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ILDERTON DOD, POWBURN, PROPOSED DEVELOPMENT BAT AND BARN OWL REPORT – SUMMER 2017

SECTION 1 BACKGROUND AND SUPPORTING INFORMATION

A. Executive Summary

- Ilderton Dod is situated 8km northwest of Powburn, in rural Northumberland. The buildings surveyed are traditional stone built farm buildings with pitched slate roofs and will be converted to a bunk house.
- There is restricted bat feeding habitat near the site with it being in an upland area with only a small coniferous plantation 70m to the west and Harelaw Burn with no shelter running 120m to the south.
- The buildings are generally in a sound condition with occasional crevices in the stonework present with gaps at the eaves, the interior is accessible in some sections to wildlife through open windows and doorways. The buildings were considered to be low/moderate risk for bat roost suitability.
- The May emergence survey identified no bat activity on site. The June emergence survey identified one emerging Pipistrelle 45kHz bats and one additional Pipistrelle 45kHz bat present on site. A barn owl was present during both surveys in Section 3 where a barn owl nesting box is present however although no chicks were heard the surveys were early in the breeding season.
- Possible roosting sites on the gable wall tops have been highlighted and mitigation has been put in place. The bat crevice identified will be retained and 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 for all buildings 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.**
- A barn owl was present in the building. A further owl box will be provided along the plantation edge and the present owl box relocated at the end of the season to a different barn. Any nesting birds will be allowed access to the nest until the young have fledged.

B. Introduction.

B1 Background.

Ilderton Dod is situated 8km northwest of Powburn, in rural Northumberland. The buildings surveyed are traditional stone built farm buildings with pitched slate roofs.

B2 Proposed Works.

The development will include the converting the existing building to a bunk house and will entail the provision of services, new windows, dry lining and doors plus internal reorganisation. The external roof (with the incorporation of roof lights and internal insulation) and the walls are remaining as at present.

C. Survey and site assessment

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

There are no known pre-existing records of bats on site.

C2 Status of species in the local/regional area.

Known bat activity in the area within 2km of the site includes occasional roosts of Whiskered/Brandt's and Natterer's to the northwest plus foraging Pipistrelle 45kHz (2008). 4km to the southeast occasional roosts of Brown long-eared, plus foraging Pipistrelle 45kHz and Whiskered/Brandt's (2010) are known. Roosts of Natterer's, Pipistrelle 45kHz and Pipistrelle 55kHz are also known 4km to the southeast (2014). (Own Records 1986- 2016)

