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Tyrer Ecological Consultants Ltd, Formby Business Centre, 42 Duke Street, Formby, L37 4AT

Dusk Survey Results

September 2021

Pindar Bungalow

Kiln Lane

Cross Lanes

Wrexham

LL13 0TA

National Grid Ref: SJ36284643



Pindar Bungalow, Kiln Lane, Cross Lanes, Wrexham LL13 0TA
Dusk Survey Results

Document Title	Dusk Survey Results
Prepared for	Blueprint Architectural Ltd
Prepared by	Tyrer Ecological Consultants Ltd

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Survey Dates	Dusk 1: 21/07/2021	Dusk 2: 04/08/2021
Reviewed by	Kylee Wilding	
Review date	14/09/2021	
Approved by	Kylee Wilding	
Date of Issue	14/09/2021	

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Dusk Survey Results

1.0 Background and Introduction

- 1.1 As part of a proposed planning application for the demolition of the existing dwelling to allow for the subsequent creation of a new dwelling and detached garage at Pindar Bungalow, Wrexham, Tyrer Ecological Consultants Ltd conducted an Inspection & Assessment in relation to Bats & Breeding Birds during July 2021. As part of this survey a Preliminary Roost Assessment (PRA) was carried out, which concluded the following:

***“Bats:** The dwelling Pindar Bungalow at the application site has been found to possess Potential Roost Features (PRFs) and in association with the high value bat related foraging habitat the structure has consequently been categorised to possess ‘Moderate’ roost suitability in accordance with current BCT guidance. Based upon this categorisation and when taking the Bat Conservation Trust ‘Bat Surveys: Good Practice Guidelines’ 3rd edition (2016) into consideration then in order to establish if bats are using the building as a roost then this report will recommend two suitably spaced apart dusk emergence or/and dawn re-entry surveys.”*

- 1.2 Development proposals for the site involve the demolition of the existing dwelling to allow for the subsequent creation of a new dwelling and detached garage with associated landscaping and access.
- 1.3 Tyrer Ecological Consultants Ltd were therefore commissioned by Blueprint Architectural Ltd to undertake the further bat surveys recommended in the Preliminary Survey; the surveys (two dusk emergence surveys) were carried out in July and August 2021 in accordance with current Bat Conservation Trust (BCT) Guidelines during the active season of bats (see Figure 1.1).

Table 7.1 Recommended timings for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).		
Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September ^a with at least one of surveys between May and August ^b	May to September ^a with at least two of surveys between May and August ^b
^a September surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season. ^b Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on 31 August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.		

Figure 1.1 - Extract from *Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines*, 3rd ed. (2016)

- 1.4 The results, conclusions and recommendations following the surveys, including any indicative mitigation to inform an application to Natural England for a European protected species mitigation licence (EPSML), where necessary, will be supplied within this report.
- 1.5 This report should be read, understood and presented to the local authority as an additional document to the Inspection & Assessment in relation to Bats & Breeding Birds (July 2021).
- 1.6 In accordance with *Biodiversity Net Gain: Good practice principles for development* (CIEEM *et al*, 2019), measures have been recommended proportionate to anticipated impacts to ensure that the proposed development results in a biodiversity net gain.

2.0 Bats - Legislation & Policy

2.1 All British bats and their ****roosts**¹ are afforded protection under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579). When dealing with cases where a European Protected Species (EPS) (all UK bats) may be affected, a planning authority is a competent authority within the meaning of the Regulation 7 of the Regulations, that has a statutory duty as the local authority to have due regard to the provisions of the Regulations in the exercise of its functions.

2.2 Use of Buildings by Bats

- a) Summer breeding roost (May-August)
- b) Hibernation roost (October-March)
- c) Transitional or temporary roost (Mainly spring/summer months)

Roost selection is often closely correlated to suitable foraging habitat within a reasonable commuting distance from the roost and different sites are used depending upon insect densities and abundance, climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

Policy

2.3 Paragraph 180 of the National Policy Planning Framework (as revised in July 2021) states:

180. When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity 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;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁶³ and a suitable compensation strategy exists; and,

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

¹ ****The term roost** is generically referred to as a place that bat/s use for the any of the above reasons, however it should be noted that under the Conservation of Habitats and Species Regulations (2019) (EU Exit) (Regulation 43 (d) the term roost is not used but refers to “a *breeding site or resting place of such an animal*” and is afforded legal protection. The roost, breeding site or resting place of bats, which ever terminology is used is legally protected whether or not bats are in occupation.

