

Shanagolden Garda Station – Bat Report

September 2025

Prepared for:
Limerick City and County Council



Comhairle Cathrach
& Contae **Luimnigh**

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This report describes work commissioned by Michael Moloney, on behalf of Limerick City and County Council, by an instruction dated 20/05/2025. The Client's representative for the contract was Michael Moloney of Limerick City and County Council. Mia Heigh and Dominic Tilley of JBA Consulting carried out this work.

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Abbreviations

BCT	Bat Conservation Trust
EEC	European Economic Community
EU	European Union
NBDC	National Biodiversity Data Centre
NPWS	National Parks and Wildlife Service
NRA	National Road Authority
SAC	Special Area of Conservation

Executive Summary

JBA Consulting was commissioned by Limerick City and County Council to undertake a bat roost assessment and emergence surveys at the disused Shanagolden Garda Station, Co. Limerick, in advance of proposed redevelopment works. The objective was to determine the presence of bat species and assess the ecological significance of the site in accordance with national and EU legislation.

Surveys conducted between May and September 2025 confirmed the presence of a Soprano pipistrelle *Pipistrellus pygmaeus* maternity roost within the attic space of the building. Emergence surveys recorded a minimum of 33 individuals exiting from a under the eaves at the rear of the building, supported by consistent acoustic activity and corroborated by anecdotal evidence from a neighbouring resident. Additional species including Common pipistrelle *Pipistrellus pipistrellus*, Leisler's bat *Nyctalus leisleri*, Brown Long-eared bat *Plecotus auritus*, and Natterer's bat *Myotis nattereri* were also recorded, indicating multi-species use of the site for foraging and commuting.

The attic space offers high roosting suitability due to its structural features, seclusion, and proximity to mature hedgerows and treelines. The proposed development poses potential risks to the roost and surrounding habitat, including physical disturbance, exclusion, and changes to microclimatic connections. As such, the works will require a derogation licence from the National Parks and Wildlife Service (NPWS) and mitigation measures.

Recommendations include the implementation of a bat-sensitive construction strategy, appropriate timing of works outside the bat maternity season, retention of key habitat features, and provision of compensatory roosting structures. These measures are essential to ensure compliance with legal obligations and to safeguard the conservation status of bat populations at the site. This will allow for the bat roost to be retained, and for the building to be refurbished to modern standards safeguarding its aspect and providing housing for the local community.

1 Introduction

1.1 Background

JBA Consulting was appointed by Limerick City and County Council to conduct a daytime bat roost and feature suitability survey and emergence surveys of the Shanagolden Garda Station, in Shanagolden, Co. Limerick. The work was commissioned in response to the proposed planning permission application for development of the historic building into three residential units.

This report summarises the findings of the survey at the site, as well as a desktop study of the proposed site identifying recent and historical records of bats roosting in the vicinity, as well as habitats that may be suitable as commuting and foraging features.

1.2 Proposed Project

The proposed project consists of:

- Conversion of the building to provide one 2-bedroom apartment and two 1-bedroom apartments.
- Updated foul water and surface water drainage systems, incorporating SUDS.

The proposed layout is presented in Appendix A.

1.3 Site Location

The site is located on Main Street, Ballycormick, Shanagolden Village, Co. Limerick (Figure 1-1). The site itself consists of a two-storey semi-detached structure, built c. 1840, previously used as a Garda station but has been disused for a number of years (Figure 1-2).