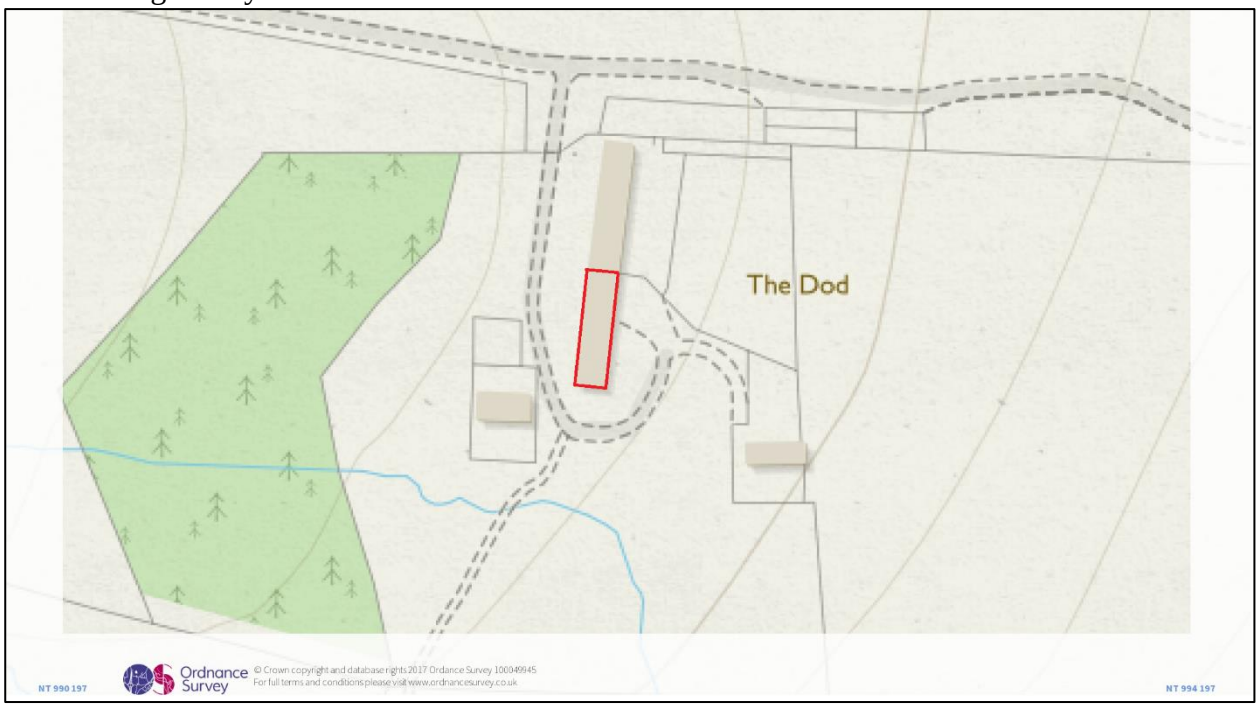
Locally and regionally, the Common Pipistrelle is the most common bat. Both Pipistrelle 45kHz and 55kHz bats are frequent in northern England, although Pipistrelle bats are the most abundant species they are thought to have declined by 70% between 1978 and 1993 (National Bat Colony Survey). Since 1997 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.

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 buildings at Ilderton Dod near Powburn 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 development to maintain conservation status.

C4 Survey area Plan of Site – c. Scale 1:1250

The building surveyed is located at NT992198 and is centred below.



Photographs of the Site

southern outbuilding viewed from the west.

The site viewed from the northwest.

The site viewed from the east.

The site viewed from the southeast.

5 Habitat description

The site is Ilderton Dod which is located immediately east of a small coniferous plantation and is surrounded by agricultural land consisting of improved grass land and heathland with boundaries of stone walls where they exist. There is restricted bat feeding habitat near the site with only a small coniferous plantation 70m to the west and Harelaw Burn with no shelter running west to east 120m to the south.

The site and area has restricted potential for feeding bats,however due to the proximity of a nearby plantation some shelter is present. Bat roost potential will be restricted to the scattered dwellings in the area and any suitable tree.

C6 Field Survey

C6.1 Visual Inspection

A close inspection of the building was made in good light, by torch and endoscope 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.

C6.2 Emergence Survey

As dusk fell 2 surveyors, each using visual observations and bat detectors (Echo Meter EM3's/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.

C6.4 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).
Registered Consultant of the Bat Low Impact Class Licence. Reference number RC036
Qualifications BSc Joint Honours Zoology & Plant Biology, Newcastle upon Tyne. MCIEEM
Ben Hadden - Class Survey Licence WML CL18 (Bat Survey Level 2). Registration number 2015-14223-CLS-CLS.
Ben Whittle.

C6.5 Survey Summary

Survey	Date	Timings	Weather
Inspection	7 May 2017	Externally and internally on 1st visit (20min)	Fine and dry.
Emergence	7 May 2017	8.45-10.25pm (sunset 8.57pm)	Fine, light cloud, breezy. 9-8 ˚C
Emergence	4 June 2017	9.25-11.10pm (sunset 9.42pm)	Fine, light cloud and still. 11-10 ˚C

C6.6 Constraints

The emergence surveys were carried out in the period for monitoring active bats including the maternity period. No cleaning of the floors or objects in the interior had taken place and any recent droppings would not have deteriorated.

