

ROCKLEY DENE, WORSBOROUGH, BARNSELY

PROTECTED SPECIES SURVEY REPORT

January 2025

	Name	Date
Lead Author	Imogen Glover BSc (Hons), Assistant Ecologist	20/12/2024
1 st Check	Amy Wardle BA (Hons.) MA, Consultant Ecologist	13/01/2025
Final Check	John Harvey MA (Hons.) ACIEEM, Natural England Class 1 bat Licence Holder, Senior Ecologist	16/01/2025
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1 SUMMARY

EDGE AD Ltd commissioned Weddles to undertake Bat Presence / Likely Absence Surveys at Rockley Dene, Worsborough, Barnsley.

Weddles previously undertook a Preliminary Ecological Appraisal on 23rd July 2024, which found a presence of external Potential Roosting Features (PRFs) on both buildings 1 and 2. Both buildings were therefore assessed as supporting 'low' suitability to support roosting bats.

The Presence / Likely Absence Surveys were undertaken on 13th August 2024 and 18th September 2024.

The survey found no active roosts associated with B1 or B2. As such, roosting bats are not considered to be a material constraint to the planning application.

The site is the subject of a planning application to see the conversion of the buildings, demolition of conservatories and associated works within the application site.

Should any bats or evidence of bats be found during any part of the proposed works, all work must immediately cease, and the advice of an ecologist must be sought. Where necessary, a licence may be required for the work to continue.

Bat activity during the surveys was considered 'Low', with intermittent commuting passes and foraging areas recorded. As such, a soft-lighting scheme has been outlined within Chapter 7 of this report. Compensatory roosting provision will be incorporated into the overall design of the scheme, which has been shown in more detail in Appendix B.

2 INTRODUCTION

2.1 Background

EDGE AD Ltd commissioned Weddles to undertake Bat Presence / Likely Absence Surveys on B1 and B2 at Rockley Dene, Worsborough, Barnsley.

The surveys are undertaken to identify any roosts, which species; roost type (for example, day roost, maternity roost or hibernation roost); and regularity of usage. This will also ensure suitable information can be supplied to Natural England in support of a Method Statement to inform an EPSDL, where required.

This report has been prepared by Imogen Glover BSc (Hons), Assistant Ecologist, and a checked by Amy Wardle, BA (Hons.) MA, Consultant Ecologist. A final technical check has been carried out by John Harvey BA, MA (Hons.), ACIEEM, Senior Ecologist, Natural England Bat Level 1 Licence.

2.2 Site Description

The redline application area (known as 'the Site') is approximately 0.42ha in extent. The Site, formerly known as Rockley Dene Nursing Home, is located on land at Park Lane, Worsborough, Barnsley. The central Ordnance Survey Grid Reference is SE 35255 03833.

The Site comprises two complex buildings and associated hardstanding; amenity grassland and a small, ornamental pond; perimeter ornamental planting and mature nature trees border the site along its eastern, southern and southwestern perimeters. Additionally, there are scattered trees planted through the centre of the site, forming a connective green corridor. The A61 (Park Road) runs along the tree-lined eastern perimeter of the Site, across the road, beyond a wall, runs a small, culverted stream; further trees and suburban housing are also present. The Site is surrounded by suburban housing and gardens to its immediate western and northern boundaries, and an allotment and small tree-bordered grassland area lie immediately adjacent to the north-northwest.

Extending further from the Site northwards is land that is predominantly built-up suburban housing and local public and private services: to the south, meanwhile, lies Worsborough Reservoir. The River Dove flows from this Reservoir to the River Dearne into the Dearne Valley. These areas are important ecologically for both the species and habitats they support and their connective function. For this reason, Worsborough Reservoir, the River Dove and surrounding terrestrial/wetland areas are a designated Site of Special Scientific Interest (SSSI).

