



Bat Survey: Brynhyfryd Chapel, Thomas Street, Treharris, CF46 5AA



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1.0 Background and Purpose

1.1 Brynhyfryd Chapel is a detached former chapel situated in a semi-urban environment in the small town of Treharris in the Taff Bargoed Valley. The property has not been in use for many years and planning permission is sought to demolish the rear annex, with no works proposed to the loft area of the main chapel. The roof is to be patch repaired. This report will investigate if there is potential to disturb bats and will be used to assist in the planning process.

1.2 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.

1.3 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.

1.3 A data search was undertaken with SEWBRcC (0223-115) to provide information on local bat and bird species in the area. The data search did identify a suspected emergence of a Common Pipistrelle (*Pipistrellus pipistrellus*) from the Chapel in 2011.

Other nearest recorded roosts are approximately 260m from the property which is a record for an unidentified bat species maternity roost between 2003-2005; approximately 440m from the property which is a record for an unidentified bat species day roost from 2009 and approximately 460m from the property which is a record for a possible Common Pipistrelle nursery roost from 2016. There are various non roosting records for bats, the nearest being approximately 17m from the property which are records for a foraging Brown Long Eared Bat (*Plecotus auritus*) and Common Pipistrelle; approximately 220m from the property which are records for a commuting Noctule (*Nyctalus noctula*) and a foraging Common Pipistrelle and approximately 325m from the property which is a record for a commuting Common Pipistrelle.

There are a number of records for nesting birds returned as part of the data search. Species records include Eurasian Blue Tit; European Herring Gull; Great Tit; House Sparrow; Lesser Black Backed Gull; Spotted Flycatcher; Starling; Swallow and Swift. All bird records are within 500m of the proposed development site.

The property is not within 10km of a designated SAC or SSSI for bats.

2.0 Site Description

2.1 Brynhyfryd Chapel is a large, detached, stone faced chapel which is two storeys in height with a slate apex roof. The building is rendered to the rear and there is a smaller single storey extension to the rear with a slate apex roof. The building is heavily vegetated on the frontage and on the corners. There are uPVC fasciae and soffits around the building with a concrete cornice below and all of the windows are either bricked up or shuttered with rigid moulded poly-carb aside from a single window in the rear extension. There is no cavity wall in the building.

2.2 Brynhyfryd Chapel was built in 1882 and is situated in a semi-urban environment. There is likely to be minimal ambient lighting within the vicinity of the property.

2.3 The nearest significant watercourses are the River Taff, approximately 210m to the south west of the property and Taff Bargoed, approximately 215m to the south of the property. Additionally, the Afon Cynon flows approximately 2.1km to the south west of the property.

2.4 Brynhyfryd Chapel is situated in a semi-urban environment in the small town of Treharris. The property is intermediately surrounded by open fields; farmland and forestry and there is a large copse of trees 115m immediately to the east of the property. The hiking areas of Tramside Quakers Yard and Nelson Meadow lie approximately 1.1km to the south west and 1.5km to the south of the property. There are riparian corridors along all of the watercourses in the area and there is excellent ecological connectivity for bats to the wider environment.

2.5 The National Grid Reference of the site is: **ST 0974 9682**.

3.0 Report Constraints

3.1 Bats use different roosts throughout the year. Bats hibernate in torpor for weeks at a time throughout the cold months, mainly underground in caves and in deep rot holes at the centre of large mature trees. Bats are habitual and can live upwards of twenty years. During the summer months they will normally return annually to the same roost, usually in attics of buildings to form maternity colonies. Outside the maternity season, a scoping survey can be limited as the majority of any bats using the structure as a summer roost may not be present. External evidence such as droppings and staining which can identify bat use may have been removed by the rain. Therefore this survey will evaluate potential for bat use, in addition to searching for evidence of bats.

3.2 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.

3.3 Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year; migration patterns and behaviour. 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.

3.4 Even though bats are habitual creatures they can still move to new roosts if 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 eighteen months from 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 eighteen months old.

3.5 It was not possible for an internal inspection to be undertaken due to damage inside the building making it structurally unsafe. The eastern elevation (rear) of the building could not be optimally surveyed as the only available access was through neighbouring gardens and access was refused by the land owners. During the emergence surveys, a surveyor will be positioned in such a way as to visualise the entirety of the elevation.

