

Ecological Impact Assessment and Bat Risk Assessment

WEST HIGH RIDGE, BELLINGHAM, NORTHUMBERLAND

January 2023

Ruth Hadden, BSc. MCIEEM
Ryal Soil and Ecology
Ryal
Northumberland

Tel: [REDACTED]

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Principal Author	Ruth Hadden	
Client/Agent	Insight Architectural Design	
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Author Contact Details	01661 886562	
	Author	Date
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Disclaimer:

Ecology surveys are carried out in good faith, to the relevant professional guidelines. Where variation from these guidelines is necessary, this is outlined in the report. Any comments regarding condition of buildings or trees are in relation to the use of the building/tree by bats and birds and should not be considered as a building survey or arboricultural opinion on the condition of those features.

The client should be aware that the mitigation recommendations in ecology reports are often translated directly into planning conditions, and as such these should be studied closely and agreed with any contractors in advance of site works commencing.

Mitigation recommendations should be clearly marked on the Architect's Plans submitted with any planning or other consent.

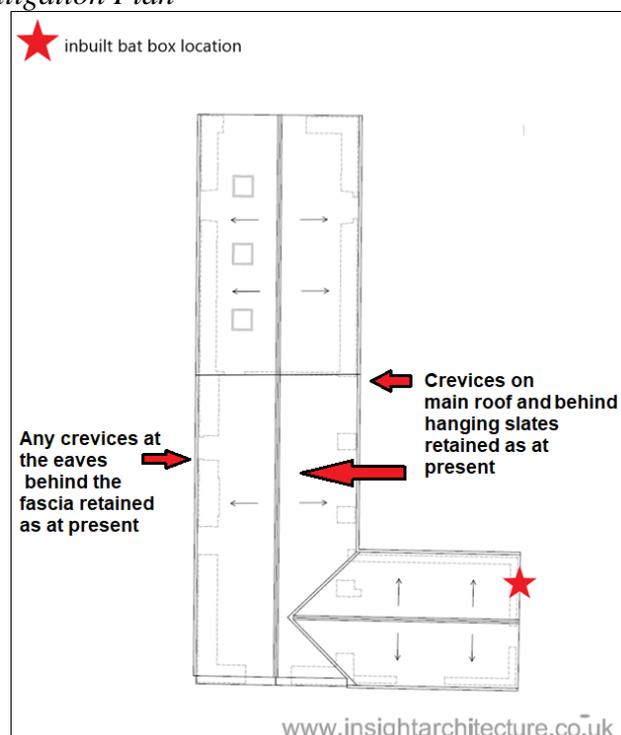
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Ecological Impact Assessment for West High Ridge, Bellingham, Northumberland

Summary

- An ecological survey was requested primarily for bats and birds for West High Ridge, Bellingham, Northumberland by Insight Architectural Design on behalf of the owners.
- The building is a stone-built annex, consisting of a garage and studio, with pitched slate roofs and a small extension on the southern end with multi-pitched slate roofs.
- The proposals are to convert the annex studio and demolish the small extension, rebuilding a larger extension over its footprint.
- The immediate area is a rather windswept knoll however reasonable potential for feeding bats is present in the plantation immediately to the west of the site.
- Inspection results of the exterior revealed no evidence of bats internally or externally. Due to the negligible roost potential in the area of works, no surveys are recommended.
- Known bat activity on site is a small Pipistrelle 55kHz roost on the south eaves of the house and a Pipistrelle 45kHz roost on the west gable of the two storey section of the main house. Noctule and Whiskered/Brandts bats have been identified foraging or commuting near the site.
- Within 2km there are pre-existing records of a maternity roost of Pipistrelle 45kHz bats 2.5km to the northeast, an occasional roost of Brown long-eared bats is also known 2km to the northeast and a Natterer's 2km to the southwest. A large number of foraging Pipistrelle 45kHz and the occasional Pipistrelle 55kHz and Whiskered/Brandts bat have also been recorded within 2km.
- No bat roosts will be affected by the planned works. Mitigation will be put in place, to provide an additional bat crevice and the retention of the existing crevices in the main section of the studio not affected by the proposals.
- Timing of any destructive works to avoid the hibernation period (November to March inclusive), will ensure that the works have as little negative affect as possible on bats.
- Any nesting bird species though will be allowed access to the nest until the young have fledged.

Figure 1. Ecological Mitigation Plan



1. Introduction.

The inspection was carried out and reported by Ruth Hadden BSc an experienced Ecologist and Licensed Bat Surveyor.

