Client:
Mr. B. Roberts

Agent:
Ian Pryce Property Services
Princes Square
Princes Street
Montgomery
SY15 6PZ

Dr. R. M. Jones MCIEEM
Star Farm
Colebatch
Bishop's Castle
Shropshire
SY9 5JY

Mobile: 078 66 44 0915
Email: info@starecology.co.uk

Our Ref: IPPS/2621/21.1

Your Ref:

Date: 2 December 2021

**Bat and Nesting Bird Assessment:**
**House at Oakwood,**
**Kerry, Newtown SY16 4PW.**

## 1. Introduction

There is a proposal to construct a two-storey extension on to part of the southwest elevation of the House within the Oakwood domestic property.

The proposal will require the removal of part of the roof structure of a single-storey section of the House and the adjoining of the new roof structure more-or-less at the same height as the existing two-storey roof line.

Full details of the proposed development may be obtained from Ian Pryce Property Services.

The House is approximately 160m$^2$ (0.016 hectare) in size and stands at approximate National Grid Reference (NGR) 314230, 289115.

On 7 October 2021 the House was surveyed for:
a) the potential for Bats to roost on and/or in the House;
b) the potential for Small Breeding Birds to construct their nests on and/or in the House;
c) physical evidence of Bats and their roosts on and within the House; and,
d) physical evidence of nesting birds on the exterior and within the interior of the House.

The survey was carried out by Dr. R. M. Jones MCIEEM, Natural Resources Wales Bat Licensed surveyor S085628/1.

An assessment was made of the affect of the proposed development on Bats and nesting birds.

The survey/assessment has been carried out with regard to the following published guidance:
- 'Bat surveys for Professional Ecologists – Good Practice Guidelines'[1]
- the gov.uk website[2]
- BS42020:2013 'Biodiversity – Code of practice for planning and development'[3]

A photographic record of the Bat and Nesting Bird Assessment is provided in Appendix 1.

## 2. Legislation and Policy

### 2.1 Bat

All bat species (*Rhinolophidae* and *Vespertilionidae*) are protected under the Wildlife and Countryside Act 1981, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2017 (as amended).

Under the Conservation of Habitats and Species Regulations 2017 legislation it is illegal to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats. This includes in particular, disturbance in a way any such which is likely to (i) impair their ability to survive, breed or reproduce, or to rear or nurture their young; (ii) impair their ability to hibernate or migrate; or (iii) to affect significantly the local distribution or abundance of the species to which they belong;
- damage or destroy a breeding site or resting place of a bat;
- to be in possession or control, to keep, transport, to sell or exchange, or to offer for sale or exchange, any live or dead bat, or any part of, or anything derived from such a wild animal.

Under the Wildlife and Countryside Act 1981, it is illegal to:

- intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection.
- intentionally or recklessly obstruct access to any structure or place which a bat uses for shelter or protection.

A bat resting place may be a structure a bat uses for breeding, resting, shelter or protection. Resting place sites are protected whether or not bats are in occupation, as they may be re-used by bats.

Eight species of bat are listed as 'priority species' under Schedule 7 of the Environment (Wales) Act 2016.

A European Protected Species (EPS) Development Licence from Natural Resources Wales may be required for development works triggering Conservation of Habitats and Species Regulations 2017 offences against bats.

### 2.2 Nesting Bird

Under the Wildlife and Countryside Act 1981, all wild birds are protected while breeding. It is an offence, with certain exceptions to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- intentionally take or destroy the egg of any wild bird.

## 3. Historical records of bat

A formal search of historical records of bat within the vicinity of the House was not commissioned. Considering the nature, scale and location of the proposed development; the constraint of not carrying out an historical biodiversity record search is considered negligible.

The owners of Oakwood are not aware of bats roosting within the House.

## 4. House Description

A brief description of the House is provided here.
At the time of survey, the House was occupied by its owners and their family, and was in a good and maintained condition.

The House is a single-storey and two-storey brick structure with a variety of slate covered roofs.

The main, two-storey, section of the House has a main, northeast-to-southwest apex roof with two subordinate apex roof structures; one at the southeast and one at the northwest. Flush/under-boarded lead-lined roof valleys are present between the apex roof structures.

A single-storey height open-fronted porch roof structure is present on the central and southwest areas of the main, two-storey, section of the House.

