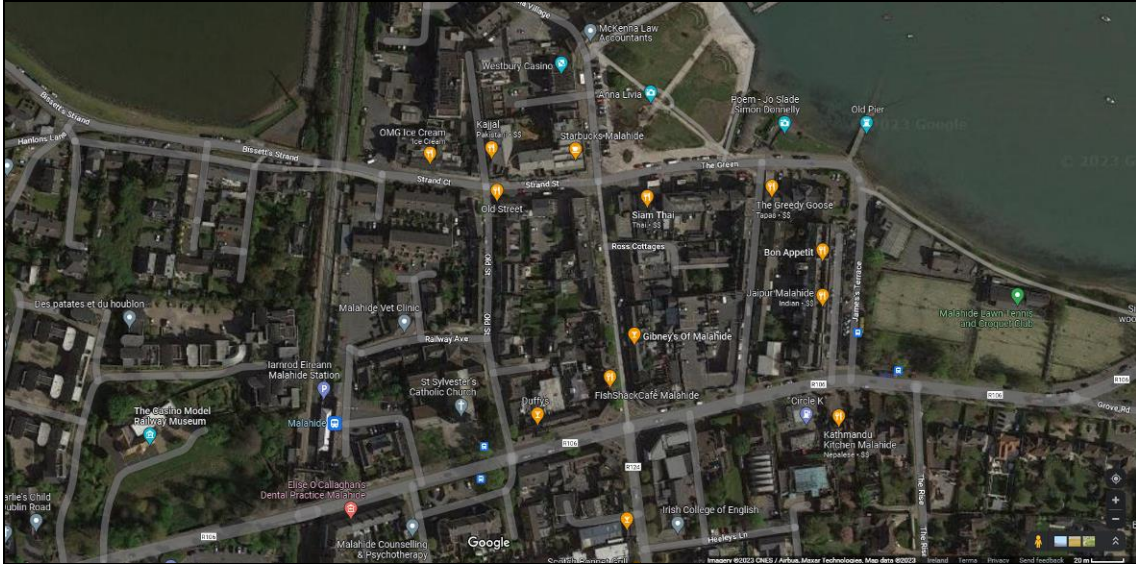


# Public Realm Improvements for a Pedestrianised New Street, Malahide, Co. Dublin

## Bat Survey



## Final Report

12<sup>th</sup> April 2023



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**Public Realm Improvements for a Pedestrianised New Street,  
Malahide, Co. Dublin**

**Bat Survey**

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# Public Realm Improvements for a Pedestrianised New Street, Malahide, Co. Dublin

## Bat Survey

### 1. INTRODUCTION

#### 1.1. Introduction

Fingal County Council (Environment, Climate Action & Active Travel Department) are proposing public realm improvements for a pedestrianised New Street in Malahide Village, Co. Dublin. The development extends to the full length of New Street (being approximately 150m, with an area of 0.22ha) from Main Street/ The Mall (also known as The Diamond) in the south to Strand Street to the north at Malahide, Co. Dublin as shown on **Figure 1.1**.

Dermot Foley Landscape Architects (DFLA) were appointed by Fingal County Council (FCC) to lead an Integrated Design Team (IDT) for the design of public realm improvements for a pedestrianised New Street in Malahide. The IDT were engaged to develop the project from Stage 1 (Preliminary) through to Stage 2A (Developed Design & Planning).

*Faith Wilson Ecological Consultant* was commissioned by DFLA to prepare an assessment of the potential impacts on bats arising from the proposed public realm improvements for a pedestrianised New Street in Malahide, Co. Dublin on behalf of Fingal County Council (FCC). The project design is shown on **Figure 1.2** and described in **Section 2.2**.

This survey and report has been completed by Faith Wilson BSc CEnv MCIEEM. Faith is a highly experienced and qualified ecologist, with over twenty five years of experience in ecological and environmental surveys and consultancy, across a wide range of sectors. Faith is a Chartered Environmentalist (CEnv) and a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Faith is a licensed bat specialist who has conducted bat surveys for over twenty years and has previously served on the board of Bat Conservation Ireland.

This report details the findings of a desktop review, a bat detector survey of New Street, an inspection of the trees scheduled for removal and an assessment of the general environs of New Street in Malahide to assess their potential importance for bats.

The report includes measures to ensure that impacts on bats were considered by the public realm improvements proposed for New Street and that the project has the potential to improve the streetscape for both humans and bats.

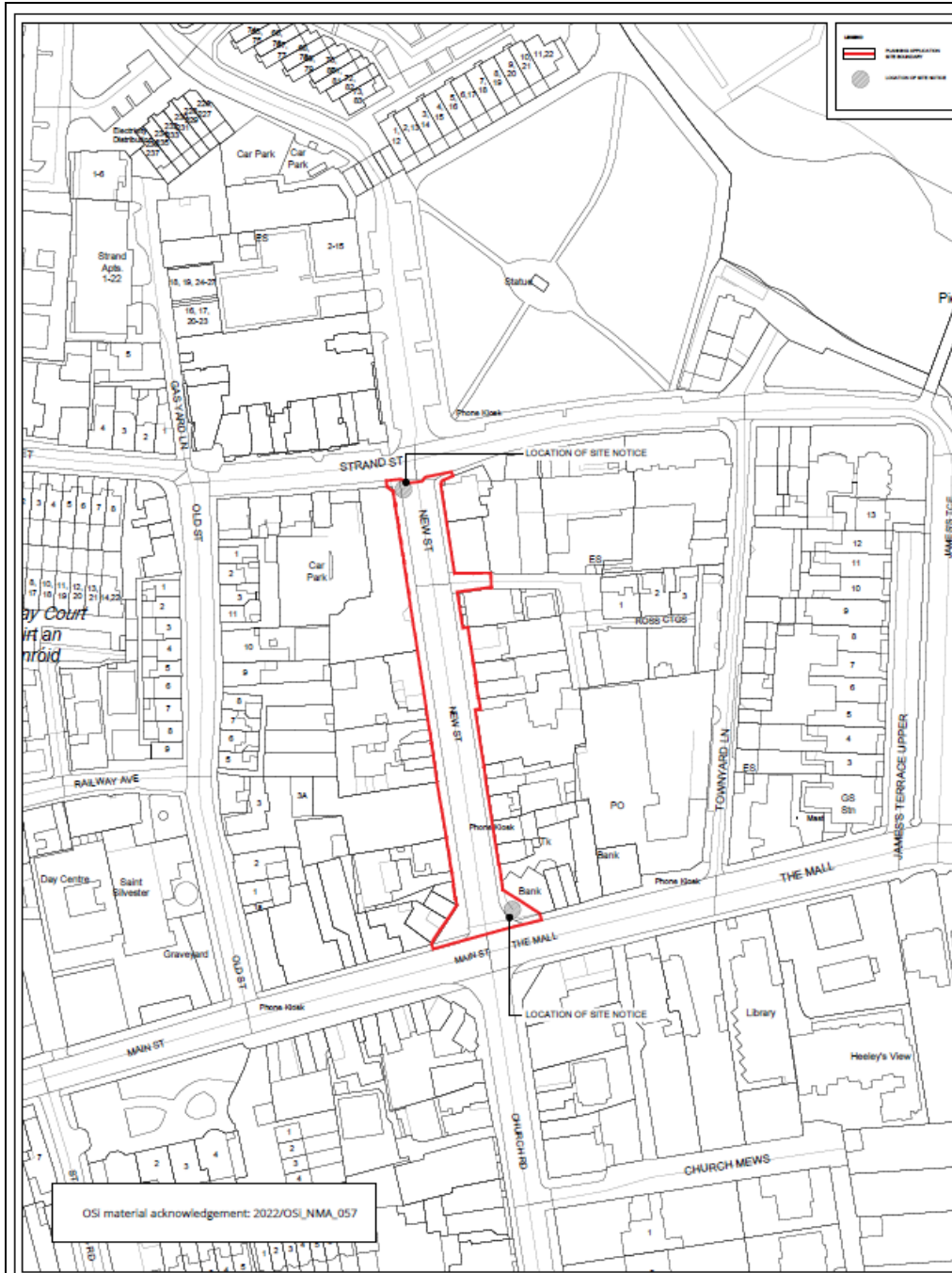


Figure 1.1 Site Location - outlined in red.



Figure 1.2 Proposed Public Realm Improvements at New Street, Malahide, Co. Dublin (Source: DFLA).

## **1.2. Relevant Legislation - Bat**

Eleven species of bats occur in Ireland (of which nine are resident) and all are protected under both national and international law.