Figure 2. Survey area -Southern section of the Annex (Studio)

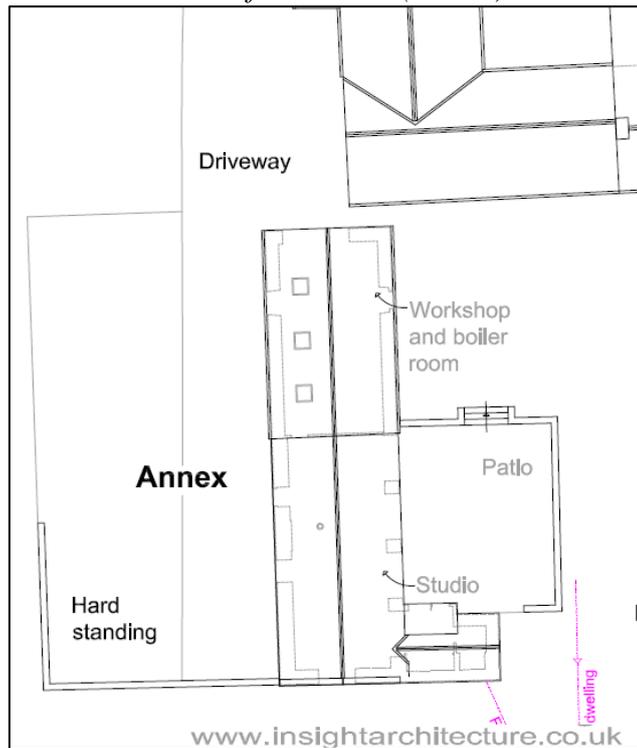
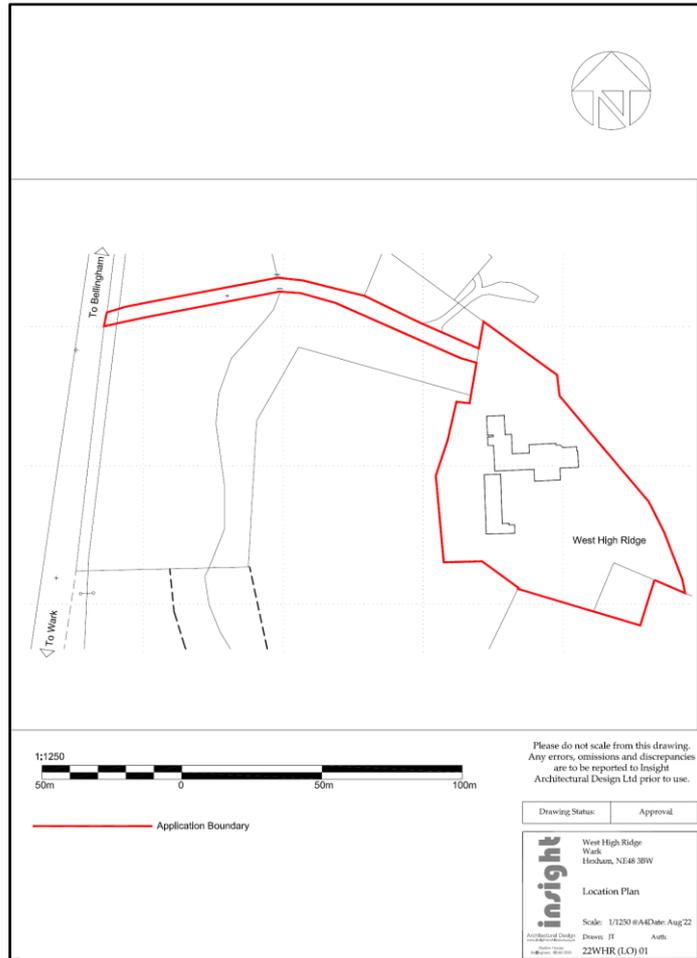


Figure 3. Location of site.



2. Relevant Policies and Legislation.

Under Section 25 (1) of the Wildlife & Countryside Act (1981) local authorities have a duty to take such steps as they consider expedient to bring to the attention of the public the provisions of Part I of the Wildlife & Countryside Act, which includes measures to conserve protected species.

The Natural Environment and Rural Communities Act (2006) places a Statutory Biodiversity Duty on public authorities to take such measures as they consider expedient for the purposes of conserving biodiversity, including restoring or enhancing a population or habitat.

The National Planning Policy Framework (NPPF) states “*When determining planning applications, local planning authorities should apply the following principles:*

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;” (paragraph 175).

ODPM Circular 06/2005/Defra Circular 01/2005 states that the presence of a protected species is a material consideration when considering a development proposal that could harm the species or its habitat. Appendix 1 details legislation relating to applicable species.

Section 41 of The Natural Environment and Rural Communities (NERC) Act (2006) requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. This includes planning decisions.

2.1 Designated Sites

Site of Special Scientific Interest (SSSI) citations are for special features of importance to nature conservation. Sites of Special Scientific Interest (SSSIs) are nationally important sites protected under laws including The Wildlife and Countryside Act 1981, Countryside and Rights of Way Act 2000. LPAs must consult Natural England on planning applications that might affect SSSIs. Operations that could damage special interests require consent by Natural England. It is an offence for any person to intentionally or recklessly damage or destroy any of the features of special interest of an SSSI, or to disturb wildlife for which the site was notified.

3. Methodology.

3.1 Scope of the Assessment.

The zone of influence of this development is defined as being the site itself and habitats to the immediate boundaries within 2km.

The assessment has included consideration of:

- designated sites

- habitats and species of principal importance for conservation of biodiversity
- protected species, namely bats.

3.2 Desktop Survey.

Natural England’s Magic on the Map website was accessed for details of any designated wildlife sites within 2km.

The Environmental Records Information Centre North East (ERIC) data search has been restricted to bats, as this is the major constraint to any destructive building works.

Natural England’s Magic on the Map and OS Explorer 1:12500 maps were used to assess the distance to habitat features close to the site.