A single-storey structure forms the southwest-end and northwest part of the House. The southwest-end forms living space adjoining the living space of the main, two-storey, section of the House. The central part is an open-fronted and open-rear car-port. The northwest-end is an enclosed vehicle storage garage. The single-storey structure has a slate covered apex roof, with the southwest elevation roof-slope extended across the southwest-end of the main, two-storey, section of the House. A hip tile covered roof hip is present at the southeast-end of the roof structure.

The bottom edges of all slates are held in place with purpose-made copper disc rivets.
Roof apexes are covered with abutting ridge tiles bedded on mortar.
All gables have three oversailing brick courses (the middle being dentil), at the gable wall-plate.
Mortared roof-slate verges oversail the gables by approximately 40mm and are supported by composite-board under-cloaking.
All eaves overhang and are enclosed with intact soffit boxes. Southeast and southwest elevation fascia boards are timber, whereas northeast and northwest elevations are plastic (or similar). Soffit boards are composite fibre cement (or similar).

A single-storey height bay-window with a lead-sheet covered double-hipped roof is present within the central area of the southeast elevation of the main, two-storey, section of the House. The eaves of the bay-window roof structure are closed.

A brick chimney stack, with lead flashings and aprons, is present within the southeast elevation roof-slope of the main, two-storey, section of the House.

All roof abutments are formed of lead flashings and aprons.

A plastic (or similar) vent-pipe, with purpose-made rubber (or similar) flashing/surround, is present within the northwest elevation roof-slope of the main, two-storey, section of the House.

Roof-structures are formed or modern-type 'W' (and similar) shaped roof trusses and roof-slopes are underlined with bitumastic/hessian (1F) roofing felt.

Four roof-spaces are present within the House:
- a surveyor accessible roof-space beneath the roof structure of the main, two-storey, section of the House.
- a surveyor accessible roof-space above the southeast-end and central part (car-port) of the single-storey structure forming the southwest-end and northwest part of the House.
- a surveyor accessible roof-space above the northwest-end of the single-storey structure forming the southwest-end and northwest part of the House.
- a surveyor inaccessible roof-space beneath the roof structure of the open-fronted porch.

The roof-spaces occupy the spaces between eave-height and the undersides of roof apexes.

The roof-space of the main, two-storey, section of the House is boarded-out and used for the storage of household items.

The roof-space of the southeast-end and central part of the single-storey structure forming the southwest-end and northwest part of the House, is empty and does not appear to be in use.

The roof-space of the northwest-end of the single-storey structure forming the southwest-end and northwest part of the House is boarded-out and used for the storage of household items and leisure/recreational equipment.

## 5. Bat Assessment

### 5.1 Method

#### 5.1.1 Bat roosting potential

The House was assessed for its potential to support bats and the type and number of bat roosts.
This involves consideration of a number of abiotic factors including:

- Access to the interior of the House
- Age
- Construction fabric
- Habitat context
- Light levels
- Previous use of, and activity within, the House
- Temperature regime and protection from weather

#### 5.1.2 Physical evidence of bat occupation

The House was searched for the presence of bats and their roosts.
Search methods included the use of torches (including a Fenix RC40 3800 lumen torch and a DeWalt DCL043 1000 lumen torch)), binoculars (Zeiss 10x42), borescope (Visual Optics VO18 5.8mm Fibre Optic), fibrescope (Provision PV2636-21 5.8mm), video-scope (Draper 05163 Recording Flexi Inspection Camera), 3.8m Telescopic ladder, 4.1m Telescopic ladder, 8.15m Combination ladder, 3.6m Double Extending Roof Ladder; and combinations of these.

A search was also made for notable signs of past and/or present bat roost activity, including bat urine stains, fur oil stains, scratch marks and faeces. These may be found around a bat roost entrance, within a roost, and within flight/foraging areas.

#### 5.1.3 Limitations

Surveyor access was not available to the roof-space of the open-fronted porch (within the central and southwest parts of the northwest elevation of the main, two-storey, section of the House).

Physical evidence of bat that may have been created earlier in year 2021 and/or within the previous bat-active season may have deteriorated or have been removed (for example by wind and/or rain) prior to the survey being carried out.

Considering the structural fabric of the House, the thoroughness of survey carried out, and the results of the survey (no evidence of bat found); it is not considered that there are any significant constraints on the survey.