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; 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/ukxi/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 but 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 U.K 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 10th May 2022 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.

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

- Staining around the entry of roosting point 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 sills 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 numerous opportunities present for bats to access and use the building and those that were available were deemed as having high potential for roosting bats. There were missing slates at the front of the main roof; an area of raised dry verge to the rear and a missing stone below a bricked up window on the side elevation. There were also slipped and raised slates and apertures underneath the ridge tiles on the single storey extension. The uPVC fasciae and soffits appeared to be relatively tightly sealed, however, there were a small number of apertures behind the concrete cornice below the fasciae.

6.5 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.

6.6 No evidence of nesting bird use of the building was observed during the scoping survey, however, nesting use during the summer season cannot be ruled out.

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



7.0 Internal Scoping Survey

7.1 It was not possible for an internal inspection to be undertaken due to extensive fire damage inside the building making it structurally unsafe.

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. The surveyors used were Debbie Parry; Mason Smith; Kieran Turner and Caitlin Watkins. 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 10th May 2022.

- Sunset: 20:52
- Weather: Dry and calm with approximately 85% cloud cover
- Temperature: 12 degrees celsius

No bats were observed emerging from the building.

8.4 Dawn Survey on 10th June, 2022.

- Sunrise: 04:56
- Weather: Dry and calm with approximately 40% cloud cover
- Temperature: 12 degrees celsius

No bats were observed returning to the building.

8.5 Emergence Survey on 21st June 2022.

- Sunset: 21:35
- Weather: Dry and calm with approximately 30% cloud cover
- Temperature: 14 degrees celsius

No bats were observed emerging from the building.

8.6 The weather conditions were dry and calm with little wind and no rain and therefore conducive for bat activity. The temperature was above 10 degrees celsius during the emergence and dawn surveys.

8.7 The best viewing conditions were obtained.

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

8.9 Analysis of sound recording on bat detectors:

Species of Bats Recorded in the Area:	
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>

8.10 During the surveys, a very low number of bat calls were recorded. Common pipistrelles (*Pipistrellus pipistrellus*) and Soprano Pipistrelles (*Pipistrellus pygmaeus*) were observed foraging around the building but did not emerge from inside.

9.0 Concluding Remarks and Recommendations

9.1 During the surveys, no bats were observed emerging from the building.

9.2 Throughout the surveys, a very low number of bat calls were recorded in the vicinity of the building. Therefore it is suggested that the proposed building works will have a negligible impact on the local bat population.

9.3 The building did not offer significant hibernation potential for bats and no evidence of nesting bird use of the building was observed during the survey.

9.4 The building was assessed as having high potential for bat use.

9.5 The building and its condition offered numerous opportunities for bat occupation and roosting potential.

9.6 The excellent ecological connectivity to suitable feeding areas did make the location of the building suitable for bat use.

9.7 There was minimal ambient lighting within the vicinity of the property. There was one street light immediately to the western elevation of the building.

9.8 There was constraints to the survey work. Access to neighbouring land to the north east was not possible making the survey effort suboptimal. There are areas of work proposed in these areas, therefore a bat friendly working methodology must be adopted to ensure that the development has no detrimental effect on bats.

9.9 This methodology will include a soft strip of any roof areas scheduled for works under direct supervision of a suitably qualified ecologist.

9.10 In the event that bats or evidence of bat use is identified during the soft roof then all works shall stop and Natural Resources Wales contacted in regards to bat licensing, no works will continue until NRW issue a bat licence sanctioning any works ongoing.

9.11 Following commencement of works; outside any ecologically supervised period and in the unlikely event that the contractor encounters any bats during any works, then work must immediately stop and the bat worker summoned. If for any reason they cannot be contacted, advice must be sought from Natural Resources Wales, (Telephone Number 0300 065 3000). No works would recommence until a licence is issued by NRW sanctioning works going forward. The guidance note on finding bats found in the appendices must be followed.

9.12 There is potential to offer ecological gain for bats if the project proceeds. This would help satisfy the local planning authorities legal responsibility to preserve and enhance biodiversity under the Wales Environment (Wales) Act 2016. The creation of a bat roost for crevice dwelling bats can be incorporated into the new build element at very little expense and with no impact to the owners of the property. It is recommended that new roosts be created for crevice dwelling species of bats in the new build scheme and this should be added to the plans prior to submission for planning approval. Further ecological gain can be made by incorporating bird bricks into the new build design. Advice must be sought from a suitably qualified ecologist in regard to the size,

type and location of any proposed new roosting mitigation. Any new mitigation must not be directly illuminated and a dark corridor must be established allowing undisturbed access for any bat away from the site. If planning is granted then any ecological compensation/mitigation will be designed to maternity standards to ensure that there is no net biodiversity loss.