- 2.4 This is supported by Policy EC6 of the Wrexham Unitary Development Plan, which states:

“Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves, will be supported.”

3.0 Protected Species in Wrexham

- 3.1 Up to eleven bat species have been recorded in Wrexham, many of which use built structures for roosting. A variety of building types and features are utilised by bat species at different times of year ranging from occupied residential dwellings to disused barns and bridges. The most frequently encountered species is the common pipistrelle bat (*Pipistrellus pipistrellus*); its abundant status in Wrexham is mirrored throughout the UK.

4.0 Survey Methods

- 4.1 Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) edition states:-

“The guidelines do not aim to either override or replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. The guidance should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.”

Relative to the above the survey protocol has been determined using the collective and long standing experience of Tyrer Ecological Consultants Ltd and knowledge of the specific nature of the site.

Survey Protocol

- 4.2 The timing of the surveys took place in July – August thus within the main active period of bats, at a time when maternity colonies have formed / returned to summer roosts and bats are in a highly active and social stage.

In accordance with Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016), it is specified that:

“The bat active period is generally considered to be between April and October inclusive”, though the period of May - August is the optimal most productive period that Natural England accept bat surveys and grant European Protected Species Mitigation licences (EPSML).

When considering survey protocol the decisions about whether dusk or dawn surveys are selected are based on the extensive experience of the Tyrer Ecological Consultants Ltd, the nature of the building and species that can be anticipated as being present either at the property or in the locality and how complex a building is relative to observations.

In this case the bat roost potential that exists at Pindar Bungalow presents no problems for dusk observations; if a building is complex, or observations were restricted, or species that are difficult to detect at dusk are suspected then dawn surveys would be conducted. At Pindar Bungalow there are no visual constraints and to date there is no evidence to suggest the presence of such species.

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It should also be noted that at dawn temperatures are usually lower than at dusk as a result bat activity can, in some locations, be less frequent. Additionally, where singular/small numbers of bats are present and there are no survey constraints then dawn surveys are of no more value than dusk surveys; singular bats can and do return to a roost before dawn and as a result a dawn survey would not record them anyway. Dawn surveys are more productive when “back tracking” bat to a roost from foraging grounds.

Survey protocol should not be determined by parties who are 1) not familiar with the site 2) do not have a sufficient level of experience in relation to the undertaking of dusk/dawn bat surveys.

- 4.3 The number of surveys and surveyors was adequate relative to the roost potential that was identified on attendance of the site i.e. ‘Moderate’, and requiring two surveyors to accurately monitor potential roost features (PRF’s) on the buildings at any one time
- 4.4 Surveyors were strategically positioned so that all elevations with bat roost potential, as described in the daytime report, could be observed without limitations. The surveys were aided with Anabat electronic bat detectors that enable the locating and recording of the high frequency calls that are emitted by bats; echolocation calls were analysed the next day using Analook computer software to verify field observations.

5.0 Results

- 5.1 Two dusk emergence surveys were undertaken on the 21st July 2021 and the 4th August 2021 by two surveyors at any one occasion. Surveyor credentials have been given within Table 5.1. Tables 5.2 and 5.3, alongside Figures 5.1 and 5.2 document the results of the dusk surveys, whilst Figures 5.3-5.5 provide visual aids of emergence locations.

Table 5.1 - Surveyor Credentials

Surveyor(s)	Experience	Surveyor Credentials
Mr. H. Green	30+ years	Highly experienced Bat Specialist and carer whom has professional surveying experience over decades with Tyrer Ecological Consultants Ltd - Class 2 Natural England Bat Licence (CLS-03290)
Mr. M. Smith	6 years	An experienced seasonal bat surveyor with Tyrer Ecological Consultants Ltd
Ms. E. Thomas	1 year	A seasonal ecological consultant with experience of undertaking professional bat surveys
Mr. M. Mulholland	21 years	An experienced seasonal ecological consultant with experience of undertaking professional bat surveys

