



Environmental Consultants

Updated Bat & Swift Survey Report

Renovation of Somers House

at Burkes Lane, Athenry, Co. Galway



DOCUMENT DETAILS

Client: Galway County Council

Project Title: For the Renovation of Somers House at Burkes Lane, Athenry, Co. Galway.

Document Title: Bird and Bat Survey Report

Reviewed By: John Curtin - Consultant Ecologist

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Abstract: The following report updates a 2023 survey of Somers House examining the building for the presence of bats and swift.

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1 INTRODUCTION

This report details the findings of a swift and bat survey completed as part of a planning application for the renovation works of a building in Athenry, Co. Galway.

The present report was compiled by John Curtin of Eire Ecology providing information on flora and fauna. John Curtin B.Sc. is the principal ecologist with Eire Ecology and has over 15 years of experience in ecological impact assessment.

The report concentrates on ecological features within the development area of particular significance, primarily designated birds and bats.

The report has been compiled in compliance with the European Communities Legal requirements and follows guidance outlined in the following documents:

- EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports 2022.
- Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater, Coastal and Marine 2024

The European Habitats Directive 92/43/EEC (Article 6) indicates the need for plans and projects to be subject to Habitats Directive Assessment (also known as Appropriate Assessment) if the plan or project is not directly connected with or necessary to the management of a Natura 2000 site (which includes SACs and SPAs) but which has the potential to have implications on a site's conservation objectives. These implications can be significant effects either individually or in combination with other plans or projects.

This report aims to;

- Examine the building for evidence of nesting swifts.
- Establish the presence of roosting bats

2 DESKTOP STUDY

2.1 POLICY & GUIDANCE

2.1.1 EU Habitats Directive

The “Habitats Directive” (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna) is the main legislative instrument for the protection and conservation of biodiversity within the European Union and lists certain habitats and species that must be protected within wildlife conservation areas, considered to be important at a European as well as at a national level. A “Special Conservation Area” or SAC is a designation under the Habitats Directive. The Habitats Directive sets out the protocol for the protection and management of SACs.

The Directive sets out key elements of the system of protection including the requirement for “Appropriate Assessment” of plans and projects. The requirements for an Appropriate Assessment are set out in the EU Habitats Directive. Articles 6(3) and 6(4) of the Directive.

2.1.2 EU Birds Directive

The “Birds Directive” (Council Directive 79/409/EEC as codified by 2009/147/EC) provides for a network of sites in all member states to protect birds at their breeding, feeding, roosting and wintering areas. This directive identifies species that are rare, in danger of extinction or vulnerable to changes in habitat and which need protection (Annex I species). Appendix I indicates Annex I bird species as listed on the Birds Directive. A “Special Protection Area” or SPA, is a designation under The Birds Directive.

SACs and SPAs form a pan-European network of protected sites known as Natura 2000 sites and any plan or project that has the potential to impact upon a Natura 2000 site requires Appropriate Assessment (AA). As outlined previously, an AA Screening Report was prepared for this project and is presented as a separate report to the planning application.

2.1.3 Wildlife Acts 1976 – 2012 (as amended)

The primary domestic legislation providing for the protection of wildlife in general, and the control of some activities adversely impacting upon wildlife is the Wildlife Act of 1976, as amended. The aims of the wildlife act according to the National Parks and Wildlife Service are “... to provide for the protection and conservation of wild fauna and flora, to conserve a representative sample of important ecosystems, to provide for the development and protection of game resources and to regulate their exploitation, and to provide the services necessary to accomplish such aims.” The act;

- Protects all wild bird species, their nests, and eggs.
- Makes it an offence to hunt, injure, disturb, or destroy nests and eggs (except under specific licence).
- Deliberately capture, injure or kill a bat.
- Disturb bats, especially during critical life stages such as **hibernation, maternity, and migration**.
- Damage or destroy breeding sites or resting places (roosts).
- Possess or trade bats, alive or dead, without licence

2.1.4 Planning and Development Act 2000 (as amended):

The *Planning and Development Act 2000 (as amended)*: this Act integrates biodiversity considerations into the planning process and requires ecological assessments, including for bats, as part of Environmental Impact Assessments (EIAs).

2.2 SURVEY METHODOLOGY

The assessment was carried out in three stages, firstly through desktop assessment to determine existing records in relation to habitats and species present in the study area. This included research on the NPWS metadata website, the National Biodiversity Data Centre (NBDC) database and a literature review of published information on flora and fauna occurring in the development areas.

The second phase of the assessment involved site visits to establish the existing environment in the footprint of the proposed development with particular reference to birds and bats. The potential to host bat roosts was examined at the time of a walkover survey. A photographic record was made of the main features of interest. A swift roost watch and bat emergence survey was conducted in July; the correct time of year for such surveys.

The final part of the assessment involves an evaluation of the proposed development area and determination of the potential impacts on the fauna of the area. This part of the assessment forms the basis for Impact Assessment and is based on the following guidelines and publications:

- Bat Mitigation Guidelines for Ireland V2 (National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, 2022).
- BirdWatch Ireland and the National Parks and Wildlife Service of the Department of the Environment, Heritage and Local Government. Counter Manual. Guidelines for
- Colhoun, K., and Cummins, S. (2013). Birds of Conservation Concern in Ireland 2014–2019. Irish Birds 9:523–544
- Collins 2023 Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). London: BCT.

- EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports 2022
- Guidance document on Article 6(4) of the Habitats Directive 92/43/EEC (EC, 2007);
- Guidelines for Planning Authorities & An Bord Pleanála on carrying out Environmental Impact Assessments (March 2013)

3 PROJECT DESCRIPTION

The project involves the renovation, and refurbishment of an existing building located at the junction of Northgate Street and Burkes Lane, Athenry, Co. Galway.

4 EXISTING ENVIRONMENT

4.1 SITE LOCATION

The site in question is in the town centre of Athenry, Co. Galway, located adjacent to an old church and graveyard (Grid Ref. N550226 / E727935).

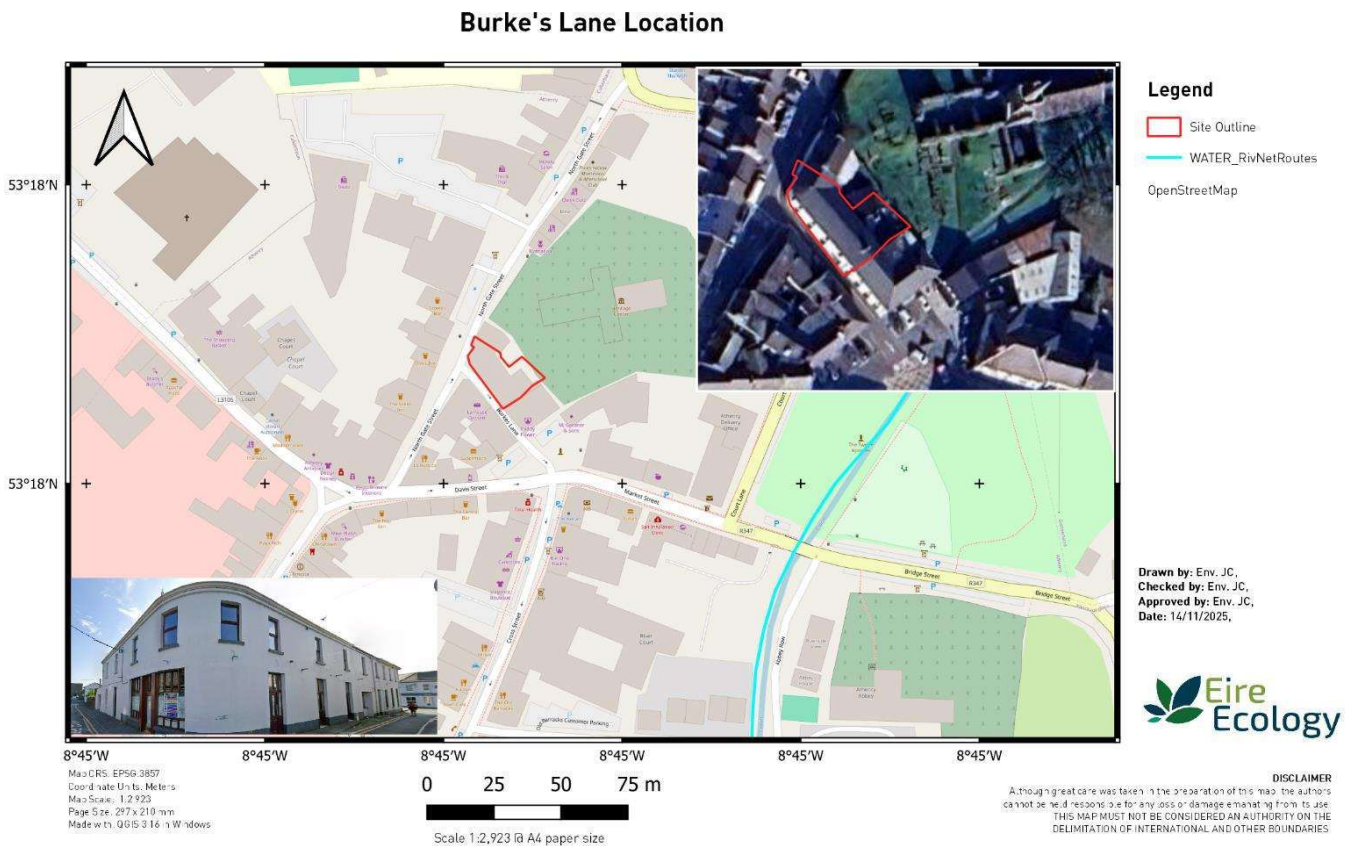


Figure 4-1: Site Location

4.2 DESIGNATED CONSERVATION AREAS

The site for the proposed development lies approximately 7km from the Lough Corrib SAC (site code: 000297) a site which has been designated due to the presence of the Annex II species; Lesser Horseshoe bat (*Rhinolophus hipposideros*) and is the closest designated areas for this species to the subject site. (see Figure 2-1 below). There are no European or Nationally designated sites within 6km of the site.

