



Bat Survey & Mitigation Measures
For the Demolition of a Disused Dwelling
& Replacement with 2 no. Dwellings
at
Woodford, Co. Galway

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1.0 INTRODUCTION

Galway County Council proposes to refurbishment of an existing disused residential dwelling at a site in Woodford, Co. Galway. The location of the subject site is shown on Figure 1.1 and an aerial view of the site is shown on Figure 1.2.

A bat survey was completed to identify the presence or otherwise of roosting bats at the existing dis-used residential structure and the shed to the rear of the structure. The aim of the bat survey was to confirm the:

- Potential for the structures on site to support roosting bats;
- Presence of roosting bats at these structures;
- If present, the species roosting at the structure and the estimated number of bats roosting at the structure.

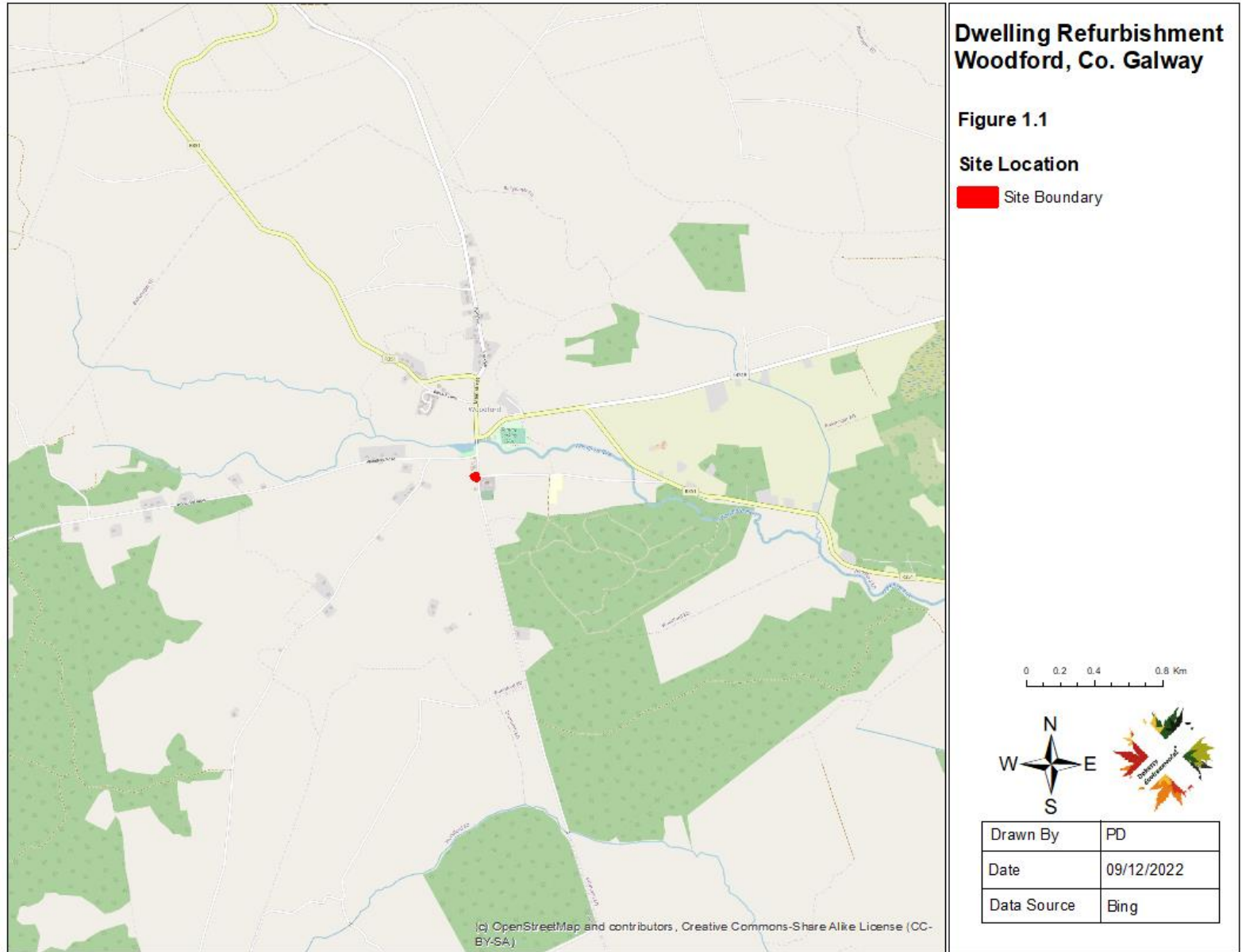
The results of the bat survey and recommendations arising from the survey findings are presented in this report.

