Bat Activity Survey Report	
For:	Mr Michael Hammond, Red House Farm, Cross Hill, Brierley, Barnsley S72 9LD
Site	The Lone-Standing Outbuilding, Red House Farm, Cross Hill, Brierley, Barnsley S72 9LD
Date:	31 May 2019

Surveying Ecologist:
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Natural England Bat Licence: 2015-12213-CLS-CLS

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Client:	Mr Michael Hammond, Red House Farm, Cross Hill, Brierley, Nr Barnsley S72 9LE
Site Name:	The Lone-Standing Outbuilding, Red House Farm, Cross Hill, Brierley, Barnsley S72 9LD
Grid Reference:	SE 4067 1129
Report:	Bat Activity Report
Date of survey:	1, 15 and 30 May 2019
Surveyed by:	Natasha Estrada BSc(Hons), MRes, MCIEEM

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Data within this report is valid for a maximum of 24 months from the date of the survey. After this period an updated site visit will be required to determine a new ecological baseline.

Whilst every effort has been taken to ensure the accuracy of this report and its contents, in view of potential ecological constraints to development or the likely presence or absence of species, it must only be viewed as a snap-shot in time and, therefore, not be viewed as definitive. Due to external factors, such as seasonality, weather etc, having the potential to affect survey results, no liability can be assumed for omissions or changes that may, or may not occur, after the date this report was produced.

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Summary

Estrada Ecology Ltd was commissioned to conduct bat activity surveys at The Lone-Standing Outbuilding, Red House Farm, Cross Hill, Brierley, Barnsley S72 9LD.

A preliminary bat roost assessment, conducted by Estrada Ecology Ltd on 14 June 2018, recorded the lone-standing outbuilding as containing field sign evidence synonymous with brown long-eared bat (*Plecotus auritus*). Three activity surveys were conducted within the bat activity season 2019, to ascertain the nature of the use of the building by bats to inform a proportionate mitigation strategy.

Findings and recommendations

Bats and roosts

Bat activity surveys following BCT survey guidelines were undertaken during May 2019.

During the dusk and pre-dawn surveys, no bats of any species were recorded emerging from, or entering the lone-standing outbuilding.

No evidence of maternity roosts, or of regular use of the buildings by roosting bats was recorded. A low level of common pipistrelle (*Pipistrellus pipistrellus*) contacts were recorded during the surveys, entering the wider site from the south.

Bat use of the lone-standing outbuilding, based on field survey evidence, was recorded to be an infrequently used feeding perch, typical of that used by a brown long-eared bat. No evidence of use by other species of bat was recorded within the building.

To facilitate demolition of the building a European Protected Species Mitigation Licence (EPSM licence) will be required. A proportionate mitigation strategy capable of meeting the three derogation tests is included herein.

The surrounding area recorded a low level of common pipistrelle bat activity. Whilst low numbers (<5) were recorded foraging along a tree line

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to the west of the site, the site itself is not thought to be a major commuting route for bats.

Hibernating bats

Crevice-dwelling bats, such as pipistrelle species, use buildings for shelter and protection in winter when they hibernate. During hibernation, bats need roosts that are cool and remain at a constant temperature. They are difficult to detect in hibernation in well-concealed crevices and leave no obvious signs of their presence. The lone- standing building was assessed for its potential to support features which bats could utilise for hibernation. The building recorded negligible features for hibernacula use, predominantly due to thermal fluctuations and lack of suitable roosting areas.

Breeding birds

No evidence of breeding birds was recorded at the time of survey and no impacts are predicted.

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1 Introduction and Site Description

1.1 Estrada Ecology Ltd was commissioned to conduct three bat activity surveys on the Lone-Standing Outbuilding, Red House Farm, Cross Hill, Brierley, Barnsley S72 9LD (hereafter referred to as the 'site').

1.2 The lone-standing outbuilding is located to the west of the farmhouse, and is constructed from red bricks, with metal roofing and wooden panels under the roofing. During a previous preliminary ecological assessment of the site (June 2018), the building was assessed as containing a low level of field sign evidence synonymous with brown long eared bat.

1.3 The central OS grid reference is recorded as SE 4067 1129.

1.4 Under current proposals, the building is proposed for demolition to facilitate redevelopment of the site for residential use.

1.5 The building lies within a wider plot of grassland and scattered trees along with a former farmhouse and outbuildings.

Figure 1: The site in its wider setting (site shown with red keyline).



Google Earth

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2 Protected Species Legislation

2.1 All species of bat and their breeding sites or resting places (roosts) are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended).

2.2 The Regulations prohibit: the deliberate killing, injuring or taking of bats; the deliberate disturbance of any bat species in such a way as to be significantly likely to affect:

- their ability of to survive, hibernate, migrate, breed, or rear or nurture their young; or the local distribution or abundance of that species.
- damage or destruction of a breeding site or resting place (roost);
- the possession or transport of bats or any other part thereof.

2.3 Bats are also protected under the Wildlife and Countryside Act 1981 (as amended) through their inclusion in Schedule 5. Under the Act, they are protected from:

- intentional or reckless disturbance (at any level); obstruction of access to any place of shelter, breeding or rest; selling, bartering or exchange of these species, or parts of.