Burke's Lane 6km Buffer

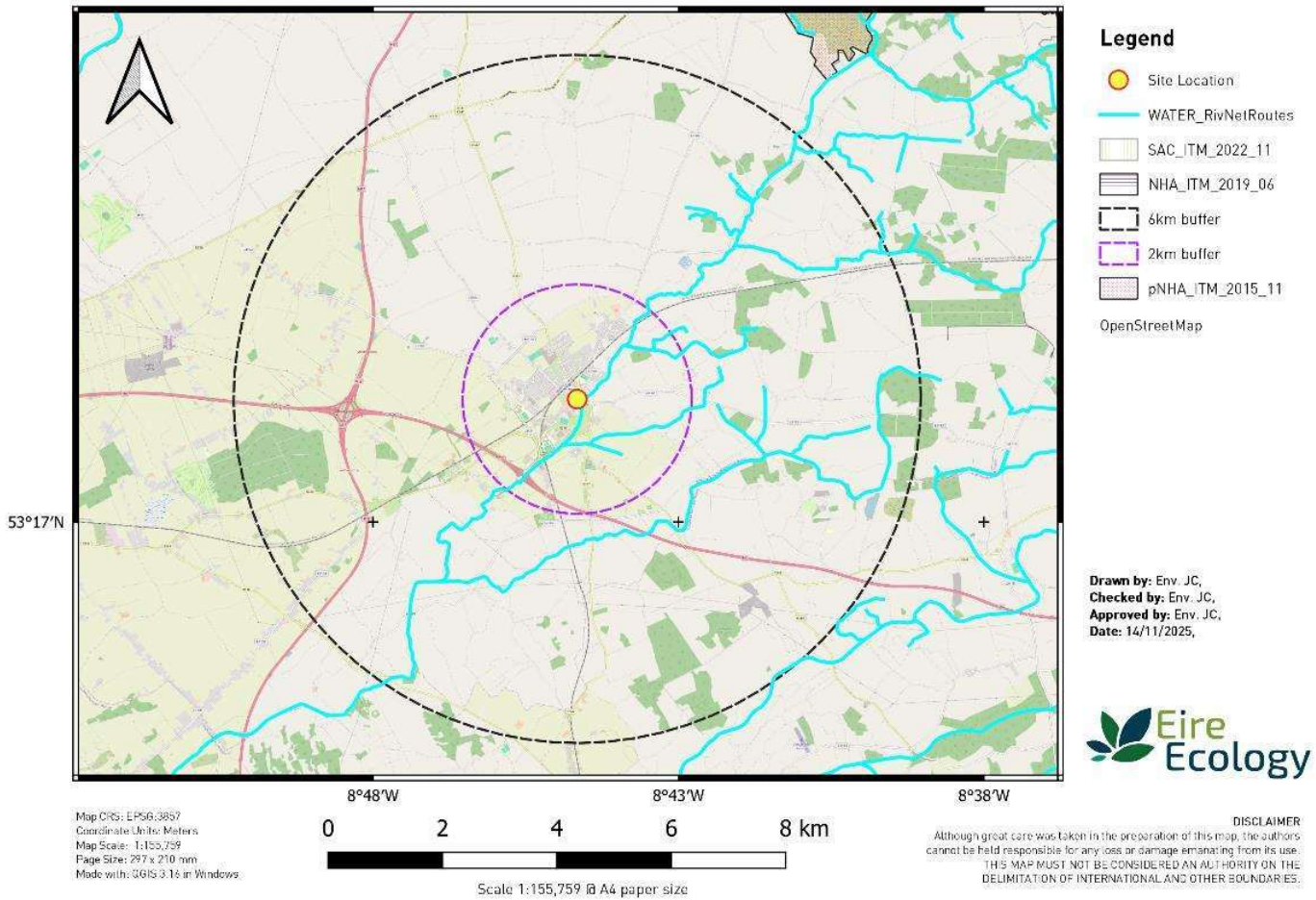


Figure 4-2: No designated sites are located within 6km of the subject site.

4.3 DESIGNATED BIRD AND BAT SPECIES RECORDED IN THE SURROUNDING AREA

The NBDC and Bat Conservation Ireland's databases were consulted for details on designated records held for the site and the surroundings. The database was consulted on the 13th November 2025 for details on historical records from the site, the surrounding 2km squares; M52D & M52F. Results from NBDC are outlined in Table 4-1. No specific records from swifts are present from the town although several vague 10km hectad records exist. The closest specific swift record is dated 2019 and lies 3.8km to the south.

