



STEPHEN CUTMORE BSc(Hons), MICFor, MArborA
Arboricultural & Ecological Services
SURVEYS, INSPECTIONS, REPORTS



**FORMER ST. DEINIOL'S CHURCH
CRABTREE GREEN
Near EYTON
WREXHAM
LL13 0YF**

BUILDING DEVELOPMENT

Protected Species Survey



St. Deiniol's Church, Eyton.

Client	██████████
Planning Authority	Wrexham County Borough Council
Grid Reference	SJ3353144905
Dates of Surveys	9, 10 and 24 August 2023
Reference	082023/PSS/TB



PRO3755



Veteran tree specialist
– Consulting level

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1.0 SUMMARY

The planning proposal is for change of use and to convert the former church into a residential dwelling. The planning process requires that ecological surveys be carried out to highlight any potential conflict regarding the protected species (bats and birds), and the proposed development work.

An initial scoping survey was carried out on 9 August 2023, by Stephen Cutmore. During the scoping survey no bats were encountered. No evidence of recent bat activity was observed in the form of droppings, feeding remains etc.

The pitched roof of the building is fairly tight, with small gaps observed beneath some ridge tiles, beneath some tiles, between the brick walls and the wooden eaves and bargeboards. No evidence of recent bat activity was observed in the form of droppings on the external walls, window sills etc.

No evidence of nesting birds was observed inside or on the exterior of the building.

The building was assessed as having a moderate potential for roosting bats (a structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status). The surrounding habitat was assessed as having a moderate potential for foraging bats.

The proposed work involves alterations to the existing roof, in order to install new rooflight windows.

Further emergence surveys were carried out on 10 and 24 August 2023, by Stephen Cutmore and two assistant surveyors. During the emergence surveys, up to 3 x Soprano Pipistrelle and 3 x Common Pipistrelle bats were observed emerging from the roof structure. Noctule, Brandt's and Brown Long-eared bat species were observed and detected foraging in the vicinity.

As the former St. Deiniol's' Church is a known roost, a derogation licence from Natural Resources Wales will be required for the proposed development, to avoid an offence being committed.

If suitable mitigation is provided, Reasonable Avoidance Measures in the form of timing of operations and bat-friendly features are incorporated into the development as enhancements, the proposed scheme is likely to have a low impact on the favourable conservation status of the locally recorded bats and likely have a positive effect on locally recorded bats.



2.0 INTRODUCTION

2.1 Brief

Stephen Cutmore, a licensed bat worker (NRW[S091618/1]), was instructed by Tom Bellis, to carry out a protected species survey of the former St. Deiniol's Church, Crabtree Green, Near Eyton, Wrexham, LL13 0YF.

The definition of the assignment was to:

1. Carry out an initial day-time visual scoping survey of the building to examine if there is any evidence of recent bat use or nesting birds.
2. Carry out evening emergence surveys, to determine if any bats are roosting within the roof structure.
3. Provide a report with mitigation measures.

2.2 Purpose of this report

The purpose of this report is to advise you of the results of the parts 1 and 2 of the assignment. These results are set forth in the *Conclusions* section, following. This report describes the field conditions as found and interpreted.

2.3 Scope of report

Date of consultation.

The field surveys were made on 9, 10 and 24 August 2023 and observations and conclusions are as of those dates.

Limit of scope.

This is solely a protected species survey results report and cannot comment on topics outside this discipline. If additional advice is required, it is strongly recommended that other professionals are consulted.

Unless stated otherwise:

- 1) information contained in this report covers only those buildings that were examined:
- 2) the inspection is limited to visual examination of the buildings, utilising a high powered torch and endoscope. Electronic bat detectors are utilised on emergence surveys.
- 3) there is no warranty or guarantee, expressed or implied, that bats may not utilise the buildings after the survey has been completed, that are not discovered utilising the buildings during the inspection. Bats are highly mobile and some species frequently move roosts. It may be possible that bats could move into a building after a survey has taken place. An assessment of the suitability of the building to support roosting bats has therefore been carried out, to establish the likelihood of this occurring.
- 4) this report has been prepared for the sole use and benefit of the client. Any liability of Stephen Cutmore Arboricultural & Ecological Services shall not be extended to any third party.

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2.0 INTRODUCTION (continued)

2.4 Relevant background information

The planning proposal is for change of use and to convert the former church into a residential dwelling. The planning process requires that ecological surveys be carried out to highlight any potential conflict regarding the protected species (bats and birds), and the proposed development work. The results of the surveys will guide what mitigation/compensation measures are required.

2.5 Qualifications

Stephen Cutmore has over twenty five years' experience as an arboricultural and ecological consultant. Stephen holds a BSc (Hons) in Arboriculture & Urban Forestry and is a Chartered Arboriculturist. Stephen is a member of the Bat Conservation Trust (102994) and a member of Clwyd Bat Group. Stephen has been a Licenced Bat Worker since May 2007 and a Licenced Amphibian Worker since March 2011 and currently holds NRW bat (NRW[S091618/1]) and GCN licences (NRW[S092048/1]).

2.6 Copyright

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3.0 DATA COLLECTION

3.1 Site Description

The former St. Deiniol's Church, Crabtree Green, Near Eyton, Wrexham, LL13 0YF, is located at Grid Reference SJ3353144905. The site is located in the hamlet of Crabtree Green. The B5426 road is approx. 150m to the North. The A528 road, is approx. 2.2km to the East of the site.

The surrounding landscape has improved pasture fields with native hedgerows and trees. A small area of woodland is situated within 315m to the Northeast of the site. Other areas of woodland are in the locality. A stream is located some 325m to the Southwest of the site. Other small watercourses are in the vicinity. All these landscape features provide good habitat for foraging bats.

