

Appendix 5.8. Bat Surveys Report, 2025a

**WALK-OVER SURVEY TO ASSESS POTENTIAL
ROOST FEATURES FOR BATS ON SITE OF
PROPOSED EXTENSION AREA AND ALONG
ROUTE OF PIPELINE AT MORTARSTOWN WASTE
WATER TREATMENT PLANT IN CARLOW**



Report Prepared for

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March 2025

CONTENTS

1. SUMMARY.....	3
2. AIMS OF SURVEY.....	3
3. INTRODUCTION.....	3
3.1 Bat species	3
3.2 Legislation	3
4. PROPERTY – Mortarstown Waste Water Treatment Plant.....	5
5. SURVEY METHODOLOGY	8
6. SURVEY CONSTRAINTS	8
7. SURVEY RESULTS	8
8. BIBLIOGRAPHY	9
9. PHOTOGRAPHS	10

1. SUMMARY

I was contracted by Atkins Global to conduct a walk-over survey to assess potential roost features for bats on the site of the proposed extension area and along the route of the pipeline in the vicinity of Mortarstown Waste Water Treatment Plant in Carlow Town.

The proposed extension area lies directly west of the existing plant and extends to the R448 regional road. The proposed pipeline runs north east along the eastern side of the R448 to the pumping station on the western side of the R448. The pumping station lies approximately 870m north of the entrance to the treatment plant. The red line boundary extends an additional 165 m north from the pumping station between the R448 and River Barrow.

There is an additional area on the western side of the R448 within the red line boundary. This area lies between the R448 and the River Barrow, to the west of the waste water treatment plant.

2. AIMS OF SURVEY

(a) To identify potential roosting features for bats.

(b) To make recommendations for further bat detector surveys on site

3. INTRODUCTION

3.1 Bat Species

Bats belong to the Order Chiroptera and to date nine species are recorded as resident in Ireland. These nine species are divided into two families – Family Vespertilionidae which contain nine of our Irish species (Daubenton's bat *Myotis daubentonii*, Natterer's bat *Myotis nattereri*, Whiskered bat *Myotis mystacinus*, Leisler's bat *Nyctalus leisleri*, Long-eared bat *Plecotus auritus*, Soprano Pipistrelle *Pipistrellus pygmaeus*, Common Pipistrelle *Pipistrellus pipistrellus* and Nathusius Pipistrelle *Pipistrellus nathusii*) and one species in the family Rhinolophidae –the Lesser Horseshoe bat *Rhinolophus hipposideros*.

Brandt's bat *Myotis brandii* has only been recorded once in Ireland from a site in Co. Wicklow and is classified as a vagrant. In 2013 a single male Greater horseshoe bat *Rhinolophus ferrumequinum* was recorded in Co. Wexford. This bat was also considered to be a vagrant. During the field season of 2020 recordings were made of a Greater horseshoe bat in Co. Wicklow. Further investigations are ongoing.

3.2 Legislation

The serious decline in bat populations both in Ireland and across Europe has led to conservation measures and appropriate legislation being drawn up and implemented in an attempt to stabilise population numbers. It is estimated that bat populations across Europe have decreased by up to 60% in the last 30 years. As they are highly specialised animals, bats serve as biological indicators and are often amongst the first animal species to show signs of population change due to the activities of man. Destruction of roosts and foraging areas, coupled with the widespread use of pesticides, are the key reasons for the decline in numbers of bats in Ireland. Efforts should be made to retain known bat colonies and methods to lessen disturbance to these animals should be incorporated into any development.

Bats' dependency on insects has left them vulnerable to habitat destruction, land drainage, agricultural intensification and increased use of pesticides. Their reliance on buildings has also made them vulnerable to building repairs and the use of chemicals for timber treatment. Roosting or hibernation sites in caves, mines, trees and disused buildings are also often lost to development.

Irish Legislation

Wildlife Act 1976 – In the Republic of Ireland, under Schedule 5 of the Wildlife Act 1976 all bats and their roosts are protected by law. It is an offence to disturb either without the appropriate licence. This Act was further strengthened by the Wildlife Amendment Act 2000.