C7 Results

The buildings are stone built with pitched slate roof with torching. Externally there is the occasional crevice in the stonework. No evidence of bats was present internally or externally.

Table 1 Observations.

Building Section	Description	Comments
1	Corrugated metal lean-to with the western gable wall in stone.	No traces of bats seen externally or internally.
2	Stone built two storey building with a slate roof with torching. Roof lights and partially built up walltops.	No traces of bats seen externally or internally.
3	Stone built, single storey building with slate roof with torching and roof lights. Open access through window.	No traces of bats seen externally or internally. Pipistrelle 45kHz emerged from crevice on the west aspect. Barn Owl flew from window to the east on both surveys, nest box present. Pigeon droppings present on upper floor.
4/5	Stone built, single storey building with slate roof with roof lights. Whitewashed walls. Section 5 with plastered walls and ceiling	No traces of bats seen externally or internally. Swallows present in Section 4.

The emergence surveys identified one emerging Pipistrelle 45kHz bat from the east aspect of Section 2/3 and one Pipistrelle 45kHz bat foraged over the site on the June survey. Please see the plan below and Table 1 for details.

Table 1 Emergence survey results.

Date	Bat Activity
7 May 2017	
8.25pm	Barn Owl flew from the east aspect of Section 3.
8.57pm	Sunset.
10.25pm	Survey concluded. No bats seen.
4 June 2017	
9.42pm	Sunset.
10.17pm	Barn owl exited Section 3 of the building heading east.
10.22pm	Pipistrelle 45kHz bat passed east to west over the site.
10.34pm	Pipistrelle 45kHz bat emerged from a crevice on the east side of Section 3 heading south.
11.10pm	Survey concluded.

Possible hibernation sites include any deep cavities, where present, in the walls of the buildings.

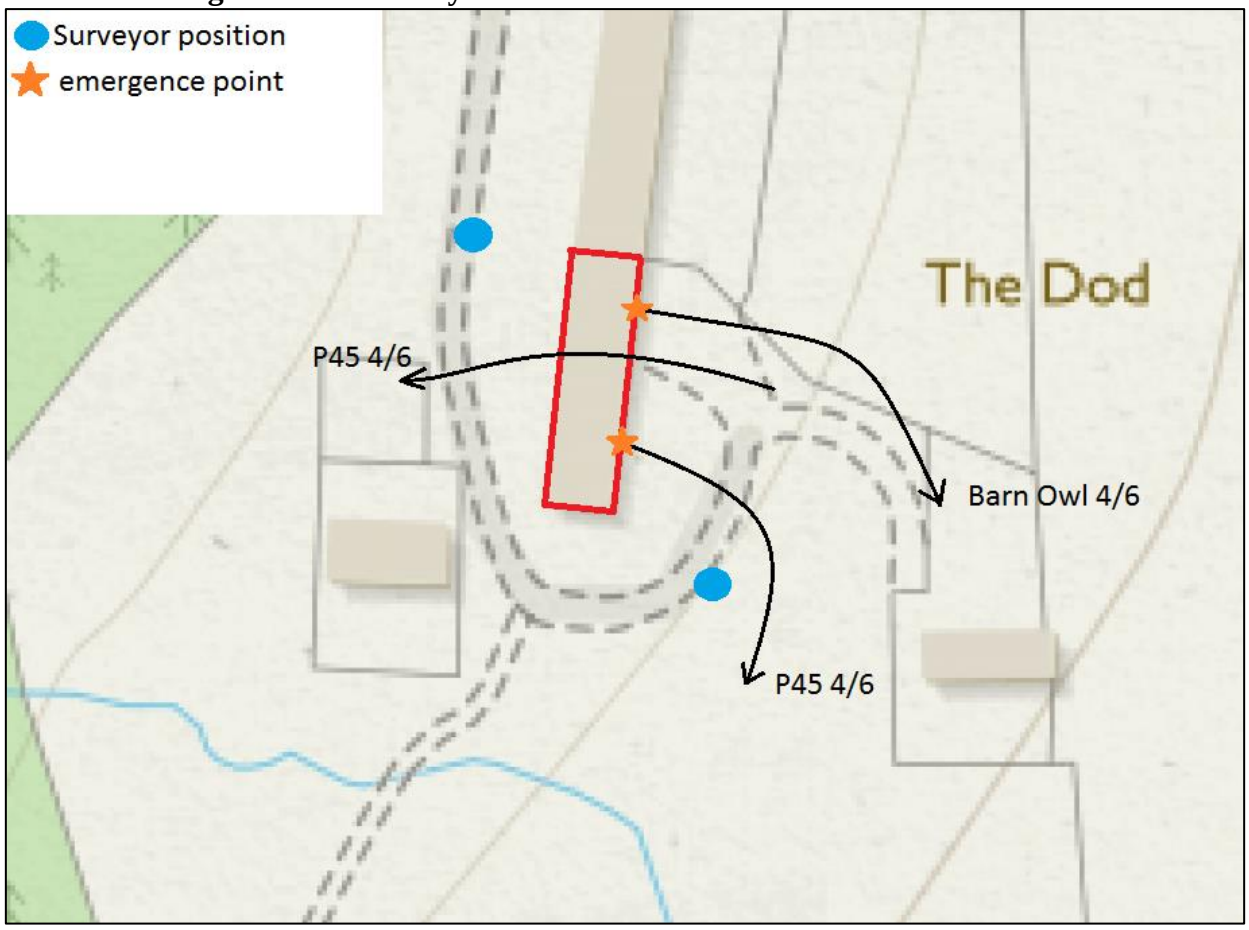
No evidence of barn owl chicks was heard in the buildings, swallow nests are present in Section 5.