3.3 Site Survey

The survey area covered the house only within the red line boundary as shown within Figure 2 and included searching for signs of any wildlife using the site with the key aspects listed below.

The survey included an assessment of habitats on site for use by bats following the Bat Conservation Trust (BCT) *Bat Surveys for Professional Ecologists, Good Practice Guidelines* (3rd edition, 2016) and Natural England’s definitions except where indicated. The survey effort at the site has taken account of the recommendations of the BCT Good Practice Survey Guidelines, taking proportionality into account and the proposals.

Field Survey for Bats and Birds

Visual Inspection

A close inspection of the building was made in good light, and by torch where required. The exterior of the building was examined as far as was feasible for signs of bats: droppings, urine streaks, clean cobweb-free areas on the ridge boards or crevices and potential roost exit holes. All external and internal crevices were checked using a torch and possible roosting sites were noted. Crevice loving bats can be difficult to find especially when bats are present between the roofing felt and slate/tiles. Emergence surveys were therefore used to check for the presence of bats missed during the visual inspections. Beneath ledges the ground was examined for feathers, pellets and birdlime that could indicate occupation by barn owls.

Timing and Weather Conditions

Survey	Date	Timings	Weather
Inspection	23 January 2023	Externally (30 mins) Internally 30min	Fine and dry

Personnel

Ruth Hadden – Bat Consultant since 1996, Class Survey Licence CL20 2015-13665-CLS-CLS (Bat Survey Level 4). Licensed to handle bats and enter known roosts since 1986. Qualifications BSc Joint Honours Zoology & Plant Biology, Newcastle upon Tyne. MCIEEM

Ben Hadden – Class Survey Licence WML CL18 (Bat Survey Level 2). Registration number 201514223-CLS-CLS. 19 years of experience. Qualifications MSc Ecological Consultancy, Newcastle upon Tyne.

3.4 Assessment.

The assessment has been conducted according to the *Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater, Coastal and Marine*, CIEEM, September 2018. Impacts are considered for during construction and occupation.

Preliminary Ecological Appraisal Reports (PEAR) which CIEEM guidelines¹ states can be used to support a planning application where it can be determined that the project would have no significant ecological effects, no mitigation is required, and no further surveys are necessary. PEARs though can also provide;

- the results of initial ecological surveys associated with a proposed development
- identify further ecological surveys necessary to inform an EcIA
- identify ecological constraints to a project
- make recommendations for design changes
- highlight opportunities for ecological enhancement.

4. Baseline Ecological Conditions

4.1 General

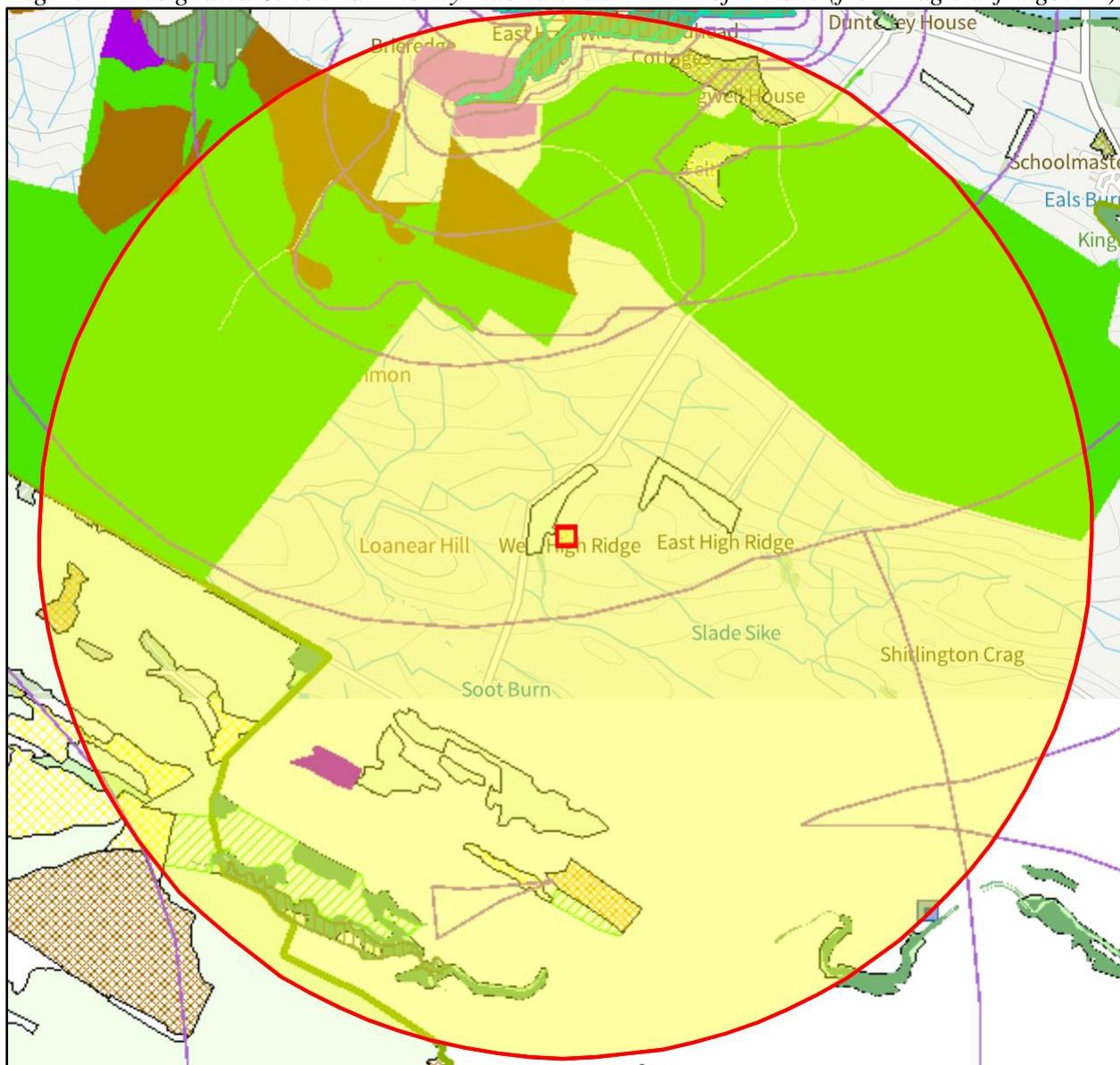
The building surveyed is located at NY814812 as shown below:

4.2 Designated Sites

There is one statutory designated site within 2km of the site, Hesleyside Park SSSI, woodland pasture and parkland. The development site does however fall within an impact risk zones for the SSSI's in the wider area.

¹ *Guidelines for Ecological Report Writing Second Edition* December 2017

Figure 4. Designated Sites and Priority Habitats within 2km of the site (from magic.defra.gov.uk)



4.3 Habitats

Figure 4 shows BAP Priority Habitats, within 2km (listed under Section 41 of the Natural Environment and Rural Communities Act 2006). These habitats are mainly ancient woodland - replanted, deciduous woodland, plantations, upland heathland, grass moorland good quality semi-improved grassland, purple moor grass and rush pasture and wood pasture and parkland within 2km of the site.

4.4 Species and Species Groups

4.4.1 Desktop Search

Records from the Environmental Records Information Centre North East (ERIC) show results from within 2km of the site for bats. There no ponds within 500m. There is one granted European Protected Species licence for bats and none for great crested newts within 2km.

4.4.2 Habitat description

West High Ridge is situated on a breezy knoll 3km southwest of the village of Bellingham. Surrounding farmland consists of improved and semi-improved grassland delineated by stone walls and fences. Coniferous plantations are present 30m west of the site and 300m to the northeast. The Slade Sike runs 150m to the east of the buildings and moorland is present 1km to the west.

The area has reasonable potential for foraging bats as the plantations and sikes create feeding areas and commuting corridors for bats. Potential roosts are limited due to the sparse number of residential buildings in the area. Tree roosts may be present in the more mature trees present in the area.

4.4.3 Bats

Pre-existing information on the species at the site.

Known bat activity on site is a small Pipistrelle 55kHz roost on the south eaves of the house to the north and Pipistrelle 45kHz roost on the west gable of the two-storey section of the main house. Noctule and Whiskered/Brandts bats were also identified foraging or commuting near the site (R Hadden 2018). A small Pipistrelle 45kHz roost was confirmed in July 2022 in the south eaves of the house together with foraging Pipistrelle 55kHz and Whiskered/Brandt's (2022)

Status of species in the local/regional area.

Within 2km there are pre-existing records of a maternity roost of Pipistrelle 45kHz bats 2.5km to the northeast (2010), an occasional roost of Brown long-eared bats is also known 2km to the northeast (1999) and a Natterer's 2km to the southwest (2019). A large number of foraging Pipistrelle 45kHz and the occasional Pipistrelle 55kHz (2017) and Whiskered/Brandts (1999) bat are also known within 2km. (ERIC North East. A full data set available upon request).

There is one granted European Protected Species licence for bats, Pipistrelle 55kHz, Pipistrelle 45kHz and Natterer's roosts 2km to the southeast (2020).

Locally and regionally, the Common Pipistrelle is the most common bat. Both Pipistrelle 45kHz and 55kHz bats are frequent in northern England, although Pipistrelle bats are the most abundant species, they are thought to have declined by 70% between 1978 and 1993 (National Bat Colony Survey). Since 1997 monitoring by the National Bat Monitoring Programme (NBMP) has shown that bat numbers seem to be steady with small fluctuations up or down depending on the species and survey type carried out. The Brown long-eared bat is occasional with colonies much smaller in numbers than the Pipistrelle. Daubenton's, Natterer's and Whiskered/Brandt's bats are also occasional but widespread in Northumberland with an average colony size being about 35 adult bats. The Nathusius' Pipistrelle is a rare bat, has migratory habits and has been proved to fly across the North Sea from Bristol to Holland and has occasionally been recorded in Northumberland throughout the season.

Bats – Daytime Risk Assessment

The building is a stone-built annex studio with a pitched slate roof with a higher roofed garage on the north aspect and a single storey extension on the east side at the southern end. Externally the walls are well pointed with only the occasional unsuitable crevice. The fascia's are a black pvc with crevices behind leading to the wall top. The main section of the annex had a few slipped and raised slates however the slates have been spray foamed

beneath the slates. The loft was insulated with fiberglass and the void was very cobwebbed. No traces of bats were located in the loft space. Mice droppings were present.

