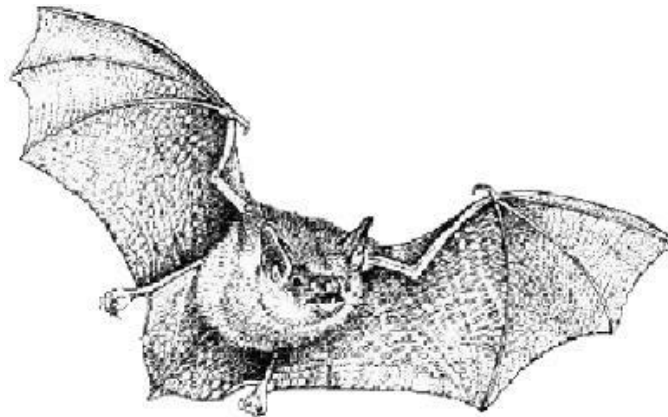


**Stone Walls located at  
5 Dean Wood Close,  
Upholland, Skelmersdale, Lancashire  
WN8 0BS**

**Survey & Assessment in Respect  
of Bat Species and Nesting Birds.**

**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**

**22<sup>nd</sup> May 2020**

## **1. Introduction**

### **1.1 Reason for Survey**

Prior to possible development of the site, and in response to reports of bats entering into and roosting within the expansion joints within a tall, stone boundary wall, a daytime evidence and opportunity bat survey, an evening bat emergence survey, and a nesting bird survey, were requested on the boundary walls, and any trees or shrubs within the overall site boundaries. The purpose of these surveys was to provide evidence on habitats and protected species within the area.

### **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 improvement 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 to the proposed work.
- To make nature conservation recommendations.

### **1.3 The Site**

The site was a part of a recent housing development along Dean Wood Close in the Upholland area of Skelmersdale, in Lancashire, and consisted of several houses with adjoining gardens, an area of land bordered by tall stone walls, and the immediate surrounding land. The land and walls from now are referred to as the “site” at OS grid reference: SD 52172 05390, (refer to **Fig 1 - The Site Location**, and **Fig 2 – Google Map of the Area**).

### **1.4 Surrounding Land**

There were no targeted buildings involved in the survey, just the stone walls surrounding the large plot of land, however, to the immediate east and north-east of this, were the detached dwellings and gardens of the properties on Dean Wood Close. Whilst to the east were the extensive greens and fairways of Dean Wood Golf Course, containing some clumps of trees and shrubs, and through which, running in a north to south direction, was the tree-lined Dean Brook, approximately 0.3km to the east of the site.

To the south of the site was a small housing estate with gardens containing and bordered by some mature trees and shrubs, whilst to the west across the tree-lined Parliament street, were some extensive, well-maintained gardens containing mature trees and shrubs.

Beyond the targeted wall to the north-west of the site was a large detached dwelling, with gardens containing numerous mature trees and shrubs. However, further north, away from the housing development, was a large coppice of mature trees.

Other than the features mentioned above, there were on large areas of open water, or other large areas of woodland in the nearby vicinity, (refer to **Fig 2 – Google Plan**, and **Fig 3 – Main Plan of the Area**).

## **2. Methods**

### **2.1 Risk Assessment, Possible Hazards**

The required access to the site was easy, and there were no more hazards other than those normally associated with surveying a site of this type.

### **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.

### **2.2 Daylight Evidence and Opportunity Survey**

The initial daylight evidence and opportunity bat survey took place on 11<sup>th</sup> May 2020, and was carried out in order to assess the site, and search for evidence of bat occupation (including recent and historic use). The survey was undertaken in accordance with the standard methods described in the 'Bat Worker's Manual' (JNCC 2004) and 'Bat Surveys – Good Practice Guidelines' (BCT 2012).

All possible roosting areas, the walls themselves and within the expansion joists and other holes within them, were searched for bats, bat droppings, urine staining, any 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.

The survey comprised of a search for bats, bat droppings, urine staining, any 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, in or around the walls.

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

Any trees or shrubs located within the site boundary would be carefully searched for any possible roosting areas, bats themselves, their prey remains, and any visible droppings and urine stains.

All evidence of previous or current nesting bird species observed during the survey was recorded.