Table 4-1: NBDC Bird and Bat records 2km squares M52D & M52F

| Species name | Date of last record | Potentially impacted by development? | Designation |
|--|---------------------|--|--|
| Curllew (<i>Numenius arquata</i>) | 09/02/2015 | No. Not associated with urban environments | Wildlife Acts EU Birds Directive - Annex II Birds of Conservation Concern - Red List |
| Dunlin (<i>Calidris alpina</i>) | 05/02/2020 | No. Not associated with urban environments | Wildlife Acts Birds of Conservation Concern - Red List |
| Goldcrest (<i>Regulus regulus</i>) | 14/01/2025 | No. Not associated with urban environments | Wildlife Acts Birds of Conservation Concern - Amber List |
| Golden Plover (<i>Pluvialis apricaria</i>) | 07/01/2024 | No. Not associated with urban environments | Wildlife Acts EU Birds Directive - Annex I, II & III Birds of Conservation Concern - Red List |
| Greenfinch (<i>Chloris chloris</i>) | 26/01/2023 | No. Not associated with urban environments | Wildlife Acts Birds of Conservation Concern - Amber List |
| Grey Wagtail (<i>Motacilla cinerea</i>) | 05/06/2022 | No. Not associated with urban environments | Wildlife Acts Birds of Conservation Concern - Red List |
| Herring Gull (<i>Larus argentatus</i>) | 17/06/2024 | Maybe | Birds of Conservation Concern - Amber List |
| House Martin (<i>Delichon urbicum</i>) | 15/04/2020 | Maybe | Wildlife Acts Birds of Conservation Concern - Amber List |
| House Sparrow (<i>Passer domesticus</i>) | 14/01/2025 | Maybe | Birds of Conservation Concern - Amber List |
| Kestrel (<i>Falco tinnunculus</i>) | 13/11/2017 | No. Not associated with urban environments | Wildlife Acts Birds of Conservation Concern - Red List |
| Kingfisher (<i>Alcedo atthis</i>) | 12/08/2018 | No. Not associated with urban environments | Wildlife Acts EU Birds Directive - Annex I Bird Species Birds of Conservation Concern - Amber List |
| Lapwing (<i>Vanellus vanellus</i>) | 26/11/2017 | No. Not associated with urban environments | Wildlife Acts EU Birds Directive - Annex II Birds of Conservation Concern - Red List |
| Linnet (<i>Linaria cannabina</i>) | 25/01/2018 | No. Not associated with urban environments | Wildlife Acts Birds of Conservation Concern - Amber List |
| Little Egret (<i>Egretta garzetta</i>) | 22/05/2017 | No. Not associated with urban environments | Wildlife Acts EU Birds Directive - Annex I |
| Mallard (<i>Anas platyrhynchos</i>) | 26/11/2017 | No. Not associated with urban environments | Wildlife Acts EU Birds Directive - Annex II & III Birds of Conservation Concern - Amber List |
| Meadow Pipit (<i>Anthus pratensis</i>) | 31/12/2011 | No. Not associated with urban environments | Wildlife Acts Birds of Conservation Concern - Red List |
| Peregrine (<i>Falco peregrinus</i>) | 27/01/2021 | No. Not associated with urban environments | Wildlife Acts EU Birds Directive - Annex I |
| Pheasant (<i>Phasianus colchicus</i>) | 11/01/2019 | No. Not associated with urban environments | Wildlife Acts EU Birds Directive - Annex I, II & III |
| Redwing (<i>Turdus iliacus</i>) | 30/10/2024 | No. Not associated with urban environments | Wildlife Acts Birds of Conservation Concern - Red List |
| Rock Dove (<i>Columba livia</i>) | 26/01/2023 | No. Not associated with urban environments | Wildlife Acts EU Birds Directive - Annex II |
| Skylark (<i>Alauda arvensis</i>) | 18/06/2017 | No. Not associated with urban environments | Wildlife Acts Birds of Conservation Concern - Amber List |
| Snipe (<i>Gallinago gallinago</i>) | 12/04/2023 | No. Not associated with urban environments | Wildlife Acts EU Birds Directive - Annex II & III Birds of Conservation Concern - Red List |

| Species name | Date of last record | Potentially impacted by development? | Designation |
|--|---------------------|--|--|
| Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>) | 15/08/2018 | Maybe | EU Habitats Directive - Annex IV Wildlife Acts |
| Sparrowhawk (<i>Accipiter nisus</i>) | 08/09/2019 | No. Not associated with urban environments | Wildlife Acts |
| Starling (<i>Sturnus vulgaris</i>) | 14/01/2025 | Maybe | Birds of Conservation Concern - Amber List |
| Swallow (<i>Hirundo rustica</i>) | 17/06/2024 | Maybe | Wildlife Acts Birds of Conservation Concern - Amber List |
| Teal (<i>Anas crecca</i>) | 09/11/2018 | No. Not associated with urban environments | Wildlife Acts EU Birds Directive - Annex II & III Birds of Conservation Concern - Amber List |
| Wheatear (<i>Oenanthe oenanthe</i>) | 26/09/2017 | No. Not associated with urban environments | Wildlife Acts Birds of Conservation Concern - Amber List |

The BCI database was also assessed for historic roost records. No bat roosts have been recorded within 2km of the site. Four roosts have been recorded within 6km however given the location of the site; within a town there is no relevant connectivity between these sites.