The small extension had a sound ridge, no suitable crevices were noted in this affected section (shallow crevices present below the wall plate) and on the north aspect a small shallower pitched slate roof was present. A bitumen felt sarking was present in the southern extension, the loft space was less than 60cm high and no traces of bats were identified. Due to the negligible roost potential in the area of works, no further surveys were recommended.

No potential bat hibernation sites were identified in the building; however, bats may be present in any suitable crevice, in the pointing crevices or on the wall top.

4.4.4 Bird Assessment

No nesting birds or evidence of nests were identified.

5. Photographs of the Site



Annex viewed from the southwest, note roof vents.

Annex garage viewed from the northwest.
(Ecologist for scale).



Annex extension viewed from the northeast.

Annex gable and small extension viewed from the southeast.



Loft above the small extension

Annex and garage viewed from the southeast.





Closeup of roof section affected

Loft of main Annex



South gable of Annex, door will be created in location of the window

Hanging slates on the taller adjacent section occasional crevice beneath.



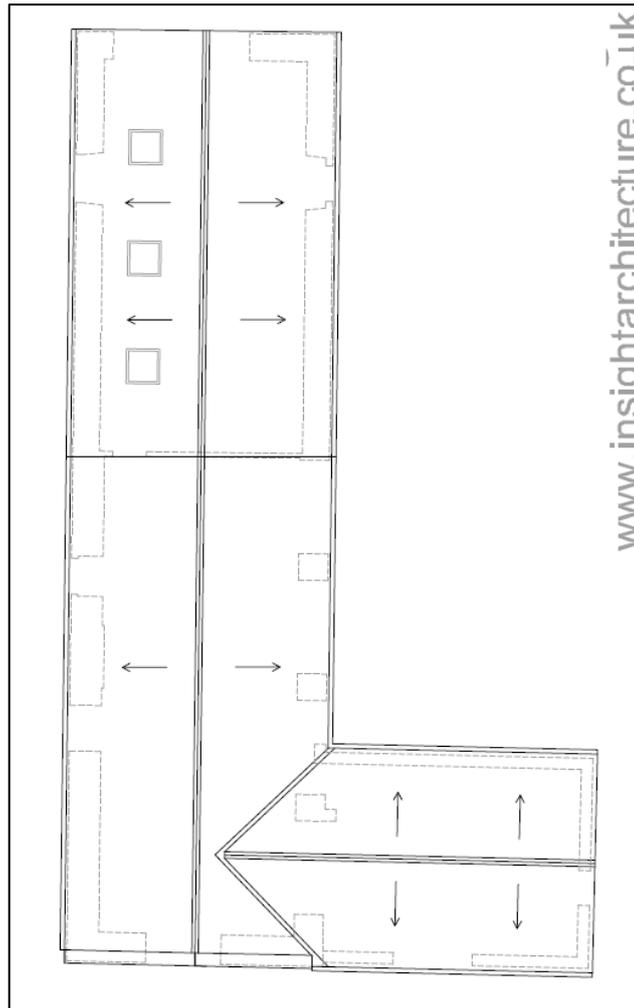
East gable of small extension, well sealed with a sound mortar fillet.



6. Description of Proposed Development.

The proposals are to convert the annex studio and demolish the existing extension and replace it with a larger extension. A door will be created in the southern gable wall.

Figure 6. Proposed Works



7. Assessment of Impacts

7.1 Constraints

No constraints.

7.2 Site Based Impacts.

The area of building due to be extended had negligible conservation significance for bats as a roost site at present. This assessment takes into account the location of the building and the good feeding habitat and shelter within 300m, the results of the inspection, the crevices within the building and the potential of the building as a maternity bat roost site.

Pre-activity impacts are negligible with no changes being made to the use of the buildings.

Mid-activity impacts will be minimal for bats. The works may cause disturbance, injury and death to bats or birds, if no mitigation is carried out in the eventuality of an animal being located during any destructive works.

Site Assessment

The area of the proposed new extension is considered to have negligible conservation significance for amphibians, nesting birds and for bats.

7.3 Impacts on the SSSI.

The development site falls within the risk impact zones for nearby SSSI's in the area, however the works are unlikely to greatly impact the designated area.

8. Mitigation and Enhancement.

The National Planning Policy Framework (NPPF) requires that the planning system minimizes impacts on biodiversity and provides net gains. The following recommendations will likely be translated into conditions placed on any planning consent. They are intended to reduce the risk of this development to protected species and habitats.

Natural England guidelines on mitigation states timing constraints and like-for-like replacement is a minimum requirement.

8.1 Pollution Prevention

To protect any nearby waterways, measures to be made to ensure that there is no runoff (herbicides, wheel washing, cement washings etc.) either during construction to prevent pollution or sediment issues, or after development. (See Environment Agency's Pollution Prevention Guidelines (PPG5) for guidance.

8.2 On Site Mitigation

All existing crevices on the roof of the Studio beneath raised slates and behind the fascia boards and hanging slates will be retained as at present.

One integrated Build-in WoodStone Bat Box, to be located on the east aspect of the new extension, 500mm below the apex. The access hole through the timber to be sanded and smooth. Please see plan below for locations.

