

# Goatstown Road Bat Assessment at Vector Motors To Inform Proposed Development of the Site For Housing



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## Introduction

Bats constitute one quarter of the Irish mammal fauna. They are known to occur throughout much of the rural landscape and to a lesser extent, the urban environment even into Dublin city. In towns and cities, they more often occupy buildings and occasionally trees for short or long periods.

Houses, farm buildings and other buildings are a vital element of the annual cycle of all Irish bat species and at no time more so than the period May to August, but many bats may also avail of buildings as hibernation sites. In sites such as the proposed development site where there is one large building, there is the potential for roosting within or possibly on the building if appropriate conditions are met to provide safe shelter from the elements and predation. Changes to a site including demolition may destroy roosts, placing bats at risk during such procedures and may also affect their feeding and commuting activity.

Bats are protected by Irish and EU law and to prevent unlawful injury or death, it is essential that a full understanding of the site is available in advance to protect the resident bats from unintentional

disturbance, injury or death and to create a pathway by which a legal derogation and exemption may be designed in consultation with the National Parks and Wildlife Service of the Department of Culture, Heritage, and the Gaeltacht.

The site at Goatstown Road, Dublin will undergo a change from a sales showroom and workshop for car maintenance and repairs to housing. This will change the nature of the site marginally but will bring about the entire removal of existing structures. The development will consist of demolition of the existing building (c.960sqm) and hard surface parking area and construction of a purpose built student accommodation development comprising 239 no. student bedspaces within a part 4 no. storey, part 6 no. storey building (total gross floor area 6,620sqm), including internal and external amenity space, 188 no. cycle spaces, 6 no car parking spaces, vehicle ingress and egress from Goatstown Road, an ESB substation and switchroom, refuse store and all associated site development works including hard and soft landscaping, lighting and ancillary infrastructure all within the 0.39ha site.

This assessment will address the potential for bat roosting within the site and identify the potential for impacts upon bat feeding and commuting within the site based upon a visual assessment of the building and a walkover survey with bat detectors to determine the potential for roost sites within the building.

Surveying in July and August is a suitable period to look at the final period of the breeding season when the single annual young are born and when females form the largest roost type (in the Irish context); the maternity roost. The young are flying by this date and maternity roosts are beginning to disband at varying rates. These roosts are typically in close proximity or within areas of good feeding. A bat detector assessment at this time can disclose the value of a site for feeding and how bats avail of a site in commuting to and from important sites including feeding sites and roosts.

## **Methodology**

The proposed development site (Vector Motors) at Goatstown Road, County Dublin was examined from prior to sunset on 5<sup>th</sup> August 2020 for an hour and a half and again for an hour prior to sunrise on 6<sup>th</sup> August 2020 by one. Sunset was at 21.13 hours and sunrise was at 05.50 hours on 6<sup>th</sup> August 2020.

The surveyor employed the use of a handheld Echometer 3 (EM3) full spectrum receiver with a screen displaying the ultrasonic signals received and also recording all ultrasonic signals received to a SD card for later analysis. A Songmeter Mini was also placed on the wall of a house backing on to the garage. The surveyor walked around the perimeter of the building and the adjoining parking area from sunset onwards and following this, continued to walk along the Goatstown Road and Larchfield Road for comparison with the site.

Surveying recommenced at 04.50 hours on 6<sup>th</sup> August 2020 and the surveyor searched for bat activity within the site. The building was examined internally in daylight and during the night on 5<sup>th</sup> August 2020.

### **Survey Constraints**

Sunset was at 21.13 hours on 5<sup>th</sup> August 2020 and sunrise was at 05.50 hours on 6<sup>th</sup> August 2020. The temperature at sunset was 13° C and the skies were cloudy and there was no wind and no rain. Conditions were ideal for assessing for bats and the time of year was perfect for assessing bat activity and usage of the site.

This assessment followed the recommendations proposed by NPWS in 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. The methodology adopted is typical for bat surveys within the Republic of Ireland and provides information on roost sites present, historical evidence of bats from buildings within the site, bat commuting and feeding activity at the time of survey. This survey was undertaken by a bat specialist with 30 years' experience of bat surveying.

