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CARDIFF COUNCIL

NEW PENN, CARDIFF

BAT HIBERNATION SURVEY REPORT

APRIL 2023

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CARDIFF COUNCIL

NEW PENN, CARDIFF

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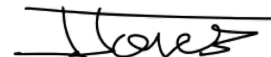
PREPARED BY:

Alba Saur-Pacheco Ecologist



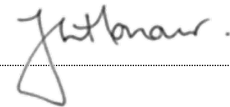
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EXECUTIVE SUMMARY

Wardell Armstrong (WA) LLP was commissioned by Cardiff Council to undertake Bat Hibernation Surveys at the basement of Building B1, in connection with the proposed demolition works at the former New Penn Public House, located at 210 Brynfedw, Llanderyn, Cardiff CF23 9PX.

The site is within a residential area and a parcel of ancient semi-natural woodland is located directly south-west and south of the site. The proposed development requires the demolition of the New Penn Public House on site, to provide a new residential housing scheme.

This report details the results of the Hibernation Surveys undertaken in the basement of B1 between 1st December 2022 to 20th February 2023. This includes the methodology, discussion of the results and provides recommendations. Bats and their roosts are fully protected via the Conservation of Habitats and Species Regulations 2017 (as amended) and considered by the Local Planning Authority when assessing applications through the “biodiversity duty” of the Environment (Wales) Act 2016, which is enshrined by local planning policy.

The results of the Hibernation Survey suggest the absence of hibernating bats from the basement of Building B1, however the potential for hibernating bats remains.

While no hibernating bats were identified during the bat hibernation surveys, the building still provides suitable hibernation potential for bats. Due to this, precautions should still be taken prior to and during any development works. This includes sealing any entrances to the basement prior to November 2023 to prevent the winter colonisation by bats. It is also recommended that works be undertaken prior to November 2023 or after April 2024 (outside hibernation season). Should demolition not occur, and the internal door, as well as external steel grates that provide entry to the basement of building B1 be left unsealed, hibernation surveys should be repeated in the winter of 2023-2024 prior to any demolition.

1 INTRODUCTION

1.1 Terms of Reference

1.1.1 Wardell Armstrong (WA) LLP was commissioned by Cardiff Council to undertake Bat Hibernation Surveys in connection with the proposed demolition works at the former New Penn Public House, located at 210 Brynfedw, Llanderyn, Cardiff CF23 9PX.

1.2 Site Description

1.2.1 The site is centred on approximate National Grid Reference ST 19882 80527 as the site location is shown on Drawing Number CA12409-002 (Site Location Plan).

1.2.2 The site comprises; an extensive two storey building, hardstanding, poor semi-improved grassland, an intact species poor hedgerow, broadleaved scattered trees, and includes broadleaved woodland (ancient semi-natural woodland) on the periphery of the site which forms part of Llanederyn Woodland Complex Site of Importance for Nature Conservation (SINC).

1.2.3 The site is within a residential area. The site is bound to the north-west by Circle Way West Road and to the north-east by Brynfedw road. A parcel of ancient semi-natural woodland is located directly south-west and south of the site.

1.3 Description of Development

1.3.1 The proposed development requires the demolition of New Penn Public House for the development of a residential housing scheme.

1.4 Background

Previous Surveys

1.4.1 WA was commissioned in March 2022 to undertake an Extended Phase 1 Habitat Survey of the site and an internal and external Preliminary Roost Assessment (PRA) survey (WA, 2022¹) of the New Penn Public House. These surveys were undertaken on 11th April 2022 by a suitably experienced ecologist.

1.4.2 The PRA identified that the disused building (B1) has a moderate suitability to support roosting bats during their active season (April to October) and that the basement of the building B1 has a low potential to support hibernating bats (November to March). The hibernation survey results are outlined in this report. No evidence of roosting bats was observed during the internal inspection.

