Assessment of the Impacts on Bats & Nesting Birds: Proposals to Demolish & Rebuild Wicksmead, Bramshaw, Hampshire

For

Mr & Mrs Parks

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Contents

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Executive Summary

Wicksmead is a bungalow near Bramshaw in the New Forest (Hampshire). The quality of the build is now outdated and asbestos is widespread. Mr & Mrs Parks who own Wicksmead wish to demolish Wicksmead and build a new home on the site.

ECS were appointed to undertake bat surveys to support a planning application. During a daytime survey in November 2020 potential bat roosting sites were noted behind a small area of timber cladding above the entrance porch on the southwest side of the building; a small number of pipistrelle-like *Pipistrellus sp.* bat droppings could be seen behind the cladding. Two old long-eared bat *Plecotus sp.* droppings were found in the loft void; no other signs of bats were found. ECS recommended and has subsequently undertaken three evening emergence surveys of the property. A maximum of 11 common pipistrelle *Pipistrellus pipistrellus* bats have been seen emerging from and returning to a roost behind the timber cladding in June 2021. Seven common pipistrelle bats emerged during the survey in May and three in July.

All roost sites will be destroyed when the building is demolished. This would result in an offence and permanent loss of bat roost sites. Consequently a European Protected Species Mitigation (EPSM) licence will be required before demolition may proceed. The roost is not considered to have been used by a bat maternity colony in 2021. The proposals meet the criteria for a Bat Low Impact Class Licence (BLICL) and any impacts will be offset by providing compensatory roosting provision in an integrated bat brick in one of the elevations of the new house. Additional roosting sites will be provided by a flat Schwegler bat box erected on a tree in the garden. This will provide roosting provision during works and remain on site post development thereby contributing to biodiversity enhancement in accordance with policy and emerging legislation on Biodiversity Net Gain (BNG).

Removal of the timber cladding will be timed outside the bat hibernation season and supervised under the direction of the ecologist. Under the licence the planned mitigation will be subject to a compliance check; this will provide New Forest National Park (the planning authority) confidence in the maintenance of bat roosting sites post development.

No bird nest sites have been identified in the building; birds are likely to nest in the vegetation in the garden and adjacent outbuildings but these will remain unaffected by the proposals

This report details the methodology and results of bat surveys undertaken in 2020 & 2021. The legislation and policy relating to bats (and nesting birds) is explained. A mitigation strategy is presented which will satisfy Natural England in a future licence application.

1.0 Site Description, Background, Proposed Works and Legislation & Policy

1.1 Site Description & Setting

Wicksmead is a small bungalow situated near Penn Common in Bramshaw in the New Forest National Park at Ordnance Survey grid reference SU 27990 17163. The site consists of a bungalow and separate stable block set in a garden which is mainly lawn with mature trees and shrubs. These is a line of mature oak *Quercus robur* trees to the north of the property. Wicksmead is within an area of open forest (heathland) and pasture fields with small farmsteads.

1.2 Background

ECS were appointed in November 2020 by Mr & Mrs Parks (owners of the property) to undertake the necessary bat surveys and provide a report to support a planning application.

1.3 Proposed Works

The proposals are to demolish the existing bungalow and replace it with a new two-storey home.

Figure 1 shows the site location. **Figure 2** shows an aerial image of the site in the context of surrounding landscape features. **Figures 3a - d** show existing and proposed elevations.

1.4 Legislation & Policy

All bats and their roost sites are legally protected in the UK. The two key pieces of legislation affording protection to bats and their habitats are the 'Conservation of Habitats and Species Regulations 2017' (as amended)[1] and the 'Wildlife & Countryside Act 1981' (as amended). It is an offence to deliberately kill, capture or injure a bat or to damage or destroy a bat roost site. Disturbance may also constitute an offence.

All bird species, their nests and eggs are protected in law by the Wildlife and Countryside Act 1981 (as amended).

The legislation and policy relating to bats and nesting birds is explained more fully in **Appendix 1.**

[1] *Conservation (Natural Habitats &c) Regulations 2017, (England & Wales, as amended)*

