are considered including the lists of species and habitat of principal importance annexed to the NERC Act (2006) and those provided within relevant local Biodiversity Action Plans. Data provided through consultation is also considered. These data sources can provide context at a local, regional and national scale.

The table below provides examples of receptors of value at different geographical scales.

Level of Value	Examples
International	An internationally designated site or candidate site.
	A site meeting criteria for international designation.
	The site is of functional importance* to a species population with internationally important numbers (i.e. >1% of the biogeographic population)
National	A nationally designated site.
	The site is of functional importance* to a species population with nationally important numbers (i.e. >1% of the national population)

<sup>5</sup> Chartered Institute for Ecology and Environmental Management (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland - Terrestrial, Freshwater and Coastal

**TABLE 5: ECOLOGICAL RECEPTOR VALUATION**

<b>Level of Value</b>	<b>Examples</b>
<b>Regional</b>	The site is of functional importance* to a species population with regionally important numbers (i.e. >1% of the regional population)
<b>County</b>	A Local Wildlife Site (LWS) or equivalent, designated at a County level
	The site is of functional importance* to a species population of county value (i.e. >1% of the county population)
<b>District</b>	A Local Wildlife Site (LWS) or equivalent, designated at a District level
	The site is of functional importance* to a species population of district value (i.e. >1% of the district population)
<b>Parish</b>	A species population considered to appreciably enrich the nature conservation resource within the context of the parish.
	Local Nature Reserves
<b>Local</b>	A species population that contributes to local biodiversity but are not exceptional in the context of the parish.
<b>Low</b>	Habitats that are unexceptional and common to the local area.

*\* Functional importance defined as 'a feature which, based on professional judgement, is of importance to the day to day functioning of the population, the loss of which would have a detectable adverse effect on that population'*

## D. RESULTS

### D.1 DESKTOP STUDY

#### D.1.1 PRE-EXISTING INFORMATION

##### **ORDNANCE SURVEY MAPPING AND AERIAL PHOTOGRAPHY**

The figures in Section B show that the general land use in the surrounding area is residential within Chester-le-street.

The most recent aerial photograph of the site (2020) indicates that habitats on site are dominated by the existing property and a surrounding tree and hedgerow-lined garden. Historic imagery suggests that the site has been unchanged since 2001.

##### **MAGIC WEBSITE<sup>6</sup>**

There are no internationally and nationally statutorily designated sites for bats within 2km and no Natura 2000 sites within 10km.

The site falls within a Site of Special Scientific Interest Impact Risk zone, the terms of which are not relevant for this development.

Two European protected species (EPS) licences have been granted within 2km of the site, both for destruction of non-breeding brown-long eared roosts, with the closest being 0.5km south.

#### D.1.2 CONSULTATION

##### **LOCAL BAT GROUP**

A consultation response from the local bat group is awaited and will be appended upon receipt.

### D.2 DAYTIME RISK ASSESSMENT

#### D.2.1 HABITATS

##### **FORAGING HABITATS**

Foraging habitats surrounding the site are largely of low to moderate suitability, comprising urban residential areas with mature trees and hedgerow lined gardens. Wider areas of moderate suitability urban woodland are situated to the south of the site.



---

<sup>6</sup> MAGIC Website: [www.magic.gov.uk](http://www.magic.gov.uk)

### COMMUTING ROUTES

Surrounding ornamental hedgerows and trees within residential gardens may provide commuting routes and linkages to the wider area



### SHELTERED FLIGHT AREAS

The structure does not provide opportunities for foul weather foraging or light sampling.

### ALTERNATIVE ROOST LOCATIONS

The surrounding conurbation of Spennymoor contains large residential areas offering numerous potential roosting opportunities, whilst the adjacent trees within surrounding gardens may also offer opportunities.



## D.2.2 BUILDINGS

The following text provides building descriptions. Where recorded, field signs that confirm bat use are in bold.

### 58 LOMBARD DRIVE

- Modern two storey semi-detached property with flat roofed garage extension
- Well-sealed brick walls.
- Mortaring in good condition, all well sealed.
- Pitched roof with gable end, interlocking concrete ridge and roof tiles. Some gaps in the ridge line mortaring.
- One brick chimney with surrounding lead flashing which appeared well sealed.
- Plastic soffit and barge boards with plastic uPVC guttering attached. The barge board on the gable end has a small gap present throughout.
- UPVC plastic windows and sills all well sealed.
- No access internally, however a small cluttered void is present.
- Garage with bitumen felt roof also well sealed.



