Appendix 6-3 Bat Report

SDCC Rathcoole Housing Development

Volume 2 of the Environmental Impact Assessment Report

South Dublin County Council

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Delivering a better world

Quality Information

Prepared by	Checked by	Verified by	Approved by
Jenny Hunter MCIEEM MRSB Principal Ecologist	Seánin Munglani née Maxwell ACIEEM Senior Ecologist	Dr Emma Boston CEcol MCIEEM MRSB Associate Director	Richard O'Callaghan Project Director

Revision History

Revision	Revision Date	Details	Authorised	Name	Position

Prepared for:

South Dublin County Council

Prepared by:

AECOM Ireland Limited
4th Floor
One Burlington Plaza
Burlington Road
Dublin 4
D04 RH96
T +353-1-696-6220

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1. Introduction

1.1 Background

This Appendix presents the methods and results of bat roost assessment and activity surveys that were conducted as part of the ecological baseline surveys to inform the Environmental Impact Assessment (EIA) for the proposed SDCC Rathcoole Housing Development (the Proposed Development). Full details of the Proposed Development are presented in Chapter 02 Description of Development of the EIA Report (EIAR). This Appendix accompanies Chapter 06 Biodiversity of the EIAR and should be read in tandem.

For ease and clarity of reference, all land within the proposed application boundary is referred to as the Site. The Site location is shown in Figure 1-1 (EIAR Volume 03). However, it must be noted that the application boundary was reduced after the bat surveys were completed, therefore the surveys extend beyond the Site boundary.

Within this Appendix, species are given their common and scientific names when first referred to and their common names only thereafter. Locations are given as Irish Grid References (IGR), and all distances are cited as the shortest distance as the crow flies, unless otherwise specified. Figure A6-3a-c, which accompanies Chapter 06 of the EIAR, is relevant to this Appendix.

1.2 Previous Surveys

Two activity surveys have previously been carried out on 16 July and 24 August 2020 (Wilson and Denyer, 2021). During these surveys, five bat species were recorded within the Site, comprising common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Leisler's bat *Nyctalus leisleri*, brown long-eared bat *Plecotus auritis*, an unidentified *Myotis* species, and an unidentified pipistrelle species. No bat roosts were confirmed onsite, however a potential mating roost was indicated at a sycamore *Acer pseudoplatanus* tree in a hedgerow within the wider park boundary (IGR: O0295526755), where social calls of Leisler's bat and soprano pipistrelle were recorded. However, no other information was given about the tree, or its roost feature, or when it was identified. This tree is approximately 15m north of the Site boundary.

1.3 Quality Assurance

This Appendix has been prepared in line with AECOM's Integrated Management System (IMS). The IMS places great emphasis on professionalism, technical excellence, and quality, as well as covering all aspects of environmental and Health and Safety management. All staff members are committed to establishing and maintaining our accreditation to the relevant international standards, including ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018. In addition, the IMS requires careful selection and monitoring of the performance of all sub consultants and contractors.

2. Relevant Legislation and Policy

This Section sets out the legislation, policy, and guidance sources which are potentially relevant and have informed the scope and method for survey and assessment of effects on bats. Further information is provided in Appendix 6-1 Relevant Supporting Information (EIAR Volume 02).

2.1 Legislation

All bats in Ireland are listed on Annex IV of the Habitats Directive. Listing under Annex IV requires Member States of the European Union (EU) to strictly protect these species wherever they occur. In addition, the lesser horseshoe bat *Rhinolophus hipposideros* is also listed under Annex II of the Habitats Directive, which effectively means that Member States are required to designate Special Areas of Conservation (SAC) for the further protection of this species.

The Habitats Directive is transposed into Irish law by the European Communities (Bird and Natural Habitats) Regulations 2011 (the Habitats Regulations), which provides national legislation for the protection of bats. Under the Habitats Regulations it is an offence to:

- Deliberately capture, injure, or kill any bat.
- Deliberately disturb a bat, particularly during the period of breeding, rearing, hibernation, and migration.
- Damage or destroy a bat breeding site or resting place.

2.2 Planning Policy

The following planning policies and documents are also relevant to bats:

- Project Ireland 2040: National Planning Framework (NPF) (Department of Housing, Planning and Local Government (DHPLG), 2018).
- Ireland's 4th National Biodiversity Action Plan 2023-2030 (NPWS, 2023).
- South Dublin County Development Plan 2022-2028 (South Dublin County Council, 2022).
- South Dublin County Biodiversity Action Plan 2020-2026 (South Dublin County Council, 2020).