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

### **2.3 Equipment**

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

## 2.4 Evening Bat Emergence Survey

An evening bat emergence survey was carried out to further assess the site, by observing how bats utilise the site, and observe if any bats emerged from possible roosts within any part of the walls, or from any of the trees, shrubs, or boundary hedgerows. This survey also took place on 11<sup>th</sup> May 2020.

## 2.6 Equipment

The equipment used consisted of close-focus binoculars, powerful hand-held torches, and heterodyne bat detector with earphones (a Bat Box 3D).

## 3. Results

### 3.1 Daylight Survey

#### 3.1.1 Weather

The weather conditions at the start of the survey were good. There was some cloud cover and a gentle breeze, (Beaufort Scale 2/3), and with a temperature taken at the start of the survey of 12°C, and such conditions were considered suitable for a survey of this type.

### 3.2 Possible Roost Sites.

#### 3.2.1 The Walls.

The three walls and the few shrubs situated within the site, were all searched for possible bat roosting potential.

#### **The Main Wall.**

The main wall ran along the complete northern boundary of the site, from Parliament Street in the west, before curving away in a north-easterly direction along Dean Wood Close. It was a split level wall, constructed from stone of various sizes, and it was well pointed and well-sealed. However, the northern elevation of the wall was hidden beneath the drive of the adjacent dwelling, and therefore could not be searched. Areas of the wall, any holes or gaps, and the floor beneath the wall, were searched for bats themselves, bat droppings, urine staining, any remains of invertebrate prey, grease marks from repeated contact, or passage through, narrow roost accesses, (refer to **figs 3 and 4**, and **photos 1 to 5**, and **8 to 12**).

There were potential bat roosting points however and these were:

- There were three expansion joints, at various intervals between them, and these were carefully searched, initially using a bright torch beam, and then with an endoscope to investigate the deeper holes. The majority of the joints were empty of any evidence of bats, however, a single pipistrelle dropping was found within the central expansion joint, but, the dropping could not be extracted to investigate it further, (refer to **figs 3 and 4**, and **photos 1, 4, 5**, and **8 to 12**).
- There were two wooden bat boxes attached to the southern elevation of the main wall, and these were internally searched using the endoscope, but neither there, nor on the wall, or floor beneath the boxes were any signs of bat usage found, (refer to **figs 3 and 4**, and **photos 1, 4**, and **8, 10 and 11**).
- There were three wooden bird nesting boxes attached to the southern elevation of the main wall, but these were not internally searched to prevent possible disturbance, however, there

were no outward signs that any of these boxes had ever been used by either roosting or nesting birds, (refer to **figs 3 and 4**, and **photos 1, 4 and 5**).

### **The Southern Wall**

The southern wall ran along the southern boundary of the site, from the south-western corner of No 5 Dean Wood Close at the site's south-eastern corner, to Parliament Street in the south-western corner. It was constructed from stone and the majority of its joints were well mortared with no bat roosting potential, (refer to **figs 3 and 4** and **photo 7**).

There were potential bat roosting points however and these were:

- Throughout the wall there were small holes where either the stone or mortar had broken away, however, all of these were either of insufficient depth to offer any bat roosting potential, filled with debris, or were heavily cobwebbed, and therefore all of the holes and gaps were considered to offer negligible bat roosting potential, (refer to **figs 3 and 4**, and **photo 7**).

### **The Western Wall**

The western wall ran along the eastern boundary of Parliament Street, and was constructed from a mixture of both large and small stone blocks with well mortared joints. The wall was of sound construction, and in the main, offered negligible bat roosting potential (refer to **figs 3 and 4**, and **photos 1 and 6**).

There were potential bat roosting points however and these were:

- There were a few holes, particularly in the top north-western corner of the wall, however close inspection found these to offer negligible bat roosting potential, (refer to **figs 3 and 4**, and **photo 1**).
- There were covering mats of ivy (*Hedera helix*) growing over the top of the wall in a few locations. Ivy can be considered to have a low, but significant, bat roost potential, and where possible, the ivy was carefully searched, but there were no bat droppings, or any other signs to suggest that bats have used any part of the ivy for roosting purposes, (refer to **figs 3 and 4**, and **photo 6**).

Inspection of the northern wall had found a single bat dropping within an expansion joint, testifying to the joint's use at some point by a roosting bat, and therefore, however transient, the wall is a confirmed bat roost, but no other evidence of roosting bats was observed.