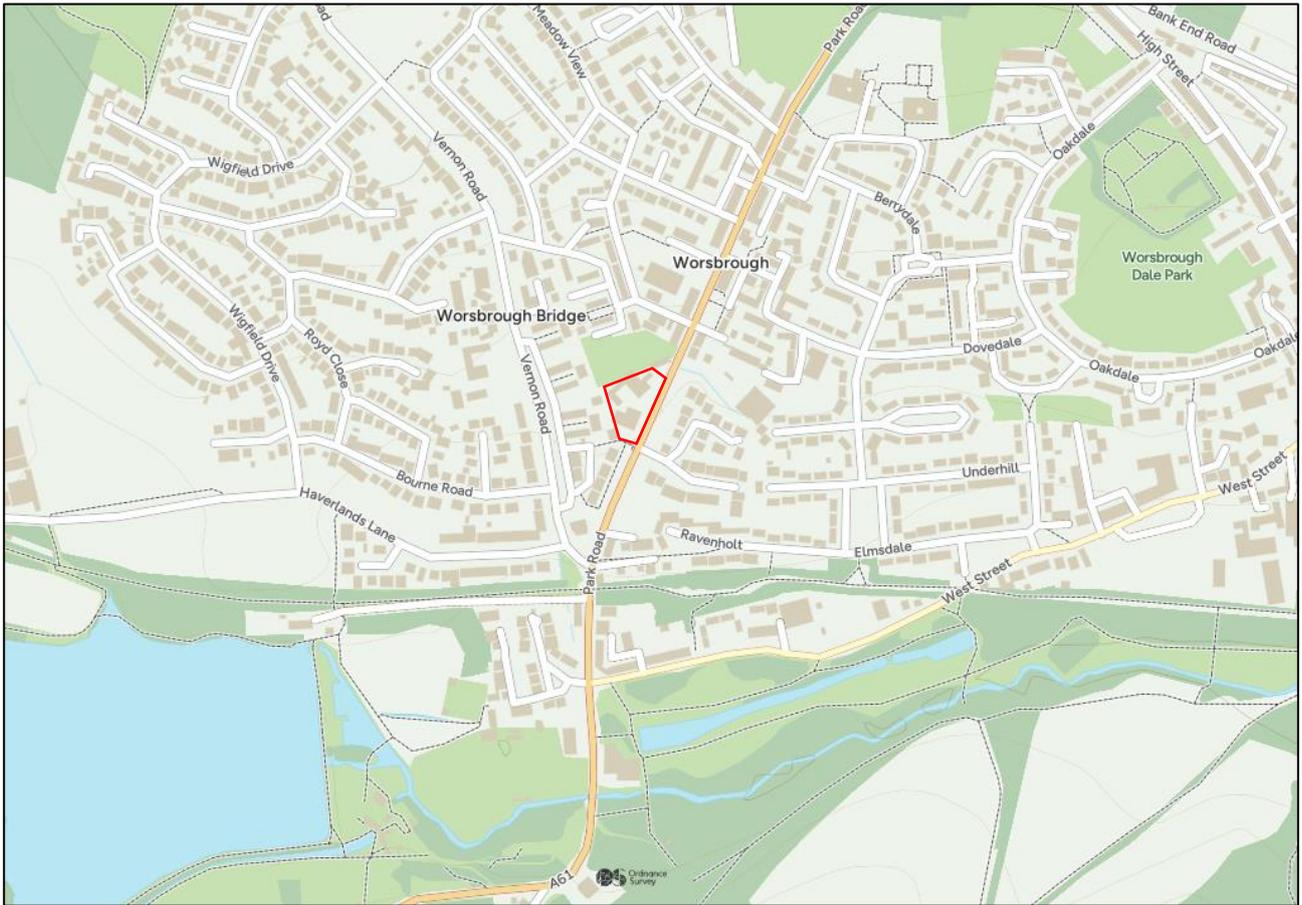


Figure 1: OS Map showing site location within the wider geographic context (OS online 2024).

2.3 The Proposals

The client proposes 'Conversion including change of use from C2 Residential Institution to C3 Residential consisting of 24No. Apartments with associated amenity and parking'.

3 LEGISLATION AND STATUS

All species of bat, their breeding sites and resting places are protected in England and Wales under the Wildlife and Countryside Act 1981 (as amended) ('the W&CA 1981') and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

Under Section 9 of the W&CA 1981, it is an offence to:

- Intentionally kill, injure or take any bat;
- possess or control any live or dead bat or anything derived from it;
- intentionally or recklessly damage or destroy any structure or place which a bat uses for shelter or protection;
- intentionally or recklessly disturb a bat while it is occupying a structure or place of shelter or protection;
- intentionally or recklessly obstruct access to any structure or place used by a bat for shelter or protection; and,
- sell, offer or expose for sale, or have in their possession or transports for the purpose of sale, any live or dead bat or any part of, or anything derived from a bat.

