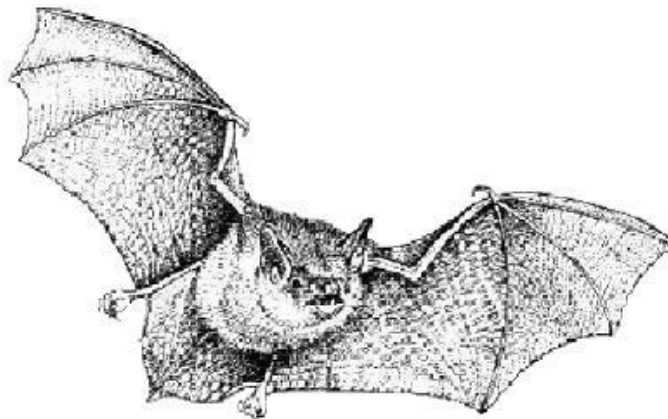


**Earslwood Barn,
Moss Lane, Wrightington,
Wigan, Lancashire.
WN6 9PF**

**Survey & Assessment in Respect of Bat Species
and Nesting Birds (including Barn Owl).**

**Surveyor- Mike Fisher
(Bat Survey Licence Level 2 Class Survey Licence WML CL18)
(Bat Roost Visitor Level 1 Class Survey Licence WML CL15)**



Echo Calls Bat Surveys

2nd December 2020

1. Introduction.

1.1 Reason for Survey.

In order to obtain planning permission to develop the site, by converting and extending a barn into a dwelling, a daytime evidence and opportunity bat survey, and a post nesting bird survey were requested, on the building, and any trees and shrubs within the site boundaries. The purpose of this survey was to provide evidence on habitats and protected species within the site boundaries, as part of the Local Development Framework (UDP Policy EN9).

1.2 Aims.

The aims of this ecological assessment were to:

- To provide clear advice to the client, and the Local Planning Authority, on the nature conservation value of the site, and surrounding area.
- To assess the site for the presence, or potential of protected species, within the proposed development site.
- To enable the client to comply with legislation afforded to protected sites and species.
- To highlight the presence of any habitats or species of ecological importance, including Habitats and Species of Principal Importance (NERC Act, 2006).
- To identify any ecological constraints, on future development.
- To establish the need for any further surveys and assessments.
- To make nature conservation recommendations.

1.3 The Site.

The site consisted of an existing barn complex located centrally within the overall site, positioned at the end of a long drive extending southwards from Moss Lane in the north, in the Wrightington area of Wigan in Lancashire. The land and building from now on are referred to as the "site" at OS grid reference: SD 52545 11535, (refer to **Fig 1 - The Site Location**).

+1.4 The Barn.

The targeted building was an existing barn, currently being used as a mixture of storage, a garage and a stable.

1.5 Surrounding Land.

The barn complex was positioned centrally within the whole site and was orientated in a north-south direction. With a rough track running immediately to the west of the barn, between it and the tree-lined western boundary. Beyond this to the west was a large area of open pasture, with a large area of woodland called Bury Hey Wood, positioned 0.12 km at its nearest point, with a large farm called Robin Hood Farm, and adjoining further fields beyond.

Immediately to the north were several dwellings and their extensive gardens, containing many trees and shrubs, both mature and immature. With further lines of trees along the edges of Moss Lane, with further areas of open pasture beyond this to the north. Whilst to the north-west were the gardens belonging to another dwelling.

There was an area of paddock positioned to the east of the barn, used by grazing donkeys, and bordered by a fragmented shelterbelt of mature trees, and a large area of open pasture further east, whilst to the south and south-east were further areas of open pasture, with a large area of

woodland called Primrose Woods lying approximately 0.18km to the south-east, and with further areas of pasture beyond.

There were some ephemeral ponds in the surrounding area, and the Wrightington Pond complex, lying just over a kilometer away in the midst of a large, wooded area, but other than the above-mentioned features, there were no other large areas of woodland, or stretches of open water in the surrounding area, (refer to **Fig 1 -The Site Location**, **Fig 2 – Google Map** and **Fig 3 – Main Plan of Area**).

2. Methods.

2.1 Risk Assessment, Possible Hazards.

The required access to the site was easy, and the perimeter of the building could be carefully searched, and, there were no more hazards, other than those normally associated with surveying both the inside and outside of this types of building.

2.2 Methodology of Bat Surveys

A number of factors are used for the survey methodology, which include:

- Knowledge of bat species relevant to the site location, and geographical range.
- Nature of the immediate, and surrounding habitat, in relation to foraging opportunity.
- Condition of trees, shrubs, and any water bodies.
- Presence/absence of roost potential.
- Value of roost potential – if present.

2.3 Daylight Evidence and Opportunity Survey.

The daylight evidence and opportunity survey took place on 25th November 2020, and was carried out in order to assess the site, and search for evidence of bat occupation (including recent and historic use).

It comprised a search for bats, bat droppings, remains of invertebrate prey, grease marks from repeated contact, or passage through narrow roost accesses, or against surfaces, and any other signs of bat occupation, and at the same time looking for evidence of nesting birds, active nests and feathers.

Areas within the targeted buildings searched were:

- Outside; the eaves, walls and canopy, for signs of potential bat access holes, also the ground, doorways and any other surfaces, which may occur underneath the eaves, and around the perimeter of the buildings, all of which could catch bat droppings.
- Inside the buildings, on floors, roof trusses, or on vehicles and pieces of stored equipment, or furniture where possible, also in spider's webs and other places, where droppings or prey remains may collect. Also, noting any noises such as scratching and squeaking which may be made by roosting bats.

The optimum time to investigate buildings for evidence of a bat roost, is between May and September, however, this can sometimes be earlier or later in the year, and is weather and temperature dependant.

Evidence and opportunity inspections and assessments may be conducted outside of this time, and can often provide conclusive results, which can save expense and time for Planning Applicants.

The habitats and any trees surrounding the site, were assessed for their suitability for use by foraging and commuting bats.

All nesting bird species, and evidence of nesting, observed during the survey were recorded.

All habitats were assessed for their value for use by nesting birds particularly barn owls.

The search also included a search for evidence of barn owl use such as pellets, faecal splashes and feathers.

2.4 Equipment.

Equipment used consisted of a camera, endoscope, close-focus binoculars, a powerful hand-held torch, and ladders.

3. Results

3.1 Daylight Survey.

3.1.1 Weather.

The weather conditions at the start of the survey on 25th November 2020 were good. It was dry and sunny, with a gentle breeze, (Beaufort Scale 2/3), and with some cloud cover. The temperature taken at the start of the survey was 9°C, and such overall conditions were suitable for a survey of this type.

3.2 Possible Roost Sites.

3.2.1 The Buildings.

There was a large barn complex surveyed for signs of bat activity, as mentioned above (paragraph 1.3).

The Barn.

The barn was positioned centrally within the site, running in a north to south direction, and was split up into four distinct parts, all of which were constructed from brick, (refer to **fig 3** and **4**, and **photos 1** to **23**).

The Garage.

