Enviroguide
a DNV company

enviroguide.ie

Bat Activity Survey Report

PRESENTED TO

Malclose Limited
Proposed Development at Gowan House, Carriglea Business Park, Naas Road, Dublin 12, D12 RCC4

November 2023

Environmental Consultancy Services

DOCUMENT CONTROL SHEET

Client	Malclose Limited
Project Title	Proposed Development at Gowan House, Carriglea Business Park, Naas Road, Dublin 12, D12 RCC4
Document Title	Bat Activity Survey Report

Rev.	Status	Author(s)	Reviewed by	Approved by	Issue Date
00	Internal Draft	SH *Ecologist*	-	-	-
01	Draft for Client Review	SH *Ecologist*	AC *Ecologist*	BL *Principal Ecologist*	30/08/2023
02	Draft for Client Review	SH *Ecologist*	AC *Ecologist*	BL *Principal Ecologist*	30/08/2023
03	Draft for Client Review	SOB Ecologist	-	-	23/10/2023
04	Final	SOB Ecologist	-	-	23/11/2023

REPORT LIMITATIONS

Synergy Environmental Ltd. t/a Enviroguide Consulting (hereafter referred to as "Enviroguide") has prepared this report for the sole use of Malclose Limited in accordance with the Agreement under which our services were performed. No other warranty, expressed or implied, is made as to the professional advice included in this Report or any other services provided by Enviroguide.

The information contained in this Report is based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested and that such information is accurate. Information obtained by Enviroguide has not been independently verified by Enviroguide, unless otherwise stated in the Report.

The methodology adopted and the sources of information used by Enviroguide in providing its services are outlined in this Report.

The work described in this Report is based on the conditions encountered and the information available during the said period of time. The scope of this Report and the services are accordingly factually limited by these circumstances.

All work carried out in preparing this report has used, and is based upon, Enviroguide's professional knowledge and understanding of the current relevant national legislation. Future changes in applicable legislation may cause the opinion, advice, recommendations or conclusions set-out in this report to become inappropriate or incorrect. However, in giving its opinions, advice, recommendations and conclusions, Enviroguide has considered pending changes to environmental legislation and regulations of which it is currently aware. Following delivery of this report, Enviroguide will have no obligation to advise the client of any such changes, or of their repercussions.

Enviroguide disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to Enviroguide's attention after the date of the Report.

Certain statements made in the Report that are not historical facts may constitute estimates, projections or other forward-looking statements and even though they are based on reasonable assumptions as of the date of the Report, such forward-looking statements by their nature involve risks and uncertainties that could cause actual results to differ materially from the results predicted. Enviroguide specifically does not guarantee or warrant any estimate or projections contained in this Report.

Unless otherwise stated in this Report, the assessments made assume that the site and facilities will continue to be used for their current or stated proposed purpose without significant changes.

The content of this report represents the professional opinion of experienced environmental consultants. Enviroguide does not provide legal advice or an accounting interpretation of liabilities, contingent liabilities or provisions.

If the scope of work includes subsurface investigation such as boreholes, trial pits and laboratory testing of samples collected from the subsurface or other areas of the site, and environmental or engineering interpretation of such information, attention is drawn to the fact that special risks occur whenever engineering, environmental and related disciplines are applied to identify subsurface conditions. Even a comprehensive sampling and testing programme implemented in accordance with best practice and a professional standard of care may fail to detect certain conditions. Laboratory testing results are not independently verified by Enviroguide and have been assumed to be accurate. The environmental, ecological, geological, geotechnical, geochemical and hydrogeological conditions that Enviroguide interprets to exist between sampling points may differ from those that actually exist. Passage of time, natural occurrences and activities on and/or near the site may substantially alter encountered conditions.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1. INTRODUCTION

Synergy Environmental Ltd., T/A Enviroguide Consulting was commissioned by Malclose Limited to undertake a bat activity survey of a proposed development (the "Proposed Development") at Gowan House, Carriglea Business Park, Naas Road, Dublin 12 (hereafter referred to as the "Site"). The scope of works includes the preparation of a report detailing the results of a bat emergence survey, which was undertaken to assess the current level of bat activity at the Site; to inform if further action/derogation is required. For context, this report should be read in conjunction with the Ecological Impact Assessment (EcIA) prepared by Enviroguide (2023) for the Site of the Proposed Development, which accompanied the planning application.

1.1 Quality Assurance and Competence

Enviroguide Consulting is a multi-disciplinary consultancy specialising in the areas of Environment, Waste Management and Planning. All consultants have scientific or technical qualifications and have a wealth of experience working within the Environmental Consultancy sectors, having undergone extensive training and continued professional development. Professional memberships include the Chartered Institution of Wastes Management (CIWM), and Chartered Institute of Ecology and Environmental Management (CIEEM).

All surveying and reporting have been carried out by qualified and experienced ecologists and environmental consultants.

All surveying and reporting have been carried out by qualified and experienced ecologists and environmental consultants. SOB and BT, Ecologists with Enviroguide, carried out the bat activity survey for this report. SOB and BMcC, Ecologists with Enviroguide, along with AA, an external consultant, undertook the bat emergence survey.

SOB has a B.A. in Zoology from Trinity College Dublin and a M.Sc. Hons. in Wildlife Conservation and Management from University College Dublin, and has experience in desktop research, report writing, and literature scoping-review, as well as practical field and laboratory experience (Pollinator surveying, sampling and identification, habitat surveying, invasive species surveying, etc.). SOB has prepared Stage I and Stage II Appropriate Assessment (AA) Reports, Invasive Species Surveys, Ecology Statements, and Ecological Impact Assessments (EcIA).

BT has a B.Sc. in Environmental Biology (Hons) and a PhD in Marine Ecology from University College Dublin, and a wealth of experience in desktop research, literature scoping-review, and report writing, as well as practical field experience (Habitat surveys, intertidal surveys, winter bird surveys, bat surveys, vantage point surveys and fresh water macro-invertebrates etc.). BT has experience in compiling Biodiversity Chapters of EIARs, Appropriate Assessment (AA) screening and Natura Impact Statement (NIS) reports, and in the overall assessment of potential impacts to ecological receptors from a range of developments.