Regulation, 43 of the Habitats Regulations, makes it an offence to:

- Deliberately capture, injure or kill a bat;
- Deliberately disturb a bat (which includes any disturbance which is likely to impair their ability to survive, 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);
- damage or destroy a breeding site or resting place of a bat; or
- Possess, control, transport, sell or exchange, or offer for sale or exchange any live or dead bat or part of a bat or anything derived from a bat or any part of a bat.

In the case of development work, activities involving the destruction, modification or disturbance of a bat roost or the capture, disturbance or relocation of bats are subject to a mitigation licence from Natural England. A roost is typically defined as any place a bat uses to rest (gain shelter) or breed. Such licences are only granted:

"For the purpose of preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment, to allow people to carry out activities which would otherwise be illegal."

Under The Conservation of Habitats and Species Regulations 2017, licences can only be issued if Natural England is satisfied that:

- There is no satisfactory alternative, and
- The action authorised will not be detrimental to the maintenance of the population of the species at a favourable conservation status in their natural range.

4 METHODOLOGY

4.1 Field Survey

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

A detailed building inspection was carried out, during which the surveyor looked for potential access points and 'potential roosting features (PRFs) that bats could use and any evidence indicating the presence of bats using the building. Evidence includes features such as rub marks, staining or droppings. This inspection comprised a ground-based external inspection around the building and an internal inspection of any enclosed loft spaces or roof voids where safe access was possible.

All preliminary survey work was carried out in line with Collins J. (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th Edition), with an assessment of the building's suitability for roosting bats made in accordance with these guidelines.

4.2 Roost Presence / Likely Absence Surveys

PRFs and potential roost access points were identified during the initial inspections. These features, or each elevation, were then surveyed a single time at dusk using the methodology set out in the Good Practice Guidelines by the BCT.

Two dusk emergence surveys were undertaken on both B1 and B2 on the 13th August 2024 and 18th September 2024 to characterise any roosts present within the buildings. The dusk surveys began 15 minutes prior to sunset and continued for a minimum of 90 minutes after sunset.

The surveys were undertaken by John Harvey BA (Hons.) MA, ACIEEM, Natural England Class 1 Bat License holder (2018-34117-CLS-CLS), with assistance from Esther Hyde BA (Hons.) MA, Ecologist Dave Gash, Tom Watts BSc (Hons.) MBIolSci, Amy Wardle BA (Hons.) MA and Imogen Glover BSc (Hons).

Surveyors were equipped with an Echo Meter Touch 2 Ultrasonic Module (for Android) attached to a corresponding suitable smartphone or tablet device. Where species identification was required, the bat calls were downloaded and analysed on the latest version of Analook Insight. Night Vision Aids (NVAs) were used at each surveyor location. Each NVA comprises one tripod mounted with a Nightfox Red and 1x Infrared lamp and a second tripod mounted with 2x IR lamps. Additionally, a Pixfra R625 Thermal Camera was utilised on Building. Camera footage was analysed as soon as possible after the survey using the VLC media player (3.0.20), which enables the user to slow down, enhance, brighten and adjust camera footage data. No 'Artificial Intelligence' or motion tracking software was utilised in the video assessment.

4.3 Limitations

Whilst every effort was made to ensure a full characterisation of bat activity within the site was achieved, it should be noted that bats are highly mobile and often exhibit unpredictable behaviour. As such, no investigation can ensure a full, comprehensive description of the site or its relation to protected species. The conclusions of this assessment, therefore, are based on a reasonable survey effort in relation to prior knowledge of the suitability of the habitats and known distribution of the species in the local environment.

4.4 Report Lifespan

The results, findings and recommendations provided by this report are thought to be valid for a period of 12 months from the date of the first survey undertaken (13th August 2024).

5 RESULTS

5.1 Survey Conditions - 13th August 2024

Date	13 th August 2024		Start	End
Start Time	20:23	Temperature (°C)	19	16
End Time	22:08	Humidity (%RH)	74	94
Sunset / Rise Time	20:38	Cloud coverage (8-point Okta Scale)	8	6
		Wind (Beaufort Scale 1-12)	2	2

5.2 Survey Results – 13th August 2024

The survey was focused on Buildings B1 and B2. Ten surveyor positions were allocated to achieve full coverage. Intermittent, very light rain began after sunset and did not constitute a survey limitation.

No roosts were observed. Bat activity during the survey was considered '**Low**': Common Pipistrelle (*Pipistrellus pipistrellus*) were observed commuting and foraging from 20:53. A maximum number of three individuals were observed (flying at the same time) during the survey.

