Bat Survey: Trinity Fields School, Caerphilly Road, Ystrad Mynach, Hengoed, CF82 7XW

Instructed by: Caerphilly County Borough Council

Reported by: Ecological Services Ltd
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1.0 Background and Purpose

1.1 Trinity Fields School is located in the town of Ystrad Mynach, near the village of Hengoed. The school is currently in use and planning permission is sought to expand the existing school. Current development proposals seek to create a new school building to the south of the current structure. The new building will be linked to the current building via a small corridor to the south east of the building, where pupils are currently dropped off for school.

1.2 The site originally had a Preliminary Ecological Assessment (PEA) in October 2020 with bat activity surveys competed in 2021 which are detailed in this report. As development plans have progressed an additional parcel of land is now included within the site boundary. The original PEA has been updated to include this additional portion of land which was surveyed in February 2023 as has this Bat report to include more up to date planning proposals. The additional portion of land is directly east of the school boundary, adjacent to the A472 Caerphilly road roundabout and immediately north of the Penallta Rugby Football Club building.

1.3 This report will investigate if there is potential to disturb bats and will be used to assist in the planning process.

1.4 To support the planning application a bat report has been commissioned to investigate if bats use the current property in any capacity during the maternity season, and for any evidence suggesting that bats use the property at other times of the year.

1.5 The report is prepared and undertaken by Mr. Richard Watkins BSc., an experienced bat ecologist with 13 years experience, and Aislinn Harris, a Natural Resources Wales licensed bat ecologist, license number S085699-1.

1.6 A data search in 2021 identified a record from 2007 for a grounded Common Pipistrelle *(Pipistrellus pipistrellus)* within the school itself and there was a record for a foraging Noctule (*Nyctalus noctula)* directly over the school buildings. The nearest recorded day roosts are 174m and 177m from the property which are records for Common Pipistrelle *(Pipistrellus pipistrellus)* day roosts and 343m from the property which is a record for multiple Common Pipistrelle (*Pipistrellus pipistrellus)* and Soprano Pipistrelle *(Pipistrellus pygmaeus)* day roosts. There are various non roosting records for bats, the nearest being 254m which is a record for a foraging unidentified bat species; 343m which is a record for a commuting Noctule (*Nyctalus noctula)* and 343m which is a record for a foraging Whiskered bat (*Myotis mystacinus).*

1.7 ECUS Ltd were commissioned by Caerphilly County Borough Council in 2016 to complete bat surveys of Trinity Fields School to support a proposed extension of the school building. Three bat activity surveys were completed on the building using three surveyors during each visit. Detailed survey methodology and findings can be found in the report 'Trinity Fields School, Ystrad Mynach, Caerphilly; Bat Survey Report' dated July 2016 by ECUS Ltd. A brief summary of the surveys and findings are provided below:

- **26th May 2016** - 1 Soprano Pipistrelle (*Pipistrellus pygmaeus)* emerged from the south facing gable apex to the south west of building and 1 Soprano Pipistrelle *(Pipistrellus pygmaeus)* emerged from the west facing gable to the south west of the building.
- **15th June 2016** - 1 Soprano Pipistrelle *(Pipistrellus pygmaeus)* returned to roost on the south facing gable apex to the south west of building.

- **1st July 2016 -** 1 Soprano Pipistrelle *(Pipistrellus pygmaeus)* emerged from the south facing gable apex to the south west of building

A small number of Soprano Pipistrelles *(Pipistrellus pygmaeus)* were found to be using the south western area of the building as a day roost. The numbers observed in 2016 indicate the presence of male or non breeding female bat roosting use.

2.0 Site Description

2.1 Trinity Fields School is a brick built single storey building with multiple pitched roof sections and a roof line made from round clay tiles. The building forms a rough figure of 8 shape with two internal courtyards. A section of the roof to the east of the school building has been raised to two stories but has no gable ends. Solar panels are present on the south facing elevation of the roof line to the south east of the building. A number of roof lights are present across the building. A tiled roof canopy has been created to the south east of the school which extends over the access road. The canopy has a tight fitting metal sheet ceiling. An extension is present to the south west of the building which has a south facing gable end. Verge protectors and a plastic barge board are present along the roof line. The roof is extended from the building walls by approximately 2m creating an overhang. The ceiling of the overhang is lined with wooden boarding.

2.2 Trinity Fields School was opened in 1998 and is located in a semi-rural environment in the town of Ystrad Mynach.

2.3 The nearest significant watercourse is the Rhymney River, approximately 180m to the east of the property with smaller watercourses, Nant Cylla, approximately 245m to the north east of the property and Nant Llanbradach, approximately 1.1km to the south of the property.