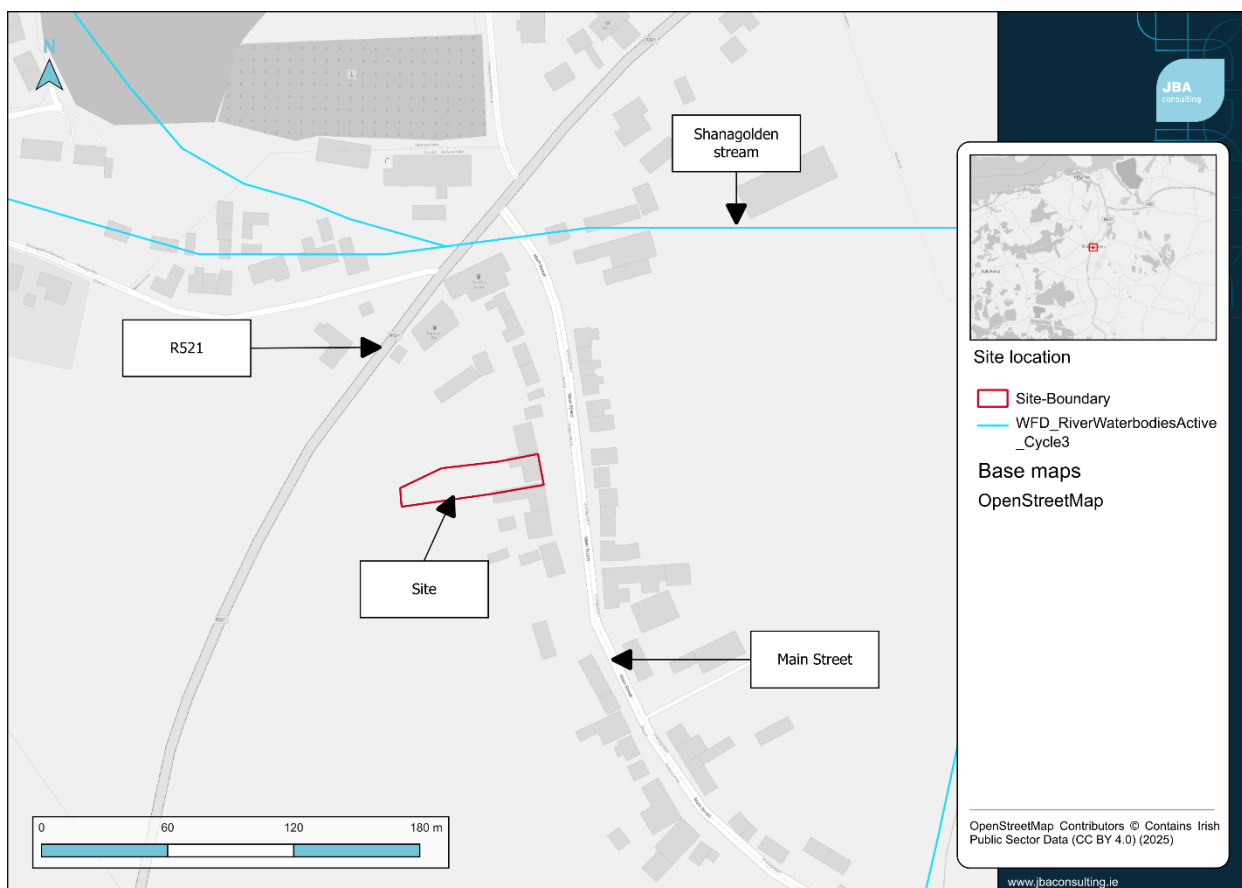


Figure 1-1: Site locations within the wider landscape.



Figure 1-2: Shanagolden Garda Station front exterior.

1.4 Legislative Context

Bat surveys are required at this site as all bat species are protected under the Wildlife Acts (1976-2021) and the Wildlife (Amendment) Act 2023 in Ireland and bats are likely to be present on-site. Under international legislation, bats are further protected under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) (European Communities 1982), which, in relation to bats, exists to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) (European Communities 1983) was instigated to protect migrant species across all European Boundaries. The Irish government has ratified both these conventions. Also, the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) (European Commission 1992), seeks to protect rare species, including bats and their habitats and requires that appropriate monitoring of populations be undertaken. All bat species are protected under Annex IV of the EU Habitats Directive, and the Lesser Horseshoe bat *Rhinolophus hipposideros* is listed under Annex II. Member states are required to designate Special Areas of Conservation (SAC) for all species under Annex II in order to protect them.

Where bat roosts exist, application may be made to the National Parks and Wildlife Service (NPWS) for a derogation licence under Regulation 54 of the 2011 Regulations to permit actions affecting bats or their roosts that would normally be prohibited by law. The applicant must demonstrate that there is no satisfactory alternative and that the action will not adversely affect the favourable conservation status of the bat species. Each case is considered on its particular circumstances, and an application may be refused.

Mitigation to reduce or compensate for any impact of development is generally a condition of the licence and should be proportionate to the predicted impact. Mitigation measures may require particular timing of operations, protection of existing roosts or the creation of new roosting facilities to replace ones being lost. Monitoring of the effect of the mitigation is usually required (Marnell et al. 2022).

Table 1-1: Current status and legal protection of bat species known to occur in Ireland.

Species	Wildlife Act (1976) and amendments	Irish Red List Status	Habitats Directive	Bern & Bonn Conventions
Daubenton's bat <i>Myotis daubentonii</i>	Yes	Least Concern	Annex IV	Appendix II
Whiskered bat <i>Myotis mystacinus</i>	Yes	Least Concern	Annex IV	Appendix II
Natterer's bat <i>Myotis nattereri</i>	Yes	Least Concern	Annex IV	Appendix II
Leisler's bat <i>Nyctalus leisleri</i>	Yes	Least Concern	Annex IV	Appendix II
Nathusius' pipistrelle <i>Pipistrellus nathusius</i>	Yes	Least Concern	Annex IV	Appendix II
Common pipistrelle <i>Pipistrellus pipistrellus</i>	Yes	Least Concern	Annex IV	Appendix II
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	Yes	Least Concern	Annex IV	Appendix II
Brown Long-eared bat <i>Plecotus auritus</i>	Yes	Least Concern	Annex IV	Appendix II
Lesser Horseshoe bat <i>Rhinolophus hipposideros</i>	Yes	Least Concern	Annex II Annex IV	Appendix II

NB: Destruction, alteration or evacuation of a known bat roost is a notifiable action under current legislation and a derogation license must be obtained from the NPWS before works can begin.

2 Methodology

2.1 Guidance Documents

This report provides details of the survey methodology used, the relevant guidelines followed and any relevant data. Conclusions were determined based on the above and on empirical evidence gained from the daytime bat roost search and the dusk emergence survey.