- No field signs noted externally.
- Overall moderate roosting suitability.



### D.3 OVERVIEW OF SITE SUITABILITY

<b>TABLE 6: OVERVIEW OF SITE SUITABILITY FOR BATS</b>				
<b>HABITATS AND SETTING<sup>7</sup></b>				
	<b>NEGLIGIBLE</b>	<b>LOW</b>	<b>MODERATE</b>	<b>HIGH</b>
<b>HABITATS AND COVER WITHIN 200M</b>	City Centre	Large urban residential areas	Hedges and trees linking site to wider countryside	Excellent cover with mature trees and/or good hedges
<b>HABITATS WITHIN 1KM</b>	City Centre	Little tree cover, few hedges, urban dominated	Large urban/suburban woodlands and large residential gardens	Good network of woods, wetland and hedges
<b>ALTERNATIVE ROOSTS WITHIN 1KM</b>	City centre	Numerous alternative roost sites of a similar nature	A number of similar buildings in the local area	Few alternative buildings and site of good quality for roosts
<b>SETTING</b>	Inner city	Urban with little green space	Built development with green-space, wetland, trees	Rural Lowland with woodland and trees.
<b>DISTANCE TO WATER/ MARSH</b>	>1km	500m-1000m	200m-500m	<200m
<b>DISTANCE TO WOODLAND/ SCRUB</b>	>1km	500m-1000m	200m-500m	<200m
<b>DISTANCE TO SPECIES-RICH GRASSLAND</b>	>1km	500m-1000m	200m-500m	<200m
<b>COMMUTING ROUTES</b>	Isolated by development, major roads, large scale agriculture	Very limited potential flyways linking site to wider area	Some potential commuting routes to and from site	Site is well connected to surrounding area with multiple flyways
<b>BUILDINGS<sup>2</sup></b>				
	<b>NEGLIGIBLE</b>	<b>LOW</b>	<b>MODERATE</b>	<b>HIGH</b>
<b>AGE (APPROX.)</b>	Modern	Post 1940's	1900-1940	Pre 20 <sup>th</sup> C
<b>BUILDING/ COMPLEX TYPE</b>	Industrial complex of modern design	Single mixed structure	Several buildings, large old single structure	Traditional farm buildings, country house, hospital
<b>BUILDING - STOREYS</b>	N/A	Single storey	Multiple storeys	Multiple storeys with large roof voids
<b>STONE/BRICK WORK</b>	No detectable crevices	Well pointed	Some cracks and crevices	Poor condition, many crevices, thick walls
<b>FRAMEWORK – TIMBERS/STEEL</b>	Modern metal frame	Timber purlins, sheet asbestos	Kingpost or similar	Large timbers traditional joints
<b>ROOF VOID</b>	Fully sealed or flat roof	Small, cluttered void or possible small false ceiling	Medium, relatively open	Large, open, interconnected
<b>ROOF COVERING</b>	Modern sheet materials and tightly sealed	Good condition or very open not weatherproof modern sheet materials	Some potential access routes, slates, tiles	Uneven with gaps, not too open, stone slates
<b>ADDITIONAL FEATURES</b>	Very well maintained and tightly sealed	No features with potential access	Some features with potential access	Hanging tiles, cladding, barge boards, soffits with access gaps
<b>EXTERNAL LIGHTING</b>	Extensive security lights covering	Widespread areas above 2 lux at night	Intermittent lights of low intensity	Minimal

<sup>7</sup> Building and habitat risk assessment technique audited in a research project with York University which compared the risk assessment scoring with the results of detailed field assessment for over 100 sites. Statistically significant associations were found between habitat setting and building features and the presence of absence of different bat species. For example habitat connections and nearby woodland were significant for brown long-eared bats and the presence of species-rich grassland is important for many species.

	much of the site			
<b>BUILDING USE</b>	Very noisy, dusty	Regular use	Intermittent use	Disused

Overall, the building is considered to be of moderate suitability, in a low-moderate suitability setting.