3. Methods

3.1 Field Survey

Field surveys were carried out by experienced AECOM ecologists and followed the industry-standard best practice guidelines published by the Bat Conservation Trust (BCT) (Collins, 2023).

3.1.1 Daytime Bat Walkover

In accordance with BCT guidelines (Collins, 2023), a Daytime Bat Walkover (DBW) was carried out within the Site to assess the habitats for roosting, commuting, and foraging bats, with reference to connectivity to the wider landscape. In addition, specific Ground Level Tree Assessments (GLTA) were also completed simultaneously with the DBW. There are no buildings within the Site.

During daylight hours, trees were inspected from ground level using binoculars and potential roost features (PRFs; e.g. cavities, trunk and branch splits, rot holes, and knot holes etc.) and/or evidence of roosting bats were searched for. External signs that bats are using a tree as a roost include:

- Bat droppings: black droppings, 5-10mm long that crumble to a fine dust when crushed and may be located on the ground or stuck to the trunk.
- Staining: secretions from bat fur, which can cause oily brown stains in the vicinity of roost entrances. Urine stains which may be present below the entrance to the roost.
- Chittering: audible squeaking from within the roost site.
- Odour: smell may be indicative of a large roost. Flies around the entrance of a roost, attracted by the smell of bat droppings.

The results of the GLTA were used to categorise trees as NONE (i.e. no PRFs or highly unlikely to be any), FAR (i.e. further assessment required to determine if PRFs are present), or PRF (i.e. a tree with at least one PRF). Where possible from the ground, PRFs were further categorised as PRF-I (i.e., PRF only suitable for individual bats or very small numbers of bats) or PRF-M (i.e. PRF suitable for multiple roosting bats, e.g. a maternity colony).

3.1.2 Night-time Bat Walkover

Bat activity surveys were carried out using the transect method, based on BCT guidance (Collins, 2023). As per the most recent BCT guidance, transect surveys have been renamed Night-time Bat Walkovers (NBW). The NBWs were carried out on three occasions spaced across the survey season, on 18 June, 5 August, and 24 September 2025.

Following standard method, NBW commenced at sunset, with the first 30 minutes spent at one location onsite. This location was chosen based on the surrounding habitats and the likelihood of identifying potential flight lines (for example, from nearby roosts). The NBW continued for at least two hours after sunset.

The June transect comprised a c. 2.9km route, and included a section within the adjacent Rathcoole Woods, to the west of the Site. This section was extremely dark with dense vegetation, and was very difficult to navigate in the dark, and therefore was subsequently removed from the August and September transects. The August and September transect comprised a c. 2.4km route. An additional 0.3 km section was added to the September transect, as the survey commenced within the very northern Rathcoole Woods. Spot counts (i.e., listening points) were determined along the transect route at suitable locations, at which surveyors listened at a stationary position for five minutes. Surveyors listened for bats using detectors with headphones and on hearing a bat, attempted to identify flight direction, height, and bat behaviour.

3.2 Data Collection and Analysis

All spatial survey data were recorded onto specific bat GLTA and NBW maps using Esri Field Maps on a hand-held mobile mapping device (Samsung Galaxy Active 3) in the field. By using the inbuilt device GPS and in context with recognisable features on the ground visible from downloaded orthophotography, generally accurate locational data of evidence was recorded.

All bat calls were digitally recorded during NBWs, using a Batlogger M2 bat detector. Weather details were recorded using the Batlogger M2 inbuilt thermometer, and descriptions of other conditions were recorded subjectively.

Analysis of recorded bat calls was carried out using Kaleidoscope Pro software to identify any bats detected and to confirm species identifications made in the field. In some cases, such as Myotis species, this is not always possible based on call parameters alone. All recordings were first processed using the Kaleidoscope Pro auto-identification feature and were then manually checked.

3.3 Survey Personnel

The DBW and GLTA were carried out by Jenny Hunter. The NBWs were carried out by Jenny Hunter, Seánin Munglani née Maxwell, Fred Mosley, Dr Paul Lynas, and Dr Ruth Kelly. The subsequent sound analysis was carried out by Jenny Hunter and Dr Emma Boston. This Appendix was prepared by Jenny Hunter, reviewed by Seánin Munglani, and verified by Dr Emma Boston.