Foraging activity was prominent to the south of the development, along the roadside tree canopy, as well as to the north of B1 where bats were observed commuting and foraging near and around the adjacent allotment. Security lights onsite deterred bat activity. Species observed included Common Pipistrelle, Soprano Pipistrelle (*Pipistrellus pygmaeus*), and Noctule (*Nyctalus noctula*).

5.3 Survey Conditions - 18th September 2024

Date	18 th September 2024
Start Time	18:58
End Time	20:43
Sunset / Rise Time	19:13

	Start	End
Temperature (°C)	16°C	14°C
Humidity (%RH)	74%	84%
Cloud coverage (8-point Okta Scale)	0	0
Wind (Beaufort Scale 1-12)	1	1

5.4 Survey Results - 18th September 2024

The survey was focused on Buildings B1 and B2. Six surveyor positions were allocated to achieve full coverage.

No roosts were observed. Bat activity during the survey was considered '**Low**': Soprano Pipistrelle were observed foraging from 19:36. A maximum number of two individuals were observed (flying at the same time) during the survey.

Foraging activity was prominent to the south of the development, along the tree canopy, as well as to the north of B1 where bats were observed commuting and foraging near and around the adjacent allotment.

The first social calls were emitted from 20:34; less social activity took place in comparison to the previous survey. As previous, security lights onsite deterred bat activity. Activity slowed somewhat in the last half hour; the same species was heard and not seen during this time. A greater species diversity was observed onsite: Common Pipistrelle and Soprano Pipistrelle were, similarly, the most frequently observed, but other species included *Myotis* sp., Brown Long-Eared Bat (*Plecotus auritus*) and Noctule – Noctule in particular passed several times over the site towards the end of the survey (last recorded 20:38).

6 CONCLUSIONS

The development will see the conversion of existing buildings into 24 No. Apartments with associated amenity spaces and parking. This also comprises the demolition of single-storey conservatories. The surveys concluded that no roosting bats were present onsite within the structures at the time of survey and therefore, a Natural England European Protected Species Development Licence is not required at this time.

Bat activity was considered 'Low' during the surveys. Two distinct and regularly utilised foraging areas were observed; commuting occurred primarily along the southern, eastern and northern areas – the west, generally, was less used. Five species were recorded in total: Common and Soprano Pipistrelles were the most common, followed by Noctule, and one individual Brown Long-Eared bat was recorded once, during Survey 2, foraging along the southern boundary treeline. A Myotis bat, not determined to species level, was recorded on one occasion.

Much of the site is devoid of suitable foraging and commuting resources; the dark northern corridor adjacent to the allotment and the southern treeline are exceptions to this and were the focus of most activity onsite.

While abundance and diversity was low, social calls between Pipistrelles – particularly in the first survey – indicates an active breeding population may be present in the wider area. The number of passes of Noctule, moreover, indicates that foraging resources present in the locality are suitable to support the larger of the protected British bats – and are, therefore, important.

It can be concluded, therefore, that impacts from artificial lighting during the construction and operational phases may arise and Section 7 provides details on avoidance of these impacts.

7 RECOMMENDATIONS AND ENHANCEMENTS

Proposals will minimise any potential negative impacts upon bats and the favourable conservation status of the recorded bat species must be secured once the development is complete. To ensure this is the case, a mitigation strategy is outlined below.

7.1 Roosting Bats

While no roosting bats were discovered during the 2024 survey season, the implementation of the following strategies will ensure that the favourable conservation status of local bat population is supported in the long-term.

Strategy	Timescales
<p>a) Installation of Enhancement Bat Boxes</p> <p>See Appendix B for further detail.</p> <p>Three Bat Boxes – for example, the 'Eco-Crevice' bat box and/or Ridge Roost – will be installed on the southern, south-east and/or south-west-facing elevations of the B1. If this is carried out prior to works commencing, then any bats potentially found during the works can be relocated, safely and carefully, into the box.</p>  <p><i>Figure 3: Eco-Crevice Bat box</i></p> <p>The box should be installed at a height of at least 4m, within a location free of climbing vegetation and driving rain/wind.</p>	<p>Prior to the onset of works.</p>

7.2 Foraging and Commuting Bats

Known bat foraging and commuting habitat along the southern, western and northern boundaries should be conserved through the **sensitive use of lighting** throughout the construction and operational phases of the proposed development.