Table 4-2: Designated birds and bats recorded in the R65D 2km grid

| Type of Record | Species | Distance from site | Date of last record | Details | Potential connectivity with subject site (for roost records) |
|--------------------------------|---|--|---------------------|---|--|
| Individual sightings and roost | Daubenton's Bat (<i>Myotis daubentonii</i>) | Vague 100m records at various locations N, E, S, SW & NW, approx. 5-10km from site | 2011 | Bat recorded from detector survey | No connectivity to subject site, bridge roost found other side of M6 motorway to subject site. |
| Individual sightings and roost | Natterer's Bat (<i>Myotis nattereri</i>) | Vague 100m record 6km to the SW | 2006 | Bats recording during survey, also roost recorded at disclosed location | No connectivity to subject site, roost found other side of M6 motorway to subject site. |
| Individual sightings | Pipistrelle (<i>Pipistrellus pipistrellus sensu lato</i>) | Vague 100m record 2.2km to the SW. | 2008 | Bat recorded from detector survey | Individual sightings |
| Individual sightings | Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>) | Vague 100m record 2.2km to the SW & SE | 2009 | Recorded during EIS Surveys | Individual sightings |

1.1 PREVIOUS SURVEYS

Eire Ecology conducted a preliminary assessment of the building on the 01st of February 2023. No evidence of bat occupancy was found during this survey.

5 SURVEY FINDINGS

A swift survey was conducted directly proceeding a bat survey of the same building on the 1st of July 2025. This coincides with the bat and swift breeding seasons. Sunset on the 1st was at 22:07. The swift survey commenced at 20:00 and ran until thirty minutes after sunset. This overlapped with the bat survey which commenced thirty minutes before sunset and ran until 23:22.

Weather conditions were good with a start temperature of 15 degrees, no wind and 100% cloud. A light drizzle occurred for 20 minutes at the start of the swift survey but cleared up thereafter.

The building in question refers to the Burke's Lane; a two-storey building located in the centre of Athenry. It contains plastered walls and slated roof. To the rear, the site lies adjacent to a church building now operated by the OPW. An extension to the rear has some gaps in the walls into the cavity.

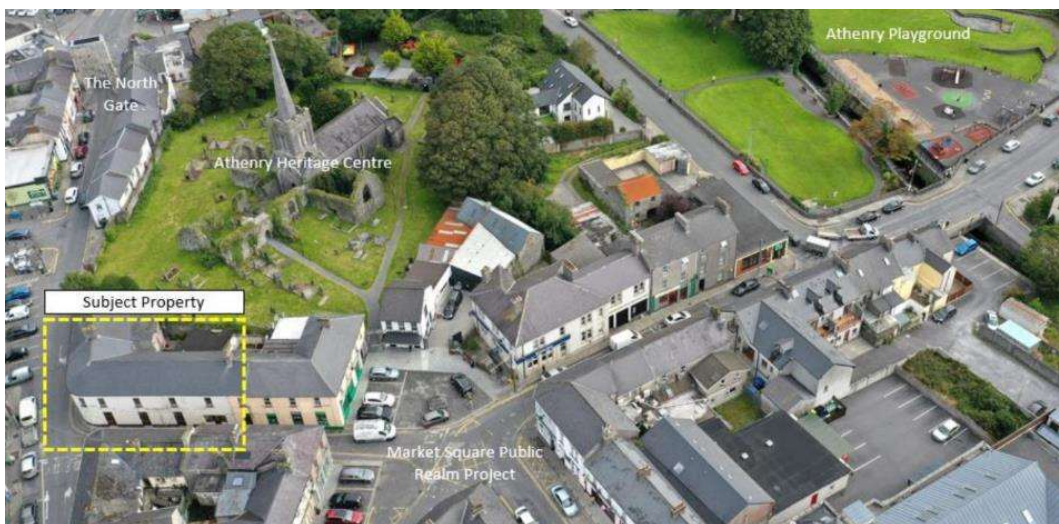


Plate 5-1: Aerial view of building

5.1 SURVEY PERSONAL

Surveys were conducted by John Curtin B.Sc, an ecologist with experience in ornithology and bat surveys.

1.1 LIMITATIONS OF SURVEY

All of the surveys were carried out in acceptable weather conditions although weather conditions were less conducive to bat activity during the August to September static survey with higher wind and rain than the May surveys. This likely reduced activity levels somewhat.

1.1 PRELIMINARY ECOLOGICAL ASSESSMENT

The subject site was first assessed internally and externally using binoculars, torch and ladder. Little had changed to the structure since the 2023 survey. The areas with highest potential were;

- Attic space
- Hole through both sides of cavity wall previously used as a vent.
- Pockets created in flat roof edge.

Attics were checked for evidence of previous bat occupancy. None was found. The cavity with a vent was checked using an endoscope. A small quantity of Pipistrelle droppings was noted within the cavity.



Plate 5-2 whole in wall



Plate 5-3: pipistrelle droppings

1.1 SWIFTS

Prior to sunset and returning to roost sites, swifts make communal calls and roost sites are easily identifiable. The survey consisted of an examination of the building using binoculars examining for the present of swift nests.

No sighting of swifts occurred during the bird survey. Barn swallows (3) were observed flying at 21:04 however were not found nesting within the site. Surveys continued with no further observations. The survey confirmed swifts (or any other birds) did not nest in the building.