The Inspection of both the west and southern walls during the survey, found neither current nor historic evidence of bats, either internally on the walls and debris, nor externally around any part of the building perimeter walls, or piles of bricks and timber, and therefore both walls were considered to offer negligible bat roosting potential

During the survey, birds of several species were observed flying and foraging around the targeted area, although several were making territory calls however, neither active nor historic nests were found. Nor were there any signs that the three wooden nest boxes had been used by either nesting or roosting birds.

### **3.2.2 Trees and Shrubs.**

There were a few small immature shrubs growing close to the northern wall, but these were of a size that offered little bat roosting, and therefore all were judged to be Category 3 (negligible value) in accordance with **Appendix 2**.

It was thought unlikely that these shrubs, would be used by nesting birds, but at the time of the survey, although there was some bird activity, including territory calling, in and around the site, no active or historic nests were found.

### **3.2.3 Foraging Potential and Alternative Bat Roost Potential**

The site is in a mostly suburban area, and the three walls around the site, together with the nearby habitat which consisted mainly of gardens, areas of tall mature trees and shrubs with bramble understory, and the fairways and greens of the nearby golf course, (paragraph 1.5), together with all the neighbouring buildings, offered linear features suitable for foraging bats such as Common Pipistrelle (*Pipistrellus pipistrellus*), and possibly other bat species, to hunt along for their insect prey.

Other than Dean Brook mentioned above, (paragraph 1.5), there were no other, watercourses, or reservoirs in the nearby vicinity, nor any other large areas of woodlands, and thus, the area overall, 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 dwellings in the surrounding area could offer greater potential as bat roosts. Bats favour heated building whilst breeding.

### **3.3 The Evening Bat Emergence Survey.**

An evening bat emergence survey was carried out in order to further assess the site, and observe if any bats emerged from roosts within the walls, nearby buildings, or the vegetation nearby. This survey also took place on 11<sup>th</sup> May 2020.

#### **3.3.1 Weather**

The weather conditions at the start of the survey on the 11<sup>th</sup> May 2020 were reasonable. Although there was some cloud cover and a gentle breeze, (Beaufort Scale 2/3), it was dry with a temperature at the time of the survey of 10°C, and such conditions were suitable for a survey of this type.

#### **3.3.2 The Survey**

Sunset on the 11<sup>th</sup> May 2020 was at 20.57 hrs, and the survey started 16 minutes before the sunset at 20.41 hrs, and ended when it was too dark to observe the bats well.

The first bat recorded was a common pipistrelle (*Pipistrellus pipistrellus*), heard but not seen over the boundary hedgerow between the golf course, and Dean Wood Close to the north-east of the site at 20.59 hrs, (refer to **fig 5** and **pink arrow 1**).

A pipistrelle was observed at 21.01 hrs commuting from across Parliament Street to the west of the site, passing to the north of the northern wall, before exiting in a northerly direction, (refer to **fig 5** and **pink arrow 2**).

Beginning at 21.06 hrs a common pipistrelle foraged along the tree line which was the western boundary of Parliament Street. This behaviour continued until the survey ended during which time, numerous feeding buzzes were heard, (refer to **fig 5** and **pink arrow 3**).

From 21.07 hrs a pipistrelle was heard foraging but not seen, amongst the trees to the north of the gated entrance to Dean Wood Close. It was thought that this could be the same bat observed commuting some minutes before, and again this behaviour continued until the survey ended, (refer to **fig 5** and **pink arrow 4**).

Two pipistrelles began to forage in loops over the site, the first beginning at 21.11 hrs over the site, the northern wall, and the garden and drive of the property to the north. The second was from 21.15



hrs over the site itself, the southern wall, and the adjacent woodland to the south of the wall, This foraging behaviour continued until the survey ended, during which time feeding buzzes were frequently heard, (refer to **fig 5** and **pink arrows 5** and **6**).

At 21.16 hrs a single pipistrelle was heard but not seen amongst the trees to the west across Parliament Street. As this echo calling was only heard a few times, it was assumed that this was at the eastern end of a foraging loop amongst the trees, (refer to **fig 5** and **pink arrow 7**).