In accordance with guidance provided by the Bat Conservation Trust and Institution of Lighting Professionals (BCT and ILP, 2018), this can be achieved by implementing the following measures:

- Avoid working at night (or between sunset and sunrise) where possible. If this is not possible, then the measures below should be carefully respected and followed.
- Consider employing a competent lighting designer who will apply the principals of providing the right light, in the right place, at the right time and controlled by the right system.

- Minimise the spread of light to at, or near horizontal and ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required.
- Consider the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light spill or require more columns.
- Column height should be carefully considered to balance task and mitigation measures.
- Use temporary close-boarded fencing until vegetation matures, to shield sensitive areas from lighting.
- Limit the times that lights are on to provide some dark periods. The task being lit often varies, for example roads are less used after 23.00hrs and car parks are empty. A lighting designer can vary the lighting levels as the use of the area changes reducing lighting levels or perhaps even switching installations off after certain times. This use of adaptive lighting can tailor the installation to suit human health and safety as well as wildlife needs.

In addition, apply technical specifications:

- Use narrow spectrum light sources to lower the range of species affected by lighting.
- Use light sources that emit minimal ultra-violet light
- Lights should peak higher than 550nm
- Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue short wavelength content they should be of a warm / neutral colour temperature <4,200 kelvin.

Reducing the height of light columns to a minimum. This will also enable a lower-intensity lighting design to be implemented.

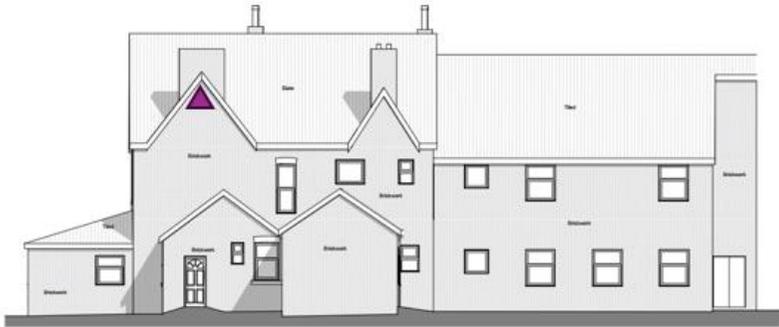
APPENDIX A - BAT ACTIVITY PLAN



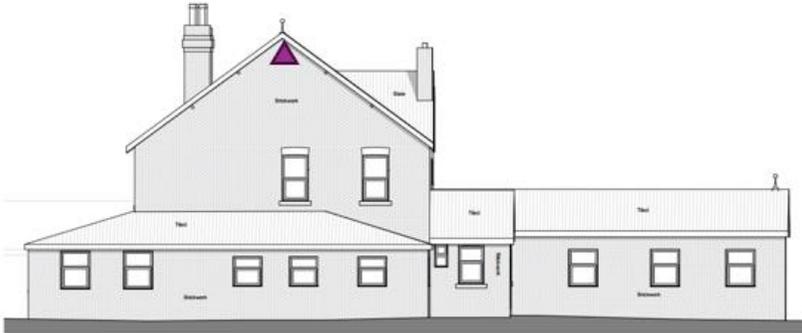
WEDDLES

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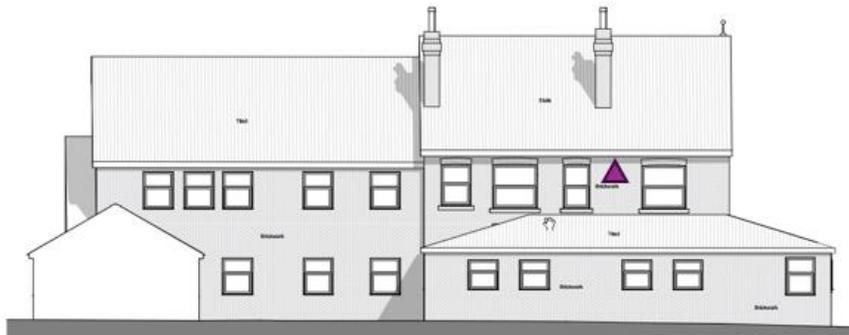
APPENDIX B - BAT MITIGATION/ENHANCEMENT PLAN



Elevation 8
South-east facing
Conventional Bat Box or Ridge Roost
(see Fig. A and B).



Elevation 1
South-facing
Conventional Bat Box or Ridge Roost
(see Fig. A and B).