E.U. Legislation

Under the Habitats Directive 1992 (EEC 92/43), each member state of the E.U. was requested to identify habitats of national importance and priority species of flora and fauna. These habitats are now designated as Special Areas of Conservation (SAC). In Ireland, all bat species, except one are classified as Annex IV species under the Habitats Directive. Annex IV species are species in need of strict protection. The exception is the Lesser Horseshoe bat which is an Annex II species (Priority Species). Annex II species are species requiring the designation of Special Areas of Conservation specifically for their protection. All species of bat in Ireland are strictly protected under the Habitats Directive to include deliberate disturbance of these species, particularly during the periods of breeding, rearing and hibernation. It also specifies deterioration or destruction of breeding or resting places.

International Legislation

Ireland has ratified two international wildlife laws pertaining to bats

- (a) The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention, 1982) – part of this convention stipulates that all bat species and their habitats are to be conserved.
- (b) The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, Enacted 1983). This was instigated to protect migrant species across all European boundaries.

4. PROPERTY:

Mortarstown Waste Water Treatment Plant

Grid Reference: S715 747 (centre of plant)

Mortarstown WWTP is situated on the southern side of Carlow town between the R448 regional road and the L4038 local road. The site entrance is on the L4038. The Pumping Station is situated on the R448 Kilkenny Road approximately 900m north of the treatment plant.

The existing outfall pipe runs from the Mortarstown plant in a north westerly direction under the R448 regional road and under a wooded area to reach the eastern bank of the River Barrow Figure 2 – Area 5.

Figure 1 shows the approximate red line boundary of the extension to the waste water treatment plant and the route of the proposed pipe line along the R448 regional road.

Figure 2 is an aerial photo of the site illustrating areas where bat detector surveys are recommended.



Figure 1 – showing red line boundary of proposed extension area and pipe line



Figure 2 – indicating areas requiring bat detector surveys

5. SURVEY METHODOLOGY

A walk over survey of the site was conducted on 19th March 2025 to survey for potential roost sites for bats in buildings and trees on site. Buildings were assessed for potential access points for bats.

Trees were surveyed to assess their suitability as bat roosts by searching for roost features such as crevices, hollows and splits in the trunk and branches.

No bat detector surveys were conducted as bats are still in hibernation.

6. SURVEY CONSTRAINTS

There were no constraints associated with the survey. Weather was favourable on the day of the survey. It was possible to access all areas of the site.

7. SURVEY RESULTS

Five areas were identified as having high potential for roosting bats-

Area 1 is the uninhabited cottage, outbuildings and horse chestnut trees on the slip lane off the R448 (Grid reference 52.820349, -6.9428417). This cottage was surveyed previously for bats in May 2021. No bats were recorded emerging in 2021 but the condition of the cottage has deteriorated since 2021. The cottage and outbuildings have high potential as bat roosting sites. The buildings should be surveyed at dusk and dawn with bat detectors and thermal imaging scopes.

There is a row of mature horse chestnut trees with obvious cavities in the garden to the front of the cottage. These trees should be included during the surveys of the cottage.

Area 2 is a mature treeline forming the southern site boundary of the large detached house “Carrig Rua” (Grid reference 52.821438, -6.9415703). This tree line consists of mature ash, scots pine, with a row of mature cypress trees on the northern side of the tree line. Several of the deciduous species contain obvious cavities suitable for roosting bats.

The trees should be surveyed at dusk with bat detectors and thermal imaging scopes.

Area 3 is a single very mature beech tree with numerous cavities suitable for roosting bats (Grid reference 52.828524, -6.9370696) . This tree is situated just north of the red line boundary and will not be affected by the proposed scheme.

Area 4 is the pumping station on the R448. These small buildings were previously surveyed in May 2021. No bats were recorded. However, it is recommended that a repeat bat survey is conducted using bat detectors and thermal scopes.