### **1.2.1 Wildlife Act 1976**

In the Republic, under Schedule 5 of the Wildlife Act 1976, all bats and their roosts are protected by law. It is unlawful to disturb either without the appropriate licence. The Act was amended in 2000.

### **1.2.2 Bern and Bonn Convention**

Ireland has also ratified two international conventions, which afford protection to bats amongst other fauna. These are known as the 'Bern' and 'Bonn' Conventions. The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982), exists to conserve all species and their habitats, including bats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was instigated to protect migrant species across all European boundaries, which covers certain species of bat.

### **1.2.3 EU Habitats Directive**

All bat species are given strict protection under Annex IV of the EU Habitats Directive, whilst the lesser horseshoe bat (*Rhinolophus hipposideros*) and greater horseshoe bat (*Rhinolophus ferrumequinum*) are given further protection under Annex II of the EU Habitats Directive. Both are listed as a species of community interest that is in need of strict protection and for which E.U. nations must designate Special Areas of Conservation (SACs). The latter is only known from two records and no breeding populations have been recorded to date. The former are a species of the western seaboard of Ireland and have not yet been recorded on the east coast.

### **1.2.4 Eurobats**

This is a Europe-wide (and neighbouring jurisdictions including North Africa and the Middle East) agreement that originates from efforts to apply the Bonn Convention to the protection of bats within areas to which they may migrate from their European summer or winter sites. There are 33 parties (including Ireland) that have entered into a UN forum to protect the 52 species of bat (based on current knowledge) of Europe.

### 1.2.5 Irish Bats

Eleven species of bats occur in Ireland and all are protected under both national and international law. Nine species are resident and have confirmed breeding populations while two species are deemed to be vagrants as set out in **Table 1** below.

**Table 1. Legal protection and status of the Irish bat fauna.**

Common and scientific name	Wildlife Act 1976 & Wildlife (Amendment) Acts 2000 & 2010	Irish Red List status	Habitats Directive	Bern & Bonn Conventions
Common pipistrelle <i>Pipistrellus pipistrellus</i>	Yes	Least Concern	Annex IV	Appendix II
Soprano pipistrelle <i>P. pygmaeus</i>	Yes	Least Concern	Annex IV	Appendix II
Nathusius' pipistrelle <i>P. nathusii</i>	Yes	Not referenced	Annex IV	Appendix II
Leisler's bat <i>Nyctalus leisleri</i>	Yes	Near Threatened	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
Greater horseshoe bat <i>Rhinolophus ferruginous</i>		Data Deficient	Annex II Annex IV	Appendix II
Daubenton's bat <i>Myotis daubentonii</i>	Yes	Least Concern	Annex IV	Appendix II
Natterer's bat <i>Myotis nattereri</i>	Yes	Least Concern	Annex IV	Appendix II
Whiskered bat <i>Myotis mystacinus</i>	Yes	Least Concern	Annex IV	Appendix II
Brandt's bat <i>Myotis brandtii</i>	Yes	Data Deficient	Annex IV	Appendix II

The principal pressures on Irish bat species have been identified as follows:

- urbanized areas (e.g. light pollution);
- bridge/viaduct repairs;
- pesticides usage;
- removal of hedges, scrub, forestry;
- water pollution;
- other pollution and human impacts (e.g. renovation of dwellings with roosts);
- infillings of ditches, dykes, ponds, pools and marshes;
- management of aquatic and bank vegetation for drainage purposes;
- abandonment of pastoral systems;
- speleology and vandalism;
- communication routes: roads; and
- inappropriate forestry management.

## **2. METHODOLOGY**

### **2.1 Desk Study & Field Surveys**

The bat survey consisted of several elements – a desktop review and consultation with Bat Conservation Ireland, an inspection of trees on New Street for their potential to support roosting bats, and a bat detector activity survey of New Street and general environs.

The aims of the surveys were to:

- Determine the suitability of trees within New Street for potential roosting sites for bats.
- Identify if any species of bats are utilising New Street for foraging or commuting purposes and to determine if any mitigation measures are required to ensure they continue to do so.

#### **2.1.1 Desktop Research**

The Bat Conservation Ireland database was examined for records of bats from the Malahide Village area. Records of bats held by the National Biodiversity Data Centre were also examined.

#### **2.1.2 Tree Survey**

Trees within New Street were assessed for their potential use by bats by completing a preliminary ground level roost assessment using the following standard criteria, which were created by bat specialists from Bat Conservation Ireland for use in the assessments of tree roosts on large infrastructural projects and are summarised in NRA (2006):

- Presence or absence of bat droppings (these can be hard to find amongst leaf litter or may be washed away following periods of wet weather),
- Bat droppings may also be seen as a black streak beneath holes, cracks, branches, etc.,
- Presence or absence of smooth edges with dark marks at potential entrances to roosts,
- Presence or absence of urine stains at potential entrances to roosts,
- Presence of natural cracks and rot holes in the trunk or boughs of the tree,
- Hollow trees,
- Presence or absence of creepers such as ivy or honeysuckle on trees (ivy clad trees are often used by bat species such as pipistrelles as roosts),
- Presence or absence of loose bark such as that of sycamore, or flaky bark on coniferous species such as cedars, cypress and Scot's pine,
- Presence or absence of bracket fungi which may indicate a rotten or potentially hollow centre to the tree,
- Known bat roosts previously identified,
- Trees with storm or machinery damage or broken boughs,
- Clutter level - where the branches and trunk are easily accessible, this is considered a better tree for bat roosts,
- Adjoining habitat - if there are a variety of feeding opportunities for bats, this increases the potential of a tree as a bat roost,



- Adjoining potential roosts / known roosts. This raises the likelihood of a tree being of benefit as bats may move roosts if the roost becomes too hot or cold during roosting and a nearby alternative roost is highly desirable.

A review of the tree survey and arboricultural impact assessment conducted by The Tree File Ltd (2023) was also completed. The arboricultural features described in the Bat Tree Habitat Key (Andrews, 2018) also informed the survey.

Any suitable features which were accessible from the ground were inspected for signs and evidence of bats using an endoscope and other features higher on the tree were identified using binoculars.

### 2.1.3 Detector Survey

In accordance with best practice as described in the 'Guidelines for the Treatment of Bats During the Construction of National Road Schemes' (NRA 2006) and 'Bat Mitigation Guidelines for Ireland' (Kelleher 2006), a bat activity survey of the general environs of New Street was conducted. This survey assisted in determining what bat species (if any) occur within New Street and if bats are using the site for foraging or commuting purposes.

A bat detector survey was carried out at dusk on the 28<sup>th</sup> March 2023 using several types of bat detectors - two Batbox Duet Heterodyne/Frequency Division detectors, a Pettersson D100 Heterodyne detector and an Echometer Touch Pro 2.

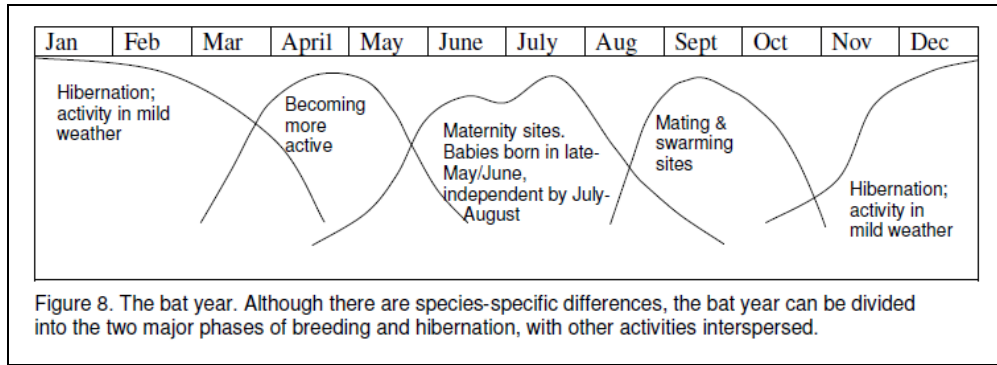
Any emergence of bats in the general vicinity of New Street at dusk was monitored when a walkover survey of the street was conducted. Adjoining lands such as the grounds around St. Sylvester's Church, Railway Avenue, Old Street, Ross Cottages and the green space near the marina were also walked listening for bats. Lands at the southern boundary of Malahide Castle at the Bridgefield Car Park were then visited.