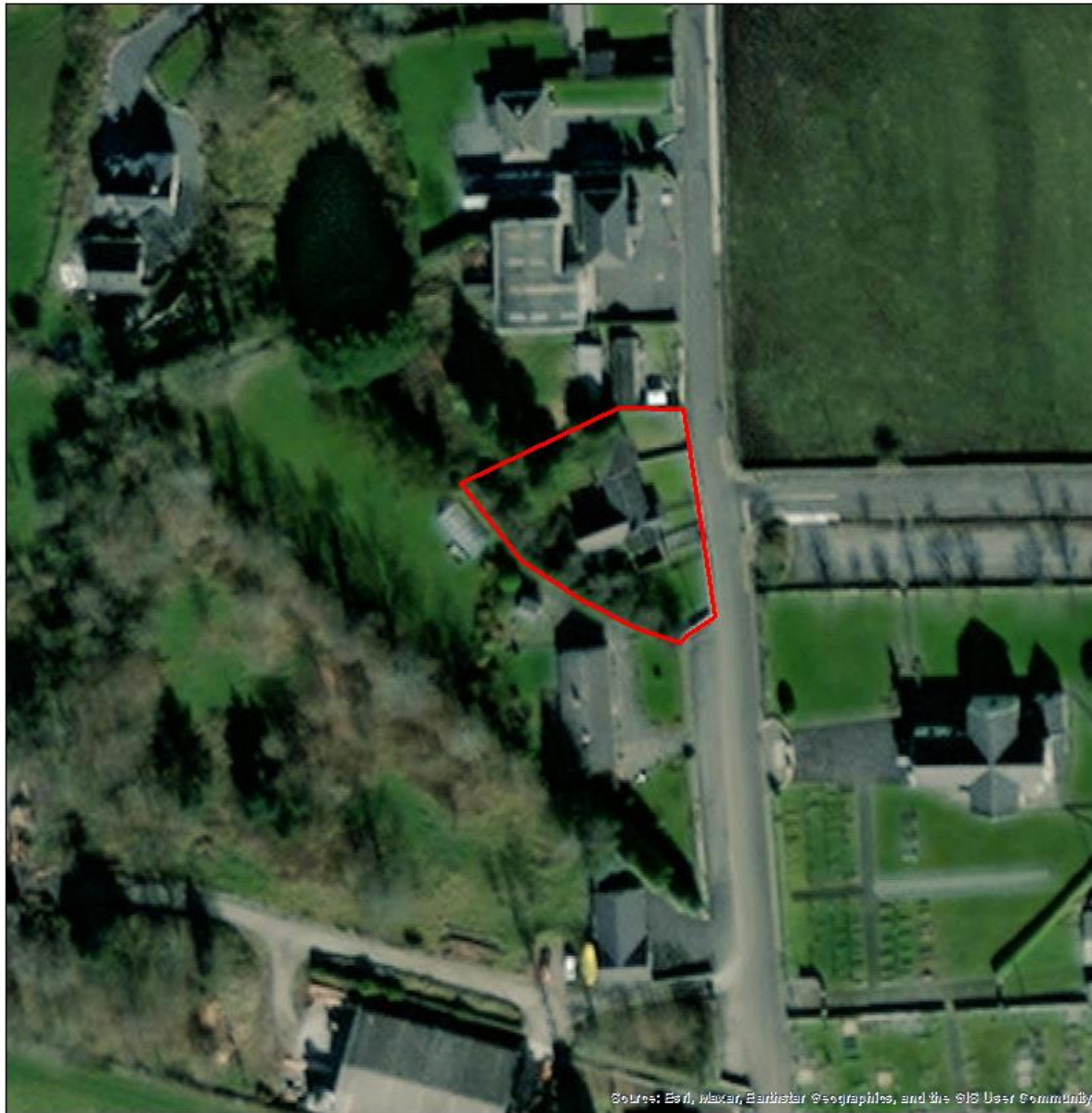
1.1 BACKGROUND TO PROPOSED DEVELOPMENT & REASONS FOR DEMOLITION

The subject site is in the ownership of Galway County Council and has been identified as an ideal site to meet the housing needs of a candidate in the Woodford area.