---

## **E. SITE ASSESSMENT**

### **E.1 ASSESSMENT OF SURVEY FINDINGS**

The building to be affected is a modern semi-detached property situated within an urban residential area. Habitats surrounding the property are largely of low to moderate suitability with areas of mature amenity trees and mature urban gardens. Larger areas of moderate suitability woodland are situated to the immediate south of the site.

Potential roosting features on the property included a continuous gap within the plastic bargeboard on the gable end and several gaps within the ridge line mortaring. Overall, the property is considered to be of moderate suitability.

### **E.2 LIMITATIONS AND CONSTRAINTS**

Structures were inspected externally only following CIEEM guidance on assessing occupied buildings during the UK coronavirus pandemic in 2020. Given the additional surveys that are recommended, this is not considered a major constraint.

## **F. IMPACT ASSESSMENT**

An impact assessment cannot be fully completed until further survey work, detailed in section G, has been undertaken. However, the likely effects of the proposed development, without appropriate targeted mitigation and/or compensation, are detailed below.

### **F.1 DIRECT DEVELOPMENT IMPACTS**

- The loss of a small number of potential crevice roosting opportunities.
- Disturbance or harm to bats that may be using the buildings at the time of proposed works.

### **F.2 INDIRECT IMPACTS ON LOCAL POPULATIONS**

- Increased lighting which could impact on bat foraging and commuting habitat within the adjacent area.

## G. RECOMMENDATIONS

The recommendations have been based upon survey effort to date and may evolve with future findings.

The mitigation strategy aims to minimise effects on biodiversity by:

- avoiding significant negative impacts where possible through good design; and
- developing approaches to mitigate any remaining unavoidable impacts.

Where any significant residual impacts on biodiversity are anticipated, compensation may then be proposed. This approach is in-line with CIEEM recommendations<sup>8</sup>.

### G.1 FURTHER SURVEY

As per the Bat Conservation Trust Bat Surveys, Good Practice Guidelines<sup>9</sup>, for moderate suitability sites, the following additional survey is recommended to ensure a robust assessment of bat activity at the site:

- **One dusk emergence and one dawn re-entry survey should be undertaken from May-August in line with current guidance for a structure of moderate suitability.**

### G.2 AVOIDANCE AND MITIGATION STRATEGY

#### G.2.1 SITE DESIGN

- External lighting that may reduce bat use of new potential roost sites will be avoided. High intensity security lights will be avoided as far as practical, and any lighting in areas identified as being important for bats will be low level (2m). Light spillage to areas used by foraging or commuting bats should be less than 2 lux. No lighting will be installed along the flyways between the roosts and adjacent trees, woodland and foraging areas. Where security lights are required, these will be of minimum practicable brightness, be set on a short timer and will be motion sensitive only to larger objects.

#### G.2.2 WORKING METHODS AND BEST PRACTICE

- Works will not commence until the further recommended survey work has been undertaken.
- If following on from the further recommended survey works a bat roost is proven on site, **works will not commence in those areas until a Natural England licence has been obtained.** Otherwise works will follow a precautionary method statement.
- If a roost is recorded within the structures all works will be undertaken in line with a Natural England licence method statement which will be provided to contractors prior to the induction process at the start of works. The project ecologist will review all key points with contractors during the induction and provide all necessary training or a suitable method statement and training will be provided to contractors as part of the induction process at the start of works.
- If bats are found during works, works will stop in that area and the ecological consultant will be contacted immediately. If it is necessary to move the bats for their safety, this will be undertaken by a licensed bat handler.

---

<sup>8</sup> Chartered Institute for Ecology and Environmental Management (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland - Terrestrial, Freshwater and Coastal

<sup>9</sup> Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition). Bat Conservation Trust

### G.2.3 COMPENSATION

- Bat roosting mitigation/enhancement may be required, but the specific requirements will need to be determined once further survey work is undertaken.

The following measures should be included as general good working practice:

- Timber treatments that are toxic to mammals will be avoided. If required, timber treatment will be carried out in the spring or autumn. Both pre-treated timbers and timber treatments will use chemicals classed as safe for use where bats may be present (see [http://www.jncc.gov.uk/pdf/batwork\\_manualpt4.pdf](http://www.jncc.gov.uk/pdf/batwork_manualpt4.pdf)).

### G.3 **MONITORING**

The need for monitoring will be determined based upon the results of the additional recommended surveys.