## 5.2 Results

### 5.2.1 Weather conditions

The survey was carried out in bright and fine conditions with little or no breeze.

### 5.2.2 Potential for Bats

The House is in a good and maintained structural condition and does not provide bat roost potential.

All roof structures are in good condition and there is no potential bat access to the roof structures.
All roof slates are intact, *in situ* and close-fitting and do not provide bat roost habitat.
All ridge and hip tiles are intact, *in situ* and close-fitting and do not provide bat roost habitat.

There is no potential bat access to gable wall-plates or to roof-slate batten-voids.
Roof slate verges are well-pointed with mortar, intact, *in situ* and close-fitting and do not provide bat roost habitat.
Roof slate verge under-cloaking is intact and *in situ* and there are no crevices (or similar) between the undersides of the under-cloaking and the gable wall top courses of brick.

There is no potential bat access to eave wall-plates.
Soffit boxes are intact, *in situ*, close-fitting and do not provide bat roost habitat.

All lead flashings and abutments are well-formed, intact, *in situ* and close-fitting and do not provide bat roost habitat.

There are no missing-mortar crevices, or similar, within external walls (in which bats may roost).

Exterior windows and window frames are intact.
Exterior doors and door frames are intact.

### 5.2.3 Physical evidence of Bats

No physical evidence of bat was found on the exterior of the House.
No physical evidence of bat was found within the House.

# 6. Nesting Bird Assessment

## 6.1 Method

The House was searched for the presence of bird nests, active (in current use) and inactive (not in current use).

## 6.2 Results

No evidence of bird nesting was found on or within the House

## 7. Conclusion

### 7.1 Bat

#### 7.1.1 Survey results

The House does not provide bat roost habitat.
No physical evidence of bat was found on or within the House.

Bats do not impose a constraint on the proposed development.

It is not considered necessary for further bat survey work to be carried out to inform the proposed development.

It is not necessary for a European Protected Species Licence for bats to be issued by Natural Resources Wales to allow the proposed development to lawfully proceed.

#### 7.1.2 Mitigation

Bats do not impose timing or work method constraints on the proposed development.

#### 7.1.3 Enhancement

New bat roost opportunity may be installed during or after the construction of the new extension.

External lighting that may be installed within the Oakwood property (as part of the proposed development) should be sensitive to bats.

Suggested enhancement measures for bats are contained in Appendix 2.

### 7.2 Nesting Bird

#### 7.2.1 Survey results

No evidence of bird nesting was found.
However, it is possible that birds may nest on the exterior of the House in the future.
Should the proposed development receive approval; mitigation for Small Breeding Bird – provided in Section 7.2.2, should be adhered to.

In addition, proposed development plans should include the provision of bird nesting habitat. Recommendations are provided in Section 7.2.3.

#### 7.2.2 Mitigation

Ideally, development work should not be started between 1st March and 1st October (inclusive).

Should it not be possible to time development work to avoid disturbance to nesting birds, potential access points to bird nesting locations should be closed off with mesh or fabric barriers, in order to prevent birds from nesting.
Should it be required that development works commence between March and September, the House should be inspected by a suitably qualified ecologist for evidence of nesting birds.

No works may commence if birds have started to build, or if they already occupy, nests. If birds start nesting on/within the House - prior to or during development work - delays will be inevitable up to the moment when the young birds leave the nest.

### **7.2.3** Enhancement

In order to encourage small nesting birds to nest within the Oakwood property: it is recommended that woodcrete (or similar) purpose-made bird nest boxes be installed.

Ideally nest box placement and construction of nesting features should be undertaken outside the bird breeding season (March-September inclusive).

Nest boxes may be placed under the gables and eaves of the House.
Ideally nest boxes should be positioned in areas of low future disturbance.

It is recommended that a minimum of:
a) two House Martin nest boxes (e.g. Schwegler House martin Nest 9A)
b) two generic bird species open-fronted nest boxes (e.g. Schwegler 2H woodcrete open fronted nest box); and,
c) two Tit nest boxes (e.g. Schwegler 2M woodcrete bird box);

be installed within the Oakwood property post-development.

## 8. Relevant publications

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

2: 'Bats: surveys and mitigation for development projects' (28th March 2015 – 28th February 2020). United Kingdom Government Website: https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects

3: BS42020:2013 'Biodiversity – Code of practice for planning and development.' British Standards Limited.