1.1 BATS

The bat survey was conducted using a wildlife acoustic echo meter touch pro 2 and a Guidetrack 19mm thermal camera. During the survey Leisler’s bat, Common and Soprano Pipistrelle bats were recorded. Most activity occurred over the graveyard where some green areas provide decent feeding habitat. Figure 5-1 below shows the location of the surveyor in relation to the site. Given the level of illumination (from street lights) along the roadside the potential of bat roost exits along this feature is minimal. The surveyor was positioned within the adjacent graveyard to the rear.

Burkes Lane Emergence Survey

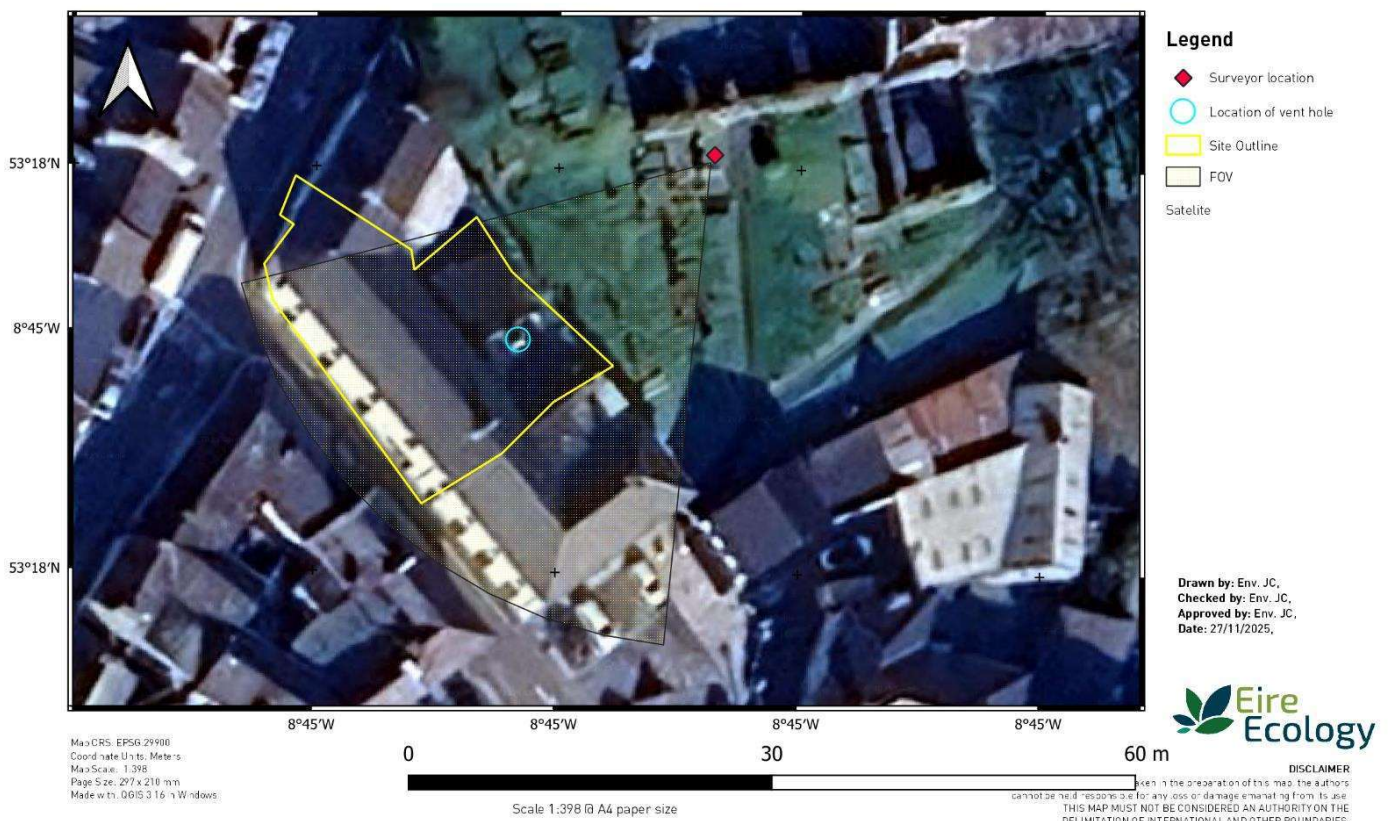


Figure 5-1: Location of surveyor.

The first recorded bat occurred at 22:13 from a Soprano Pipistrelle emerging from the neighboring building adjoining the subject site (see red line figure 5-4 below). The bat popped out over the rear wall into the graveyard. The next contact was from an unseen Leisler’s at 22:25. The surveyor was facing the subject building thus not focusing on other areas of high roosting potential within the graveyard. A second emerging Soprano Pipistrelle emerged from the neighboring building at 22:42 (green line,

figure 5-4). No other bats emerged during the survey although further calls from Common, Soprano Pipistrelle and Leisler's bats were recorded. The survey halted at 23:25.