Wooden beams and timbers will be treated only with 'bat friendly' products, permethrin or cypermethrin as insecticides for example. Further information is available if the contractor requires it.

A traditional bitumen felt (F1) or wood sarking that would give bats some grip will be used in the region of any bat roost potential and not a more modern smooth or breathable roofing membrane (BRM) that may fray and entrap bats. **No BRM (Breathable Roofing Membrane) to be used in any areas where bats could gain access to roof as a result of new roost provisions.**

Any external lights will be set on a motion detector and short timer and be positioned in such a way that they do not shine on any of the bat access positions or the buildings, as this can deter bats. Please see references Bat Conservation Trust/Institute of Lighting Engineers' Guidance 2018.

8.3 Mitigation Summary

To maintain bat and bird populations in the area the following will be carried out:-

- All existing crevices on the roof of the Studio beneath raised slates and behind the fascia boards and hanging slates will be retained as at present.
- One integrated Build-in WoodStone Bat Box, to be located on the east aspect of the new extension.
- Any external lighting will be on a relatively short timer, directed away from bat roost access points and flight paths and motion-sensitive only to large objects.
- Any nesting bird species that may be present will be allowed access to the nest until the young have fledged between April and October.
- A Method Statement will be followed for bats and birds, please see the Appendix 3.

Figure 7. Mitigation Locations

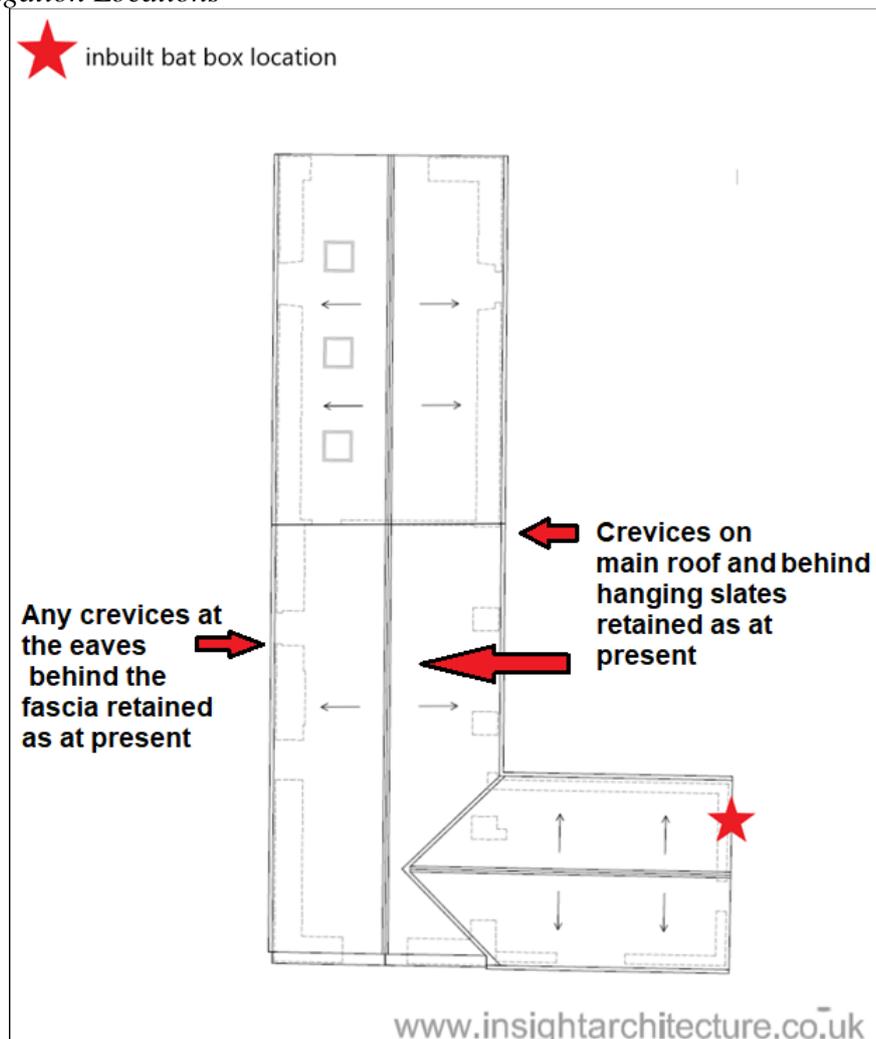


Table 1 Mitigation Summary

Location	Mitigation Type
north side of east facing extension gable.	Inbuilt bat box at eaves height.
Roof of annex studio and hanging slates	Any existing crevices to be retained as at present.

8.4 Enhancement

Not applicable.

8.5 Monitoring

Due to low impact on bat activity on site, by the proposals no monitoring after the development is completed will be required to assess the success of mitigation. (Bat Mitigation Guidelines 2004, Section 7.2). Ruth Hadden available to liaise with the owners as required regarding the mitigation.

8.6 Conclusions

- Without any mitigation the proposed works will result in low impact on the bat and bird population present.
- The provision of mitigation in the form of an inbuilt bat box and the retention of roosting opportunities in the Studio will maintain and give a net biodiversity gain for this site.