## Appendix 1 – Assessment photographs

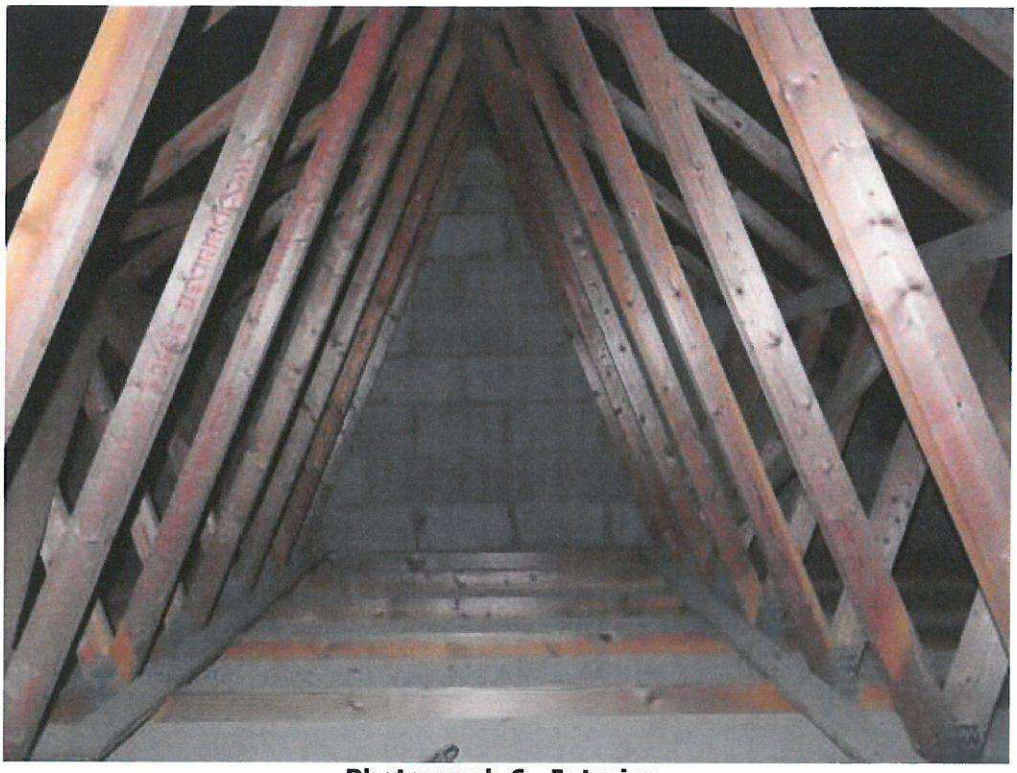
**Photograph 1. Exterior.**
Left: part of the Northwest elevation.
Right: Part of the Northeast elevation.

**Photograph 2. Exterior.**
Southeast elevation.

**Photograph 3. Exterior.**
Part of the Southwest elevation, showing the part of the House to be affected by the proposed development.

**Photograph 4. Exterior.**
Left: parts of the Northwest elevation.
Right: Southwest elevation.

**Photograph 5. Interior.**
View of part of the roof-space of the main, two-storey, section.
Looking southwest from northeast.



**Photograph 6. Interior.**
View of party of the roof-space above the car-port.
Looking northwest from southeast.

# Appendix 2 – Enhancement for Bat

## Bat roost boxes

In order to encourage bats to reside at Oakwood in the future: it is recommended that woodcrete (or similar) purpose-made bat roost boxes are installed.

Ideally Bat Boxes should be positioned in areas of low future disturbance and Bat Boxes should be installed more than 3m height above the ground.

Specially designed Bat Boxes are available that may be built into walls or encased by exterior weather boarding.
Recommended designs are the Schwegler 1FR and 2FR Bat Tubes which provide maintenance-free roosting opportunities, Ibstock Enclosed Bat Boxes and Wienerberger Habibat Bat Boxes.
These Bat Tubes and Boxes may be aesthetically unobtrusive if sympathetically integrated into the finished design of the proposed development.

It is recommended that a minimum of either:
- one Schwegler 1FF Bat Box;
  or,
- one Schwegler 1FD Bat Box (or similar alternatives)

is installed within the Oakwood property (and/or within its immediate vicinity) post-development.