Plate 5-4: Subject building outlined in yellow, emerging Pipistrelle – red & green lines, vent hole – blue circle

5.1.1 Bat survey summary.

Two Soprano Pipistrelle bats were found to emerge from the neighbouring property with none emerging from the cavity where bat droppings were found within the site. Both the neighbouring and subject sites roosts are deemed satellite roosts based on these results. It is highly likely these two emerging bats share both roost spaces.

1.1 POPULATION SIZE CLASS ASSESSMENT

The subject site contains a satellite roost of soprano pipistrelle. Figure 20 of (Marnell, 2022) provides information on the conservation significance of a roost. *Small numbers of common species. Not a maternity site* lies towards the lower end of conservation significance. (Roche, 2024) states there is a soprano pipistrelle population of approximately 1.2-2.7million in the Republic of Ireland. Over the past 20 years there has been an estimated increase of 278.5% in the population, thus the population status can be considered favorable. No evidence nesting swift was found.

6 EVIDENCE TO SUPPORT THE DEROGATION TESTS

6.1 TEST 1 – REASON FOR DEROGATION:

C. In the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.

The proposed development is necessary to allow for a community centre which will provide a space for business incubation as well as a community multifunction meeting room. This will be used by a variety of groups including disability groups (Peter McVERY group amongst several others) providing vital assistance to these groups.

The mitigation measures proposed will ensure that any negative impacts on the affected bat populations are reduced to negligible levels. In this context, and with appropriate safeguards in place, the project's public benefits can be achieved without compromising the conservation interests of the bat species.

6.2 TEST 2 – ABSENCE OF ALTERNATIVE SOLUTIONS

6.2.1 Do-nothing Solution

The “do nothing” option would not deliver the permitted development or meet policy objectives for sustainable development in Athenry. This building is currently vacant and requires renovation before it can be used. Under a do nothing scenario, a building of high value in the centre of the town would remain unoccupied and the social and economic benefits associated with the proposed project would not be realised.

6.2.2 Remedial works on the structure without works to roost area.

It may be possible to repair aspects of the building without impacting the roost located in the vent cavity. Leaving this cavity exposed to the outside would leave the structure in a half refurbished state and would cause further damage due to water ingress into the structure.

6.2.3 Remedial works on the structure, closing of vent and addition of bat boxes.

The below solution would allow the use of the building while also providing space for bats. It is proposed to block the vents with the addition of a one way door top ensure all bats exit the void safely. Two

Schwegler Summer Bat Roost 1FQ will be mounted to the rear of the building, under the eaves providing a good route to the graveyard and beyond.

6.3 IMPACTS OF A DEROGATION LICENCE ON CONSERVATION STATUS

6.3.1 Details of the population at the appropriate geographic scale and an evaluation of how the proposed activity will affect the conservation status both before and after mitigation measures have been applied.

As stated in section 5-1, the estimated soprano pipistrelle population is 1.2-2.7million in the Republic of Ireland with a substantial increase in population over the previous 20 years. A very small accumulation of droppings were noted with no bats emerging. Two Soprano Pipistrelle were found emerging from the adjoining building and this is likely a shared satellite roost for these bats.

Without mitigation, the demolition of the building could result in the mortality of a small number of non-breeding Soprano Pipistrelle bat, if timed inappropriately. This would result in an adverse effect on the conservation status of the local population of Soprano Pipistrelle bat but would not be significant on a national or regional scale. With the implementation of the mitigation measures outlined in section 7.3.1.1 below, using established guidelines (e.g. Marnell, 2022) the proposed development will not be detrimental to the maintenance of populations of bat species at favourable conservation status in their natural range (as required under Section 54(2) of the European Communities (Birds and Natural Habitats) Regulations, either locally or nationally. Indeed, the provision of a dedicated roost following established guidelines may potentially result in a positive effect on the population of Soprano Pipistrelle bat locally.

6.3.1.1 Loss of Roosting Habitat

| | |
|---|--|
| Assessment of Potential Impacts on Roosting Bats | A bat roost was found within the building located in a vent hole. The proposed development will see the destruction of the roost. |
| Characterisation of unmitigated effect | The reconstruction of the building could see the destruction of the roost and potentially mortality of any roosting bats. |
| Assessment of Importance prior to mitigation | This has the potential to have a low effect on a receptor of Local Importance (High Value). The loss of a satellite roost, even without mitigation would have a low impact on the local bat population given the amount of other available roosting sites. As stated above the roost is deemed towards the low conservation significance based on (Marnell, 2022). Construction and demolition works on the roost while a bat was in-situ however could lead to injury or death to the bat. While this is unlikely to have a significant impact on the local Soprano Pipistrelle local population, it would be an unacceptable loss of life. |

| | |
|---|--|
| Mitigation | <p>Regarding mitigation / compensation Figure 20 states the roost status measures lies at “Flexibility over provision of bat boxes, access to new buildings etc. No conditions about timing or monitoring”.</p> <p>Based on the above it is proposed to;</p> <ul style="list-style-type: none"> ▪ Apply for a derogation licence for the destruction of a roost. ▪ Add a one way door between 01st of February and the 30th of March 2026 under the supervision of an ECoW with a bat handling licence (Note at this time of year it is unlikely any bats are present). ▪ Install two Schwegler 1FQ bat boxes. These will be fitted on the rear wall with easy access to the adjacent graveyard. No outdoor lighting will be installed at this location. ▪ Proceed with development. |
| Residual Effect following Mitigation | <p>With the implementation of the prescribed mitigation measures, no significant residual effects are predicted as a result of the construction works.</p> |

