



Bat Emergence/Re-entry

Centre 27, Birstall
for:

AEW UK

CRM.1209.002.EC.R.001



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Project:	Centre 27, Birstall
For:	AEW UK
Status:	Final
Date:	21 st June 2017
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1 Introduction

1.1 Commission

- 1.1.1 In May 2017 Enzygo Ltd was commissioned by Brook Smith Planning on behalf of AEW UK to undertake a Bat Emergence/Re-entry Survey of buildings at Centre 27 Business Park off Bankwood Way, Birstall, West Yorkshire, WF17 9DT (central grid reference: SE 237 274), located within Kirklees District planning authority. The study will inform full planning permission for re-development of the site.
- 1.1.2 The proposed works will involve demolition of the existing buildings and clearance of the site, with subsequent construction of a large retail unit and associated parking with landscaping. Refer to Appendix A for proposed site layout.

1.2 Aims and Objectives

- 1.2.1 The aim of the Bat Emergence/Re-entry Survey was to:
- Determine the presence/absence of roosting bats;
 - Determine species/status/time of year when in use, of any roost present;
 - Location of egress/ingress points and which part(s) of the structure bats utilise;
 - Environmental conditions within the roost (i.e. temperature, humidity, lighting, disturbance levels, aspect/orientation, surrounding habitat);
 - Identify likely impacts of the proposed development on roosting bats;
 - Recommend measures to avoid, mitigate or compensate for identified impacts to roosting bats, including any requirement to undertake further surveys or obtain a European Protected Species (EPS) licence from Natural England; and
 - Recommend enhancements.
- 1.2.2 This report has been produced with reference to current guidelines, Bat Surveys for Professional Ecologist: Good Practice Guidelines, 3rd edition (Collins, 2016), and in accordance with BS42020:2013: Biodiversity – Code of Practice for Planning and Development (BSI, 2013).
- 1.2.3 This report remains valid for 2 years from the date of publication, or until conditions across the site should substantially alter (although it should be noted that the presence/absence and status of bat roosts can change annually). The age of data should be assessed separately when considering the submission of an EPS Licence (i.e. Natural England may require this to be from the current season).

1.3 Background

- 1.3.1 An Extended Phase I Habitat Survey and Building Risk Assessment (CPA, 2016) identified 8 buildings within the site (Units 2-9) (Unit 1 is located outside of the application footprint) which provide low potential to support roosting bats (i.e. exterior roofing crevices). This report also identified that the application site lies on the edge of Kirklees Bat Alert Zone (BAZ).
- 1.3.2 To date, there have been no known discussions with the County Ecologist or any third parties (i.e. Natural England) in regard to this application.

1.4 Site Context

1.4.1 The site comprises a collection of 2-3 storey office buildings surrounded by areas of hardstanding and borders of introduced shrub, with lines of trees more prevalent along the south-eastern and south-western site boundaries. Birstall retail park extends to the north, north-east, and west, with an area of grassland and woodland beyond Bankwood Way to the east, south-east, and south.