The Cofnod (Local Ecological Records Centre) website was accessed (www.cofnod.org.uk) and a Cofnod Data Request (E11579) was made for a data search for bats and roof-nesting birds within a 500m radius of the site. Due to the sensitivity of the data, specific records for protected species cannot be disclosed, but there are records of Brandt's, Brown Long-eared, Common Pipistrelle, Daubenton's, Natterer's, Noctule, Soprano Pipistrelle and Whiskered, bat species within 500m radius of the site. Records of bird species include Blue Tit, Great Tit, House Martin, House Sparrow, Swallow and Wren. The only Designated sites within 500m are Oak Wood (Wildlife Site) and an Ancient Semi-Natural Woodland.



Figure 1: Aerial photograph of the former St. Deiniol's Church, Eyton, showing good connectivity in the surrounding landscape.



3.0 DATA COLLECTION (continued)

3.2 Methodology

3.2.1 Bats

An initial scoping survey was carried out on 9 August 2023, by Stephen Cutmore. The structure of the buildings was visually examined, utilising a high powered torch and an endoscope. The walls (both internal and external), floor, and all accessible roof spaces, crevices and other potential roosting areas were methodically closely visually examined for signs of bat occupation, in the form of droppings, feeding remains, staining around crevices, as well for the animals themselves. The building was also assessed for potential habitat for roosting bats.

3.2.2 Other protected species

The building was visually examined for the presence of and evidence of recent use by birds.

3.2.3 Emergence surveys

Further emergence surveys were carried out on 10 and 24 August 2023, by Stephen Cutmore and two assistant surveyors. The surveyors took up strategic positions around the building, which was visually monitored to check for any emerging bats. Electronic bat detectors (Anabat Walkabout) were used to record and analyse the frequencies of bat echo-location calls. The observed flight pattern of the observed bats and the frequency of the echolocation calls enabled the species of bat to be identified.

3.3 Results

3.3.1 Bat scoping survey

Description

The detached building is constructed of brick walls, supporting a pitched roof covered with cementation tiles. The main internal room is open to the ridge, with no loft void present. Agricultural pasture fields are adjacent to the North and West boundaries.

Main internal room

No bats were encountered. No evidence of recent bat activity was observed in the form of bat droppings, feeding remains etc. The ceiling was covered with plasterboard, so it was not possible to see if any roofing felt was present beneath the tiles. A moderately high level of natural light is penetrating the rooms through the windows.

Boiler room

No bats were encountered. No evidence of recent bat activity was observed in the form of bat droppings, feeding remains etc. The room is fairly dark when the door is closed.

Roof and external walls

The pitched roof of the building is fairly tight, with small gaps observed beneath some ridge tiles, beneath some tiles and between the brick walls and the wooden eaves. No evidence of recent bat activity was observed in the form of droppings on the external walls, window sills etc.



3.0 DATA COLLECTION (continued)

3.3 Results

3.3.1 Bat scoping survey

Potential for roosting bats

The building was assessed as having a moderate potential for roosting bats (a structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status). The surrounding habitat was assessed as having a moderate potential for foraging bats.

3.3.2 Nesting birds

No evidence of nesting birds was observed inside or on the external structure of the building.

3.3.3 Emergence surveys

1st Evening emergence survey 10 August 2023

The emergence survey started at 20.35hrs, with sunset time of 20.50hrs. The starting air temperature was recorded as 23°C. The weather was dry, with 50% cloud cover. There was a moderate breeze.

The survey was stopped at 22.30hrs, with a finishing temperature of 21°C.

The first bat was detected at 21.04hrs and observed flying across the lane from the field to the East and into the field adjacent to the North of the building to forage. Echolocation calls recorded [45kHz] identified this as a Common Pipistrelle (*Pipistrellus pipistrellus*).

At 21.06hrs a bat was observed flying across the lane from the field to the East and into the field adjacent to the North of the building to forage. Echolocation calls recorded [55kHz] identified this as a Soprano Pipistrelle (*Pipistrellus pygmaeus*).

At 21.09hrs a bat was observed flying high over the field to the North of the building. Echolocation calls recorded [18kHz] identified this as a Noctule (*Nyctalus noctula*). This bat made several foraging/commuting passes over the site during the survey.

At 21.19hrs a Common Pipistrelle was observed emerging from beneath the eaves at the bottom right of the East pitch of roof, adjacent to the left of the East gable-end.

At 21.21hrs a Common Pipistrelle was observed emerging from beneath a tile on the South pitch at the West gable-end.

At 21.24hrs a Soprano Pipistrelle was observed emerging from beneath the eaves at the bottom left of the East pitch of roof, adjacent to the right of the East gable-end.

At 21.24hrs a Soprano Pipistrelle was observed emerging from the beneath a tile on the West pitch of the South gable-end and at 21.25hrs a Soprano Pipistrelle emerged from beneath a tile on the East pitch of the South gable-end.

At 21.26hrs a Common Pipistrelle bat was observed emerging from beneath the eaves on the South pitch, just in the corner of the boiler house.

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3.0 DATA COLLECTION (continued)

3.3 Results

3.3.3 Emergence surveys

1st Evening emergence survey 10 August 2023

At 21.27hrs a bat was observed flying from the West into the field to the North of the building. Echolocation calls recorded [46kHz] identified this as a *Myotis* species of bat. Analysing the call using Anabat Insight software identified it as a Whiskered (*Myotis mystacinus*) or a Brandt's (*Myotis brandtii*). When the call cycles were analysed, it looks most likely to be a Brandt's bat. This bat made several commuting/foraging passes in the field to the North and around the East of the building.

The Pipistrelle species bat made frequent commuting/foraging passes around the building and in the field to the North throughout the survey.

2nd Evening emergence survey 24 August 2023

The emergence survey started at 20.20hrs, with sunset time of 20.34hrs. The starting air temperature was recorded as 17°C. The weather was dry and overcast. There was a gentle breeze.

The survey was stopped at 22.15hrs, with a finishing temperature of 15°C.

The first bat was detected at 20.49hrs was a Common Pipistrelle observed emerging from beneath the eaves on the South pitch, just in the corner of the boiler house.

At 20.50hrs a Soprano Pipistrelle was observed emerging from the beneath a tile on the West pitch of the South gable-end and at 20.57hrs a Soprano Pipistrelle emerged from beneath a tile on the East pitch of the South gable-end.