¹ Wardell Armstrong LLP, 'Cardiff Council, New Penn Cardiff, Preliminary Ecological Appraisal, July 2022'. Report ref CA12409/001 version V1.0

- 1.4.3 To determine if the building was being used by roosting bats during the active season, two emergence/re-entry surveys were carried out in line with recommended guidance in the 'Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, J., 2016)² the results of which are provided in a separate report³. The building was subject to a dusk emergence survey in July 2022, and a separate dawn re-entry survey in August 2022. Three common pipistrelles and one soprano pipistrelle bats were observed emerging or re-entering the building during the July/August 2022 emergence/re-entry surveys.
- 1.4.4 A desk study was undertaken as part of the PRA. The desk study identified one site designated for bats within 10km of the building. Ruperra Castle and Woodlands Site of Special Scientific Interest (SSSI), located approximately 6.2km to the northeast of the site. The designation supports a greater horseshoe (*Rhinolophus ferrumequinum*) bat nursery roost, which is one of only five nursery roosts in Wales. The SSSI is also used by a smaller population of lesser horseshoe (*Rhinolophus hipposideros*) bats.
- 1.4.5 The desk study also identified 286 records of bats within 2km of the site in the last 12 years, with the closest record located approximately 143m to the north of the building.
- 1.4.6 Species identified include:
- Brown long-eared (*Plecotus auritus*)
 - Soprano pipistrelle (*Pipistrellus pygmaeus*)
 - Common pipistrelle (*Pipistrellus pipistrellus*)
 - Noctule (*Nyctalus noctula*)
 - Natterer's (*Myotis nattereri*)
 - Nathusius's' pipistrelle (*Pipistrellus nathusii*)
 - Myotis bat species (*Myotis spp.*)
 - Serotine (*Eptesicus serotinus*)
- 1.4.7 Furthermore, 6 roosts were identified within 2km of the site. The closest record is of a common pipistrelle roost approximately 180m to the north of the building.
- 1.4.8 The most recent records of bats identified within 2km of the site were from April 2022, of a soprano pipistrelle, approximately 1,271m to the northwest of the building.

² Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust (BCT), London.

³ Wardell Armstrong LLP, 'Cardiff Council, New Penn Cardiff, Bat Report – Building 1 – Emergence/Re-entry surveys, February 2023'. Report ref CA12409/004 version V1.0

1.5 **Legislative Framework**

1.5.1 All UK bat species are protected by legislative framework, a summary of which is provided in Appendix 1.

1.6 **Bat Ecology**

1.6.1 There are 17 species of bat found breeding in the UK, all of which are insectivorous. These species have different life cycles and strategies, but in general require:

- Hibernation roost sites: sites which in winter have a constant temperature of between 3°C and 7°C e.g., underground sites such as caves, mines and built environments offering similar conditions;
- Nursery sites where females gather in spring/summer to give birth and rear offspring e.g., roof spaces, crevices/hollows in mature trees;
- Roost sites for individual males during spring – autumn e.g., roof spaces and trees; and
- Habitats with numerous insects to feed upon.

1.6.2 Roosting habitat includes buildings and structures, caves, and trees, and means any structure or place that is used for shelter or protection whether or not bats are present at the time.

1.6.3 Bats also use a variety of habitats for foraging with broad-leaved woodland and water habitats the most favourable. Arable, improved grassland and moorland are less favoured. Within these less favoured landscapes, linear features such as hedgerows, lines of trees and riparian strips are often used by bats as they provide rich food sources, shelter, and commuter corridors.

1.7 **Scope of Report**

1.7.1 The purpose of this report is to detail the results of the hibernation survey conducted in the basement of B1 within the site.

1.7.2 This report therefore includes:

- A description of the survey and assessment methodology;
- Results from the bat hibernation surveys undertaken in the basement of B1;
- Recommendations to aid future development proposals; and
- Enhancements for bats.

2 METHODOLOGY

2.1 Hibernation Survey

Introduction

2.1.1 The PRA identified that the basement of the building as having low potential to support hibernating bats (November to March).