Figure 1.1: Surveyed Area

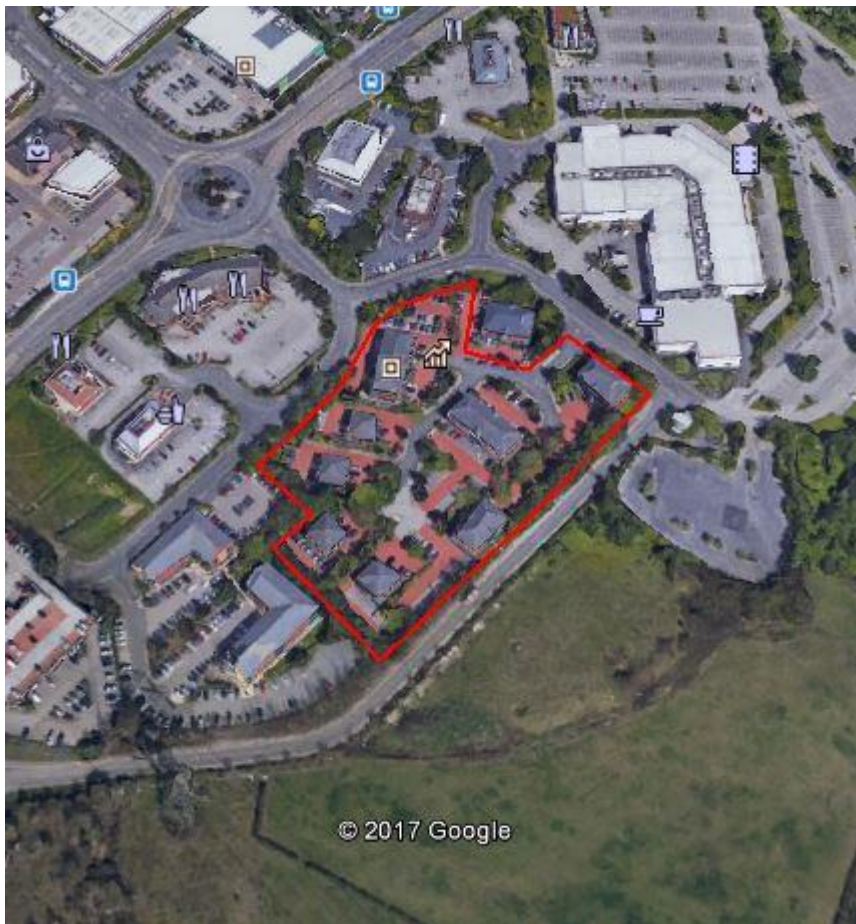


Image courtesy of Google Earth Pro 7.1.5.1557, 53°44'33.76"N 1°38'31.09"W Elev.154m. Imagery date 6th May 2016. Image sourced 20th June 2017.

2 Methodology

2.1 Desk Study

2.1.1 Desk study details were obtained from the following sources on the associated dates to provide background on Bat activity in the vicinity of the site. In each case the search included the site and the specified area beyond the site boundary. The search radius was based on the professional judgement of the ecologist leading the appraisal (CPA, 2016), taking into account the scope of the proposed works and associated potential impacts. Records obtained included:

- Any European statutory sites within a 10km radius, and any national statutory sites within a 2km radius, designated for Bats or associated with an important Bat population (CPA, 2016 c/o West Yorkshire Joint Services (WYJS));
- Records of Bats and local wildlife sites designated for Bats or associated with important Bat populations within a 2km radius (CPA, 2016 c/o WYJS).

2.2 Field Survey

Presence/Absence Survey and Roost Characterisation Survey

2.2.1 Units 2-9 support low roost suitability and a single dusk emergence survey was undertaken of these during May to determine presence/absence of roosting bats in accordance with current guidelines (Collins, 2016). As potential evidence of roosting bats was identified in association with Units 4-6 these were subject to a second dusk emergence survey help identify the location of egress points, and provide sufficient information (i.e. confirm species/number of bats) in support of an EPS Licence application for submission to Natural England. Refer to Table 2.1 for survey dates and conditions.

2.2.2 The dusk emergence survey commenced approximately 15 minutes prior to sunset and lasted until approximately 2 hours after sunset. Refer to Drawing CRM.1209.002.EC.D.001 for location of surveyors and results.

Table 2.1: Survey Dates and Conditions

Date	Dusk/Dawn	Start	End	Weather Conditions
25.05.17	21:14	20:59	23:14	27°C, no wind, 0% cloud, and dry
20.06.17	21:41	21:26	23:41	18°C, light wind, 100% cloud, and dry

2.2.3 During the surveys, the surveyors recorded the time, location, species, and behaviour (i.e. emergence, foraging, commuting or swarming) of each bat pass. Additional factors, such as, the number of bats, flight height, bat appearance and relative speed, were recorded where observed.

