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HOLYSTONE GRANGE, HOLYSTONE, PROPOSED DEVELOPMENT BAT AND BARN OWL REPORT– SUMMER 2020

SECTION 1 BACKGROUND AND SUPPORTING INFORMATION

A. Executive Summary

- Holystone Grange is situated 2.5km southeast of Holystone, Northumberland. The buildings surveyed are a stone-built garden room and a log store with a pitched slate roof.
- The proposals are to convert the log store to one holiday unit and the garden room to a bar and kitchen.
- The immediate area has exceptional potential for feeding bats present along the River Coquet running 300m east of the site and in mixed woodland immediately present to the north and within 350m to the south, east and west.
- The inspection carried out revealed no fresh traces of bats inside the log store though bat droppings had been noted below the internal gable in 2018.
- There is low risk of bat roost potential for a bat maternity roost, in the log store or garden room and two emergence surveys will be carried out this season.
- Survey results identified during the July 2018 emergence survey, Pipistrelle 55kHz bats emerging from the adjacent house and Brown long-eared bats emerged nearby from the outbuilding (Building 1). On the August survey Pipistrelle 55kHz bats emerged from the east eaves of Building 2, the log store and a Pipistrelle 45kHz bat from the west eaves of Building 3, the garden house. This year a Pipistrelle 55kHz bat emerged from the south gable wall of the log store.
- The proposals will not affect the roost identified in the log store as the roof is sound and not affected by the proposals. Mitigation will be put in place, to retain the crevices as at present to prevent loss in the converted buildings. The occasional bat may also be present in any suitable crevice on the wall tops at any time of the year in small numbers. Timing of the works to avoid the hibernation period will ensure that the development has as little negative affect on bat conservation status as possible.
- **All contractors involved in the development will read the method statement, prior to commencing the work.**
- There were no traces of birds in or around the building, though barn owls are in the area. Any nesting bird species will be allowed access to the nest until the young have fledged.

B. Introduction.

B1 Background.

Holystone Grange is situated 2.5km southeast of Holystone, Northumberland. The buildings surveyed are a stone-built outbuilding with a mono-pitch slate roof.

B2 Proposed Works.

The proposals are to convert the log store to one holiday unit and the garden room to a bar and kitchen.

C. Survey and site assessment

C1 Pre-existing information on the species at the site.

Surveys carried out September 2015 identified 5 Pipistrelle 55kHz bats from the south gable of the log store. Further surveys carried out in June 2016 identified a Pipistrelle 55kHz bat emerging from the east aspect of the garden room and two Pipistrelle 55kHz from the south gable of the log store. (R Hadden).

C2 Status of species in the local/regional area.

Bat work has previously been carried out on Woodhouses Bastle, which stands in the grounds, about 70m to the south identified Common Pipistrelle (*Pipistrellus pipistrellus*) and Brown long-eared (*Plecotus auritus*) that use the building as hibernacula and it is also known as a summer roost for the Daubenton's bat. There is also a known barn owl roost in Woodhouses Bastle.

A Pipistrelle 55kHz roost is present in the Grange and Natterer's and Brown Long-eared bats have been identified foraging in the area.

Within 2km there are pre-existing known records of a maternity roost of Pipistrelle 55kHz to the southeast (2015), Pipistrelle 45kHz 2km to the southwest (2008) and to the southeast (2015) and Pipistrelle sp. to the northwest (2010). A large Daubenton's bat roost is known 2km to the northwest (2004) and roosts of small numbers of Brown long-eared bats are also known 2km to the northwest (2007), to the southeast (2015/18) plus 200m to the north (2014). Whiskered/Brandt's roosts are known 2km to the southeast (2015) Foraging Daubenton's, Noctule and Natterer's bats have also been recorded within 2km (2008-2015). (Own Records/ERIC North East).

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.