At 21.03hrs a Noctule was observed flying high over the fields to the North and West of the building.

At 20.59hrs a Brandt's bat was observed flying from the South and foraging in the car park area in front of the East gable-end and in the field to the North.

At 21.01hrs a Common Pipistrelle was observed emerging from beneath a tile on the South pitch at the West gable-end.

At 21.18hrs a bat was observed flying from the South and foraging in the car park area in front of the East gable-end. Echolocation calls recorded [33kHz] identified this as a Brown Long-eared (*Plecotus auritus*).

The Pipistrelle species bat made frequent commuting/foraging passes around the barns and the yard area throughout the remainder of the survey.



4.0 SITE EVALUATION

Due to the sensitivity of the data, specific records for protected species cannot be disclosed, but there are records of Brandt's, Brown Long-eared, Common Pipistrelle, Daubenton's, Natterer's, Noctule, Soprano Pipistrelle and Whiskered, bat species within 500m radius of the site. Records of bird species include Blue Tit, Great Tit, House Martin, House Sparrow, Swallow and Wren. The only Designated sites within 500m are Oak Wood (Wildlife Site) and an Ancient Semi-Natural Woodland.

During the scoping survey no bats were encountered. No evidence of recent bat activity was observed in the form of droppings, feeding remains etc.

The pitched roof of the building is fairly tight, with small gaps observed beneath some ridge tiles, beneath some tiles and between the brick walls and the wooden eaves. No evidence of recent bat activity was observed in the form of droppings on the external walls, window sills etc.

The building was assessed as having a moderate potential for roosting bats (a structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status).

The surrounding landscape has improved pasture fields with native hedgerows and trees. A small area of woodland is situated within 315m to the Northeast of the site. Other areas of woodland are in the locality. A stream is located some 325m to the Southwest of the site. Other small watercourses are in the vicinity. All these landscape features provide good habitat for foraging bats. The surrounding habitat was assessed as having a moderate potential for foraging bats.

No evidence of nesting birds was observed inside or on the external structure of the building.

During the emergence surveys, up to 3 x Soprano Pipistrelle and 3 x Common Pipistrelle bats were observed emerging from building. Noctule, Brandt's and Brown Long-eared bat species were observed and detected foraging in the vicinity.

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5.0 IMPACT ASSESSMENT

5.1 Short-term impact

Disturbance through increased human presence, noise and changes in site layout may have a detrimental effect on bats.

5.2 Long-term impact – roost losses

The proposed work involves alterations to the existing roof, in order to install new rooflight windows, but it is not likely to be necessary to strip the roof. This work may disturb small day-roosts, but there is no predicted long-term loss of roosts.

5.3 Long-term impact – fragmentation and isolation

No vegetation is likely to require removing to facilitate the proposed development. The boundary hedge will be retained intact, so there will be little effect on bat flightlines. There is no predicted long-term impact from fragmentation and isolation.

5.4 Post-development interference impacts

Any bright, artificial lighting on roost entrances and flightlines would be negative. Any lighting will be low level, with illumination directed downwards to minimise impact (see 7.6 below).

5.5 Predicted scale of impact

The proposed work involves alterations to the existing roof, in order to install new rooflight windows, but it is not likely to be necessary to strip the roof. This work may disturb small day-roosts, but there is no predicted long-term loss of roosts.

If suitable mitigation is provided, Reasonable Avoidance Measures are implemented and followed and if bat-friendly features are incorporated into the development as wildlife enhancements, the predicted impact on the favourable conservation status of locally recorded bats is low.

6.0 CONCLUSIONS

6.1 Bats

During the scoping survey no bats were encountered. No evidence of recent bat activity was observed in the form of droppings, feeding remains etc.

The pitched roof of the building is fairly tight, with small gaps observed beneath some ridge tiles, beneath some tiles and between the brick walls and the wooden eaves. No evidence of recent bat activity was observed in the form of droppings on the external walls, window sills etc.

The building was assessed as having a moderate potential for roosting bats (a structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status).



6.0 CONCLUSIONS (continued)

6.1 Bats

The surrounding landscape has improved pasture fields with native hedgerows and trees. A small area of woodland is situated within 315m to the Northeast of the site. Other areas of woodland are in the locality. A stream is located some 325m to the Southwest of the site. Other small watercourses are in the vicinity. All these landscape features provide good habitat for foraging bats. The surrounding habitat was assessed as having a moderate potential for foraging bats.

During the emergence surveys, up to 3 x Soprano Pipistrelle and 3 x Common Pipistrelle bats were observed emerging from building. Noctule, Brandt's and Brown Long-eared bat species were observed and detected foraging in the vicinity.

The proposed work involves alterations to the existing roof, in order to install new rooflight windows, but it is not likely to be necessary to strip the roof. This work may disturb small day-roosts, but there is no predicted long-term loss of roosts.

The conclusion is that the former St. Deiniol's Church, Crabtree Green, Near Eyton, Wrexham, LL13 0YF, is a known roost, being used by up to 3 x Soprano Pipistrelle and 3 x Common Pipistrelle bats as small day-roosts.

A derogation licence from Natural Resources Wales will be required for the proposed development, to avoid an offence being committed.

If suitable mitigation is provided, Reasonable Avoidance Measures are implemented and followed and if bat-friendly features are incorporated into the development as wildlife enhancements, the predicted impact on the favourable conservation status of locally recorded bats is low.

6.2 Nesting birds

No evidence of nesting birds was observed inside or on the external structure of the building. Birds are protected by European and UK legislation. Any proposed development works which may affect nesting birds should be carried out between October – March to avoid the nesting season.



7.0 MITIGATION AND RECOMMENDATIONS

The proposed work involves alterations to the existing roof, in order to install new rooflight windows, but it is not likely to be necessary to strip the roof. This work may disturb small day-roosts, but there is no predicted long-term loss of roosts.

7.1 COMPENSATION

Bats

Mitigation in the form of compensation is required, to provide an alternative 'like-for-like' bat roost on the site. The replacement roost should 1) match the existing roost in terms of size, height and aspect; 2) have a thermal regime suitable for the target species; 3) be situated as close as possible to the roost being lost and; 4) have an entrance close to the existing flight lines and appropriate habitat, to maximise chances of the bats finding and adopting it.