Bat activity is predominantly bi-modal, with bats taking advantage of increased insect numbers on the wing during the periods after dusk and before dawn, (there is usually a lull in activity in the middle of the night). While this holds true for 'hawking' species (bats that capture prey in the open air), 'gleaning' species such as brown long-eared (*Plecotus auritus*), Natterer's (*Myotis nattereri*) and Whiskered/Brandt's bats (*Myotis mystacinus/brandtii*) remain active throughout the night, as prey is available on foliage for longer periods.

### 2.1.4 Survey Constraints

The bat survey was completed in March 2023, when bats are becoming active as can be seen on **Figure 2.1** below (Source: NPWS Bat Mitigation Guidelines). Although this is outside the optimum time period for bat activity surveys (April – September inclusive) bats are active at this time as they emerge from hibernation and activity depends on weather conditions.

Weather conditions were suitable for bat activity and bats were active at other locations surveyed where more suitable bat habitat occurred (Malahide Castle).



**Figure 2.1. The Bat Year (Source: NPWS Bat Mitigation Guidelines).**

Table 2, from within that same document, is also presented below, which outlines the appropriate months for bat surveys.

**Table 2. The applicability of survey methods. (Source: NPWS Bat Mitigation Guidelines).**

Season	Roost Type	Inspection	Bat detectors and emergence counts
Spring (Mar–May)	Building	Suitable (signs, perhaps bats)	Limited, weather dependent
	Trees	Difficult (best for signs before leaves appear)	Very limited, weather dependent
	Underground	Suitable (signs only)	Static detectors may be useful
Summer (June–August)	Building	Suitable (signs and bats)	Suitable
	Trees	Difficult	Limited; use sunrise survey
	Underground	Suitable (signs only)	Rarely useful
Autumn (September–November)	Building	Suitable (signs and bats)	Limited, weather dependent
	Trees	Difficult	Rather limited, weather dependent; use sunrise survey?
	Underground	Suitable (signs, perhaps bats)	Static detectors may be useful
Winter (December–February)	Building	Suitable (signs, perhaps bats)	Rarely useful
	Trees	Difficult (best for signs after leaves have gone)	Rarely useful
	Underground	Suitable (signs and bats)	Static detectors may be useful

## 2.2 Description of the Works

The proposed public realm improvements involve the widening of footpaths and provision of new kerb edges to the widened footpaths and public spaces on New Street, Malahide (c.150m in length, 0.22ha). The trafficable section of New Street will be realigned and narrowed and control measures will be inserted to provide for revised traffic flow routes, restrictions, car parking and loading arrangements.

All street surfaces will be upgraded and existing street trees replaced with new trees and additional soft landscaping. Outdoor dining zones will be identified and new street furniture installed. New public lighting will be provided and the water services and utilities networks within the street will be upgraded.

The proposed public realm improvement works will comprise: -

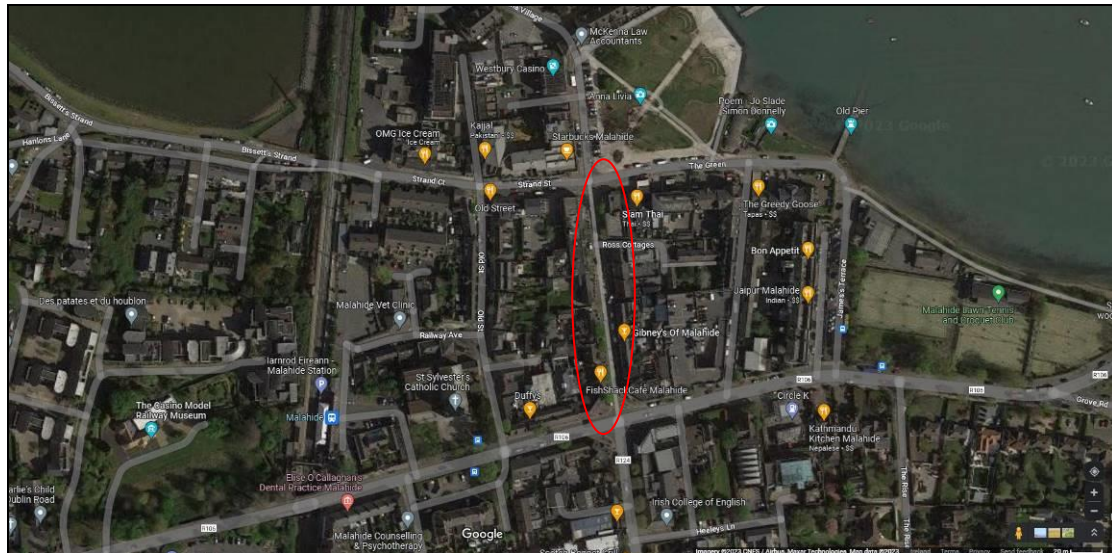
- i. Widening of footpaths and provision of new kerb edges with existing kerbstones retained, realigned and protected within the widened footpaths and public spaces.
- ii. Realignment and narrowing of the trafficable section of New Street (c.150m in length) and insertion of control measures and all necessary signage to provide for a pedestrianised street with associated traffic flow routes and restrictions allowing for time limited one-way access from 7am to 11am each day for deliveries and emergency vehicles from Main Street/ The Mall to New Street and a two-way access from Strand Street to Ross's Terrace via New Street.
- iii. Upgrade of all street surfaces.
- iv. Provision of 2no. loading bays at the southern and northern ends of New Street and an accessible parking space in front of the HSE building.
- v. Installation of cycle stands at 6no. locations on New Street with capacity for 23no. cycle parking spaces.
- vi. Removal and replacement of 11no. existing trees with 37no. trees of species appropriate to the location and environment and provision of soft landscaping and green infrastructure with planting zones for seeded, planted and hedging areas and associated bioretention and tree pit areas.
- vii. Provision of outdoor dining zones including tables and chairs and other ancillary moveable structures.
- viii. Provision of street furniture including seating, benches and litter and recycling bins and a water feature.
- ix. New public lighting comprising 12no. fixtures.
- x. Upgrade of the watermain and foul drainage networks and upgrade and relocation of the surface water drainage network including provision of sustainable urban drainage systems (SUDs) features as part of hard and soft landscaping.
- xi. Provision of ducting for utilities and piped infrastructure.
- xii. All associated site and development works.

Fingal County Council will be providing regulatory traffic signs (including regulatory signs which give effect to a pedestrianisation of New Street) in accordance with Section 95 of the Road Traffic Act 1961 (as amended).

### 3. RESULTS

#### 3.1 General Description of the Study Area

The existing public realm at New Street is that of the built environment, which is urban, hard-standing and impervious in nature as is clear from the Google Maps Imagery presented in **Figure 3.1** below.



**Figure 3.1. New Street, Malahide (Google Maps).**

Since 2020 the street has been pedestrianised with the removal of two-way traffic movement and time limited one-way access from 7am to 11am each day for deliveries and emergency vehicles from Main Street/ The Diamond to New Street and two-way access from Strand Street to Ross's Terrace via New Street.

There are no areas of natural habitat present within New Street. There is a treeline of large Norway Maple (*Acer platanoides*), which are of planted origin. These street trees, which are not native to Ireland, run along the western footpath of the street as shown on the tree survey drawings and arboricultural impact assessment prepared by The Tree File Ltd (2023). An additional smaller alignment is situated at the eastern side, close to the junction with Strand Street. There are 11 no. trees in total within New Street. 3 trees have been identified by the project arborist as 'Category B2' which are of moderate quality and 7 trees are noted as 'Category C2', of generally poor-quality and of limited value. Tree no. 1782, to the north, has been classed as 'Category U'. This tree has been identified as unsuitable for retention due to extensive damage and decay/fracture of underlying timber observed. A series of window boxes, planters, etc. containing ornamental planting are found throughout the streetscape.

The lands at New Street, Malahide are not currently designated for any nature conservation purposes. A number of European designated sites occur in the vicinity of Malahide. These are the Malahide Estuary SAC (Site Code: 000205) and Malahide Estuary SPA (Site Code: 004025), the boundaries of which are shown on **Figure 3.2** below. They are located within 200m of New Street. Bats are not a qualifying interest for either of these European designated sites.