9.13 A detailed external lighting plan will be required to minimise any external light disturbance to the bats using the surrounding area. Any new external lighting must not directly illuminate any proposed mitigation location. Any external lighting must be downward angled and activated by passive infrared. The lights will be baffled to avoid any unnecessary lateral or vertical light spill. The lux levels of any external lights will be as low as required for health and safety purposes.

9.14 This report must be used in conjunction with the *Bat Friendly Working Methodology Brynhyfryd Chapel, Treharris, Brynhyfryd Chapel, V1.0*. Authored by Ecological Services Ltd and dated December 2022.

10.0 Proposed Mitigation

10.1 To comply with Natural Resources Wales and the Environment (Wales) Act 2016, ecological gain will be included into the scope of works. This will consist of:

4 number raised ridge tiles on the new roof.

4 number Schwegler No. 16 Swift Nest boxes, surface mounted on external walls. Care must be taken not to obstruct the entrance holes.

If any of the above products are not available, then further advice must be sought from a suitably qualified ecologist regarding a suitable replacement product.

10.2 It is proposed that new roosting for crevice dwelling species of bat will be created underneath the entire row of ridge tiles. This will be accessed by 5 number raised ridge tiles.

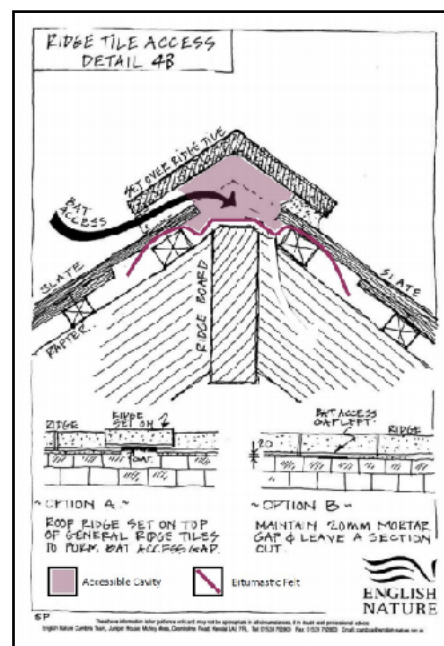
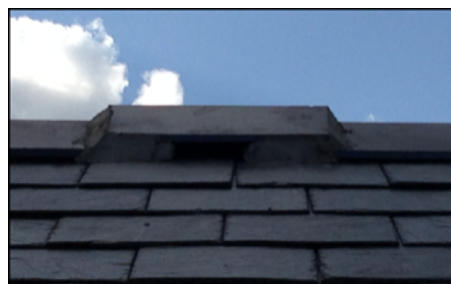
10.3 The raised ridge tiles will have two access apertures measuring 100mm long by 25mm high; one on the front elevation and one on the rear.

10.4 The roosting area will benefit from uninterrupted access to the sun on its southern aspect. This along with the heat generated from the living space will create a favourable temperature range for bats. The roosting area will be sufficient in size for a maternity colony to establish.

10.5 It is presumed that the building already has 1F bitumastic roofing felt. If this is not the case then bats will be restricted to the void in the underside of the ridge tile by using a continuous piece of 1F bitumen felt as a base liner. This will be fixed in location over the top rafters as per adjacent image.

10.6 There will be no direct illumination of any roost exit points. Any external lighting will be controlled by passive infrared.

10.7 Breathable membrane is dangerous for bats, therefore it is essential if any roof areas are breathable felt then the detail contained in the adjacent drawing is followed exactly and is to be fitted under direct ecological supervision by a suitably qualified ecologist.



10.8 Bat mitigation will benefit from the south elevation or an elevation where there is direct access to sunlight as the bats can tolerate and prefer high levels of temperature in their roost.

10.9 The Schwegler No.16 Swift Nest Boxes will be surface mounted. These will not be situated on a south facing elevation. Care must be taken not to obstruct the entrance holes. Swift boxes require a height of at least 5m above ground level. Swifts fly straight into their nesting areas, so there should be a clear adjacent airspace. Swift boxes are preferred as these can be situated higher than other species nesting boxes making disturbance through antisocial behaviour less likely.