2 x woodcrete bat boxes (e.g. Beaumaris woodcrete bat box) will be provided prior to works commencing, to provide alternative roosts for the crevice-dwelling bat species whilst the development work occurs. One bat box will be fixed to the East gable-end wall of the building and the other bat box fixed to the West gable-end. The bat boxes will be installed at a height of 2m+ to avoid predation by cats.

Birds

No evidence of nesting birds was observed inside or on the external structure of the building, so no compensation measures are required.

7.2 REASONABLE AVOIDANCE MEASURES

General recommendations

Timing of the development works is crucial. The optimum time for work involving a summer roost (where bats are present but without dependable young) is 1st September – 1st May. It is recommended that any works that could disturb bats is carried out under supervision by a Licenced Bat Worker.

Development works

As a confirmed bat roost will be impacted by the proposed work, a derogation licence must be obtained from NRW and any work that has potential to harm bats should be directly supervised by a licenced ecologist. During the development work, great care should be taken when removing any materials, to ensure no harm is caused to bats. Extreme caution must be exercised when removing old roofing materials especially where two materials meet as there is potential for finding bats. The individual slates/tiles should be gently lifted by hand before removal and checked underneath for bats. Check for bats also in timber joints, behind mortar fillets etc. before proceeding with any work, to ensure no bats are injured during the development work.

The amendments to the European Habitat Regulations came into force in August 2007, which means that the 'incidental result defence', which previously covered acts that were the incidental result of an otherwise lawful operation, such as a planning permission, has now been removed. Therefore, if any bats are encountered, work should stop immediately and not resume until advised by an ecologist. If any bats are discovered, Natural Resources Wales must be notified as to what bat species and numbers were encountered and what action has been taken.



7.0 MITIGATION AND RECOMMENDATIONS (continued)

7.3 BAT ROOSTING OPPORTUNITIES

It is recommended that bat friendly features be incorporated into the proposed development, in order to keep in line with the Local Biodiversity Action Plans. At the time of writing this report it is not known for certain that the roof will not require stripping and re-covering and if so, whether Breathable Membrane will need to be used beneath the tiles to comply with Building Regulations, so specific details cannot be given. Various options for providing bat roosting opportunities are described as follows.

To provide suitable conditions for bats, the use of warm roofs should be avoided. Traditional cold roofs with air circulation should be used. Whichever roof construction is to be used (closed eaves with a fascia; eaves with a soffit; barge board with or without soffit; closed verge pointed with undercloak), gaps (10-20mm) should be left by the fascia/soffit/undercloak for bats to gain access to the inner gable walls.

If bat access is to be provided in the roof of the building, traditional hessian backed 1F bitumastic underfelt **must** be used. Results of recent research commissioned by The Bat Conservation Trust (http://www.bats.org.uk/pages/breathable_roof_membranes.html) has concluded that Breathable Roofing Membrane (BRM) poses a serious threat to bats, due to loose spun-bond filaments becoming entangled around bats feet and wings, resulting in bats becoming immobilised and eventually dying. The functionality and longevity of BRM can also be affected in those parts altered by the presence of bats.

One method that could be designed into the roof construction is the use of 'Slate-line' bat tiles installed in the pitches of the roof, to allow bats access to the space between the slates/tiles and roofing felt (available from Summit Slate Supplies, Welshpool <http://www.summitslate.co.uk/>). Another option is that two or three ridge tiles could have 20mm high x 100mm long gaps cut in one of the lower edges, to allow access for bats, or alternatively leave gaps in the mortar (see *Appendix 5 – Mitigation Details*).

Another option is to provide a contained roost space for crevice-dwelling bat species. A bat box(es) could be incorporated into the soffit(s). Another alternative is to install Schwegler 1FQ wall-mounted bat boxes (75) [available from www.wildcareshop.com], which should be fixed to the gable-end or external walls of the building, high enough (>2-3m) to avoid predation by cats. As there is an on-going problem of obtaining Schwegler products, a similar woodcrete box by another manufacturer would be a satisfactory alternative. Another option is to incorporate bat bricks into the external walls of the structure. Any bat-friendly features to be incorporated in the new development should be detailed on the development plans/drawings.

7.4 ROOF INSULATION

If bat access is to be provided in the roof structure, any new insulation to be installed in the roof sections to incorporate bat-friendly features, (e.g. Kingspan sheets), should be fixed to a counter batten, attached to the underside of the rafters. Care must be taken to ensure that a 50mm airspace between the insulation and the slates/tiles is maintained for bat access.



7.0 MITIGATION AND RECOMMENDATIONS (continued)

7.5 TIMBER TREATMENT

Any timber treatment to protect against insects, fungal growth or weathering in areas with potential to be accessed by bats, should only be carried out utilising chemicals from the Natural Resources Wales approved list. A list of Approved Products is available at <https://www.gov.uk/guidance/bat-roosts-use-of-chemical-pest-control-products-and-timber-treatments-in-or-near-them>, which provides links to Timber Treatment Table 1. If the product is not listed, check the active ingredients listed in Timber Treatment Tables 2-7. You can't use chemical products in or near a known bat roost if there are bats present. The best time to apply treatments is usually between autumn and spring.

Pre-treated timber products

Pre-treated timber products are not included in the tables mentioned above. You can use timber that's been pre-treated off-site, because the chemicals are injected deep into the timber leaving lower concentrations on the surface which isn't harmful to bats. However you shouldn't apply products used to pre-treat timber on-site, because the active ingredients will be more concentrated on the timber surface and may be harmful to bats.

Stains and preservatives

Decorative wood finishes, like stains or wood preservative, can be used around bat roosts as long as you only use them on external timber.

7.6 LIGHTING

Bats can be disturbed by bright, artificial lighting at night (ALAN). Where lighting is essential in the vicinity of any proposed new development, subdued lighting will be used and the illumination will be directed downwards to where it is needed (upward light ratio 0%) and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. The light should be as low as guidelines permit. If lighting is not needed in any particular area, do not light.