Table 5.2 – Survey dates, times and weather conditions

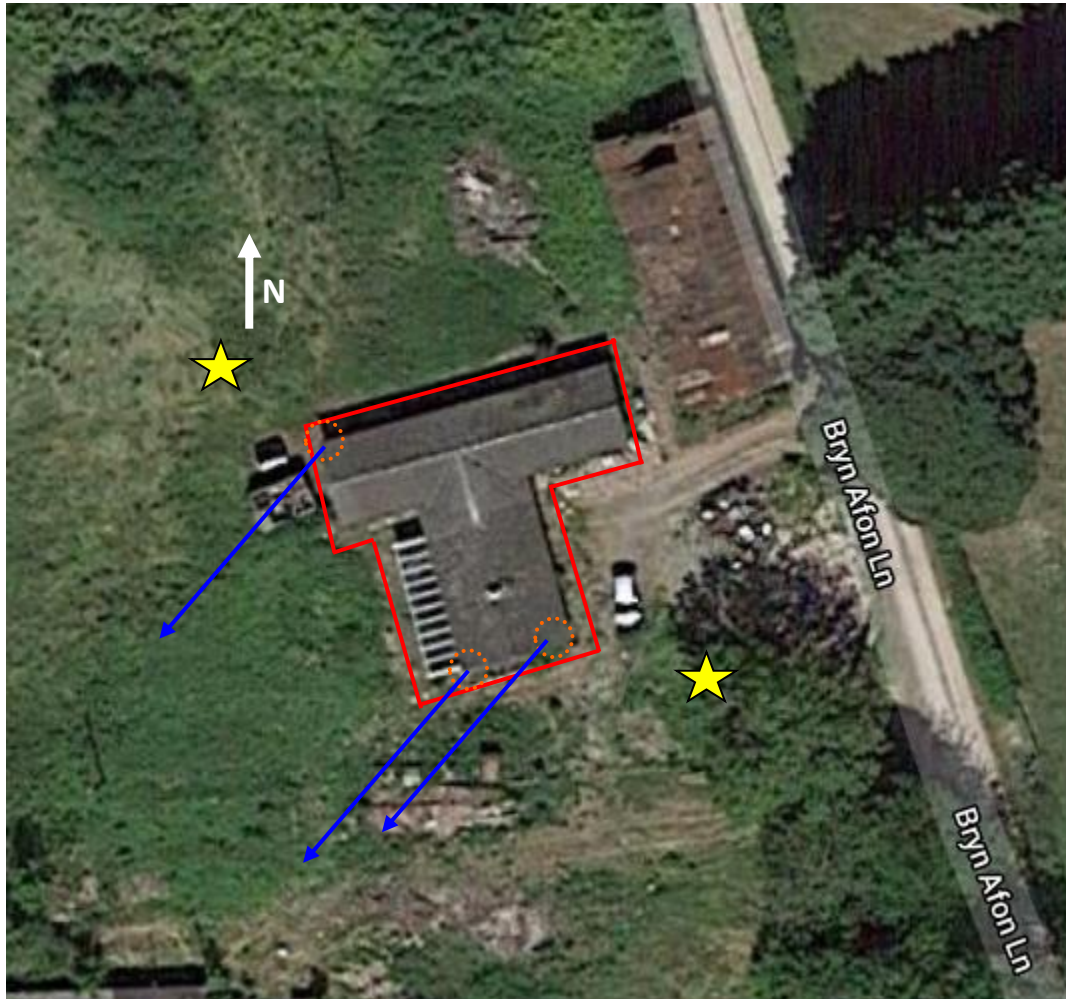
Times of Survey	Date	Weather Conditions
Dusk survey 1 2102 – 2250	21 st July 2021	Sunset: 2121: Dry, light air, 0% cloud cover Start temp: 22.5°C End temp: 18.1°C
Dusk survey 2 2042 – 2230	4 th August 2021	Sunset: 2102: Mild and grey, light air, 90% cloud cover Start temp: 16°C End temp: 14°C

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Table 5.3 – Dusk Survey Results

Dusk Survey	Time	Activity
21/07/2021	2102 – 2250	Summary: Emergence of two Common Pipistrelle bats from a gap in the eastern end of the south gable end soffit, of one Common Pipistrelle from a gap in the western end of the south gable soffit, and of one Common Pipistrelle from a gap in the northern end of the west gable end soffit. 2133 hrs: Noctule recorded but not observed 2143 hrs: Noctule recorded but not observed 2145 hrs: Common Pipistrelle emerged from a gap in the eastern end of the south gable end soffit 2147 hrs: Common Pipistrelle emerged from a gap in the eastern end of the south gable end soffit 2151 hrs: Common Pipistrelle emerged from a gap in the western end of the south gable end soffit 2209 hrs: Common Pipistrelle emerged a gap in the northern end of the west gable end soffit General activity comprised of sporadic commuting by four Common Pipistrelle and one Noctule at a time.
04/08/2021	2042 – 2230	Summary: Emergence of two Common Pipistrelle from a gap at roof verge/wall-plate where the eastern wing meets the southern wing of the bungalow and of two Common Pipistrelle from a gap in the northern end of the west gable end soffit. 2115 hrs: Common Pipistrelle commuted south to north past the building 2128 – 2129 hrs: two Common Pipistrelle emerged from a gap at roof verge/wall-plate where the eastern wing meets the southern wing of the bungalow 2130 hrs: two Common Pipistrelle emerged a gap in the northern end of the west gable end soffit 2135 – 2140 hrs: commuting and foraging by one Common Pipistrelle at a time to the north of the building General activity comprised of sporadic commuting and foraging by up to four Common Pipistrelle.