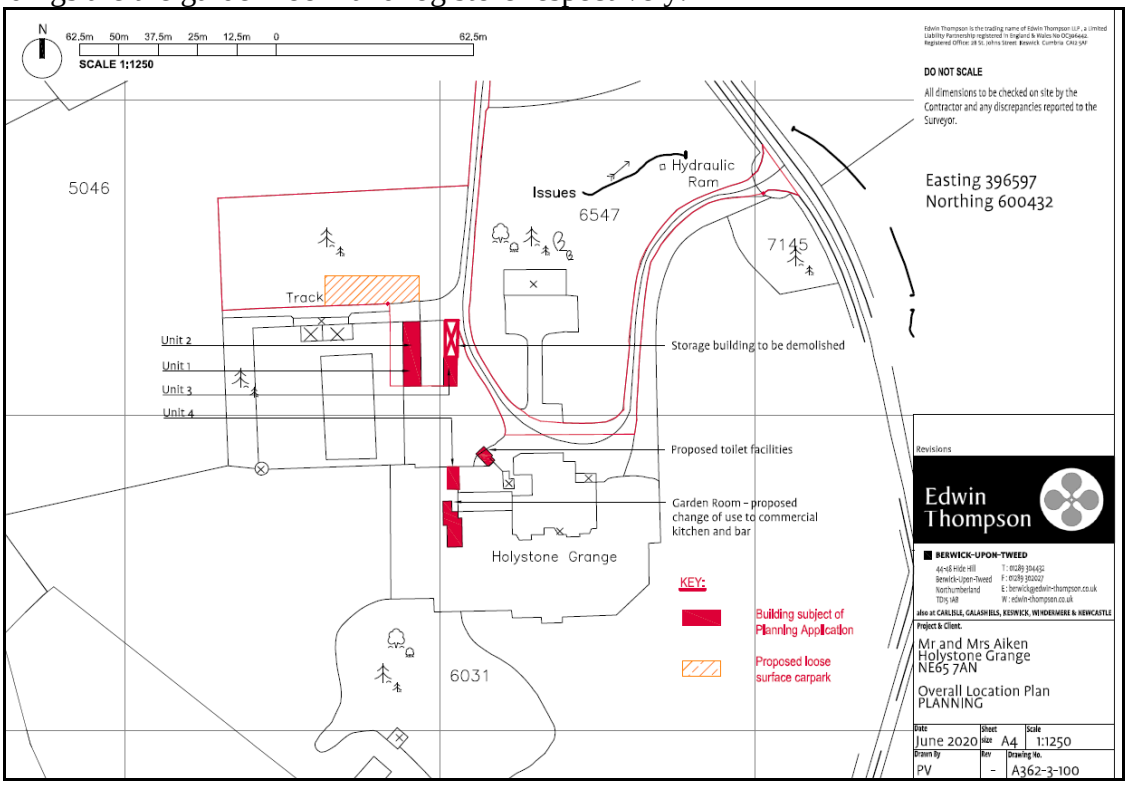
The site lies 150m to the west of the River Coquet and Coquet Valley Woodlands Site of Special Scientific Interest (SSSI) and the development site falls within the impact risk for this SSSI however as it is a relatively small scheme it is unlikely to greatly impact the designated area.

C3 Objectives of survey

The survey was to determine as far as possible, the presence of barn owls and bats including their roost sites in the building surveyed at Holystone Grange, Holystone affected by the proposals. The aim is to prevent any animal being physically harmed, to protect all roost sites where possible and to provide mitigation for the proposed renovation to maintain conservation status.

C4 Survey area Plan of Site

The site is located at NZ966003 and is shown below highlighted in red, the southern two buildings are the garden room and log store respectively.



Photographs of the Site

The garden room from the southeast

From the northeast

From the northwest

From the east

The log store from the southwest

C5 Habitat description

Holystone Grange is located 7km north of Elsdon in Northumberland on the moorland edge, which is 500m to the west. Immediately surrounding the Grange is farmland consisting of semi-improved grass and further afield (200m) to the east improved grass. Boundaries are fencing and walls. There are several scattered plantations within 1km and further away from the Grange, together with deciduous woodland. The River Coquet flows 300m to the east in the valley. There is excellent feeding habitat on site and along the valley due to the network of plantations and woodland together with the river.

Possible roosts may be present, together with the known sites in the scattered dwellings in the surrounding area to the site, in Holystone or along the valley or in any suitable tree.

C6 Field Survey

C6.1 Visual Inspection

A close inspection of all the buildings were made in good light, and by torch where required. The interior and exterior of the buildings were 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.

C6.2 Emergence Survey

As dusk fell 3 surveyors, each using visual observations and bat detectors (Echo Meter EM3 / Touch) and two-way radios, carried out the evening emergence surveys, covering all aspects of the buildings. Bat detectors convert bat echo-location signals into audible sounds, enabling the identification of some species, and aid the monitoring of the number of bats present. Two way radios help to determine the emergence and flight paths of a bat seen by surveyors around the site and allow the bat activity of the whole site to be understood, whilst at the site.