LED luminaires will be used where possible, with a warm white spectrum (<2700Kelvin) to minimise blue light component. Luminaires should have peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats. Alternatively, the use of low pressure sodium lamps or high pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics. The use of motion sensor-triggered security lighting with short (1 min) timers, is preferable to permanent lighting. If roosting opportunities are to be incorporated into the new development, it is essential that roost access points and flightlines used for foraging/commuting (e.g. hedgerows, lines of trees) are not illuminated. The use of soft landscaping and fencing [supported by concrete posts to ensure long-term contribution] can be used to screen light spill. The latest Guide Note 08/18 can be downloaded at

www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

As an ecologist I am not qualified to recommend specific makes/models of lights, so further advice should be obtained from a qualified lighting specialist, to ensure that the lighting conforms to the above BCT/ILE specification.

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7.0 MITIGATION AND RECOMMENDATIONS (continued)

7.7 BIRD NESTING OPPORTUNITIES

Consideration should be given to providing some simple measures that would have a positive conservation benefit on local bird populations. These may be in the form of eaves built to be suitable for house martins (or installing double House Martin cups). Suitable crevices left unsealed in exterior stonework or brickwork provides potential for nesting house sparrows (or installing a woodstone Sparrow Terrace box). A range of woodstone bird boxes could be installed on the exterior walls of the barns or in suitable mature trees on the site. The bird boxes will be installed at a height of between 2m and 4m, to avoid predation by cats. The bird boxes should be orientated between North and East, so the opening is not facing the predominant South-westerly winds and rain. Planting native species hedgerows and trees would provide suitable habitat and food sources for birds.

8.0 WILDLIFE AND THE LAW

8.1 EUROPEAN PROTECTED SPECIES

The Bern Convention (The convention on the conservation of European Wildlife and Natural Habitats) was adopted in 1979 and came into force in 1982. To implement this agreement, the European Community adopted the EC Habitats Directive. The EC Habitats Directive has been transposed into UK legislation by the Wildlife and Countryside Act, 1981 (as amended) and the Conservation of Habitats and Species Regulations, 2010. The Countryside and Rights of Way Act (CROW), 2000 strengthened the existing wildlife legislation in the UK. The UK has also signed the Bonn Convention (The Convention on the Conservation of Migratory Species of Wild Animals) and is therefore party to various agreements.

As from 30th November 2017 the legislation relating to European Protected Species has been consolidated into a new Regulation "The Conservation of Habitats and Species Regulations 2017".

8.1.1 Bats

All 17 bat species found in the UK and their roosts are protected in the UK under Schedules 5 and 6 of the Wildlife & Countryside Act 1981 (as amended) and are therefore afforded protection under Section 9 of this Act. The Countryside Rights of Way Act (CROW) 2000 strengthened the existing wildlife legislation in the UK.

In addition, five British bat species are also listed on Annex II [and all bats are listed on Annex IV] of the EC Habitats Directive, which is transposed into national law by means of The Conservation of Habitats and Species Regulations (2017).

These are:

- Greater horseshoe bat (*Rhinolophus ferrumequinum*);
- Lesser horseshoe bat (*Rhinolophus hipposideros*);
- Bechstein's bat (*Myotis bechsteinii*);
- Barbastelle (*Barbastella barbastellus*) and
- Greater mouse-eared bat (*Myotis myotis*).

Bats are listed under Appendix III of the Bern Convention. Bats and their habitats are also listed under Appendix II of the Bonn Convention and therefore the UK has an obligation to protect their habitat, including links to important feeding areas. The UK had designated maternity and hibernacula areas as Special Areas of Conservation (SACs) under the Habitats Directive. Implementation of the UK Biodiversity Action Plan also includes action for a number bat species and the habitats which support them.

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8.0 WILDLIFE AND THE LAW (continued)

8.1 EUROPEAN PROTECTED SPECIES

8.1.2 Legislation relating to European Protected Species

In relation to a development a person commits an offence if they –

- Deliberately captures, injures or kills a European Protected Species
- Deliberately or recklessly disturbs wild animals of any such species in such a way as to be likely significant to affect:
 - (i) the ability of any significant group of animals to survive, breed, or rear or nurture their young; or
 - (ii) the local distribution or abundance of that species;
- Damages or destroys a breeding site or resting place (even if unintentional or when the animal is not present)
- Intentionally or recklessly obstructs access to a structure or place used for protection or shelter
- This legislation applies, regardless of the life stage (including eggs).

A European Protected Species Licence is required to carry out any activity that would otherwise involve committing an offence.

To avoid disturbance during habitat management, a written strategy is required following guidance provided by Natural Resources Wales. If the guidance is followed and major disturbance can be avoided, then a licence is not required.

8.1.3 European Protected Species Licences

At the present time, Natural Resources Wales requires the following three ‘tests’ to be met, in order that a licence may be granted.

Test 1. Regulation 53 (2) (e) states that licences granted to ‘preserve public health, or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment’.

Test 2. Regulation 53 (9) (a) states that a licence may not be granted unless the licensing authority is satisfied ‘that there is no reasonable alternative’.

Test 3. Regulation 53 (9) (b) states that a licence cannot be issued unless the licensing authority is satisfied that the action proposed ‘will not be detrimental to the maintenance of the species concerned at a favourable conservation status in its natural range’.



8.0 WILDLIFE AND THE LAW (continued)

8.1 EUROPEAN PROTECTED SPECIES

8.1.4 Recent changes in Licences

Following a recent intervention from the European Court, there have been significant changes in the interpretation of the way licences are issued. In considering a licence request, Natural Resources Wales will seek information relating to the size and importance of the population/colony and will require evidence to demonstrate that the species will be maintained 'at a favourable conservation status in their natural range'. In effect, this means that to obtain a licence, Natural Resources Wales must be satisfied that the applicant will implement mitigation to safeguard (and ideally enhance) the population concerned. Natural Resources Wales will need to see evidence that the development work which will disturb/destroy a roost site will be undertaken using current best practice, also that the bats can be provided with an alternative roost site on or in the immediate area.