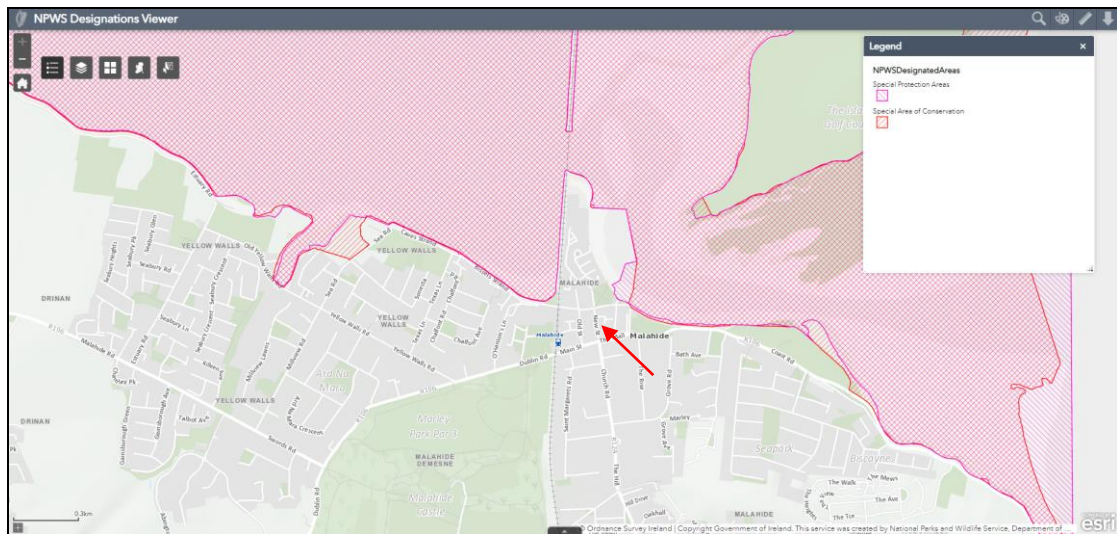
**Plate 1. Photo taken from the centre of New Street, looking south, towards the Diamond.**



**Plate 2. Photo taken from New Street, looking east, towards the laneway to the Ross Cottages.**



**Plate 3.** Photo taken at the entrance to Malahide Green, looking towards the Marina.



**Figure 3.2.** Malahide Estuary SAC (Site Code: 000205) (shown in red hatching) and Malahide Estuary SPA (Site Code: 004025) (shown in pink hatching) are in close proximity to and downslope of New Street (indicated by the red arrow). (Source: National Parks and Wildlife Service).

### 3.2 Records held by Bat Conservation Ireland and NBDC

The Bat Conservation Ireland Database of bat records was searched for records of bats from the Malahide area. The database contains records of roosts, ad hoc observations and the results of surveys such as the BATLAS 2010 and 2020 projects and the All Ireland Daubenton's Monitoring Project. Bat species recorded from within a 10km radius of Malahide Village include:

- Common pipistrelle (*Pipistrellus pipistrellus*),
- Soprano pipistrelle (*Pipistrellus pygmaeus*),
- Daubenton's bat (*Myotis daubentonii*),
- Leisler's bat (*Nyctalus leisleri*),
- Brown long-eared bat (*Plecotus auritus*),
- Several unidentified *Myotis* species, and
- an unidentified pipistrelle species (*Pipistrellus* sp.).

The National Biodiversity Data Centre (NBDC) has records of Leisler's bat, Common pipistrelle and Soprano pipistrelle from Malahide as shown on **Figures 3.3 to 3.5** below.

Bat surveys conducted by Faith Wilson of Caves Marsh Stream in 2019, which is located to the west of Malahide Village, recorded three species of bats there (Common Pipistrelle, Soprano Pipistrelle and Leisler's bat) (Wilson, 2019).

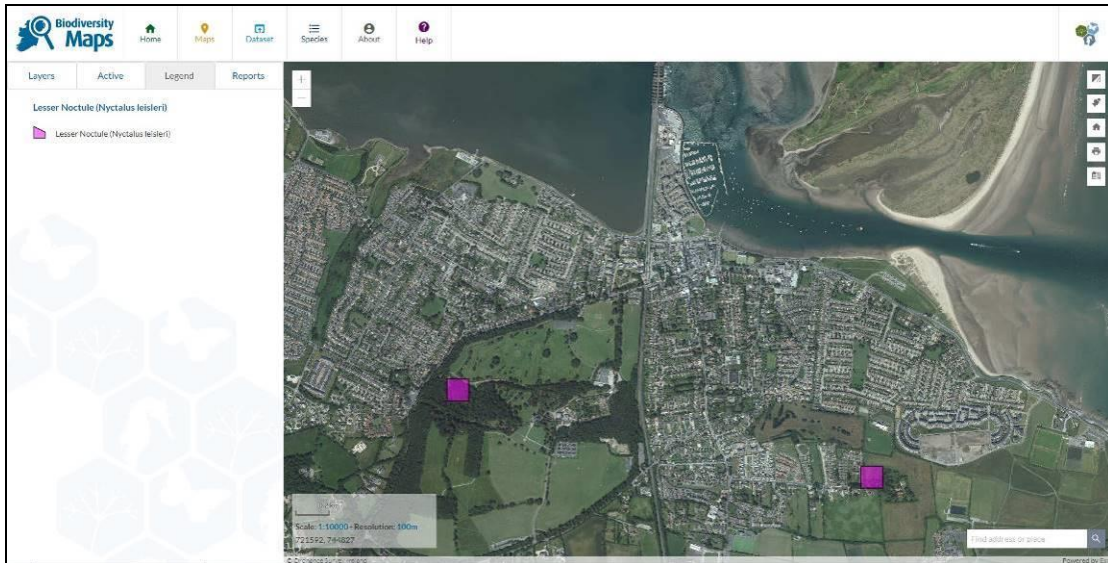
Lands to the south of Malahide Demesne at Ashwood Hall/Broomfield (which have been developed with residential housing - Fingal County Council Planning Reg Ref: F13A/04 and An Bord Pleanála Reference Number: PL 06F.243863) have been the subject of several bat surveys over a number of years (2014 - 2022) conducted by Faith Wilson. Four species of bats have been recorded there as follows:

- Leisler's bat (*Nyctalus leisleri*)
- Common Pipistrelle (*Pipistrellus pipistrellus*)
- Soprano Pipistrelle (*Pipistrellus pygmaeus*)
- Brown long-eared bat (*Plecotus auritus*)

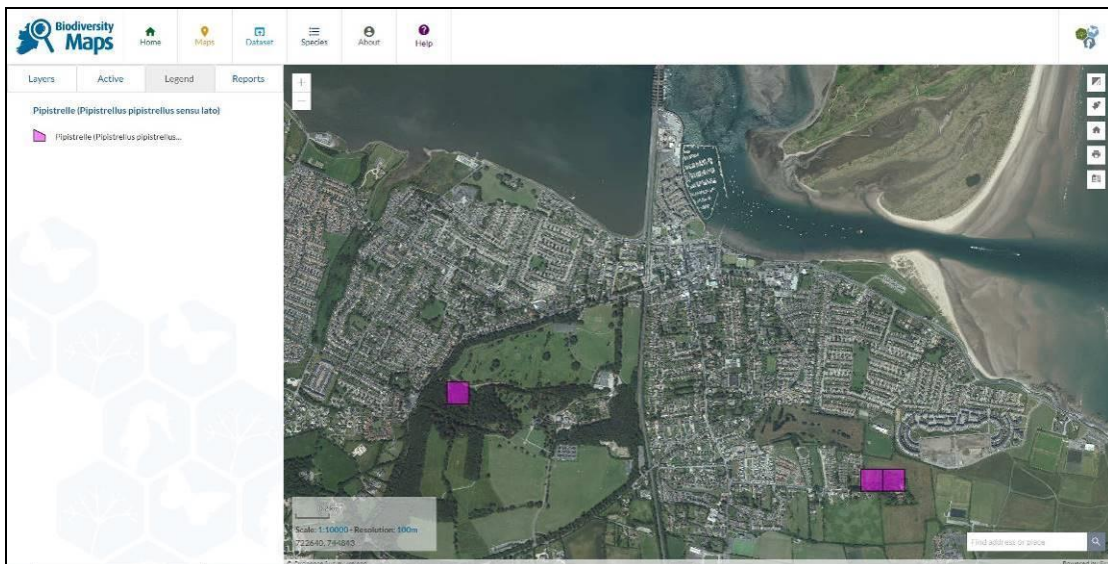
Surveys of Malahide Demesne conducted by Donna Mullen and Brian Keeley in 2019 as part of a wider ecological survey of the demesne (Wilson, 2020) recorded four species of bats from the demesne. These are:

- Common pipistrelle (*Pipistrellus pipistrellus*),
- Soprano pipistrelle (*Pipistrellus pygmaeus*),
- Leisler's bat (*Nyctalus leisleri*), and
- Brown long-eared bat (*Plecotus auritus*).





