



Bat Survey: Pen-Y-Dre Comprehensive School, Gurnos Estate, Merthyr Tydfil, CF47
9BY



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Warning! The building is now a confirmed bat roost.

No works can be undertaken that may impact or disturb the roost without the legal owner being in possession of a European Protected Species License. Please refer to section 4 and section 9 of the report for further details.

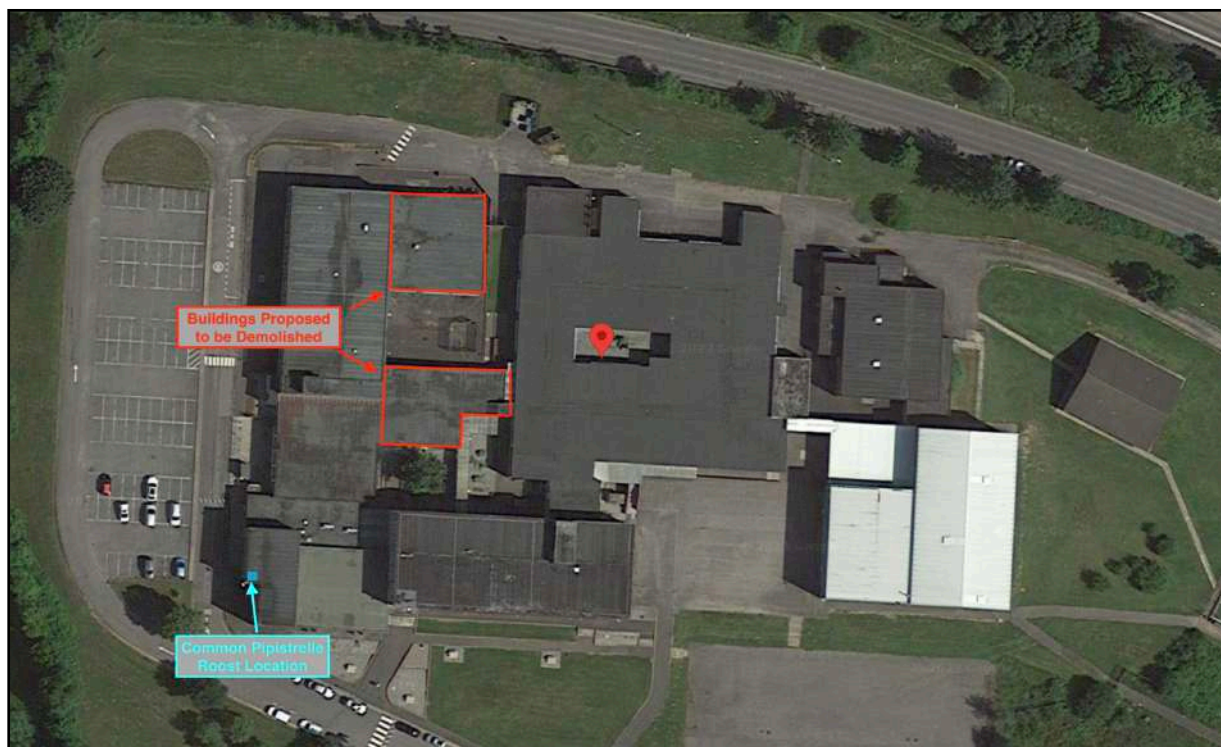
If there is any doubt of what is permissible please contact the author on: Tel:07866461726 or Email rich@ecologicalservices.wales prior to any works commencing.

Disturbance or destruction of a bat roost is a criminal offence that may result in any granted planning permission being revoked, the legal owner receiving a fine and or a prison sentence.

1.0 Background and Purpose

1.1 Pen-Y-Dre Comprehensive School is a substantial detached school situated in a semi-urban environment in the community of Gurnos, near the town of Merthyr Tydfil. The property is currently in use as a school and planning permission is sought to carry out a range of potential works to the school to include external refurbishments to the exterior of the building and a possible new access point into the grounds of the school. This report will investigate if there is potential to disturb bats and will be used to assist in the planning process.