2.4 Seven British bat species are listed as Species of Principle Importance (SPI) under the Natural Environment and Rural Communities (NERC) Act 2006. These are: Barbastelle *(Barbastella barbastellus);* Bechstein's (*Myotis bechsteinii);* Noctule *(Nyctalus noctula);* Soprano Pipistrelle *(Pipistrellus pygmaeus);* Brown Long-eared *(Plecotus auritus);* Greater Horseshoe *(Rhinolophus ferrumequinum);* and Lesser Horseshoe *(Rhinolophus hipposideros)*.

2.5 Under the National Planning Policy Framework 2019, the presence of any protected species is a material planning consideration. The Framework states that impacts arising from development proposals must be avoided where possible, or adequately mitigated/ compensated for, and that opportunities for ecological enhancement should be sought.

2.6 Under certain circumstances, a licence may be granted by Natural England to permit activities that would otherwise constitute an

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offence. In relation to development, a scheme must have full planning permission before a licence application can be made.

3 Survey Objectives

3.1 The objective of this survey was to establish the presence or absence of bats, and whether bats (all species) were using the site for roosting or as a place of shelter and, if present, to identify to species level, determine the population size and nature of any roosts within the site boundary.

3.2 The report presents the findings of bat activity surveys undertaken in May 2019 and aims to:

- Outline any potential impacts of the proposed development on bat activity as a result of the findings of the desk study and field surveys;
- Provide recommendations for mitigation and/or compensation measures to ensure any impacts on bat activity is avoided or minimised;
- Provide recommendations for enhancing the site for bat activity where possible; and
- Provide recommendations for mitigation and/or compensation measures to ensure any impacts on breeding bird species is avoided or minimised.

4 Survey Methodology

4.1 Desk top study

4.1.1 A biological data records search was requested from Barnsley Biological Records Centre and South Yorkshire Bat Group for a 2km radius from the site.

4.1.2 Further inspection, using colour 1: 25,000 OS base maps (www.ordnancesurvey.co.uk), MAGIC (www.magic.defra.gov.uk) and aerial photographs from Google Earth (www.maps.google.co.uk), was also undertaken to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.

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4.2 Initial inspection survey

4.2.1 An initial inspection survey of the property was undertaken in June 2018 following guidance from Collins, J., Bat Conservation Trust (BCT) Bat Surveys for Professional Ecologists, Good Practice Guidelines, 3rd Edition 2016. during the optimum survey period and in optimum weather conditions.

4.2.2 Where accessible all cavities, holes, cracks and fissures in timber, tiles and brickwork (where applicable) were examined using high-powered lamps, an explorer premium image recording endoscope and close focusing binoculars. These features were examined for bat field signs to identify bats in situ, potential roost sites and access points and any signs of occupation such as scratch marks, droppings, smudge marks, discarded moth wings and urine staining etc.

4.2.3 Any evidence of breeding birds was also noted during the survey.

4.3 Bat activity surveys

4.3.1 Bat activity surveys were undertaken using guidance from Collins, J., Bat Conservation Trust (BCT) Bat Surveys for Professional Ecologists, Good Practice Guidelines, 3rd Edition 2016.

4.3.2 Activity surveys were undertaken during the evenings of 1 and 30 May, and the morning of 15 May 2019. The number of surveys on the property was determined by their potential to support bats, any field sign evidence gathered during the initial inspection survey in June 2018, and any subsequent activity recorded during activity surveys.

4.3.3 The dusk emergence surveys commenced twenty minutes prior to sunset and continued up to two hours after sunset. Dawn re-entry surveys were carried out two hours before sunrise and cease up to fifteen minutes after sunrise.

4.3.4 An Anabat Walkabout and Bat Box III and Echo Meter Touch 2 Pro were used to aid identification of the species.

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4.4 Timings

4.4.1 Activity surveys were conducted during suitable weather conditions as outlined in Table 1.

Table 1: Environmental conditions throughout the survey period

Date	Sunset / Sunrise	Start time	End time	Weather conditions
1 May 2019	20:35	20:10	22:20	Temp 12° Celsius, Humidity 79%, No precipitation, wind speed 2mph NW
15 May 2019	05:07	03:05	05:10	Temp 10° Celsius, Humidity 83%, No precipitation, wind speed 4mph SE
30 May 2019	21:22	21:05	22:28	Temp 17° Celsius, Humidity 72%, No precipitation, wind speed 4mph SW

4.5 Personnel

4.5.1 The initial inspection survey was carried out by Natasha Estrada, BSc (Hons), MRes, MCIEEM, Natural England Bat Survey Class Licence 2015-12213-CLS-CLS), a full member of CIEEM, and the named ecologist on several bat EPS Mitigation Licences.

4.5.2 Bat activity surveys were carried out by bat ecologist Natasha Estrada, accompanied by a field assistant experienced in bat survey work to maximise effort and results.

5 Survey Findings

5.1 Desk top study

5.1.1 No bat records were returned by Barnsley Biological Records Centre (BBRC).

5.1.2 Thirty-three bat records were returned by South Yorkshire Bat Group (SYBG) and these are highlighted in Appendix One. These included

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four confirmed species: brown long-eared (*Plecotus auritus*); common pipistrelle (*Pipistrellus pipistrellus*); soprano pipistrelle (*Pipistrellus pygmaeus*); and Leisler's bat (*Nyctalus leisleri*).

5.1.3 Eight bat roost records were returned. An undetermined pipistrelle species roost was recorded 2.04km south of the site. Five undetermined Vespertillionidae roosts were recorded and were located: 1.49km north west; 0.52km south; 2.06 km south; 0.94km south; and 1.03 km south east of the site. One brown long-eared roost was recorded 2.07km north west of the site, and one common pipistrelle roost was recorded 2.06km south of the site.