Barn Owl nesting box in Section 3

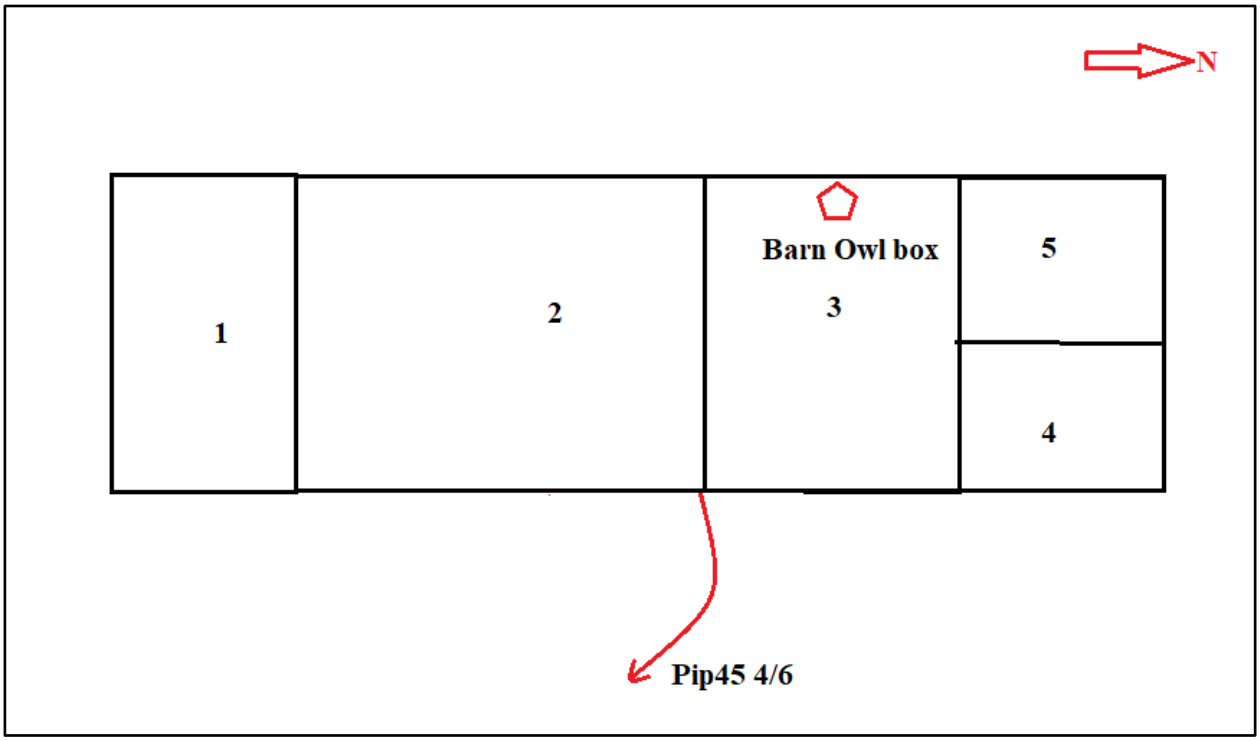
Upper floor of Building 3.