2.2.4 The surveyors were equipped with Batbox Duet dual-mode heterodyne/frequency division Bat Detectors and Echo Meter Touch 2 Pro Full spectrum detectors combined with ipad Pro 9.7s. Bat echolocation calls were saved onto digital audio recorders and ipads where used. The audio recordings were later analysed using Kalidoscope Pro 4 analysis software. This programme uses UK bat classifiers and auto-ID to determine species of bats recorded. However, in every instance this data was fully reviewed by a bat licensed ecologist (Derek Allan MSc, BSc (Hons) MCIEEM, NE Class 2 Licence Number: 2015-14659-CLS-CLS) to confirm its accuracy, specifically where rarer bat species are recorded, where unidentified files are present, where multiple species are

present on a single file, or where the auto-ID match ratio is statistically <0.5 confidence (files of *Pipistrelle* spp. were not assessed further). Any significant sonograms were saved, as an example of each species identified.

- 2.2.5 The survey was orchestrated by a bat licensed ecologist (Derek Allan MSc, BSc (Hons) MCIEEM, Natural England Licence Number: 2015-14659-CLS-CLS), and undertaken by 4 additional surveyors (2 surveyors only during the second visit) positioned around the exterior of the buildings to adequately cover all potential egress points and aspects of the buildings, whom satisfy all necessary field survey competencies as set out by the Chartered Institute for Ecology and Environmental Management (CIEEM).

Complementary Methods

- 2.2.6 No complementary survey methods were used in this instance.

2.3 Assessment

- 2.3.1 Where roosts are identified, likely status (irrespective of species conservation status) has been categorised as follows in accordance with current guidance (Collins, 2016):

- Transitional roost (April-September/October) – used by a few individuals or occasionally small groups of bats on waking from hibernation or in the period prior to hibernation;
- Maternity roost (May-August) – used by breeding females, where babies are born and raised to independence. Adult males rarely found here;
- Satellite roost (May-August) – used by a few individuals to small groups of breeding females as alternative roost sites in close proximity to maternity roosts;
- Mating roost (September-November) – established by males of some species to display/call to females to mate;
- Hibernation roost (October-March) - where bats may be found during the winter. They vary greatly in terms of the number of individuals and diversity of species using them;
- Night roost (March-November) – used by bats as roosts other than traditional day roosts to rest in during the night. May be used by a single individual on occasion or regularly by an entire colony;
- Day roost (March-November) – used by bats during the day to rest in, often by males. Bats may regularly use a number of days' roosts or the same site for several weeks;
- Feeding roost (May-November) – can be occupied by a single bat or a few individuals to an entire colony to feed, shelter from the weather or to rest temporarily; and
- Swarming sites (August-November) – where large numbers of bats from several species gather, generally around caves and mines.

- 2.3.2 Following the framework for valuing bats in Ecological Impact Assessment set out by Wray et al. (2007), bat roosts are assigned a value, based on roost type and species rarity (as detailed within Table 2.2), using a geographic frame of reference as shown in Table 2.3.

Table 2.2: Categorisation of Bats by National Rarity

Rarity within Range	England	Wales	Scotland	Northern Ireland
Common (population over 100,000)	Common Pipistrelle Bat (<i>Pipistrellus pipistrellus</i>), Soprano Pipistrelle Bat (<i>Pipistrellus pygmaeus</i>), Brown Long-eared Bat (<i>Plecotus auritus</i>)	Common Pipistrelle Bat, Soprano Pipistrelle Bat	Common Pipistrelle Bat, Soprano Pipistrelle Bat	Common Pipistrelle Bat, Soprano Pipistrelle Bat
Rarer (population 10,000-100,000)	Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>), Whiskered Bat (<i>Myotis mystacinus</i>), Brandt's Bat (<i>Myotis brandtii</i>), Daubenton's Bat (<i>Myotis daubentonii</i>), Natterer's Bat (<i>Myotis nattereri</i>), Leisler's Bat (<i>Nyctalus leisleri</i>), Noctule Bat (<i>Nyctalus noctula</i>), Nathusius' Pipistrelle Bat (<i>Pipistrellus mathusii</i>), Serotine Bat (<i>Eptesicus serotinus</i>)	Lesser Horseshoe Bat, Daubenton's Bat, Natterer's Bat, Brown Long-eared Bat	Daubenton's Bat, Natterer's Bat, Brown Long-eared Bat	Daubenton's Bat, Natterer's Bat, Leisler's Bat, Nathusius' Pipistrelle Bat, Brown Long-eared Bat
Rarest (population under 10,000)	Greater Horseshoe Bat (<i>Rhinolophus ferrumequinum</i>), Bechstein's Bat (<i>Myotis bechsteinii</i>), Alcathoe Bat (<i>Myotis alcathoe</i>), Barbastelle Bat (<i>Barbastelle barbastellus</i>), Grey Long-eared Bat (<i>Plecotus austriacus</i>)	Greater Horseshoe Bat, Whiskered Bat, Brandt's Bat, Bechstein's Bat, Alcathoe Bat, Noctule Bat, Nathusius' Pipistrelle Bat, Serotine Bat, Barbastelle Bat	Whiskered Bat, Brandt's Bat, Alcathoe Bat, Noctule Bat, Nathusius' Pipistrelle Bat, Leisler's Bat	Whiskered Bat
*Vagrant species and occasional visitors	Greater Mouse-eared Bat (<i>Myotis myotis</i>), Parti-coloured Bat (<i>Vespertilio murinus</i>), Kuhl's Pipistrelle Bat (<i>Pipistrellus kuhlii</i>), Savi's Pipistrelle Bat (<i>Hypsugo savii</i>), Pond Bat (<i>Myotis dasycneme</i>), Notch-eared Bat (<i>Myotis emarginatus</i>), Northern Bat (<i>Eptesicus nilssoni</i>)			