5.1.4 Consultation with www.magic.defra.gov.uk recorded one EPS Licence, as highlighted in Table 2.

Table 2: EPS Mitigation Licences recorded within a 2km radius of grid.

Licence	Location	Usage	Species
EPSM2012-4323	1.29km S	Destruction of a resting place	Common pipistrelle

5.2 Initial inspection survey

5.2.1 Prior to the start of the dusk and pre-dawn activity surveys, a visual inspection of the building was undertaken where accessible. No fresh field sign evidence to indicate use of the buildings by bats was recorded.

5.3 Evidence of bats: Lone-standing outbuilding

5.3.1 During the preliminary roost assessment survey, undertaken in June 2018, use of bats in the building was confirmed; resulting from a low number of field signs (3 wing cases, and droppings synonymous with brown long-eared bat).

5.3.2 No fresh field sign evidence was recorded throughout the May 2019 activity surveys.

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5.4 Bat activity surveys

5.4.1 Prior to the surveys, the property was surveyed for any signs of bats use, including droppings and fresh feeding remains. No fresh field sign evidence to indicate use by bats was recorded.

5.4.2 Bat activity surveys on the property were undertaken during May 2019, in optimum weather conditions (see Table 3 for weather conditions for activity surveys).

5.4.3 No bats were recorded to be emerging from or re-entering the property during the surveys.

5.4.4 A low number (<5) of common pipistrelle bat contacts were recorded throughout the survey period. During the dusk surveys common pipistrelle bats were recorded entering the site from the south at 28 and 22 minutes past sunset, indicating a small roost to the south outside the application boundary.

5.4.5 During the two dusk surveys low numbers of common pipistrelle bats were recorded foraging along the tree line to the west of the site for six minutes and nine minutes respectively before dispersing to the north.

5.4.6 During the pre-dawn activity survey. Four common pipistrelle bat contacts were detected, all of which were recorded entering the site from the north and foraging in a garden adjacent to the western boundary before dispersing south 33 minutes prior to sunrise.

5.4.7 No contacts from any other species of bat were recorded during the survey period.

Table 3: Summary results of emergence surveys at the site.

Date	Survey	Result - Emergence	Result - Re- entry behaviour	Breeding Birds
01/05/2019	Dusk emergence	Negative	Negative	Negative
15/05/2019	Dawn re-entry	Negative	Negative	Negative
30/05/2019	Dusk emergence	Negative	Negative	Negative

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5.5 Commuting route assessment

5.5.1 Bats are known to utilise linear features as commuting lines to foraging grounds and between roosts. Trees and shrubs forming the western site boundary, provide a suitable linear corridor sheltered by trees suitable for use by bats. However, throughout the survey period no evidence of use of this linear belt of vegetation as a major foraging ground or commuting line by bats was recorded. No impacts on the loss of foraging grounds and commuting lines is predicted.

5.5.2 The site recorded a low level of bat activity during the surveys with only short bursts of foraging recorded within the site boundary.

5.5.3 No bat contacts of any species other than common pipistrelle bat were recorded during the surveys.

6 Survey and Site Assessment

6.1 The presence of brown long-eared bat feeding remains within the lone standing building (June 2018) confirms that it has been used by the species. However, as no bats were encountered during the survey, it is unclear the nature of use and by how many. Field sign evidence suggests very infrequent use, as a probable feeding perch.

6.2 No fresh recent bat field sign evidence was recorded prior to the activity surveys.

6.3 The low level of field sign evidence along with an absence of brown long eared bat contacts throughout the survey period indicates that the building has been used sporadically by low numbers of bats on a, most probable, transitional / opportunistic feeding perch basis.

6.4 No evidence to indicate use by a larger maternity or bachelor roost was recorded throughout the surveys, and the building is deemed to provide hostile conditions for such use, due to its construction type and materials.

6.5 Brown long-eared bats are a common species throughout the UK, with population estimates thought to be around 245,000 individuals, making them a commoner species of low risk / least concern (IUCN). They do, however, feature on the UK Biodiversity Action Plan - Priority Species.

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6.6 Following guidance outlined in the Bat Mitigation Guidelines 2004 a roost / feeding perch used by low numbers of common species is considered to have low conservation significance.

6.7 Field sign evidence recorded during the three activity surveys indicates that the site and surrounding land does not form an important foraging and / or commuting line for bats of local provenance.

6.8 The building is considered to have negligible potential for use by bats of any species for hibernation, predominantly due to thermal fluctuations and a lack of suitable features due to the construction materials and type.

7 Ecological Constraints

7.1 The activity surveys were undertaken during suitable weather conditions as, outlined herein, and undertaken within the bat activity season 2019 led by an experienced and licensed bat ecologist.

7.2 Due to the variable properties of bat echolocation calls and the format of frequency division recordings, it is not always possible to identify a series of echolocation calls down to species level.

7.3 In most cases it is usually possible to identify to genus level, which is suitable to allow potential affects to be assessed and appropriate mitigation designed.

8 Interpretation and Evaluation

8.1 The building is confirmed as being used by low numbers of brown long-eared bat on a, most probable, transient / opportunistic feeding perch basis.

8.2 Brown long-eared bat is regarded as showing high roost fidelity (Entwistle et al, 1997) and it could be expected that surveys undertaken from early May 2019 would reveal a greater level of activity from the species, if the site were to be used regularly.