BMcC, graduate Ecologist and experienced Ornithologist, has 11 years surveying experience and is a longstanding and active member of Bird Watch Ireland. BMcC has provided a range

of Ornithology survey work for ecological consultancies, e.g., Vantage point surveys of Gulls, Terns, Raptors, Waders and Wildfowl; hinterland surveys of the above as well as riverine species; and breeding waders and country birds. BMcC is highly experienced with all survey methodologies and with surveying all species groups of Irish birds and migrants.

AA holds a BSc in Environmental management, is a qualifying member of CIEEM, a member of the British trust for Ornithology and the botanical society of Britain and Ireland. AA has over 20 years' experience of carrying out bird surveys for various organisations including ecological consultancies. These surveys include general breeding/wintering bird, hinterland, Vantage point, breeding waders/raptors and specialised surveys for hen harrier, merlin, barn owl and woodcock. All these surveys are completed using the most up to date survey methodologies with which AA is highly experienced.

AA is also experienced in habitat mapping using the Fossitt methodology and has experience completing AA Screenings and NISs for afforestation projects including mitigation measures following Department of agriculture, forestry and marine. He also carries out pollinator surveys and monitors rare plant populations for the national biodiversity data centre. AA also has experience supporting with dusk bat activity transect surveys.

2. RELEVANT LEGISLATION

In view of their sensitive status across Europe, all species of bat have been listed on Annex IV of the EC 'Habitats and Species Directive' with some, such as the Lesser-Horseshoe bat (*Rhinolophus hipposideros*), given further protection and listed on Annex II of this Directive. This Directive was transposed into Irish law as the European Communities (Natural Habitats) Regulations, 1997, and combined with the Wildlife Act 1976 (as amended), ensures that individual bats, their breeding sites and resting places are fully protected in law. This has important implications for those who own or manage sites where bats occur.

All bat species are protected under the Wildlife Act 1976 (as amended), which make it an offence to wilfully interfere with or destroy the breeding or resting place of these species however, the Act permit limited exemptions for certain kinds of development which would require a derogation licence to be obtained from the NPWS with input from a qualified Bat Specialist. All species of bats in Ireland are listed on Schedule 5 of the 1976 Act, and are therefore subject to the provisions of Section 23, which make it an offence to:

1. Intentionally kill, injure or take a bat,
2. Possess or control any live or dead specimen or anything derived from a bat,
3. Wilfully interfere with any structure or place used for breeding or resting by a bat,
4. Wilfully interfere with a bat while it is occupying a structure or place which it uses for that purpose.

3. DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1 Location

The Proposed Development Site is 0.962 Ha and is located along the Naas Road (R810), which abuts the north of the Site. The east and west of the Site are bound by commercial premises, with an apartment block to the southeast of the Site, and an active construction Site to the south. The surrounding landscape is predominantly urban in nature.

3.1 Proposed Development Description

Malclose Limited intend to apply to Dublin City Council for permission for a large-scale residential development principally comprising student accommodation at this 0.962 Ha Site at Gowan House, Carriglea Business Park, Naas Road, Dublin 12, D12 RCC4.

The Proposed Development will principally consist of: the demolition of the existing two-storey office/warehouse building and outbuilding (5,172 sq m); and the construction of a development in two blocks (Block 1 (eastern block) is part 2 No. storeys to part 15 No. storeys over lower ground floor and basement levels with roof plant over and Block 2 (western block) is part 9 No. storeys to part 11 No. storeys over basement with roof plant over) principally comprising 941 No. Student Accommodation bedspaces (871 No. standards rooms, 47 No. accessible studio rooms and 23 No. studios) with associated facilities, which will be utilised for short-term lets during student holiday periods. The 871 No. standard rooms are provided in 123 No.

clusters ranging in size from 3 No. bedspaces to 8 No. bedspaces, and all clusters are served by a communal living/kitchen/dining room.

The Proposed Development also provides: ancillary internal and external communal student amenity spaces and support facilities; cultural and community floor space (1,422 sq m internal and 131 sq m external) principally comprising a digital hub and co-working space with ancillary cafe; a retail unit (250 sq m); public open space; the daylighting of the culverted River Camac through the site; an elevated walkway above the River Camac at ground floor level; a pedestrian bridge link at first floor level between Blocks 1 and 2; vehicular access at the south-western corner; the provision of 7 No. car-parking spaces, 2 No. motorcycle parking spaces and 2 No. set down areas; bicycle stores at ground and lower ground floor levels; visitor cycle parking spaces; bin stores; substations; hard and soft landscaping; green and blue roofs; new telecommunications infrastructure at roof level of Block 1 including antennas and microwave link dishes, 18 No. antennas and 6 No. transmission dishes, together with all associated equipment; boundary treatments; plant; lift overruns; and all associated works above and below ground.

The gross floor area of the development is c. 33,140 sq m comprising c. 30,386 sq m above lower ground and basement level.