**Figure 3.3. Leisler's bat recorded from Malahide Village (Source: NBDC).**



**Figure 3.4. Common pipistrelle bat recorded from Malahide Village (Source: NBDC).**



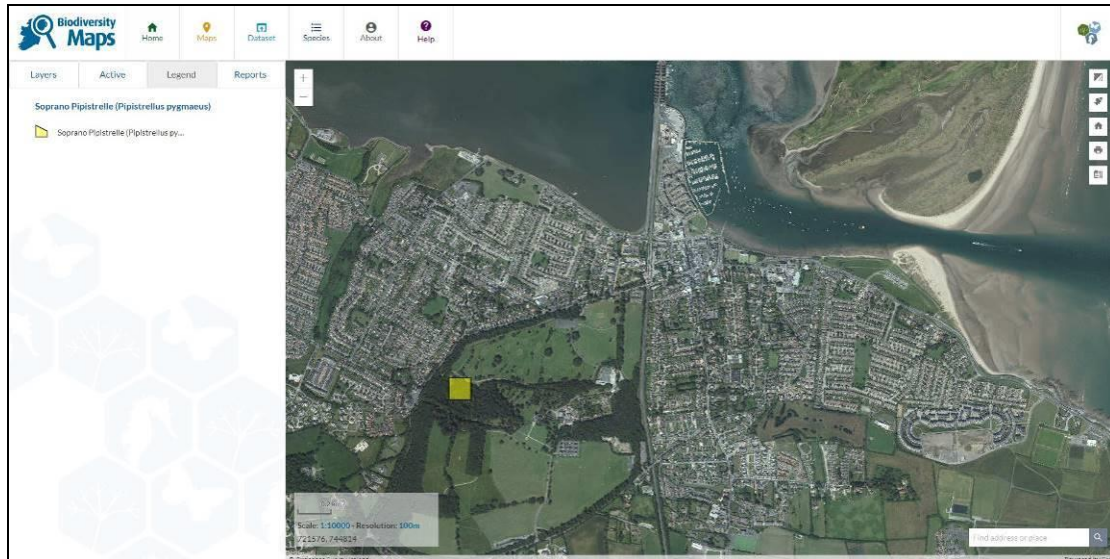


Figure 3.5. Soprano pipistrelle bat recorded from Malahide Village (Source: NBDC).

### 3.3 Survey Results

#### 3.3.1 Tree Survey

The Norway maple trees on New Street offer very limited roosting potential for bats and are mostly classified as category 4. These are limited to a very small number of rot holes which may on occasion support a single bat (these are classified as Category 3) but there are no Category 1 or 2 trees as described by Collins (2016) – see Table 3 below.

**Table 3: Tree Bat Roost Category Classification System (Collins, 2016).**

Tree Category	Description
1	Trees with multiple, highly suitable features (Potential Roosting Features = PRFs) capable of supporting larger roosts
2	Trees with definite bat potential but supporting features (PRFs) suitable for use by individual bats;
3	Trees have no obvious potential although the tree is of a size and age that elevated surveys may result in cracks or crevices being found or the tree supports some features (PRFs) which may have limited potential to support bats;
4	Trees have no potential.



**Plate 4. Norway Maple trees on New Street.**

#### 3.3.2 Detector Survey

The detector survey was completed on the 28<sup>th</sup> March 2023 during suitable conditions. Sunset was at 19:54. Temperatures at the beginning of the study were

12°C decreasing to 10°C by the time the survey concluded at 22:41. There was some initial light drizzle but this had cleared within c.20 minutes. The weather was calm and overcast.

No bats were recorded utilizing New Street. A single Common pipistrelle bat was recorded on Old Street at 21:18 but no other bats were recorded in the other adjoining streets and immediate areas surveyed – the general survey route is shown on **Figure 3.6** below.

In comparison three species of bats were recorded in the environs of Malahide Castle foraging along a large mature treeline near the GAA Pitch south of Bridgefield Car Park.

Bats were recorded foraging and hunting along the mature treeline which bounds the back entrance to the castle and the demesne and forms the western boundary of the GAA pitch as shown on **Figure 3.7** below. These were the Common pipistrelle, Soprano pipistrelle and Leisler's bat. The sonograms recorded of each of these species are presented on **Figures 3.8, 3.9** and **3.10** below.

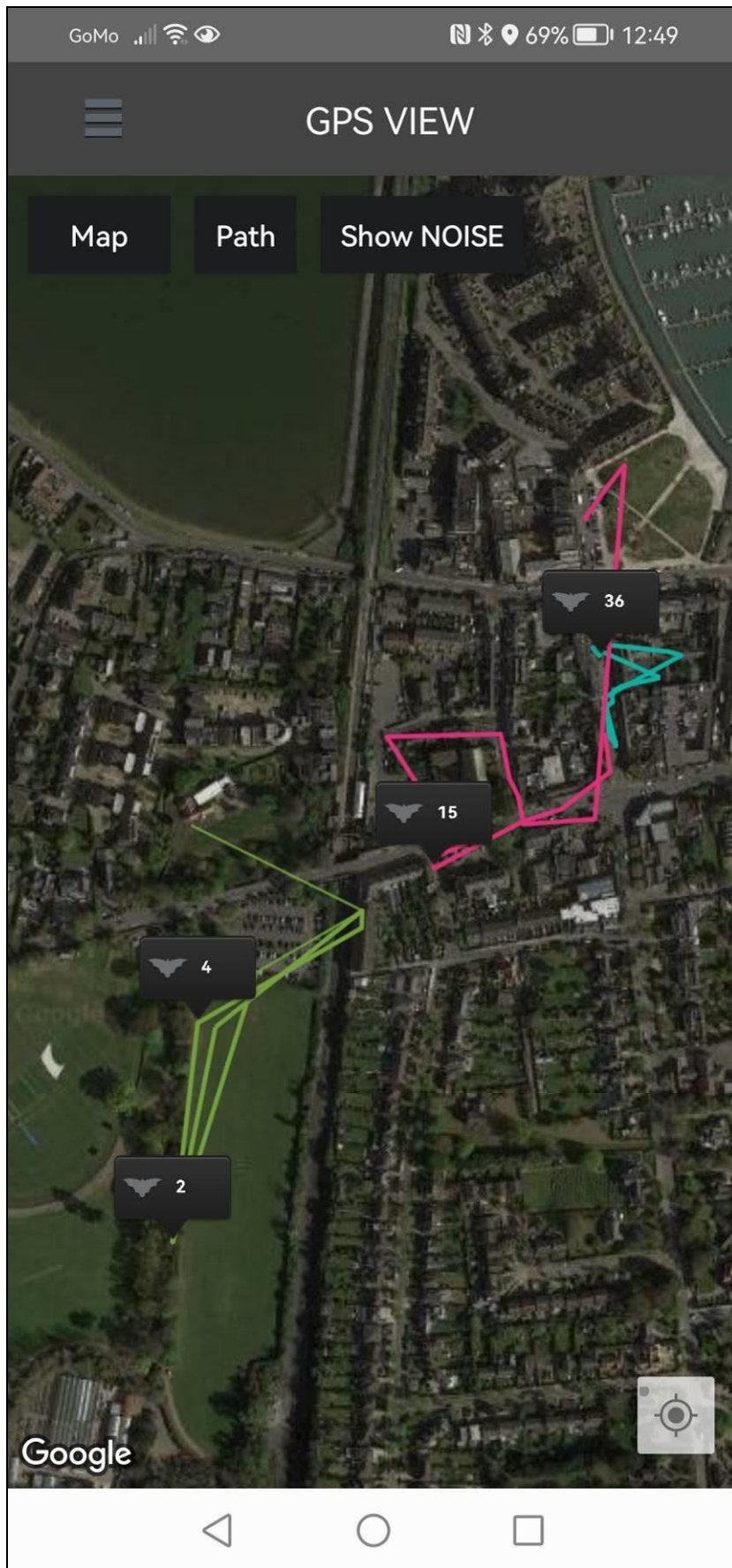
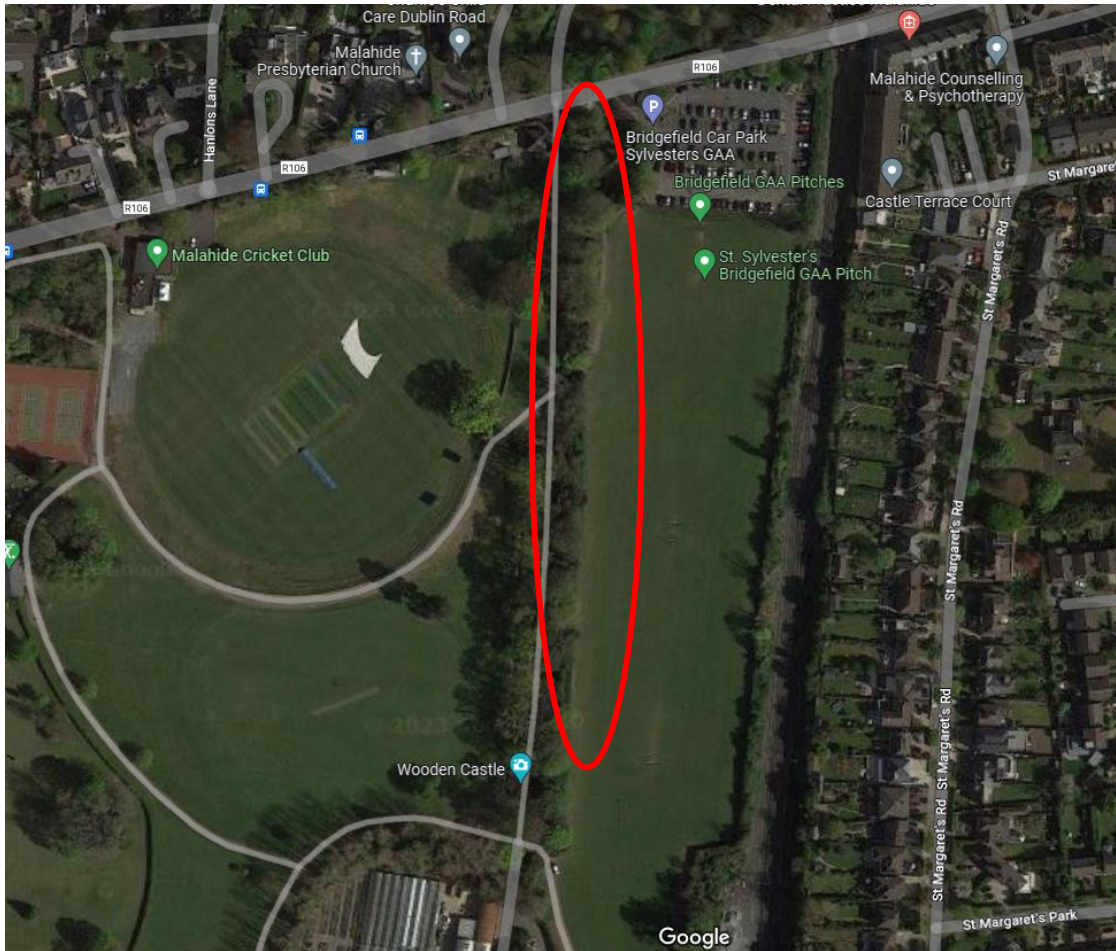