Surveyors are on site for at least quarter of an hour before sunset and up to 1½ hours after sunset or until darkness falls as reduced visibility does not allow bats to be seen emerging from the building being surveyed. After this time any bats picked up by detector, cannot be guaranteed to have emerged from the building in question, but confirms if additional species are present in the area or not. If bats or a maternity colony is present the bats are counted until no bats have left the roost for 10 minutes for as long as it takes.

C6.3 Timing and Weather Conditions

Survey	Date	Timings	Weather
Inspection	2 July 2018	Internally and externally (20mins)	Fine and dry
Emergence	2 July 2018	9.30 pm – 11.20pm (Sunset 9.48pm)	Fine, light cloud and still. 13-12°C
Emergence	5 August 2018	8.50pm –10.30pm (Sunset 9.04pm)	Fine, cloudy and still. 13-12°C
Inspection	20 June 2020	Internally and externally (30mins)	Fine and dry
Emergence	20 June 2020	9.35 pm – 11.20pm (Sunset 9.50pm)	Fine, light cloud and still. 18-16°C
Re-entry	8 July 2020	3.10am – 4.55am (Sunrise 4.39am)	Fine, cloudy and slight breeze. 10-10°C

C6.4 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. Class Survey Licence CL15 2015-10388-CLS-CLS, (Volunteer Bat Roost Visitor Level 1).
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.
Beth Patience, Ben Whittle and Jess Hindhaugh, Sean Gilmour.

C7 Results

The log store is a small stone building with a recent pitched, trussed slate roof that has a breathable membrane. It is presently being used as a builders store. In 2018 bat droppings were noted within the log store on a large segment of wood, beneath the north gable wall apex. The droppings were large and brown in colour and when examined under the microscope moth scales were present indicating that these droppings were from Brown long-eared bats.

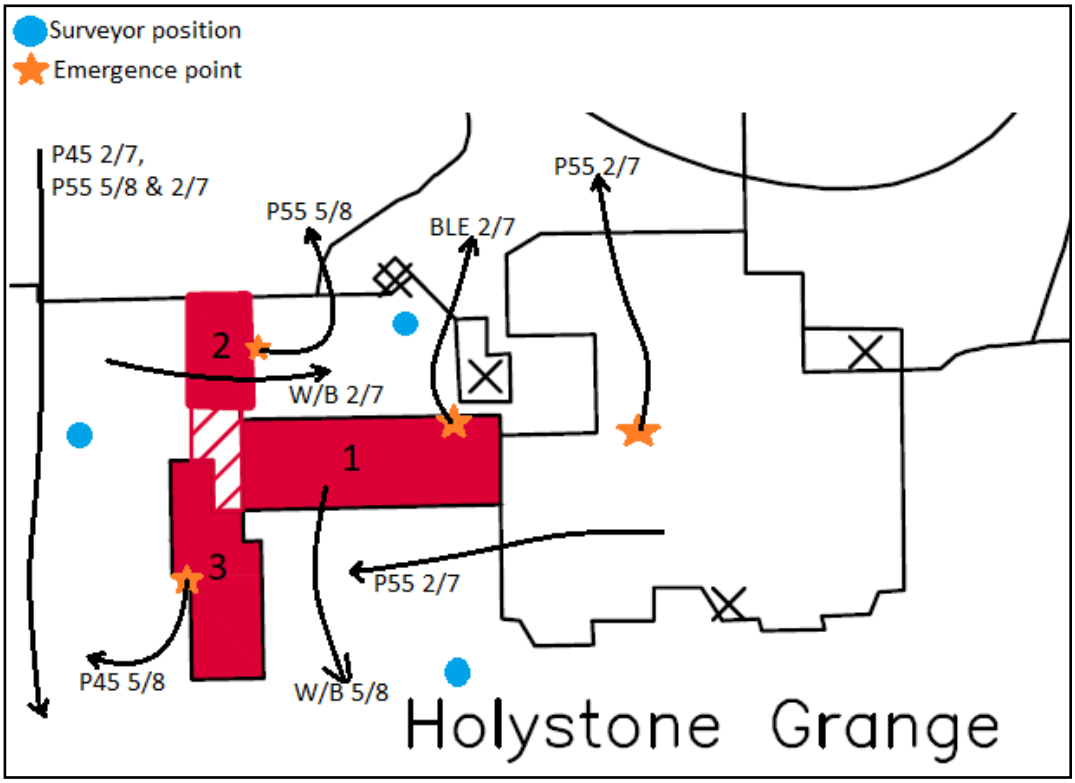
The garden house has stonewalls, a flat concrete roof, which had been recently felted, with a roof light, interior plastered. Exterior has recently had the pointing knocked out.