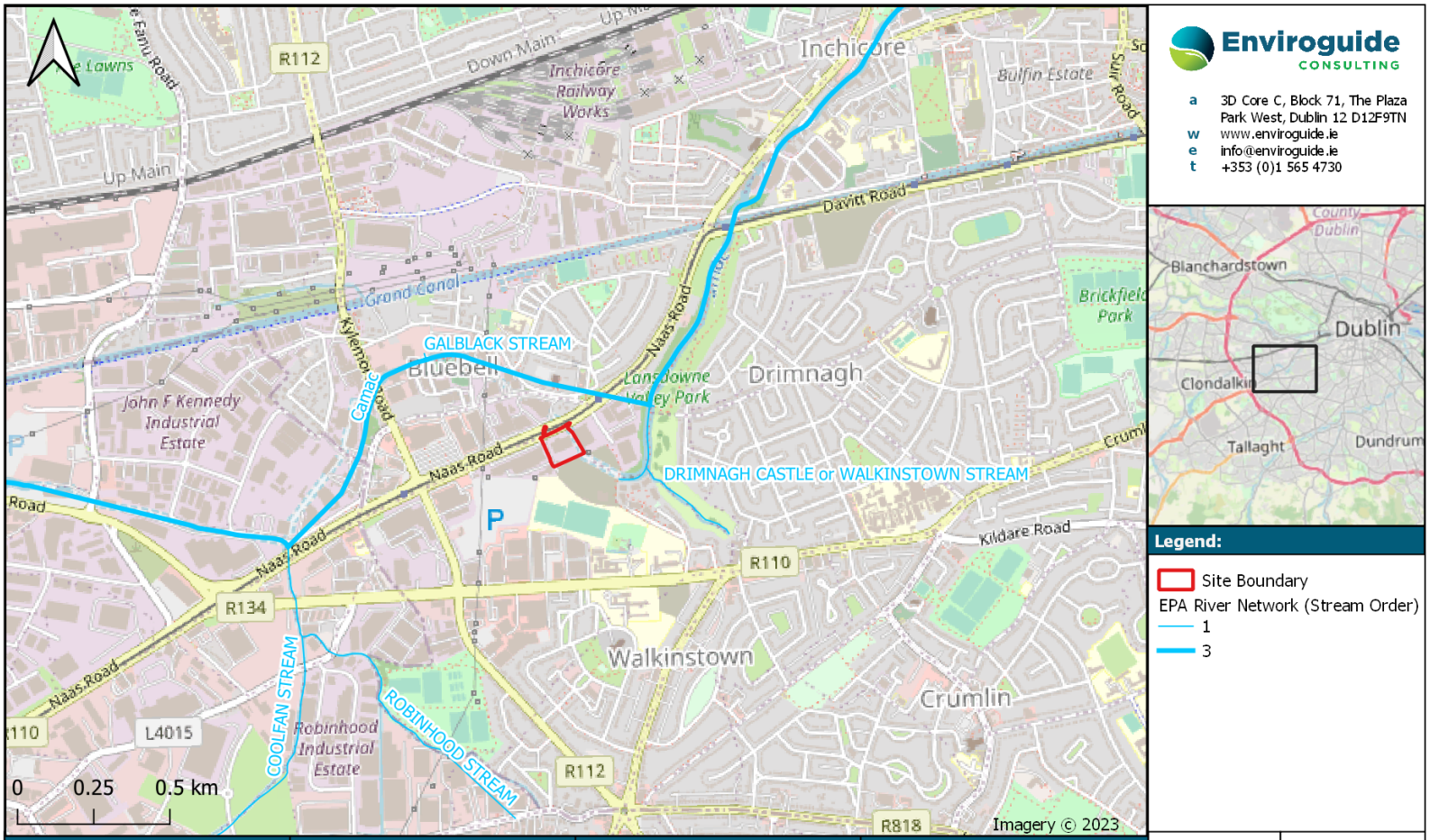

FIGURE 1. SITE LOCATION.

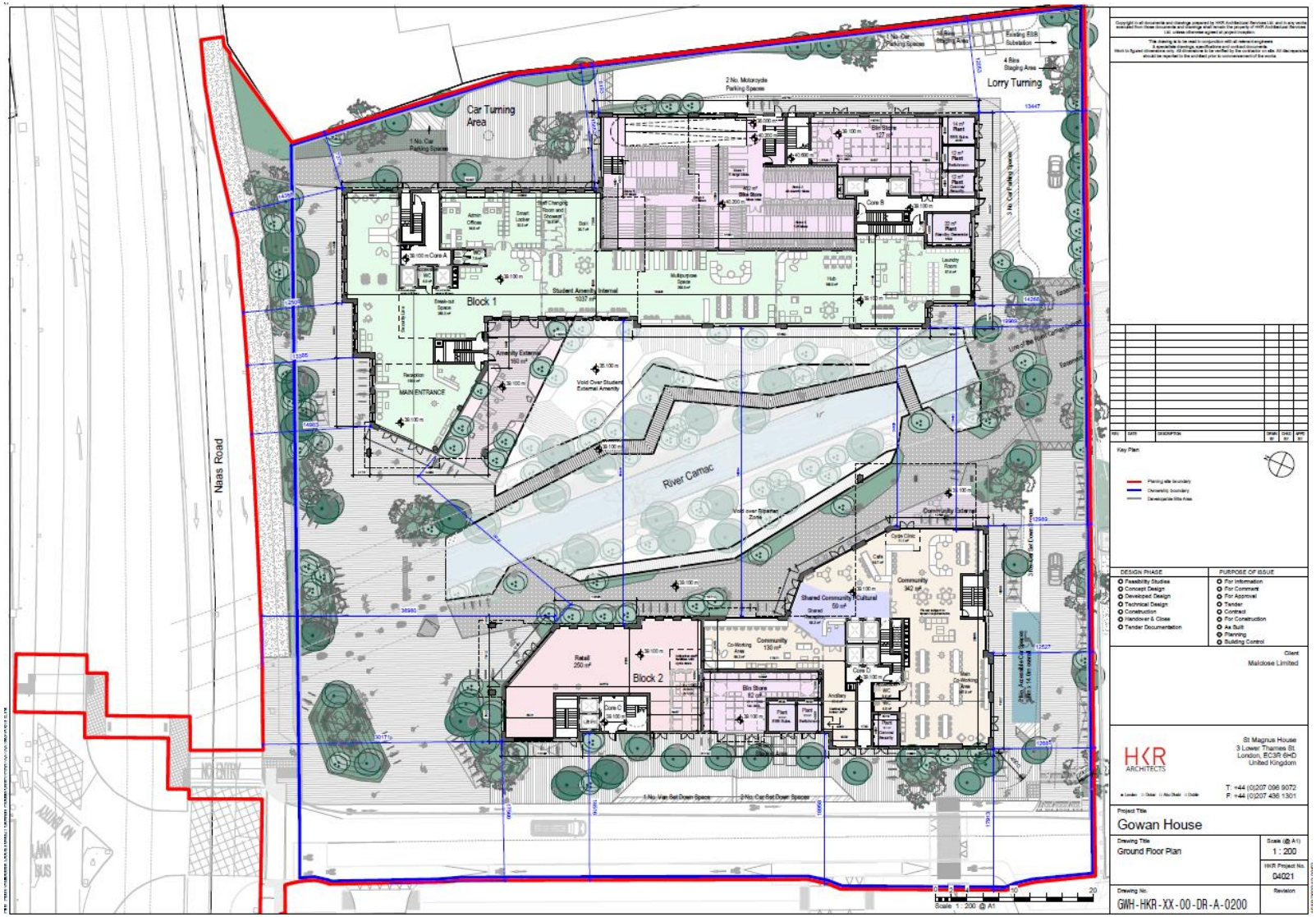

FIGURE 2. PROPOSED SITE LAYOUT DRAWING NO. GWH-HKR-XX-00-DR-A0200 (HKR ARCHITECTS, 2023).