### **Existing Environment**

#### **Species of bat roosting within the site**

None

#### **Bat activity within and around the site**

Common pipistrelle	<i>Pipistrellus pipistrellus</i>
Leisler's bat	<i>Nyctalus leisleri</i>
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>

Bat activity was very low at emergence time and no bats were seen to emerge from the building. A Leisler's bat was seen to fly from the east westwards past the building. Other than this, the only activity noted within the site or close to the boundary was a common pipistrelle flying along the Goatstown Road. The static monitor on the perimeter wall (on a garden rear wall) recorded 27 bat passes through the night including common and soprano pipistrelle and Leisler's bat. Only one soprano pipistrelle pass was noted, five Leisler's bat signals and 21 common pipistrelle bat passes. This is a low number of bat passes overall but given an absence of vegetation within the site, this would not be surprising. Most feeding was obviously along the rear wall (where there are gardens and trees) and most activity was close to midnight and considerably after emergence time.

Species of bat recorded in this area previously include common and soprano pipistrelle and Leisler's bat. A Natterer's bat was noted on the Stillorgan Road in 2019 and recorded in UCD prior to this.

## **Potential Impacts**

### **Increased light levels within the area**

Housing requires lighting for access and safety and for convenience and display and this development would see the introduction of street lighting, house lighting, garden lighting and a reduction in the dark areas wherein most bat activity occurs. Lighting levels are very high around the existing building. Any lighting that illuminated to the east of the existing site would illuminate the garden trees behind the site.

### **Impacts of changes to the site on resident and local bats**

Increased lighting would have a long-term to permanent slight to negligible negative impact on the bat population of the region in the absence of mitigation.

## **Proposed Mitigation**

### ***Planting of vegetation***

Wherever there is an opportunity to provide vegetative cover, native and local plant species should be employed including typical plants such as oak (the greatest value for most wildlife), hawthorn, blackthorn, elder, gorse, bramble, in addition to other species such as dog rose with an encouragement of species such as *Clematis* and other species attractive to moths. Where there is limited space, flower boxes or hanging baskets may provide some suitable habitat for insects.

## Lighting

Lighting should be controlled to avoid light pollution of green areas and should be targeted to areas of human activity and for priority security areas. Motion-activated sensor lighting is preferable to reduce light pollution. None of the remaining mature trees or trees proposed for planting shall be illuminated.

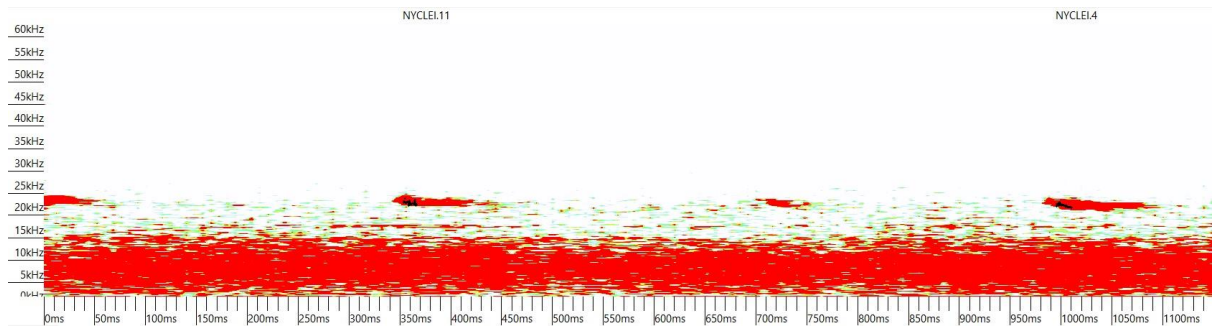
- Dark corridor for movement of bats along the grounds of the site. Lighting should be directed downwards away from the treetops.
- All luminaires shall lack UV elements when manufactured and shall be LED
- A warm white spectrum (ideally <2700 Kelvin) shall be adopted to reduce blue light component
- Luminaires shall feature peak wavelengths higher than 550nm
- Tree crowns shall remain unilluminated
- Planting shall provide areas of darkness suitable for bats to feed and commute