Table 2.3: Roost valuation system

Geographic Frame of Reference	Roost Types
District, Local or Parish	Feeding Perches (common species), individual bats (common species), small numbers of non-breeding bats (common species), mating sites (common species)
County	Maternity sites (common species), small numbers of hibernating bats (common and rarer species), feeding perches (rarer/rarest species), individual bats (rarer/rarest species), small numbers of non-breeding bats (rarer/rarest species)

Geographic Frame of Reference	Roost Types
Regional	Mating sites (rarer/rarest species) including well-used swarming sites, maternity sites (rarer species), hibernation sites (rarest species), significant hibernation sites
National/UK	Maternity sites (rarest species), Sites of Special Scientific Interest (SSSI)
International	Special Areas of Conservation (SAC)

- 2.3.3 Potential ecological constraints to development have been identified from desk study and field survey data using current development proposals (see Appendix A).
- 2.3.4 An assessment of likely ecological impacts has been undertaken in accordance with CIEEM guidelines (CIEEM, 2016) only where clear evidence is available to substantiate and justify the findings. This covers construction and operational impacts and includes (but is not limited to): short-term impacts: disturbance; long-term impacts: modification, loss, and fragmentation/isolation; and post-development interference impacts. In the absence of such evidence, the ecological feature is merely identified as a potential constraint to development.
- 2.3.5 Where ecological constraints to development are identified, further survey requirements and/or avoidance, mitigation, compensation measures that are proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed works are described. In addition, in accordance with the NPPF, opportunities to enhance or create benefits to wildlife are explored alongside the hierarchy of aforementioned measures.

2.4 Nomenclature

- 2.4.1 The English names of flora and fauna species are given in the main text of this report. Scientific names are used alongside the English name where this first occurs. Vascular plants and Charophytes follow the nomenclature of The Botanical Society for the British Isles database (BSBI, 2007) with all other flora and fauna following the National Biodiversity Network (NBN) Gateway (NBN, 2017).

2.5 Limitations

- 2.5.1 Data held by consultees may not be exhaustive. The absence of evidence, does not indicate evidence of absence.
- 2.5.2 Enzygo cannot take responsibility for the accuracy of external data sources and as such discrepancies and inaccuracies may occur.
- 2.5.3 Once light levels drop below a given point it is possible to miss bats emerging from egress points. While every effort is made to detect emerging bats, it cannot be guaranteed that all emerging bats will be detected.
- 2.5.4 It should be noted that Long-eared Bats in particular echolocate more quietly, and Horseshoe Bat species in particular echolocate more directionally, compared to other bat species and so can sometimes be more difficult to detect and often go unrecorded.
- 2.5.5 Species from the *Myotis* and *Nyctallus* genera are notoriously difficult to distinguish in the field and from recorded sonograms, as there is considerable overlap in their range of echolocation frequencies. Where the species cannot be determined only the genus is stated.
- 2.5.6 Roofing aspects to the west of the site were difficult to observe, due to the presence of trees and limited distance that the surveyor could stand out from buildings. As such, evidence of roosting bats could have gone unobserved.