Section 4 used by Swallows

Plan of Building with Bat Activity



Detail



C8 Interpretation and evaluation

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

C8.1 Presence

An occasional Pipistrelle 45kHz bat is using the building as a day roost.

C8.2 Population size

<2 Pipistrelle 45kHz, bats

C8.3 Site status

The building due to be converted has a low conservation significance for bats as a roost site at present. This assessment takes into account the feeding habitat within 200 metres, the results of the inspection, survey and the potential of the building as a maternity bat roost site. The occasional male or non-breeding female bat may be present on the gable wall tops where they may be present in any crevice at any time throughout the year.

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 bats being located during works.

Even with mitigation some disturbance will occur but carrying out the development in a less sensitive time of year will avoid disturbing hibernating bats. In the short term, the works will disturb any bats still present during the spring to autumn period.

D2 Long-term impacts: roost modifications

Not applicable.

D3 Long-term impacts: roost loss

Not applicable.

D4 Long-term impacts: fragmentation and isolation

The proposals will not affect bat flight lines around the buildings and sheltered alcoves will still be present for foraging bats.

D5 Post-activity interference impacts

Any additional floodlights that would increase light levels and shine on any bat access points or foraging areas would be a high impact.

D6 Predicted scale of impact

The impact level on bats will be low on site, minimal in the county and at regional level without mitigation, however the proposed mitigation and compensation will reduce the impact level to negligible for any of the species present on site.

E Land ownership – Mitigation sites

E1 Mitigation site ownership

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

F References

Barn Owl Trust (2002), Barn Owls on Site. English Nature
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.
English Nature (2004) Bat Mitigation Guidelines. EN
Joint Nature Conservancy Council (2004) The Bat Workers Manual. JNCC.

Bat boxes : www.nhbs.com/title/158629/2f-schwegler-bat-box-general-purpose

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

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, timber 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 of Habitats and Species Regulations 2010. 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.

Identifying roosts
Pipistrelle the most common bat, favours small crevices and spaces between stonework, timber 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, that and 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.

A Mitigation and compensation.

A1 Mitigation Strategy

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

- Retention of bat crevice identified in Building 2/3 on the east aspect in a crevice near the door as at present.
- Sensitive timing of any roofing works in spring to autumn to avoid hibernating bats.
- Provide Method Statement to contractors.
- Advice given for the safe removal of any bats found from harm during the development under different weather conditions.
- 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.

Architect
The bat provision specified below will be incorporated into the plans. This will show the location of the bat access crevice to be maintained as in this report.

Timing
Any development work involving dismantling any stonework and the removal of the existing roof materials will be carried out avoiding the hibernation period (November to March inclusive). Periods of cold weather (below 5ºC including night temperatures) will be avoided 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 roof coverings, ridge tiles, etc and may be found torpid on wall tops and in wall cavities if any. Table 1 below highlights where bats may be found and the recommendations.

Table 1 General Methodology for Development works (Bold applicable to this site)

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. Leave two crevices per wall beneath the eaves that are 10cm deep and long and 2 to 1cm wide*	*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.**

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.