4. METHODOLOGY

4.1 Desk Study

A desk-based review of relevant information concerning bats was completed. Information contained on the websites of the National Parks and Wildlife Service (NPWS) and the National Biodiversity Data Centre (NBDC) was reviewed.

The following publications and websites were also reviewed and consulted:

- Bat Conservation Ireland : https://www.batconservationireland.org/
- Bat Conservation Trust (2018 & 2023) Bats and artificial lighting in the UK. Bats and the Built Environment series.
- Marnell, F., Kelleher, C. & Mullen, E. (2022) Bat mitigation guidelines for Ireland v2. Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.
- Marnell, F., Looney, D. & Lawton, C. (2019) Ireland Red List No. 12: Terrestrial Mammals. National Parks and Wildlife Service, Department of the Culture, Heritage and the Gaeltacht, Dublin, Ireland.
- Bat Conservation Trust (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition.
- Bat Conservation Ireland (2010) Bats & Lighting Guidance Notes for: Planners, engineers, architects and developers.
- Russ, J. (2012) British Bat Calls – A Guide to Species Identification. Pelagic Publishing.
- Aughney, T., Roche, N. & Langton, S. (2018) The Irish Bat Monitoring Programme 2015-2017. Irish Wildlife Manuals, No. 103. National Parks and Wildlife Service, Department of Culture Heritage and the Gaeltacht, Ireland.

4.1.1 Bat Landscape Suitability

The Bat Conservation Ireland Landscape Suitability Model (Lundy *et al*., 2011) provides a habitat suitability index for bat species across Ireland. The model divides the country into 1 km grid squares and ranks the habitat within the squares according to its suitability for various bat species. The scores are divided into five qualitative categories of suitability, namely:

- 0.0000000 - 13.000000: Low
- 13.000001 - 21.333300: Low – Medium
- 21.333301 - 28.111099: Medium
- 28.111100 - 36.444401: Medium – High
- 36.444402 - 58.555599: High

4.2 Field Surveys

4.2.1 Preliminary Bat Roost Assessment

A preliminary bat roost assessment of Potential Roost Features (PRFs) within trees and built structures on or close to the Site was completed on 15th of September 2022, and again on the 21st of August 2023, in adherence to best practice guidelines (Collins, 2016 and Marnell et al., 2022). This was undertaken to determine the suitability of the Site for roosting bats and the potential requirement for further surveys to be undertaken. PRFs can be defined in four broad terms of suitability as detailed below:

- Negligible – No suitable features observed;
- Low – A structure with one or more roost features as used by individual bats or a tree of sufficient size to contain roost features but none observed from the ground;
- Moderate – A structure or tree with one or more roost features and able to support one or more bats but unlikely to support a roost of high conservation status.
- High - A structure or tree with one or more roost features that are obviously suitable for use by a larger number of bats on a regular basis, and potentially for longer periods of time.

4.2.2 Preliminary Bat Habitat Suitability Assessment

A Bat Habitat Suitability Assessment was carried out in conjunction with the roost assessment on the 15th of September 2022, and again on 21st of August 2023. This assessment evaluated the habitats present on Site and in the wider area for bat foraging and commuting suitability. Habitat suitability is assessed qualitatively from Negligible to High:

- Negligible – No suitable foraging or commuting habitats on Site
- Low – Suitable but isolated habitats that could be used by small numbers of commuting and/or foraging bats, such as poorly connected gappy hedgerows, lone trees, unvegetated streams, etc.
- Moderate – Suitable continuous habitat connected to the wider landscape that could be used by commuting and/or foraging bats, such as treelines, scrub, grassland, water, etc.
- High – Continuous high-quality habitat that is well-connected to the wider landscape, and is likely used regularly by commuting and/or foraging bats, such as river valleys, broadleaved woodland, woodland edge, grazed parkland, etc.

4.2.3 Bat Activity Survey

The Site was assessed by an experienced ecologist in relation to the potential bat foraging habitat and commuting routes. The survey was undertaken to best practice guidance (Collins, 2016 and Marnell et al., 2022) during times of suitable weather conditions, as detailed below.

The weather conditions during the survey on the 15th of September 2022 were overcast and with temperatures ranging from 14-16ºC over the course of the survey with continuously calm

wind conditions. Bat activity and emergence surveys are best carried out mid-March to end of September, in suitable weather conditions[1] as these surveys were.

The activity survey began at 19:17 approximately 30 mins before sunset (19:47) and finished approximately 2 hours later at 21:17. During the survey, the surveyors walked around the building and along the hardstanding areas of the Site, noting any bat activity.

The surveyor was equipped with a Elekon Batlogger M2 detector and powerful L.E.D. torch and head torches.

4.2.4 Bat Emergence Survey

A bat emergence survey was conducted on the 21st of August 2023 by experienced surveyors who were situated in locations that gave good views of the PRFs previously identified within the Site during the preliminary bat roost assessment. The methodology of the emergence survey followed best practice guidelines (Collins, 2016 and Marnell et al., 2022) with the dusk survey commencing 15 minutes before sunset and lasting until approximately 1.5 hours after sunset.

The weather conditions during the survey were overcast with a temperature 18ºC during the survey with breezy wind conditions. Bat activity and emergence surveys are best carried out mid-March to end of September, in suitable weather conditions[2] as these surveys were.

The activity survey began at 20:30 approximately 15 mins before sunset (20:46) and finished at 22:00.

[1] 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.

[2] 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.

5. RESULTS

5.1 Desk Study Results

5.1.1 Existing Records of Bats in the Locality

A desktop review was carried out to identify previous records of bat species from within the vicinity of the Site in question. The Site is located within the 10km^2 Grid Square O13 and lies within the O13B 2km grid square. The NBDC website (www.nbdc.ie) was accessed on to establish any previous bat records which are shown below in Table 1.

TABLE 1. HISTORICAL BAT RECORDS FROM THE 10KM^2 GRID SQUARE O13.