The following documents were referenced in support of the study:

- Bat Mitigation Guidelines for Ireland – V2. Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland (Marnell et al. 2022).
- Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC (EEC 2007).
- Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins 2023).
- A conservation plan for Irish vesper bats, Irish Wildlife Manual No. 20. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland (McAney 2006).
- The status of EU protected habitats and species in Ireland: Conservation status in Ireland of habitats and species listed in the European Council Directive on the Conservation of Habitats, Flora and Fauna 92/43/EEC. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government (NPWS 2019).
- Bats and Appropriate Assessment Guidelines. Bat Conservation Ireland (Bat Conservation Ireland 2012); and
- Best Practice Guidelines for the Conservation of Bats in the Planning of National Road Schemes. National Road Authority (NRA 2018).

2.2 Methodology

2.2.1 Desktop Study

Data on previous records of bats within the 2km and 5km grid of this area have been collected from a range of sources, including:

- National Parks and Wildlife Service website (NPWS, 2025).
- National Biodiversity Data Centre Biodiversity Maps (NBDC, 2025).

2.2.2 Daytime Bat Roost and Suitable Features Survey

A survey of the site was conducted on 22 May, 9 July and 3 September 2025 by JBA Ecologists Dominic Tilley and Mia Heigh. The structures and habitats on site were inspected visually for signs and evidence of bat usage.

Methodology to conduct this survey follows the guidance document “Bat Surveys for Professional Ecologists: Good Practice Guidelines” (4th edition) (Collins 2023).

Bat Roost Assessment

As part of the preliminary bat roost assessment, all trees within the proposed works area were inspected for their potential to support the roosting bats, following the methodologies outlined in Collins (2023). The assessment considered all structures and natural features present on the site for signs of bat activity. Each feature (man-made or natural) was assigned a roosting potential category – ‘negligible’, ‘low’, ‘moderate’ or ‘high’ – based on criteria set out in the Bat Conservation Trust (BCT) guidelines (Table 2-1). Indicators of potential bat presence included features such as cavities, cracks, and loose bark, as well as gaps in the eaves, soffits, and tiles, in addition to the attic space within the structure. Any evidence, such as droppings, staining, feeding remains, or the presence of live or dead bats, was noted during the survey.

Furthermore, the suitability of habitats across the site to support commuting and foraging bats was assessed in terms of habitat type, abundance, connectivity and distribution. These were categorised as having either ‘negligible’, ‘low’, ‘moderate’ or ‘high’ suitability for bats which was determined by applying the categories given within BCT guidelines.

Table 2-1: Guidelines for assessing the potential suitability of proposed development sites for bats based on the presence of habitat features within the landscape (Collins 2023).

Suitability	Roosting Habitats	Commuting and Foraging Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by a larger number of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features (PRFs) but with none seen from the ground or features seen with only	Habitat that could be used by small numbers of commuting bats such as gappy hedgerows or unvegetated stream, but isolated, i.e., not very well connected to the surrounding landscape by other habitats. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.

Suitability	Roosting Habitats	Commuting and Foraging Habitats
	very limited roosting potential.	
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitats.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used by regularly foraging bats such as broad-leaved woodland, treelined watercourses and grazed parkland. Site is close to and connected to known roosts.

Once the roost suitability survey has been conducted (Table 2-2), this information is utilised to inform the minimum number of emergence surveys that would be required to determine presence/absence and help characterise the nature of the roost (Collins 2023). The most up to date recommendations are for dusk emergence surveys as they are deemed more reliable than dawn re entry surveys. This is due to bats re-entering at various times of the night and not always during the expected dawn return hours.

Table 2-2: Recommendations for further surveys based on the preliminary bat roost suitability.

Low Roost Suitability	Moderate Roost Suitability	High Roost Suitability
One survey visit. One dusk emergence or dawn re-entry (structures). No further surveys required (trees)	Two separate visits. One dusk emergence and a separate dawn re-entry survey.	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could either be dusk or dawn.

2.2.3 Night-time Emergence Survey

Three dusk emergence surveys were carried out on the evening of 22 May, 9 July and 3 September 2025 by JBA Ecologists Dominic Tilley and Mia Heigh. Guidelines were followed according to 'Bat Surveys for Professional Ecologists – Good Practice

Guidelines 4th Edition'. Standard bat detecting equipment was used (Table 2-3), with activity automatically recorded in the field.

Table 2-3: List of equipment used during surveys

Equipment used
Magenta Bat Detectors Mk5
X2 Titley Scientific Anabat Chorus Static Detector
Pulsar thermal imaging device Axion 2 XQ35 pro

2.2.4 Static Bat Detector

A Chorus Static Detector with an ultrasonic microphone (Titley Scientific 2024) was deployed for two 8 day periods, recording activity in the garden area of the Garda station. The detector was mounted on a prominent pole to the rear of the building, recording activity in the grassland area. The detector was set on Night Mode, which is designed for efficient bat survey deployment, with the recorder switching on 30 minutes before sunset and off 30 minutes after sunrise. The triggered activation mode was selected which records all sound for up to 10 seconds every time it is triggered.