The existing dwelling is in a very poor condition with structural deterioration noted to all elements of the building during a site inspection by the project engineers.

The project engineers and County Council have determined that the current size and layout of the existing house is not suitable for the housing need proposed for the site. It is proposed to demolish the existing dwelling and outbuilding and replace it with 2 no. 2-bedroom dwellings. The proposed dwellings will provide the required housing need in Woodford.





Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Dwelling Refurbishment Woodford, Co. Galway

Figure 1.2

Aerial View of the Site

 Site Boundary

0 0.0075 0.015 0.03 Km



Drawn By	PD
Date	09/12/2022
Data Source	Bing

2.0 OVERVIEW OF THE SURVEY SITE

The subject site is located at the southern end on the town of Woodford. It is accessed from the town by the R351.

The subject site is comprised of an existing residential dwelling that is in an advanced state of disuse. The main dwelling is located to the south of the structure while a shed adjoins the dwelling on the north side. The dwelling is of 19th Century origin and appears on the historic 25-inch mapping from 1895.

The R351 forms the eastern boundary of the site. A hedgerow and treeline forms the western and northern boundary of the site. Existing residential dwellings occur to the north and south of the site.

Appendix 1: Plates provides a photographic record of the project site.

3.0 BAT SURVEY METHODOLOGY

3.1 DESK STUDY

A search for records of bat species held by the National Biodiversity Data Centre (NBDC) website for the 1km square grids R7399 was completed (last reviewed in 14th March 2024).

3.2 BAT ROOST POTENTIAL OF EXISTING DWELLING

Kelleher & Marnell (2006) provide guidance on assessing the potential for structures to support roosting bats. This guidance identifies a variety of factors that increase or decrease the potential of a structure to function as a bat roost. These factors are outlined in Table 3.1 below.

Table 3.1: Factors Affecting the potential of a building to support a bat roosts, as described by Kelleher & Marnell (2006)

Increase Potential	Disused or little used; largely undisturbed Large roof void with unobstructed flying spaces
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	<p>Large dimension roof timbers with cracks, joints and holes</p> <p>Uneven roof covering with gaps, though not too draughty</p> <p>Entrances that bats can fly in through</p> <p>Hanging tiles or wood cladding, especially on south-facing walls</p> <p>Rural setting</p> <p>Close to woodland and/or water</p> <p>Pre-20th century or early 20th century construction</p> <p>Roof warmed by the sun</p>
Decrease Potential	<p>Urban setting or highly urbanised area with few feeding places</p> <p>Small or cluttered roof void</p> <p>Heavily disturbed</p> <p>Modern construction with few gaps around soffits or eaves</p> <p>Prefabricated with steel sheet materials</p> <p>Active industrial premises</p> <p>Roof shaded from the sun</p>

The existing dwelling within the project site was assessed against these factors to establish the bat roost potential of the structure.

3.3 DAYTIME INSPECTION

The site was initially visited on the 8th February 2022. No internal access was provided for the visit and an external assessment and appraisal of the structure was completed. The daytime inspection survey was undertaken on the 26th April, 2022. The interior and exterior of the dwelling were visually inspected during this survey. The aim of the inspection was to search for field signs indicating the presence of roosting bats at the time of the inspection or during the roosting season immediately prior to the inspection. Field signs include the observed bats, bat droppings, staining, prey remains etc.

A subsequent daytime inspection of the structure was undertaken on the 12th March 2024. The interior and exterior of the dwelling were visually inspected during this survey.

An external inspection of the shed to the north of the dwelling was completed. No access to the interior of the shed was available at the time of the inspection.

The daytime inspection involving searching the above areas for any evidence indicating the presence of bats such as droppings, brown staining from urine, feeding remains and surfaces smoothed around entrance holes. The inspection survey also focused on identifying suitable access and egress points for bats so that these could be targeted during bat detector roost emergence survey.

The following equipment was used during the inspection and activity surveys:

Echo Meter Touch Pro bat detector: and

High-powered mag-lite hand torches and LED head torches.