8.3 The survey results demonstrate the area is one that does not support large populations of bats, and the site does not provide important

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foraging areas and or commuting lines. No contacts from any species other than low numbers of common pipistrelle bats were recorded throughout the surveys.

8.4 There was no evidence during the dusk and dawn activity surveys that brown long-eared bats were roosting in the building, despite intense survey effort.

8.5 Hibernating bats

8.5.1 The property was recorded to contain negligible features which bats could utilise for hibernation, predominantly due to the construction materials and type failing to provide suitable features and thermal stability.

9 Assessment of Potential Impacts

9.1 Impacts on bats and their roosts

9.1.1 The results of the preliminary roost assessment (June 2018) indicate that one species of bat (brown long-eared) used the lone-standing building on a probable transient / opportunistic feeding perch basis and in low numbers.

9.1.2 The activity survey results (May 2019) recorded no evidence to suggest use of the site as a maternity roost and / or bachelor roost. The construction design and materials of the property fail to supply features for such use.

9.1.3 The lone-standing building does not appear to support a regular bat roost. Field sign evidence indicates the site is used opportunistically, and infrequently as a feeding perch by a low number of brown long-eared bats. It is considered that further survey work would not provide a more accurate picture of bat use of the building.

9.1.4 The general area was recorded to contain a low level of bat activity during the surveys. It is likely that the general area supports a low level of bat activity. Field sign evidence indicates a small common pipistrelle bat roost to the south outside the site boundary.

9.1.5 Following consultation with Natural England it is considered that a European Protected Species Mitigation Licence will be required to

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facilitate the works on the building. Such licences should be obtained after planning permission has been granted.

9.1.6 The lone-standing building contains aged field sign evidence to suggest opportunistic feeding use by, most probably, one bat. No bat activity was recorded in the building during the surveys.

9.2 Impacts on habitat

9.2.1 No evidence was recorded during the surveys to suggest use of the site as a major foraging ground / commuting line.

9.3 Impacts on breeding birds

9.3.1 No breeding birds, nests or attempts to make nests were recorded throughout the survey. Thus, no impacts are predicted.

10 Conclusions and Recommendations

10.1 Mitigation, compensation and enhancement for loss of bat roosts and bat habitat

10.1.1 The property is confirmed as being used by a low number of bats (most probably a single brown long-eared bat) on a transient / opportunistic feeding perch basis. The site, when assessed by a licensed bat ecologist, recorded low potential for use by bats for roosting. However, use as a probable feeding perch is confirmed.

10.1.2 No bats or fresh field sign evidence to indicate use of the building was recorded throughout the survey. The survey recorded no brown long-eared bat contacts throughout their duration. No evidence to suggest important foraging grounds and commuting lines was recorded throughout the survey. No impacts are predicted, and the proposed action will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

10.1.3 Consultation confirms that a European Protected Species Mitigation Licence will be required to facilitate demolition of the property.

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10.2 Enhancement

10.2.1 Post development, the site would benefit from a sensitive planting scheme to include native broadleaved tree and wildflower species in order to increase invertebrate species, and enhance the attractiveness of the site for birds, bats and other fauna. Suggestions are outlined within Appendix two.

10.2.2 In line with the NPPF (2019), any future development can incorporate several habitat enhancements, through the management and enhancement of existing habitat or the creation of new habitat.

10.2.3 Recommendations for enhancement: Fruit trees

- The planting of native fruit tree species within landscaped areas is recommended to compensate for the loss of fruit trees through the redevelopment of the site;
- Native species and those of local provenance should be planted at a ratio as outlined within Table 4. Fruit trees are known be used by 118 species of insects / mites and 71 species of *Lepidoptera*. Furthermore, they will act as an attractant for avian species and frugivorous mammal species within the locality.

Table 4: Fruiting species planting scheme.

Species	Number	Notes
Shepherd's bullace	3	Hardy variety (English native)
Dog's snout apple	3	Local provenance (Yorkshire native)
Williams pear	3	Hardy English native

10.2.3.1 Additional habitat enhancements could include:

- The planting of native tree species and shrubs within landscaped areas. Recommendations are included in Appendix Two.
- The inclusion of nectar-rich native and ornamental plant species within the planting design to provide food for a range of invertebrates and increase aesthetic appeal;
- The erection of bird boxes around the perimeter of the site, which should be a minimum of 4 metres above ground level to avoid

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disturbance and reduce the potential for predation, particularly by cats;
- Gaps within boundary fencing to provide hedgehog highways throughout the site and wider landscape outside the site boundary.

10.2.3.3 Every effort has been taken to ensure the accuracy of this report and its contents. In view of potential ecological constraints to development, or the likely presence or absence of species, it must only be viewed as a snap-shot in time and, therefore, not be viewed as definitive. Due to external factors, such as seasonality, weather etc, having the potential to affect survey results, no liability can be assumed for omissions or changes that may or may not occur after the date this report was produced.

11 Method Statement in Respect of Brown Long-Eared Bats, at the Lone-Standing Outbuilding, Red House Farm, Cross Hill, Brierley, Barnsley S72 9LD

11.1 The following methodology has been guided by the Bat Worker's Manual 2003 and the Bat Mitigation Guidelines 2004. The statement is compiled by Natasha Estrada BSc (Hons), MRes, MCIEEM, who is suitably qualified in bat survey and mitigation proposals having been the named ecologist of European Protected Species Mitigation Licences (EPSML) for pipistrelle bat species, Natterer's and brown long-eared bats.