## Impacts Upon Bats Following Mitigation

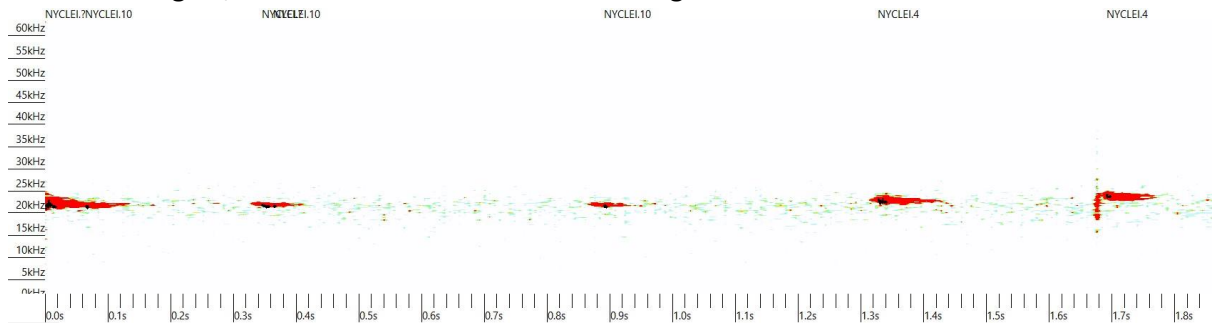
It is predicted that there will be no impact upon bats within the area of long-term to permanent duration. Species such as Leisler's bats and common pipistrelle will continue to feed within the immediate area. Lighting will be less intense with the removal of the garage security lighting.



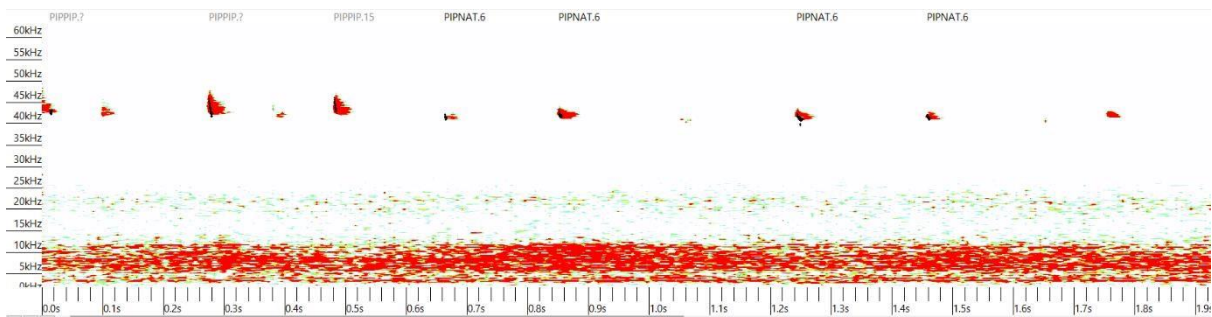
Proposed development at Goatstown Road



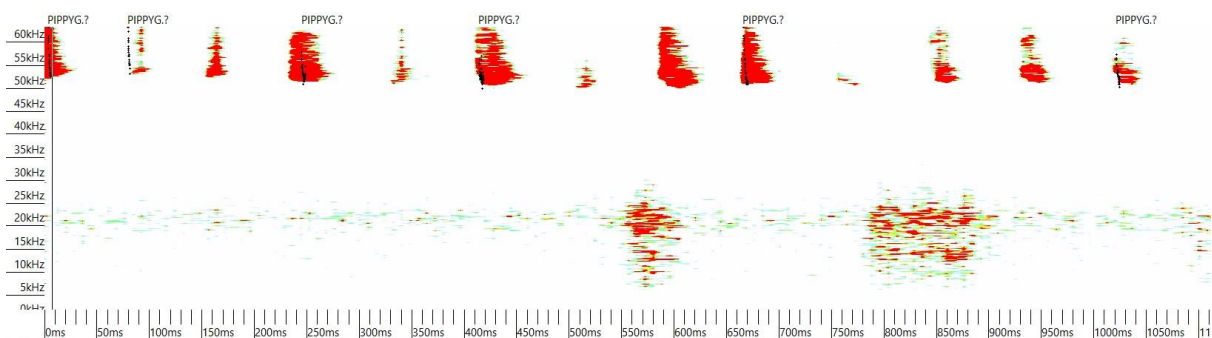
**The first bat signal; a Leisler's bat at 21.05 hours on August 5<sup>th</sup> 2020**