9. References

Barn Owl Trust (2002), Barn Owls on Site. English Nature
Chartered Institute and Ecology and Environmental Management (CIEEM) (2017). Guidelines for Ecological Report Writing 2nd Ed.
Collins J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). Bat Conservation Trust, London.
Corbet and Harris (1991). The Handbook of British Mammals. Blackwell.
Durkin J L (2016) Amphibian Atlas of North East England.
English Nature (2004) Bat Mitigation Guidelines. EN
Environment Agency's (2007) Pollution Prevention Guidelines: Works and maintenance in or near water: PPG5 <https://www.sepa.org.uk/media/100531/ppg-5-works-and-maintenance-in-or-near-water.pdf>
Institution of Lighting Professionals/Bat Conservation Trust (2018) Bats and artificial lighting in the UK, Guidance Note 08/18.
Joint Nature Conservancy Council (2004) The Bat Workers Manual. JNCC.

Bat boxes: <https://www.nhbs.com/low-profile-woodstone-bat-box>

Build-in WoodStone Bat Box <https://www.nhbs.com/build-in-woodstone-bat-box>

Barn Owl Box : <http://www.barnowltrust.org.uk/infopage.html?Id=41>

Sparrow Terrace: www.nhbs.com/1sp-schwegler-sparrow-terrace

Swift boxes: <https://www.nhbs.com/vivara-pro-cambridge-swift-nest-box>

Bird box: <https://www.nhbs.com/1b-schwegler-nest-box>

APPENDIX 1. LEGISLATION RELATING TO PROTECTED SPECIES

Bats

All bats are protected under the Wildlife and Countryside Act (Schedule 5). They are also included in Schedule 2 of the Conservation Regulations 2017. The Act and Regulations make it illegal to:

Intentionally or deliberately kill, injure or capture (take) bats

Deliberately disturb bats (whether in a roost or not)

Damage, destroy or obstruct access to bat roosts

The Countryside and Rights of Way Act 2000 extended the protection given to bats to cover *reckless* damage or disturbance.

A bat roost is interpreted as 'any structure or place which is used for shelter or protection', whether or not bats are present at the time.

Barn Owls

Similarly, the Barn Owl is protected under Part 1 of the Countryside Act 1981 and is listed on Schedule 1, which gives them special protection. It is an offence, with certain exceptions to:

- Intentionally or deliberately kill, injure or capture (take) any wild barn owl.
- Intentionally take, damage or destroy any wild barn owl nest whilst in use or being 'built'.
- Intentionally take or destroy a wild barn owl egg.
- Intentionally or recklessly disturb any wild barn owl whilst 'building' a nest or whilst in, on, or near a nest containing young.
- Intentionally or recklessly disturb any dependant young or wild barn owls.

Biodiversity

The National Planning Policy Framework (NPPF) 2012 requires Local Planning Authorities (LPA's) to seek to deliver biodiversity enhancement through the planning system, see paragraphs 9, 109 and 118. In particular Paragraph 109 includes a statement:

The planning system should contribute to and enhance the natural and local environment by:

- 'minimising impacts on biodiversity and providing net gains in biodiversity.'

APPENDIX 2. BAT METHOD STATEMENT FOR CONTRACTORS

This statement should be copied to the site owner, architect, clerk of works and to those contractors whose work may affect bat roosts including those involved in conversion, wood treatment, roofing and building works.

Bats are fully protected by law. To avoid breaking the law by damaging or disturbing bat roosts, resulting in possible imprisonment, fines or confiscation of equipment, certain procedures have to be followed.

Legislation

All bats are protected under the Wildlife and Countryside Act (Schedule 5). They are also included in Schedule 2 of the Conservation Regulations 2017. The Act and Regulations make it illegal to:

Intentionally or deliberately kill, injure or capture (take) bats

Deliberately disturb bats (whether in a roost or not)

Damage, destroy or obstruct access to bat roosts

The Countryside and Rights of Way Act 2000 extended the protection given to bats to cover *reckless* damage or disturbance.

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- Intentionally take, damage or destroy any wild barn owl nest whilst in use or being 'built'.
- Intentionally take or destroy a wild barn owl egg.
- Intentionally or recklessly disturb any wild barn owl whilst 'building' a nest or whilst in, on, or near a nest containing young.
- Intentionally or recklessly disturb any dependant young or wild barn owls.

Identifying roosts

Pipistrelle the most common bat, favours small crevices and spaces between stonework, stone and roofing felt. Bats are small mammals and when at rest the bodies are only 4-6 cm long, their fur colour can range from brown to pale and dark grey. When disturbed the bat is likely to be torpid and unable to fly effectively for some minutes, because of this they are vulnerable to injury as they are not fast moving and may fall to the ground, breaking bones or be accidentally crushed. Basically, when material from the roof and tops of the walls is removed any crevices underneath should be checked to ensure that no bat has been disturbed.

Other traces that can indicate a past presence of bats are their droppings. These resemble mouse droppings but unlike mouse droppings can be crumbled to dust between finger and thumb. Droppings may be found on wall tops and beneath slates and tiles on top of any sarking.



Photo showing disintegrated bat droppings beneath coping stones. If examined carefully, in the black dust exoskeletons of insects can be seen shining.