2.1.2 The results of the PRA including a description of the building, its basement and potential roosting features are provided in Appendix 2.

Automated Detector Survey

2.1.3 Internal automated bat detector surveys should be considered where access is constrained as set out in the ‘Good Practice Guidelines (Collins, J. (ed) 2016)’.

2.1.4 The guidelines state that automated detectors can/should be deployed for a minimum of two weeks per month from December – February. Automated detector monitoring was undertaken to cover the months of December 2022, January 2023 and February 2023.

2.1.5 One SM4BAT+ Bioacoustics Recorder (Wildlife Acoustics, Inc.) was deployed in the basement, following the guidance provided (Collins, J. (ed) 2016). Dates of the surveys are provided in Table 1 below. The location of the automated bat detector is shown on Drawing Number CA12409-006 (Automated Detector Location – Hibernation Survey 2022/23).

| Table 1: Survey/deployment dates | | |
|----------------------------------|-------------------------|---|
| Month | Dates | External Weather Conditions |
| Basement of Building 1 (B1) | | |
| Deployment 1 – December | 01/12/2022 – 14/12/2022 | -3 – 6°C, high humidity, dry, mild winds. |
| Deployment 2 – January | 09/01/2023 – 23/01/2023 | -1 – 13°C, high humidity, dry, mild winds. |
| Deployment 3 – February | 06/02/2023 – 20/02/2023 | -1 – 10°C, high humidity, some showers, mild winds. |

2.1.6 After retrieval of the recording device the data files were downloaded as Wildlife Acoustic Audio Compression Files (WAC) and converted to Kaleidoscope Pro 4 Output files and analysed using Kaleidoscope Pro 4 analysis software (Wildlife Acoustics, Inc).

Species identification was made on the basis of the characteristics of the call including peak frequency, minimum and maximum frequency, call duration and inter pulse interval.

- 2.1.7 This report refers to a bat 'pass'; that is a single sound file captured by an automated detector where the bat goes out of the range of the detector. It is important to note that passes do not necessarily relate to the numbers of bats that may be present; a large number of registrations can equally result from one bat passing a detector many times/feeding overhead, or many bats passing only once. No temperature or humidity loggers were installed but the structure was assessed as having high humidity given the floor/walls remained wet.

Internal assessment

- 2.1.8 During the initial deployment of the static detector and during each return visit to New Penn Public House (B1), a search for evidence of roosting bats was undertaken. i.e., the presence of droppings, urine staining and live or dead bats. All available, safe and accessible areas were systematically checked for such evidence and recorded on a map of the structure's layout if observed. Samples of droppings would be collected for DNA analysis, if present.

Tell-Tale Sheet

- 2.1.9 To complement the automated detector surveys, a tell-tale (fabric) sheet was also deployed during the survey to detect any bats that may have been using the basement during the survey periods, but which did not echolocate. The fabric sheet was placed down within the basement to collect droppings in order to aid determining presence or likely absence during the hibernation period sampled.

2.2 Assessment Limitations

- 2.2.1 Humidity and temperature conditions within the basement of B1 were not recorded during the survey, this was due to a lack of available equipment at the time. However, it is expected that the humidity and temperature within the basement of B1 are suitable for hibernating bats.
- 2.2.2 It is difficult to distinguish individual species within the genera *Myotis* and *Nyctalus* from sonogram calls alone. Where there is insufficient evidence to assign an individual species (i.e. faint or short duration calls), a genus is recorded.
- 2.2.3 Other than potentially influencing the hibernation of bats, external weather conditions had no impact of the ability to undertake the hibernation survey and return visits to replace batteries or remove the detector.

2.3 **Quality Assurance & Environmental Management**

2.3.1 The surveys and assessments have been undertaken and the report checked and verified by a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and thus bound by its code of professional conduct. All surveys and assessments have been undertaken with reference to the recommendations given in British Standard (BS) 42020⁴, and where required specialist guidance referenced separately.

2.3.2 The external and internal PRA of the main New Penn Public House (B1) building, reported separately, was undertaken by a suitable qualified ecologist.