1.2 As of September 2023, it is proposed to demolish two sections of the school building. **There will be no destruction of the 2022 identified bat roost location.**



1.3 The site was previously surveyed by Ecological Services Ltd in 2021, however, a top up survey has now been carried out due to the original survey being undertaken late in the bat active season. The BCT Good Practice Guidelines recommends structures with low bat potential are surveyed between May to August to provide optimal and reliable survey results. The roof in its entirety cannot be fully seen from ground level, therefore as per good practice recommendations, the building will be classed as at least moderate potential.

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 S092780-1.

1.6 A data search was undertaken via Aderyn (DERF 0212-470) to provide information on local bat and bird species in the area. The data search did not identify any historic records of bats being present in the buildings. The nearest recorded roosts are approximately 905m from the site which is a record for a potential Soprano Pipistrelle (*Pipistrellus pygmaeus*) roost from 2019. There are various non-roosting records for bats, the nearest being approximately 750m

from the site which is a record for a commuting Serotine (*Eptesicus serotinus*); 815m from the site which is a record for a foraging Common Pipistrelle (*Pipistrellus pipistrellus*) and a commuting Noctule (*Nyctalus noctula*) and 935m from the site which is a record for a foraging unidentified bat species.

1.7 A number of records for nesting birds were returned as part of the data search. Species records include Brambling; Dunnock; European Herring Gull; House Sparrow; Peregrine; Red Kite; Song Thrush and Starling. All records for nesting birds are within 500m of the proposed development site.

1.8 The property is not within 10km of a designated SAC for bats but is within 10km of 2 SSSI for bats (Cwm Taf Fechan Woodlands and Nant Glais Caves), however, due to the small scale of the proposed development, these sites will not be adversely affected.

2.0 Site Description

2.1 The proposed development site comprises a number of school buildings which form Pen-Y-Dre Comprehensive School. A detailed description of the buildings within the site boundary is given in the below table. There were no accessible roof voids within the building complex. An assessment of the features within the buildings for the potential presence of bats was made during the site inspection.

	Building Description	Bat Potential
Pen Y Dre School	<i>External: The main building is a brick built structure with a flat roof. The building has various heights in different sections ranging from single storey to two storeys in height. Various lengths of single pane glazing are present around the building. The south and western most red brick sections of the building have the most glazing.</i>	<i>The building appeared to be in fairly good condition with no obvious gaps or cracks along the roof. There was one slightly dislodged fascia board on the western most section of the building. There is weather warped barge board present around the single storey red brick section to the north of the building.</i>
	<i>Metal roller garage doors are present at various locations across the building.</i>	<i>However, due to the height of the building it was difficult to see all areas and it is possible that features were missed.</i>
	Internal: N/A	-
Pen Y Dre School - Sports Hall	<i>External: The Sports Hall is a brick built structure with a shallow pitched metal sheet roof. At eaves level, a continuous row of single pane windows are present. Green, what appears to be metal, cladding is present around the eaves of the building.</i>	<i>The building appeared to be in fairly good condition with no obvious gaps or cracks along the roof.</i>
		<i>However, due to the height of the building it was difficult to see all areas and it is possible that features were missed.</i>
	Internal: N/A	-

Pen Y Dre School - Changing Room	External: <i>The Changing Room is a brick built, single storey structure with a pitch clay tile roof line. Plastic fascia and soffit boards are present around the roof line.</i>	<i>No visible gaps or cracks were observed which would be suitable for bat roosting use.</i>
	Internal: N/A	-

2.2 The nearest significant watercourse is Taf Fechan, approximately 960m to the west of the site at its nearest point. Cyfartha Park Lake lies approximately 1.4km to the south west of the site.

2.3 Pen-Y-Dre Comprehensive School is situated in a semi-urban environment in the community of Gurnos near the town of Merthyr Tydfil. A road runs along the northern boundary of the site and the site sits approximately 45m to the south of the A465 from the northern boundary. Residential housing is located to the west of the site and open fields are located to the east and south of the proposed development site boundary and to the north of the site in the wider landscape. There is excellent ecological connectivity for bats to the wider environment.

2.4 The National Grid Reference of the site is: **SO 0490 0845**.

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 these buildings. Trees and other buildings not mentioned directly have not been included in this report.

3.3 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.