10.10 Any nesting bird mitigation will not be suited on the south elevation as this may experience excess heat from the sun.

10.11 Direct and prolonged illumination of the building, especially near any roost entry points or bird boxes must be avoided as this will cause disturbance.

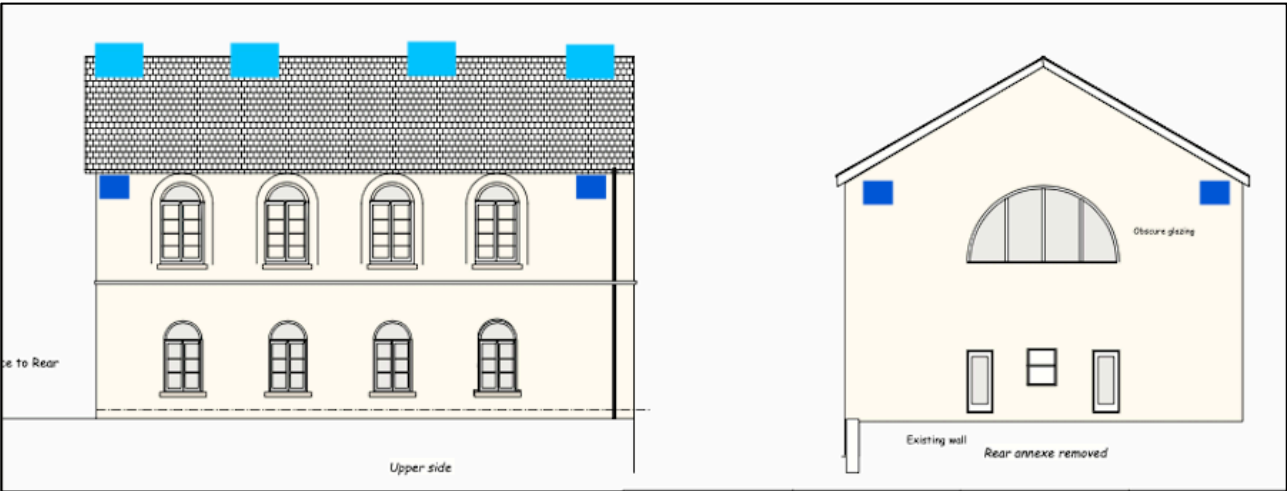
10.12 Where practical, all bat features should be located far enough from any windows to avoid any direct light spill, at least a minimum of 2 metres away.

10.13 On occasions the suggested mitigation can be in short supply. Please order the mitigation as soon as practical to avoid supply issues during the building phase. If supply is depleted please seek advice from a suitably qualified ecologist on a suitable replacement prior to the purchase.

Signed: *R Watkins* Date: December 2022

10.14 Locations of Bat and Bird Mitigation:

-  Location of Schwegler No.16 Swift Nest Boxes
-  Location of the raised ridge tiles