3.4 ROOST SURVEYS

A dusk roost emergence surveys was completed at the disused dwelling and shed. The roost emergence survey was completed on the 26th April 2022. The survey was completed manually using an Echo-Meter touch Pro bat detector and a high-powered LED mag-lite and head torch.

During the inspection survey positions were taken up to the south of the dwelling (see Appendix 1: Plate 4) that provided a vantage view over the structure and the roof.

The manual roost survey commenced at 30 minutes prior to sunset and terminating 30 minutes after sunrise. Sunset times on the 26th April was at 20:56. The survey terminated at 23:00.

A constant watch of the dwelling and shed was undertaken during the surveys, with the high-powered LED torch light focused on the roof and adjoining soffit areas. The Echometer Touch bat detector was set to record throughout the emergence survey. Conditions during the emergence surveys were recorded.

3.5 SURVEY LIMITATIONS

No access to the interior of the adjoining shed to the north of the dwelling was available during the inspection survey and roost survey.

4.0 RESULTS

4.1 DESK TOP REVIEW

A review of National Biodiversity Data Centre (NBDC) in March 2024 did not reveal any previous records for bats within or surrounding the project site. There are no records for bats within the 1km square M7399 in which the subject site is located. The project site is not located within the zone of influence of any Special Area of Conservation (SAC) that is designated for its role in supporting lesser horseshoe bats. A review of the NPWS National lesser horseshoe bat database indicates that the nearest known lesser horseshoe bat record to the project site is approximately 30km to the west. As such the project site is located well outside the core sustenance zone of any lesser horseshoe bat population that is listed as an SAC qualifying feature of interest, where the core sustenance zone is set at a distance of 2.5km from the SAC roost site.

4.2 BAT ROOST POTENTIAL

Based on the Kelleher & Marnell (2006) roost potential assessment criteria, Table 4.1 describes the structural features that are listed as factors influencing roost potential.

Table 4.1: Roost Potential Factors identified at the Existing Dwelling

Factor	Factors Influence on Roost Potential
The dwelling is disused;	Increased Potential

Entrances that bats can fly in through were identified on the western side of the roof and openings of the western elevation. Potential access points were identified on the eastern and western elevations of the adjoining shed.	Increased Potential
The dwelling is surrounded by mature trees to the west. However existing high intensity street lighting adjoins the dwelling to the east. The presence of high intensity lighting may detract from the suitability of this location to function as a roost site;	Decreased Potential
The dwelling is of 19 th century construction;	Increased Potential
The roof is constructed of slate and is warmed by the sun;	Increased Potential
The a-framed roof space appeared to be uncluttered during the interior surveys in February and April. The plaster board ceilings are in disrepair with open access provided to sections of the roof void from the living quarters below. .	Increased Potential

The majority of the factors listed above are representative of factors of increased roost potential.

4.3 INSPECTION SURVEY RESULTS

No evidence indicating the presence of bats such as droppings or staining were noted on the ground floor of the dis-used dwelling during both internal inspection surveys completed in 2022 and 2024. No evidence of bat field signs were noted on the structure during the external inspection of the dwelling and adjoining shed during the surveys in February and April 2022 and March 2024.

4.4 ROOST EMERGENCE SURVEY

4.4.1 Conditions

Conditions during the roost survey were ideal for bat emergence and foraging activity. Conditions remained dry and calm during the survey. Temperatures were mild to warm at 13°C throughout the survey. Cloud over was high throughout.

4.4.2 Emergence Surveys: Observations of Bat Emergence

No bats were visually observed emerging from the dwelling and adjoining shed structures during the roost emergence survey.

4.4.3 Emergence Surveys: Summary of Bat Activity

Bat flight and foraging activity during the emergence survey was comprised of Leisler's bat and Soprano pipistrelle.

A total of 10 Soprano pipistrelle calls were recorded.

A total of 11 Leisler's bat calls were recorded.

Neither of these species were observed emerging from the dwelling and adjoining shed structure.

The first bat recorded was a Soprano pipistrelle at 21:13, approximately 17 minutes after sunset. This bat was observed flying from the south and flying over the dwelling to the west. This bat

did not emerge from the structures being surveyed and is likely to have emerged from a roost elsewhere.