2.4 The property is located in a semi-rural environment. The school is situated in a built up area but is immediately and intermediately surrounded by open fields and farmland. The Holy Trinity Church grounds lie approximately 226ft to the north of the property and Ystrad Mynach Park lies approximately 463ft to the south of the property. There is a riparian corridor along the Rhymney River, approximately 180m to the east of the property and there are numerous tree-lines in the immediate vicinity of the property. There is excellent ecological connectivity for bats to the wider environment.

2.5 The National Grid Reference of the site is: **ST 1448 9399.**

3.0 Report Constraints

3.1 The report is solely concerned with bats in relation to this building. Trees and other buildings not mentioned directly have not been included in this report.

3.2 Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviours. The survey methods employed can provide evidence for the potential presence of bats at the times when the site was visited. Although the methods follow best practice guidance and were carried out in such a way as to maximise the chances of detection, failure to detect the target species cannot be considered as definitive proof of their absence.

3.3 Even though bats are habitual creatures they can still move to new roosts if they are more suitable. Therefore this report cannot predict the status of the structure in regard to bat occupancy in the future. This report should be acted upon as soon as practical and will be valid for two years from the date of issue. If planning or building works are delayed, it is the responsibility of the client to discuss and gain approval from the *author* before work commences. Natural Resources Wales will only consider reports up to two years old.

4.0 Legal Constraints

4.1 Bats, and any place a bat uses for breeding or shelter, either currently occupied or unoccupied, are protected by European and British law, predominantly by **The Conservation of Habitats and Species Regulations 2017**, which are the principal means by which the Habitats Directive is transposed from European directive into law in England and Wales.

4.2 In summary this law states that it is an offence to:

- **Deliberately capture or kill a bat**
- **Deliberately disturb a bat**
- **Damage or destroy a breeding site or resting place of a bat**
- **Keep, transport, sell or exchange, or offer for sale or exchange a living or dead bat or any part of a bat**

4.3 'Deliberately' may also be interpreted, as not intending to injure or kill a bat but having done so due to being insufficiently informed and unaware of the consequences of the action.

4.4 For a more comprehensive description and exact wording of the legislation please refer to:
http://www.legislation.gov.uk/uksi/2010/490/contents/made

4.5 Where there is a risk that a bat roost may be present, it is incumbent upon the owner to commission a specialist bat survey to identify bat roosts before any work commences. Maximum penalties for offences relating to disturbance to bats or their roosts can amount to imprisonment for a term not exceeding six months or fines of up to Level 5 on the standard scale under the Criminal Justice Act 1982/1991 (i.e. £5000 in April 2001) per roost or bat disturbed or killed, or to both.

4.6 If a bat roost is discovered, no work that could affect the roost can be undertaken until Natural Resources Wales grants a licence endorsing the work. A thorough method statement and adequate mitigation proposal will need to be submitted to support any licence application.

4.7 The Environment (Wales) Act 2016 puts an onus onto responsible bodies such as Local Planning Authorities to not only preserve but also to enhance biodiversity, meaning that planning applications must offer an element of ecological gain as well as preserving any aspects of ecological importance.

5.0 General Information

5.1 Bats are unable to build roosts themselves and instead rely on both man made and naturally occurring features to provide suitable accommodation. Bats generally prefer older buildings built with traditional materials, as traditional building methods provide more opportunities for gaps and entrances to buildings. Traditional cut roofs are preferred to a

roof with trusses. Bats also prefer to roost where the external roost area has access to sunlight during the day such as south facing roof elevations.

5.2 Bats can utilise the following features on a building; end tiles, barge boards, soffit, gable ends, porches, lead flashing, hanging tiles**,** ridge tiles**,** broken tiles**,** eaves**,** sash window frames**,** wood cladding**,** fascia boards**,** window sills, and internal roof spaces and timbers. Although this list demonstrates the most popular roosting sites it is by no means definitive. Bats can use apertures as small as 10mm in diameter to gain access.

5.3 The UK bat population is divided into two distinct families, Rhinolophidae and Vespertilionidae. In general, Rhinolophidae (Horseshoe) bats differ in their roosting requirements to Vespertilionidae (the remainder of UK bat species). Horseshoe bats prefer to roost in large areas such as internal attic spaces and hang in the open from the roof of the roost. They tend to roost in visible clusters to maintain the high temperatures that a maternity colony needs. Horseshoe bats also prefer free flight access and egress into the roosting area. Horseshoe bats tend to be more light averting to other UK bat species, and routinely fly around the internal roosting area to warm up before exiting. It is noted that Plecotus (Long Eared) bats share some of these preferences. Vesper bats are, on the whole, crevice dwelling bats who squeeze into small apertures to access the roost. These, like Horseshoe bats, will cluster in maternity colonies but are normally hidden from view. Vesper bats, with the exception of Long Eared bats, do not require a large internal roost to fly around before exit. Long Eared bats, although part of the vesper family are very light averting and will, on occasions share the roosting patterns of both Horseshoe and crevice dwelling species.