11.2 Summary of the proposed mitigation strategy

- This document relates to the lone standing building at Red House Farm, Cross Hill, Brierley, Barnsley which is confirmed as an opportunistic brown long-eared bat feeding perch used by, most probably, a single bat;
- The building is planned to be demolished to facilitate redevelopment of the site for a residential use;
- Internal and external building inspections were conducted during early June 2018 by Natasha Estrada of Estrada Ecology Ltd, who is licensed and experienced in undertaking inspection surveys for bats. The property was recorded as containing a low level of field sign evidence within the property indicating use by a single (very low numbers) of bats on a very infrequent feeding perch basis.

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Consultation with Natural England confirms an EPS licence is required to facilitate demolition;

- Activity surveys were conducted at the site during May 2019 to further inform on bat use of the site. All surveys returned negative for bat use of the building. No contacts of any brown long eared bats were recorded throughout the survey period; and
- The demolition of the property requires a suitable mitigation strategy in respect of feeding perch use.

11.3 Impact assessment

11.3.1 Pre, mid and long-term activity impacts

11.3.1.1 The site is identified as being used by very low numbers of brown long-eared bats, as a very occasional opportunistic feeding perch. No field sign evidence to indicate use as a maternity or bachelor roost is recorded and the building is deemed to have a very low number of features. No field sign evidence to confirm use by any other species of bat was recorded.

11.3.1.2 It is likely bats use other roosts within the locality.

11.4 Fragmentation and isolation

11.4.1 There will not be any significant long-term impacts relating to fragmentation and isolation.

11.4.2 The development will become isolated (cleared of buildings) until it is redeveloped. Proposals for the redevelopment of the site are unlikely to cause any additional isolation or fragmentation in comparison to the existing site. No important flight lines, commuting routes and foraging areas were recorded throughout the survey.

11.5 Predicted scale of impact

11.5.1 The overall scale of impacts at this site is judged to be neutral. Suitable roosting provision will be made for low numbers of brown long-eared bats to compensate for the loss of use in the buildings to be demolished. This will be located in suitable commuting / foraging habitat within close proximity of the site and will therefore be better connected to the wider environment.

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11.6 Bat surveys at the proposed receptor site

11.6.1 Surveys recorded a small number of discarded wing cases synonymous with brown long-eared bat (June 2018). No brown long-eared bat activity was recorded throughout the activity surveys.

11.7 Proposed mitigation and methods

11.7.1 Timing, efforts, methods

11.7.1.1 Timing

11.7.1.1.1 No restrictions on timings are proposed due to the occasional / transient nature of use and likely low conservation status.

11.8 Works to be undertaken by the ecologist or suitably experienced person

11.8.1 Capture and exclusion

11.8.1.1 The roof will be hand-stripped, and all roofing material will be dismantled under the supervision of a licensed bat ecologist. If the roof can be removed by hand to destroy the roost, the gap at the wall top it will be permanently sealed (using expanding foam or similar) to prevent bats accessing the building prior to demolition.

11.8.1.2 If it is not possible to remove the areas of the roof by hand, they will be sealed and filled with expanding foam to permanently exclude bats and to destroy the roost.

11.8.1.3 This will ensure no bats will be left between the roof covering and lining, at wall tops or under tiles. The roof cover will be removed from the top down to ensure that if any bats are present, they will not be at risk of crush injuries.

11.8.1.4 Any other areas suitable for roosting bats will be inspected and dismantled with an ecologist present.

11.8.1.5 A pre-works' bat inspection survey will be carried out in areas that can be safely inspected by a licensed bat ecologist.

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11.9 Works to be undertaken by the developer / landowner

11.9.1 New roost creation (including bat houses, cotes and bat boxes)

11.9.1.1 Prior to the start of demolition works, four Schwegler 1FF bat boxes will be erected around the site on retained mature trees.

11.9.1.2 The bat boxes will be located sufficiently high to protect any bats that use the box from predation or human disturbance and to allow any bats enough height to emerge safely without risk of becoming grounded. These boxes will be retained for the long term. The areas containing the bat boxes should remain unlit by external lighting.

11.10 Post development site safeguards

11.10.1 Habitat management and maintenance

11.10.1.1 Bat boxes have a finite lifespan. If bat boxes are damaged by 'natural causes' (eg trees falling in bad weather), they will not be replaced.

11.10.1.2 Population monitoring and proposed mitigation evaluation

11.10.1.2.1 No post works' monitoring is required for low conservation roosts.

11.11 Habitat Regulations Derogation Tests

11.11.1 Test 1

11.11.1.1 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.

11.11.1.2 The demolition of the building and redevelopment of the land is the only route the client can follow. The building is vacant and in a poor state of structural repair, appearing to be of non-standard construction.

11.11.1.3 As a result, the maintenance and security of the building is likely to provide a financial burden on already restricted budgets should it remain in situ.

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11.11.2 Test 2

11.11.2.1 There is no satisfactory alternative

11.11.2.2 The building in their current state does not meet any of the client's requirements. Retaining the building will continue to be a financial burden in terms of maintenance and the retention of unusable assets.

11.11.2.3 To adopt the "Do nothing" option would ultimately accelerate the cycle of decline of the building leading to sub optimal conditions for bats and ultimately lead to deterioration of the existing feeding perch.