#### **4. Conclusions**

**4.1** In summary, at the time of the current surveys (11<sup>th</sup> May 2020), all three walls would be affected by damp, frost and bad weather in the colder months, and as such was deemed unsuitable for breeding bats. Also, as frost and inclement weather was likely to penetrate the wall interiors, any holes, or expansion joints, it was surmised that the walls did not offer the optimum humidity, and stable low temperatures that are suitable for hibernating bats. therefore, all three walls were deemed to offer negligible potential for roosting bats.

**4.2** As only a single dropping was found in an expansion joint within the northern wall, it was assumed that this was only an occasionally occupied roost, as no other evidence of bat occupancy was found.

**4.3** Although some of the shrubs close to the northern wall, and the mats of ivy over the western wall all offered some bat roosting potential, no evidence of their usage by either roosting or hibernating bats was found, and therefore, all of these, were concluded to offer negligible potential as possible bat roosts, (refer to **Appendix 2** and **3**).

**4.4** As no other evidence of the presence of roosting bats within the walls was found, it was concluded that this was just an occasional night roost, and if the expansion joints in the wall are left uncovered during any future construction on the site, then 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** Since bats, particularly Pipistrelles, are opportunistic, an absence of other roost evidence at present, does not preclude the low possibility of small numbers of bats using the expansion joints occasionally in the future, and/or at other times of year. It was considered that the likelihood of a significant roost, (such as a maternity roost), being established in the future is very unlikely, with lone and/or transient roosting likelihood being negligible.

**4.6** It was also concluded that since no significant evidence of roosting bats, was found during the current survey (11<sup>th</sup> May 2020), then a single visit to the site, to carry out a daylight evidence and opportunity bat survey, and a single evening bat emergence 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).

**4.7** The adjacent habitats had the potential to support low to moderate numbers of foraging common pipistrelles, but large numbers of other species were unlikely.

**4.8** As bats use linear features such as lines of walls or trees, as foraging and commuting routes, it was concluded that if the walls are left undisturbed and uncovered, that any possible future construction within the site, would not affect the foraging or commuting potential for bats in the area.

**4.9** All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) whilst they are breeding. There was potential for some of the shrubs and other vegetation around the site perimeter, to be used by birds for both roosting and nesting purposes, but neither active nor historic nests were found, (Refer to **Appendix 1**).

## **5. Recommendations**

**5.1** It is recommended that the walls and the surrounding area are left as they are currently, to ensure continuity of biodiversity on the site, and its surrounding area.

**5.2** 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, also, to create new enhanced roosting opportunities for bats, both during and after the development.

**5.3** As a measure of best practice and in accord with a key principle of National Planning Policy Framework (2012), it is recommended that any future re-development scheme for this site, incorporates biodiversity enhancement measures, and an appropriate measure will be the installation of further bat boxes. These can be attached to any surrounding suitable trees, buildings or to the other walls within the site, and it is recommended that these measures are implemented as soon as possible to maximise the opportunities for wildlife at the site, (refer to **Appendix 3** for details).

**5.4** It must be remembered however, that it is an offence to disturb active birds' nests. It is recommended that before any commencement of any new construction 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, then 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, 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.

**5.5** If more than 12 months' elapses between this survey, and any commencement of building work, then the surveys must be repeated. These need to be carried out under weather conditions suitable for normal bat activity, and when bats are fully active (May to September but is weather dependent).

**5.6** It is also recommended that if any shrubbery within the site is removed during any clearance or future building works, that this should be undertaken outside the hedgehog hibernating months, November to mid-March. If this is not possible, 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).

**5.7** Close boarded fences with concrete bases are barriers to animal movement, and It is recommended, that if any new perimeter fences along the boundaries are to be constructed, then these should not 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 – 5cm 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 various parts of the site.