Surveys conducted on these buildings in 2018 identified Pipistrelle 55kHz bats that emerged from the east eaves of the log store and a Pipistrelle 45kHz bat from the west eaves of the garden room with foraging Pipistrelle 45kHz, 55kHz, Daubenton's and Myotis sp. bats on site. Foraging Pipistrelle 55kHz and Noctule bats were also heard during the surveys. The 2020 survey only identified a Pipistrelle 55kHz bat emerging from the south gable wall of the log store.

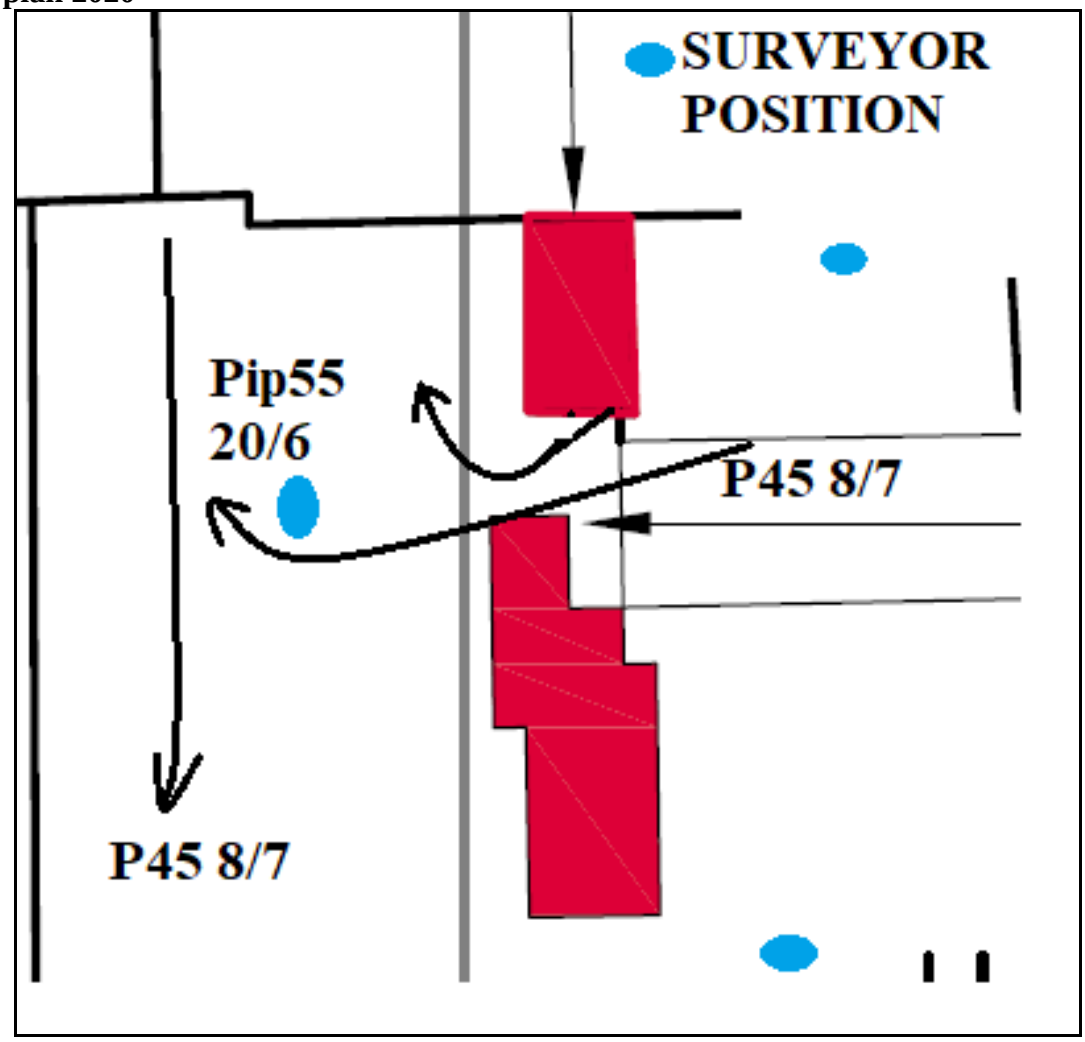
Table 1 Emergence survey results.