3 Results and Evaluation

3.1 Desk Study

3.1.1 A description of desk study findings relevant to Bats is presented in Table 3.1. Along with predicted impacts and their effect on Bats, determined following guidelines set out by CIEEM (CIEEM 2016), in the absence of mitigation.

Table 3.1: Desk Study Findings

Reference	Description	Assessment	Potential Constraint
<i>Statutory Sites Designated or Associated with Bats</i>			
None	-	-	-
<i>Local Wildlife Sites Designated or Associated with Bats</i>			
None (but located within Bat Alert Zone)	Application site within 200m of high quality foraging/commuting habitat (i.e. woodland and grassland)	Refer to Table 3.2 below	Refer to Table 3.2 below
<i>Historical Records</i>			
2km radius	Records of 5 bat species, including: Daubenton's Bat; Leisler's Bat; Noctule Bat; Common Pipistrelle Bat; and Soprano Pipistrelle Bat, throughout surrounding landscape (no details of roosts)	Refer to Table 3.2 below	Refer to Table 3.2 below

3.2 Field Survey

3.2.1 A description of each structure, and corresponding roost status, where it was possible to determine this from the evidence found, is presented in Table 3.2. Along with predicted impacts and their effect on Bats, determined following guidelines set out by CIEEM (CIEEM 2016), in the absence of mitigation. Refer to Drawing CRM.1209.002.EC.D.001 for location and Appendix B for full survey results. In summary, no bats were recorded emerging from/entering Units 2, 3, 7, 8 or 9, however, 1-3 Common Pipistrelle Bats were observed in close proximity of Units 4, 5 & 6 approximately 15 to 30 minutes after dusk with bats originating from the south-western aspect of these roofing structures. Several passes of Common Pipistrelle Bat were recorded during the survey period throughout habitats along the south-western and south-eastern site boundaries, with bats dispersing to the south-east into adjacent habitats beyond Bankwood Way.

Table 3.2: Presence/Absence and Roost Characterisation Survey Results

Reference	Description	Assessment	Potential Constraint
Unit 2	No bats recorded emerging from/entering the building	No Roost	No
Unit 3	No bats recorded emerging from/entering the building	No Roost	No
Unit 4	1-2 Common Pipistrelle Bats in close proximity of roof eaves, 15-30 minutes after dusk, with bats originating from south-western aspect of roof (no confirmed emergence points but raised tiles and gaps along eaves noted on this aspect). No evidence of maternity status.	Day Roost, Local value (individual bats of a common species)	Yes – a) risk of killing/injury to bats and b) loss/destruction of roost, during demolition of building, and c) fragmentation of commuting routes during site clearance. Significant adverse, permanent, reversible impact.
Unit 5	1-3 Common Pipistrelle Bats in close proximity of roof eaves, 15-30 minutes after dusk, with bats originating from south-western aspect of roof (no confirmed emergence points but raised tiles and gaps along eaves noted on this aspect). No evidence of maternity status.	Day Roost, Local value (individual bats of a common species)	Yes – a) risk of killing/injury to bats and b) loss/destruction of roost, during demolition of building, and c) fragmentation of commuting routes during site clearance. Significant adverse, permanent, reversible impact.
Unit 6	1-3 Common Pipistrelle Bats in close proximity of roof eaves, 15-30 minutes after dusk, with bats originating from south-western aspect of roof (no confirmed emergence points but raised tiles and gaps along eaves noted on this aspect). No evidence of maternity status.	Day Roost, Local value (individual bats of a common species)	Yes – a) risk of killing/injury to bats and b) loss/destruction of roost, during demolition of building, and c) fragmentation of commuting routes during site clearance. Significant adverse, permanent, reversible impact.
Unit 7	No bats recorded emerging from/entering the building	No Roost	No
Unit 8	No bats recorded emerging from/entering the building	No Roost	No
Unit 9	No bats recorded emerging from/entering the building	No Roost	No

4 Relevant Legislation and Policy

4.1 Legislation

4.1.1 Wildlife legislation and policy relevant to the proposed works, based on the findings of the desk study and field survey are set out below. This legal information is a summary only, and the original legal documents should be consulted for definitive information.