The southern part was a large former garage, which was a single storied, square building, with a pitched roof covered in underlined concrete tiles, mounted on timber joists and purlins. Although it was now being used for the storage of building materials, some small pieces of machinery, and other assorted items, the building overall was in good condition with sound gables and soffits.

There were potential bat access points however, and these were:

- The large garage doors within the southern elevation had been removed at some point in the past, resulting in a very large open opening. A careful search around the doorway, on the internal floor and other features, found neither bat droppings, urine or fur staining, nor prey remains, and therefore the former garage was deemed to have not been used by roosting bats, (refer to **fig 3** and **4**, and **photo 1**).

- Attached to roof beams at two locations were the remains of swallow nests, (*Hirundo rustica*), and although both nests looked as though they hadn't been used recently, it was thought that these nesting opportunities would be lost, should the development go ahead, (refer to **figs 3 and 4**, and **photos 18 and 19**).

The Second Part.

The second part was attached both internally and externally to the former garage's northern elevation of the garage. This was a long narrow, single-storied building, with a pitched roof covered in underlined concrete tiles, and was being used mostly to stable the donkeys. The building was fairly sound and well-sealed, (refer to **figs 3 and 4**, and **photos 18 and 19**).

There were potential bat access points however, and these were:

- Positioned part way along the western elevation, was a large opening left by the removal of a large door, however, a careful search around the doorway and on the internal floor, found neither bat droppings, urine or fur staining, nor prey remains, and therefore this part of the complex was deemed to have not been used by roosting bats, (refer to **fig 3 and 4**, and **photos 2 to 4**).
- The door in the entrance to the donkey stable at the north-eastern corner of the building was left open most of the time, but again an internal search found no evidence to suggest that bats use the interior of the stables for any type of roosting behaviour, (refer to **figs 3 and 4**, and **photos 12 to 14**).

Archway.

Attached externally to the northern elevation of the stable block and to the southern elevation of the northern part was a tall archway, constructed from timber, and covered in concrete tiles, underlined in roofing felt. The arch was open at both the western and eastern ends, but the remainder of the arch was fairly sound, (refer to **fig 3 and 4**, and **photos 5, 6, 11 to 13, 21 and 22**).

There were potential bat access points however, and these were:

- There was a small hole at the junction between the top of the wall and where it meets the roofing felt, however, a close inspection internally using an endoscope, found the hole to be of insufficient depth to offer any bat roosting potential, (refer to **fig 3 and 4**, and **photo 21**).
- Two small areas of the roofing felt had peeled back beneath the arch roof, leaving small gaps, but an inspection of the gaps and the floor and walls beneath them, found neither staining, prey remains or droppings, (refer to **fig 3 and 4**, and **photo 22**).

Northern Part.

Attached externally to the archway, and orientated to the north was a long, narrow building, of similar construction as the remainder of the complex, having a pitched roof covered in under-felted, concrete tiles, and mounted of timber joists and purlins. The building was used partly for the storage of hay and similar materials, also for storing different types of vehicles and equipment. It was fairly well-maintained, with sound soffits and gable, (refer to **fig 3 and 4**, and **photos 5 to 12**).

There was a potential bat access point however, and this was:

- There was a large gap between the doorframe and the outer brick wall adjacent to a door in the western elevation, however, close inspection of the gap using the endoscope, found parts of the gap to be cobwebbed, and the remainder to be devoid of any signs of bat roosting, (refer to **fig 3 and 4**, and **photo 7**).

All of the barn was unheated and uninsulated, and therefore was cold, damp, and draughty, and therefore, was deemed unsuitable for breeding bats. Also, as frost and inclement weather was likely to penetrate the interiors in the colder months, the overall building did not offer the optimum humidity, and stable low temperatures that are suitable for hibernating bats. It was also thought that the missing doors would allow copious amounts of daylight to enter the inside of the barn, thus reducing the dark corners essential for daytime roosting bats. Therefore, the whole barn complex was deemed to offer very low potential for roosting bats.

No current or historical evidence of bats was detected in, on, or around any part of any of the former barn, either internally or externally, nor was there any evidence detected of previous use in any part of the site, by roosting bats.

It was thought possible that some of the site could be used by nesting birds, but at the time of the daylight survey, although there was some bird activity in and around the site, other than the old swallow's nests mentioned above, there were no other signs observed during the survey of any current or recently nested birds. It was also surmised that due to the time of year, most birds will have ceased to breed.

During the survey of the site, no owl pellets, faecal splashes, feathers or prey remains were found to suggest that either of the buildings were currently being used by barn owls, and it was deemed unlikely that any part of the buildings would be used for roosting purposes, as the buildings offered negligible perching potential.

3.2.2 Trees and Shrubs.

There were numerous trees and shrubs growing along both the western and northern boundaries of the site, and where possible, these were carefully searched for signs of possible bat usage, but no signs were found. There were also more trees and shrubs positioned further north in the grounds of the nearby dwelling, and along Moss Lane, but as these were outside the overall site boundary, they were not too carefully searched, but no obvious bat roosts were discovered, and therefore, all of the above were judged to be Category 3 (of negligible value for roosting bats) in accordance with **Appendix 2**.

It was thought likely, that some of the trees, hedgerow and shrubbery around the site perimeter, could be used by nesting birds, during the nesting season, but at the time of the survey, although there was some bird activity in and around the site, no active nests were found within the trees, nor were any signs of historical nesting. It was also surmised that due to the time of year, most birds will have ceased to breed.

3.2.3 Foraging Potential and Alternative Bat Roost Potential

The site is in a mainly rural area, and the nearby habitat consisted of large areas of open pasture bordered by lines of shelterbelts of mature trees and shrubs with bramble understory, with similar trees along the western edge of the site, and in the gardens of the properties along Moss Lane to the north. There were large areas of woodland to both the west and south-west of the site, and a farming complex to the far west, as mentioned above, (paragraph 1.5). All of these offered linear features suitable for foraging bats, such as common pipistrelle (*Pipistrellus pipistrellus*), and possibly other bat species, to commute along and to hunt along for their insect prey.

However, other than these features, there were some ephemeral ponds in the surrounding area and the nearby Wrightington Pond complex, but there were no other areas of woodlands, or watercourses, in the nearby vicinity, and thus the area was assessed to offer only low to moderate potential value for foraging bats, primarily pipistrelle species, but it was thought that small numbers of other species could be present.

It was considered that other buildings, especially dwellings, in the surrounding area could offer greater potential as bat roosts. Bats favour heated building whilst breeding.

4. Conclusions

4.1 In summary, at the time of the current surveys (25th November 2020), no current, or historic evidence of roosting bats were found in any part of the barn, nor in any of the shrubs or trees along to the borders of the site.

4.2 Most of the barn was currently being used for storage, and the remainder was being used as a stable of donkeys. Although all parts of the barn were in a reasonable condition, it was unheated, uninsulated, and would be draughty and cold throughout most of the year, and therefore was deemed unsuitable for either daytime roosting bats, or breeding bats. It was also concluded that the barn would be penetrated by frost and inclement weather in winter, thus making it unsuitable for hibernating bats, and therefore the whole complex was concluded to offer very low potential, as any type of possible bat roost, (refer to **Appendix 2**).