Date	Bat Activity
2 July 2018	
9.39-9.48pm	6 Pipistrelle 45kHz bats commuted north to south west of the site.
9.48pm	Sunset.
9.59pm	Pipistrelle 55kHz bat commuted north to south west of the site.
10.15pm	2 Pipistrelle 55kHz bat emerged from the north eaves of the main house.
10.16pm	Whiskered/Brandt's heard but not seen north of the site.
10.20pm	3 Pipistrelle 55kHz bat commuted east to west over the main house.
10.30-10.50pm	3 Brown long-eared bats emerged from the interior of Building 1.
10.43pm	Whiskered/Brandts commuted west to east over Building 2.
11.20pm	Survey concluded.
5 August 2018	
9.04pm	Sunset.
9.08pm	Pipistrelle 55kHz bat commuted from north to south west of the site.
9.14pm	Noctule bat heard but not seen.
9.19pm	**Pipistrelle 55kHz bat emerged from the east eaves of the log store.**
9.21pm	Pipistrelle 45kHz heard but not seen.
9.27-9.50pm	6 Pipistrelle 55kHz bat commuted north to south west of the site.
9.30pm	3 Whiskered/Brandt's bats seen emerging south, from the arches of Building 1.
9.31pm	**Pipistrelle 45kHz bat emerged from the west eaves of the garden house.**
9.54pm	Barn owl passed south to north over the site.
10.04pm	Brown long-eared bat heard but not seen north of Building 1.
10.30pm	Survey concluded.
20 June 2020	
9.50pm	Sunset.
10.01pm	**Pipistrelle 55kHz bat emerged from the south gable of the log store**
10.05pm	Pipistrelle 55kHz bat emerged from the south east eaves of the house.
10.35pm	Whiskered/Brandt's bat heard not seen.
10.57pm	Whiskered/Brandt's bat heard not seen.
11.20pm	Survey concluded.
8 July 2020	
3.22am	Myotis bat heard not seen to the east.
3.26am	Pipistrelle 45kHz bat flew north to south
3.41am	Noctule bat heard not seen
3.59am	Pipistrelle 45kHz bat flew east to west
4.15- 4.18am	2 Pipistrelle 45kHz bats flew north to south in the direction to the bastle.
4.39am	Sunrise
4.55am	Survey concluded.

Site plan with bat activity 2018



Site plan 2020



There was no evidence of barn owl activity within the buildings though a barn owl was noted flying across the site in 2018. A very pale barn owl was seen flying to a large tree to the southeast just prior to dawn and was not seen leaving.

Gable end of log store from where a bat emerged. Crevice in the stonework above the lintel.

C8 Interpretation and evaluation

Bat presence and populations at certain times of year are only best estimates.

C8.1 Presence

Day roosts for Pipistrelle 55kHz bats are present in the log store and for the occasional Pipistrelle 45kHz bat on the west eaves of the garden room.

C8.2 Population size

<3 Pipistrelle 45kHz bats
<3 Pipistrelle 55kHz bats

C8.3 Site status

The buildings due to be converted has low/moderate conservation significance for bats as a day roost site used by male or non-breeding bats. This assessment takes into account the location of the building and the excellent feeding habitat within 300m, the results of the inspection and the restricted roost potential in the buildings for void loving bats.

C8.4 Constraints

No constraints, though as Building 1 on the plans has recently been developed some disturbance has taken place on the site.

D Impact assessment in absence of mitigation

D1 Short-term impacts

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

Mid-activity impacts would be high and can cause disturbance, injury and death to bats, if no mitigation is carried out in the eventuality of a bat being located during works, however mid-activity impacts on bats could be reduced further if mitigation such as caution for any dismantling work carried out.

D2 Long-term impacts: roost modifications

Not applicable**.**

D3 Long-term impacts: roost loss

Two day roosts for the occasional bat will be lost with no mitigation.

D4 Long-term impacts: fragmentation and isolation

There are no proposals that will affect bat flight lines.