The same will apply 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.

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.

C works to be undertaken by the Developer/Landowner

C.1 Bat roosts

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

Retention of bat crevice identified in Building 2/3 on the east aspect in a crevice near the door as at present. Please see photograph below for location.

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. Pipistrelle bats, the commonest species, and Whiskered/Brandt's bats prefer to roost in small cavities/crevices often staying on top of the wall and do not enter the open roof spaces. Natterer's, and Brown long-eared bats also use crevices but will also use loft spaces.

A traditional bitumen felt or wood sarking that would give bats some grip will be used in the region of the bat roost potential and not a more modern smooth or breathable roofing membrane (BRM) that may fray and entrap bats.
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.

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.

C1.2 Modification of existing roost(s)

Not applicable.

C1.3 New roost creation

Not applicable.

Provision for Birds
Either suitable features for swallows will be created in the design of the buildings or alternative buildings will be made available to swallows or appropriate nesting boxes (at least 3) will be placed in convenient sheltered positions at 2.5 to 3 metres in height.

Barn Owls

The present barn owl nesting box will be relocated into a barn immediately to the north of the present site with a flight path to the east if possible.

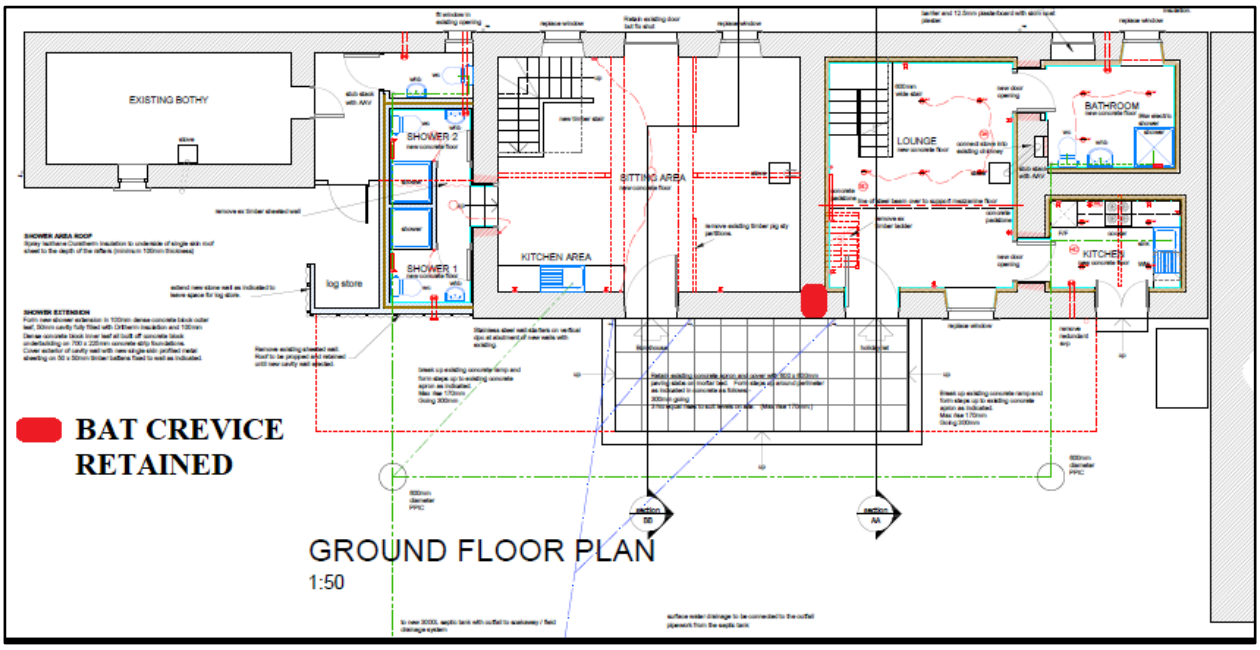
A further barn owl nesting box will be erected on a tree on the eastern plantation edge within 200m to the west, at least 30 days before work is to commence and disturbance kept to a minimum. This is to prevent the owls from being overly disturbed and moving on by providing an alternative roosting area. This nesting box will be maintained for the length of the barn life or 30 days after development work has ceased, whichever is longer.