11.0 Appendix

Aerial Site Photo

Surveyor Positions

OS Map

Guidance Note

Aerial Site Photo

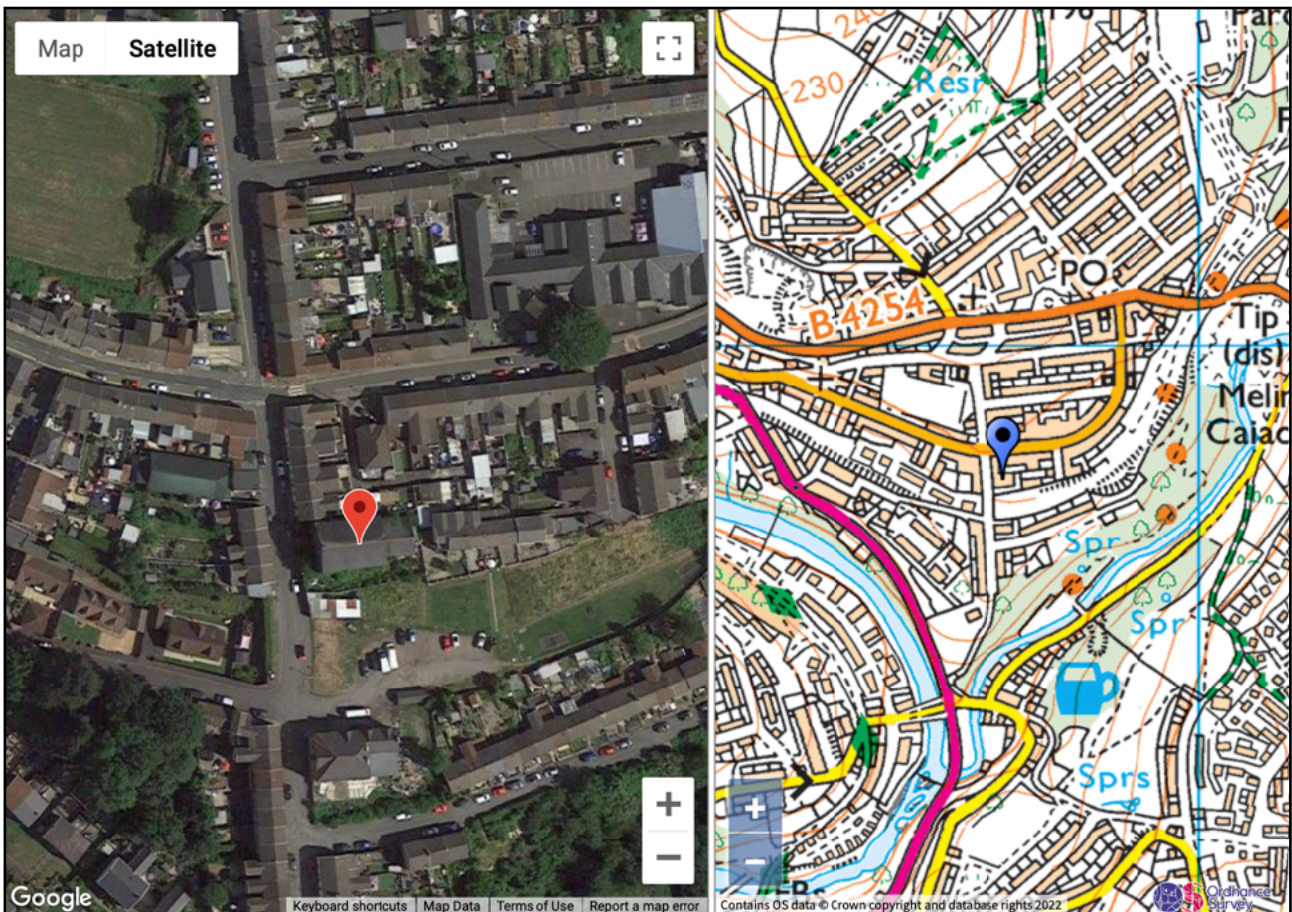


The site in its wider environment offering excellent ecological connectivity to the surrounding habitat.

Surveyor Positions



OS Map National Grid Reference ST 0974 9682



Guidance Note (Important information in the unlikely event that bats are discovered)

Where any building or demolition work is to commence, all contractors should remain vigilant at all times during the course of the works, looking for signs that bats are present or that bats have formerly occupied the building. Whilst this survey has been undertaken and no visible evidence of bats found within the building, the possibility of a bat or bats being present cannot be absolutely ruled out. In the extremely unlikely event that bats are discovered during the works, then work must **stop** as soon as it is safe to do so, The bat worker must be contacted immediately and Natural Resources Wales informed in order for a licence to be granted to complete the works. No works will be permitted until such time a license is approved.

If in the unlikely event a roost is accidentally opened up, any loose bats should be returned to the roost and apertures closed to prevent their escape until they can be examined for injury by a bat worker. Dead bats should be retained. Bats are very fragile and should be handled by a professional, and unless absolutely necessary should not to be approached and disturbed. However, where a bat is clearly injured and distressed, the contractor should carefully collect them and place in a light proof box. Gloves must be worn when handling bats*

In the Event of a Bats being discovered the bat worker must be contacted immediately that it is safe to do so on 07866461726

If the bat worker is not available, Natural Resources Wales must be contacted on 0300 065 3000

*Bats can potentially carry European Bat Lyssa Virus (EBLV) which is a strain of rabies virus that is found in some bat species although extremely uncommon, a potential risk occurs; therefore, all bats must be handled with thick gloves.