***Figure 1** Site location*

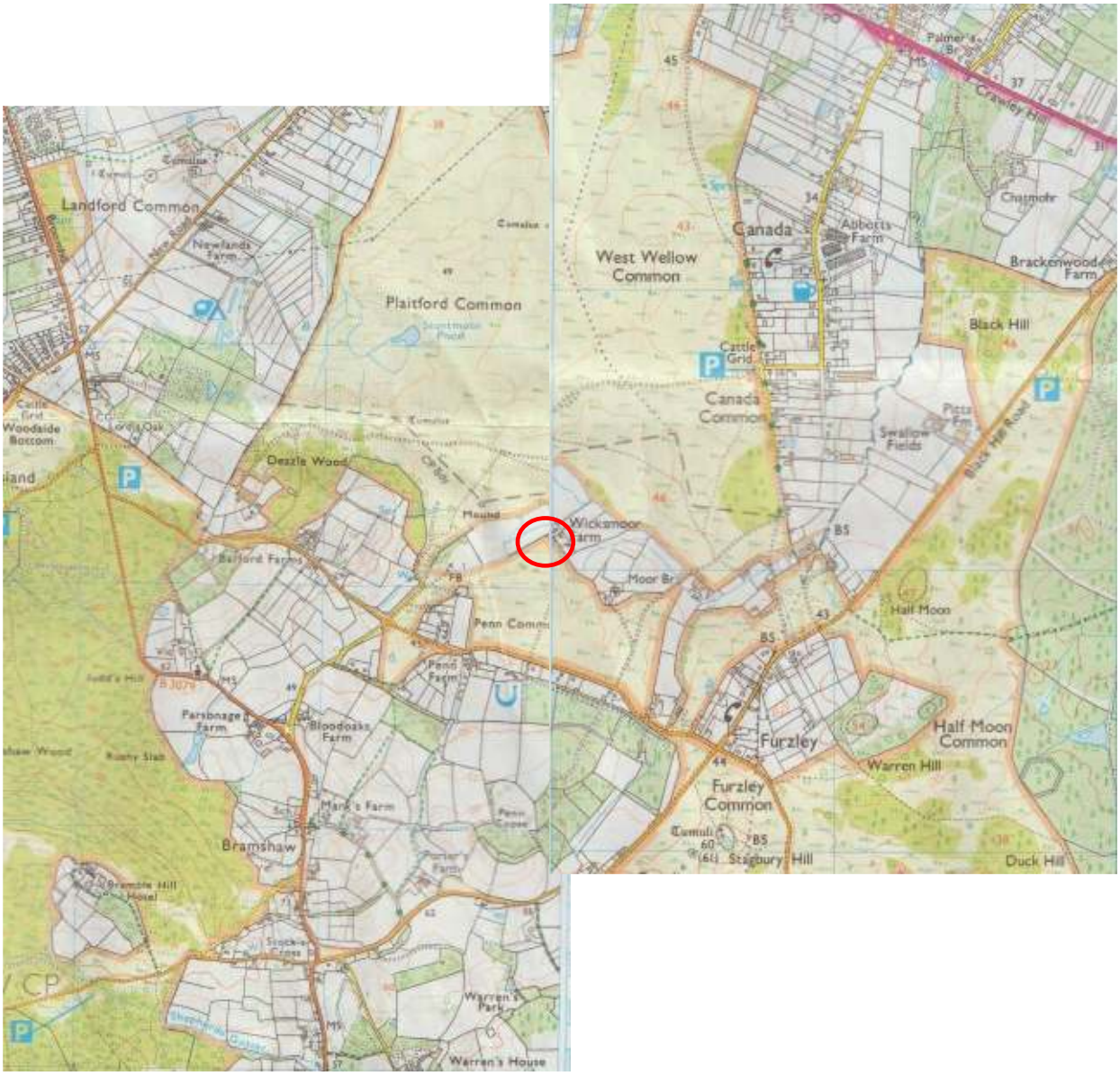


Figure 2 *Aerial Image (taken from Google Earth)*

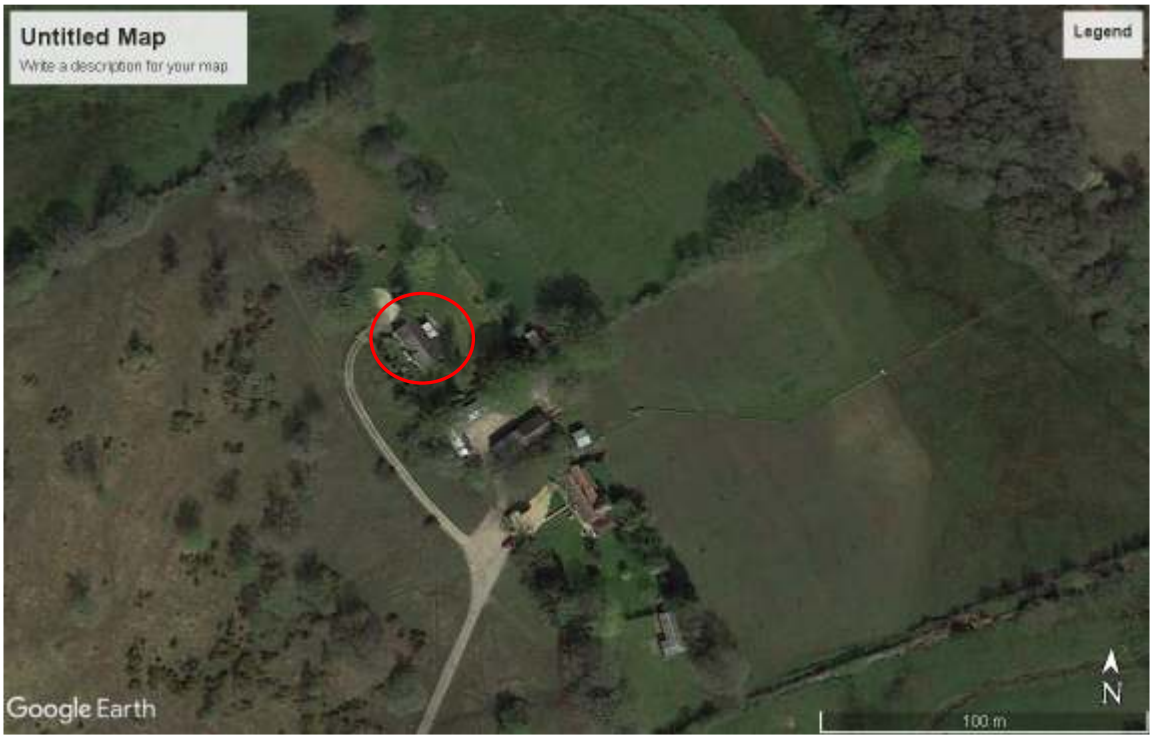
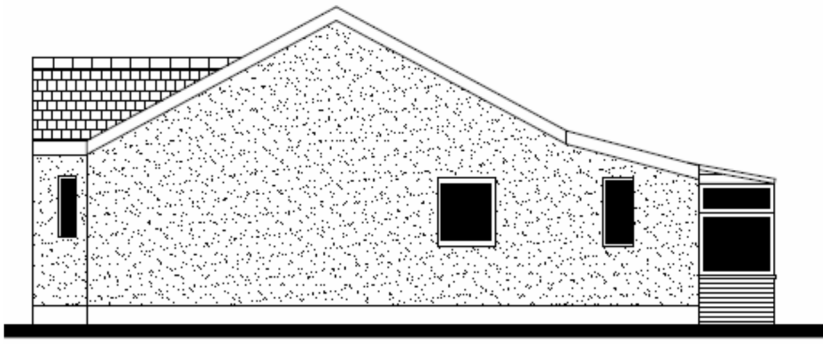


Figure 3a *Southeast Elevation: Existing (above) and (proposed) below*



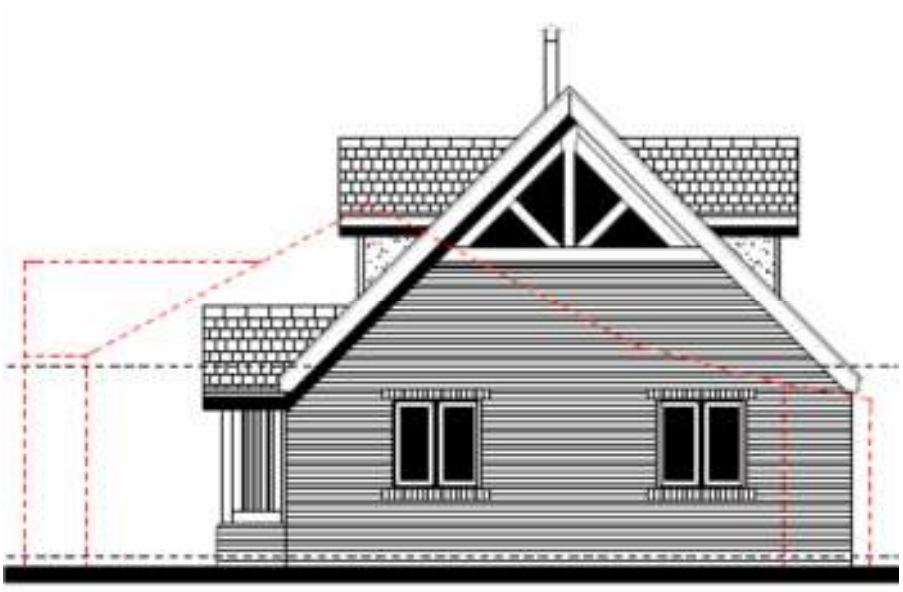


***Figure 3b** Southwest elevation: Existing (above) and (proposed) below*

Figure 3c *Northeast elevation: Existing (above) and (proposed) below*

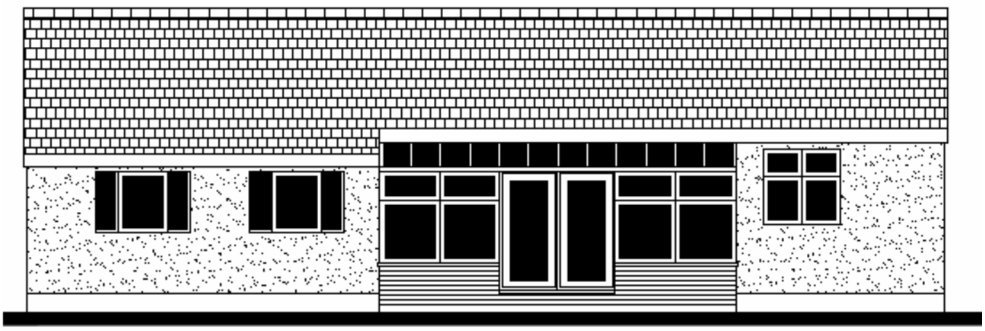
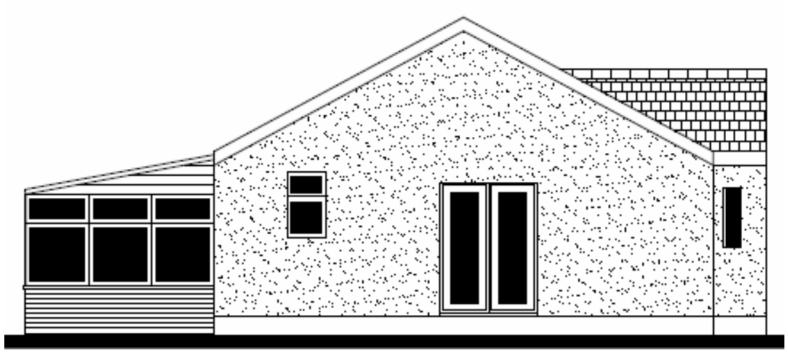


***Figure 3d** Northwest elevation: Existing (above) and (proposed) below*



2.0 Methodology of Survey & Assessment

2.1 Survey & Reporting Standards

Surveys & assessments have been undertaken in accordance with Bat Conservation Trust[2] (BCT) and Natural England survey and mitigation guidelines[3] and conform to the Chartered Institute of Ecology & Environmental Management (CIEEM) assessment and reporting standards[4].

2.2 Scope of Surveys

Impacts may extend beyond the footprint of the proposed works. The term 'Zone of Influence' (ZoI) refers to the area which could be impacted by the works prior to, during and after development. This varies between species and should consider linear features such as watercourses including ditches and hedgerows which provide a link between habitats or commuting routes/foraging areas used by bats. Lighting may also adversely affect bats.

2.3 Desktop Research & Liaison

A data search was not conducted for this application. The Multi Geographical Information Centre (MAGIC) was used to look for statutory (designated) sites and EPSM licence applications for bats within 2km. ECS surveyors have undertaken extensive surveys for bats in the New Forest National Park. Some surveys have also been undertaken for three neighbouring properties. The results of these surveys are briefly discussed.