6.3.1.2 Loss of Foraging and Commuting Habitat

| | |
|---|---|
| Describing the Significance of Effects | <p>No foraging or commuting impacts are expected.</p> |
| Characterisation of unmitigated effect | <p>None</p> |
| Assessment of Importance prior to mitigation | <p>Neutral</p> |
| Mitigation | <p>None required</p> |
| Residual Effect following Mitigation | <p>Neutral</p> |

6.3.1.3 Disturbance.

| | |
|---|---|
| Describing the Significance of Effects | <p>Lighting effects on feeding and commuting bats.</p> <p>Guidance on lighting has been based on Bats and artificial lighting in the UK, Guidance Note 08/18 (BCT, 2018), EUROBATS; <i>Guidelines for consideration of bats in lighting projects</i>. (Voigt, 2018) and BCI; Bats & Lighting document; (BCI, 2010). Lighting can alter the behaviour of bats and the insects they prey on. Night flying insects can be attracted to lights particularly sources that emit an ultraviolet component or have a high blue spectral content. Whilst some species of bat such as Leisler’s and Pipistrelle species can take advantage of this occurrence, other species such as Daubenton’s bat and brown long-eared avoid such areas. Lighting can create barriers for bat species both entering roosts and using commuting routes such as rivers, treelined roads and woodland edges.</p> |
| Characterisation of unmitigated effect | <p>An increase of outdoor lighting could impact roosting and commuting bats in this instance.</p> |
| Assessment of Importance prior to mitigation | <p>This is assessed as a long-term Significant effect on both a receptor of Local Importance (Lower Value).</p> |

| | |
|--|--|
| <p>Mitigation</p> | <p>Construction Where lighting is unavoidable during construction, low-intensity lighting and motion sensors will be used to limit illumination. Exterior lighting, during construction, will be designed to minimize light spillage, thus reducing the effect on areas outside the proposed development, and consequently on bats i.e. Lighting will be directed away from mature trees/treelines around the periphery of the site boundary and woodland areas to minimize disturbance to bats. Directional accessories will be used to direct light away from these features, e.g. through the use of light shields (Stone, 2013). The luminaries will be of the type that prevent upward spillage of light and minimize horizontal spillage away from the intended lands.</p> <p>Operation No outdoor lighting will be erected to the rear where the bat boxes are located.</p> |
| <p>Residual Effect following Mitigation</p> | <p>No significant residual effects on are expected at a county, national or international level.</p> |

Following guidance outlined in (Marnell, 2022), the proposed mitigation is appropriate based on the conservation status of the roost.

7 MONITORING THE IMPACTS OF THE DEROGATIONS

Mitigation measures will involve the presence of a licensed bat worker during demolition (until such time as the building is deemed unsuitable to act as a bat roost). The surveyor will come back after the bat boxes have been installed and document correct installation and ensure no outdoor lights are installed that could impact the rear of the building with a final report submitted to the NPWS at this point.

8 TABLES & FIGURES

Table 8-1: Bat registrations

| Observation | Time | Species | Observation | Time | Species |
|-------------|-------|--------------------------------|-------------|-------|----------------------------|
| 1 | 22:13 | Soprano Pipistrelle | 17 | 22:37 | Common Pipistrelle |
| 2 | 22:25 | Leisler's | 18 | 22:37 | Common Pipistrelle, 2 bats |
| 3 | 22:25 | Leisler's | 19 | 22:38 | Common Pipistrelle |
| 4 | 22:25 | Leisler's | 20 | 22:39 | Common Pipistrelle |
| 5 | 22:25 | Leisler's | 21 | 22:39 | Common Pipistrelle |
| 6 | 22:28 | Leisler's | 22 | 22:40 | Soprano Pipistrelle |
| 7 | 22:29 | Leisler's | 23 | 22:41 | Soprano Pipistrelle |
| 8 | 22:31 | Common Pipistrelle | 24 | 22:42 | Soprano Pipistrelle |
| 9 | 22:32 | Common Pipistrelle | 25 | 22:43 | Soprano Pipistrelle |
| 10 | 22:33 | Leisler's & Common Pipistrelle | 26 | 22:43 | Soprano Pipistrelle |
| 11 | 22:33 | Soprano Pipistrelle | 27 | 22:45 | Leisler's |
| 12 | 22:34 | Common Pipistrelle | 28 | 22:55 | Leisler's |
| 13 | 22:34 | Leisler's | 29 | 22:56 | Leisler's |
| 14 | 22:35 | Common Pipistrelle | 30 | 22:59 | Leisler's |
| 15 | 22:35 | Common Pipistrelle | 31 | 23:01 | Common Pipistrelle |
| 16 | 22:36 | Common Pipistrelle | 32 | 23:03 | Leisler's |