Elevation 2
South-west facing
Bat box
(see Fig. A).



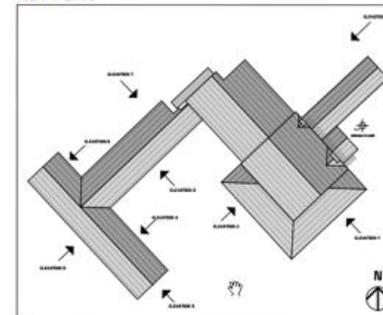
Figure A, Eco-Crevise Bat Box



Figure B, Ridge Roost

▲ Bat box

KEY PLAN



APPENDIX C – TECHNICAL APPENDIX – SOUND ANALYSIS

For the purpose of this report, each individual pulse created by a bat is referred to as a call. A bat pass or bat registration was defined as a sequence of 2-3 or more bat echolocation pulses or calls from the same bat species, which had less than a 5-second interval between the first and last pulse within each sound file. Bat call data collected over the survey period was analysed within Anabatw and identified to a species level using the bat call parameter data outlined by Russ (2012).

Each bat registration has been labelled with the associated species codes. These labels have been counted to give a total number of sound files where a particular species of bat is present. Some files contain multiple species and multiple passes and hence have multiple species labels, resulting in multiple bat passes being counted.

Files labelled as 'Unidentified' indicate that the sound was created by a bat; however, these have been labelled as such for one of the following reasons:

Identification of Pipistrellus spp.

Due to the overlap of the call parameters produced by *Pipistrellus* species, it may only be possible to identify files marked Pip-p-na and Pip-p-py to either common/Nathusius' pipistrelle or common/soprano pipistrelle, respectively. For example, the shape and repetition of calls would indicate a *Pipistrellus* species, but the frequency of maximum energy of the data in a file may be 42 kHz, which prevents identification to either a common (45 kHz) or Nathusius' pipistrelle (39.3kHz) as both bats can produce calls at 42 kHz. Consequently, these files would be labelled as Pip-p-na.

Identification of Myotis spp.

Due to the similarity between the echolocation calls of *Myotis* spp. (Myo-sp), these calls are often only identified at the genus level. Slope, call duration, and inter-pulse intervals are also used as indicators to separate *Myotis* calls from frequency-modulated *Pipistrellus* spp calls.

Identification of Plecotus spp.

Echolocation calls of the brown long-eared and grey long-eared bat are characteristically of very low amplitude, often resulting in faint calls being recorded on automated detectors. They also have very wide call parameters, increasing the difficulty of identification of these calls. With this in mind, it should be considered that the level of activity for *Plecotus* species may be higher than indicated within the processed results. Grey long-eared and brown long-eared bat calls have similar characteristics and parameters (Russ, 2012), and confidently distinguishing echolocation calls between these two species is problematic. However, due to the geographic location of the site (Sheffield, South Yorkshire) and the known geographic distribution of the grey long-eared being confined to the south of England. It is considered likely that all *Plecotus* species recorded can be confidently attributed to the brown long-eared bats. As such, any bat passes fitting the indicated parameters for *Plecotus* species have been labelled as brown long-eared (Ple-aur)

Identification of Nyctalus/Eptesicus spp.

Both FM/qCF and qCF parameters are given for the *Nyctalus* species, but there is little definition for classifying the different nature of these vocalisations, resulting in a significant crossover between the parameters of the *Nyctalus* genus. The lower frequency vocalisation calls of noctule *Nyctalus noctula* bats can be differentiated from Leisler's *Nyctalus leisleri* as the Leisler's bat does not echolocate below 20.9 kHz (finish frequency). However, as there is a crossover between the parameters of vocalisations above this frequency, Leisler's bats can be particularly difficult to differentiate from noctules. Where files fit the parameters of a *Nyctalus* species but identification to species level is not possible, files are classified as *Nyctalus* sp. Similarly, there is a crossover between the *Nyctalus* species and the serotine *Eptesicus serotinus*. Where files fit the parameters of a *Nyctalus* species or a serotine but identification to species level is not possible, files are classified as Big bats.

APPENDIX D – DARK PERIOD STILLS



Figure 3: South-eastern aspect of B1



Figure 4: Northern aspect of B1



Figure 5: North-eastern aspect of B1



Figure 6: Southern aspect of B2



Figure 7: Western aspect of B2



Figure 8: Southern aspect of B1