8.1.5 Important EPSL Information

Please note that a European Protected Species Licence can only be obtained once planning permission has been granted. When assessing planning applications where a European Protected Species could be affected by proposed works, the local Planning Authority must take into account the potential impacts on the species concerned. In practice this could make further survey work (such as emergence surveys in the case of bats) essential prior to planning permission being granted. Alternatively the LPA may grant planning permission whilst imposing planning conditions to undertake further survey work. The local Planning Authority must also have regard for the three 'tests' as outlined above – Regulations 53 (2) (e), 53 (9) (a) and 53 (9) (b). Once planning permission has been granted a European Protected Species Licence application can be submitted to Natural Resources Wales. The application requires detailed Method Statements to be produced by a qualified bat ecologist to demonstrate how Regulation 53 (9) (b) can be satisfied. The applicant will also need to complete a Reasoned Statement form demonstrating (with evidence) that Regulations 53 (2) (e) and 53 (9) (a) are satisfied. This involves producing evidence to show that no reasonable alternative to the proposed action is available and that the action must take place to either 'preserve public health, or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.

8.2 OTHER PROTECTED SPECIES - NESTING BIRDS

All wild birds are protected under Part 1 of the Wildlife and Countryside Act, 1981 (as amended). Therefore in the UK it is an offence to:

- Take, damage or destroy the nest of any wild bird whilst it is being built or in use.
- Kill, injure or take any wild bird.
- Take or destroy the eggs of any wild bird.

To avoid committing an offence no works should be carried out on a structure/feature that is being used by nesting birds. Nesting is deemed to be over when the young have fully fledged. Certain species which are listed in Schedule 1 of the Wildlife and Countryside Act receive special protection. In these cases any form of intentional or reckless disturbance when they are nesting or rearing dependent young, constitutes an offence. Any disturbance of nesting birds between 1st March-30th September could constitute a criminal offence.

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8.0 WILDLIFE AND THE LAW (continued)

8.3 ENVIRONMENT (WALES) ACT 2016

This Act sets out Wales' approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.

The Environment (Wales) Act introduces a new, enhanced Biodiversity and Resilience of Ecosystem Duty on public bodies to ensure that biodiversity is an integral part of decision making. The Duty will replace the existing Natural Environment and Rural Communities (NERC) Act 2006 Duty. Public authorities will be required to report on the actions they are taking to improve biodiversity and promote ecosystem resilience. Section 6 of the Act places a duty on public authorities to seek to maintain and enhance biological diversity (referred to as biodiversity). All public bodies, statutory undertakers, Ministers of the Crown and other public office holders are required to apply the duty when they are carrying on any functions in Wales, or in relation to Wales. Section 7 of the Act is similar to the duty in *section 42 of the NERC Act 2006* which it replaces. It places a duty on the Welsh Ministers to publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.

8.4 PLANNING POLICY WALES FRAMEWORK

Planning Policy Wales (Edition 11, Feb 2021) sets out the Welsh Government's planning policies and how these are expected to be applied. The planning system manages the development and use of land in the public interest, contributing to improving the economic, social, environmental and cultural well-being of Wales, as required by the Well-being of Future Generations (Wales) Act 2015. It should reconcile the needs of development and conservation, securing economy, efficiency and amenity in the use of land, and protecting natural resources and the historic environment. A well-functioning planning system is fundamental for sustainable development.

8.5 KEY PRINCIPLES OF PPW (2021)

Chapter 6 'Distinct and Natural Places' provides policies for protection of biodiversity and geological conservation.

Para.6.4.3 Development proposals must consider the needs to:

- support the conservation of biodiversity, in particular the conservation of wildlife and habitats;
- ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats;
- ensure statutorily and non-statutorily designated sites are properly protected and managed;
- safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and
- secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.



8.0 WILDLIFE AND THE LAW (continued)

8.5 KEY PRINCIPLES OF PPW (2021)

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- support the conservation of biodiversity, in particular the conservation of wildlife and habitats;
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- ensure statutorily and non-statutorily designated sites are properly protected and managed;
- safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water and soil, including peat; and
- secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

Para 6.4.22 states:

- The presence of a species protected under European or UK legislation is a material consideration when a local planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat.
- Local planning authorities should advise anyone submitting a planning application that they must conform with any statutory species protection provisions affecting the site concerned, and should consult Natural Resources Wales before granting permission.
- An ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the planning decision.

Para 6.4.23 states:

- Developments are always subject to the legislation covering European protected species regardless of whether or not they are within a designated site.
- New developments for which development works would contravene the protection afforded to European protected species require derogations from the provisions of the Habitats Directive.
- A derogation may only be authorised if there is no satisfactory alternative and if the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in its natural range.
- The development works to be authorised must be for the purposes of preserving 'public health or safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment'.
- Derogations are granted by a licence issued by Natural Resources Wales. Local planning authorities are under a duty to have regard to the requirements of the Habitats Directive in exercising their functions.
- To avoid developments with planning permission subsequently not being granted derogations in relation to European protected species, planning authorities should take the above three requirements for derogation into account when considering development proposals where a European protected species is present.