11.11.3 Test 3

11.11.3.1 The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

11.11.3.2 The proposals will permanently destroy an infrequently used brown long-eared feeding perch.

11.11.3.3 The level of impact on the site is considered low as proportionate mitigation will be provided for the species prior to demolition.

11.11.3.4 The impact is low in a wider context and is not thought to contribute in any way to the reduction in abundance or distribution of any bat species or roosting habitat in a regional or national context. Therefore, the favourable conservation status of the species would not be detrimentally affected by the demolition of the property.

11.11.3.5 No impacts in respect of changes to the foraging and commuting landscape for bats are predicted under current plans.

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Appendix One: Bat records returned by South Yorkshire Bat Group for the site and a 2km radius.

Recorder	Date	GridRef 6Fig	GridReference	Grid Square	Address line 1	Address line 2	Address line 3	Type	Structure type	Access points	Roost (Location)	Notes	Species	Number	Evidence
Eric Bennett	25/07/1999	SE3909	SE3909	SE3909		Cudworth	Barnsley					Bat found stuck to fly paper. Died later 92	Pipistrelle sp.	1	
Karen Larkin	13/07/2012	SE392100	SE392100	SE3910								Juvenile male Possible roost	Soprano pipistrelle	Unknown	
Karen Larkin	08/07/2015	SE 391100	SE 39146 10089	SE3910								Bat Care/Callout - BAT - JUVENILE - JUV	PIP	1	Bat Care/Callout
Karen Larkin	01/06/2015	SE391113	SE39191133	SE3911									Common pipistrelle	1	
SYBG/ Martin Derbyshire	04/07/2011	SE397125	SE397125	SE3912				Roost in loft				Email to SYBG - Probable maternity roost. No bats recorded after July 10th - bats have changed roost site.	Vespertillionidae	57	
BCT/NE	23/04/2009	SE390127	SE390127	SE3913			South Yorkshire				Y		Brown long-eared bat	5	
Eric Bennett	29/06/2004	SE409092	SE409092	SE4009	Stacey Crescent	Grimethorpe	Barnsley				y	P.pip roost in boiler house. 35 bats emerged.	Vespertillionidae	Unknown	
Eric Bennett	29/06/2004	SE409092	SE409092	SE4009		Grimethorpe	Barnsley				y	Roost site in boiler house, no sign in buildings.emergence count.	Common pipistrelle	35	
Eric Bennett	29/06/2004	SE409092	SE409092	SE4009		Grimethorpe	Barnsley	Boiler House				bats seen to emerge.	Common pipistrelle	35	
English Nature	28/06/2005	SE408093	SE408093	SE4009	Grimethorpe	Barnsley		Roost				Bats inside house. Council renovation works - unaware of roost. No survey done. Work stopped. Work completed when bats gone. Screw not nail fascias. Letter to BMC	Pipistrelle sp	Unknown	
Eric Bennett	28/06/2005	SE408093	SE408093	SE4009		Grimethorpe	Barnsley	House		Gable apex soffit		Droppings on path and in loft. Report of bats in house 3 times over weekend.	Pipistrelle sp.	+	
Eric Bennett	29/06/2005	SE408093	SE408093	SE4009		Grimethorpe	Barnsley	House		Gable apex soffit		Fresh droppings reported by contractor after sweeping yesterday.	Pipistrelle sp.	+	

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English Nature	18/07/2006	SE409108	SE409108	SE4010	Monument Drive	Brierley	Barnsley	Roost				Neighbour saw bats emerging from house last night.3 bats only. Probably not maternity roost.	Vespertillionidae	Unknown	
Eric Bennett	25/06/1999	SE4109	SE4109	SE4109		Grimethorpe	Barnsley					bats foun grounded during demolition of houses 87	Pipistrelle sp.	2	
Natural England	04/12/2007	SE413090	SE413090	SE4109	High Street	Grimethorpe	Barnsley					Dead & dried up bat found on floor of health centre. Gen info given. To dispose of bat. Info posted to TG	Vespertillionidae	Unknown	
P Middleton	08/07/2011	SE4160 0960	SE41600960	SE4109	pond			foraging					Common pipistrelle	3	
Karen Larkin	23/09/2012	SE410093	SE410093	SE4109								adult male	Common pipistrelle	1	
P Middleton	12-Sep-15	SE410096	SE41030964	SE4109	Grimethorpe Hall	Barnsley		building				roost	Common pipistrelle	2	
Eric Bennett		SE410100	SE410100	SE4110		Grimethorpe	Barnsley				y	Bats present for a couple of weeks during summer. Previously nect door.	Vespertillionidae	Unknown	
Observer name undisclosed	24/07/2004	SE415111	SE415111	SE4111								Species reported: Pipistrelle unsure,	Vespertillionidae	Unknown	
Undisclosed	24/07/2004	SE415111	SE415111	SE4111		South Yorkshire							Bat (species unknown)		Species reported: Pipistrelle species
English Nature	05/07/2005	SE417110	SE417110	SE4111	Brierley	Barnsley		Roost				Baby bat found in bedroom EB visit. Roost confirmed in flat roof of extension. 2 roost sites. Advice re timing of repairs to fascia + info for estate agents if property to be sold. Id uncertain	Vespertillionidae	Unknown	
Observer name undisclosed	16/07/2005	SE415111	SE415111	SE4111								Species reported: Pipistrelle unsure,	Vespertillionidae	3	