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Dusk Survey 1 - 21/07/2021

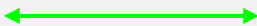
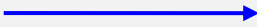
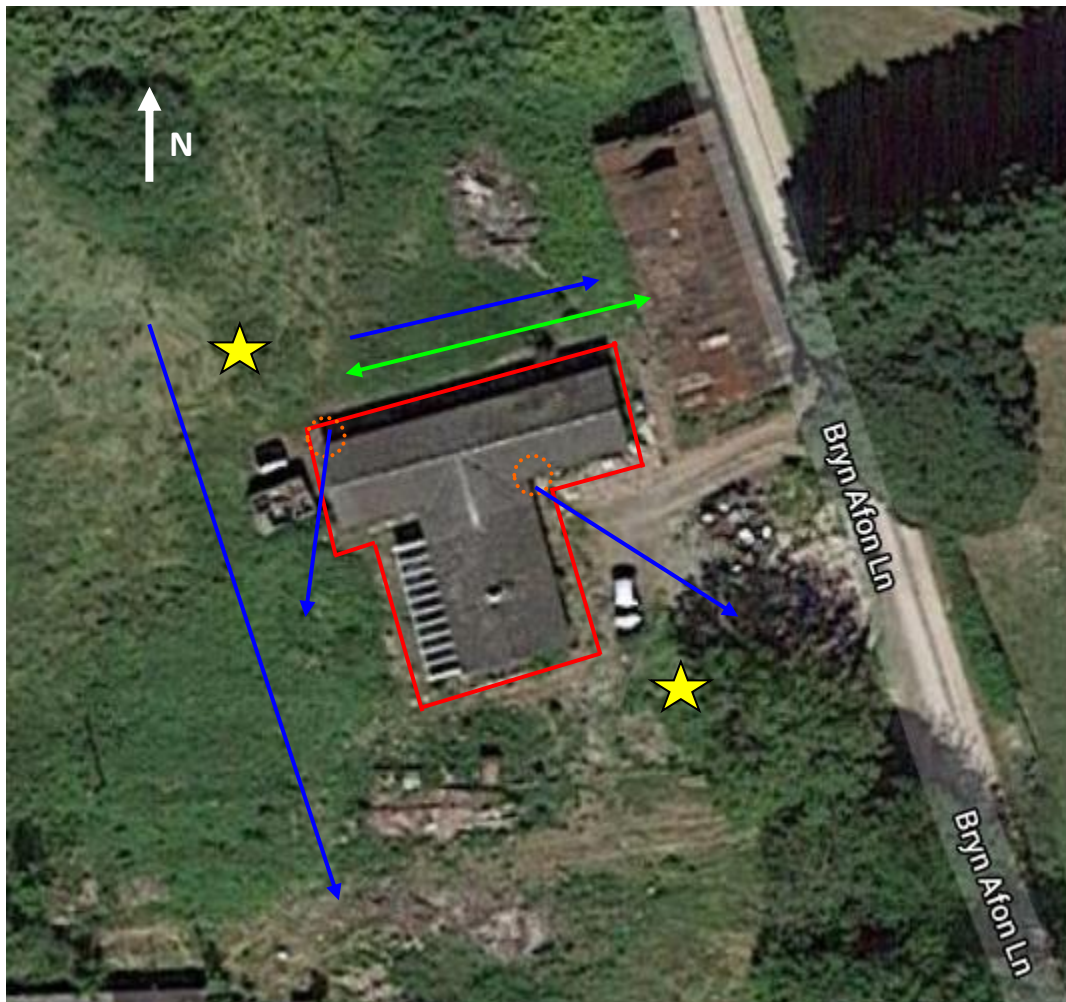
Key			
	Site Boundary		Foraging activity
	Surveyor Positions		Commuting activity
	Directional compass		Bat emergence point

Figure 5.1 - Visual Aid - Dusk Survey 1 Results with Key



Dusk Survey 2 - 04/08/2021

Key			
	Site Boundary		Foraging activity
	Surveyor Positions		Commuting activity
	Directional compass		Bat emergence point