4.3 None of the trees or shrubs in the immediate area, offered any suitable roosting opportunities for bats of any species, and therefore, all of these trees and shrubs were concluded to offer negligible potential as possible bat roosts, (refer to **Appendix 3**).

4.4 The adjacent habitats had the potential to support low to moderate numbers of foraging common pipistrelles, but large numbers of other species of bats was unlikely. It is concluded therefore that since there is currently no evidence of the presence of bat roosts within any part of the site, that the proposed development work on the site, will not have significant implications on the population status of local bat species. There will not be requirement for an EPS mitigation licence (as issued by Natural England) but as a measure of best-practice, precautionary measures should be applied as described in section 5 below.

4.5 It was also concluded that since no evidence of roosting bats, or evidence of bat occupation, either current or historic, had been found during the surveys carried out on 25th November 2020, then a single visit to the site to carry out a daylight evidence and opportunity bat survey, was considered sufficient to assess the site, (refer to the 'Bat Worker's Manual' (JNCC 2004) and 'Bat Surveys – Good Practice Guidelines' (BCT 2012), paragraph 8.3.4).

4.6 Since bats, particularly Pipistrelles, are opportunistic, an absence of roost evidence at present, does not preclude the low possibility of small numbers of bats, using the site occasionally in the future and/or at other times of year. It is considered that the likelihood of a significant roost (such as a maternity roost) being established is very unlikely, with lone and/or transient roosting likelihood being negligible.

4.7 It was understood that there may be some site clearance work carried out during the planned development, but that this will be kept to a minimum, and that the majority of the trees and shrubs along the both the western and northern boundaries of the site, will be unaffected by the work, and as bats use linear features such as lines of trees or walls, as foraging and commuting routes, it was concluded that the minimal loss of the habitats, resulting from any future development works on the site, would not affect the overall foraging or commuting potential for bats in the area.

4.8 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. There was potential for the targeted complex, and some of the trees, shrubs and other vegetation around the site perimeter, to be used by birds for both roosting and nesting purposes, but other than the inactive swallow nests (mentioned above), no other evidence of nests were found, and It was also surmised that due to the time of year, most birds will have ceased to breed, (Refer to **Appendix 1**).

4.9 As no evidence of roosting or nesting barn owls was observed in any the buildings, it was concluded therefore that barn owls do not use the site for either roosting or breeding.

5. Recommendations

5.1 The proposed changes to the site as laid out in the planning application, are of minimal risk to either roosting bats or nesting birds, and therefore, development can commence if the following mitigation measures are adhered to.

5.2 The aim of mitigation is to ensure that any work is carried out in a manner that avoids harm, or significant disturbance to bats and nesting birds, also, to create possible new enhanced roosting opportunities for bats and birds, both during, and after the development.

5.3 Ideally, the barn, (not considered suitable for hibernation), especially the removal of the roof, should be worked on in winter to avoid the possibility of bats moving in, and using the building as spring, summer and/or autumn roosts after the survey. The safest period will be from the first hard frosts, normally mid-December, until mid-March, although this could be earlier in a really warm spring or later in a cold spring.

5.4 But even if the building is worked on at other times, it will be very unlikely that roosting bats will be disturbed, it is recommended therefore that work starts as soon as possible after this survey, and that any ridge tiles and/or roof sheeting be carefully removed by hand, (the ridge and edge soffits are the features most likely to harbour potential for the support of roosting bats).

5.5 If more than 12 months elapses between the current surveys, and any demolition work, or roof sheet removal, then these surveys of the site must be repeated. Both the evidence and opportunity, and emergence surveys, need to be carried out under weather conditions suitable for normal bat activity, or carried out when bats are fully active (May to September but is weather dependent), and will also be accompanied by a suitable number of evening bat emergence surveys.

5.6 As a measure of best practice and in accord with a key principle of National Planning Policy Framework (2012), it is recommended that the re-development scheme for this site, incorporates biodiversity enhancement measures, and an appropriate measure will be the installation of bat boxes. These can be attached to the outer walls of the new buildings or to some of the surrounding trees. In connection with the development proposals, it is recommended that these measures are implemented to maximise the opportunities for wildlife at the site, (refer to **Appendix 6** for details).

5.7 There was potential for both roosting and nesting birds around the site, and it must be remembered that it is an offence to disturb active birds' nests. It is recommended therefore, that before the commencement of any demolition work, that a careful survey looking for any evidence of nesting birds is carried out. If evidence of an active bird's nest is detected at the start of demolition, the nest must be left undisturbed until it is appropriately confirmed that the young birds have fledged. It is recommended therefore to reduce any nest disturbance, that no activity involving people or their equipment, it is to be carried out within a 3m radius of active nests. If there is any doubt, please refer to the consultant. This guidance is applicable during the bird breeding season which typically extends from March to August inclusive.

5.8 This is particularly important in relation to the two currently inactive swallow's nests within the interior of the garage, both found during the surveys on 25th November 2020. As these future nesting opportunities will be lost during the planned schedule for site modernisation, It is recommended that some Schwegler No 10 woodcrete swallow nests be put up, to mitigate for potential loss of swallow nesting opportunities, during, and after the development. This type of nesting box is widely available, and should be erected as soon as possible, to mitigate for potential loss of nesting opportunities, during, and after the development, to encourage and enhance future colonisation and nesting by these species, (refer to **Appendix 7** for details).

5.9 It is also recommended, that a mixture of open-fronted “robin type” nest boxes and hole fronted “tit type” nest boxes are erected amongst the trees around the perimeter of the site, and some attached to the new buildings after completion. These are to be erected to mitigate for potential loss of nesting opportunities, during, and after the development, also to encourage and enhance future colonisation and nesting of bird species. These wooden nesting boxes can be easily constructed, and should be erected as soon as possible after this report, around the site, (refer to **Appendix 7** for details)

5.10 Any future vegetation clearance should only be carried out between September and February inclusive, (i.e. outside the bird nesting season), unless it is confirmed by a suitably experienced ecologist that no active nests are present. If, however, should the removal of any of the hedgerows around the boundaries take place during the early part of the nesting season, then the shrubbery should be removed from the site immediately following the felling. Failure to do so could provide potential nest sites, if left in place throughout the rest of the bird breeding season.

5.11 It is also recommended that before any shrub or hedgerow, or excess building materials are pruned, disturbed, or removed, during building works, that this should be undertaken outside the hedgehog hibernating months, November to mid-March. If this is not possible, then a suitably experienced ecologist must be present to oversee all vegetation removal, to ensure that no hedgehogs are disturbed whilst hibernating (Hedgehogs are a UK BAP Priority species).

5.12 No hole or pit should be left uncovered over-night, to ensure that wildlife such as amphibians or hedgehogs are not trapped, and unable to escape. Alternatively, a broad wooden plank or similar can be placed in the excavation to allow animals to escape. A scaffolding board pitched at a maximum 45° angle would be ideal.