⁴ British Standard Institute (2013) BS 42020:2013 Biodiversity. Code of practice for planning and development.

3 RESULTS AND DISCUSSION

3.1 Hibernation Survey

Basement of New Penn Public House (B1)

Automatic detector

- 3.1.1 One common pipistrelle pass was recorded on 12th February, which is not enough activity to suggest B1 is used by bats for hibernation. Very little high frequency noise in the region of 10-140 kHz was detected during the sampling window from 1st December 2022 to 20th February 2023, other than noise created during the initial set up/removal by the ecologist. The results from the automated detector surveys at the basement of B1 suggest the absence of hibernating bats.
- 3.1.2 Although temperature and humidity were not recorded, B1 remained observably wet throughout the survey period.
- 3.1.3 Detector locations are shown on Drawing Number CA12409-006 (Automated Detector Location – Hibernation Survey 2022/23).

Internal Assessment

- 3.1.4 No evidence of roosting bats was noted on any accessible surfaces or bats clinging to features within the basement during deployment of static monitoring devices or return visits. The tell-tale sheet deployed in an appropriate flight line for bats in B1 recorded no droppings.

3.2 Discussion

Basement of New Penn Public House (B1)

- 3.2.1 The visibly high humidity, and likely stable but cool temperatures within the basement suggest it could have potential for hibernation.
- 3.2.2 As only one pass was recorded throughout the entirety of the survey, hibernating bats are likely absent from the basement of B1.

4 RECOMMENDATIONS

Building (B1)

- 4.1.1 Bats are considered likely absent from the basement of B1.
- 4.1.2 Due to the summer day/transitional roosts present in B1⁵, the potential remains that the basement could be colonised as a winter hibernation roost. This potential is increased by the clear flight path to the basement and the presence of a semi-natural woodland south of B1, outlined in the Preliminary Ecological Appraisal (PRA)⁶.
- 4.1.3 It is therefore recommended that any entrances to the basement be sealed shut prior to demolition and outside the hibernation season (November to March), to prevent winter colonisation by bats in 2023. Works should be undertaken prior to November 2023 or from April 2024 onwards, and should be undertaken under the supervision of a bat licensed ecologist.
- 4.1.4 Should demolition not occur, and the internal door as well as external steel grates that provide access to the basement of building B1 be left unsealed, hibernation surveys should be repeated during the winter months (December to February) of 2023-2024 prior to any demolition.

⁵ Wardell Armstrong LLP, 'Cardiff Council, New Penn Cardiff, Bat Report – Building 1 – Emergence/Re-entry surveys, February 2023'. Report ref CA12409/004 version V1.0

⁶ Wardell Armstrong LLP, 'Cardiff Council, New Penn Cardiff, Preliminary Ecological Appraisal, July 2022'. Report ref CA12409/001 version V1.0

5 ENHANCEMENTS

5.1.1 Hibernating bats have not been recorded within the basement at Building B1 and therefore enhancements for hibernating bats are not being considered at this current time. Enhancements for bats are however considered in the Preliminary Roost Assessment (Buildings) and Preliminary Ground Level Roost Assessment (Trees) Report⁷ and Bat Report – Building 1 – Emergence/Re-Entry Surveys, February 2023⁸.

⁷ Wardell Armstrong LLP, 'Cardiff Council, New Penn Cardiff, Preliminary Ecological Appraisal, July 2022'. Report ref CA12409/001 version V1.0

⁸ Wardell Armstrong LLP, 'Cardiff Council, New Penn Cardiff, Bat Report – Building 1 – Emergence/Re-entry surveys, February 2023'. Report ref CA12409/004 version V1.0

6 REFERENCES

- British Standard Institute (2013) BS 42020:2013 Biodiversity. Code of practice for planning and development
- Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust (BCT), London.
- Wardell Armstrong LLP, '*Cardiff Council, New Penn Cardiff, Preliminary Ecological Appraisal, July 2022*'. Report ref CA12409/001 version V1.0
- Wardell Armstrong LLP, '*Cardiff Council, New Penn Cardiff, Bat Report – Building 1 – Emergence/Re-entry surveys, February 2023*'. Report ref CA12409/004 version V1.0