Table 4.1: Legislation Protection Afforded to Sites/Habitats that could Potentially be Affected by the Proposed Works

Designated Site/Habitat	Legal Status
None	-

Table 4.2: Legislation Protection Afforded to Species that could Potentially be Affected by the Proposed Works

Species	Legal Status
European Protected	
Bats	These animal species and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species (Amendment) Regulations 2012, which makes it illegal to: • Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs; • Deliberately disturb such an animal; • Damage or destroy a breeding site or resting place of such an animal. European Protected Species (EPS) licences can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed: • The development is for reasons of overriding public interest; • There is no satisfactory alternative; and • The favourable conservation status of the species concerned will be maintained and/or enhanced. Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a legal duty to 'have regard to the requirements of the EC Habitats Directive in the exercise of their functions'. This means that they must consider the above 3 tests when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations. As a consequence, Planning Applications for such developments must demonstrate that the 3 tests will be passed.
Nationally Protected	
Bats	These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any such animal; • Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and • Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.

4.1.2 Section 40 of the Natural Environment and Rural Communities Act 2006 (the NERC Act) places a legal duty on public bodies, including planning authorities, to 'have regard' to the conservation

of biodiversity when carrying out their normal functions, which includes consideration of planning applications.

- 4.1.3 In compliance with Section 41 of the NERC Act, the Secretary of State has published a list of species and habitats considered to be of principal importance for conserving biodiversity in England under the UK Post-2010 Biodiversity Framework. This is known as the list of Habitats and Species of Principal Importance (HPI/SPI), of which there are 56 habitats and 943 species. The HPI/SPI list is used to guide planning authorities in implementing their duty under the NERC Act. Seven bat species are listed as SPI including: Barbastelle Bat, Bechstein's Bat, Noctule Bat, Soprano Pipistrelle Bat, Brown Long-eared Bat, Greater Horseshoe Bat, and Lesser Horseshoe Bat.

4.2 National Planning Policy

- 4.2.1 The NPPF set out the Government's planning policies for England and how these are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development. This presumption does not apply where development requiring Appropriate Assessment under the Birds or Habitats Directives is being considered, planned or determined.

- 4.2.2 The NPPF states that:

'When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

- if significant harm 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;
- proposed development on land within or outside a Site of Special Scientific Interest (SSSI) likely to have an adverse effect on a SSSI (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSIs;
- development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;
- opportunities to incorporate biodiversity in and around developments should be encouraged;
- planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and
- the following wildlife sites should be given the same protection as European sites: potential Special Protection Areas (SPA) and possible Special Areas of Conservation (SAC); listed or proposed Ramsar sites; and sites identified, or required, as compensatory measures for adverse effects on European sites, potential SPAs, possible SACs, and listed or proposed Ramsar sites.'

- 4.2.3 Under the NPPF, the Planning Authority has a responsibility to promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and

recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan.

- 4.2.4 Also under the NPPF the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

5 Discussions and Recommendations

5.1 Further Survey

5.1.1 No further surveys have been recommended.

5.2 Mitigation

5.2.1 For each potential constraint identified, all mitigation options provided follow the established mitigation hierarchy as set out in BS42020:2013 (BSI, 2013). This seeks as a preference to avoid impacts, then to mitigate unavoidable impacts, and as a last resort, to compensate for unavoidable residual impacts that remain after avoidance and mitigation measures. All recommended surveys and mitigation measures follow current best practice guidance as identified by CIEEM (CIEEM, 2014), and is proportionate to the level of impact identified and to the nature and scale of the proposed works. A clear and valid justification of methods has been provided where necessary. The implementation of mitigation methods should make reference to the Construction (Design and Management) Regulations 2015 (CITB, 2016) where applicable.