5.13 During the development, all excavations should be checked first thing each morning, prior to the start of works that day. Any animals found within excavations should be allowed to escape and move off, or carefully removed and placed within suitable habitat cover before site works commence for the day.

5.14 Close boarded fences with concrete bases are barriers to animal movement, and It is recommended, that any perimeter fences along the boundaries are not to be sealed at their bases. Where possible, hedgerows are to be used instead, with timber post and wire fencing also serving to enforce boundary lines, without prohibiting wildlife movements. If any boarded fences are required, it is recommended that there is a 3 – 5 cm gap between the wood and the ground (greater in some locations and less in others is not a problem) so that wildlife such as hedgehog and amphibians can pass into and out of the garden.

5.15 Outdoor lighting is typically a deterrent to wildlife, especially bats and nesting birds, it is therefore recommended, that any future outdoor lighting, installed during the proposed development, be screened, hooded, or positioned low at bollard level, so that it does not illuminate the roof or eaves, or nearby trees and shrubs.

5.16 To enhance the site’s value for wildlife, it is recommended that trees be planted to replace any felled trees, and this is planned as part of the development, and that the trees used for re-planting are British native trees as far as is possible. These trees are more likely to attract insects and are therefore beneficial to foraging bats and other wildlife. Suitable species include: Hawthorn, Rowan, Wild Cherry, Guelder Rose and Crab Apple. These have been chosen for their attractive blossom and fruits. Oak, Ash and Willow species are recommended away from buildings and drains.

5.17 It should be remembered that bats are occasionally found in the most unexpected places. If any bats are found during unsupervised work, work must be stopped immediately, and either the consultant (07745 268815), or the Bat Conservation Trust (0345 1300 228), or Natural England (01270 754 00, should be notified, (refer to **Appendix 5** for details). **Failure to do so would be a criminal offence.**

6. Survey Constraints

Surveying for bats at a specific season of the year, does not provide information of use of the site by bats at other times of the year. The current survey was undertaken during the autumn, and reflects past bat activity, and whilst consideration may be given to roosting at other times, there may be no evidence for activities outside the survey period.

As bats can utilise very small cracks and crevices, it is not possible to completely discount their use of some of the trees and shrubs around the site, although the survey did not identify any evidence of use. Assessments can however be made of potential use from the survey findings collected, but it may not provide a full picture of site usage.

Small bat roosts and single roosting bats can easily be overlooked. They can be difficult to detect during inspection, as they leave few field signs which can easily be missed during surveys. External signs e.g. droppings, prey remains etc., are also subject to weather and rain, which can often remove the signs prior to an actual survey. This is particularly valid when inspecting trees and shrubs.

7. References

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8. Surveyors Qualification

The surveyor Mike Fisher is a holder of the following:

- Natural England Class Licence Registration Number: 2015-10595-CLS-CLS, this is the Bat Survey Level 2 Class Survey Licence WML CL18.
- Natural England Class Licence Registration Number: 2015-10592-CLS-CLS which is the Volunteer Bat Roost Visitor Level 1 Class Survey Licence WML CL15.

The surveyor also has a licence to disturb and take bats for scientific, educational or conservational purposes by Countryside Council for Wales (Licence Number S085859/1)