APPENDICES

Appendix 1
Summary of Protection Legislation

Appendix 1: Summary of Protection Legislation

Protection of Bats

1.1.1 All UK bat species are listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) whereby legal protection is retained under domestic law. As such bats receive protection under Part 3 of the act, which makes it an offence to:

- Deliberately capture, injure or kill a bat;
- Deliberately disturb a bat;
- Damage or destroy a breeding site or resting place of a bat;

Under the Regulations, disturbance of bats includes any actions which is likely to:

- Impair their ability to survive, breed or reproduce, to rear or nurture their young to hibernate or migrate; and
- Significantly affect the local distribution or abundance of the species in question.

1.1.2 Further, where significant assemblages of Annex II bats are identified as listed by the Habitats Directive, the appropriate authority can designate as a Special Area of Conservation sites of national importance. This is based upon their natural range and the areas critical for their life and reproduction. However, priority of designation will be based on the importance of the sites for the maintenance/restoration of favourable conservation status and how the site would link with the National Site Network.

1.1.3 In view of any site designated as a Special Area of Conservation prior to or after the exit from the EU, a Habitat Regulation Assessment of projects and plans would be required where screening indicates potential impacts.

1.1.4 The Conservation of Habitats and Species Regulations 2017 (as amended) stems from signatory to pan-European and global conventions to halt the decline in biodiversity and restrictions on species migration, notable the Berne and Bonn Conventions. The outcome of these conventions was taken further by the European Union via the Habitats Directive (prior to the UK exit). Further, the legislation helps to achieve the aims of the Convention on Biological Diversity to which the UK is a signatory.

1.1.5 European Protected Species licenses can be granted by Natural Resources Wales in respect of development, to permit activities that would otherwise be unlawful and as

set out in the Conservation of Habitats and Species Regulations 2017 (as amended), providing that ‘favourable conservation status’ is maintained and there is “no satisfactory alternative”.

1.1.6 All UK bat species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and receive further partial protection under Section 9 of this legislative. This includes, making it an offence to:

- Intentionally or recklessly obstruct access to any place that a bat uses for shelter or protection; and
- Intentionally or recklessly disturb any bat whilst it is occupying a structure or place that it uses for shelter or protection.

1.1.7 Eight bat species are considered species of principal importance in Wales under Section 7 of the Environment (Wales) Act 2016. This stems from a review of the now superseded UK Biodiversity Action Plan and the continued need for global action on conserving biodiversity as result of the Convention on Biological Diversity. As a result, the Welsh Government (and therefore public authorities) have a duty to conserve biodiversity in relation to those bat species listed. The eight bat species covered under Section 7 of the Environment (Wales) Act 2016 are:

- Barbastelle (*Barbastella barbastellus*);
- Bechstein’s (*Myotis bechsteinii*);
- Brown long-eared (*Plecotus auritus*);
- Common pipistrelle (*Pipistrellus pipistrellus*);
- Greater horseshoe (*Rhinolophus ferrumequinum*);
- Lesser horseshoe (*Rhinolophus hipposideros*);
- Noctule (*Nyctalus noctula*); and
- Soprano Pipistrelle (*Pipistrellus pygmaeus*).

1.1.8 The UK Biodiversity Action Plan was superseded by ‘The UK Post-2010 Biodiversity Framework’ which was published in July 2012, to achieve the European Union wide biodiversity strategy (prior to EU exit). Work under the UK Post-2010 Biodiversity Framework is now focussed at the country level as a result of devolution. The

document covers the 5 strategic goals and 20 new global ‘Aichi’ targets stemming from the parties of the Convention on Biological Diversity. The species of principal importance listed under Section 7 of the Environment (Wales) Act 2016 are one of many aspects to reverse a decline in biodiversity at the global level and show progress towards the UK Post-2010 Biodiversity Framework.