Figure 5.2 - Visual Aid - Dusk Survey 2 Results with Key



Figure 5.3 - *Visual Aid* - Emergence location at a gaps in the soffit of the southern gable end at the eastern and western end from which two Common Pipistrelle and one Common Pipistrelle emerged respectively during dusk survey 1



Figure 5.4 - *Visual Aid* - Emergence location at a gap in the northern end of the western gable soffit from which one Common Pipistrelle emerged during dusk survey 1 and two Common Pipistrelle emerged during dusk survey 2



Figure 5.5 - *Visual Aid* - Emergence location at the roof verge/wall-plate where the eastern wing meets the southern wing of the bungalow from which two Common Pipistrelle emerged during dusk survey 2

6.0 Survey Conclusions & Recommendations

- 6.1 The survey results gathered by Tyrer Ecological Consultants Ltd conclude that the dwelling at Pindar Bungalow is being used by up to four Common Pipistrelle (*Pipistrellus pipistrellus*) bats for roosting purposes. Based upon the evidence, the building is host to four 'Day roosts' for the named species in small numbers, with two Common Pipistrelle emerging from a gap in the eastern end of the south facing gable soffit, one from a gap in the western end of the south facing gable soffit and a further bat emerging from a gap in the northern end of the western gable soffit during dusk survey one. During the second survey two Common Pipistrelle emerged from a gap in the northern end of the western gable soffit with a further two emerging from a gap at the roof verge/wall-plate where the eastern wing meets the southern wing of the bungalow.
- 6.2 Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) describes a 'Day roost' as:
- "a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer".*
- 6.3 The destruction/modification/damage of multiple bat roosts will therefore need to be addressed from both a conservation and legal perspective along with the application of appropriate mitigation. A European Protected Species Mitigation Licence (EPSML) will be required to legally destroy a place that is actively used for breeding, rest or shelter (roost) by bats, however, before a licence can be applied for all planning issues need to be resolved.
- 6.4 In order that the LPA can implement its obligations under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), appropriate and proportionate mitigation will need to accompany the planning application which will demonstrate that the *"favourable conservation"* of the species concerned can be maintained.
- 6.5 Installation of new lighting as part of a development scheme that exceeds current levels may have a negative impact upon foraging/commuting bats confirmed as present in the vicinity, particularly if increased light spillage occurs in areas currently free from illumination such as illumination of boundary features. There are several measures that can be used to offset impacts upon bats, where lighting is unavoidable; these include, however are not limited to, the light source used and luminaire design, and accessories to direct light at its intended target. Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site. Refer to the Bat Conservation Lighting Guidelines for further strategic information if applicable.

7.0 Indicative Mitigation

- 7.1 From the evidence gained during the dusk surveys, the use of Pindar Bungalow by bats is considered to be of 'low' level significance relatable to Common Pipistrelle bats and their current status (as according to - English Nature: Bat Mitigation Guidelines 2004); the proposed mitigation is proportionate to that use. However, if at any time that assessment is revised to a higher level, then the mitigation will also be accordingly revised.
- 7.2 The following procedures and mitigation recommendations are designed to allow the Local Planning Authority (LPA), in association with their ecological advisers, to determine a Planning Application where a European Protected Species has been identified and will be affected by the work for which the Planning Application seeks consent.

In addition Local Planning Authorities in accordance with the obligations placed upon them by way of their duties under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579) have to take into consideration the presence of a European Protected species (EPS) before determination of an application where it/they have been identified.

- 7.3 The LPA need to consider the mitigation in relation to the potential success of a Natural England licence application and/or if in their opinion the mitigation is considered as being appropriate, or if it is over and above what is required; if they determine that the mitigation is appropriate then a Planning Condition should be attached requiring the roost provision to be implemented.

If the LPA consider that the mitigation is over what is necessary but require “enhancement” as part of their Local Biodiversity/Net-Gain Planning Policies this should be included in the terms of Consent. The acting bat ecologist deems the proposed new roost creation as appropriate and not over and above what is required.

- 7.4 **Notwithstanding that Planning Consent is granted or equally if the work is undertaken outside of the planning system, whereby projects that do not require planning consent may affect bats or their roost, including disturbance, it does not absolve the applicant, site owner, developer or any other party involved with the work from ensuring that an application is made for a Natural England development licence, to legally undertake work that will affect bat(s) or their roost(s).**

If work is undertaken without a licence and bat(s) or their roost(s) is/are affected then a breach of current wildlife legislation will occur for which penalties are severe.