Figure 3.6. Routes walked during the bat activity survey.





**Figure 3.7.** Bat activity was noted along the treeline indicated by the red circle in the grounds of Malahide Castle near the GAA Pitch south of Bridgefield Car Park.

The Bat Conservation Ireland Irish Landscape Model indicates that the Common pipistrelle and Soprano pipistrelle bats select areas with broadleaf woodland, riparian habitats and low density urbanization (<30%) (Roche *et al.*, 2014) so their presence in the general environs of the village is not unexpected.

The Bat Conservation Ireland Irish Landscape Model indicates that the Leisler's bat habitat preference has been more difficult to define in Ireland. Habitat modelling for Ireland shows an association with riparian habitats and woodlands (Roche *et al.*, 2014). The landscape model emphasised that this is a species that cannot be defined by habitats preference at a local scale compared to other Irish bat species but that it is a landscape species and has a habitat preference at a scale of 20.5km. In addition, of all Irish bat species, Leisler's bats have the most specific roosting requirements. It tends to select roosting habitat with areas of woodland and freshwater.

Areas such as Malahide Demesne and the Caves Stream Marsh offer rich habitat for these and other species of bats as substantiated by the results of the previous surveys of these areas as presented in **Section 3.2**.

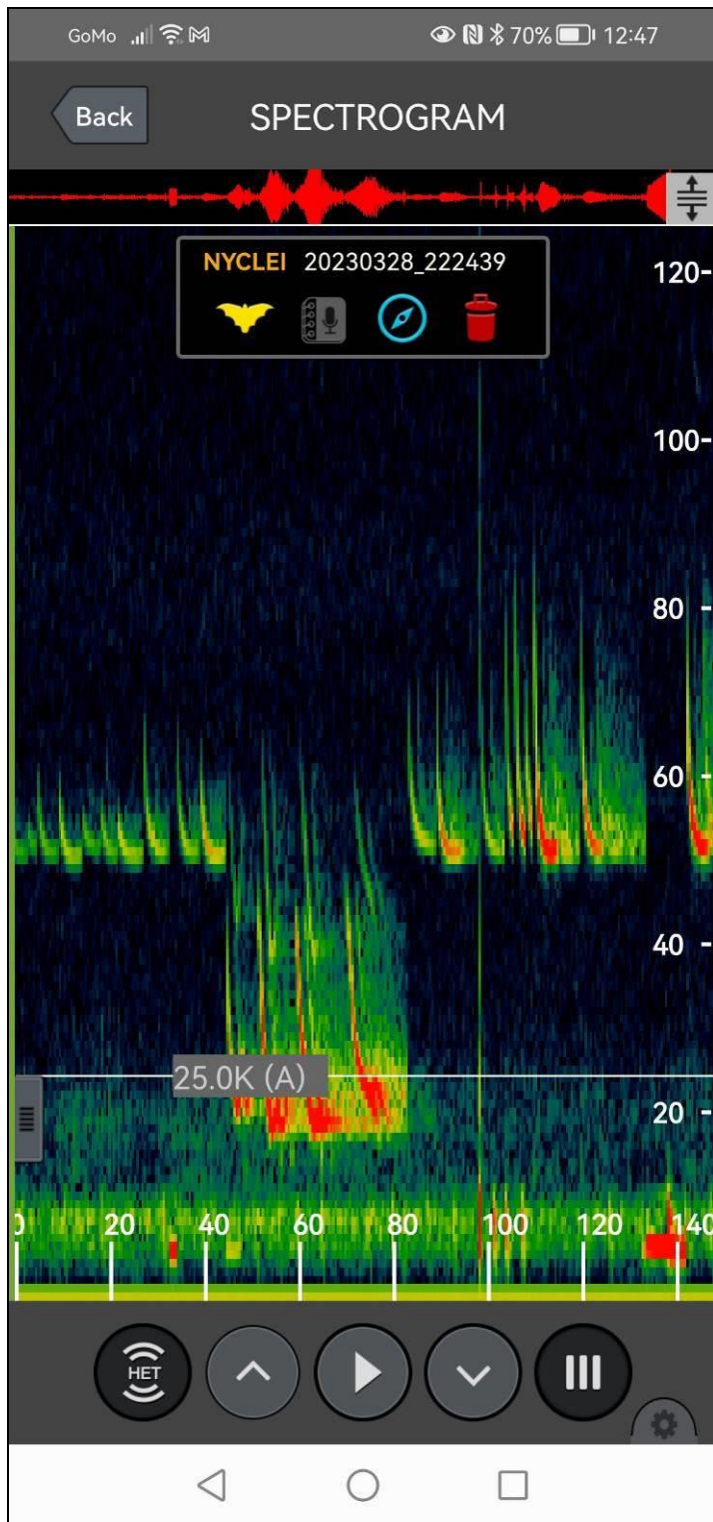


Figure 3.8. Spectrogram of Leisler's bat and a Soprano pipistrelle bat in the grounds of Malahide Castle near the GAA Pitch south of Bridgfield Car Park.