Species Name - Common	Species Name - Latin	Last Documented Record
Brown Long-eared Bat	*Plecotus auritus*	25/05/2020
Common Pipistrelle	*Pipistrellus pipistrellus*	25/05/2020
Daubenton's Bat	*Myotis daubentonii*	25/05/2020
Lesser Noctule	*Nyctalus leisleri*	08/06/2020
Myotis Bat species	*Myotis sp.*	25/05/2020
Nathusius's Pipistrelle	*Pipistrellus nathusii*	25/05/2020
Natterer's Bat	*Myotis nattereri*	25/05/2020
Soprano Pipistrelle	*Pipistrellus pygmaeus*	25/05/2020
Whiskered Bat	*Myotis mystacinus*	13/08/2007

5.1.2 Landscape Suitability

The Proposed Development Site (indicated in the black box in Figure 3) is located in an area with an overall Medium-High (35.44) suitability for bats in general. The suitability index for specific bat species is presented in Table 2. The landscape suitability index is High for two species of bats, namely, common pipistrelle (*Pipistrellus pipistrellus*) and Leisler's bat (*Nyctalus leisleri*).

TABLE 2. LANDSCAPE SUITABILITY INDEX FOR INDIVIDUAL BAT SPECIES WITHIN THE 2KM GRID SQUARE IN WHICH THE PROPOSED DEVELOPMENT IS LOCATED (O13B). BAT SPECIES THAT HAVE ALSO HISOTRICALLY BEEN RECORDED WITHIN THE O13 10KM GRID SQUARE SURROUNDING THE PROPOSED DEVELOPMENT ARE HIGHLIGHTED IN GREEN (SOURCE: NBDC).

Bat Species	Suitability Index (5km Grid Square)
Soprano pipistrelle *(Pipistrellus pygmaeus)*	35 (Medium-High)
Brown longed-eared bat *(Plecotus auritus)*	28 (Medium)
Common pipistrelle *(Pipistrellus pipistrellus)*	39 (High)
Lesser horseshoe bat *(Rhinolophus hipposideros)*	0 (Low)

Leisler's bat *(Nyctalus leisleri)*	42 (High)
Whiskered bat *(Myotis mystacinus)*	20 (Low-Medium)
Daubenton's bat *(Myotis daubentonii)*	18 (Low-Medium)
Nathusius' pipistrelle (*Pipistrellus nathusii*)	15 (Low-Medium)
Natterer's bat *(Myotis nattereri)*	16 (Low-Medium)

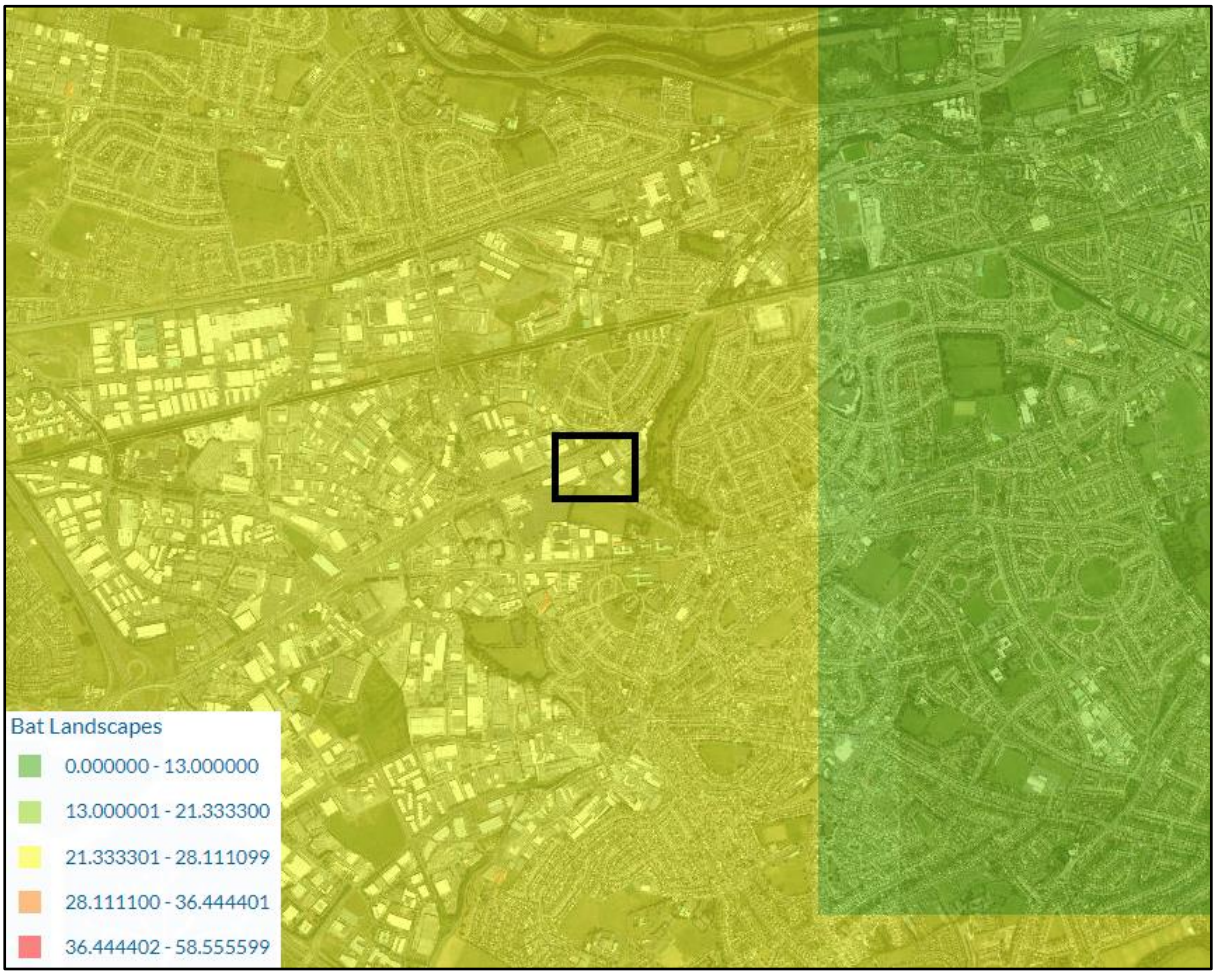

FIGURE 3. BAT LANDSCAPE SUITABILITY MODEL (ALL BATS) SURROUNDING THE PROPOSED DEVELOPMENT SITE (ADAPTED FROM NBDC).