Relevant experience for all AECOM ecologists involved in preparation of this Appendix, including all field survey and data analysis, is presented in Appendix 6-1 Relevant Supporting Information.

3.4 Limitations

BCT guidance recommends placement of static detectors as part of survey effort for bat activity. However, based on the open nature of the Site, and the potential for anti-social behaviour, static detectors were not deployed (due to potential risk for damage/theft). This does not pose a significant limitation to the surveys, as a full suite of NBWs were carried out and were not inherently constrained.

No limitations that constrain the results of the surveys were identified.

4. Results and Discussion

4.1 Daytime Bat Walkover and Ground Level Tree Assessment

The DBW and GLTA were carried out on 17 June 2025 by Jenny Hunter. Weather conditions were dry, sunny, with scattered clouds and excellent visibility.

The Site was assessed to contain suitable habitat for commuting and foraging bats. The Site contains open grassland (including species-rich meadows), scattered trees, and scrub which are likely to provide suitable foraging habitat. In addition, there are linear habitats, such as watercourses, woodland edge and hedgerows which provide further foraging habitat, in addition to providing

commuting within and beyond the Site. The Site has no artificial lighting and is well connected to further suitable habitat, with Rathcoole Woods immediately west of the Site, and a rural landscape, with fields, hedgerows, and treelines to the south. The habitats were assessed as Moderate suitability.

No trees with bat roost suitability were identified within the Site, and all have been assessed as NONE. There are several semi-mature and mature trees within Rathcoole Park, including in hedgerows and individually within grassland. Many of the individual trees appear to be well-managed for amenity value. No features suitable for bats, or signs of poor health that could indicate potential for obscured PRFs were identified.

In addition, the sycamore tree previously identified as a mating roost was assessed. No PRFs were identified within the tree that could host a bat roost. Given the paucity of information previously given in relation to this tree in relation to bats (Wilson and Denyer, 2021), i.e. no details of the feature or field observations of mating, it is possible that social calls were simply heard around this tree. Furthermore, no evidence of roosting was incidentally observed during the NBWs (and it is worth noting that September is the ideal time to identify mating behaviours). N.B. that this tree is now outside of the Site boundary.

4.2 Night-time Bat Walkovers

4.2.1 Survey Conditions and Effort

The NBWs were carried out on 18 June (Dr Paul Lynas and Seánin Munglani), 5 August (Jenny Hunter, Dr Ruth Kelly, and Fred Mosley), and 24 September 2025 (Jenny Hunter and Fred Mosley). The NBWs commenced at sunset and ended at least two hours after sunset. For the June and August NBWs, the start location was the woodland/hedgerow along the southeastern boundary, whilst for the September survey, the start location was within the woodland along the western Site boundary. Surveyors listened for bats at the start position from sunset until 30 minutes after, after which the transect commenced.

Survey dates, weather conditions, and start and end times are presented in Table 1. N.B. the times reflect the start and end times of the NBW. The transect route walked, starting location, and spot count locations for each survey are presented in Figure A6-3a-c.

Table 1: Survey Dates, Times and Weather Conditions Recorded During NBWs

Time	Temperature (°C)	Cloud Cover (%)	Wind Description	Precipitation
18/06/2025	**Sunset: 21:57**			
Start: 21:57	18	10-30 (few clouds)	Light air	Dry
End: 00:19	13	0 (clear)	Light air	Dry
05/08/2025	**Sunset: 21:15**			
Start: 21:15	14	10-30 (few clouds)	Light breeze	Dry
End: 23:19	12	10-30 (few clouds)	Light breeze	Dry
24/09/2025	**Sunset: 19:20**			
Start: 19:20	15	60-90 (broken/heavy clouds)	Light air	Dry
End: 21:20	12	60-90 (broken/heavy clouds)	Light air	Dry

4.2.2 Bat Activity

Five bat species were recorded across all NBWs: common pipistrelle, soprano pipistrelle, Leisler's bat, Nathusius' pipistrelle *Pipistrellus nathusii*, and whiskered bat *Myotis mystacinus*.