3.4 Given the height and differing sections of the buildings, it was difficult to access and view all areas of the buildings during the scoping survey. An emergence survey was recommended on all buildings to overcome the scoping survey constraints.

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 **4th August 2021** in conditions of good natural light. All external aspects of the buildings were comprehensively evaluated for roost potential. Evidence was also sought for any staining or droppings which could suggest bat occupation.

6.2 The buildings were 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 A detailed description of the buildings is provided in section 2 of this report. The buildings all form part of the Comprehensive School and are located to the north of the site boundary.

6.4 No droppings or evidence of bats were discovered on any external features.

6.5 No evidence of nesting bird use of the buildings was observed during the scoping survey.

6.6 Examples of apertures allowing access to cavities in the buildings:



Dislodged fascia board on the west elevation of the main school building.



Warped barge boards above the roller doors on the main school building.

7.0 Internal Scoping Survey

7.1 There were no accessible roof voids within the building complex.

8.0 Emergence and Dawn Surveys

8.1 One emergence survey was previously undertaken which focused on all of the buildings present on the site. Because of the low potential the buildings offered and the late timing of the original survey in relation to the bat activity season, a single bat activity survey was undertaken on the buildings on site. Due to the size of the buildings, the survey was undertaken over two evenings in 2021.

8.2 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 Jonathan Daniels; Hannah Evans; Tyrone Evans; Allen Harvey; Kieran Meek; Debbie Parry; Hannah Preece; Mason Smith; Kieran Turner; Caitlin Watkins; Keith Watkins; Lloyd James; Richard Watkins and Scott Watkins. All sound analysis was undertaken by Richard Watkins.

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

8.4 Emergence Survey on 3rd September 2021.

- Sunset: 19:55
- Weather: Dry and calm with light passing clouds
- Temperature: 16 degrees celsius

No bats were observed emerging from the buildings.

8.5 Emergence Survey on 5th September 2021.

- Sunset: 19:51
- Weather: Dry and calm with light passing clouds
- Temperature: 16 degrees celsius

No bats were observed emerging from the buildings.

8.6 Additional bat activity survey work has now been carried out due to the original survey being undertaken late in the bat active season. Due to the size of the buildings, the top up survey was undertaken over two evenings and a separate dawn survey was carried out.

8.7 Top Up Emergence Survey on 21st July 2022.

- Sunset: 21:19
- Weather: Dry and calm with approximately 50% cloud cover
- Temperature: 18 degrees celsius

No bats were observed emerging from the buildings.

8.8 Top Up Emergence Survey on 22nd July 2022.

- Sunset: 21:17
- Weather: Dry and calm with approximately 75% cloud cover

- Temperature: 15 degrees celsius

No bats were observed emerging from the buildings.

8.9 Dawn Survey on 30th August 2022.

- Sunrise: 06:22
- Weather: Dry and calm with approximately 35% cloud cover
- Temperature: 11 degrees celsius

2 Common Pipistrelles (*Pipistrellus pipistrellus*) were observed returning to an aperture underneath the cladding on a western area of the main school building.



8.10 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 surveys.