D5 Post-activity interference impacts

Any additional floodlights that would increase light levels and shine on the bat foraging areas would be a high impact.

D6 Predicted scale of impact

The impact on bats will be low/moderate on site, negligible in the county and at regional level.

E Land ownership – Mitigation sites

E1 Mitigation site ownership

Mitigation will be carried out on this site, which is all in the ownership.

F 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-ornearwater.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

SECTION 2
DELIVERY INFORMATION/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 demolition, stone 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.

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.

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.

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, 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'

Identifying roosts
Pipistrelle the most common bat, favours small crevices and spaces between brickwork, 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.

A1 Mitigation strategy

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

- Sensitive timing of any roof and re-pointing works in spring to autumn to avoid hibernating bats.
- Advice given for the safe removal of any bats found from harm during the development under different weather conditions.
- Provision/retention of bat crevices on the converted buildings for crevice loving bats will be made.
- 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 birds will be allowed access to the nest until the young have fledged.

Architect
The bat provision specified below will be incorporated into the plans submitted to planning to prevent delays. This will show the location of the bat crevices to be created as in this report.

Timing
Any development work involving the removal of the existing roof materials/ re pointing will be carried out avoiding the hibernation period (November to March inclusive) and periods of cold weather (below 5ºC including night temperatures) 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 when removing the roof etc 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.

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.

Table 1 General Methodology for conversion

STRUCTURE	METHOD	INSPECT
Roofs	Remove any slate, loose felt, flashing or roofing material by hand and the roof coverings at the ridge and gable walls also by hand. Removal of any timbers/beams.	Check underneath the roofing materials as it is removed and crevices below for the presence of bats. Check any crevices around the beams as work proceeds.
Walls/Eaves	Expose the wall tops. Remove any fascia and soffit boards and gutters by hand. **Dismantle any stonework required carefully by hand.**	Examine the wall top for bat droppings and any wall cavities for bats. **Be observant for the presence of bats.**
Walls - Pointing	**Only point crevices where the full depth can be seen. Leave any crevices beneath the eaves that are 10cm deep and long and 2 to 1cm wide as bat roosting crevices**	Check deep crevices for the presence of bats ***using a torch.***
Windows/doors	Remove any windows, doors and frames by hand, where crevices are present around the frames.	Examine any wall cavities/crevices exposed.

B Works to be undertaken by the ecologist or suitably experienced person.

B1 Capture and exclusion

Only an ecologist licensed to handle bats will handle any bats found on site.

If any bat is found unexpectedly during operations the cavity will be recovered or protected and work will cease in that area. Ruth Hadden to be informed (01661 886562) immediately for assistance. Ruth Hadden or a suitably licensed ecologist will release any active bats handled in a previously erected bat box.

C works to be undertaken by the Developer/Landowner

C.1 Bat roosts

C1.1 In-situ retention of roost(s)

Bat roosts identified in the log store and garden room will remain as at present. Also no repointing will be carried out behind the pillars. Please see plan at C1.4 for locations.

Bats will roost in wall cavities, on the wall tops; hang from the ridge board or between the roofing felt and slates, depending on the species. Brown long-eared and Natterer's bats like to

use the roof space, hanging from the ridge beam and only require an access hole. Pipistrelle species and Whiskered/Brandt's bats prefer to roost in small cavities often staying on top of the wall and do not enter the open roof spaces.