Area 5 is an area between the R448 and the River Barrow containing numerous deciduous trees with obvious roosting potential for bats. There is a very mature ash on the western side of the R448 with many cavities and a willow tree with a vertical split in the trunk. These trees are outside the red line boundary and will not be affected by the proposed scheme.

Area 6 is the area to the west of the R448 which contains the original outflow pipe from Mortarstown Waste Water Treatment Plant. When this area was surveyed in May 2021 a dead standing beech tree was identified as having high potential for roosting bats. This tree is no longer standing. Other trees have moderate potential for roosting bats.

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9. PHOTOGRAPHS



Photo 1 – semi mature ash with symptoms of Ash die-back disease at entrance to Tyndall College – no potential for bats

SURVEY AREA 1



Photo 2 – uninhabited cottage and sheds on slip lane of R448 – high potential for bats



Photo 3 – semimature ash lining eastern side of R448 – no potential for bats



Photo 4 – horse chestnut trees in garden of cottage with obvious cavities – high potential for bats. SURVEY AREA 1



Photo 5 – crevice in Horse chestnut tree suitable for roosting bats. SURVEY AREA 1



Photo 6 - rear elevation and northern gable of cottage. SURVEY AREA 1



Photo 7 – paddock to north of cottage – currently grazed by horses

SURVEY AREA 2



Photo 8 - boundary between paddock and dwelling house “Carrig Rua” to north. SURVEY AREA 2



Photo 9 - mature ash on boundary of paddock and dwelling house. SURVEY AREA 2



Photo 10 – ash with Scots pine to north on boundary. SURVEY AREA 2



Photo 11 – ash tree on boundary. SURVEY AREA 2



Photo 12 – obvious crevices in ash tree – high potential for bats. SURVEY AREA 2



Photo 13 – boundary treeline between paddock and dwelling house to north – ash, horse chestnut, with row of Cypress behind to north – SURVEY AREA 2



Photo 14 – northern end of lane with large cypress trees on boundary – SURVEY AREA 2



Photo 15 - western corner of paddock in front of dwelling house – SURVEY AREA 2



Photo 16 – paddock in front of dwelling house



Photo 17 – paddock in front of dwelling house



Photo 18 – entrance to Carrig Rua



Photo 19 – Sweet chestnut tree on entrance lane to Carrig Rua



Photo 20 – mature lime on edge of R448 at Southern Gardens housing estate



Photo 21 – mature beech hedge at Southern Gardens housing estate



Photo 22 – Mature ivy covered sycamore at Southern Gardens housing estate



Photo 23 – looking north towards South East Technical University building



Photo 24 – red brick building at pumping station SURVEY AREA 4



Photo 25 – concrete building at pumping station SURVEY AREA 4



Photo 26 - concrete building at pumping station SURVEY AREA 4



Photo 27 – area to north of pumping station between R448 and River Barrow



Photo 28 – massive beech tree just north of red line boundary on western side of R448



Photo 29 – many cavities in beech tree SURVEY AREA 3



Photo 30 - wooded area to south of pumping station



Photo 31 – wooded area opposite Southern Gardens housing estate



Photo 32 – willow with vertical split in trunk opposite Southern Gardens housing estate
high potential for roosting bats SURVEY AREA 5



Photo 33 – mature ash on west side of R448 – SURVEY AREA 5



Photo 34 – cavities in mature ash SURVEY AREA 5



Photo 35 – broken willow and stand of mature Scots pine SURVEY AREA 5



Photo 36 – mature beech in AREA 5



Photo 37 – looking into AREA 6 from R448



Photo 38 – looking directly west into AREA 6 from R448



Photo 39 – winter heliotrope growing along edge of R448 at entrance to AREA 6



Photo 40 – AREA 6 contains part of flood plain of River Barrow



Photo 41 – very mature willow within AREA 6



Photo 42 – site of original discharge point on river bank



Photo 43 – beech trees on bank between AREA 6 and adjacent dwelling house to south



Photo 44 – beech trees on bank between AREA 6 and adjacent dwelling house to south



Photo 45 – beech trees on bank between AREA 6 and adjacent dwelling house to south



Photo 46 – mature willow within AREA 6