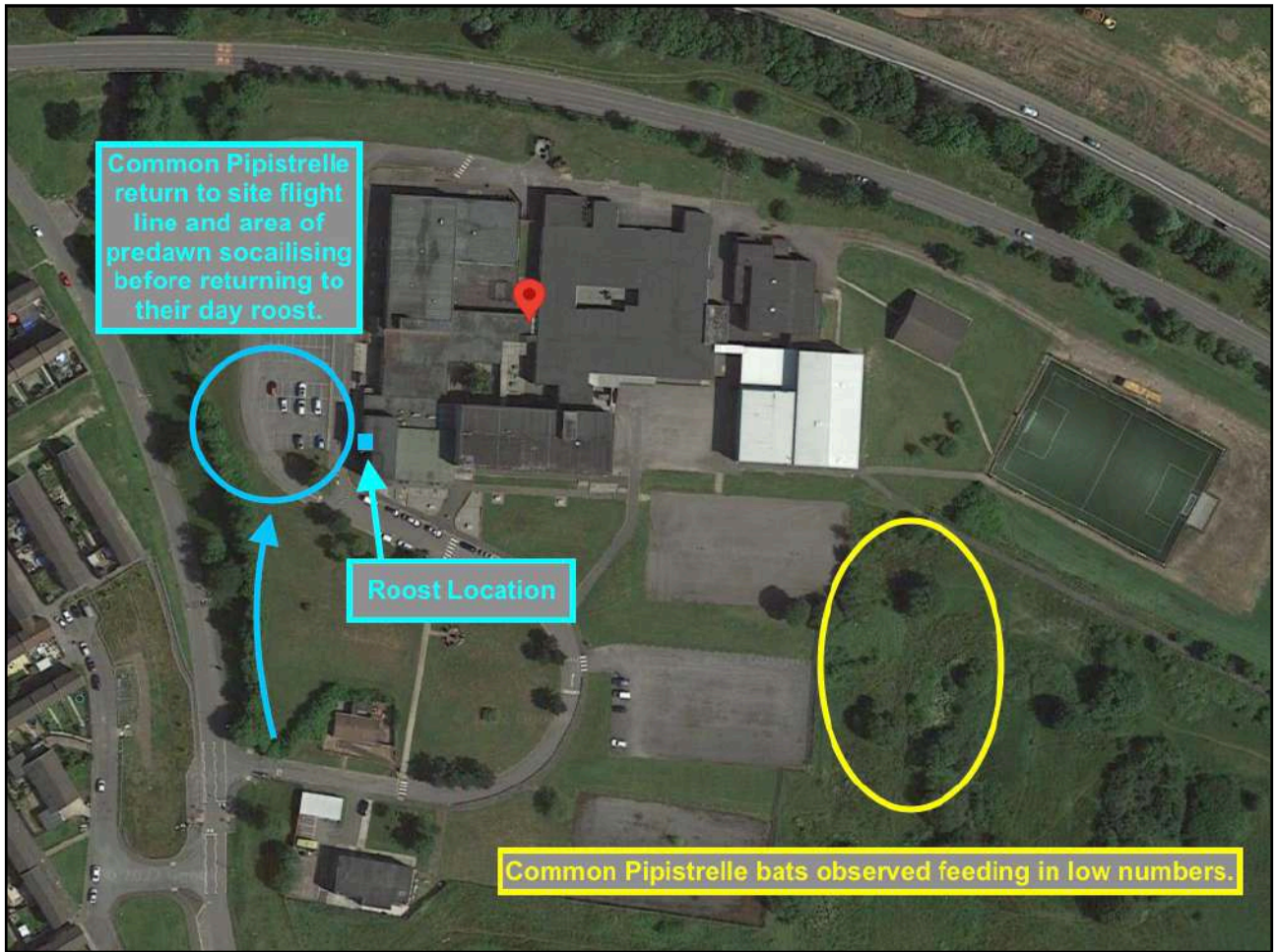
8.11 The best viewing conditions were obtained.

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

8.13 Analysis of sound recording on bat detectors:

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

8.14 A very low number of Common Pipistrelle bat calls were recorded. No bats flew past the sections of the school buildings being surveyed during the emergence surveys. Overall, bat activity during the surveys was considered to be very low.



9.0 Concluding Remarks and Recommendations

9.1 Two Common Pipistrelles (*Pipistrellus pipistrellus*) were observed returning to the main school building during the dawn survey. Common Pipistrelles 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 The bats were using the building as an occasional day roost.

9.3 Throughout the surveys, a very low number of bat calls were recorded around the site. A low number of Common Pipistrelle bats were observed feeding in the grounds to the south east. A maximum of 2 bats were observed using the main school building as a day roost during any survey.

9.4 The surveys did not identify a significant maternity roost.

9.5 The buildings did not offer significant hibernation potential for bats.

9.6 The surveys did not identify any nesting bird use of the buildings.

9.7 The roof in its entirety could not be fully seen from ground level, therefore as per good practice recommendations, the building was classed as at least moderate potential.

9.8 The buildings are located in an area with excellent ecological connectivity for bats to the wider environment and the surrounding environment does offer potential for bat use.

9.9 There was no ambient lighting within the vicinity of the site.

9.10 The main school 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).

9.11 If careful consideration is made to incorporate improved roosting conditions into the new build scheme, then this project could offer ecological gain for the resident bats. 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 property.