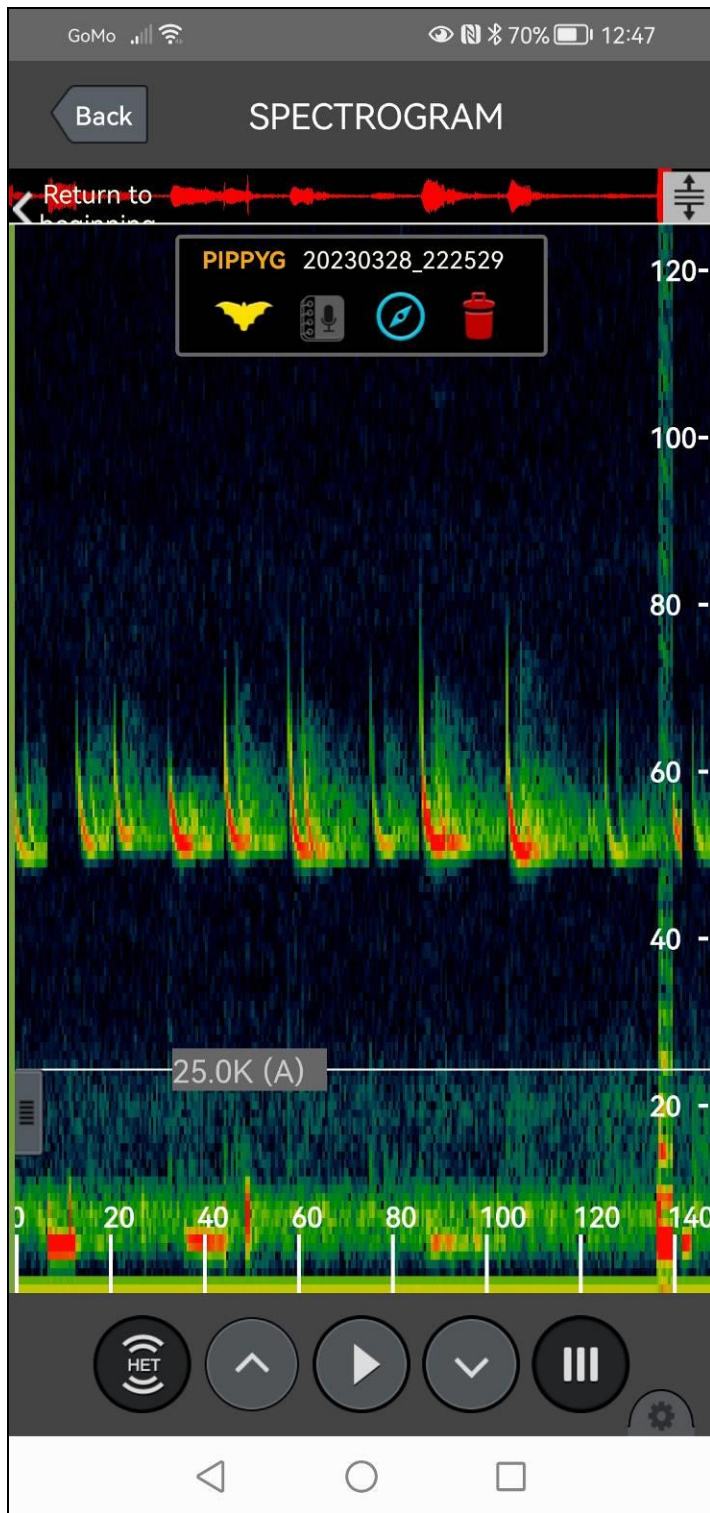


Figure 3.9. Spectrogram of a Soprano pipistrelle bat in the grounds of Malahide Castle near the GAA Pitch south of Bridgefield Car Park.



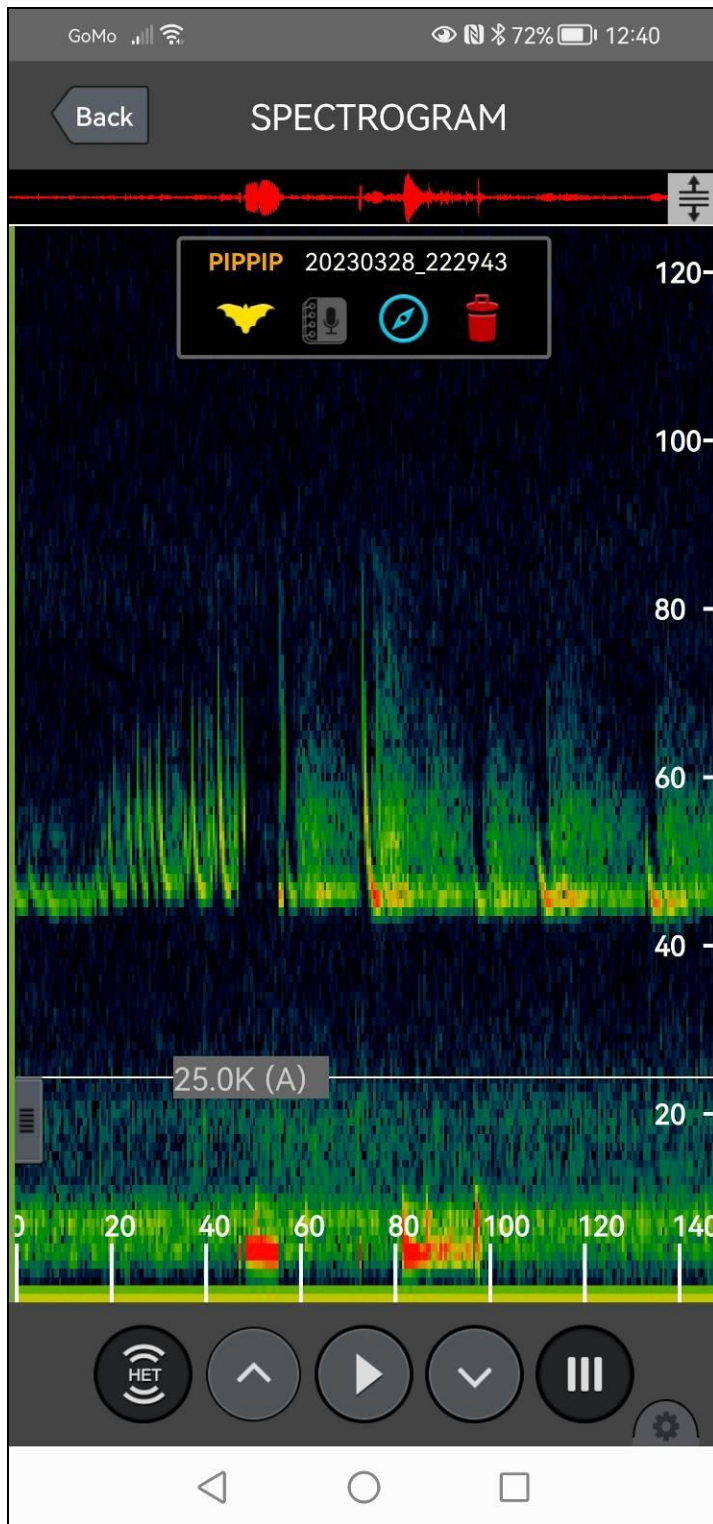


Figure 3.10. Spectrogram of a Common pipistrelle bat in the grounds of Malahide Castle near the GAA Pitch south of Bridgefield Car Park.



### 3.4 Lighting Assessment

The streetscape at New Street is a highly lit environment with light sources including street lanterns, lighting from business premises and ornamental lighting on trees as can be seen on **Plates 5** and **6** below.



**Plate 5. Looking south up New Street.**



**Plate 6. Ornamental lighting on trees at Fowlers Bar and façade lighting.**

The current levels of lighting on New Street were assessed by Axiseng (the project lighting consultants). They describe the existing lighting as follows:

The existing lighting is served via pole mounted lantern style fittings. This is supplemented by shop fronts, pub lighting and festoon lighting throughout the street infrastructure. The lighting levels from the existing fittings range from approx. 6.5 lux to 61.6 lux giving an overall average of approx. 17 lux which has been calculated by taking a total of 36 lux readings along the street as shown on **Figure 3.11** below.



**Figure 3.11. Existing light levels on New Street vary from 6.5 lux to 61.6 lux, giving an overall average of approx. 17 lux in the streetscape.**

### **3.5 Survey Conclusion**

Given the urban nature of the streetscape with limited natural vegetation, the presence of non-native tree species and the highly lit environs of New Street, Malahide this part of the village does not provide habitats of high importance for bats for foraging or commuting purposes.

There are some dark areas in the immediate environs of New Street where private gardens/green spaces such as those at Ross Cottages and between New Street and Old Street or in the environs of the north side of St. Sylvester's Church and around Railway Avenue, which could offer suitable spaces for bats to hunt and forage in.

Given the age of many of the buildings present in Malahide Village some of them (such as the church) may also offer bats roosting opportunities within attics or roofs.