2.2.5 Limitations and Constraints

The conclusion of this report necessarily relies on some assumptions, and it is inevitably subject to some limitations. These would not affect the conclusion, but the following points are recorded and taken into consideration during the assessment to ensure the basis of the assessment is clear:

- The precautionary principle is used at all times, i.e., the absence of physical evidence cannot fully rule out the presence of bats within the habitat, e.g., commuting or foraging within suitable bat habitats will leave no physical evidence for surveyors to record during preliminary surveys.
- Some bat roost locations can be hidden from view with little visible signs of bat presence. Such locations include under walls or ceiling cladding, under slates or within wall cavities for examples.
- Parts of the roofing was obscured from view during the survey, this roof would only be visible from the neighbour's garden, which we did not have access to.

3 Desktop Study

3.1 Database Search

A search for bats recorded in the area of the project through the NBDC database revealed that there are a number of bat species in the area. Table 3-1 shows the species recorded; a 2km buffer was used for this search of the area.

Table 3-1: NBDC records of bats within 2km of the site.

Species	Record Count	Last Record	Title of Dataset
Common pipistrelle <i>Pipistrellus pipistrellus</i>	1	24/08/2018	National Bat Database of Ireland
Leisler's bat / Lesser Noctule <i>Nyctalus leisleri</i>	1	24/08/2018	National Bat Database of Ireland

3.2 Habitats Description

The Shanagolden Garda Station consists of built land, grassland, mature trees and hedgerows. The main structure takes up approx. 255m², the internal inspection confirmed that the building had not been in use for many years.

To the rear, there is approx. 622m² of overgrown grassland, treelines and hedgerows (Figure 3-1, Figure 3-2). Within the rear area, a small, square, plant storage structure is located among trees. Along the western boundary and area of overgrown hedge with some developing scrub is present. To the east, a line of trees overhangs the boundary wall from the neighbouring parcel. These trees are not within the grounds of the proposed site. The southern end of the garden has some large bushes including a mature Elder *Sambucus nigra* forming a natural boundary.



Figure 3-1: Rear view of garda station and adjoining garden.



Figure 3-2: Grassland area to the rear of the building.

4 Results

4.1 Preliminary Roost Search

An internal inspection of the garda station was conducted on 22 May and 9 July 2025 to assess the potential for bat activity and suitability of the structure. During this visit, evidence indicative of bat presence was identified in the form of butterfly wings and small accumulations of droppings (Figure 4-1). These signs suggest foraging behaviour consistent with bat feeding habits.



Figure 4-1: Butterfly wings in the kitchen floor area of the station.

The second visit revealed an increased quantity of butterfly wings and bat droppings compared to the initial findings, reinforcing the likelihood of regular bat activity within the structure.

Access to the attic was limited and difficult due to health and safety concerns.

The attic emerged as the most suitable area for roosting bats. It featured multiple entry points, including gaps in the roof tiles, holes between the roofing and gutters (Figure 4-2), and crevices within the stonework and chimney brickwork, offering ideal

conditions for bats. The combination of shelter, seclusion and access points makes the attic a high-potential roosting site (Figure 4-3).

No evidence of free hanging bats was recorded; the abundance of cob-webs would suggest that bats are not using the attic space to fly around making it unlikely to support Lesser Horseshoe Bats or Brown Long-eared Bats. Cob-webs were also present across numerous crevices and openings in the roof space suggesting a limited use of the area.



Figure 4-2: Gap under the eaves of the roof providing access to the attic.



Figure 4-3: Wall in attic space in the central part.

4.2 Emergence Surveys

4.2.1 Survey 1

The first emergence survey was conducted on 22 May 2025, began at 20:30 under clear and mild conditions, with a temperature of 14°C, and concluded at 22:50. The first bat activity was recorded at 21:51, when a Common Pipistrelle was observed flying over the rear garden hedge, heading in a westerly direction. Shortly after, Soprano pipistrelles were recorded near the Garda station and along the same hedgerow. During the survey, both Common and Soprano Pipistrelle bats were observed in the rear garden and surrounding areas.

Between 21:57 and 22:11, 12 Soprano Pipistrelle were recorded emerging from under the eaves at the rear (southwest) of the Garda station, all heading west (Figure 4-4). From 22:11 to 22:16, feeding activity was observed near the emergence point, with 2-3 bats flying back and forth. Additionally, four Soprano Pipistrelle were seen commuting eastward from the mature treeline towards the main street.

A summary of the first emergence survey is provided in Table 4-1.

Table 4-1: Summary of emergence survey, 22 May.

Time	Species	Location	Notes
21:51	Common pipistrelle	Rear garden hedgerow	Flew from next door neighbour's garden, headed west along the hedgerow.
21:56	Soprano pipistrelle	Rear hedgerow	Observed commuting close to the wall of the garda station's kitchen, continuing along the hedgerow westward.
21:57 – 22:11	Soprano pipistrelle	Rear garda station, second floor roof gable	12 bats emerge from under eaves to the rear of the building, headed along the rear hedgerow, west.
22:11 – 22:16	Soprano pipistrelle	Rear building, in the area of the emergence point	2-3 bats feeding, flying back and forth. 4 bats flew from west to east from the mature treeline over the apex of the building, headed for the main street.
22:31	Soprano pipistrelle	Mature treeline, rear	Single bat flew along treeline, towards main street.