6.0 External Scoping Survey

6.1 The external scoping survey was undertaken on the 7th April 2021 and in conditions of good natural light. All external aspects of the building were comprehensively evaluated for roost potential. Evidence was also sought for any staining or droppings which could suggest bat occupation. Binoculars and an endoscope were used when required.

6.2 The building was inspected for overt evidence of bat presence and occupation such as:

- Staining around entry of roosting points caused by oils secreted by the bat into its fur
- Scratching on surfaces caused by the bat in the acts of take off and landing
- Bat droppings on walls, floors, roof voids, window cills or panes and barge boards
- Urine stains below a possible entrance site, within the entrance to a cavity or on timbers used for roosting
- Bats can produce chatter on warm evenings prior to leaving the roost. A heterodyne bat detector is used to help determine this
- Flies around the entrance or on the floor of possible roosts, which may be attracted to bat guano

6.3 Due to the age and condition of the building there were limited opportunities for bats to roost. Those that were available were deemed as having low to moderate potential. There was a missing section of barge board on the south gable end and dislodged pieces of wooden panelling at the south gable apex. The roof line appeared to be generally tight but with occasional slightly raised tiles around the roof lights. A 1FF bat box was noted on the south facing gable end of the building during the scoping survey. The building was classed as low potential for roosting bats, however, there are confirmed bat roost records in the south western corner of the building directly where the new extension is proposed.

6.4 No droppings or evidence of bats were discovered on any external features although this would not be definitive of bats not using the building at other times of the year.

6.5 Examples of apertures allowing access to cavities in the building:

<u>7.0 Internal Inspection</u>

7.1 An internal inspection was undertaken on the 7th April 2021.

7.2 No accessible roof space was present. There was a suspended ceiling present throughout the building. Sections of the building were open to the ridge line which had glazing along it allowing natural light into the building.

7.3 Internal view of the school:

8.0 Emergence and Dawn Surveys

8.1 The emergence surveys were carried out during the maternity season and adhered to current best practice guidelines. These surveys were conducted from half an hour before sunset until two hours post sunset. The surveyors used are all experienced bat counters who have undergone sufficient training in basic bat ecology and bat activity. All sound analysis was undertaken by Richard Watkins.

8.2 The emergence surveys gave extra consideration to the features identified during the external scoping survey which could be utilised by bats.

8.3 Emergence Survey on 7th June 2021.

- Sunset: 21:27
- Weather: Dry and calm with 10% cloud cover
- Temperature: 12 degrees celsius
- Surveyors: Alan Harvey; Debbie Parry; Mason Smith; Caitlin Watkins; Keith Watkins; Richard Watkins and Scott Watkins

A single Common Pipistrelle (*Pipistrellus pipistrellus)* was observed emerging from the building at 21:46. The bat emerged from an area of timber cladding on the western aspect of the south elevation.

8.3 Emergence Survey on 24th June 2021.

- Sunset: 21:35
- Weather: Dry and calm with 100% cloud cover
- Temperature: 17 degrees celsius
- Surveyors: Debbie Parry; Kieron Turner; Kieron Meek; Mason Smith; Caitlin Watkins and Scott Watkins

A single Common Pipistrelle *(Pipistrellus pipistrellus)* was observed emerging from the building at 21:43. The bat emerged from an area of timber cladding on the western aspect of the south elevation from the same location as the first survey.

8.4 The weather conditions were dry and calm with very little wind and no rain and therefore conducive for bat activity. The temperature was above 10 degrees celsius for all of the surveys; 12 degrees celsius on the first emergence survey and 17 degrees celsius on the second emergence survey.

8.5 The best viewing conditions were obtained.

8.6 Echo-meter Touch 2 Pro bat detectors were present to acoustically record any bat calls.

8.7 Analysis of sound recording on bat detectors:

Species of Bats Recorded Emerging from the Building:	
Common Pipistrelle	*Pipistrellus pipistrellus*

Species of Bats Recorded in the Area:	
Common Pipistrelle	*Pipistrellus pipistrellus*
Noctule	*Nyctalus noctula*
Soprano Pipistrelle	*Pipistrellus pygmaeus*

8.8 During the emergence surveys, a low number of Common Pipistrelle (*Pipistrellus pipistrellus);* Noctule (*Nyctalus noctula)* and Soprano Pipistrelle (*Pipistrellus pygmaeus)* bat calls were recorded. 3 Common Pipistrelles *(Pipistrellus pipistrellus)* and a single Soprano Pipistrelle (*Pipistrellus pygmaeus)* were observed feeding around the property but did not emerge from inside and a single Noctule (*Nyctalus noctula)* was observed flying high above the property.