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Recorder	Date	GridRef 6Fig	GridReference	Grid Square	Address line 1	Address line 2	Address line 3	Type	Structure type	Access points	Roost (Location)	Notes	Species	Number	Evidence
Undisclosed	16/07/2005	SE415111	SE415111	SE4111		South Yorkshire							Bat (species unknown)	3	Species reported: Pipistrelle species
Eric Bennett	13/08/2005	SE417110	SE417110	SE4111		Brierley	Barnsley	House		Fascia		Owner count	Pipistrelle sp.	17	
Eric Bennett	13/08/2005	SE417110	SE417110	SE4111		Brierley	Barnsley	House		Fascia		Owner count	Pipistrelle sp.	17	
Observer name undisclosed	22/07/2006	SE415111	SE415111	SE4111								Species reported: Pipistrelle unsure,	Vespertillionidae	3	
Undisclosed	22/07/2006	SE415111	SE415111	SE4111		South Yorkshire							Bat (species unknown)	3	Species reported: Pipistrelle species
Observer name undisclosed	21/07/2007	SE415111	SE415111	SE4111								Species reported: Pipistrelle unsure,	Vespertillionidae	4	
Undisclosed	21/07/2007	SE415111	SE415111	SE4111		South Yorkshire							Bat (species unknown)	4	Species reported: Pipistrelle species
Observer name undisclosed	26/07/2008	SE415111	SE415111	SE4111								Species reported: Pipistrelle unsure,	Vespertillionidae	4	
Undisclosed	26/07/2008	SE415111	SE415111	SE4111		South Yorkshire							Bat (species unknown)	4	Species reported: Pipistrelle species

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Recorder	Date	GridRef 6Fig	GridReference	Grid Square	Address line 1	Address line 2	Address line 3	Type	Structure type	Access points	Roost (Location)	Notes	Species	Number	Evidence
Karen Larkin	27/06/2015	SE 415112	SE 41556 11288	SE4111								Bat Care/Callout - BAT - DEHYDRATED - RELEASED	LEISLERS	1	Bat Care/Callout

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Appendix Two: Suggested wildlife-friendly plantings.

Common Name	*Scientific name*	Wildlife value
Large trees		
Ash	*Fraxinus excelsior*	68 species of insects/mites and 32 species of lepidoptera. Seeds eaten by birds and mammals.
Beech	*Fagus sylvatica*	98 species of insects/mites and 51 species of lepidoptera. The masts are eaten by birds and mammals including wood mice and Jays.
Cherries	*Prunus avium, Prunus padus*	9 species of lepidoptera. Berries eaten by birds.
Elm	*Ulmus procera*	Good tree for insects and birds.124 species of insects/mites and 24 species of lepidoptera are associated with elm trees.
Oaks	*Quercus pedunculate, Q. Robur*	423 species of insects/mites and 193 species of lepidoptera. Acorns eaten by a variety of birds and mammals. Very important for insect eating birds.
Scots pine	*Pinus silvestris*	91 species of invertebrate are known to use this species.
Spruce	*Picea spp.*	73 species of invertebrate are known to use this species.
Small leaved lime	*Tilia cordata*	
White willow	*Salix alba*	450 species of insects/mites and 166 species of lepidoptera.
Medium/small trees		
Alder	*Alnus glutinosa*	141 species of insects/mites and 71 species of lepidoptera. Seeds are good for birds such as siskins.
Apples	*Malus spp.*	118 species of insects/mites and 76 species of lepidoptera. Fruits are eagerly consumed by birds and mammals.
Field maple	*Acer campestre*	149 species of insects/mites and 24 species of lepidoptera. Fruits eaten by small mammals.
Holly	*Ilex aquifolium*	7 species of invertebrate are known to use this species. Berries good for birds and small mammals. Caterpillars of the holly blue butterfly feed on the leaves. Holly leaf miner provides winter food for birds
Pears	*Pyrus spp.*	Good for invertebrates. Fruits are eagerly consumed by birds and mammals.
Rowan	*Sorbus aucuparia*	58 species of insects/mites and 28 species of lepidoptera. The ripe berries attract birds such as redwings and field-fares.
Birch (silver and downy)	*Betula pendula, B pubescens*	229 species of invertebrates are known to use these species. Best tree for moth larvae. Catkins good food source for birds such as redpolls and tits.
Plants for hedges		
Blackthorn	*Prunus spinosa*	229 species of invertebrates are known to use this species. Good for nesting birds if grown as thicket or in hedge. Rich in insects. Fruit for birds. Black hairstreak butterfly lays its eggs mainly on blackthorn.
Buckthorn	*Rhamnus catharticus*	Berries for birds. Important food plant for brimstone butterfly larvae.
Cherry plum	*Prunus cerasifera*	Nectar and fruits for invertebrates. Fruits are eagerly consumed by birds and mammals.
Elder	*Sambucus nigra*	Berries for birds and nectar for insects.
Guelder rose	*Viburnum opulus*	Nectar for insects, particularly hoverflies. Fruits for birds and small mammals, especially liked by woodmouse. Note: leaves, bark and berries are all poisonous.
Hawthorn	*Crataegus monogyna*	149 species of invertebrate are known to use this species. Berries eaten by birds. Nectar. Berries good food source for thrushes, redwings and fieldfares. Good nesting if dense. Excellent for moth larvae.
Hazel	*Corylus avellana*	73 species of insects/mites and 68 species of lepidoptera. Nuts eaten by birds and mammals i.e. squirrels, mice and jays.
Privets	*Ligustrum spp.*	24 species of insects/mites, nectar for the butterflies. Berries eaten by birds.
Climbers/scramblers		
Brambles	*Rubus frutocosus agg.*	Nectar source for bees and butterflies. Berries for birds and mammals.
Dog Rose	*Rosa canina*	Provides nectar for bees and butterflies. Hips good for small birds and mammals.
Ivy	*Hedera helix*	Provides late nectar source and cover/hibernating sites for invertebrates. Food source for the Holly Blue butterfly larva.
Honeysuckle	*Lonicera periclymenum*	Excellent food source for invertebrates including the Speckled Wood butterfly. Berries eaten by birds.
Wild clematis/ Old man's beard	*Clematis vitalba*	Provides nectar for bees and butterflies.