9. Plans & Photographs

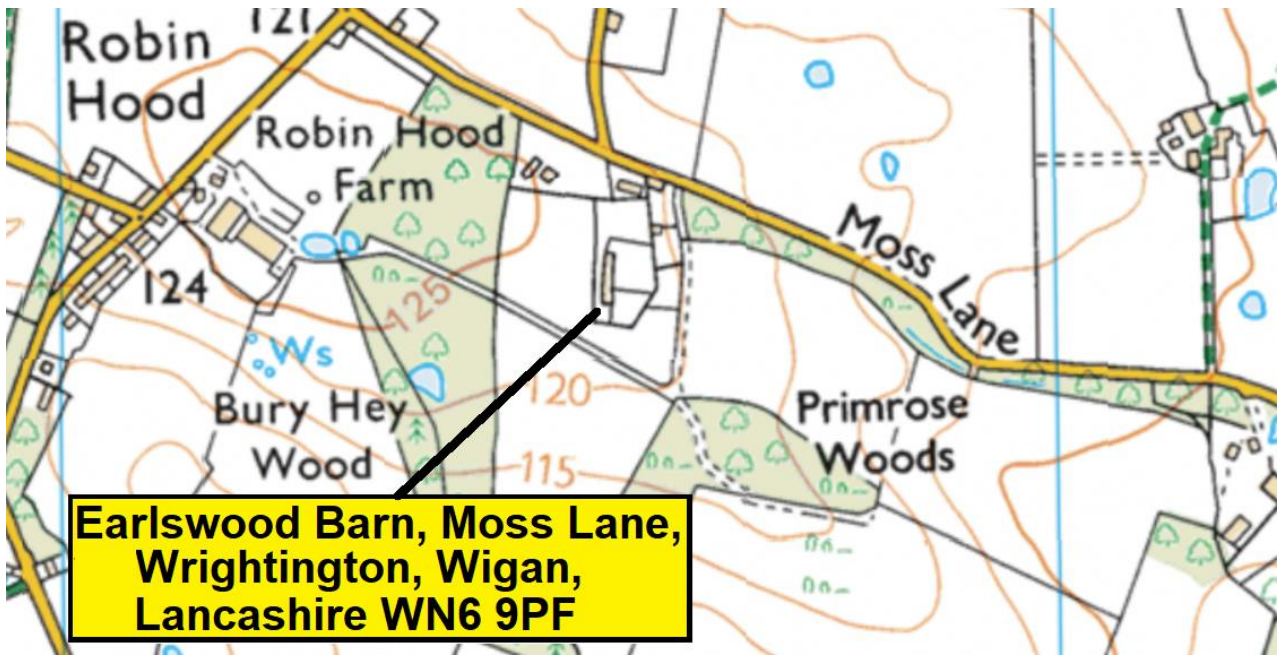


Fig 1 - The Site Location



Fig 2 – Google Plan

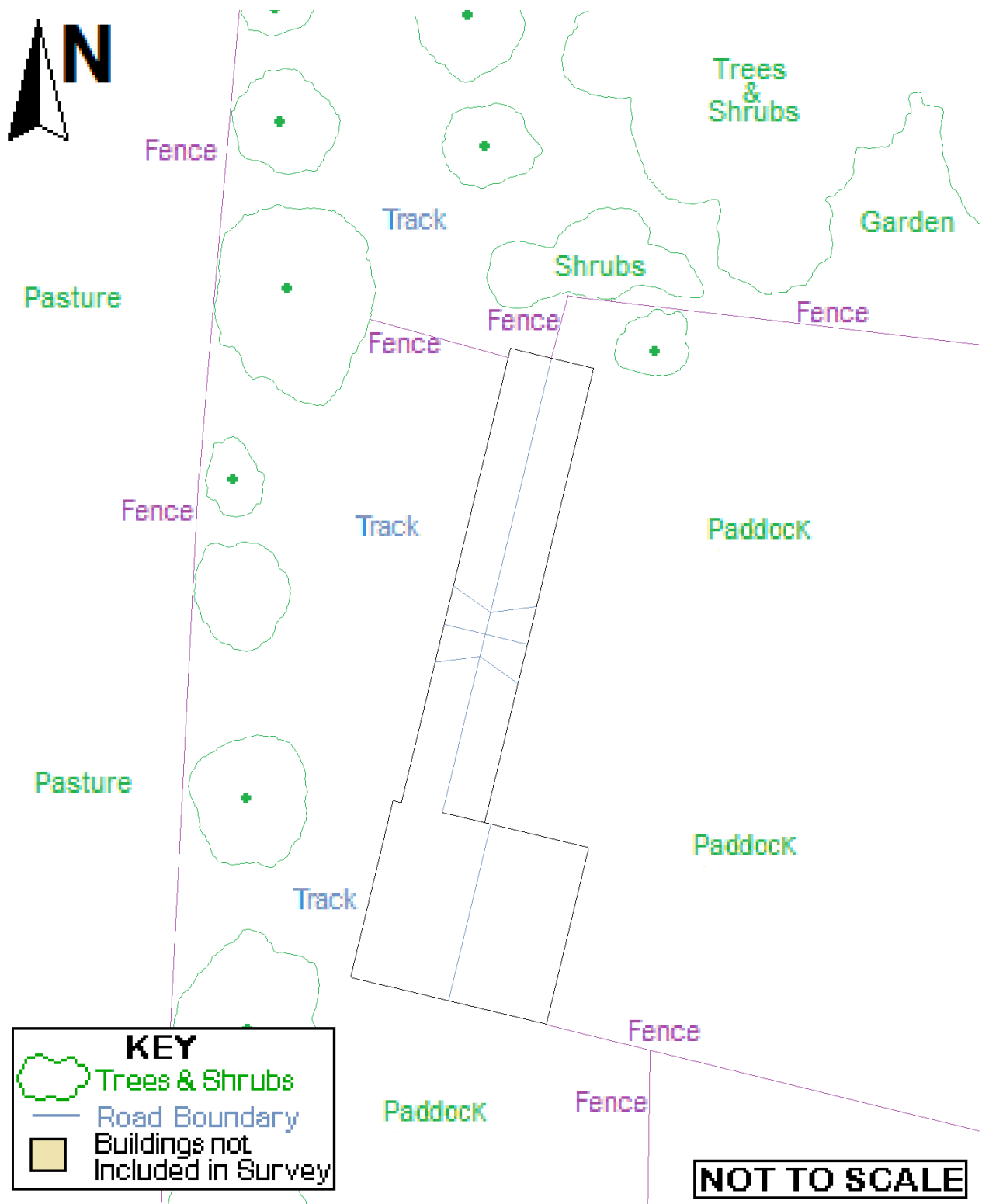


Fig 3 – Area Plan

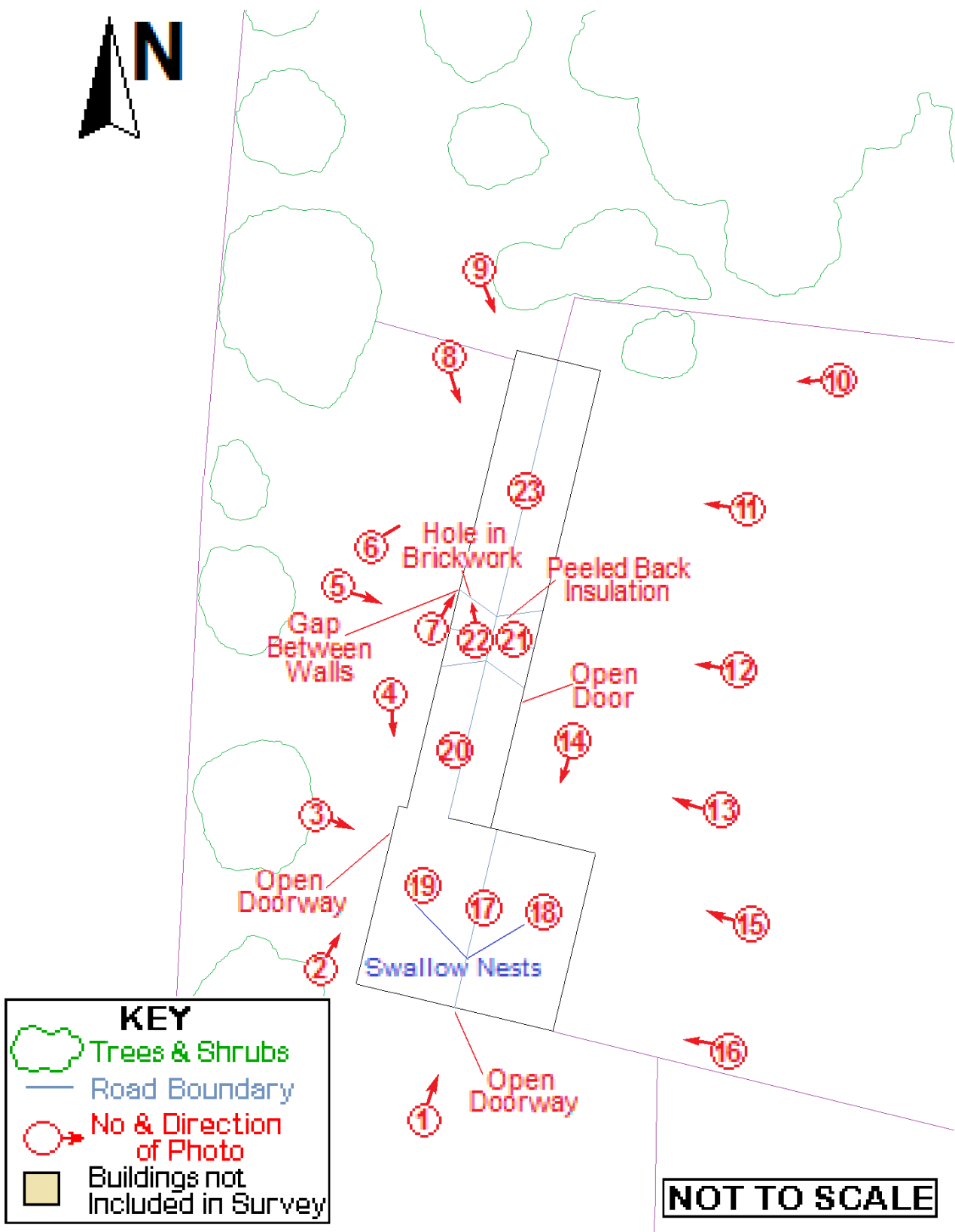


Fig 4 – Plan of Survey Results



PHOTO 1
Southern Elevation



PHOTO 2
South-western Corner



PHOTO 3
Open Doorway in Eastern Elevation



PHOTO 4
View Along South-western Elevation



PHOTO 5
Western View of Archway



PHOTO 6
View Along North-western Elevation



PHOTO 7
View of Wall Cavity Gap



PHOTO 8
North-western Corner



PHOTO 9
North-western View



PHOTO 10
North-eastern Corner



PHOTO 11
North-eastern Elevation



PHOTO 12
Eastern View of Archway



PHOTO 13
South-eastern Elevation



PHOTO 14
Northern Elevation of Garage



PHOTO 15
Eastern Elevation of Garage



PHOTO 16
South-eastern Corner



PHOTO 17
Underside of Garage Roof



PHOTO 18
View of Swallows Nest



PHOTO 19
View of Old Swallow Nest



PHOTO 20
Underside of Stables Roof



PHOTO 21
Underside of Archway Roof



PHOTO 22
View of Part Archway Roof



PHOTO 23
Underside of Northern Roof

2nd December 2020
Mike Fisher, Bat Worker
Holder of Natural England Bat Roost Licence

Disclaimer.