- 1.1.9 During the decision-making process for planning applications, the Section 7 species of bat as listed under the Environment (Wales) Act 2016 should be taken into consideration through the “Biodiversity Duty), along within a review of the application in light of the well-being goal, “A resilient Wales” within the Well-being of Future Generations (Wales) Act 2015. The decision should fundamentally not lead to the decline of biodiversity within their geographic area or that of Wales, as part of their reporting for the two Acts.

Consideration of Bat Foraging Areas & Commuting Routes

- 1.1.10 Bat core sustenance zones, foraging areas and commuting routes are not directly protected under the legislation described above. However, loss of important foraging areas and/or commuting routes could potentially constitute an offence as defined by the Conservation of Habitats and Species Regulations 2017 (as amended) through disturbance affecting bats ability to survive, breed or reproduce, or to rear or nurture their young or to hibernate or migrate¹. Depending on the scheme this could also extend to significantly affect the local distribution or abundance of the species in question. Furthermore, the loss of a commuting route providing the only access to a roost could also potentially constitute a deliberate, intentional or reckless act of damage/destruction of a breeding site/resting place and damage/destroy/obstruction of a place used for shelter/protection covered by the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended).

¹ Where such actions are proven to result in a loss of the ecological functionality of the roost.

Appendix 2
Preliminary Ground Level Roost Assessment Results

Appendix 2 – Preliminary Roost Assessment Results

Table 1 – Preliminary Roost Assessment (PRA) conducted 11th April 2022

Building 1 (B1) New Penn Public House



The building on site, New Penn Public House was surveyed. The building is a two-storey large building, constructed in the 1960s. The building consists of predominantly brick walls, with some parts of the building having cement rendering with pebble dash. B1 has varying types of roof styles, the main 2 storey areas consist of a gable roof with the intersecting 1 storey sections having a flat roof. The material is predominantly tiles on the gabled roofs and roofing felt on the flat roofs. An internal survey of the building was carried out, the internal spaces, basement, boiler room and eave storage cupboards were surveyed, however the roof void was not accessed during this visit. No evidence of bats was identified during the internal inspection, however entryway into the building was limited with potential window and door access minimal.

The majority of the potential roost features (PRFs) for bats externally on the building are on the pitched roofs, from gaps in hanging and broken tiles, entrance points at the edges of the roof under tiles, and under roofing felt. The majority of potential roost features on the flat roofed sections of the building come from breakages and circular holes (from light fittings) in soffits. Other PRFs include gaps in metal shutters and grates, broken soffits and gaps in soffits, gaps between the brick wall and plastic drip edge of roof, rotted fascia / drip edge, and gaps in brickwork.

The building is surrounded by a residential area to the north, east and west. To the south, the building is adjoined to an ancient semi-natural woodland. The woodland corridor may provide opportunities for foraging and commuting for bats and birds. However, the surrounding habitat is predominantly an urban environment with residential housing enclosing the site. Circle Way West is located to the west and Brynfedw Road to the north of the site. The building is considered to be of **moderate suitability** for roosting bats in the active season, along with **low suitability** for hibernating bats (basement).



| Reference | Feature Description | Photograph |
|---------------------------------|---|------------|
| Reference Number Location |  | |
| Hanging and broken tiles. | The majority of potential roost features on the building are on the pitched roofs. The gaps are in hanging and broken tiles. The entrance points are at edges of roof under tiles, and under roofing felt. | |

| | | | |
|---|---|--|--|
| 1 | Letterbox gap in red shutter of southern most extension on north-west aspect of building. |  | |
| 2 | Broken soffit on north-eastern aspect of pitched roof. Allowing entry into soffit and cavity space. |  | |

| | | | |
|---|--|--|--|
| 3 | <p>Small gap between wall and plastic drip edge of roof. Very limited as a potential roost feature.</p> |  | |
| 4 | <p>Gap in soffit at north-west edge of western aspect of building. Man-made hole (from light fitting) adjacent that will also allow entry into soffit.</p> |  | |



| | | |
|---|---|--|
| 5 | <p>Very large broken soffit on south-west aspect of building extension. Creating large gap into soffit area, facing and adjacent to woodland area off site.</p> |  |
| 6 | <p>Large gap in soffit next to shutter door on northern aspect of building, facing Brynfedw road. Could provide entry into building or cavity wall.</p> |  |