9.0 Concluding Remarks and Recommendations

9.1 The building was assessed as having low to moderate potential for bat use. The building and its condition offered limited features for bat occupation. The location of the building, being in a semi-rural environment with excellent ecological connectivity to suitable feeding areas made the location of the building suitable for bat use. There was no ambient lighting in the vicinity of the building. Direct evidence of bat use was identified; a single Common Pipistrelle *(Pipistrellus pipistrellus)* was observed emerging from the same place during both emergence surveys. A maximum of 1 bat was observed using the building as a day roost during the emergence surveys. Common Pipistrelles (*Pipistrellus pipistrellus)* are a common species of bat and are often found roosting in buildings. These types of bats are more tolerant to light disturbance than other species of bats.

9.2 Throughout the surveys, a low number of bat calls were recorded and a bat was observed using the building. The bat using the building as a day roost is probably a male or a non breeding female. The emergence surveys did not identify a maternity roost. The buildings did not offer significant potential for hibernating bats.

9.3 If careful consideration is made to incorporate improved roosting conditions into the new building, then this project could offer ecological gain for local bat populations. New roost creation in the new building scheme is required to accommodate crevice dwelling species of bats. There is potential to offer ecological gain for bats and nesting birds if the project proceeds. This would help satisfy the local planning authorities legal responsibility to preserve and enhance biodiversity under the Environment (Wales) Act 2016. The creation of new roosting features will be incorporated into the schedule of works. This can be achieved at very little expense and with no impact to the owners of the building.

9.4 The building is now a confirmed bat roost. No work that could affect the bat roost is permitted by law, without the permission from Natural Resources Wales, including any works to the roof. Direct illumination of the building is also not permitted, as this could constitute disturbance. (Please see Section 5 of this report for further information).

9.5 At present the development proposals do not impact on the identified bat roost location. If plans change or work is required that affects the bat roost the legal owner must apply and be in possession of a licence to affect the roost. This will take approximately 40 working days to be issued. This licence would have to offer a methodology to ensure that any loss of roosting sites be replaced and preferably enhanced in the new build and the project be undertaken in a way which minimises any risk to bats. An ecological clerk of works will be appointed and retained for the duration of the project.

9.6 A detailed external lighting plan will be required to minimise any external light disturbance to the bats using the building and surrounding area. The hedgerow to the rear should be protected from light spill as bats were observed using the hedgerow to feed and commute.

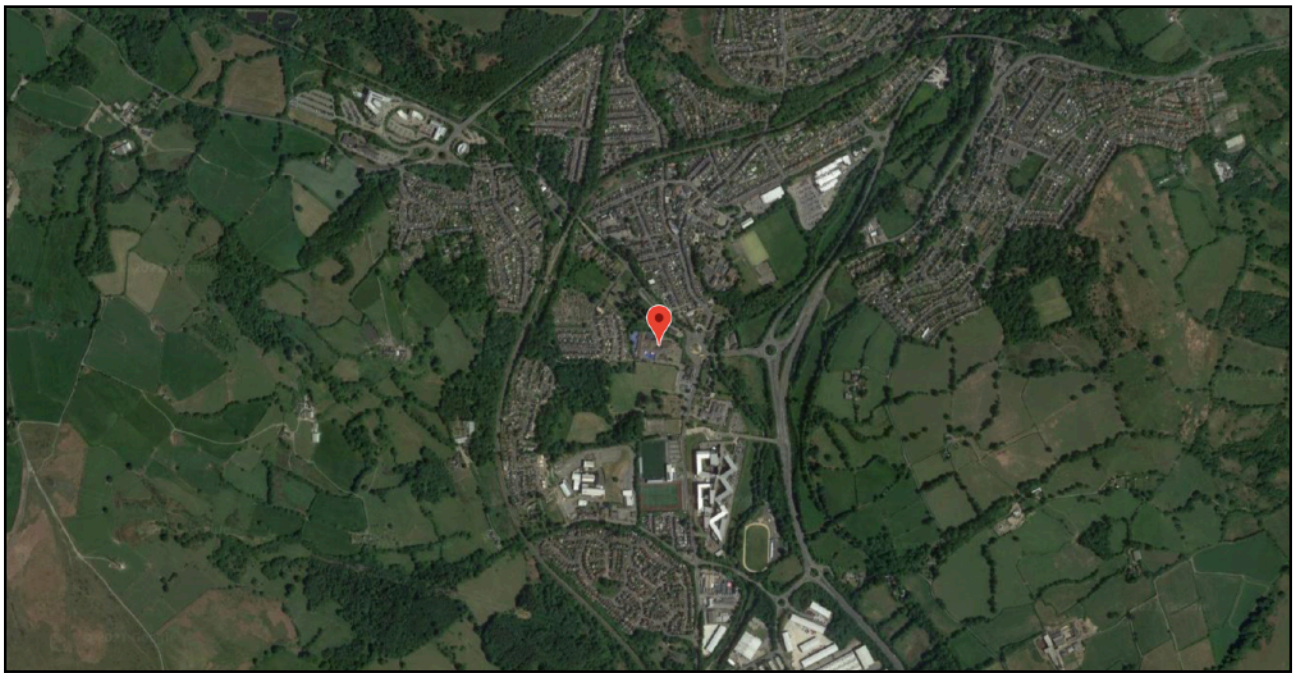
9.7 Prior to planning submission adequate enhancement measures for bats and nesting birds must be added to the architectural drawings. The details of this must be discussed and agreed with a suitably qualified ecologist prior to the planning submission.