All reasonable effort has been taken to ensure an accurate assessment of the birds and bats at this site. The absence of recorded presence or sign should not be taken as an absolute guarantee that a site is not being used by a particular species. There is also no guarantee that any particular species will not use the site at any time in the future. Survey results for both bird and bat activity may be weather or seasonally dependent. Any interpretation of legislation is based on our understanding and experience of the law. The relevant statutory authority can provide a more definitive interpretation.

This report has been prepared by Echo Calls Bat Surveys with all reasonable skill, care and diligence, within the terms of the Contract with the Client.

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APPENDIX 1: Synopsis of Relevant Legislation

Bats and the Law

In Britain, all bat species and their roosts are legally protected, by both domestic and international legislation.

This means you will be committing a criminal offence if you:

Deliberately capture, injure or kill a bat

Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats

Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time)

Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat

Intentionally or recklessly obstruct access to a bat roost.

Licensing

Licenses to permit illegal activities relating to bats and their roost sites can be issued for specific purposes and by specific licensing authorities in each country. These are sometimes called 'derogation licenses' or 'European Protected Species' licenses, and are issued under the Habitats Regulations. It is an offence not to comply with the terms and conditions of a derogation Licence. If you carry out work affecting bats or roosts without a Licence, you will be breaking the law.

Who needs to take particular note of the legislation?

Property owners/householders who have a bat roost in their property.

Woodland owners, arboriculturalists and foresters.

Pest controllers.

Planning officers & building surveyors

Architects, property developers, demolition companies, builders and roofers.

Which legislation is relevant for bats and roosts?

In England and Wales, the relevant legislation is the Wildlife and Countryside Act (1981) (as amended); the Countryside and Rights of Way Act, 2000; the Natural Environment and Rural Communities Act (NERC, 2006); and by the Conservation of Habitats and Species Regulations (2010).

In Scotland, the key legislation that applies is the Conservation (Natural Habitats &c.) Regulations 1994 (as amended).

In Northern Ireland bats are listed under Schedule 2 of the Conservation (Natural Habitats etc) Regulations (Northern Ireland) 1995 and in the Republic of Ireland, under Schedule 5 of the Wildlife Act 1976 and Schedule 1 of the European Communities (Natural Habitats) Regulations 1997.

Defences include:

Tending/caring for a bat solely for the purpose of restoring it to health and subsequent release

Mercy killing where there is no reasonable hope of recovery, (provided that person did not cause the injury in the first place - in which case the illegal act has already taken place).

Penalties on conviction –

People committing bat crimes can face six months' imprisonment and/or unlimited fines. Additionally, any profits made as a consequence of not following lawful process can be confiscated and items used to commit the offences such as vehicles, plant or machinery can be forfeited.

Under National Planning Policy Framework (2012), it is recommended that the re-development scheme for any site, protected species, such as bats should be a material consideration in planning applications. This has implications for bat foraging areas as well as their roosts.

The National Planning Policy Framework (NPPF) places a clear responsibility on Local Planning Authorities to conserve and enhance biodiversity and to encourage on the consideration that should be given to Protected Species where development may affect them.

The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation. This is supported by a guide to good practice entitled 'Planning for Biodiversity and Geological Conservation: Building in Biodiversity' in which paragraphs 5.34 and 5.35 identify that species such as bats are highly dependent upon built structures for survival and that roosts can be easily incorporated into existing and new developments/conversions to benefit these species.

Breeding Birds

All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended), whilst they are actively nesting or roosting. Section 1 of this Act, makes it an offence to kill, injure or take any wild bird, and to intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built. It is also an offence to take or destroy any wild bird eggs.

Barn Owl

Barn owls are listed on Schedule 1 of the *Wildlife and Countryside Act 1981* which gives them special protection.

It is an offence, with certain exceptions, to:

- Intentionally kill, injure, or take (handle) any wild barn owl;
- Intentionally take, damage or destroy any wild barn owl nest whilst in use or being 'built' (barn owls do not 'build' a nest but may make a nest scrape);
- Intentionally take or destroy a wild barn owl egg;
- Have in one's possession or control a wild barn owl (dead or alive), or egg, (unless one can show that it was obtained legally);
- Intentionally or recklessly disturb any wild barn owl whilst 'building' a nest or whilst in, on, or near a nest containing eggs or young;
- Intentionally or recklessly disturb any dependent young of wild barn owls.

APPENDIX 2: Bat Roost Potential

Guide to bat roost assessment categories in built structures based on Table 4.2 in the BCT Bat Survey good practice guidelines (Hundt, 2012).

Category Description	Indicators
Confirmed Roost	<ul style="list-style-type: none"> • Sighting/hearing of bats (including emergence). • Fresh or old droppings.
High potential to support bat roost(s)	<ul style="list-style-type: none"> • Numerous or high potential roosting features that are not exposed to the elements: crevices deeper than 100mm, width 15-70mm: • Un-obstructed flyways. • Low disturbance levels. • Situated within or near to woodland, parkland or next to water bodies, buildings (i.e. potential foraging and roosting habitat). • Well connected to wider landscape through presence of continuous linear features such as hedgerows, watercourses, farm-tracks etc.
Moderate potential to support bat roost(s)	Some of the above features but considered to be less suitable on account of age, location and disturbance levels.
Low potential to support bat roost(s)	<ul style="list-style-type: none"> • Limited suitable roosting features. • Exposed roosting features e.g. open to wind/rain. • High levels of regular disturbance e.g. from lighting. • Isolated from suitable foraging habitat & commuting features.
Negligible potential	No features with bat roost potential recorded

APPENDIX 3: Bat Tree Assessment Criteria

Criteria for Assessment of Trees in accordance with Category 1 to 3 as defined in Table 8.4 of *Bat Surveys: Good Practice Guidelines 2nd Edition* (Hundt, L. 2012).