9.12 If planning is approved, the legal owner must apply and be in possession of a licence to destroy 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.

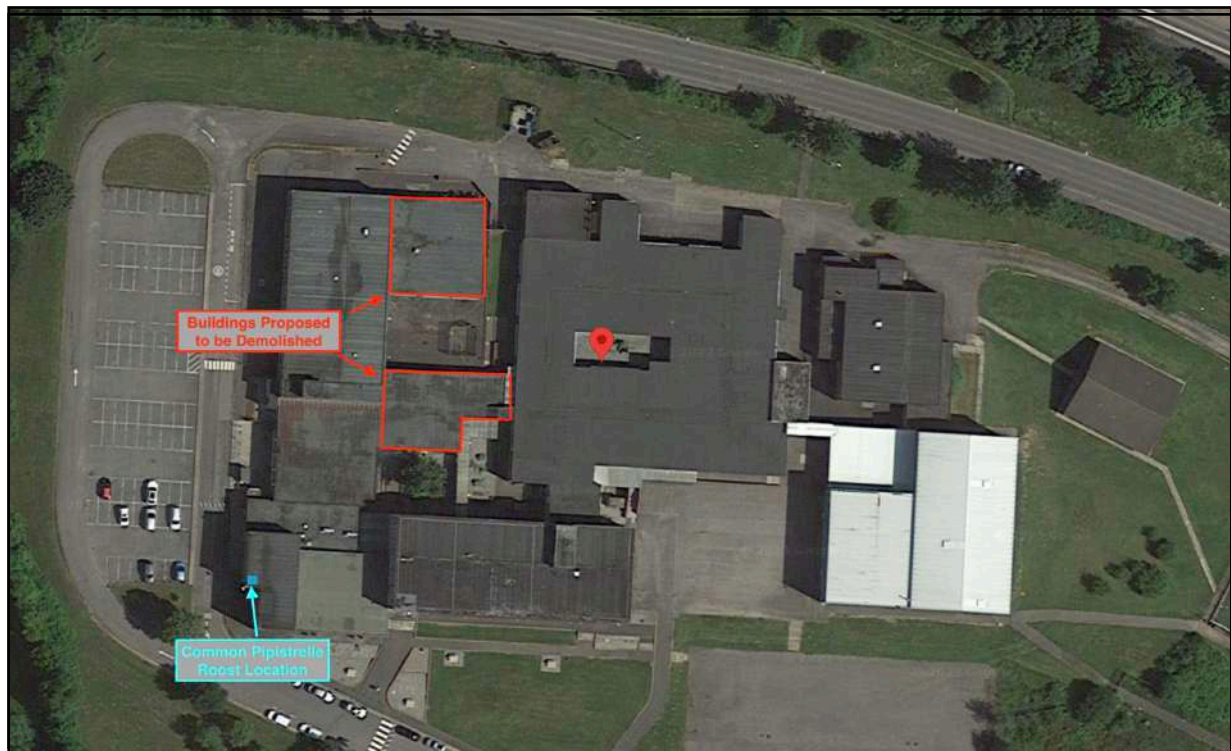
9.13 A bat box will be erected prior to works in a suitable location by a suitably qualified ecologist. This will be used to rehouse any bat found during an ecological soft strip of the roosting location under direct ecological supervision by the retained ecologist, once NRW have issued a bat licence sanctioning the works.

9.14 A detailed external lighting plan will be required to minimise any external light disturbance to the bats using the building and surrounding area. Any new external lighting must not directly illuminate any roosting 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.

9.15 Once the new mitigation has been agreed between relevant parties, this must be added to the architectural drawings prior to submission of the Planning Application or Listed Building Consent.

9.16 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.

9.17 As of September 2023, it is proposed to demolish two sections of the school building. There will be no destruction of the 2022 identified bat roost location.



9.18 A method statement and direct ecological supervision of the two sections proposed to be demolished will be required to ensure that no protected species are impacted upon by the demolition works.

Signed: *R Watkins* Date: September 2023

10.0 Appendix

Aerial Site Photograph

Surveyor Positions

OS Map

Appendix 1 Aerial Site Photograph



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

Appendix 2 Surveyor Positions



Appendix 3 OS Map National Grid Reference SO 0490 0845