2.4 Personnel

The initial daytime survey was undertaken by Colleen Hope (Chartered Ecologist, MCIEEM). Evening emergence (bat) surveys were undertaken by Colleen Hope and Dr Paul Hope (MCIEEM). Colleen and Paul are both licenced bat ecologists, each with over 20 years of experience. **Appendix 2** provides details of surveyor experience and qualifications.

2.5 Assessment & Evaluation

2.5.1 Assessment

A visual examination of the external areas and the loft void of the bungalow was undertaken in November 2020.

The following equipment was used or on hand during the daytime surveys:

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[2] Bat Surveys, Good Practice Guidelines 3rd Ed, BCT (2017)

[3] Bat Workers Manual (2004), Bat Mitigation Guidelines, (2004) both published by Natural England (formerly English Nature).

[4]CIEEM Guidelines for Ecological Impact Assessment in the United Kingdom (June 2015).

- Leica x 8 close focus binoculars;
- Cluson 1M candlepower torch;
- Head torch;
- 5m section surveyors ladders;
- VS36-10WW endoscope;
- Selection of small mirrors and torches;
- Digital camera.

The following signs of bats were searched for:

- Bat droppings, urine staining below or around potential roost sites, on walls, roofing materials and timber cladding;
- Staining or scratch marks around potential roost sites;
- Any bats/droppings visible in gaps between timber cladding;
- Signs of bats or bats within the loft void.

Because signs of bats are not always present any feature with potential to support bats was considered using the following criteria:

- High potential: features ideal to support bats, evidence of bat presence, past records of presence, droppings/staining etc.;
- Medium potential: moderate potential as a roost site but has no evidence or limitations such as size, location, lack of connectivity, presence of lighting or regular disturbance etc.;
- Low potential: features present which provide some potential but on balance of probability unlikely to support bats;
- Negligible potential: feature which in some circumstances may support bats but for whatever reason on this site considered unlikely to support a bat roost site (e.g. evidence of water ingress or damage/nesting birds or wasps).

Any evidence of bird nesting was also noted.

2.5.2 Evening Emergence Bat Surveys

Two surveyors undertook an evening emergence survey of the bungalow on 4 May, 17 June and 28 July 2021. The surveys commenced 0.5-0.25 hours before sunset and continued for 1.5 hours after sunset. Both surveyors used a time expansion Petterson D240x bat detector and recorded calls onto an Edirol R09 recorder. Calls were analysed in the field and any which required confirmation were assessed using Batsound V3software. Temperature, wind speed (Beaufort scale), precipitation and percentage cloud cover were recorded. Species, flight direction, time and behaviour were recorded for any bats emerging from or returning to the building.

The owners also undertook casual observations of bats emerging during some evenings in July after a bee's nest became apparent behind cladding.

2.5.3 Valuing Sites for Bats

Bats may be categorised as common and widespread or rare. Some species may be scarce or have a local distribution. Some are more vulnerable to development and/or agricultural intensification and habitat loss than others. Bats require a number of roosts throughout the year and the value of these roosts may vary. Maternity roosts and some hibernation sites have specific requirements and may support large numbers of bats. Bats may utilise mating roosts in autumn and spring and a range of day roosts throughout the rest of the year. Accurate population figures are not available for all bat species because of the difficulties in assessing bat populations. An evaluation method has been adopted in this report which is explained further in **Appendix 3.**

2.6 Survey Limitations and Precautionary Approach to Evaluation

Evidence of a buildings use by bats is frequently difficult to detect for example bat droppings can be washed off external surfaces by wind and rain and are often not visible where bats roost in crevices such as gaps between tiles, boarding and felt. Bats move between roost sites on a regular basis and consequently any set of surveys provide only a 'snapshot' of time. Notwithstanding this, the surveys at Wicksmead have been adequate to assess the value of the property for bats and likely impacts from the proposals.

3.0 Survey Results & Evaluation

3.1 Data Search

Wicksmead is situated within the New Forest National Park; although not within a designated site it is adjacent to The New Forest Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI), New Forest Ramsar and Special Protection Area (SPA).

MAGIC showed only one record of a EPSM licence for bats within 2km of the site which was for common pipistrelle 1200m to the southwest. However the records are incomplete as ECS obtained an EPSM for a site 400m to the northwest (day roosts for common pipistrelle) which did not show on MAGIC. During surveys of this latter site ECS recorded common and soprano pipistrelle bat *P.pygmaeus*, serotine *Eptesicus serotinus* and long-eared bats in flight. ECS has also recorded day roosts for common pipistrelle and brown long-eared bat in a property within 200m of Wicksmead (2019).

Colleen Hope has undertaken a number of bat surveys of the New Forest as part of a project under the Hampshire Bat Group. This has involved acoustic bat box and trapping surveys since 2005. The New Forest supports breeding colonies of rare bat species in particular those associated with woodland Bechstein's *Myotis bechsteinii* and barbastelle *Barbastella barbastellus* bats. Both of these rare species are primarily tree roosting species although barbastelle bats are found roosting in barns, particularly timber framed barns with gaps around mortice joints. During these surveys of the New Forest a wide range of common, scarce and rare bats have been recorded.

3.2 Description of Building and Results of Surveys

3.2.1 External Features

Wicksmead was constructed in 1926. It has rendered block walls with a pitched roof which is covered in tight fitting slates. There are bargeboards at the north and south gable ends; these fit snugly to the walls. There is a porch on the front (west) elevation which has waney-edge timber cladding over the gable. There are gaps between the timber cladding and some pipistrelle bat droppings were visible behind some of these. There is a flat roofed conservatory to the rear. There is a single flue but no chimney.

3.2.2. Internal Inspection

The loft void measures approximately 10x15m with a floor to apex height of 2m. There are block end walls and a timber frame with wooden sarking inside the slates. Two old long-eared type bat droppings were noted on the loft floor but these were too degraded to send for DNA analysis. Asbestos was noted at one end of the loft and the surveyor left immediately but the inspection was adequate to evaluate the use of the loft void. This is considered to be very low use and because of the age of the droppings and lack of potential access points to the loft void its used may be historic.

Figure 4 shows a plan of the bungalow with features referred to in the text. Photographs are shown in **Figure 5.**