## APPENDIX 1. LEGISLATION

### NATIONAL PLANNING POLICY

The table below details the key paragraphs from the National Planning Policy Framework (NPPF)<sup>10</sup> relating to the natural environment:

TABLE 7: NATIONAL PLANNING POLICY FRAMEWORK: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT	
Statement	Paragraph
<p>Planning policies and decisions should contribute to and enhance the natural and local environment by:</p> <ul style="list-style-type: none"> <li>a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);</li> <li>b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;</li> <li>c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;</li> <li>d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;</li> <li>e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and</li> <li>f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.</li> </ul>	170
<p>Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework<sup>11</sup>; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.</p>	171
<p>Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads<sup>12</sup>. The scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development<sup>13</sup> other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:</p> <ul style="list-style-type: none"> <li>a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;</li> <li>b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and</li> <li>c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.</li> </ul>	172
<p>Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 172), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.</p>	173
<p>To protect and enhance biodiversity and geodiversity, plans should:</p> <ul style="list-style-type: none"> <li>a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological</li> </ul>	174

<sup>10</sup> National Planning Policy Framework (February 2019), Department for Communities and Local Government,

<sup>11</sup> Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.

<sup>12</sup> English National Parks and the Broads: UK Government Vision and Circular 2010 provides further guidance and information about their statutory purposes, management and other matters.

<sup>13</sup> For the purposes of paragraphs 172 and 173, whether a proposal is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined.

TABLE 7: NATIONAL PLANNING POLICY FRAMEWORK: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT	
Statement	Paragraph
<p>networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity<sup>14</sup>; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation<sup>15</sup>; and</p> <p>b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.</p>	
<p>When determining planning applications, local planning authorities should apply the following principles:</p> <p>a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;</p> <p>b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;</p> <p>c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons<sup>16</sup> and a suitable compensation strategy exists; and</p> <p>d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.</p>	175
<p>The following should be given the same protection as habitats sites:</p> <p>a) potential Special Protection Areas and possible Special Areas of Conservation;</p> <p>b) listed or proposed Ramsar sites<sup>17</sup>; and</p> <p>c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.</p>	176
<p>The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.</p>	177

Section 40 of the Natural Environment and Rural Communities Act 2006, places a duty on all public authorities in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity.

Planning Practice Guidance<sup>18</sup> states:

- Planning authorities need to consider the potential impacts of development on protected and priority species, and the scope to avoid or mitigate any impacts when considering site allocations or planning applications. (para. 016)
- Information on biodiversity and geodiversity impacts and opportunities needs to inform all stages of development (including site selection and design, pre-application

<sup>14</sup> Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

<sup>15</sup> Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them.

<sup>16</sup> For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

<sup>17</sup> Potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a Special Protection Area, candidate Special Area of Conservation or Ramsar site.

<sup>18</sup> Planning Practice Guidance: Natural Environment ([www.planningguidance.communities.gov](http://www.planningguidance.communities.gov)) Updated July 2019

consultation and the application itself). An ecological survey will be necessary in advance of a planning application if the type and location of development could have a significant impact on biodiversity and existing information is lacking or inadequate. (para. 018)

- Even where an Environmental Impact Assessment is not needed, it might still be appropriate to undertake an ecological survey, for example, where protected species may be present or where biodiverse habitats may be lost. (para. 018)
- As with other supporting information, local planning authorities should require ecological surveys only where clearly justified. Assessments should be proportionate to the nature and scale of development proposed and the likely impact on biodiversity. (para. 018)
- The National Planning Policy Framework encourages net gains for biodiversity to be sought through planning policies and decisions. Biodiversity net gain delivers measurable improvements for biodiversity by creating or enhancing habitats in association with development. Biodiversity net gain can be achieved on-site, off-site or through a combination of on-site and off-site measures. (para. 022)

### RELEVANT LEGISLATION

Within England all bat species are specially protected under the Conservation of Habitats and Species Regulations 2017 (as amended).

As a result there is a requirement to consult with Natural England before undertaking any works that may disturb bats or their roost, and under the Conservation of Habitats and Species Regulations it is illegal to.