5.2 Field Survey Results

5.2.1 Bat Roost Assessment and Habitat Suitability

The linear habitat features such as the treelines within the Site were assessed for bat roosting potential and foraging/commuting suitability. The treelines on-Site were composed of a variety of species including lime, ash and sycamore. All of trees on-Site were considered to be of *Negligible* bat roost potential given the lack of PRFs as outlined in Table 4.1 in the BCT's *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016). Overall, the buildings on site were considered to be of *Low* bat roost potential. However, there was some

damage to the building envelope at loading bay on the northern face of the main building which could act as an ingress/egress point for opportunistic bats (Figure 4).

The treelines within the Site were considered to offer *Low* foraging and commuting suitability to bats, given the urbanised nature of the Site and its surroundings and the low degree of connectivity of the Site with the surrounding landscape (Collins, 2016). More suitable foraging and commuting habitat for bats is available within the nearby Lansdowne Pitch and Putt course, which provides a corridor towards the Grand Canal and its riparian habitats.

FIGURE 4. DAMAGE TO THE EXTERIOR OF THE MAIN BUILDING WHICH MAY PROVIDE ROOSTING OPPORTUNITIES FOR BATS.

5.2.2 Bat Activity Survey

Bat activity was very low at the Site during the 2-hour activity survey on the 15th of September 2022. In total, only 2 no. bat species were recorded at the Site, namely, common pipistrelle and soprano pipistrelle (*Pipistrellus pygmaeus*) (Table 3). The activity of two bats could be confirmed by surveyors at the Site. One common pipistrelle was seen by surveyors commuting along the southern treeline to the southeast of the Site at 20:07 (Figure 5). In addition, a soprano pipistrelle was recorded commuting along the treeline at eastern boundary at 20:16, shortly after the common pipistrelle was recorded. No further bats were observed for the duration of the survey.

TABLE 3: SUMMARY OF BAT ACTIVITY RECORDED ON BAT DETECTOR (NON BAT "NOISE" RECORDS REMOVED) DURING TRANSECT SURVEY ON THE 15TH OF SEPTEMBER 2022.

Common name	Latin name	Number of Recordings	Number of Calls
Soprano pipistrelle	*Pipistrellus pygmaeus*	1	20
Common pipistrelle	*Pipistrellus pipistrellus*	1	14

5.2.3 Bat Emergence Survey

During the dedicated bat emergence survey on the 21st of August 2023, a single common pipistrelle was recorded emerging from above the right loading bay on the north side of the building at 21:05, which then commuted west and was recorded by the surveyor within the northwest of the Site. An area of damage above the door, as seen in Figure 4, provides an access/egress point for opportunistic local bats. No other PRFs were recorded within the Site of the Proposed Development and no further bat activity was recorded during this survey following the observation of the emergence of one individual common pipistrelle (see Table 4 and Figure 6). As such, based on the limited activity recorded at the Site during the two surveys, and the *Low* habitat suitability for foraging and commuting, the building is assessed as a day roost for local bats (i.e., "*a place where individual bats, or small groups or males, rest or shelter during the day but are rarely found by night in the summer*" (Collins, 2016)).

TABLE 4: SUMMARY OF BAT ACTIVITY RECORDED ON BAT DETECTOR (NON BAT "NOISE" RECORDS REMOVED) DURING EMERGENCE SURVEY ON THE 21ST OF AUGUST 2023.

Common name	Latin name	Number of Recordings	Number of Calls
Common Pipistrelle	*Pipistrellus pipistrellus*	2	23