- 7.5 Under Regulation 53(1) and 56(3)(a) of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), a licence is required prior to disturbing bats or destroying/damaging or obstructing any place that is used by bats as a resting place or breeding site. The licence is issued by the EPS Licensing Team of Natural England.

Summary of Mitigation

- 7.6 The demolition of the existing bungalow to allow for the subsequent creation of a new dwelling and detached garage is the key component of the applicant’s plans for the site; however it is acknowledged that the presence of roosting bats needs to be addressed from both a legal and conservation perspective.

The mitigation proposals outlined in this report are seen to be the most productive way forward that will retain long term roosting opportunities for bats.

- 7.7 No foraging habitat will be lost as a result of the proposals. Existing foraging habitat in the form of nearby trees and hedgerows will mean all proposed new roost(s) will not be at any further distance from valuable foraging areas of the site.
- 7.8 To ensure that bats are not left without a roost while the work takes place one Schwegler 2F bat box (or suitable equivalent) will be mounted on a tree in proximity to and line of site of the survey area. The box will act as a receptor should bats have to be captured and relocated during the work schedule (See Figure 7.1).

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The receptor bat box will act as a receiver box for if bats have to be captured by hand and relocated to it by the ecologist during the work schedule; it will be retained permanently post-development to provide a permanent roost opportunity for bats.

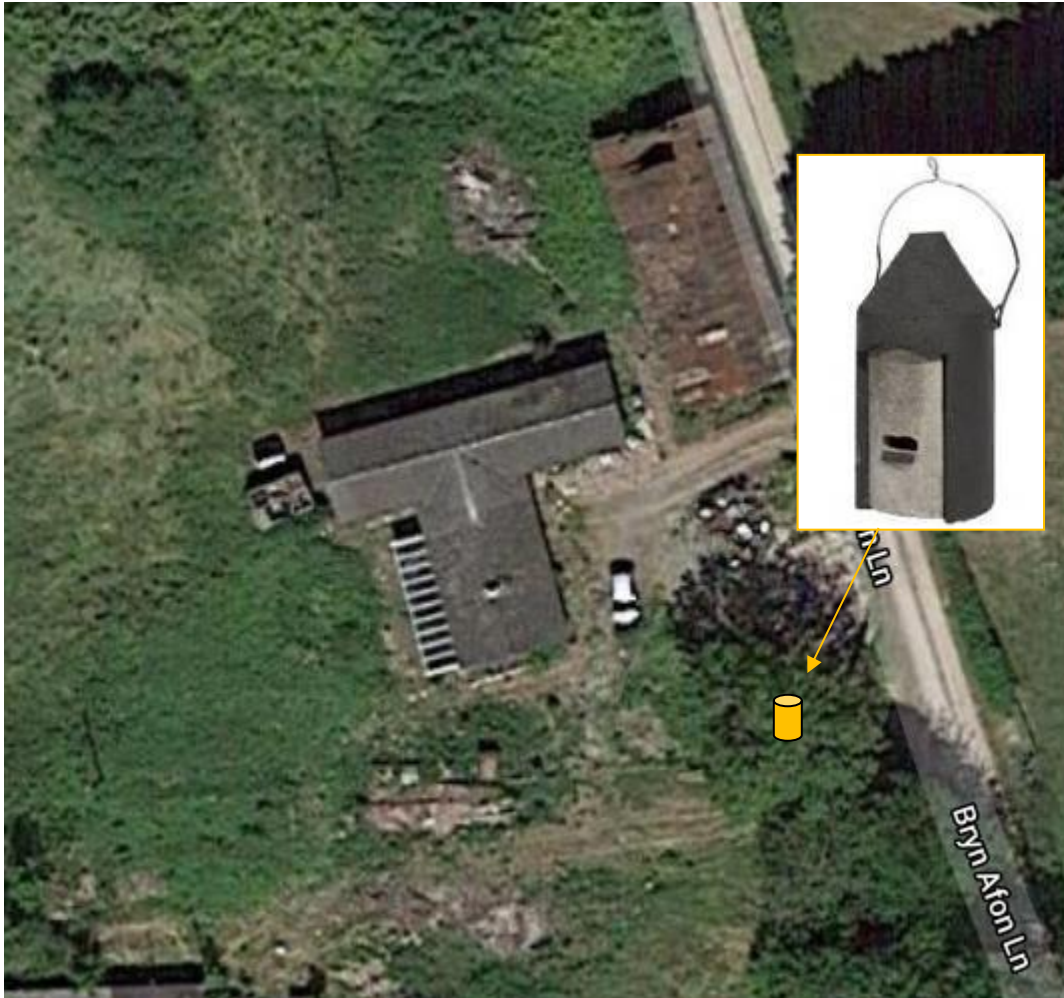


Figure 7.1 - Proposed location of receptor roost [] (Google Earth, 2021), and 2F Schwegler Bat box (overlaid)

Assigned Ecological Clerk of Works - EcOW

- 7.9 At the pre-commencement stage a suitably qualified Ecologist is to undertake an induction 'toolbox talk' on possible bat presence and present/discuss document features taken from the license i.e. License, Method Statement, Mitigation Figures and Work Schedule to be kept on site for the duration of the work.