7. Rusted steel grate that provides a potential entrance point into boiler room on eastern aspect of building. No droppings seen on or next to grate.



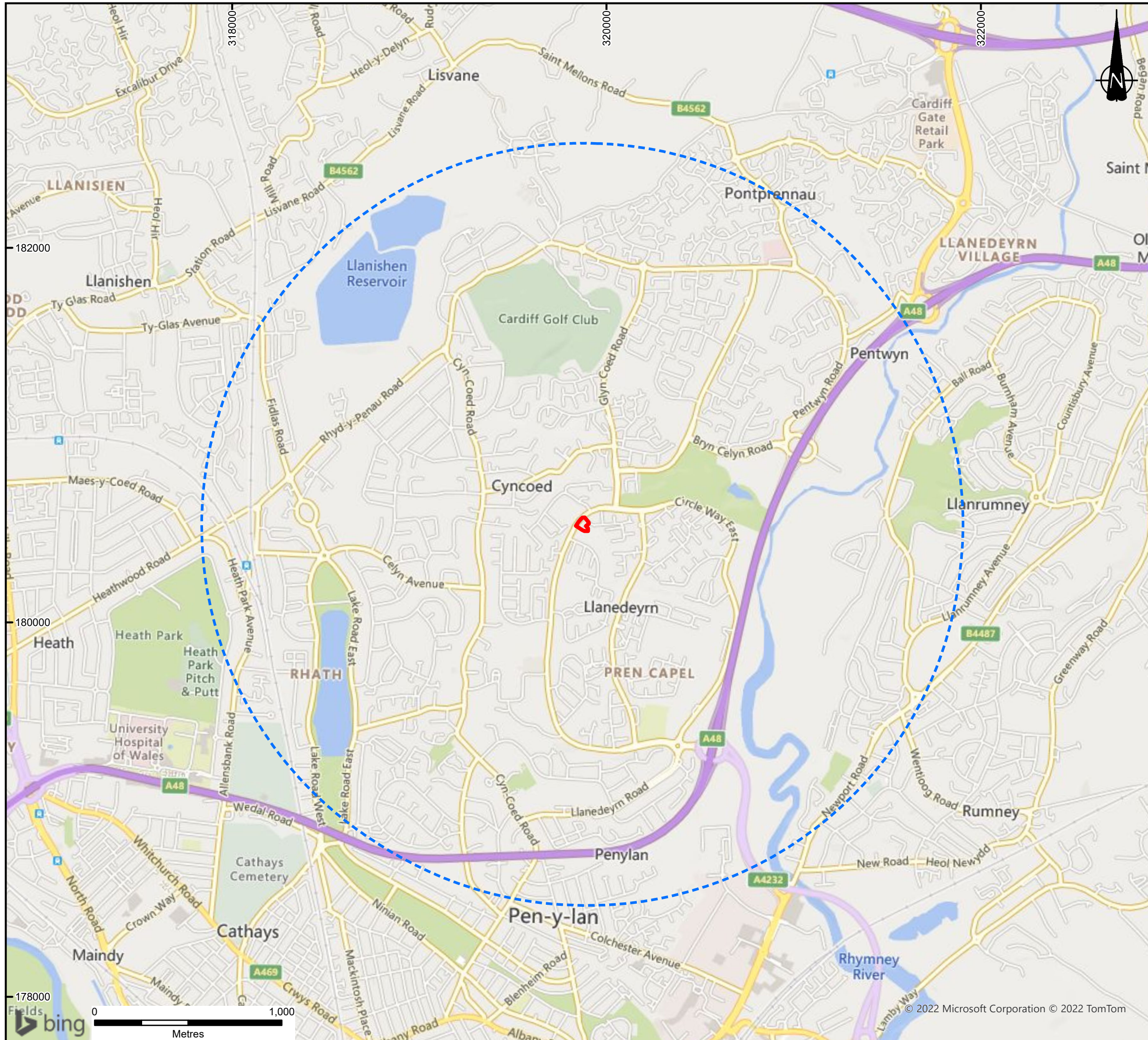
Potential access from basement entryway on eastern aspect of building. No droppings seen on or next to entryway.