CATEGORY	DESCRIPTION	CRITERIA
Known or Confirmed	Confirmed roost	Confirmed roost Evidence found that indicates tree/tree features are being used by bats. Droppings found at the base of the tree, below a cavity. Bats heard 'chattering' inside a feature on a warm day or at dusk Bat(s) observed flying from or to a feature.
1*	Very high value	Trees with multiple, highly suitable features capable of supporting larger roosts. Features of particular significance, suitable for high priority roosts such as maternity roosts, used by large numbers of bats, offering conditions that are uncommon or rare in the local area. Features such as large cavities, extensive branch or trunk splits, also including multiple features in the same tree that offer a diversity of opportunities. Features may also include dense ivy.
1	High value	Trees with definite bat potential supporting fewer suitable features than category 1* trees or with potential for use by single bats. Features which provide a more secure form of roost for small groups of bats and individuals, but may still be quite common types of feature, such as small cavities, minor splits or sparse ivy cover.
2	Moderate value	Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats. A tree which on close inspection the potential roost positions are in some way not ideal. They could be upward facing or holes very low down or cluttered by adjacent branches.
3	Low/Negligible value	Trees that have no features which could be used by bats for roosting (Usually young trees).

APPENDIX 4: Planning Considerations

When considering each planning application, the presence of protected species, such as those listed above, is a material consideration which must be fully considered by the Local Authority when granting planning permission. If a licence from Natural England is required, then prior to issuing any planning consent, the local planning authority will need to be satisfied that there is no reason why such a licence would not be issued. Therefore, in reaching the planning decision the local planning authority will need to have regard to the requirements of the Conservation of Habitats and Species Regulations 2010.

The three licensing tests given in the Regulations must be considered. In summary, these are that:

1. The development is required for the purpose of:
 - preserving public health or public safety,
 - for other imperative reasons of over-riding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.
 - for preventing serious damage to property.
2. There is no satisfactory alternative.
3. The proposal will not be detrimental to the maintenance of the population of the species at a favourable conservation status.

All necessary information would need to be provided to the planning authority as part of the planning application in order to address the above tests.

The Natural Environment and Communities Act (NERC Act) 2006 extended the biodiversity duty set out in the Countryside and Rights of Way (CROW) Act to public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity. The Duty is set out in Section 40 of the Act, and states that:

"Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity"

The Duty applies to all local authorities, community, parish and town councils, police, fire and health authorities and utility companies. Section 41 (S41) of this Act (the 'England Biodiversity List') also requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. This list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40(1) of the Act.

Also, Local Authorities must follow the National Planning Policy Framework (NPPF) which provides guidance on the interpretation of the law in relation to wildlife issues and development. For each development proposal considered by the Local Planning Authority the NPPF states that the authority must aim to conserve and enhance biodiversity. If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.

APPENDIX 5: Bats: What to do should bats be found during construction or demolition.

All of the UK's bats and their roosts, are protected by law, (see Appendix 1), so it is important to understand these laws, if you are planning any building or remedial work that may affect or disturb a bat roost. The relevant statutory authority should be initially contacted for advice.

Having bats roosting within a building, does not necessarily mean that work cannot be carried out. What it does mean is that the work will need careful consideration, especially in terms of time and materials, so that the area can continue to be used by both bats and people. Therefore, the earlier in the process the bats are taken into account, the less disruption to building plans there will be.

If at any point during either new building work, renovation work, or demolition, one or more bats are found, then all work being undertaken by contractors should stop immediately. All working machinery and contractors should be removed from the area where the bats have been found, and advice sought immediately from one of the following, on how to proceed while causing minimal disturbance to bats.

Advice can either be provided by a professional licensed ecological consultant - Echo Calls Bat Surveys on 07745 268815, the Bat Conservation Trust on 0345 1300 228, or from your Statutory Nature Conservation Organisation (SNCO) , or from Natural England on 01270 754 000.

Depending on the advice given, a licensed bat worker, or suitably qualified Natural England approved representative, will then be sent to site to liaise with the site manager, and Natural England itself. Depending on the advice given, actions will be recommended that may include the safe removal of the bat by the nominated person, only where written or verbal permission has been gained by Natural England.

Works will recommence when Natural England are satisfied that the risk to bats has been removed. If, however, it is determined that the proposed work on site contains more risk to bats than was originally thought, then it is probable that further work will only proceed, under a Natural England Development Licence.

If a bat is found under a tile, slate, flashing or any other covering material, work must stop immediately. If the bat does not fly out immediately, then the area around the roost must be carefully covered over, to protect the bat from the elements and further disturbance, leaving a small gap for bats to escape voluntarily. At this point, advice must be sought as mentioned above. The materials used to cover the occupied bat roost, must be free from liquid, oil, grease and other contaminants.

It is recommended that the handling of bats be avoided wherever possible, but if it absolutely necessary, then to avoid a bat being harmed, gloves must be worn whilst handling the bat. It should be carefully caught, placed in a cardboard box with air holes in the lid, and a small container containing water. The box should then be kept in a very quiet, dark area, away from further disturbance, whilst awaiting the arrival of the licensed bat worker, or Natural England approved representative.

Failure to do any part of this could result in a criminal offence.

APPENDIX 6: Bats: Types of Bat Box and Bat Bricks.

The aim of any mitigation is to ensure that any work is carried out in a manner that avoids harm or significant disturbance to bats, and also to create new roosting opportunities for bats both during and after the development.

Schwegler 1FD boxes are to be erected to larger trees located along the edges of the site. This type of bat box is a “general all-rounder” and is suitable for all types of bats.

These boxes are to be erected as recommended by the Bat Conservation Trust guidelines which state that

- Ideally, erect the boxes facing so they face in different directions, to provide a range of temperature conditions. For example, boxes facing from south-east to south-west allow the sun to fall on each box for part of the day. During very hot days a south-facing box may overheat, but the other boxes should have some shade during the day.
- Bat boxes should be located close to a linear vegetation feature such as a tree line or hedgerow or to lines of buildings. Some bat species use these features for navigation between their roosting site and feeding ground and to avoid flying in open and exposed areas.
- Ensure that tree branches or other items will not impede the bats’ approach to the box – clear away underneath the box so the bats can land easily before crawling into the box.
- Boxes should be erected at a height of approximately 4m above ground level



Schwegler 1FD Bat Box

This Schwegler 1FD bat box has been developed specifically for smaller bats. The interior and the type and size of the entrance hole match the requirements of smaller species. It features a special layout inside the domed roof, an increased interior height, and two grooved internal wooden front panels with precise spacing between them.

This model has proved highly effective as a nursing area.

Occupants: Small bats such as the Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Daubenton’s Bat (*Myotis daubentonii*) and Common Long-eared bat (*Plecotus auritus*).

APPENDIX 7: Nesting Birds: Mitigation and Compensation Measures.

Birds are declining throughout the country due to loss of roost and nesting places, and as the development may disturb both robin, swallow and wren nesting potential on the site, artificial nests are to be erected to compensate for this possible loss. The erection of artificial nests around the complex, will provide alternative sites for all three species of bird, and make a positive contribution to their conservation.

Making a nestbox suitable for robins and other box builders

What you need

Natural nest holes do not come in standard sizes, so use these dimensions only as a guide. Any plank or sheet of about 15 mm thick weatherproof timber is suitable. However, do not use CCA pressure-treated timber, since the leachates may harm birds. Cut each section as per our plan, which you can download by clicking on the link to the right.