**Leisler's bat signal at 04.21 hours to the rear of the garage 6<sup>th</sup> August 2020**



**Common pipistrelle signal at 22.12 hours**



**The only soprano pipistrelle signal noted at 00.03 hours**

**Table 1: Bat recordings recorded at Vector Motors and surrounding area on the handheld EM3 5<sup>th</sup> to 6<sup>th</sup> August 2020 (a) and on the Songmeter Mini (b)**  
No bats were noted prior to sunrise with the EM3

Date (a)	Time	Auto Id*	Pulses	Manual Id
05/08/2020	21:17:05	Leisler's Bat	3	Leisler's Bat
05/08/2020	21:17:56	Leisler's Bat	26	Leisler's Bat
05/08/2020	21:18:06	Leisler's Bat	3	Leisler's Bat
05/08/2020	21:38:56	Common Pipistrelle	6	Common Pipistrelle
05/08/2020	21:50:02	Nathusius' Pipistrelle	23	Common Pipistrelle
Date (b)	Time	Auto Id*	Pulses	Manual Id
05/08/2020	21:05:28	Leisler's Bat	4	Leisler's Bat
05/08/2020	21:17:06	Leisler's Bat	10	Leisler's Bat
05/08/2020	21:17:45	Leisler's Bat	25	Leisler's Bat
05/08/2020	21:50:05	Common Pipistrelle	11	Common Pipistrelle
05/08/2020	22:12:42	Nathusius' Pipistrelle	7	Common Pipistrelle
05/08/2020	23:10:43	Common Pipistrelle	21	Common Pipistrelle
05/08/2020	23:19:39	Leisler's Bat	3	Leisler's Bat
06/08/2020	00:03:33	Soprano Pipistrelle	10	Soprano Pipistrelle
06/08/2020	00:05:12	Common Pipistrelle	2	Common Pipistrelle
06/08/2020	00:06:22	Common Pipistrelle	8	Common Pipistrelle
06/08/2020	00:06:30	Common Pipistrelle	5	Common Pipistrelle
06/08/2020	00:06:56	Common Pipistrelle	5	Common Pipistrelle
06/08/2020	00:09:24	Noid	2	Common Pipistrelle
06/08/2020	00:27:56	Common Pipistrelle	3	Common Pipistrelle
06/08/2020	00:36:42	Common Pipistrelle	11	Common Pipistrelle
06/08/2020	00:51:55	Common Pipistrelle	27	Common Pipistrelle
06/08/2020	00:53:25	Common Pipistrelle	5	Common Pipistrelle
06/08/2020	00:53:59	Common Pipistrelle	3	Common Pipistrelle
06/08/2020	00:54:56	Common Pipistrelle	13	Common Pipistrelle
06/08/2020	01:37:55	Common Pipistrelle	8	Common Pipistrelle
06/08/2020	01:58:18	Common Pipistrelle	6	Common Pipistrelle
06/08/2020	01:59:32	Common Pipistrelle	9	Common Pipistrelle
06/08/2020	02:18:20	Common Pipistrelle	8	Common Pipistrelle
06/08/2020	02:18:27	Common Pipistrelle	3	Common Pipistrelle
06/08/2020	03:38:24	Common Pipistrelle	18	Common Pipistrelle
06/08/2020	04:21:15	Leisler's Bat	8	Leisler's Bat
06/08/2020	04:35:56	Common Pipistrelle	10	Common Pipistrelle



**Goatstown Road bat assessment August 5<sup>th</sup> to 6<sup>th</sup> 2020 recorded by EM3**  
(there was no pre-dawn activity noted)

*Legend*

*Yellow paddle*   *Leisler's bat*   *Green paddle*   *Common pipistrelle*   *Red box*   *Mini location*  
*Yellow arrow*   *Direction Leisler's bat seen to fly at first observation*





Location for the Songmeter Mini to the rear of the parking area for the garage



Trees to each side of the garage parking area provide feeding opportunities for bats



Lighting around the building came on at 21.38 hours  
The trees to the east and southeast were not illuminated by the existing lights



**Lighting on the building (left) and the only possible roost feature at the northwestern edge of the building (right)**