Across all surveys combined, common pipistrelle was the most frequently encountered bat, comprising 43% of bats recorded. Soprano pipistrelle was the second most frequent (29%), followed by Leisler's bat (17%). Whiskered bat was recorded on every survey, but in lower numbers, whilst Nathusius' pipistrelle was only present in June, with two bats recorded. A summary of numbers of bats

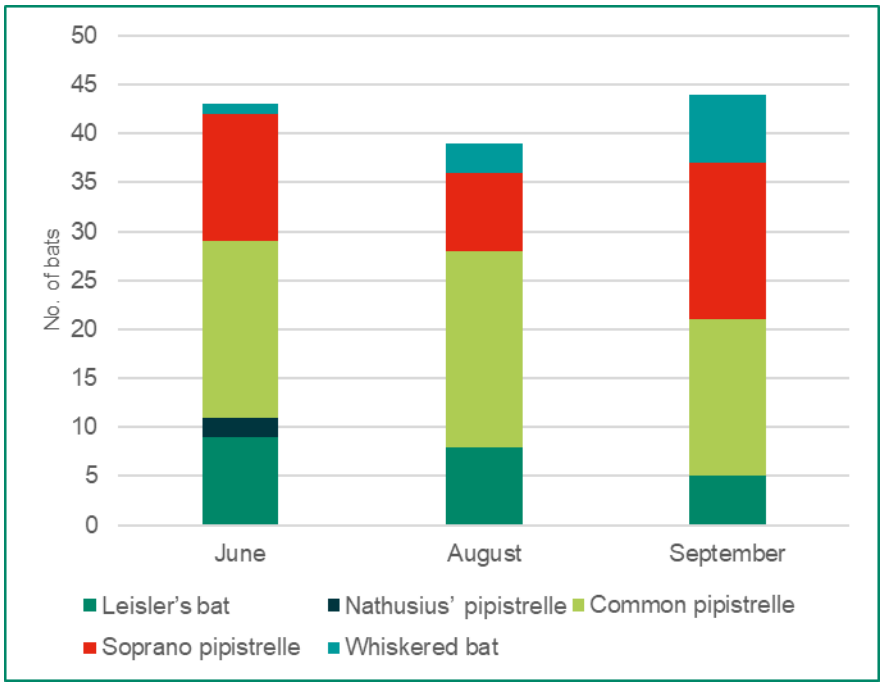
observed (and numbers of registrations recorded on the Batlogger[1]) within the Site is presented in Table 2. Locations of bat activity recorded monthly are presented in Figure A6-3a-c.

Table 2: Summary of Bat Numbers and Registrations Recorded Each Month

Species	June		August		September	
	No. Bats Observed	No Registrations	No. Bats Observed	No Registrations	No. Bats Observed	No Registrations
Leisler's bat	9	38	8	12	5	13
Nathusius' pipistrelle	2	2	0	0	0	0
Common pipistrelle	18	130	20	130	16	71
Soprano pipistrelle	13	67	8	24	16	52
Whiskered bat	1	1	3	5	7	22
Total	**43**	**238**	**39**	**171**	**44**	**158**

Activity was moderate to high, and was relatively consistent across the three surveys, with similar numbers of bats observed, as shown in Table 2 and Chart 1. Proportion of species recorded differed slightly across the surveys; common pipistrelle was dominant in June and August, but were as frequent as soprano pipistrelle in September, which is when numbers of soprano pipistrelle peaked. Numbers of Leisler's bats decreased across surveys, whilst numbers of whiskered bat recorded increased, peaking in September. Nathusius' pipistrelle was only recorded in June, comprising brief passes of two individual bats.

Chart 1: Total Number of Bats Recorded Per Month



During the June survey, 43 bats (238 bat call registrations) were recorded. The first bats heard were Leisler's bat and soprano pipistrelle, recorded c. 26 and 28 minutes after sunset, with Nathusius' pipistrelle and common pipistrelles recorded c. 35 minutes after sunset. After this, activity was relatively consistent until the end of the survey, with a mean of 30 seconds between bat passes. There were two large gaps of c. 20 minutes when no activity was recorded, however these were both toward the end of the survey (between 23:13-23:35 and 23:59-00:20) and occurred when surveyors were walking through very dense woodland/scrub. Apart from the section through the dense woodland, bat activity was recorded across the transect and was largely driven by continuous foraging by pipistrelle bats (both individually and in small numbers (i.e. 2-3 bats)) along the boundary

[1] N.B. that the number of bat registrations recorded does not equal the number of bats observed, however provides information on length of time a bat was recorded.

hedgerows within the park, particularly along the northern boundary and the south-east corner. Leisler's bats were observed both foraging around the trees within the park and commuting at height. Only one whiskered bat was observed, comprising a brief pass along the eastern boundary hedgerow.