Common Name	*Scientific name*	Wildlife value
Plants to site under trees or in shady areas		
Bluebell	*Hyacinthoides non-scripta*	
Bugle	*Ajuga reptans*	
Daffodils	*Narcissus pseudonarcissus*	
Foxglove	*Digitalis purpurea*	
Lily of the valley	*Convallaria majalis*	
Lords-and-ladies	*Arum maculatum*	
Primrose	*Primula vulgaris*	
Sweet violet	*Viola odoratum*	
Wood avens	*Geum urbanum*	
Yellow archangel	*Lamastrum galeobdoton*	
Other shrubs for nectar, pollen or fruits		
Bodnant viburnum	*Viburnum x bodnantense*	Provides early nectar source for invertebrates and berries for birds. One of the most valuable winter flowering shrubs.
Californian lilac	*Ceanothus spp.*	Nectar for bees and butterflies.
Creeping cotoneaster	*Cotoneaster frigidus*	Berries good for birds and small mammals. Attracts waxwings and pheasants.
Firethorn	*Pyracantha spp.*	Good for nesting thrushes and a site or an open robin box. Nectar for bees, berries for birds.
Himalayan honeysuckle	*Leycesteria formosa*	Provides nectar for bees and butterflies.
Japanese quince	*Chaenomeles japonica*	Berries for birds and mammals.
Lilac	*Syringa vulgaris*	Nectar for bees and butterflies.
Mahonia	*Mahonia spp.*	Nectar for bees and butterflies.
Mock orange	*Philadelphus spp.*	Nectar for bees and butterflies.
Serviceberry	*Amelanchier canadensis*	Provides nectar for bees and butterflies.
Wildflowers		
Agrimony	*Agrimonia eupatoria*	Provides nectar for bees and butterflies.
Chicory	*Chicorium intybus*	Provides nectar for bees and butterflies.
Chives	*Allium schoenoprasum*	Provides nectar for bees and butterflies.
Common mallow	*Malva sylvestris*	Provides nectar for bees and butterflies.
Common poppy	*Papaver rhoeas*	Provides nectar for bees and butterflies.
Corncockle	*Agrostemma githago*	Very good nectar source for bees and butterflies.
Corn marigold	*Chrysanthemum segetum*	Very good nectar source for bees and butterflies.
Cowslip	*Primula veris*	Very good nectar source for bees and butterflies.
Dame's violet	*Hesperis matronalis*	Very good nectar source for bees and butterflies.
Dandelion	*Taraxacum officinale*	Very good nectar source for bees and butterflies.
Devil's bit scabious	*Succisa pratensis*	Very good nectar source for bees and butterflies.
Field scabious	*Knautia arvensis*	Very good nectar source for bees and butterflies.
Foxglove	*Digitalis purpurea*	Very good nectar source for bees and butterflies.
Germander speedwell	*Veronica chamaedrys*	Very good nectar source for bees and butterflies.
Goldenrod	*Solidago virgaurea*	27 species of lepidoptera.
Great mullein	*Verbascum thapsus*	Very good nectar source for bees and butterflies.
Greater knapweed	*Centaurea scabiosa*	Very good nectar source for bees and butterflies.
Harebell	*Campanula rotundifolia*	Very good nectar source for bees and butterflies.
Herb-robert	*Geranium verum*	Very good nectar source for bees and butterflies.
Lady's bedstraw	*Galium verum*	Very good nectar source for bees and butterflies.
Marjoram	*Origanum vulgare*	Good plant for butterflies and bees
Meadow cranesbill	*Geranium pratense*	Very good nectar source for bees and butterflies.
Oxeye daisy	*Leucanthemum vulgare*	Very good nectar source for bees and butterflies.
Primrose	*Primula vulgaris*	Very good nectar source for bees and butterflies.
Red campion	*Silene dioica*	Very good nectar source for bees and butterflies.
Spiked speedwell	*Veronica spicata*	Very good nectar source for bees and butterflies.
Tansy	*Tanacetum vulgare*	Very good nectar source for bees and butterflies.
Teasel	*Dipsacus fullonum*	A food source of the Brimstone butterfly. Attracts other insects for its nectar and birds for its seeds.
Toadflax	*Linaria vulgaris*	Very good nectar source for bees and butterflies.
White campion	*Silene alba*	Very good nectar source for bees and butterflies.
Wild thyme	*Thymus drucei*	Very good nectar source for bees and butterflies.
Yellow loosestrife	*Lysimachia vulgaris*	Provides nectar for bees and butterflies.

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