Figure 4 *Plan of the bungalow showing features referred to in the text*

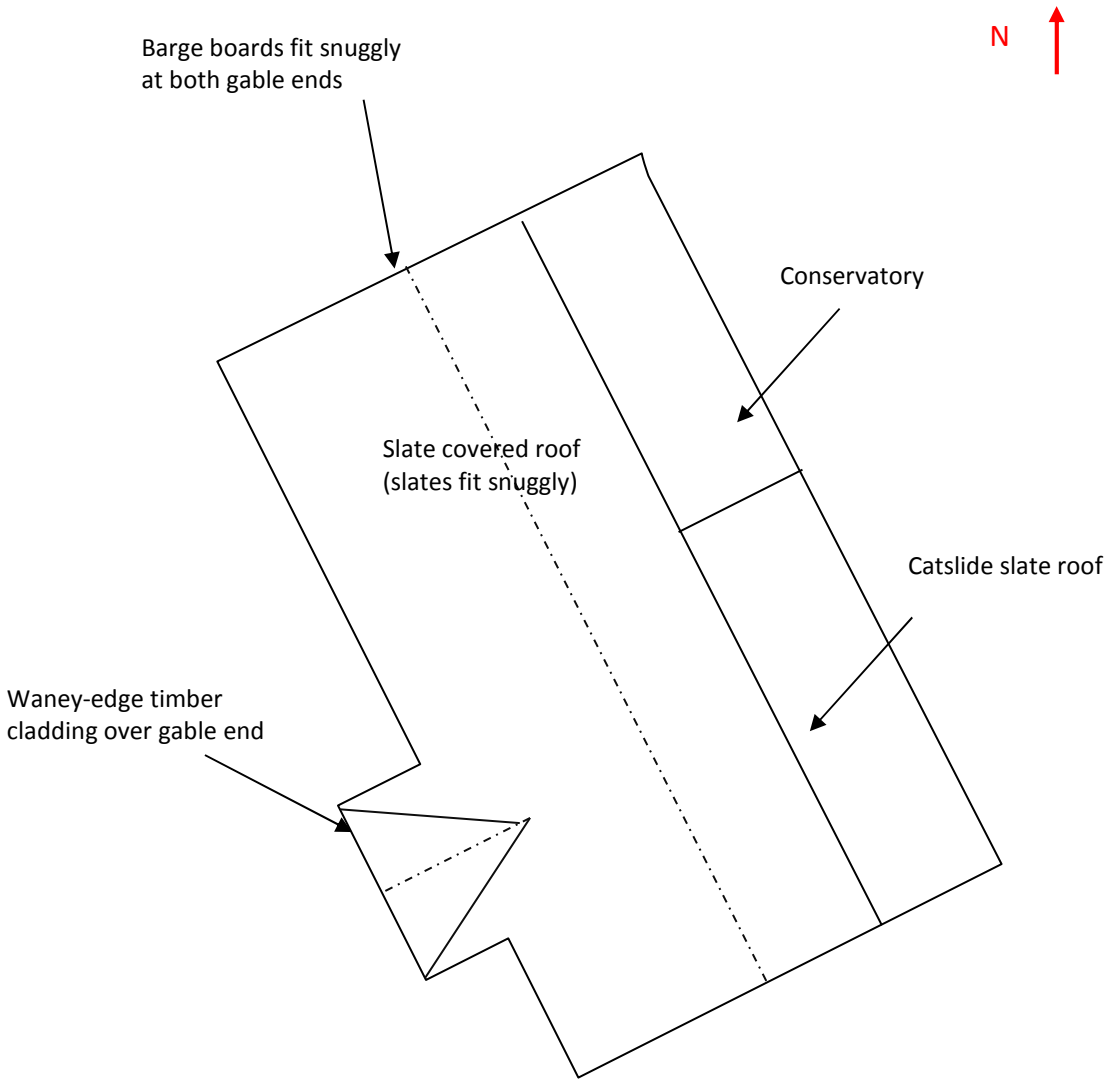


***Figure 5** Site Photographs*

Plate 1: West elevation showing area of timber cladding where bats have been recorded roosting

Plate 2: Close up view of pipistrelle roost behind timber cladding. Bats emerged from/returned to multiple locations

Plate 3: North elevation

Plate 4: View inside the loft void

Plate 5: South and east elevations

Plate 6: View of the garden looking north

3.3 Evening Emergence Surveys

3.3.1 **Evening Emergence Survey 04 May 2021** Sunset at 20.30

Seven common pipistrelle bats emerged from the timber cladding on the southwest elevation between 20.34-20.54. Temperatures were low (temperatures remained below average for the entire month of May). Despite this a small number of foraging common pipistrelle passes were heard throughout the survey period. One long-eared bat pass was also heard.

3.3.2 **Evening Emergence Survey 17 June 2021** Sunset at 21.23

Eleven common pipistrelle bats emerged and one returned to the roost site behind timber cladding between 21.22 – 21.41. The weather was misty to start with and then dry but heavier rain commenced about 60 minutes into the survey period. Despite this a number of common pipistrelle bats were heard and seen foraging in the garden for the duration of the survey period and remained when surveyors left. A small number of serotine bat passes were heard and some long-eared bat passes including one social call was heard. In the last 30 minutes of the survey the common pipistrelle bats returned as individuals or flying in pairs. They circled the roost before re-entering. The surveyor counted 10 bats in and then bats started to re-emerge and swarm about the roost before re-entering with most of this activity between 22.32-22.50. Approximately 10-12 bats were visible behind the cladding as the surveyor left. The bats probably returned after foraging due to the rain. The constant activity throughout the survey period and range of bat species heard suggests that bats still emerged and behaved as they would normally do despite the rain.

3.3.3 **Evening Emergence Survey 28 July** Sunset at 20.59

Three common pipistrelle bats emerged from the wooden cladding. No other bats were seen emerging. A small number of common and soprano pipistrelle bats foraged around trees in the garden and adjacent fields. One passes from a bat in the genus *Myotis*, one pass from a serotine bat and one pass from a long-eared bat were heard.

The owners noted 2-3 bats emerging on evenings between 17 June and 28 July. A bee's nest became established behind cladding during this period.

***Table 1** below shows the weather data recorded during the surveys.*

Survey Type	**Date & sunset/sunrise time**	**Start/end Time**	**Temp Max-min C**	**Wind Speed**	**Cloud Cover (%)**	**Precipitation**
Daytime survey	04/11/2020					
Evening Emergence Survey	04/05/2021 Sunset 20.30	20.12-22.00	7.9-7.7C	12	100	Dry
Evening Emergence Survey	17/06/2021 Sunset at 21.23	21.04-22.53	17.5-17C	0	100	Misty to start; dry for first 60mins then rain increasingly heavy (but bats active throughout)
Evening Emergence Survey	28/07/2021	20.44-22.29	16.8-15C	0	30	Dry

Figures 6a-c overleaf presents the results of the evening bat surveys. A key to the map is provided below.

Key

→ 20.25 bat flight direction and time

→ (E) bat emerging from or entering building

Pp	common pipistrelle	Le	long-eared bat
Sp	soprano pipistrelle	P?	unidentified pipistrelle bat
Es	serotine	(s)	social calling bat
Nn	noctule	(f)	foraging bat
		(c)	commuting bat