5.2.2 Avoidance: To avoid the risk of killing/injury to bats the following must be undertaken:

- EPS Licence obtained from Natural England to permit works to Units 4, 5 & 6;
- Removal of suitable roosting features (i.e. roofing tiles & eaves) directly supervised by a bat licensed ecologist with these being sensitively removed by contractors (i.e. lifted away from the structure to avoid crushing impacts to any bats beneath). Scaffolding or a Cherry Picker/Mobile Platform will need to be utilised to allow the bat licensed ecologist and contractors to safely access the roof whilst undertaking checks for roosting bats; and
- Timing of works to avoid the period when bats are likely to be present, hence should be undertaken during the Spring or Autumn (Winter should be avoided as hibernating bats could be present).

5.2.3 Mitigation: To mitigate the loss/destruction of roosting features within Units 4, 5 & 6 (and prevent fragmentation effects) the following must be undertaken:

- Installation of replacement roosting features on the exterior of the new industrial unit (building design unlikely to be suitable for incorporation of roosting features within the structure). For example, 3x Schwegler 1FQ Bat Box (or similar product) positioned at least 6ft from the ground on south or west facing aspect, ideally on the south-eastern or south-western site boundary (where bats have been historically recorded), and located away from noise, lighting, and human disturbance; OR
- Erection of replacement roosting features upon mature trees located on the site boundary (not young trees). For example, 3x Schwegler Bat Box 45-2FDFFP with Double Front Panel (or similar product) positioned/located as above; and
- Incorporation of new planting/retain existing planting along the south-eastern and south-western site boundaries to provide connectivity between new roosting features and foraging habitats beyond Bankwood Way to the south-east. This should remain unlit.

5.2.4 Compensation: None proposed.

5.2.5 Enhancement: To provide a net gain in biodiversity at the site, the following will be considered by the client:

- Installation of a further Schwegler 1FQ Bat Box or Schwegler Bat Box 45-2FDFP (or similar product), positioned/located as above.

5.3 Monitoring and Management

5.3.1 Roosts of this status (Day Roost, individual bats of a common species) do not require the provision of any monitoring or management measures (Mitchell-Jones, 2004).

6 Conclusion

- 6.1.1 Works to Units 2, 3, 7, 8 & 9 can proceed with no significant residual impact to protected species.
- 6.1.2 Works to Units 4, 5 & 6 must proceed under a Bat EPS Licence obtained from Natural England, and appropriate mitigation incorporated to ensure no significant residual impact to protected species.

7 References

Publications

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Drawing CRM.1209.002.EC.D.001 – Building Locations and Results



Key

- Site Boundary
- Building Location
- Surveyor Location
- Pipistrelle Bat Activity

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CLIENT:	PEW UK
SCALE:	1:1,000@A3
PROJECT REF:	CRM.1209.002
DRAWN:	MG
CHECKED:	DA
DATE:	June 2017
PROJECT:	Centre 27, Birstall
TITLE:	Building Locations and Results
DRAWING NO:	CRM.1209.002.EC.D.001

Appendix A – Proposed Site Layout

Appendix B – Emergence/Re-entry Survey Results

Date	Position	Time	Species/Details
25.05.17	1	-	No emerging bats
25.05.17	2	-	No emerging bats
25.05.17	3	-	No emerging bats
25.05.17	4	21:52 to 22:02	2 Common Pipistrelle Bats commuting between Units 4 & 5 in close proximity of roofing eaves (no actual emergence noted but bats originated from south-western aspect of roofs)
25.05.17	5	21:52 to 22:06	2-3 Common Pipistrelle Bats commuting between Units 5 & 6 in close proximity of roofing eaves (no actual emergence noted but bats originated from south-western aspect of roofs)
20.06.17	4	21:57	1 Common Pipistrelle Bat commuting between Units 5 & 6 in close proximity of roofing eaves (no actual emergence noted but bats originated from south-western aspect of roofs)
20.06.17	5	21:56	1 Common Pipistrelle Bat commuting between Units 5 & 6 in close proximity of roofing eaves (no actual emergence noted but bats originated from south-western aspect of roofs)



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