Prior to any work being undertaken the presence/absence bats as far as is possible will be established by undertaking detailed investigation of the areas at which bats have been observed using the building; typically between and under stone slab roof tiles, gaps in the stonework, and gaps at the roof verge/wall-plate. The ecologist will supervise careful dismantling of all places that will be removed as part of the proposed work which have been identified as offering roost access or roost potential at the ecologist discretion. In addition wherever opportunities for bats exist in other parts of the building the supervised dismantling will extend to these areas with

strategies for safely removing bat(s), as long as a maternity colony is considered not to have taken up occupancy of the building.

All dismantling of roost features will be undertaken during favourable weather conditions.

No increase in external lighting is expected during the conversion; should additional lighting be installed it must be directed away from any bat roost access points, flight paths and foraging areas.

Mitigation proposed is subject to the approval of the Natural England EPS team; all proposed roost provisions outlined hereafter will be dedicated for bats and permanent.

7.10 Work undertaken by the Ecologist

Capture/Exclusion: Once an EPSML licence is in place the contractor will provide a safe means of access to allow the ecologist to investigate the confirmed roost area for bat presence at Pindar Bungalow.

In addition wherever opportunities for bats exist in other parts of the building the supervised dismantling will extend to these areas at the discretion of the ecologist in attendance. In the event of bat(s) being present, it/they will be removed, placed in a secure box with soft tissue and immediately transferred into a receptor bat box that will have previously been erected on a tree nearby as indicated in Figure 7.1. Once it has been established by the ecologist that bat(s) are absent the building works will continue to completion.

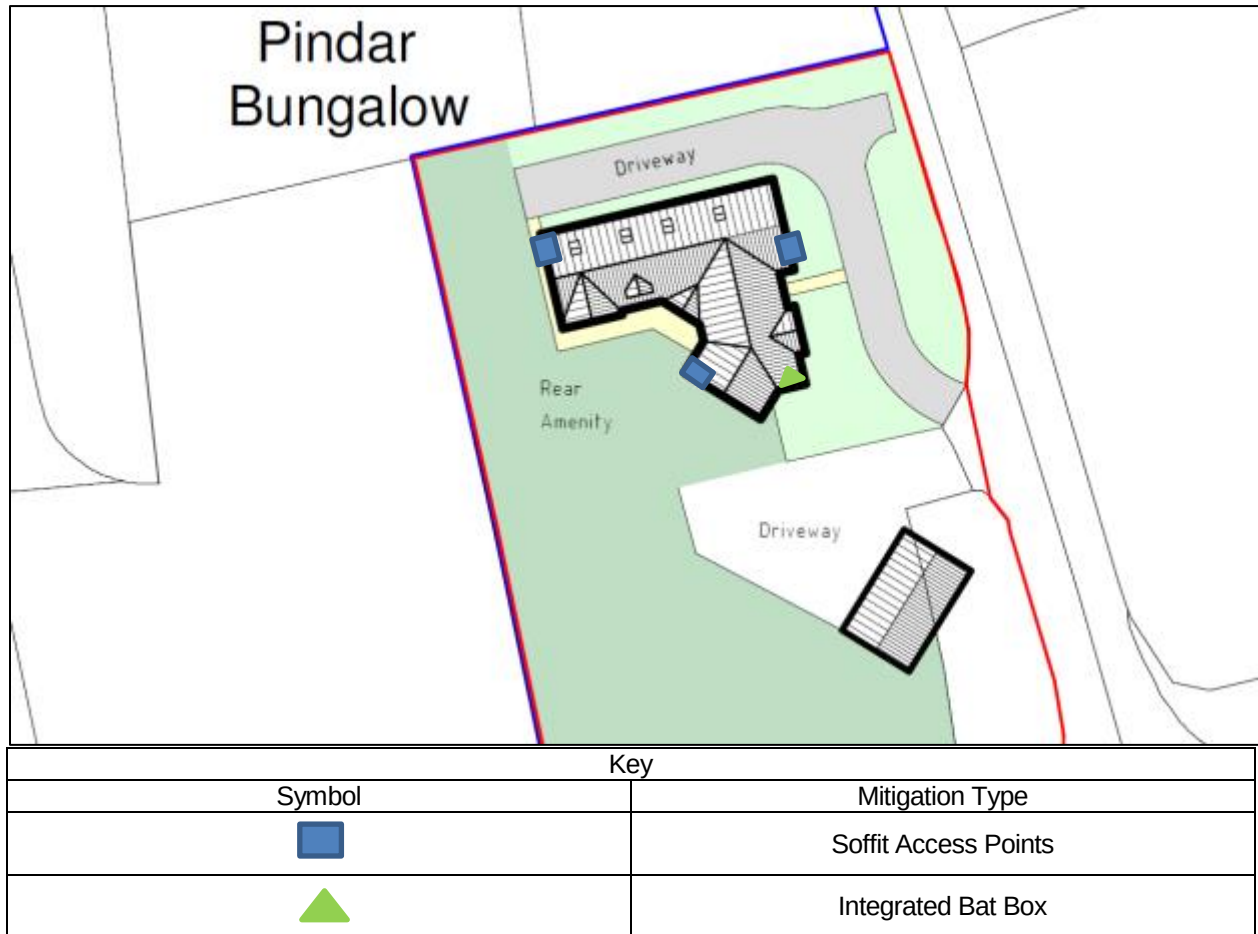
In the unlikely event that bats are found outside of supervision time, then as legal requirement and conditions of the granted licence work will immediately cease and the ecologist contacted for further advice; contractors must not touch, handle or in any way cause bats to move.