The first emergence survey revealed the presence of a Soprano pipistrelle roost using a hole under the eaves to emerge from the Garda station. A total of 12 individuals were observed emerging, confirming the location as an active roost site. Subsequent activity in the immediate vicinity, including feeding and commuting behaviour, further supports the presence of a well-established roost. Bats were observed flying back and forth near the emergence point, and several individuals were recorded commuting along the rear hedgerow and mature treeline, indicating that the surrounding habitat is used for foraging and navigation.



Figure 4-4: Rear of Garda station, showing bat emergence point.

4.2.2 Survey 2

The second emergence survey was conducted on 9 July 2025 and commenced at 22:00, coinciding with sunset, and continued until 23:15. The weather was mild with low wind and clear skies.

The primary objective of this survey was to monitor and record bat emergence from the Garda Station building, with particular focus on the previously identified roost at the rear gable. To ensure accurate counting of emerging individuals, a thermal monocular in video mode was positioned to face the rear elevation of the building, capturing the emergence point. This set-up enabled real-time observation during the survey and allowed for post-survey verification of emergence numbers through video playback.

The thermal video footage was reviewed to verify the number of bats emerging from the Garda Station. The analysis confirmed the emergence of 33 Soprano pipistrelles from rear gable of the building, reinforcing the identification of this location as a significant and active roost site, with the bats likely to be roosting within crevices of the

stone walls in the attic. A summary of the second emergence survey is provided in Table 4-2.

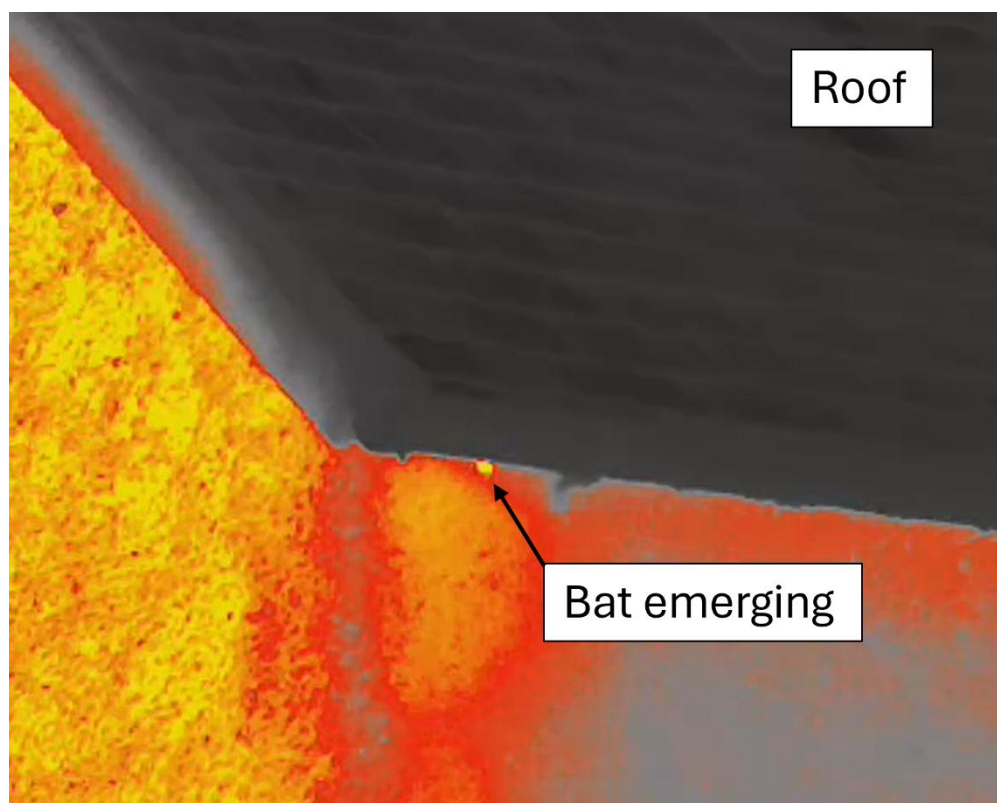


Figure 4-5: Emerging bat as viewed through the thermal imager.

Table 4-2: Summary of emergence survey from 9 July.

Time	Species	Location	Notes
22:09	Soprano pipistrelle	Rear gable / southwest	Emergence 1 individual
22:13	Soprano pipistrelle	Rear gable / southwest	Emergence of 2 individuals
22:14 – 22:24	Soprano pipistrelle	Rear gable / southwest	10 minutes of constant emergence from the gable, 29 individuals emerged
22:26	Soprano pipistrelle	Rear gable / southwest	1 individual re-entry
22:29	Soprano pipistrelle	Rear gable / southwest	Emergence of 3 individuals.
23:15	N/A	N/A	Survey finished

4.2.3 Survey 3

The third and final survey was carried out on 3 September 2025. The survey started at 20:05 and lasted until 21:55. The weather was cool approximately 12°C, with light cloud cover. A rain shower broke out for approximately 10 minutes at the start of the survey.