● surveyor positions

HxS bat heard but not seen
SxH bat seen but not heard

***Figure 6a** Results of Evening Emergence Survey 4 May 2021*

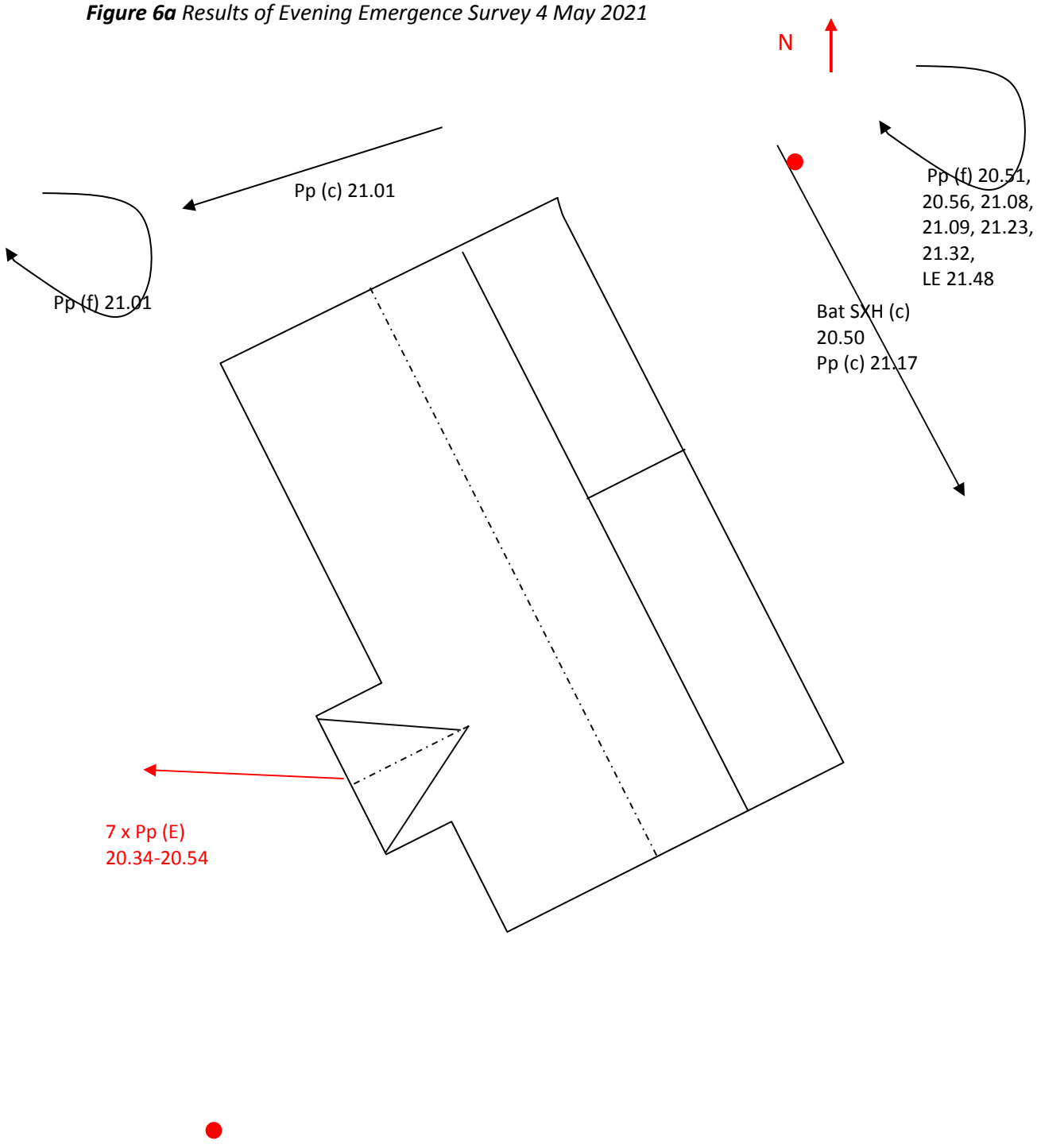


***Figure 6b** Results of Evening Emergence Survey 17 June 2021*

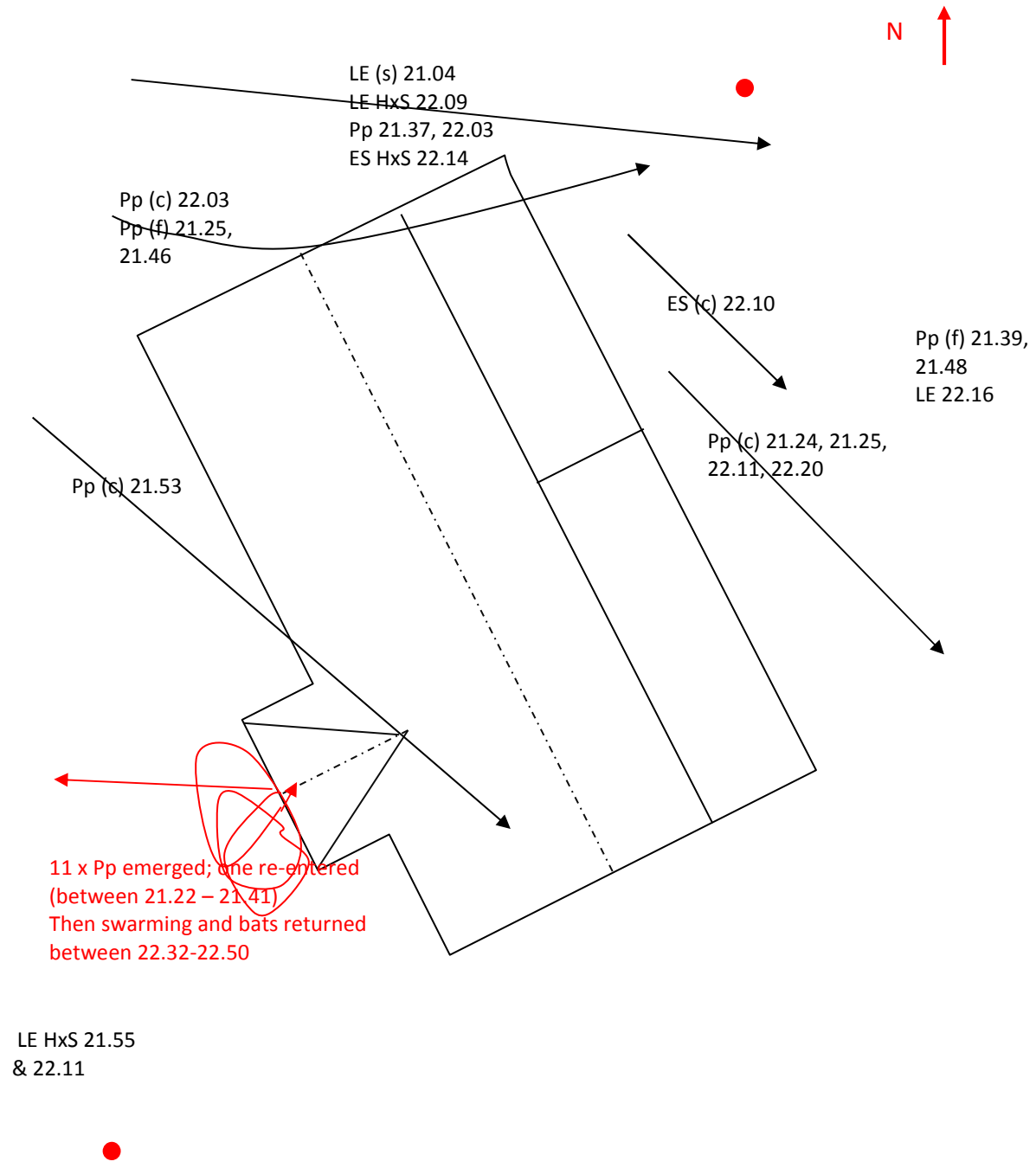
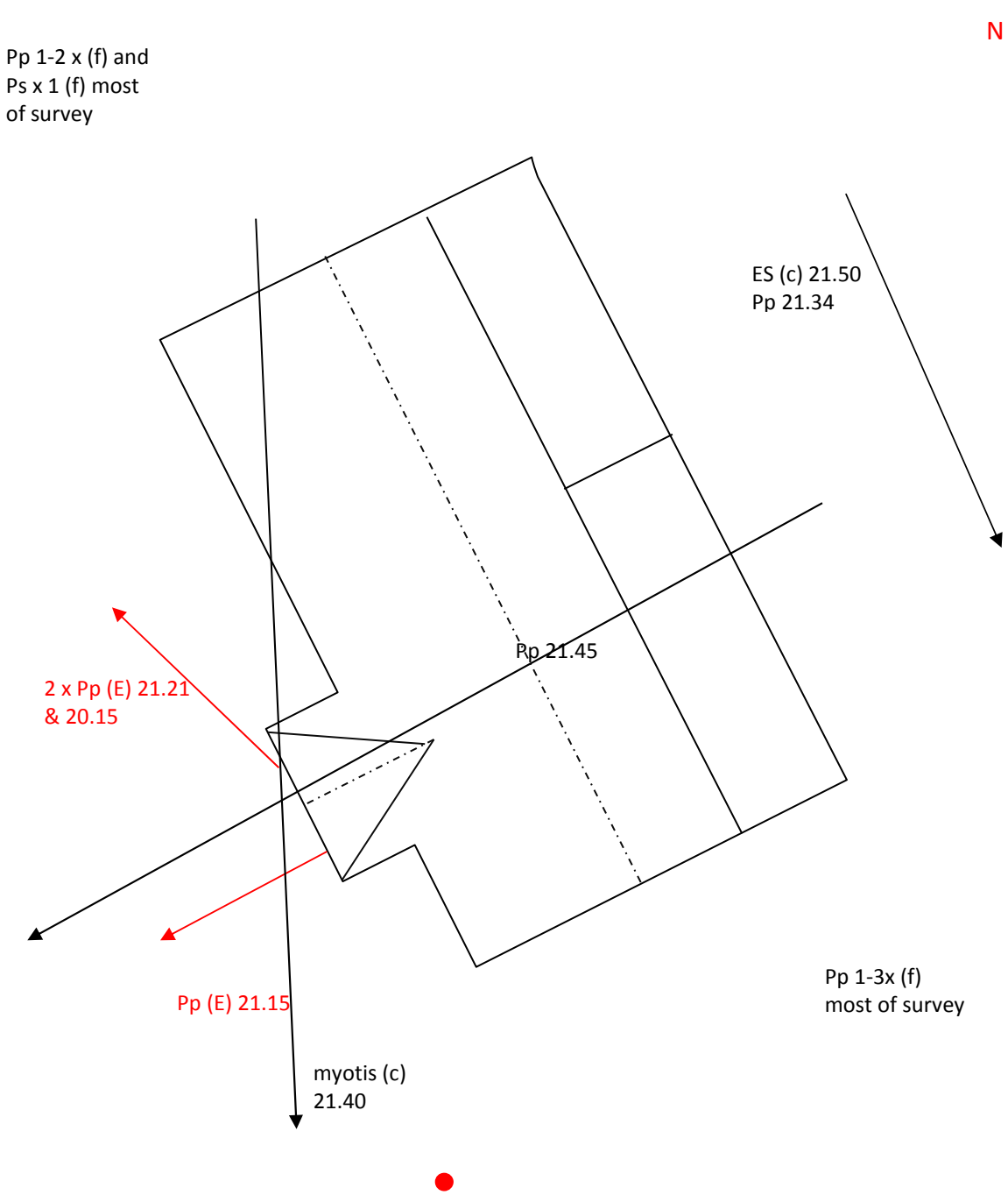


***Figure 6c** Results of Evening Emergence Survey 28 July 2021*



3.4 Evaluation

3.4.1 Bats

Wicksmead is a confirmed bat roost supporting a day roost for common pipistrelle bats. Two old long-eared bat droppings were found in the loft void but there is unlikely to have been access to this void for some years. The only roosting location suitable for bats is currently the wooden cladding on the southwest elevation.