**5.8** 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.

**5.9** 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.

**5.10** 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.

**5.11** It should be remembered that bats are occasionally found in the most unexpected places. If any bats are found during unsupervised work, the consultant (07745 268815) or the local bat group (North Lancashire, 01524 701316 or 07917 021073) should be notified and work stopped immediately, (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 late spring, 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 buildings 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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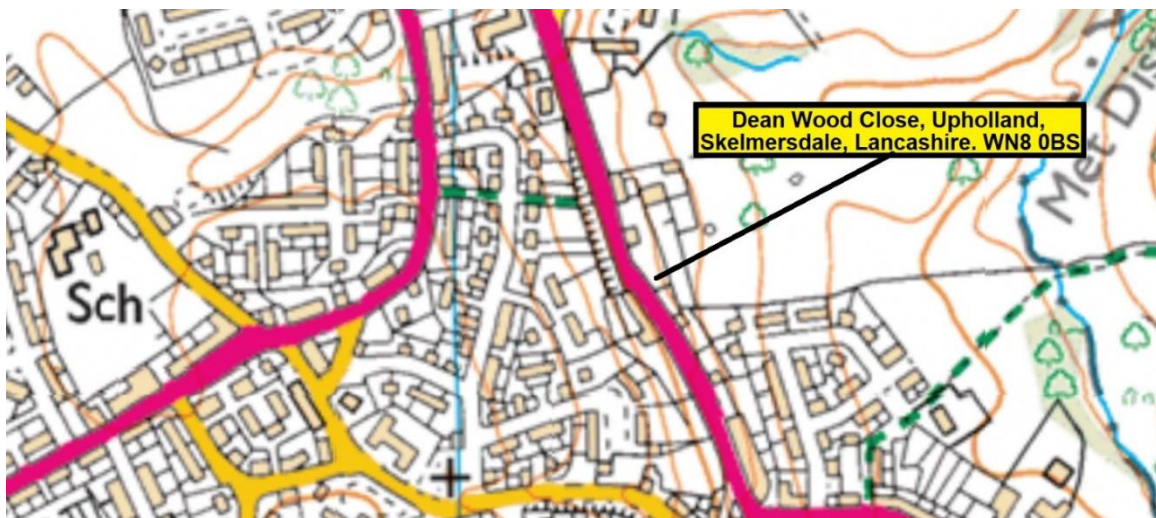
Lowen, James (2018). RSPB Spotlight Hedgehogs.

## **8. Surveyors Qualification.**

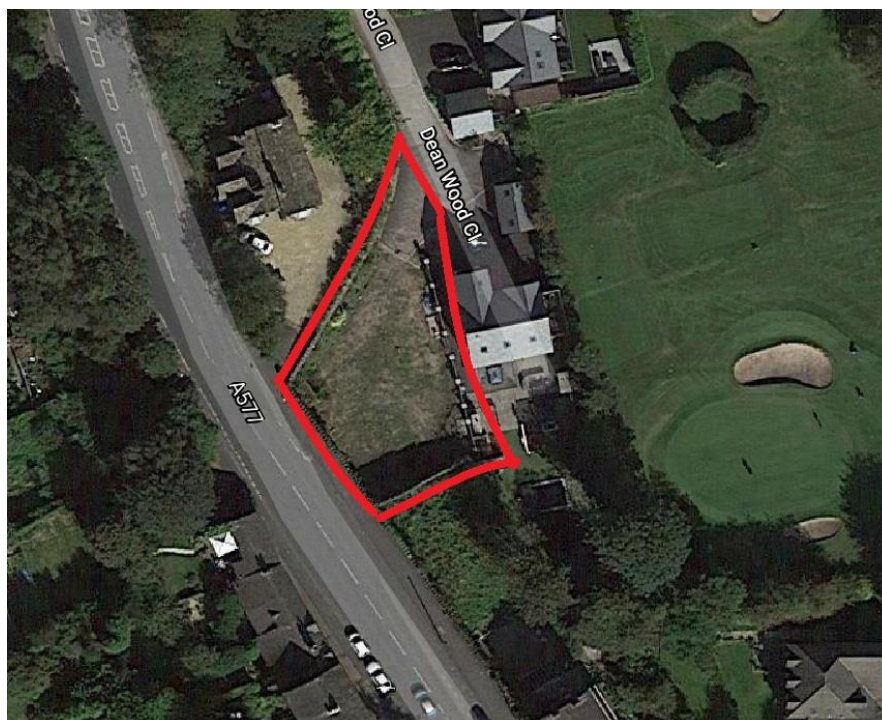
The surveyor Mike Fisher is a holder of Natural England Class Licence Registration Number: 2015-10595-CLS-CLS, this is the Bat Survey Level 2 Class Survey Licence WML CL18, and Natural England Class Licence Registration Number: 2015-10592-CLS-CLS which is the Volunteer Bat Roost Visitor Level 1 Class 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).