Between 20:20 and 22:00 five Soprano Pipistrelle bats were observed emerging from the building, in the same location as previously recorded. Bats were also observed re-entering the building.

All bats observed emerging between 20:21 and 20:37. Four bats were also observed re-entering and not re-emerging again between 21:33 and 21:55.

Table 4-3: Summary of emergence survey from 3 September.

Time	Species	Location	Notes
20:21	Soprano pipistrelle	Rear gable / southwest	Emergence 1 individual
20:28	Soprano pipistrelle	Rear gable / southwest	Emergence 1 individual
20:30	Soprano pipistrelle	Rear gable / southwest	Emergence 1 individual
20:32	Soprano pipistrelle	Rear gable / southwest	Emergence 1 individual
20:33	Soprano pipistrelle	Rear gable / southwest	Re-entry
20:33	Soprano pipistrelle	Rear gable / southwest	Emergence 1 individual
20:37	Soprano pipistrelle	Rear gable / southwest	Emergence 1 individual
21:33	Soprano pipistrelle	Rear gable / southwest	Re-entry
21:39	Soprano pipistrelle	Rear gable / southwest	Re-entry
21:47	Soprano pipistrelle	Rear gable / southwest	Re-entry
21:55	Soprano pipistrelle	Rear gable / southwest	Re-entry

4.3 Static Monitoring

Two periods of static acoustic monitoring were conducted to assess bat activity in the vicinity of the Garda station. The first detector was deployed from 22 to 30 May (Table 4-4), and the second from 9 to 17 July (Table 4-5). Both detectors were positioned on a tall metal pole located between the rear garden and the identified emergence point (Figure 4-6).

Acoustic monitoring between 22 and 30 May recorded five bat species on site. Soprano Pipistrelle was the most active, with 70% of recorded calls from this species, with consistently high call numbers and a confirmed roost in the attic, indicating likely maternity use. Common Pipistrelle and Leisler's bat showed moderate activity, with 18% and 11% of calls respectively, suggesting regular foraging or commuting. Brown Long-eared and Natterer's bat were recorded infrequently, with combined less than 1% of all recorded calls, indicating occasional site use. The diversity and volume of activity highlight the site's ecological value for bats.

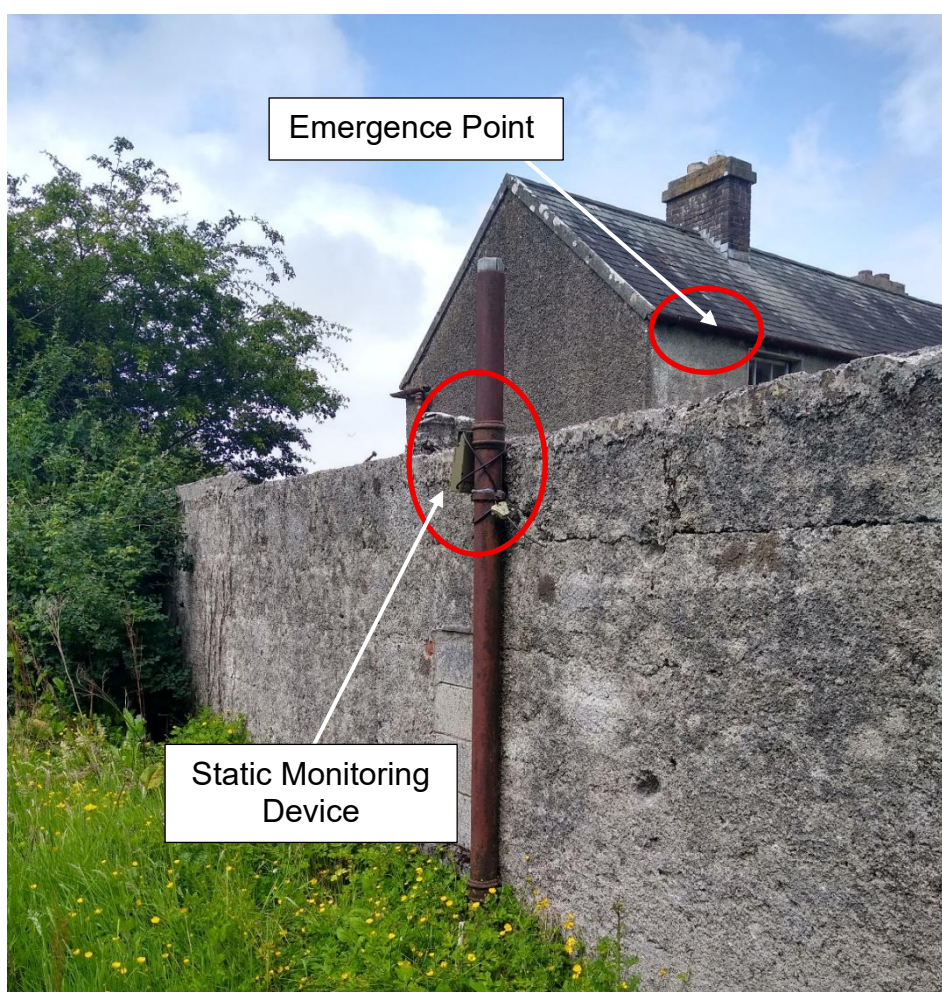


Figure 4-6: Static monitoring device location in relation to emergence point.