Dimensions

The plan gives measurements for a small and a large box. Use only the first or the second figure throughout. For starlings and great spotted woodpeckers, use the dimensions for the large box; all the others need the small one.

The bottom of the entrance hole must be at least 125 mm from the floor of the nestbox. If it's less, young birds might fall out or be scooped out by a cat. The inside wall below the entrance hole should be rough to help the young birds to clamber up when it's time for them to leave.

Putting it together

Drill drainage holes to the base of the box, and use galvanised nails or screws to assemble. It's always best to leave the box untreated. As it weathers, it will blend into its surroundings. Softwood boxes can be treated with selected water-based preservatives, which are known to be safe for animals, such as Sadolin. Apply it only to the outside of the box, and not around the entrance hole. Make sure the box dries and airs thoroughly before you put it up.

A woodpecker box should be filled with a block of balsa wood, rotting log or wood chips – woodpeckers like to excavate their own nesting cavities.

Do not nail down the lid, since you will need to clean out the box in the autumn. Attach the lid with a brass or a plastic hinge that will not rust, or hinge it with a strip of leather or rubber (an old piece of bicycle inner tube will do). Fasten it down with a good catch.

How big does the hole need to be?

The entrance hole size depends on the species you hope to attract:

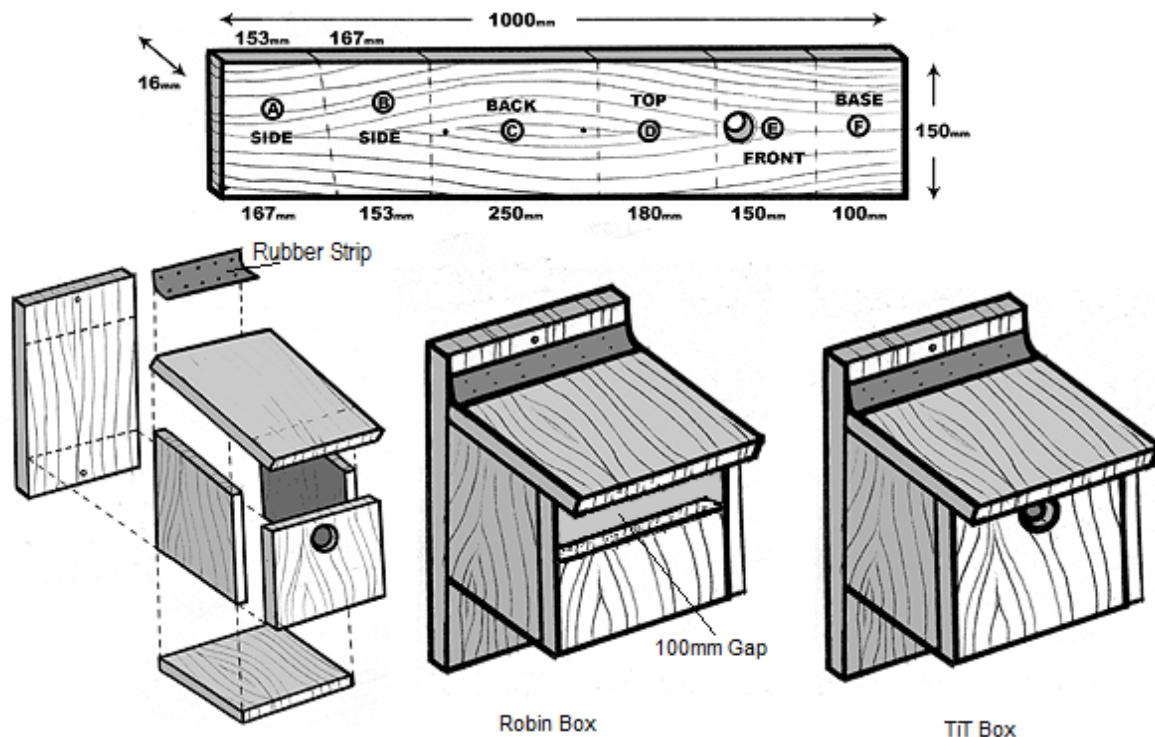
25 mm for blue, coal and marsh tits

28 mm for great tits, tree sparrows and pied flycatchers

32 mm for house sparrows and nuthatches

45 mm for starlings

The small box with 100 mm high open front may attract robins, or pied wagtails. A wren would need a 140 mm high front panel, while spotted flycatchers and blackbirds prefer a low 60 mm front to the box.



INSTALLATION OF ARTIFICIAL SWALLOW NESTS.

Swallows breed all around the northern hemisphere: in North America, Europe and Asia. They sometimes use natural nest sites, such as caves and cliffs, but more often use manmade structures allowing them to become more widespread.

Swallows return to ancestral nesting sites in April and May, males arriving before the females, claiming and defending the nest sites. They are monogamous and may return for up to three years. Swallows normally raise two or maybe even three broods depending on the weather. The young of the first will help to raise the succeeding broods.

Swallows leave the UK in September and October, sometimes travelling in flocks, over-wintering in South Africa, feeding on the way. This makes them vulnerable to food shortages on their migration routes

Nests are normally built inside a building, on a beam or ledge, and they are often not much higher than head height. The nest, built by both birds, is a deep bowl of mud with grass and other fibrous material incorporated to strengthen it and lined with feathers. They require cover above the nest, keeping it dry and relatively secure. They have been recorded using a wide range of different sites including mine shafts, under bridges and even within construction sites. Single nests are common but swallows often breed in small colonies of four or five pairs.

It is increasingly difficult for swallows to find suitable nest-building materials and the mud they do find, if any, is often poor quality. In addition, the walls of buildings are nowadays often very smooth, so as a result, nests tend to fall down, sometimes with the nestlings inside. In many places, the vibration caused by heavy vehicles shakes the nests loose.

Swallows need mud to construct their nests. This can be in short supply, particularly during a dry spring. Providing a muddy area close to the nest site will further encourage swallows to nest nearby. Simply choose an area of soil safe for swallows - watering it in the morning and roughing it up a bit will suffice.

To enhance the area and to establish successful breeding colonies, artificial Schwegler No 10 Swallow Nests, are to be erected at locations within the site.

These are designed to be mounted under the eaves of roofs, beneath canopies and porches, or within out-buildings or open portal garages/buildings.

Schwegler No 10 Swallow Nest.



The Swallow Nest should ideally be placed inside outbuildings such as sheds, barns or stables, however, there should always be unrestrictive access for the birds through an open window or skylight. Swallows are sociable birds, but multiple nests should not be placed at less than 1m intervals.

These Woodcrete nest boxes are famous for their durability - lasting for at least 20-25 years. Woodcrete is a blend of wood, concrete and clay which will not rot, leak, crack or warp. They are backed by leading ornithologists, nature conservation organisations, government agencies and forestry experts. Schwegler boxes have the highest occupation rates of all nest boxes and are carefully designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting.

Height 11cm x length 25cm x depth 14cm.

Droppings may cause a nuisance, but by fixing a black plastic bag or a board beneath each nest to catch droppings can alleviate this problem. These can be disposed of later.