- Deliberately kill, injure or capture bats.
- Deliberately obstruct access to a bat roost.
- Damage or destroy a bat roost.
- Deliberately disturb bats; in particular any disturbance which is likely to impair their ability:
  - (i) to survive, to breed or reproduce, or to rear or nurture their young; or
  - (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
  - (iii) to affect significantly the local distribution or abundance of the species to which they belong.

Under the Wildlife and Countryside Act (1981) the above offence of disturbing bats includes low level disturbance and as such under this act it is also an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a roost.
- Intentionally or recklessly obstruct access to a roost.

Under the above legal protection, only the offences under the Conservation of Habitats and Species Regulations 2017 (as amended) are strict liability offences; the remaining offences, under the Wildlife and Countryside Act (1981), are offences only where they are carried out "intentionally or recklessly".

Under the Countryside and Rights of Way Act 2000 (CROW Act) the offence in section 9(4) of the Wildlife and Countryside Act 1981 of disturbing bats is extended to cover reckless damage or disturbance.

The Hedgerow Regulations 1997 provide for the conservation of important hedgerows and their constituent trees. The presence of a protected species such as bats is a relevant consideration

when assessing whether a hedgerow is important and may influence a local planning authority's decision on whether to approve removal of such hedges.

### **PRIORITY SPECIES**

Although not afforded any legal protection, national priority species (species of principal importance, as listed in Section 41 of the NERC Act (2006)), and local and regional priority species, as detailed within the relevant biodiversity action plans, are material considerations in the planning process and as such have been assessed accordingly within this report.

The following bat species are listed as national priority species: Barbastelle bat, Bechstein's bat, noctule, soprano pipistrelle, brown long-eared bat, greater horseshoe bat and lesser horseshoe bat. 'Bats' as a species group is also listed on the relevant local biodiversity action plan for this site.



## APPENDIX 2. BAT ECOLOGY

### BAT LIFECYCLE

Bat survey timings are based on the lifecycle of bats which varies through the calendar year. The table below illustrates recommended survey timings and how they relate to the bat lifecycle:

BAT LIFECYCLE AS IT RELATES TO SURVEY TIMING <sup>19</sup>												
SURVEY TYPE	J	F	M	A	M	J	J	A	S	O	N	D
Roost Inspection												
Mating/Swarming Survey												
Hibernation Survey												
Tree survey from the ground												
Tree roost activity survey												
Building roost activity survey												
Dark grey are optimal timings, light grey suboptimal.												
BAT ROOST USE THROUGH THE YEAR												
Day Roost												
Night Roost												
Feeding Roost												
Transitional/Occasional Roost												
Swarming Site												
Mating Site												
Maternity Roost												
Hibernation Roost												
Satellite Roost												

<sup>19</sup> Based on information provided within Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> Edition). Bat Conservation Trust

## BAT ROOST TYPES

Bat Roost Types	
Roost Type	Definition
Day Roost	A place where individual bats or small groups of males, rest or shelter in the day but are rarely found by night in the summer.
Night Roost	A place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or could be used regularly by the whole colony.
Feeding Roost	A place where individual bats or a few individuals rest or feed during the night but are rarely present by day.
Transitional/Occasional Roost	Used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
Swarming Site	Where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites.
Mating Site	Sites where mating takes place from late summer and can continue through winter.
Maternity Roost	Where female bats give birth and raise their young to independence. Females typically give birth to a single pup per year, therefore these roosts are critical to the long-term survival of a colony. Disturbance of maternity roosts can lead to abandonment and death of young.
Hibernation Roost	Where bats may be found individually or together during winter. They have a constant cool temperature and high humidity. Bats are particularly vulnerable to disturbance during the hibernation period as, once roused, they may be unable to replace energy lost due to a lack of sufficient available insect prey at this time.
Satellite Roost	An alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

## SPECIES SPECIFIC ECOLOGY

Pipistrelle maternity colonies generally consist of 25 to 100 individuals, but colonies numbering up to 1000 are not uncommon<sup>20</sup>. Adult females often form large maternity roosts, occupied between May and August, and frequently number around 300 individuals. Males are often solitary or in small groups during the summer, later congregating with the females at winter hibernation roosts<sup>21</sup>.

Maternity colonies of brown long-eared bats are generally small, consisting of 10 to 20 adults<sup>22,23</sup> (although numbers are likely to be underestimated, due to presence in inaccessible areas of the roost). In exceptional circumstances, colonies can reach 200+ bats.