Signed: R Watkins ***Date: February 2023***

10.0 Appendix

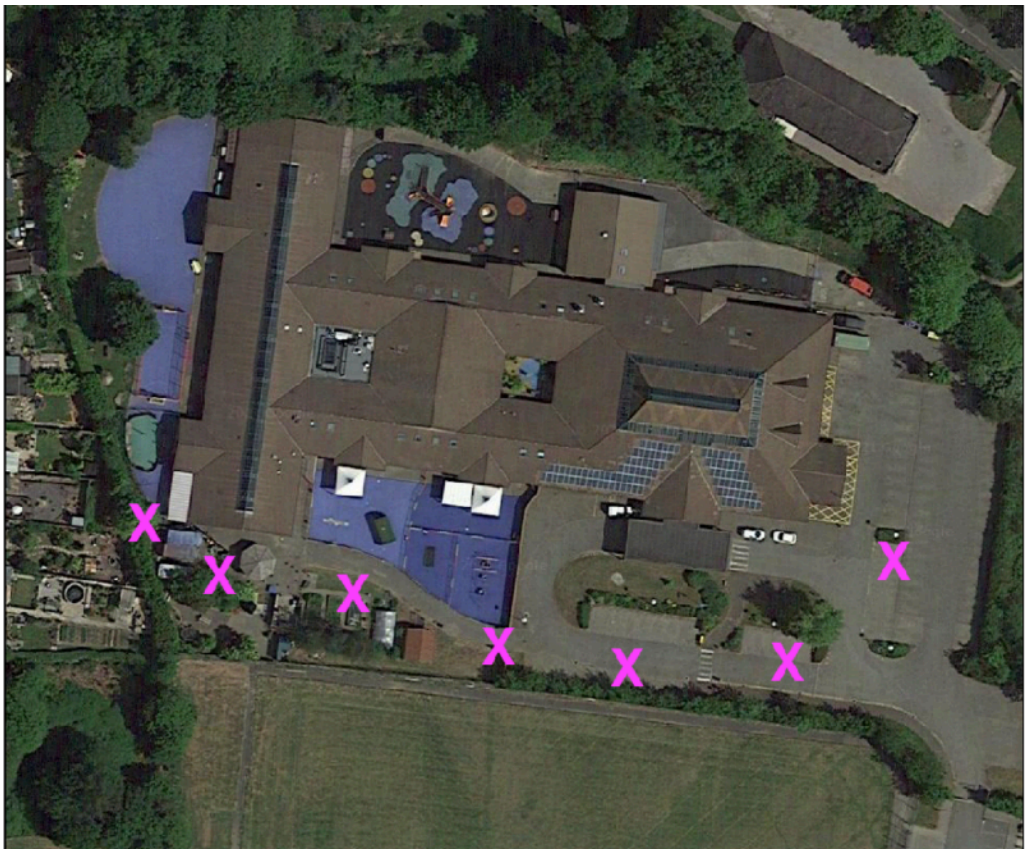
Aerial Site Photo
Surveyor Positions
OS Map

Aerial Site Photo



The site in its wider environment showing excellent ecological connectivity to the surrounding habitat.

Surveyor Positions



OS Map National Grid Reference ST 1448 9399