Timing

Any development work involving the removal of the existing roof materials or stonework will be carried out avoiding the hibernation period (November to March inclusive). Periods of cold weather (below 5°C including night temperatures) will also be avoided if possible as any bats present will be in hibernation torpor and be extremely vulnerable. If torpid bats are encountered and disturbance is unavoidable the bat will be taken into care and fed until suitable conditions for release at the site is possible.

Contractors

All contractors will be aware that bats may be present in the area and could be present within the loft space and may be found torpid in crevices if any. Table 1 below highlights where bats may be found and the recommendations. Any bats found during operations will have the cavity re-covered for its safety and any work in the vicinity will cease. Ruth Hadden to be informed for advice immediately (01661 886562). As only licensed bat handlers can move bats and the contractors are not permitted to handle bats, the bat will be allowed to disperse of its own accord overnight.

Table 1 General Methodology for Conversion Works

STRUCTURE	METHOD	INSPECT
Roofs	Remove any ridge tiles, tiles/slates or roof coverings including loose felt by hand, lifting vertically to prevent any bats from being crushed. Removal of any timbers/beams.	Check any crevices underneath the roofing materials including the underside, as it is removed. Check any crevices around the beams as work proceeds.
Walls/Eaves	Expose the wall tops. Remove any gutters. Dismantle any walls required, by hand.	Examine for bat droppings and any wall cavities for bats.
Walls - Pointing	Only point crevices where the full depth can be seen otherwise leave as at present.	Check deep crevices for the presence of bats using a torch.
Windows/doors	Remove windows, doors and frames by hand, where gaps exist around the frames.	Examine any wall cavities exposed. Avoid blocking any external pre-existing gaps.

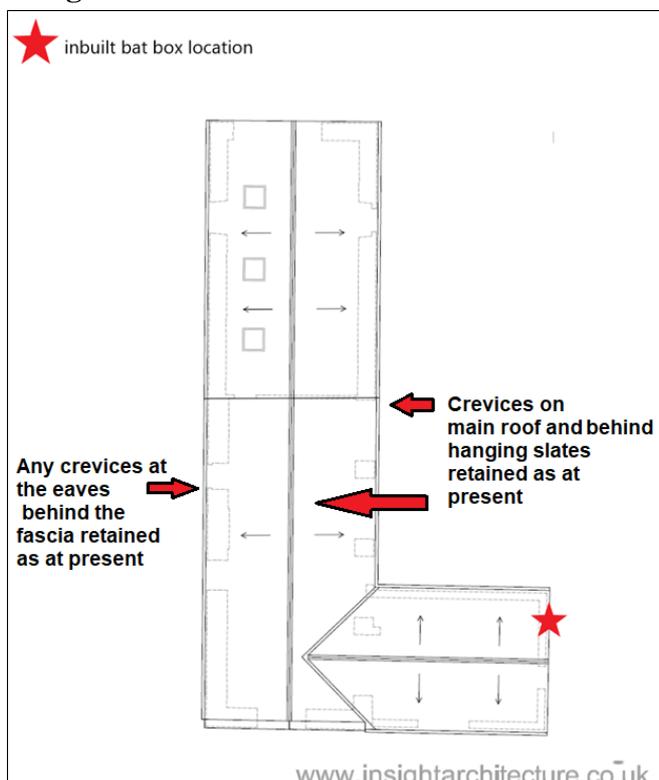
If a barn owl is found unexpectedly during operations the cavity will be re-covered or protected and work will cease in that area. Ruth Hadden to be informed (01661 886562) immediately for assistance. Any nesting bird species will be allowed access to the nest until the young have fledged between April and October.

Mitigation Summary

To maintain bat populations in the area the following will be carried out:-

- All existing crevices on the roof of the Studio beneath raised slates and behind the fascia boards and hanging slates will be retained as at present.
- One integrated Build-in WoodStone Bat Box, to be located on the east aspect of the new extension, 500mm below the apex. The access hole through the timber to be sanded and smooth. Please see plan below for locations.
- Wooden beams and timbers will be treated only with ‘bat friendly’ products, permethrin or cypermethrin as insecticides for example. Further information is available if the contractor requires it.
- A traditional bitumen felt (F1) or wood sarking that would give bats some grip will be used in the region of any bat roost potential and not a more modern smooth or breathable roofing membrane (BRM) that may fray and entrap bats. **No BRM (Breathable Roofing Membrane) to be used in any areas where bats could gain access to roof as a result of new roost provisions.**
- Any external lights will be set on a motion detector and short timer and be positioned in such a way that they do not shine on any of the bat access positions or the buildings, as this can deter bats. Please see references Bat Conservation Trust/Institute of Lighting Engineers’ Guidance 2018.
- To protect any nearby waterways, measures to be made to ensure that there is no runoff (herbicides, wheel washing, cement washings etc.) either during construction to prevent pollution or sediment issues, or after development. (See Environment Agency’s Pollution Prevention Guidelines (PPG5) for guidance.
- Any nesting bird species will be allowed access to the nest until the young have fledged.
- If a barn owl is found unexpectedly during operations the cavity will be re-covered or protected and work will cease in that area. Ruth Hadden to be informed (01661 886562) immediately for assistance.

Mitigation Locations



Build-in WoodStone Bat Box