During the surveys the number of bats roosting has varied from 3 up to a maximum of 11 over the summer. If a maternity roost were present then one would have expected to hear evidence of juveniles during the survey in June which was not the case and the grouping of bats probably represented a non-breeding group of individuals. A bee's nest took occupation of the roost in June/July and this may explain the reduction in numbers. The greatest number of bats was recorded in inclement weather. It is possible that this roost location provides useful shelter in an otherwise relatively open area of common.

Bats probably roost throughout the year on an occasional basis. **Wicksmead is considered to support bat roosts of moderate conservation significance i.e. of Local or Borough Value.**

3.4.2 Nesting Birds

No nest sites have been recorded in the bungalow. Potential nest sites are present in garden vegetation and the stable block. **Wicksmead is of negligible value for nesting birds.**

4.0 Assessment of Impacts in the Absence of Mitigation

This section identifies the potential impacts on bats and nesting birds which could result from the proposals in the absence of any mitigation. It considers the impacts prior to, during and post works including the operation phase of the site.

4.1 Bats

4.1.1 Killing/Injury

If a bat/s were present when the cladding is removed then there would be a risk of killing or injuring a bat/s.

This would result in an offence and would contravene policy.

4.1.2 Damage to/Destruction of a Roost Site, Obstruction of Access to a Roost Site

Removal of timber cladding would result in destruction of a roost site. The roost loss would be permanent.

This would result in an offence and would contravene policy.

4.1.3 Disturbance to Bats

If a bat or bats were present when works were undertaken then they may be disturbed. If this occurred in winter and they were woken from hibernation they would be at a higher risk of harm. Disturbance **could constitute an offence and would contravene policy.**

4.2 Nesting Birds

If birds were present and nesting in the building when it is demolished then the nest would be destroyed (and it would be likely to result in killing/injury to birds).

Unmitigated the proposals could result in an offence and would contravene policy.

4.3 Other Considerations

Lighting can deter bats from roosting if it shines on roost entrances or flight lines used by bats. In certain cases this can lead to desertion of a roost site.

5.0 Recommendations & Residual Impacts

5.1 Bats

5.1.1 Consideration of the Need for a European Protected Species Mitigation (ESPM) Licencing

An EPSM licence will be required because the removal of timber cladding on the southwest elevation will result in destruction of a bat roost site. Full planning permission must be obtained before a licence application can be made. The planning authority must be confident that the proposals meet the '3 Tests' of the Regulations when considering a planning application (see below).

The site and proposals qualify for a Bat Low Impact Class Licence (BLICL). A BLICL application takes at least 10 working days for Natural England to process once the application has been compiled and submitted. The mitigation and compensation should be as detailed below.

5.1.2 Consideration of the '3 Tests' of the Conservation of Species & Habitats Regulations 2017 (as amended).

The proposals must demonstrate how the '3 Tests' will be met (see **Section 2.0**).

It is considered that the mitigation/compensation detailed in **Sections 5.1.3-5.1.5** of this report would be acceptable to Natural England's licensing team and meets Regulation 55 (9) (b)[5].

Mr & Mrs Parks tried to refurbish Wicksmead over 30 years ago but it is now showing signs of needing further investment to repair and upgrade. Owing to its construction which includes asbestos trapped between the timber frame and cement blocks, exposed asbestos in the roof cavity & airing cupboard it is not economical to continue replacing and repairing the building. Asbestos needs to be removed and its location (including areas behind the timber cladding where bats roost) means that even remedial repairs will have a similar impact on the bat roost. Using the existing floor area (as agreed in pre planning) the application is for a redesign of the property to make better use of the living space. The need for the rebuild have become more apparent since the pandemic. The new build will be on the current footprint and a similar appearance to the current dwelling with rustic features to blend in with the rural surroundings.

Consequently it is considered that there are no alternatives to undertaking the proposals and that they meet Regulation 55 (9)(a) and 53 (1)(e)[6].

[5] *Conservation of Habitats and Species Regulations 2017 (as amended in 2017) Regulation 55(9)(b) "The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range."*

[6] *Conservation of Habitats and Species Regulations 2017 (as amended) Regulation 55 (9) (a) "there is no satisfactory alternative" and 53(1)(e) "preserving public health or 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"*

5.1.3 Mitigation: Timing of Works

Works to remove the timber cladding will be undertaken outside the bat hibernation season (i.e. outside the period November-March inclusive). The rest of the works can proceed outside this period (taking account of the timing to avoid impacts on nesting birds).

5.1.4 Mitigation: Method of Works

A licenced ecologist (and named on the EPSM licence) will directly supervise removal of the timber cladding. Any bats present will be captured by the ecologist and placed in the bat box which will have been erected on a tree in the garden prior to works commencing. This will be closed until dusk to stop bats emerging in the daytime when they could come to harm. Any scaffold should be erected carefully so as not to sit directly against the cladding (if this could block bat access/egress).

5.1.5 Compensatory Roost Provision to Offset the Loss of Bat Roosting Sites

A bat box will be erected on a tree in the garden prior to works commencing (and left in situ afterwards). This should be a flat Schwegler design box (See **Figure 7a**) or similar approved by the ecologist and sited by the ecologist; this design will provide a similar microclimate to the existing crevice roost behind cladding.

A bat roost brick will be integrated into the southeast elevation of the house. This will be suitable for larger numbers of bats and provide a permanent roost provision. It will be sited to gain and retain maximum heat but without risk of bat droppings falling on windows below (See **Figure 7b**). There are no suitable options on the southwest elevation because of the design and height of the building but this is a more sheltered location and considered to be suitable.

5.1.6 Other Considerations

Lighting must not be allowed to shine directly on the new bat roost site/bat box or flight paths to/from bat roost sites.

5.1.7 Further Surveys

Adequate surveys have been undertaken in order to assess the value of the site, impacts of the proposals and obtain an EPSM licence. However, if a period of 12 months or more passes between the most recent survey in July 2021 and an application for planning permission or an EPSM licence then a repeat evening survey ***may*** need to be considered during the active bat season. Natural England may require a repeat daytime survey three months prior to a licence application being made.

5.1.8 Monitoring

Under an EPSM licence Natural England will require a compliance check to make sure all bat compensatory roosting provision has been correctly installed. This must be confirmed in a licence return. A licence will be legally binding and so gives the planning authority confidence in the correct implementation of any mitigation.

Because the value of the existing bat roosts is low Natural England will not require further post-development monitoring.

If the above mitigation strategy with compensatory roost sites is implemented then the proposals will be compliant with legislation and policy. They may result in a minor temporary negative effect during works but in the longer term there will be no negative effect on bats.

5.2 Nesting Birds

The contractor should be mindful that even though not recorded in the bungalow during surveys in 2021 nesting birds may be present between March-August. They should check for the presence of nesting birds prior to demolition and delay works if an active nest is present and likely to be impacted.

5.3 Biodiversity Enhancement

Policy suggests that development should result in biodiversity gain. This will be achieved by provision and retention of the bat box.

***Figure 7a** Suitable bat boxes.*

Schewgler 1FF flat bat box currently c £70 +VAT

Low profile Woodstone box c £32 incl VAT or Beaumaris Woodstone box 2

Improved crevice bat box c £30 incl VAT

Some bat box providers:

Nhbs.co.uk
Wildcare.co.uk
Arkwildlife.co.uk
Jacobijayne.com

Schwegler woodcrete boxes are preferred and may be longer lasting but are heavier and more expensive. However these are currently in short supply so if unavailable alternative suitable 'flat' bat boxes will be provided which mimic the weatherboarding bats are currently roosting behind