Report written and compiled by



Stephen Cutmore BSc (Hons), MICFor
Licenced Bat Worker (NRW[S091618/1])

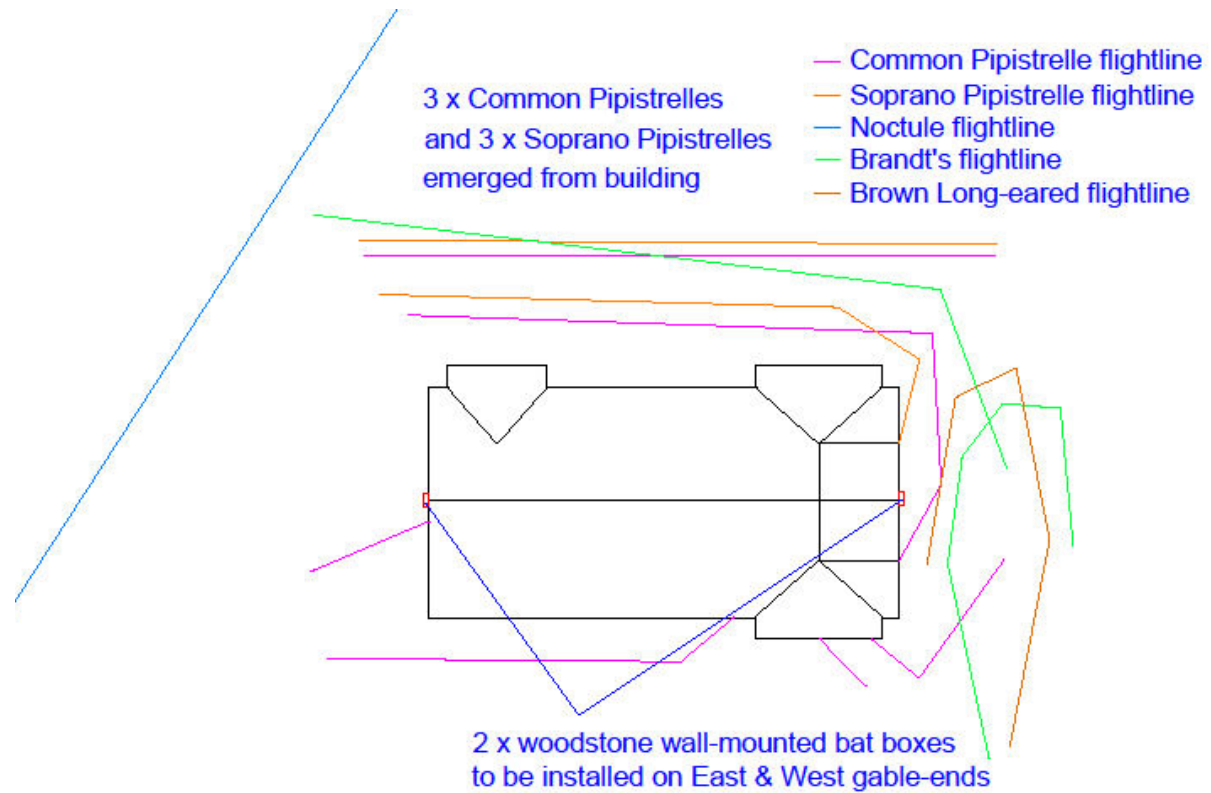
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APPENDIX 1 – Site plan



APPENDIX 2 – Photographs



Photo 1: East elevation of former church showing roost access points [red = Common Pipistrelle, yellow = Soprano Pipistrelle].



Photo 2: North elevation of former church.



Photo 3: South elevation of former church [red = Common Pipistrelle roost access points].

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APPENDIX 2 – Photographs



Photo 4: High level of natural light inside building.



Photo 5: Gap between brick wall and eaves on South elevation.

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APPENDIX 3 – Grading system for bat habitats

It should be noted that low suitability roosting habitats may be present in commuting/foraging habitats that are of high suitability and vice versa. Roosting habitats and commuting/foraging habitats should be assessed separately and independently.

Table 1: Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PFRs but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (but not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost types only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees or scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.



APPENDIX 4 – Bat sonographs

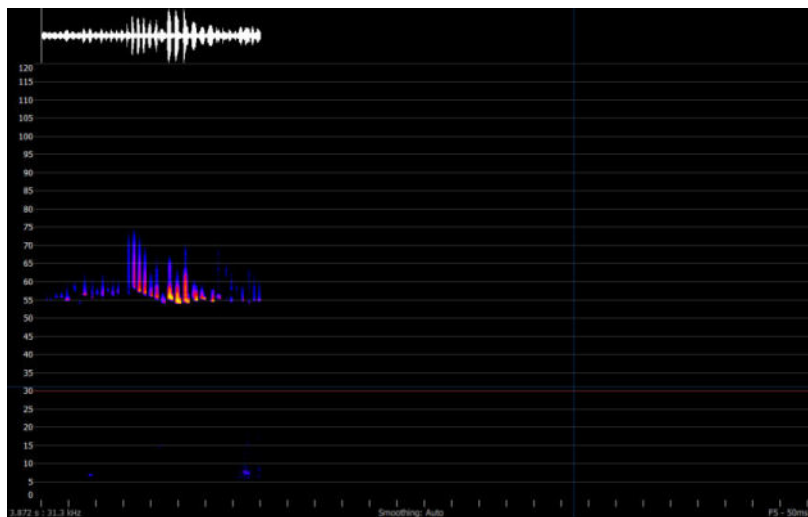


Figure 2: Soprano Pipistrelle [55kHz] foraging around building.

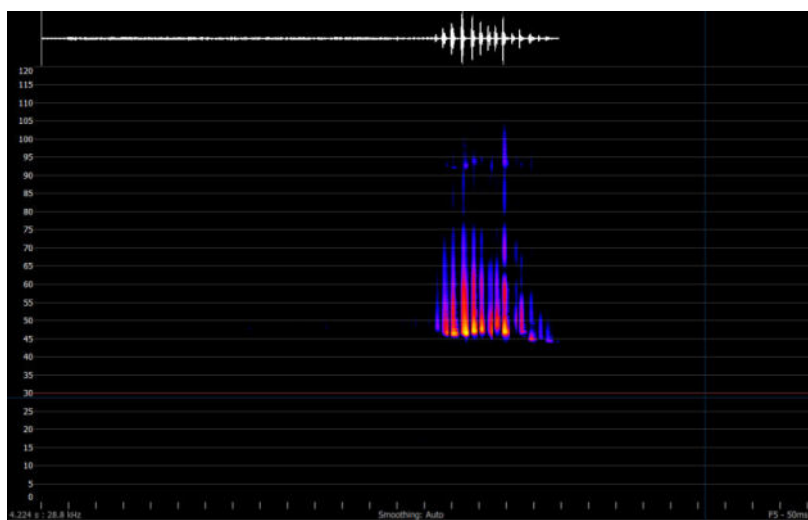


Figure 3: Common Pipistrelle [45kHz] foraging around building.