Table 4-4: Static monitoring results in May 2025.

	22/05	23/05	24/05	25/05	26/05	27/05	28/05	30/05
Brown Long-eared bat	17	16	11	0	4	8	1	0
Leisler's bat	1410	370	126	147	171	100	39	130
Common Pipistrelle	1456	805	525	297	218	339	27	124
Soprano Pipistrelle	2743	3349	2694	1242	2020	1981	306	276
Natterer's bat	6	9	0	9	3	9	25	10
Total	5615	4533	3345	1695	2412	2429	397	540

Bat activity during the second monitoring period remained high, particularly for Soprano pipistrelles, which again dominated recordings (67% of all calls) with consistent nightly, peaking at 1,140 on 10 July 2025. The sustained activity reinforces the significance of the attic roost and surrounding habitat for this species. Common pipistrelle and Leisler's bat showed moderate and variable activity, with 17% and 14% of all recorded calls respectively, suggesting opportunistic foraging. Brown Long-eared

and Natterer's bat were recorded in low numbers, but slightly higher proportion than previously recorded, indicating occasional site use. Overall, the data confirms continued multi-species use of the site and supports its ecological value.

Table 4-5: Static monitoring results from July 2025.

	09/07	10/07	11/07	12/07	13/07	14/07	15/07	16/07
Brown Long-eared bat	2	0	4	4	16	0	2	2
Leisler's bat	219	154	138	478	157	6	101	159
Common pipistrelle	342	320	256	206	230	38	178	92
Soprano pipistrelle	1126	1140	1020	965	952	224	656	628
Natterer's bat	2	9	9	2	12	46	16	14
Totals	1689	1623	1423	1651	1351	314	951	893

4.4 Lighting

The streetside of the building is bright with streetlighting present, making this area generally unsuitable for bats. The rear of the building and garden area is cut off from streetlight, and at the time of surveys, no lights were present in the garden area, and no light spill from surrounding buildings was present. During the final survey (3 September) moonlight partially illuminated the garden area. This overall lack of light is beneficial to the bats.

4.5 Anecdotal Reports

JBA ecologists spoke with the neighbouring resident, who provided valuable anecdotal evidence regarding the bat roost. The neighbour stated that they have lived in the adjoining property their entire life, stated that they have observed bats emerging from the Garda station every summer for over 50 years. They recalled seeing bats regularly flying over the garden at dusk and confirmed that the roost has been a long-standing and consistent feature of the site. This local knowledge supports the survey findings and suggests that the roost is well-established and of long-term significance.

5 Discussion

5.1 Results Summary

The results of the emergence surveys, internal inspection, and static monitoring confirm that the Shanagolden Garda Station supports a likely maternity roost of Soprano Pipistrelle, with a minimum of 33 individuals recorded emerging from the building during the July emergence survey. The consistently high levels of echolocation activity across both monitoring periods further reinforce the significance of the site for this species. The attic void provides suitable roosting conditions, including multiple access points, seclusion, and proximity to high-quality foraging habitats such as mature treelines and hedgerows.

In addition to Soprano Pipistrelle, the site is regularly used by Common Pipistrelle and Leisler's bat, both of which were recorded in moderate numbers, suggesting the site and surrounding landscape are used for foraging and commuting. Occasional activity by Brown Long-eared Bats and Natterer's Bats indicates that the site may also serve as a commuting or foraging area for these less frequently recorded species.

The presence of multiple bat species and a confirmed roost highlights the ecological importance of the site and its contribution to the local bat population. The long-term use of the building as a roost, supported by both survey data and anecdotal evidence from local residents, further underscores its conservation value.

5.2 Potential Impacts

The proposed development involves the renovation and conservation of a building that supports a confirmed Soprano Pipistrelle roost, which is legally protected feature under both Irish and EU legislation. As such, potential impacts of the proposed works are considered significant and must be carefully assessed and mitigated.

- **Loss or Disturbance of Roost:** Any works to the attic space, roof structure, or external stonework could result in the destruction or modification of the roost, directly affecting a breeding population. This would constitute an offence under the Wildlife Acts and the EU Habitats Directive unless carried out under a valid derogation licence.
- **Physical Exclusion:** Sealing of access points (e.g. gaps in tiles, stonework crevices) without appropriate mitigation could trap bats inside or prevent re-entry, leading to mortality or abandonment of the roost.
- **Disturbance from Construction Activities:** Noise, vibration, and artificial lighting during construction may disturb roosting bats or alter their foraging and commuting behaviour. This is particularly critical during the maternity season (May-August), when females are rearing young.