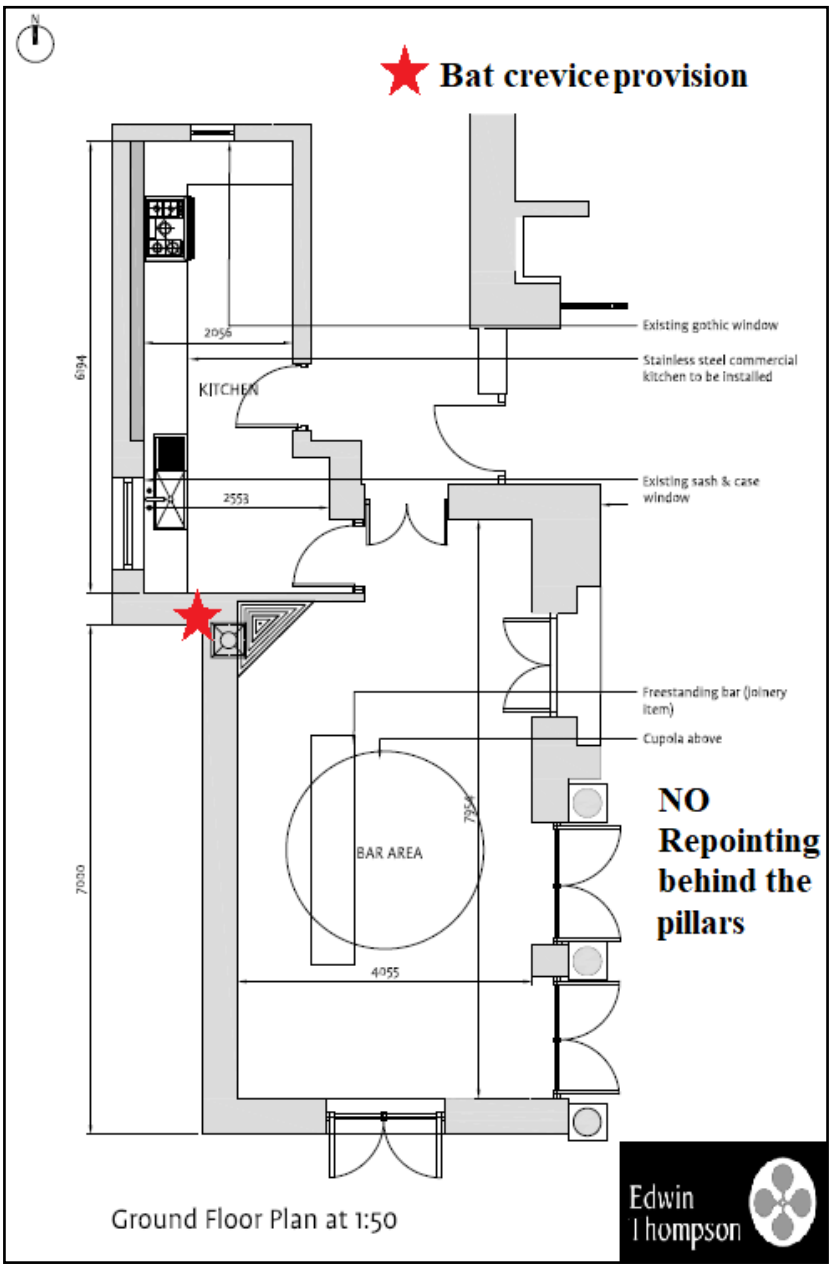
A traditional bitumen felt or wood sarking that would give bats some grip will be used in the region of any bat roost potential and not a more modern smooth or breathable roofing membrane (BRM) that may fray and entrap bats. **No BRM (Breathable Roofing Membrane) to be used in any areas where bats could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