7.11 Work undertaken by the Contractor

A number of viable ingress points and roosting opportunities were identified at Pindar Bungalow, notably including gaps in the soffits, brickwork, and at the roof verge/wall-plate, which will be lost during the demolition of the bungalow; new roost provision is therefore recommended to be built into the design of the new dwelling at Pindar Bungalow (subject to finalisation during the EPSML application process):

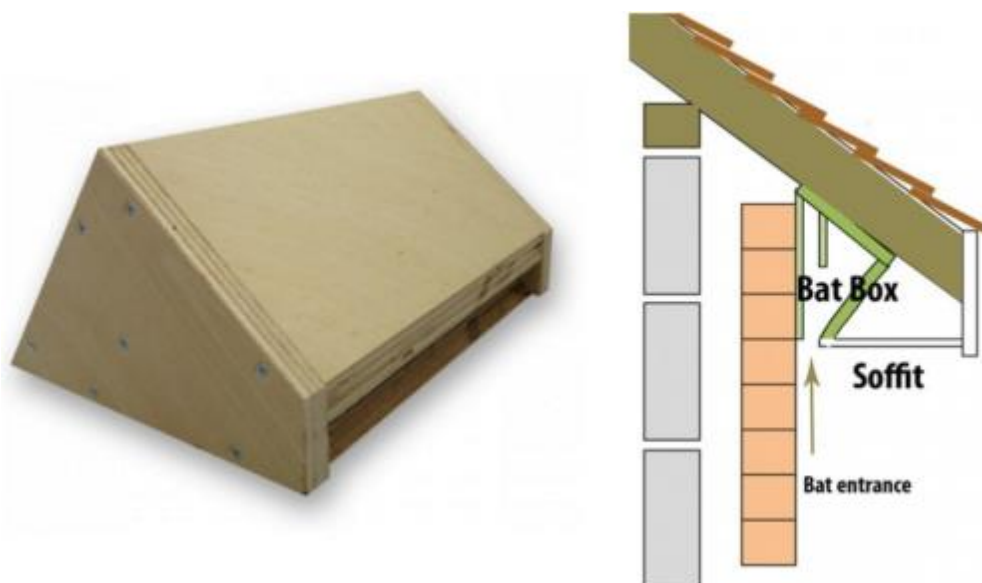
- New roosting provision will be re-created in the form of one access point for bats in each of the soffits of the eastern, western, and south-western gable elevations; the access points will permit ingress to roosts created within the soffits of the building.
- Additionally, one integrated bat box will be installed at the southern wall of the new dwelling during its construction.

See Figures overleaf for illustrative aids.



Soffit access

Where soffits are instated at gable elevations, roost provision may be instated in the form of a soffit bat box with internal roosting space.



Integrated bat box

The Habibat Bat Box is a solid box made of insulating concrete with internal roosting space. The box blends seamlessly into brick-built properties and may be incorporated into the fabric of buildings, being best placed on gable elevations.



7.0 References

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