During the August survey, 39 bats (171 bat call registrations) were recorded. The first bats heard were Leisler's bats, recorded c. 5 minutes after sunset, which may indicate possible roosting in proximity to the Site (N.B. no roosts were incidentally observed during any survey). The first common and soprano pipistrelles were recorded c. 27 and 31 minutes after sunset. Activity was relatively consistent through the survey, with a mean of 41 seconds between bat passes, though several gaps of c. 6-11 minutes when no activity was recorded occurred. Similarly to June, bat activity was recorded across the transect and was largely driven by continuous foraging by pipistrelle bats (both individually and in small numbers (i.e. 2-3 bats)) along the boundary hedgerows within the park, particularly along the entire northern boundary and the south-east corner. Leisler's bats were again observed both foraging within the Site and commuting at height. Three whiskered bats were observed; two of these comprised brief passes with the third recorded foraging along the northern boundary hedgerow.

During the September survey, 44 bats (158 bat call registrations) were recorded. The first bats heard were Leisler's bats, recorded c. 6 minutes after sunset, which may indicate possible roosting in proximity to the Site (N.B. no roosts were incidentally observed during any survey). The first soprano and common pipistrelles were recorded c. 13 and 18 minutes respectively after sunset. Activity was relatively consistent through the survey, with a mean of 43 seconds between bat passes, though gaps of c. 3-7 minutes when no activity was recorded were relatively common. Activity recorded during September differed slightly to June and Augst. Common and soprano pipistrelles, generally individually, were recorded commuting and foraging along hedgerows and most commonly along the linear corridor along the Site's southern boundary; however, many of the bats were recorded as brief passes. Leisler's bats were recorded in lower numbers, and mostly comprised brief commuting passes, with no foraging observed. More whiskered bats were observed in September, including individuals observed foraging along the linear corridor at the Site's southern boundary and within woodland along the west of the Site (which is contiguous with the adjacent Rathcoole Woods).

5. Summary

The habitats onsite and in the immediate surrounds provide a mosaic of grassland, woodland and scrub, with hedgerows and woodland/scrub edge providing strong linear features. The Site provides suitable commuting and foraging habitat for a range of bat species, particularly given the dark nature of the habitats, and connectivity to further suitable habitats beyond the Site.

No trees with suitability for roosting bats were identified, and there are no structures onsite. The presence of a possible mating roost that was previously recorded nearby (Wilson and Denyer, 2021) could not be identified or verified; indeed, no PRFs were identified on the sycamore tree previously recorded, and no evidence to suggest mating was identified during any NBWs. Roosting bats are considered likely absent from the Site.

Bat activity across the three NBWs was moderate to high, with five species recorded: common pipistrelle, soprano pipistrelle, Leisler's bat, whiskered bat, and Nathusius' pipistrelle. Common and soprano pipistrelle were most dominant (comprising 43% and 29% respectively) across all surveys, followed by Leisler's bat (17%), and whiskered bat (9%). Nathusius' pipistrelle occurred only in June (comprising two brief passes).

In June, activity included consistent foraging by pipistrelles along boundary hedgerows, especially the northern boundary and at the south-east corner, with Leisler's bat both foraging within the park and commuting at height. In addition to the two Nathusius' pipistrelle, one whiskered bat was noted. In August, pipistrelle bats dominated, with activity especially along the northern hedgerow and south-eastern corner of the Site, with several whiskered bats also recorded. In September, more whiskered bats and fewer Leisler's bats were recorded, with common and soprano pipistrelles commuting/foraging mainly along the southern boundary corridor, with whiskered bats also recorded foraging here and within western woodland contiguous with Rathcoole Woods. Whilst the hedgerows and southern linear corridor provide foraging potential, no particular commuting routes or regularly used flight lines were identified during the NBW surveys.

Leisler's bats tended to be the first bats recorded during surveys, though relatively early pipistrelles were also heard. These were often before their median emergence times (Andrews and Pearson, 2022) and therefore may be roosting in proximity to the Site (though it is worth noting that no roosts were confirmed onsite).

The Site provides a good resource for local bats, with a good diversity of species present. The numbers of bats recorded remained relatively consistent across the season, with proportions of species changing only slightly between surveys. Whilst similar numbers of bats were recorded across all surveys, many of the bats recorded in September comprised brief passes, with fewer bouts of foraging overall. The decreasing numbers of bat registrations recorded also indicates reduced time spent onsite by bats.

6. References

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