***Figure 7b** Suitable bat brick designs and optimum location.*

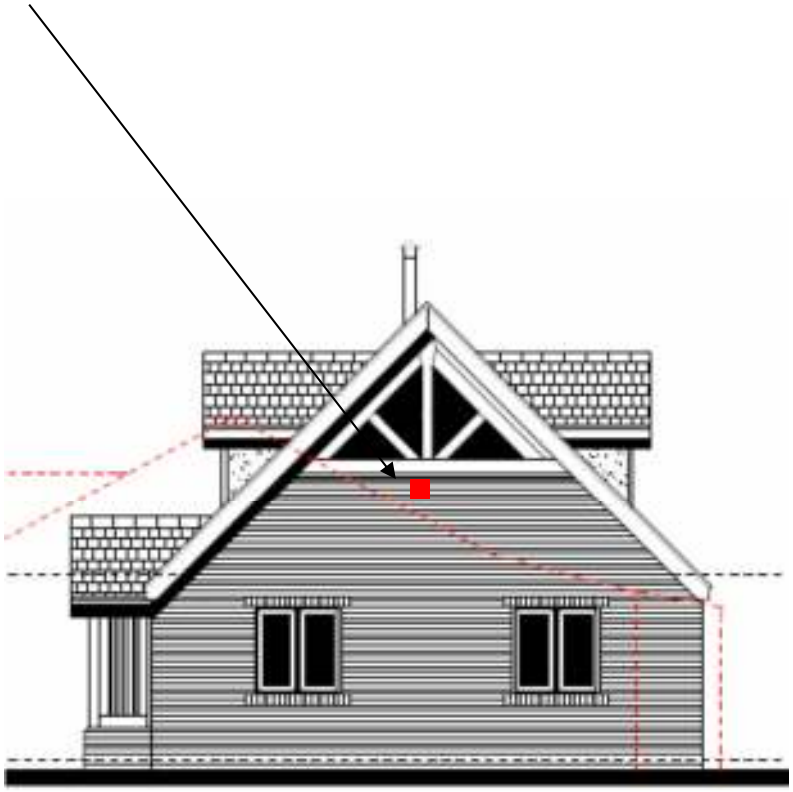
The design shown is an Ibstock enclosed bat box

The design shown is a Schwegler FE bat access panel

A number of other products and suppliers are available.
Useful websites include:
Jacobijayne.com
www.NHBS.com
Alana Ecology
Ibstockbrick.co.uk

A number of other products and suppliers are available.
Useful websites include:
Jacobijayne.com
www.NHBS.com
Alana Ecology
Ibstockbrick.co.uk

Suggested location for bat brick



6.0 Conclusions

Wicksmead supports a common pipistrelle bat day roost behind timber cladding over the porch on the southwest elevation. The roost will be destroyed when the building is demolished and so a European Protected Species Mitigation (EPSM) licence will be required. Works will be timed to avoid the risk of harm to hibernating bats and cladding will be removed under the direct supervision of a licenced bat ecologist. Replacement roost sites will be created through provision of a bat box on a tree and a bat brick integrated into one of the elevations of the replacement building.

This report demonstrates how mitigation and compensatory roost provision will be secured under an EPSM licence which will offset the impacts of the proposals. **Consequently the works will be implemented and result in no permanent significant effects on the local population of bats or nesting birds**.

7.0 References

Bat Conservation Trust (2016) *Bat Surveys - Good Practice Guidelines 3rd Ed*

The Conservation (Natural Habitats &c.) (England & Wales) Regulations 2017 (as amended).

CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1*. Chartered Institute of Ecology and Environmental Management, Winchester.

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Ministry of Housing, Communities & Local Government (Feb 2019) National Planning Policy Framework

Natural England (2004) *Bat Mitigation Guidelines*

Natural England (2004) *Bat Workers Manual,* 3rd Ed

Natural England website: *http://www.natural-england.org.uk/regions/east_of_england/ourwork/standingadvice/protectedspecies/bats.aspx*

Natural England (2012) *WML-G12-EPS Mitigation Licensing-How to Get a Licence – Version 5 (bats)*

ODPM (2006) *Planning for Biodiversity and Geological Conservation: A Guide to Good Practice*

Appendix 1 ***Legislation & Policy***

Legislation

Bats

All bats in the UK are European Protected Species (EPS).

The two key pieces of legislation affording protection to EPS and their habitat are the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife & Countryside Act 1981 (as amended).

Under the Conservation of Habitats and Species Regulations 2017 (as amended) it is an offence to deliberately kill, capture or injure an EPS, or to damage or destroy the breeding site or resting place of such an animal. Disturbance of a European protected species is also an offence if done in such a manner as to be likely to significantly to affect:

(a) the ability of an EPS to survive, breed, or reproduce, or to rear or nurture young, to hibernate or migrate; or
(b) The local distribution of that species.

Because EPS may not always be present or evident in their places of shelter (roost sites) are considered to be legally protected even when the animals themselves are not present. If any activities relating to development which could result in any of the offences above are undertaken it is necessary to obtain a licence from Natural England (formerly issued by Department for Environment, Food and Rural Affairs, DEFRA). In order for a licence to be granted the following conditions must be satisfied:

- The proposal must be necessary '*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*';
- '*There is no satisfactory alternative'*;
- The proposals '*will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range'*.

Wildlife & Countryside Act 1981 (as amended)

The Wildlife & Countryside Act 1981 (as amended) (WCA) also makes it an offence to intentionally or recklessly disturb EPS, to obstruct access to places of shelter (as defined above), and to sell or advertise EPS for trade. The Wildlife & Countryside Act extends protection to a range of non EPS. The WCA also lists invasive species on Schedule 9 which it is an offence to plant or otherwise allow to grow in the wild.

Common Species of Nesting Bird & Birds Listed on Schedule 1 of WACA

All bird species, their nests and eggs are protected in law by the Wildlife and Countryside Act 1981 (as amended). Under Section 1 it is an offence to intentionally;

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

Birds Protected on Schedule 1

Seventy-nine species of bird are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and are afforded special protection from disturbance at the nest by way of their rare, endangered, declining or vulnerable status. The dependant young of Schedule 1 species are also protected from disturbance as are adults whilst on the nest.

The Natural Environment & Communities Act (NERC) 2006

The NERC Act states (s40) that

> *'Every public body must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.'*

Section 40(3) also states that

> *'conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat.'*

Policy

National Policy

The National Planning Policy Framework (NPPF) amended in February 2019 sets out the Government's planning policies for England and how these should be applied. It replaces the NPPF 2012 (which was updated with minor amendments in 2018).

The NPPF provides a framework within which locally-prepared plans for housing and other development can be produced. Planning law requires that applications for planning permission be determined in accordance with the development plan (including Local Plans and Neighbourhood Plans), unless material considerations indicate otherwise. The National Planning Policy Framework must be taken into account in preparing the development plan, and is a material consideration in planning decisions. Planning policies and decisions must also reflect relevant international obligations and statutory requirements.

Para 11 of the NPPF states *"Plans and decisions should apply a presumption in favour of sustainable development".* However Para 177 states that *"The presumption in favour of*

sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment as concluded that the plan or project will not adversely affect the integrity of the habitats site."

The NPPF states that opportunities for securing measurable net gains for biodiversity and enhancement should be achieved by *"minimising impacts on biodiversity and providing net gains in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures…"* (Para 170).

When determining planning applications, local planning authorities should apply the Following principles (Par 175):

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 reasons and a suitable compensation strategy exists; and

d) Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

Protection of sites proposed as SPAs, SACs and Ramsar sites or acting as compensation for SPAs, SACs or Ramsar sites should receive the same protection as habitat sites.

Appendix 2 ***Surveyor Experience***

Colleen Hope (nee Mainstone), Chartered Ecologist, MCIEEM, BSc, PGCE
Director, Ecological Consultancy Services Ltd.

Colleen Hope is joint Director of Ecological Consultancy Services Ltd (ECS), an ecological consultancy which she established in 2008. Prior to this Colleen was employed in a senior role at a consultancy based in Winchester for six years. Colleen is a Chartered Ecologist and full member of CIEEM.

ECS employs two permanent staff who undertake surveys for a wide range of protected species including reptiles, great crested newts, dormice, otters, water voles, bat and barn owls. ECS specialises in surveying and assessing sites for bats.

ECS has a wide client base including local authorities, the Environment Agency, MOD, Forestry England, National Trust, Woodland Trust and large, small and medium sized planning consultancies. ECS also provides specialist bat survey services to other ecological consultancies mainly with regard to Environmental Impact Assessments (EIA). Colleen has successfully obtained over 120 DEFRA/Natural England EPS (bat) development licences for a range of sites including modern and historic buildings, barns, trees, large scale new town developments, wind farms and road schemes.

Over the last 20 years Colleen has managed a number of county and borough wide bat surveys including a capture, ringing and radio tracking study into the distribution of Bechstein's and barbastelle bats in the New Forest, Hampshire. Bat survey work has taken her overseas to India, Burma (Myanmar) and Vietnam.

Colleen holds a Natural England bat survey licences (CL19 & CL20) and is a licenced Natural England trainer. She is also one of a c 150 Registered Ecological Consultant's (REC) under Natural England's Bat Low Impact Class Licence scheme. Colleen holds Natural England licences to survey/disturb barn owl, great crested newt, dormouse, sand lizard and smooth snake.