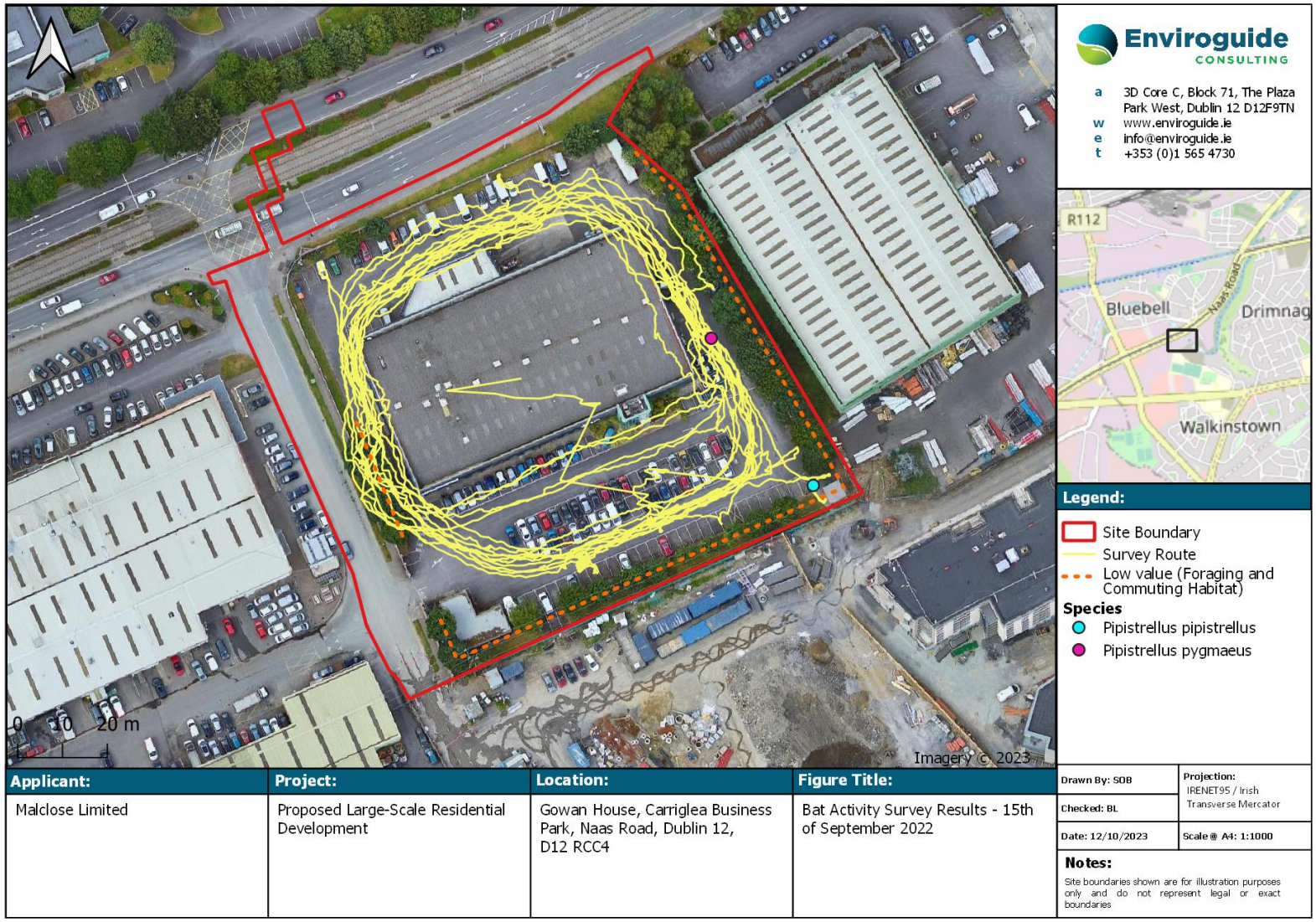

FIGURE 5. BAT ACTIVITY SURVEY RESULTS - 15TH OF SEPTEMBER 2022

FIGURE 6. BAT EMERGENCE SURVEY RESULTS - 21ST OF AUGUST 2023

6. ASSESSMENT OF POTENTIAL IMPACTS

6.1 Construction Phase

6.1.1 Disturbance & Risk of Injury/Harm

The CEMP (AWN Consulting, 2023) accompanying this application states construction works will typically be confined to daylight hours and night-time lighting will therefore not be required during the Construction Phase of the Proposed Development. However, where portable lighting is required, there is potential for a *negative*, *short-term*, *slight* impacts to local bats due to potential increased lighting associated with the Construction Phase of the Proposed Development, particularly if inadvertently directed to the identified ingress/egress point for roosting, or the eastern boundary. Therefore, increased levels of lighting during the Construction Phase may deter bats from roosting and foraging within the vicinity of the Site.

The demolition of the existing building on Site has the potential to put bats which may be roosting/resting within this building at risk of injury or death. Unless a precautionary approach is applied to avoid causing harm or injury to bats potentially present in the building, this risk represents a potential *negative*, *short-term*, *slight* impact on locally occurring bat populations.

6.2 Operational Phase

6.2.1 Lighting Disturbance

Due to the baseline levels of lighting at the Site being relatively high, disturbance from Operational Phase lighting is not considered to have the potential to cause significant impacts on local bats. This is because lighting along the proposed riparian habitats and near the proposed bat box scheme (section 7.3.1) will be limited to levels lower than the current baseline.

6.2.2 Enhanced Bat Habitats

The proposed riparian habitats and planting included as part of the landscaping to take place on Site will offer potential commuting and foraging habitat for any locally occurring bats (Figure 7). This is considered to improve the foraging and commuting habitats for bats at the Site, and to increase the habitat suitability assessment to ‘Moderate’ after a period of establishment. As such, the likely impact is considered *positive*, *permanent*, *moderate* at a *local* level due to the increase of available resources and habitats on Site.

FIGURE 7. LOWER GROUND FLOOR MASTERPLAN. DRAWING NUMBER: 22-579-SDA-PD-DR-GF-001 (STEPHEN DIAMOND ASSOCIATES, 2023).

7. MITIGATION MEASURES

7.1 Pre-commencement of Works

7.1.1 Roost Characterisation Survey

Although the Site was deemed to contain low suitability habitats for bats, a bat emergence from the building was recorded. As such, a derogation licence from the NPWS will be required prior to demolition of the building on Site. An application for a derogation license regarding the demolition of the building on Site was sought on the 23rd of October 2023, however this was refused by the NPWS on the 22nd of November 2023. This refusal was due to timing of works, as the proposed demolition is scheduled for March 2025. The NPWS recommended an application for a derogation license be submitted closer to the start date of the Proposed Development works.

As such, to inform the derogation licence application, two (2 no.) additional surveys are required to determine the type and significance of the roost at the Site. These surveys shall follow the same methodology as the first emergence survey carried out in August 2023 (see section 4.2.4), and will aim to answer the following questions for a more accurate assessment of roost type and its significance:

- How many bats use the roost site?
- What species of bats use the roost site?
- When do they use the roost site?
- What type of roosting surfaces are available within the identified roost?

The results of these surveys will inform the licence application for derogation from the NPWS, which must be obtained prior to commencement of works on the building (section 7.2.1).

7.2 Construction Phase

7.2.1 Derogation Licensing – Demolition

A derogation license will be applied for from the NPWS and will be submitted to the LPA prior to the demolition of the main building on the Site. This building was confirmed to support day roosting by at least one species, namely the common pipistrelle. As such, derogation from the protection afforded by the Wildlife Act 1976 (as amended) and the habitat directive must be acquired to allow its removal.

This requires application to the NPWS and a conservation plan to ensure that bats will not be adversely affected (individually or by physical harm as a species) by the loss of the roost. The following measures will be implemented to ensure that bats are not killed or injured during the demolition works:

- A bat specialist will inspect the structure for the presence of bats availing a number of methods and specialist equipment. If weather conditions allow (i.e., temperatures ≥ 10°C at sunset, dry and wind below 5m/s) a bat emergence survey the night prior to

planned demolition may be carried out to determine bat presence. A thermal imaging device will be used to identify bat emergence and return.

- Where there is any doubt whether bats may be present, a follow-up inspection of the structure must be undertaken. This may require access from a hoist or other mobile elevated work platform (MEWP). This should avail of high intensity lights, a thermal imager and a fiberscope.
- If necessary, exclusion of bats from the roosting features within the building using one-way valve devices may be installed or similar appropriate measures by a bat specialist.
- The demolition of the building should be carried out during the Autumn (September-November) or Spring (March-May) months, when it is less likely that hibernating or breeding bats will be present in the structure and ensure that any bats if present within the structure are capable of escape and flight, if deemed necessary.
- Galvanized sheeting along the damaged areas identified as potential ingress/egress point on the building will be removed manually using handheld tools. This will enable bats, if present, to escape unharmed. The building will not be demolished using mechanical excavator.
- If bats are encountered, they should be safely retained in an escape-proof container until nightfall and then released on Site.

7.3 Operational Phase Mitigation

7.3.1 Bat Box Scheme

Three summer bat boxes (e.g., Woodcrete 1FF design) will be erected on suitably sized trees within the riparian habitat of the Proposed Development Site, the placement of which will be determined by a bat ecologist.