5.0 DISCUSSION OF SURVEY FINDINGS

The surveys indicate that the dis-used dwelling and adjoining shed does not function as a bat roost. No evidence indicating the presence of roosting bats was observed during the daytime inspections on the 8th February and the 26th April.

The emergence survey completed at the dis-used dwelling did not observe any bats emerging from the dwelling and adjoining shed.

Based on the findings of the surveys completed the dwelling and adjoining shed are not considered to function as a bat roost.

6.0 IMPACT

Based on the findings of the surveys completed the dwelling and adjoining sheds do not function as a bat roost and the refurbishment of the dwelling and shed will not have the potential to disturb any roosting bats.

It is noted that bat behaviour and roost sites can be changed between years during the bat activity season, which generally includes the months of late March to early November. In the event that refurbishment works do not commence until post-March 2023 there is potential, particularly given the increased roost potential of the structures, that bats may establish a roost in the dwelling and/or adjoining shed. Under such a scenario, works that commence post-March 2022 will have the potential to result in disturbance to roosting bats.

Mitigatory actions are outlined in Section 7.0 to ensure that any works to commence post-March 2022 are completed in accordance with a best practice approach to undertaking works at bat roost sites.

7.0 MITIGATION

It is recommended that a bat roost survey is repeated at the dwelling and adjoining shed prior to the commencement of demolition works. Where the results of this survey are consistent with the findings of the 2022 roost survey and the 2022 and 2024 inspection surveys, the works will proceed as the structures will be confirmed as not functioning as a bat roost and no disturbance to bats will arise.

In the event that the results of this survey indicate the presence of a bat roost, appropriate mitigation measures will be undertaken to minimise disturbance to bats and all works will be required to be completed under a derogation licence permitting disturbance to a known bat roost. An application for such a derogation licence will be required to be submitted to the NPWS under Section 54 of the Birds and Natural Habitats Regulations as amended. Section 54 of these regulations set out the conditions under which a derogation licence to disturb/destroy a bat roost can be granted. Section 54(2) states that:

Where there is no satisfactory alternative and the derogation is not detrimental to the maintenance of the populations of the species to which the Habitats Directive relates at a favourable conservation status in their natural range, the Minister, or the Minister or Ministers of Government with responsibilities for fish species referred to in the Fourth Schedule, may grant such a derogation licence to one or more persons, where it is

- (a) in the interests of protecting wild fauna and flora and conserving natural habitats*
- (b) to prevent serious damage, in particular to crops, livestock, forests, fisheries and water and other types of property*
- (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*
- (d) for the purpose of research and education, of repopulating and re-introducing these species and for the breeding operations necessary for these purposes, including the artificial propagation of plants, or*

(e) to allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of certain specimens of the species to the extent specified therein, which are referred to in the First Schedule

8.0 CONCLUSION

Bat surveys for the dis-used dwelling and adjoining shed to be refurbished at Woodford, Co. Galway were completed during February and April 2022 and again during March 2024. The results of these surveys indicate that these structures do not function as a bat roost and based on these results demolition works to be undertaken at the dwelling will not result in disturbance to bats or a bat roost.

The increased potential for the structures to function as a bat roost is noted and in addition the potential for bats activity to change between years and for a new roost to be established at the structure in the future is also noted. In light of this, a contingency survey has been specified in Section 7 above to ensure that the current roost status of the structure at the time prior to the commencement of demolition works is established in advance of such works commencing.

The completion of this survey will ensure that such works are completed under a scenario where the current roost status of the structures is established and that, where required, all appropriate measures to minimise disturbance to bats and a bat roost (should one be identified) will be implemented during such works.

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Kelleher, C & Marnell, F. (2006). *Bat Mitigation Guidelines for Ireland*. Irish Wildlife Manuals, No. 25. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

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APPENDIX 1: PLATES



Plate 1: View of dwelling looking north



Plate 2: View of front elevation



Plate 3: View of slate roof in good condition with no obvious access points to the interior



Plate 4: Night view of dwelling during bat surveys



Plate 5: Night view of dwelling and adjacent street lighting during bat survey



Plate 6: View of adjoining shed area with uneven slates but no obvious access points on the front elevation.



Plate 7: View of dwelling during March 2024 inspection survey



Plate 8: View of degraded ceiling during March 2024 survey



Plate 7: View of loft hatch during March 2024 survey