Natterer's bats roost within crevices and cavities, typically within hollow trees, old buildings, caves and tunnels<sup>24</sup>. Maternity colonies comprising up to 200 adult females can be found in buildings during the summer months while bachelor roosts comprising up to 28 males have been recorded during the summer months in Scotland<sup>25</sup>. Maternity roosts are not exclusively female, with both adult and immature males comprising up to 25% of the colony. Male only colonies have been found with up to 30 bats<sup>26</sup>. Foraging individuals will perch during the night at roosts near to foraging areas, not used as day roosts. Mostly these roosts are trees or shrubs but barns will also be used<sup>27</sup>.

<sup>20</sup> Roberts, G.M. & Hutson, A.M. 2000. *Pipistrelle*. British Bats No. 6. The Bat Conservation Trust, London

<sup>21</sup> Corbet, G.B & Southern, H.N., 1964. The handbook of British Mammals).

<sup>22</sup> Speakman, J. R. *et al.*, 1991. Minimum summer populations and densities of bats in NE Scotland, near the northern borders of their distributions. *J. Appl. Ecol.*, 225: 327-345

<sup>23</sup> Entwistle, A.C., 1994. Roost ecology of the brown long-eared bat *Plecotus auritus* in north-east Scotland. Unpublished PhD thesis, University of Aberdeen, UK

<sup>24</sup> Stebbings, R.E. 1991. Natterer's bat *Myotis nattereri*. In The handbook of British Mammals. 3<sup>rd</sup> Edition Corbet, G.B. & Harris, S. (Eds) Oxford: Blackwell Scientific.

<sup>25</sup> Swift, S. M. 1997 Roosting and foraging behaviour of Natterer's bats (*Myotis Nattereri*) close to the northern border of their distribution. *J. Zool. (Lond)* **242**: 375-384.

<sup>26</sup> Altringham, J.D. 2003. British Bats. The New Naturalist. Pub. Harper Collins.

<sup>27</sup> Smith, P.G. & Racey, P.A. 2005. The itinerant Natterer: physical and thermal characteristics of summer roosts of *Myotis nattereri* (Mammalia: Chiroptera) *J. Zool. Lond.* 266: 171-180.

---

Whiskered bats roost in trees and buildings. Nursery roosts can number over 100 bats, and are almost exclusively female bats. This species hibernates singly in caves, hanging on the open wall or in crevices<sup>26</sup>.

Brandt's bat is thought to have similar roosting behaviour and foraging ecology to the whiskered bat, however, further research is needed to clarify this<sup>26</sup>.

A third small *Myotis* species, the Alcatraz's bat has recently been confirmed within the UK.

## APPENDIX 3. BATS AND DEVELOPMENT

A summary of the likely scale of impact at a site level in relation to various bat features and development effects is provided below.

SUMMARY OF MAIN IMPACTS AT SITE LEVEL				
Habitat Feature	Development Effect	Scale of impact		
		Low	Medium	High
<b>Maternity Roost</b>	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction; modification		✓	
	Temporary disturbance outside breeding season	✓		
	Post-development interference			✓
<b>Major Hibernation</b>	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction; modification		✓	
	Temporary disturbance outside hibernation season	✓		
	Post-development interference			✓
<b>Minor Hibernation</b>	Destruction			✓
	Isolation caused by fragmentation			✓
	Partial destruction; modification		✓	
	Modified management		✓	
	Temporary disturbance outside hibernation season	✓		
	Post-development interference		✓	
	Temporary destruction then reinstatement	✓		
<b>Mating</b>	Destruction		✓	
	Isolation caused by fragmentation		✓	
	Partial destruction; modification	✓		
	Modified management	✓		
	Temporary disturbance outside hibernation season	✓		
	Post-development interference	✓		
	Temporary destruction then reinstatement	✓		
<b>Night Roost</b>	Destruction	✓		
	Isolation caused by fragmentation	✓		
	Partial destruction; modification	✓		
	Modified management	✓		
	Temporary disturbance outside hibernation season	✓		
	Post-development interference	✓		
	Temporary destruction then reinstatement	✓		

N.B. This is a general guide only and does not take into account species differences. Medium impacts in particular depend on the care with which any mitigation is designed and implemented and could range between high and low.