Bat boxes will be sited carefully, and this will be undertaken by a bat specialist. Bat boxes will be erected prior to construction works. The bat ecologist will erect the bat boxes with assistance from the contractor. Some general points that will be followed include:

- Bat boxes will be erected on trees (or telegraph poles) with no crowding branches or other obstructions for at least 1 metre above and below the bat box.
- Diameter of tree should be wide and strong enough to hold the required number of boxes.
- Locate bat boxes in areas where bats are known to forage or adjacent to suitable foraging areas. Locations will be sheltered from prevailing winds.
- Bat boxes will be erected at a height of 4-5 metres to reduce the potential for vandalism and predation of roosting bats.
- The recommended Woodcrete 1FF design is open at the bottom, allowing the droppings to fall out, and so does not need cleaning (e.g., *https://www.nhbs.com/1ff-schwegler-bat-box-with-built-in-wooden-rear-panel*).

7.3.2 Monitoring

The bat boxes will be inspected by a bat specialist within one year of their installation, to confirm their appropriate installation and potential uptake. The bat box scheme will be registered with Bat Conservation Ireland for a minimum of 2 years. The uptake of the bat boxes

will also be assessed via a suite of bat activity surveys in line with the latest best practice guidance for 'Moderate' suitability habitats, during the following summer, post-completion of works. The scope for 'Moderate' suitability habitats is currently one survey per month (Collins et al. 2016) throughout the bat activity season (April to October), however this may be revised under guidance from a suitably qualified bat specialist and any updated guidance published in the intervening time. t

8. RESIDUAL IMPACTS ON BAT POPULATIONS

Based on the survey work completed at the Site, a total of two possible bat species (soprano pipistrelle and common pipistrelle) may be directly affected by the Proposed Development. As outlined in section 1 above, although the building on site did support roosting bats, this structure did not provide roosting habitat for a significant number of bats. During the emergence survey in August 2023, only one bat (common pipistrelle) was observed utilising the building as a potential roost.

The national population estimates for the affected species are listed below:

- **Common Pipistrelle** - population in Ireland is increasing, and is estimated to comprise 1-2 million mature individuals (Aughney et al., 2018)

Given the negligible proportion of the national population of this species which is likely to be effected by the Proposed Development coupled with Construction and Operational Phase mitigation measures and derogation licensing, it can be concluded that the Proposed Development will not be detrimental to the maintenance of the populations of these species to which the Habitats Directive relates at a favourable conservation status in their natural range as is required under Section 54(2) of the European Communities (Birds and Natural Habitats) Regulations.

Furthermore, the new watercourse will improve the sites suitable as a foraging and commuting resource for other species, namely Daubenton's bat (*Myotis daubentonii)*.

9. CONCLUSIONS

The bat emergence survey at the Site in 2023 confirmed that the building on Site is an active bat roost, occupied by one individual common pipistrelle. The Proposed Development will involve the demolition of the building, and as such, a derogation licence for the removal of this structure will need to be obtained from NPWS, prior to the commencement of demolition works.

Appropriate best practice mitigation, compensation and enhancement measures (relating to the timing of the works and habitat compensation) have been recommended to ensure that there will be no significant Construction or Operational Phase impacts on bats.

Once the recommended mitigation measures are implemented in full, the residual impacts on local bat populations as a result of the Proposed Development will range from **imperceptible** to slightly **positive,** having an overall beneficial impact on bats at the local level.

10. REFERENCES

Aughney, T., Roche, N. and Langton S. (2018) The Irish Bat Monitoring Programme 2015-2017. Irish Wildlife Manuals, No. 103. National Parks and Wildlife Service, Department of Culture Heritage and the Gaeltacht, Ireland.

Bat Conservation Trust (2018) Bats and artificial lighting in the UK- Bats and the Built Environment series- Guidance Note 08/18. Available at: https://cdn.bats.org.uk/uploads/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?v=1542109349

CIEEM. (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester, UK.

Collins, J. (2016) Bat Conservations Trust's Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn), The Bat Conservation Trust, London.

Enviroguide Consulting. (2023). Ecological Impact Assessment for Proposed Development at Gowan House, Carriglea Business Park, Naas Road, Dublin 12.

Gunnell, K., Grant, G. and Williams, C. (2012). Landscape and urban design for bats and biodiversity. Bat Conservation Trust

Lundy, M.G., Aughney, T., Montgomery, W.I., & Roche, N. (2011). Landscape conservation for Irish bats and species specific roosting characteristics. Bat Conservation Ireland.

Marnell, F., Kingston, N. & Looney, D. (2009) Ireland Red List No. 3: Terrestrial Mammals. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.

Marnell, F., Looney, D. & Lawton, C. (2019). Ireland Red List No. 12: Terrestrial Mammals. National Parks and Wildlife Service, Department of the Culture, Heritage and the Gaeltacht, Dublin, Ireland.

Marnell, F., Kelleher, C. & Mullen, E. (2022) Bat mitigation guidelines for Ireland v2. Irish Wildlife Manuals, No. 134. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland.

NBDC. (2023). National Biodiversity Data Centre online mapping [ONLINE]. Available at: http://maps.biodiversity.ie/Map.aspx. [Accessed August 2023].

NRA. (2009a). Environmental Assessment and Construction Guidelines. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

NRA. (2009b). Guidelines for Assessment of Ecological Impacts of National Road Schemes. National Roads Authority (now Transport Infrastructure Ireland), Dublin.

Roche N., Aughney T., Marnell, F. & Lundy, M. (2014) Irish bats in the 21st Century. Bat Conservation Ireland, Virginia, Co. Cavan

Russ, J. (2012) British Bat Calls – A Guide to Species Identification. Pelagic Publishing

Enviroguide
a DNV company

enviroguide.ie

Head Office
3D, Core C, Block 71, The Plaza, Park West, Dublin 12, D12F9TN, Ireland.
Tel: +353 1 565 4730
Email: info@enviroguide.ie

South West Regional Office
19 Henry Street, Kenmare, County Kerry, V93 CVH0, Ireland.
Tel: +353 646 641932
Email: info@enviroguide.ie

South East Regional Office
M10 Wexford Enterprise Centre, Strandfield Business Park, Rosslare Rd, Strandfield, Kerlogue, Co. Wexford, Y35 W5RD, Ireland.
Tel: +353 1 565 4730
Email: info@enviroguide.ie

Environmental Consultancy Services