**A bat derogation licence is not required for the proposed public realm improvements.**

#### **4. DESCRIPTION OF LIKELY SIGNIFICANT IMPACTS**

##### **4.1 Potential Impacts of the Proposed Public Realm Improvements on Bats**

Given the urban nature of the streetscape with limited natural vegetation, the presence of non-native tree species and the highly lit environs of New Street, Malahide this part of the village does not provide habitats of high importance for bats for foraging or commuting purposes.

There are a number of potential measures that could be implemented to make New Street more bat friendly and these are set out below in **Section 5**.

## **5. BAT PROTECTION MEASURES**

Measures to ensure that the public realm improvements for New Street create a more favourable habitat for local bat populations (as well as for the public) and ensure the protection of bats are detailed below.

### **5.1 Felling of Trees**

Prior to any removal of trees on New Street they will be re-examined from the perspective of bats as new wounds/damage to trees can create new potential roosting locations. The assessment of trees according to their PBR value determines the methodology of felling.

Any trees identified following this survey as potential Category 3 bat roosts will be subject to appropriate felling measures as detailed in NRA Guidelines for the Treatment of Bats during the Construction of National Road Schemes (National Roads Authority 2006). The felling/clearance of trees will be scheduled for the autumn months of September/October which also avoids the bird breeding season. Using a hoist or similar any rot holes or potential crevices that could not be inspected from street level will be examined by a licensed bat specialist. If any evidence of bats are found the National Parks and Wildlife Service will be notified and a bat derogation licence sought.

The felling of those trees, which have been identified as potential bat roosts, must be supervised by a bat specialist holding a bat handling licence issued by the National Parks and Wildlife Service, (Department of Housing, Local Government and Heritage). If bats are encountered they should be removed by the licence holder to a bat box, to be sited on a nearby tree and the NPWS notified.

### **5.2 Planting of Native Species**

The planting proposals at New Street have been prepared by the project landscape architects Dermot Foley Landscape Architects in collaboration with the project ecologist Faith Wilson and include many native trees, shrubs and wildflowers. These will be certified as being of native Irish provenance to ensure genetic provenance.

The recommendations of the Pollinator Friendly Planting Code All-Ireland Pollinator Plan 2015-2020 available on [www.pollinators.ie](http://www.pollinators.ie) have been included and considered in the landscaping proposals. These measures will potentially provide some foraging habitat in the general environs of New Street for local bat populations.

### **5.3 Lighting**

Many species of bats and other mammals are sensitive to lighting and will avoid areas which are illuminated as was evident from the current survey of New Street where lux levels range from approx. 6.5 lux to 61.6 lux giving an overall average of approx. 17 lux. This is well in excess of the recommended lux levels of <1 lux for bat areas.

The design recommendations from the Bat Conservation Trust/Institution of Lighting Professionals 'Guidance Note 08/18 - Bats and artificial lighting in the UK - Bats and the Built Environment Series' BCT (2018) for wildlife-friendly lighting were incorporated into the lighting design for the scheme by the project lighting designers and should improve the current lighting situation in terms of upward light spill.

The proposed lighting design as shown on **Figure 3.12** below allows for wall mounted units (please refer to AxisEng drawing NSM-X-X-DR-AXE-EE-60101 and the Mechanical & Electrical Services Installation/Public Lighting Report for further information).

The proposed lighting has been calculated using Lighting Reality and designed using specific parameters as outlined within the Lighting Report section of the Mechanical & Electrical document.

With the new fittings the average lux level has been calculated at 16.5 lux (see **Figure 3.13**). The proposed lighting is in line with the existing lux levels on the street.

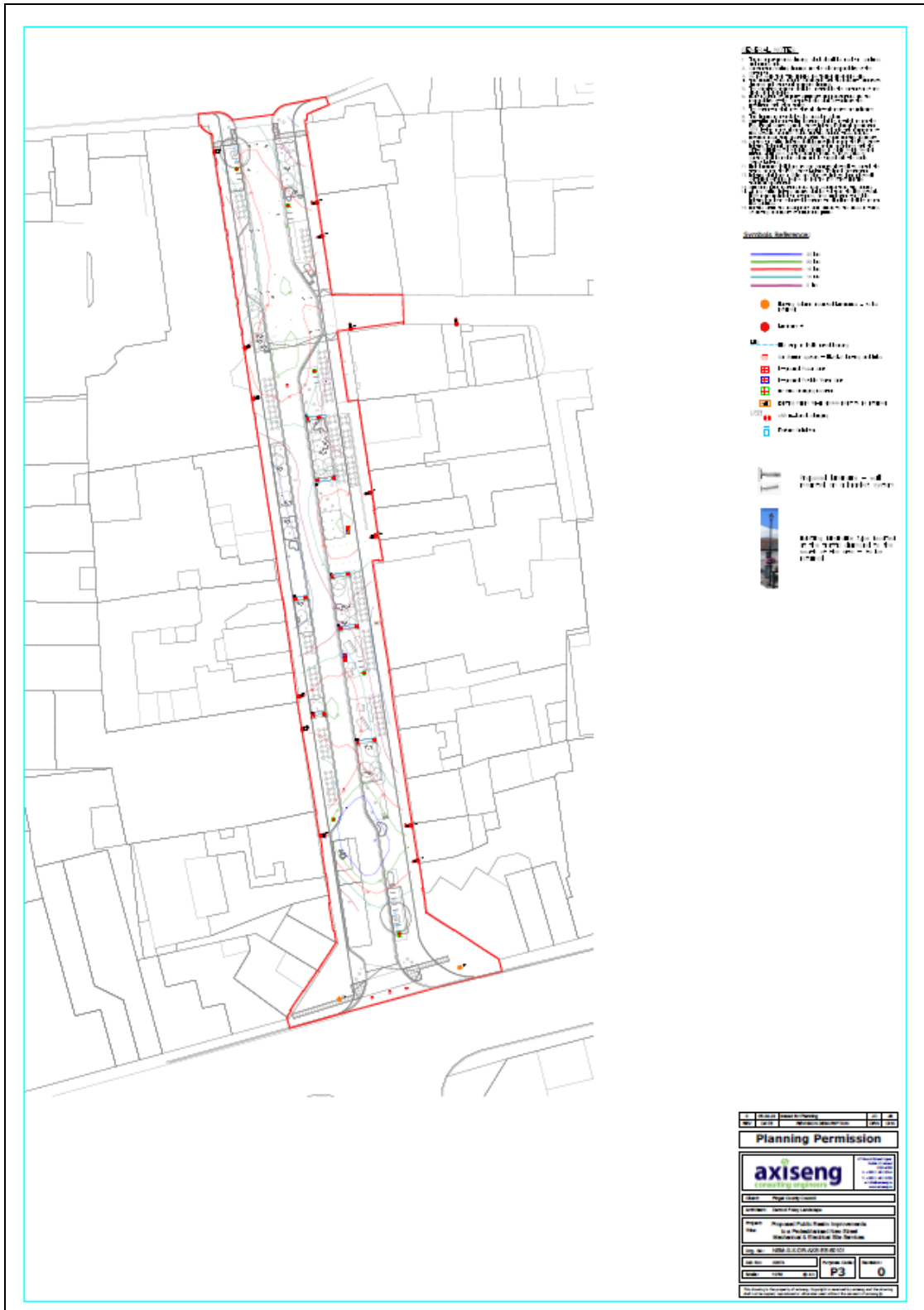


Figure 3.12. Drawing NSM-X-X-DR-AXE-EE-60101 - Lighting design (Axiseng).



### Horizontal Illuminance (lux)

Grid 1



#### Results

Eav	16.49
Emin	2.27
Emax	43.62
Emin/Emax	0.05
Emin/Eav	0.14

Figure 3.13. Lux levels.

## 6. CONCLUSIONS

A bat derogation licence is not currently required for the project.

No bat activity was recorded within the streetscape of New Street. New Street would not be deemed to be a landscape of high importance for foraging or commuting bats given the urban nature of the street which is highly lit at night and contains no native trees or areas of vegetation which would support invertebrates on which bats forage.

The non-native Norway Maple trees within the streetscape of New Street have been assessed as Category 3 trees from the perspective of roosting bats. They offer very limited potential to support roosting bats and will be re-examined prior to their removal by a bat specialist using a hoist to inspect the higher parts of the trees which could not be examined from ground level. This will ensure the safeguarding of bats and to determine if a bat derogation licence is required.

Measures to ensure that the public realm improvements for New Street also create a more favourable habitat for local bat populations as well as for the public have been included within the project design.



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