| | | | |
|----|---|--|--|
| 8. | Gaps in brickwork on eastern aspect of building. |  | |
| 9. | Gaps present under the fascia/drip edge of the southern-most extension on the eastern aspect of the building, the gap is adjacent to the woodland off site. The gap is very large and is present along the entire aspect. Bird nesting material/vegetation is present in the gaps. This gap provides accessible entry into the flat roof. |  | |

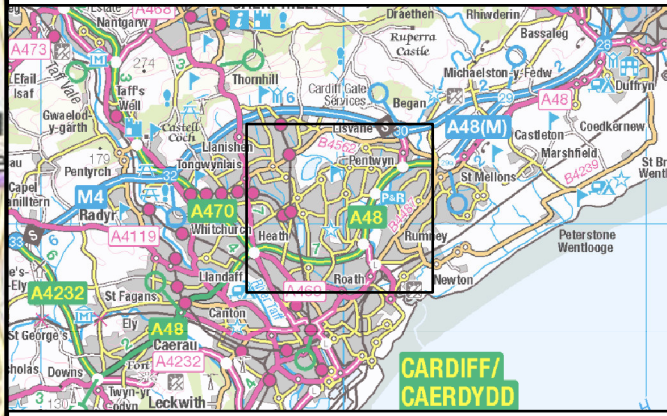
| | | |
|-----|---|---|
| 10. | The majority of potential roost features on the flat roofed sections of the building come from breakages and circular holes (from light fittings) in soffits. |  |
|-----|---|---|

DRAWINGS



KEY

- Site Boundary
- 2km Radius



Notes:

- Boundaries are indicative.
- Aerial imagery shown for context purposes only.
- Contains Ordnance Survey data. © Crown Copyright and database right 2022

| | | | | | |
|----------|-------------|-----------|-------|------|------|
| A | FIRST ISSUE | 5/07/2022 | EL | TS | JH |
| REVISION | DETAILS | DATE | DRAWN | CHKD | APPD |

CLIENT
CARDIFF COUNCIL

PROJECT
NEW PENN, CARDIFF

DRAWING TITLE
SITE LOCATION PLAN

| | | | |
|----------|-------------|-------------|------------|
| DRG No. | CA12409-002 | REV | A |
| DRG SIZE | A3 | SCALE | 1:20,000 |
| DRAWN BY | EL | DATE | 15/07/2022 |
| | CHECKED BY | APPROVED BY | JH |
| | TS | | |



KEY

- Site Boundary
- Building with Moderate Bat Roost Suitability
- Automated Bat Detector Location

Notes:
 Boundaries are indicative.
 Aerial imagery shown for context purposes only.

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| REVISION | DETAILS | DATE | DRAWN | CHKD | APPD |

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| CLIENT | CARDIFF COUNCIL |
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| PROJECT | NEW PENN, CARDIFF |
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| DRAWING TITLE | AUTOMATED BAT DETECTOR LOCATION - HIBERNATION SURVEY 2022/23 |
|---------------|---|

| | | | |
|----------|-------------|-------------|-------|
| DRG No. | CA12409-006 | REV | P01 |
| DRG SIZE | A3 | SCALE | 1:500 |
| DRAWN BY | RCB | CHECKED BY | JJ |
| DATE | 21/04/2023 | APPROVED BY | JH |

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