Work commencement will be timed to avoid the bird's main breeding season (March to August) as even when the birds are nesting nearby a knock on affect may occur causing the birds to move on.

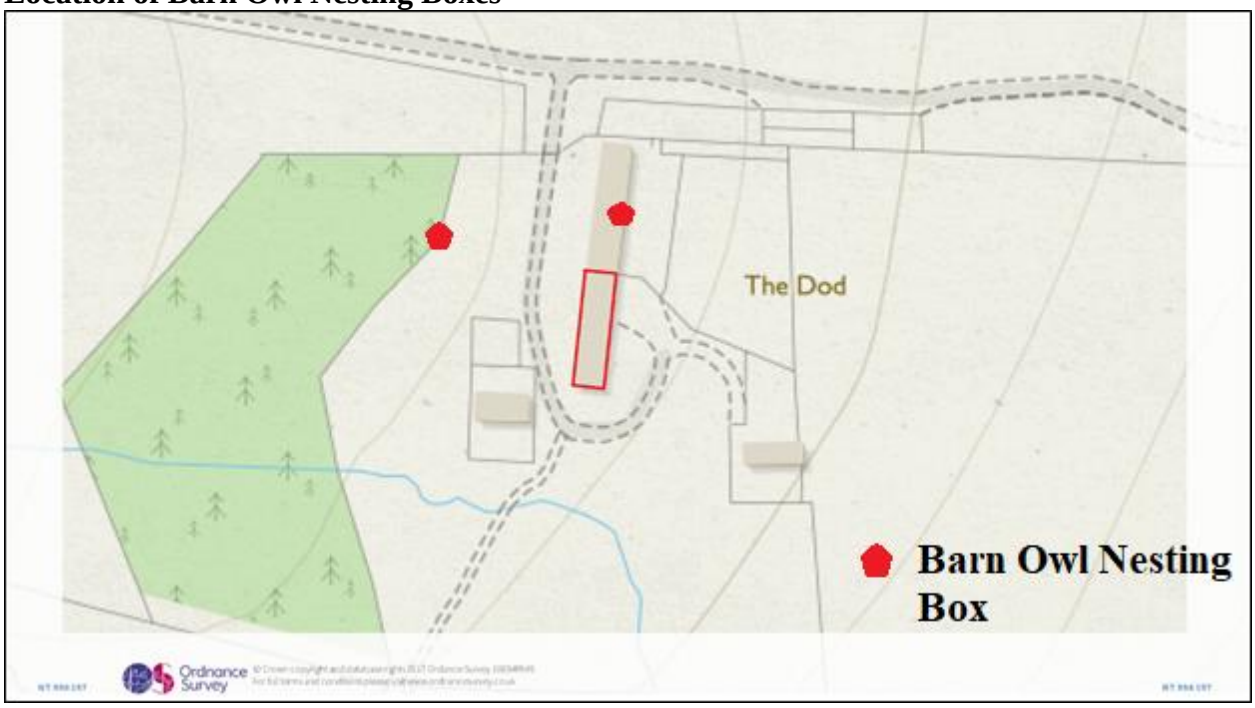
Other precautions are as follows

- Before any building work starts a final search of each building involved will be undertaken to ensure that no breeding is taking place, by a suitably qualified ecologist. Barn owls can be tolerant of noise etc when they move in.
- Position static noisy machinery away from the buildings occupied by owls.
- Contractors will not disturb the barn owl box or known nesting site.
- No steep-sided container or water will be left uncovered on site – to avoid the risk of owls drowning.

C.1.4 Scaled maps/plans



Location of Barn Owl Nesting Boxes



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 low bat activity on site, no monitoring will be required after completion 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

Not known at present.