Dr Paul Hope, BSc (Hons), MCIEEM
Director, Ecological Consultancy Services Ltd.

Paul is also joint Director of ECS and based in Romsey, Hampshire. He undertakes site appraisals for a range of species including reptiles, badgers, watervoles, dormice and species and specialises in surveying for bats.

Paul has held Natural England bat survey licences for over 20 years and undertaken a range of surveys for both bats and reptiles. He is licenced trainer for Natural England (Conservation licences) and also trains consultants for bat survey licences (CL19 & C20). He also holds a licence to survey/disturb great crested newts.

Paul obtained a PhD through the University of Bristol where he studied the hibernation ecology of British bats. He has extensive experience in the collection and analysis of field data using of a range of monitoring devices including bat detectors (time expansion, frequency division and heterodyne), infrared motion sensors and radio telemetry equipment for receiving and data logging.

During the process of surveying for environmental impact assessments both Colleen & Paul have undertaken radio tracking and ringing studies of seven bat species. They each have over 1000 hours radio tracking experience radio tracking a range of bat species in relation to impact assessments for development and providing information for bat conservation.

Publications

Hope, P. R. & Jones, G. (2011) Warming up for dinner: torpor and arousal in hibernating Natterer's bats (*Myotis nattereri*) studied by radiotelemetry. Journal of Comparative Physiology B. DOI 10.1007/s00360-0110631-x

Hope, P. R. & Jones, G. (2013) An entrained circadian cycle of peak activity in a population of hibernating bats. Journal of Mammalogy 94 (2) B. DOI 10.1644/12-MAMM-A-095.1

Hope, P. R. et al (2014) Second generation sequencing and morphological faecal analysis reveal unexpected foraging behaviour by *Myotis nattereri* (Chiroptera, Vespertilionidae) in winter. Frontiers in Zoology 11:39.

Mason, V., & Hope, P.R. (2013) Echoes in the dark: Technological encounters with bats. Journal of Rural Studies, 33, 107-118.

Appendix 3 ***Valuing Sites for Bats***

Accurate population figures are not available for all bat species because of the difficulties in assessing bat populations. CIEEM's In Practice magazine (2010)[7] presents a suggested approach to evaluating species' rarity and is shown in **Table 1a** (figures are estimates based upon Richardson (2000)[8], Harris et al. (1995)[9] and Harris & Yalden (2008)[10]. These should be considered within a regional context (i.e. some bats have restricted ranges). Natural England[11] provide some guidance on evaluating the significance of different roost types (**Table 1b**).

Table 1a: *Categorising Bats by Distribution and Rarity (Taken from CIEEM, 2010).*

Rarity within range	**England**	**Wales**	**Scotland**	**N Ireland**
Rarest (pop < 10,000)	Greater horseshoe; Bechstein's; Myotis alcathoe; Greater mouse-eared; Barbastelle; Grey long-eared.	Greater horseshoe; Whiskered; Brandt's; Bechstein's; Myotis alcathoe; Noctule; Nathusius's pipistrelle; Serotine; Greater mouse-eared; Barbastelle.	Whiskered; Brandt's; Myotis alcathoe; Noctule; Nathusius's pipistrelle; Leisler's.	Whiskered
Rarer (pop 10,000-100,000)	Lesser horseshoe; Whiskered; Brandt's; Daubenton's; Natterer's; Leisler's; Noctule; Nathusius's pipistrelle; Serotine.	Lesser horseshoe; Daubenton's; Natterer's; Brown long-eared.	Daubenton's; Natterer's; Brown long-eared.	Daubenton's; Natterer's; Leisler's; Noctule; Nathusius's pipistrelle; Brown long-eared.
Common (pop > 100,000)	Common pipistrelle; Soprano	Common pipistrelle; Soprano	Common pipistrelle; Soprano	Common pipistrelle; Soprano

[7] *Wray et al (CIEEM In Practice Magazine Dec 2010) Valuing Bats in Ecological Impact Assessment*

[8] *Richardson P (2000) Distribution Atlas of Bats in Britain and Ireland 1980-1999*

[9] *Harris et al Natural England Joint Publications JP025 (2018) A Review of the Population and Conservation Status of British Mamma;s: Technical Summary*

[10] *Stephen Harris & Derek Yalden (2008) Mammals of the British Isles Handbook (4th Ed)*

[11] *Natural England Bat Mitigation Guidelines (2004)*

Rarity within range	England	Wales	Scotland	N Ireland
	pipistrelle; Brown long-eared.	pipistrelle.	pipistrelle.	pipistrelle.

Table 1b *Extract from 'Bat Mitigation Guidelines' produced by English Nature (precursor to Natural England) 2004, A.J. Mitchel-Jones*

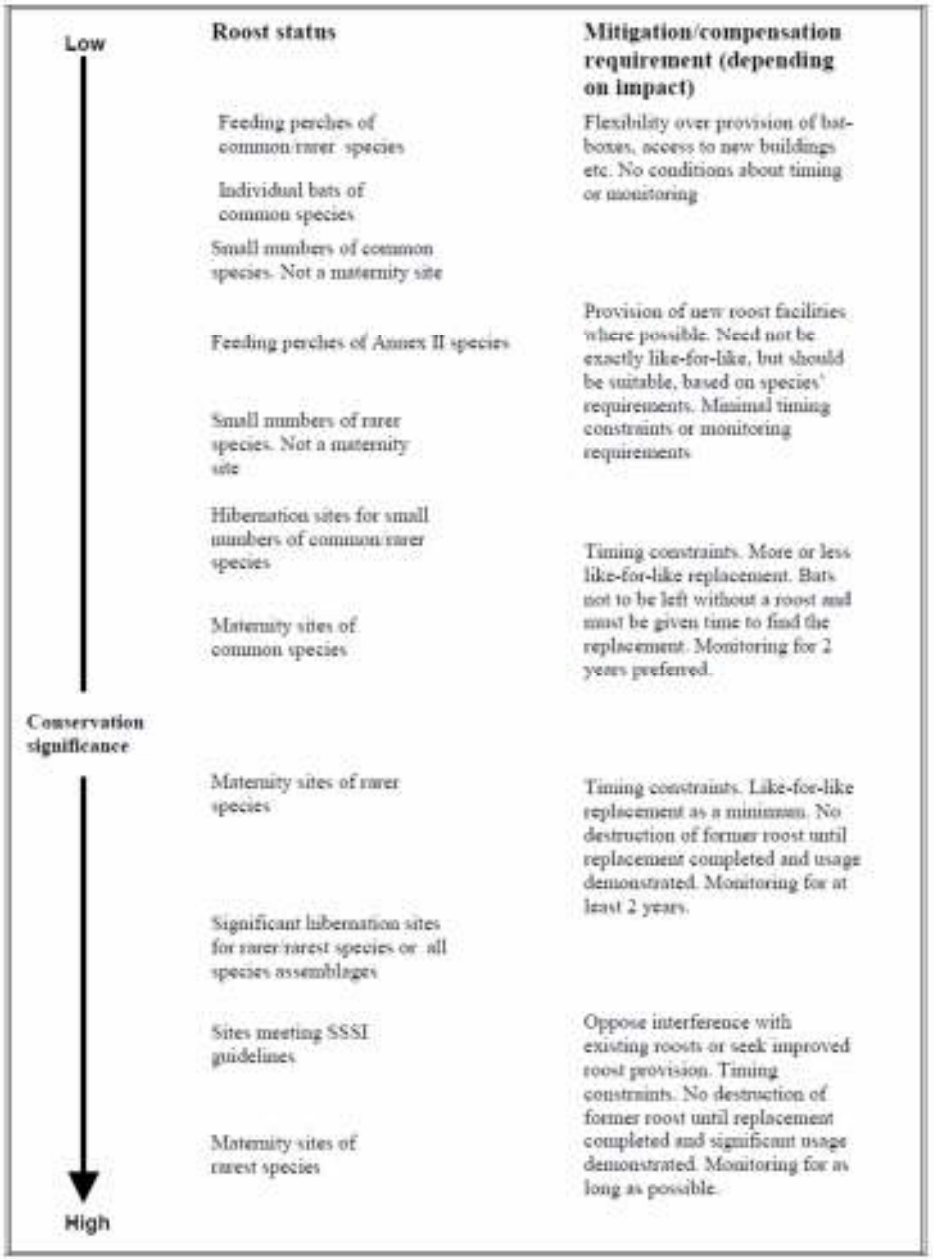

Figure 4. Guidelines for proportionate mitigation. The definition of common, rare and rarest species requires regional interpretation.