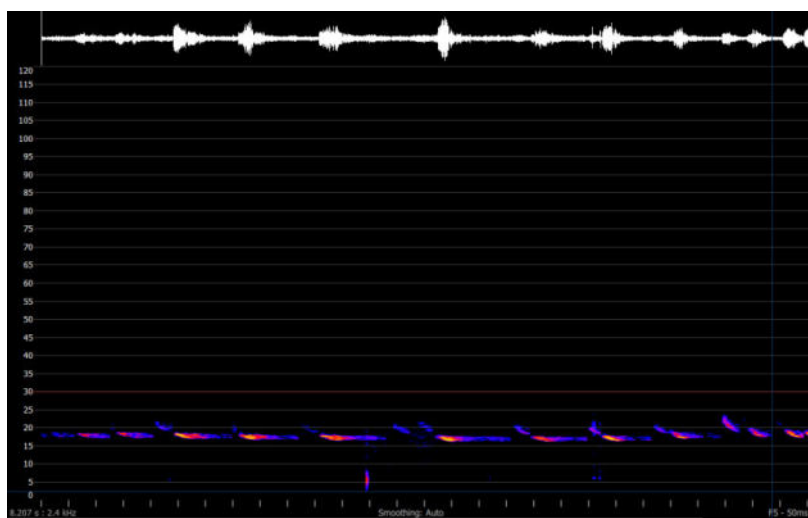


Figure 4: Noctule [18kHz] flying high over the site.

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APPENDIX 4 – Bat sonographs

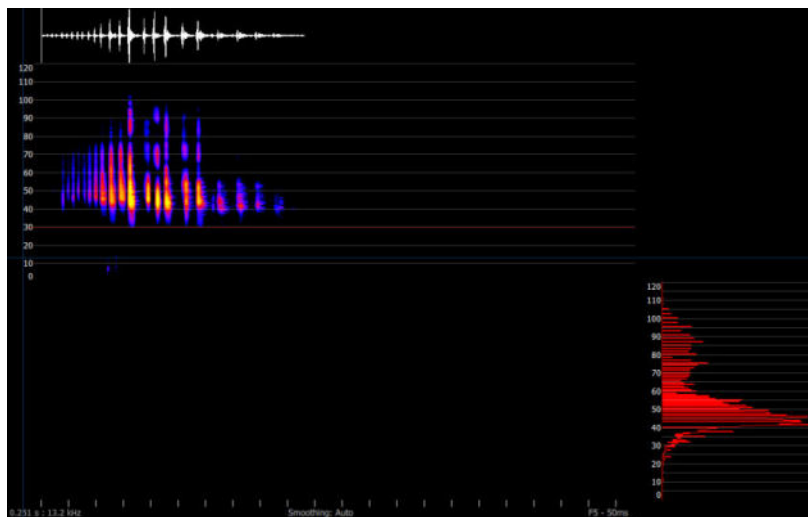


Figure 5: Brandt's [46kHz] (with cycles) foraging in the vicinity.

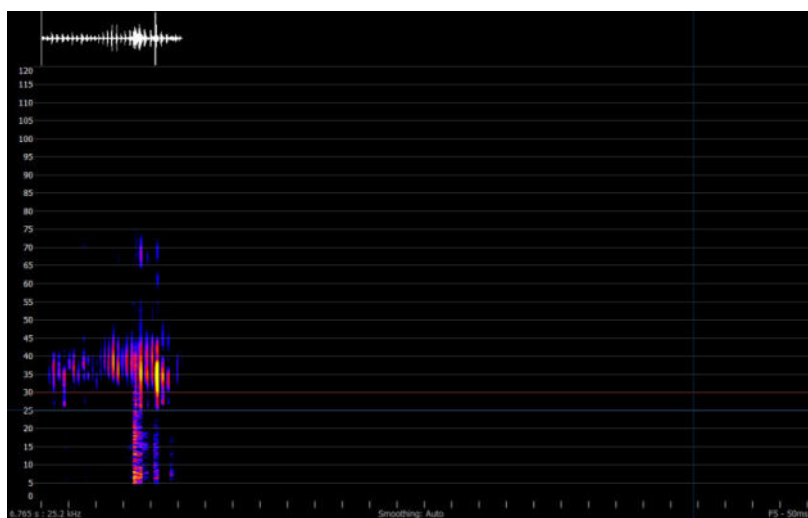


Figure 6: Brown Long-eared [33kHz] foraging in car park near East elevation.



APPENDIX 5 – Mitigation details



Figure 7: Schwegler (1WQ) wall-mounted bat box.



Figure 8: Beaumaris Woodcrete bat box fitted to wall.



Figure 9: 26mm diam. hole bird box.



Figure 10: 32mm diam. hole bird box.



Figure 11: Woodstone Sparrow terrace box.



Figure 12: Woodstone double House Martin cups.

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APPENDIX 6: Bibliography

The following publications were referred to in preparing this report.

Bat Conservation Trust (version 3, 2009). *Bats and Lighting in the UK: Bats and the Built Environment Series*. The Bat Conservation Trust, London.

British Standards Institution (2013). *BS42020 'Biodiversity. Code of Practice for planning and development'*. BSI Standards Limited, London.

Collins, J. (ed) (2016) *Bat Surveys for Professional Ecologists : Good Practice Guidelines (3rd edn.)*. The Bat Conservation Trust. London.

Environment (Wales) Act 2016. National Assembly for Wales.

Mitchell-Jones, A.J. (2004) *Bat Mitigation Guidelines*. English Nature. Peterborough.

Mitchell-Jones, A.J. and McLeish, A.P. (2004) *The Bat Workers Manual (3rd edn)*. Joint Nature Conservation Committee. Peterborough.

Planning Policy Wales (Ed.11, 2021). National Assembly for Wales.

Russ, J (2012) *British Bat Calls – A Guide to Species Identification (1st edn)*. Pelagic Publishing. Exeter.