## **8. Plans & Photographs**



**Fig 1 - The Site Location**



**Fig 2 – Google Map of Area**

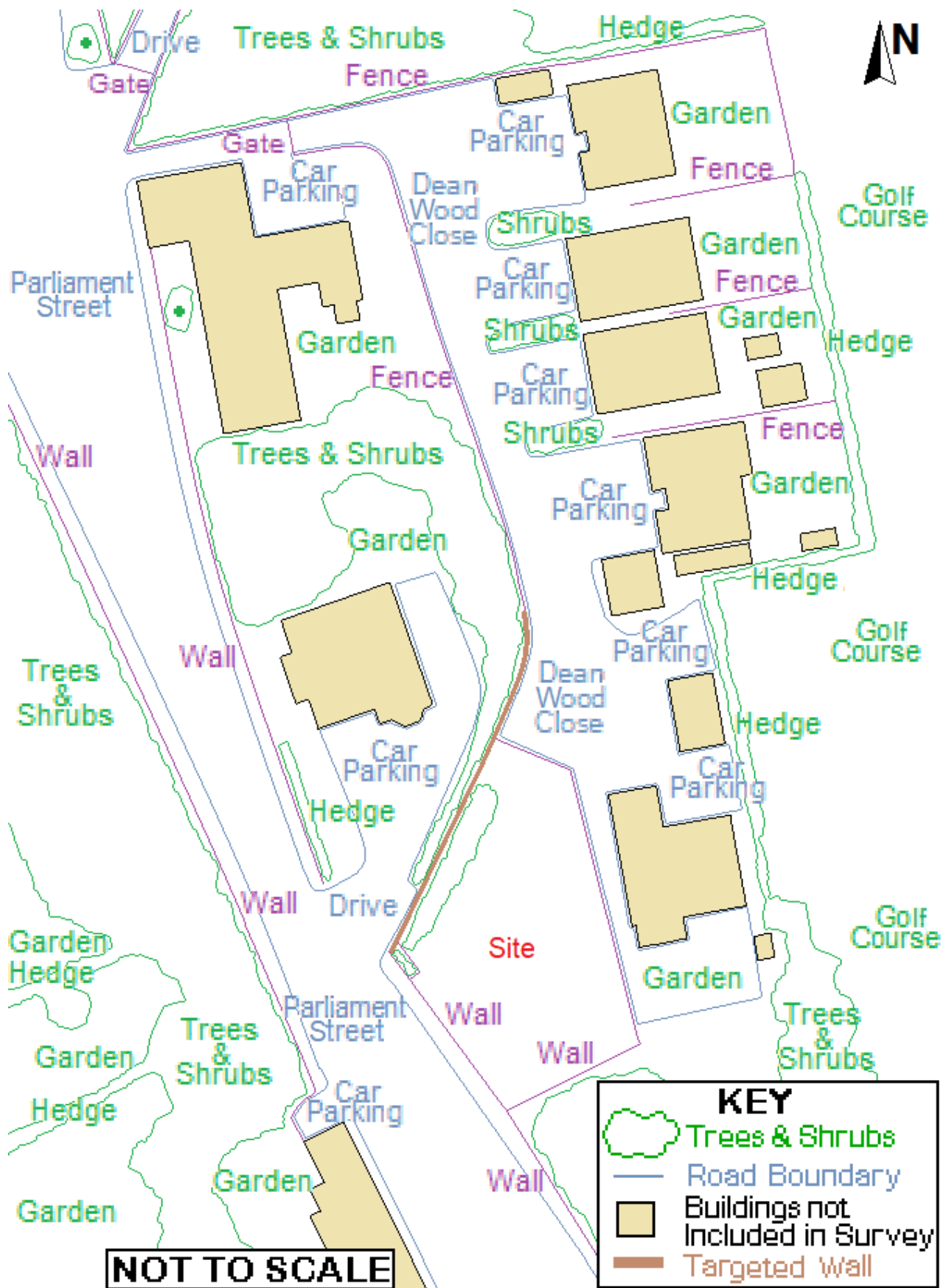


Fig 3 – Main Plan of Area

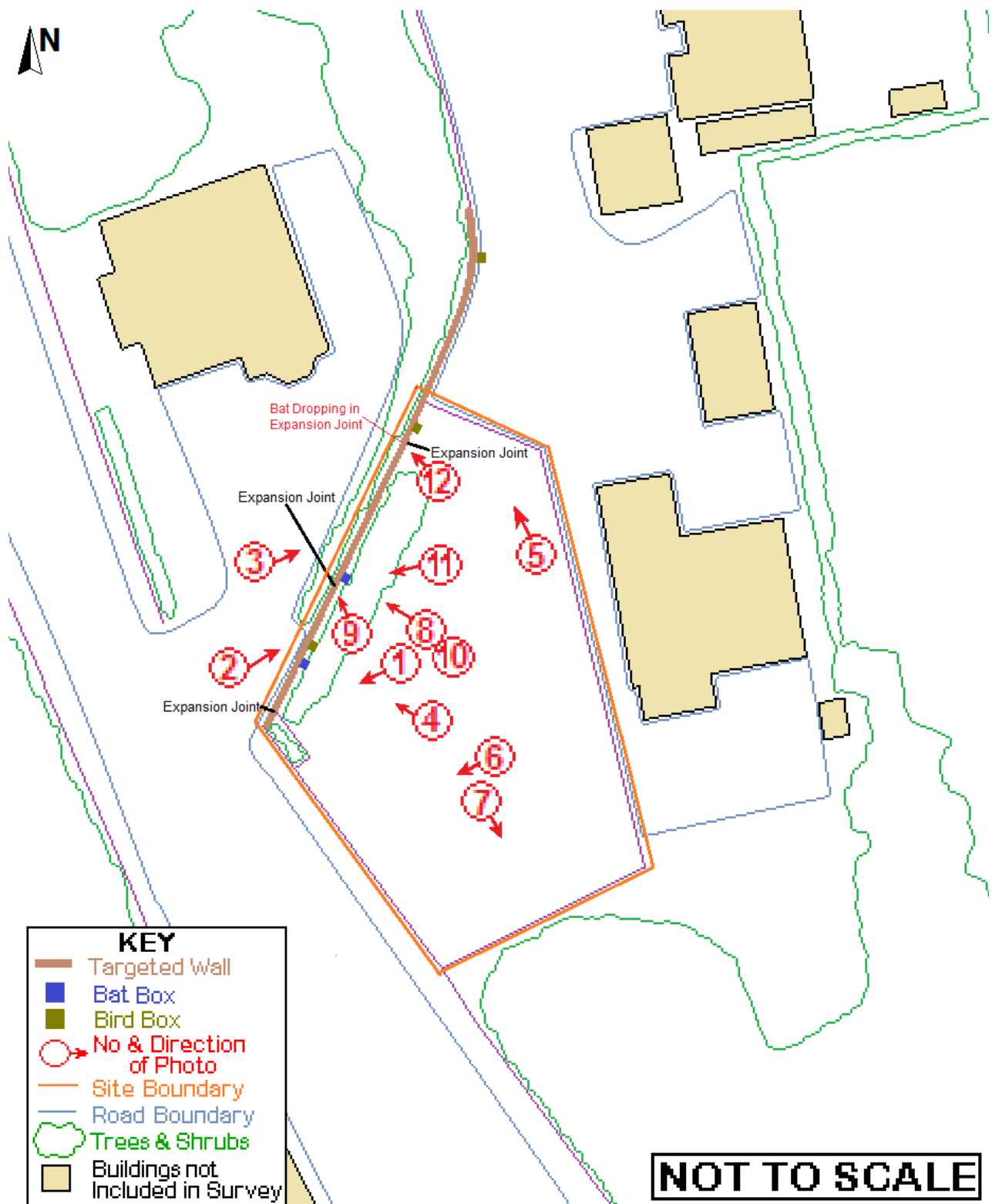


Fig 4 – Plan of Daytime Results

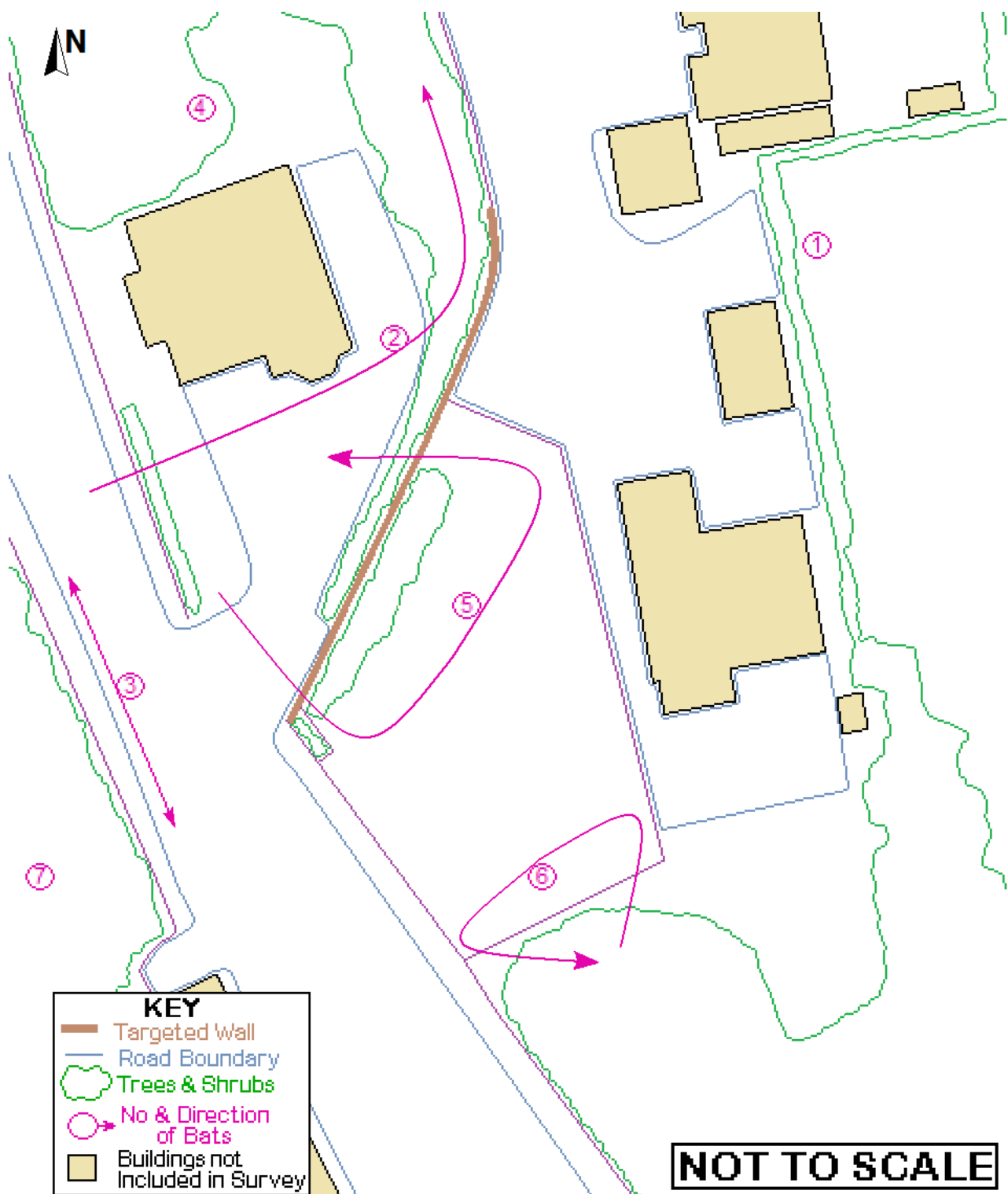


Fig 4 – Plan of Evening Bat Emergence Results





**PHOTO 1**  
**South-western Corner of Wall**



**PHOTO 2**  
**Northern View of Western End of Wall**



**PHOTO 3**  
**Northern View of Eastern End of Wall**



**PHOTO 4**  
**Central Southern Elevation of Wall**



**PHOTO 5**  
**North-eastern End of Wall**



**PHOTO 6**  
**Eastern Elevation of Western Wall.**





**PHOTO 7**  
**Northern Elevation of Southern Wall.**



**PHOTO 8**  
**Southern View of Central Expansion Joint**



**PHOTO 9**  
**Central Expansion Joint**



**PHOTO 10**  
**Surveyor with Endoscope at Central Joint**



**PHOTO 11**  
**Surveyor with Endoscope at Bat Box**



**PHOTO 12**  
**Surveyor with Endoscope at Eastern Joint**

**22<sup>nd</sup> May 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 protected species. There is also no guarantee that any particular protected 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.

### **Defenses 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.

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

### APPENDIX 3: Bats: Types of Bat Box.

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*).