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

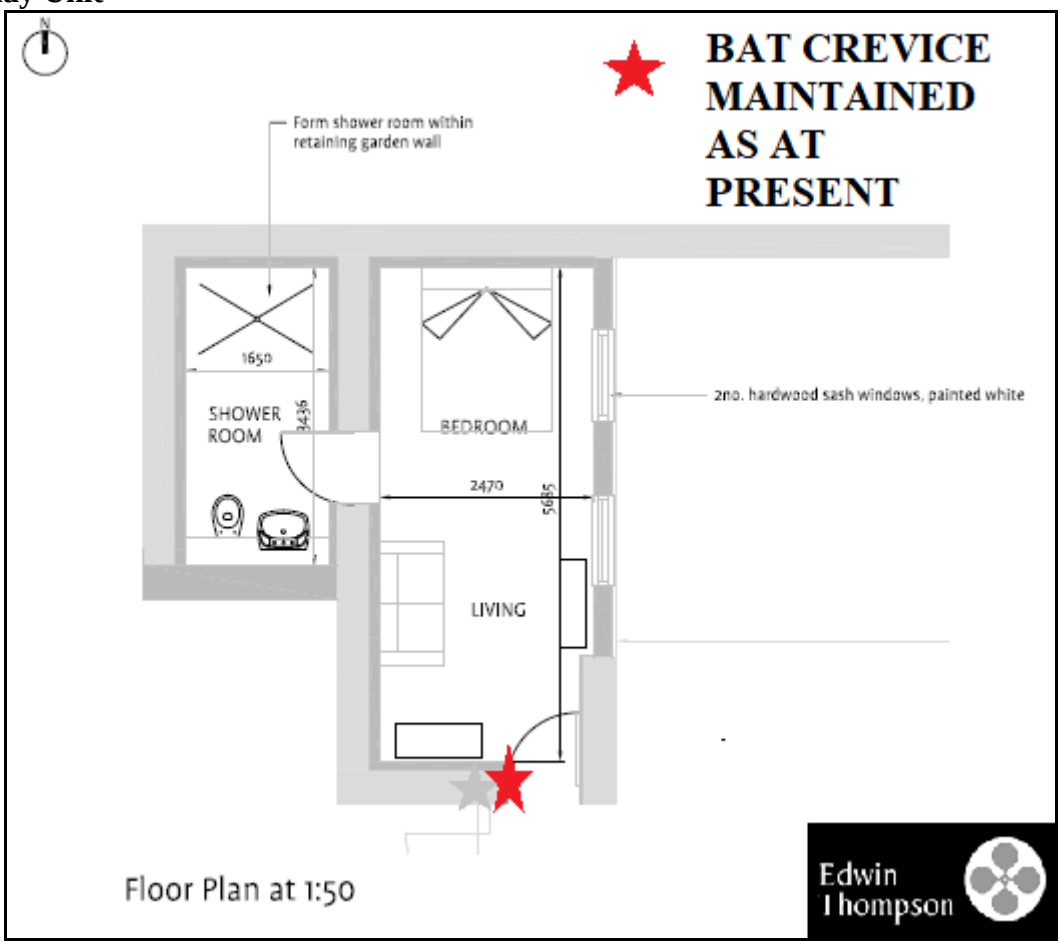
Any external lights will be set on a motion detector and short timer and be positioned in such a way that they do not shine on any of the bat access positions or the buildings, as this can deter bats.

C1.4 Scaled maps/plans -

Garden House



Holiday Unit



D Post-development site safeguard

D.1 Habitat/site management and maintenance

Any water tanks present in the buildings will be covered to prevent debris and bats from falling in.

D.2 Population Monitoring

Due to the low bat activity on the development site no monitoring will be carried out 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.

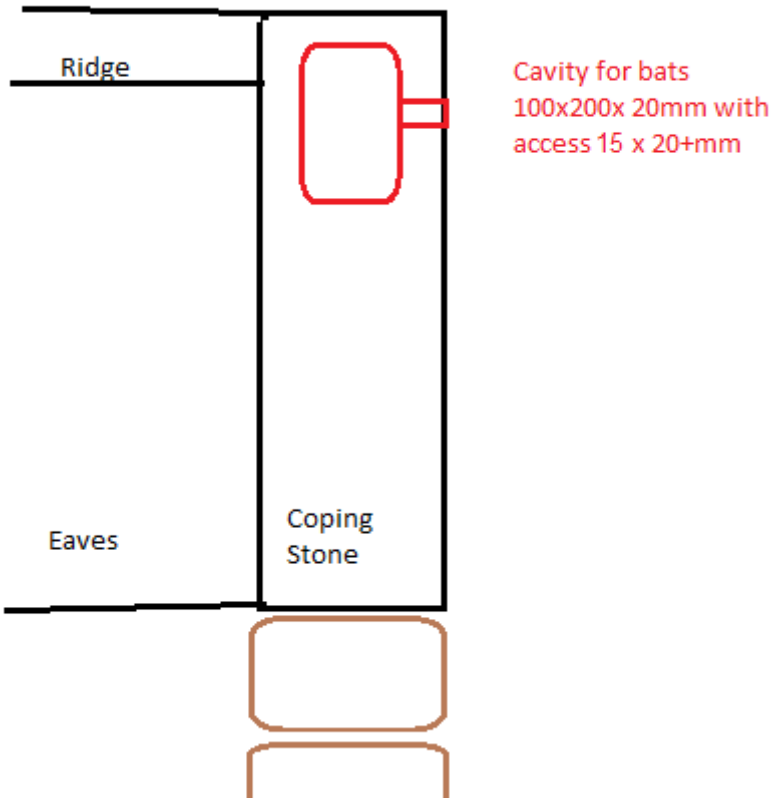
D.3 Mechanism for ensuring delivery

Bat mitigation as shown on the plans will be subject to the conditions of the Planning Consent when granted..

E Timetable of works

As soon as possible.

Gable wall crevice



Eaves Crevice Provision