## Ridge tile bat roosts

Ridge tiles on the apex of the roof of the proposed new extension may be permanently raised to potentially allow bats to roost on the underside of them.

It is recommended that a minimum of two ridge tile bat roosts be created during the development.

### Purposely raised ridge tiles

Raised ridge tiles may be created by:

a) narrowing the gap between tiles and resting the middle tiles on their neighbours, or by packing the ends of tiles with an excess amount of mortar (or similar).

b) laying all ridge tiles onto a 20mm deep bed of mortar and at approximately every 1.5m, leaving gaps between 30 and 150mm without mortar. (A temporary support, such as a piece of roof tile, may be required to support ridge tiles until mortar has set).

c) securing ridge tiles on the roof with mortar placed on the inner lower half of the ends of ridge tiles only. The height of bat openings will be between 18mm and 22mm.

Where possible, fixing ridge tiles with mortar on their inner lower half only - rather than in the apex – would create long voids favoured by crevice dwelling bats.
It may be possible to avoid using any mortar at all.

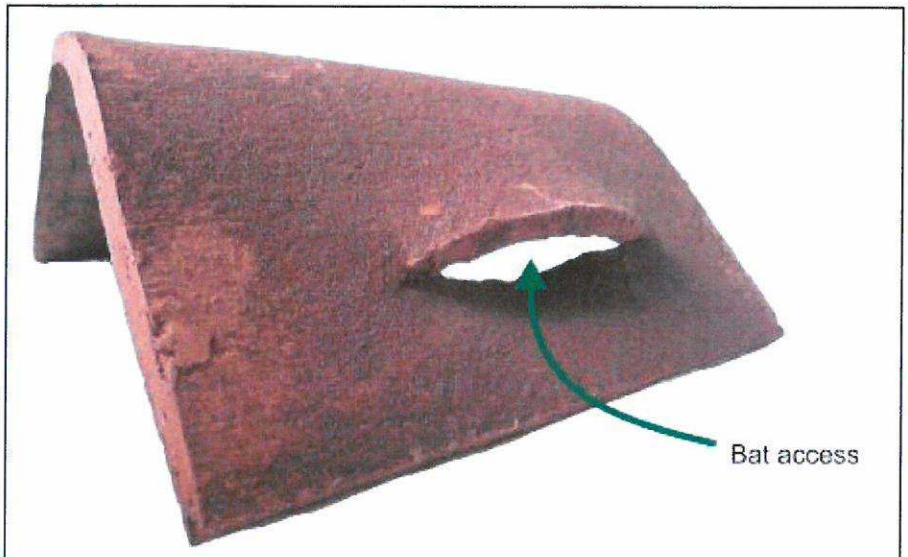
Reclaimed and/or misshaped ridge tiles

Should re-claimed and/or misshaped ridge tiles be used during roofing work, it is possible that not all of the ridge tile will fit closely with roof tiles underneath them. Should these gaps be between approximately 12mm and 22mm in height – there is potential that crevice dwelling bats may use them to gain access to the undersides of ridge tiles. The 'natural' gap of misshaped ridge tiles may be exaggerated by packing with mortar and the undersides of the ridge tile should not be completely filled with mortar to provide a potential roosting space for bats.

Purpose-made ridge tile bat roosts

Purpose-made ridge tiles with bat-access openings are available commercially.
For example, the handmade 'bat access ridge tile' produced Tudor Roof Tile Co. Limited, Dengemarsh Road, Lydd, Kent, TN29 9JH.

A picture of the Tudor Roof Co. Limited purpose-made ridge tile bat roost is shown below:



Tudor Roof Tile Co. Ltd. purpose-made Ridge Tile Bat Roost

Please note: Star Ecology has no association with Tudor Roof Tile Co. Limited.

## External Lighting

In order to avoid any unnecessary disturbance to bats in the future, any external lighting to be installed at Oakwood should:

- use Light emitting diodes (LED) luminaries
- have a warm white spectrum <2700° Kelvin (degrees colour temperature)
- have peak wavelengths higher than 550nm
- be set on motion-sensors
- use short duration (e.g. one minute) timers
- not be in the vicinity of, or shine towards, bat roost openings
- not shine towards (the) roof structure(s)
- not be in the vicinity of, or shine towards, boundary vegetation