- **Changes to Microclimate:** Renovation works may alter the thermal and humidity conditions within the attic, making it unsuitable for continued roosting.
- **Loss of Foraging and Commuting Habitat:** Removal or modification of boundary vegetation (e.g. hedgerows, treelines) could reduce the availability of foraging corridors and habitat connectivity, impacting not only Soprano Pipistrelles but also the other species recorded on site.

5.3 Legal and Conservation Considerations

Renovation of a known bat roost is classified as a high-risk activity under the Bat Mitigation Guidelines for Ireland (Marnell et al. 2022). As such:

- The development is subject to a derogation licence under Regulation 54 of the European Communities Regulations 2011.
- The NPWS must be formally notified of the confirmed roost and consulted prior to any works commencing.
- Additionally, a detailed mitigation and compensation strategy must be developed and submitted as part of the licence application.

6 Recommendations

In light of the confirmed presence of a Soprano Pipistrelle roost within the attic of the Shanagolden Garda Station, and the regular use of the site by multiple bat species, the following recommendations are made to ensure legal compliance and the protection of bat populations:

6.1 Licensing and Notification

A derogation licence must be obtained from the NPWS prior to any works that may impact the confirmed bat roost. The NPWS should be formally notified of the presence of a Soprano Pipistrelle roost within the attic of the Garda Station. This notification should include all survey results and relevant ecological assessments. Renovation of a known roost is considered a high-risk activity under the Bat Mitigation Guidelines for Ireland (Marnell et al. 2022) and must be managed with appropriate ecological oversight.

6.2 Ecological Oversight

An ecological clerk of work (ECOW) will be required to oversee the works, provide guidance to the contractor, be on hand to cover any unforeseen interaction with bats, and ensure that mitigation measures are applied appropriately. The ECOW should be on site for key elements of the works, and available to answer questions or give guidance at short notice. The ECOW does not need to be present on site continuously.

6.3 Work Phases

A proposed timeline and order in which the key elements of the works should be prepared and discussed with the ECOW/ NPWS to ensure that provisions in the derogation licence are adhered to, and to ensure that should any delay happen, suitable bat habitat will always be available.

6.4 Timing of Works

To avoid disturbance to breeding females and dependent young, works to the attic, roof, or any part of the structure associated with the roost should not take place during the maternity season, which typically spans from May-August. If works must proceed during this period, they should only do so under the terms of a valid derogation licence and with mitigation measures in place. Broadly speaking works in the attic space and on the roof should be restricted to October-March period. The west wing of the attic should not be disturbed during the maternity season. Work in the remaining sections of the attic space may be worked in, provided approval from the NPWS and ECOW.

6.5 Habitat Retention

The existing hedgerows, treelines, and grassland areas that provide foraging and commuting habitat for bats should be retained as much as feasibly possible and protected throughout the construction phase. Where habitat loss is unavoidable, compensatory planting of native species should be undertaken to maintain ecological connectivity and support continued bat activity in the area. Any landscaping to the garden should provide for bat cover (e.g. retention of vegetation line along western boundary), and use native species of local provenance as much as feasibly possible.

Within the building, the chimney features present in the attic should be retained.

Any voids or cracks in the walls on the inside should be retained provided the integrity of the structure is not compromised.

The existing access point should be retained to provide continued access for the bats. This access point is sufficiently small that it will not allow for bird species to enter the building.

6.6 Roost Mitigation and Compensation

Where roost features are to be lost or altered, suitable compensatory roosting provision should be incorporated into the development. This may include the retention of existing roost features where feasible, and/or the installation of bat boxes or purpose-built roosting spaces that replicate the thermal and structural conditions of the original roost. Mitigation guidelines require that alternative roost are in place prior to works going ahead, original roost site maintained until replacement roosts are proven to be used, and at least 2 years of monitoring post works.

These provisions should be designed in consultation with a licenced bat ecologist to ensure they are appropriate for use, and approved by the NPWS prior to works going ahead. Mitigation measures and alternative roosts options are presented in the supporting documentation for the derogation licence.

Multiple options are available on site for roost mitigation:

- Retain the roost in the current building; this tends to be the preferred option as bats already use the area. This would require time constraints on the works, constraints on type of materials used (e.g. 'bat safe' wood treatment, membranes), providing additional access points (roof tiles/ slates), maintaining in the current condition the brick wall in the attic space.
- Inclusion of bat boxes suitable for maternity such as *1WI Schwegler Summer and Winter Bat Box* or equivalent to replace existing roosting space. Additionally supplemental bat boxes can be added into the fabric of the building (southern wall, chimney ...) to provide additional roosting space and different options for the bats in the event that the colony grows.

- Construction a purposed built bat house; this would be a standalone building built to specifications that are suitable for bats. Whilst this option is technically possible, the site may not be of sufficient size to accommodate a structure of this type. There is also a risk of interference with the structure due to the urban setting and relatively small garden area.

6.7 Lighting

A bat-sensitive lighting strategy should be implemented to minimise light spill on roost access points, foraging areas, and commuting corridors. Lighting should be low-intensity, warm-spectrum, and directional, with controls such as timers or motion sensors where appropriate. Permanent light features in the garden should be avoided. This will help preserve the natural behaviour of bats and reduce the risk of roost abandonment or disruption to foraging activity.

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