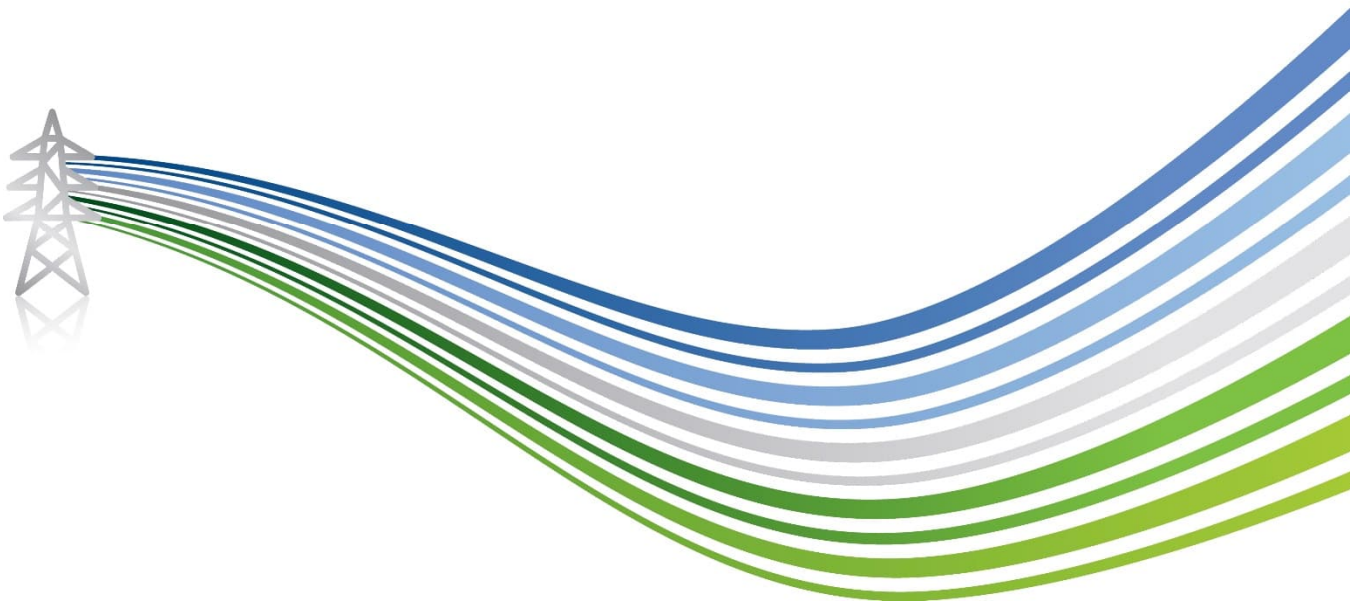
SSEN Transmission

Cambushinnie 400 kV Substation

Haul Track

Appendix E Bat Technical Appendix

June 2025



Scottish & Southern Electricity Networks
TRANSMISSION

CONTENTS

1. INTRODUCTION

1.1.1 This appendix is supplementary to **Chapter 5 Ecology and Nature Conservation** of the Cambushinnie 400 kV Substation Haul Track Environmental Appraisal (EA). It describes in detail the desk study and field survey carried out to establish the baseline conditions within the zone of influence (ZoI) of the Proposed Development with respect of bats. For the purposes of this appendix, this comprises the following species:

- Common pipistrelle *Pipistrellus pipistrellus*;
- Soprano pipistrelle *Pipistrellus pygmaeus*;
- Nathusius' pipistrelle *Pipistrellus nathusii*;
- Brown long-eared bat *Plecotus auratus*;
- Noctule *Nyctalus noctula*;
- Leisler's bat *Nyctalus leisleri;*
- Daubenton's bat *Myotis daubentonii*;
- Whiskered bat *Myotis mystacinus*;
- Natterer's bat *Myotis nattereri*; and
- Brandt's bat *Myotis brandtii*.

1.1.2 Throughout this appendix, species are given their common and scientific names when first referred to and their common names only thereafter. All distances are cited as the shortest distance 'as the crow flies', unless otherwise specified.

1.1.3 This appendix is supported by **Figure 5-1** and **Figure 5-7**, presented in **Appendix A Figures** of the Cambushinnie 400 kV Substation Haul Track EA.

1.2 Quality Assurance

1.2.1 This appendix, and the desk study and field survey described within it, have been completed in accordance with the AECOM Integrated Management System (IMS). AECOM's IMS places emphasis on professionalism, technical excellence, quality, as well as covering health, safety, environment and sustainability management. All AECOM staff members are committed to maintaining this accreditation to those parts of BS EN ISO 9001:2015[1] and 14001:2015, as well as BS OHSAS 18001:2007[2] that are relevant to a consultancy service.

1.2.2 The field survey for bats was carried out by trained and experienced AECOM ecologists. All are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) at the appropriate grade and adhered to their strict Code of Professional Conduct.

[1] British Standard. BS EN ISO 9001:2015 – TC. Quality Management Systems. Requirements.

[2] British Standards.BS OHSAS 18001:2007. Occupational Health and Safety Management systems

2. LEGISLATIVE AND PLANNING POLICY CONTEXT

2.1 Relevant Legislation

2.1.1 All species of bats found in Scotland are protected under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) (more commonly known as the 'Habitats Regulations'[3]). The Habitats Regulations make it an offence to deliberately or recklessly:

- Capture, injure or kill a bat;
- Harass a bat or group of bats;
- Disturb a bat in a roost;
- Disturb a bat while it is rearing or otherwise caring for its young;
- Obstruct access to a bat roost or otherwise deny a bat use of a roost;
- Disturb a bat in a manner or in circumstances likely to significantly affect the local distribution or abundance of the species;
- Disturb a bat in a manner or in circumstances likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young; and/or
- Disturb a bat while it is migrating or hibernating.

2.1.2 It is also an offence to damage or destroy a breeding or resting place (i.e. a roost) of a bat, whether or not this was done deliberately or recklessly. A licence must be obtained from NatureScot for any action that could otherwise constitute an offence under the Habitats Regulations. A licence can only be issued for development activities subject to three strict qualifiers being met:

- It must be required for preserving public health or public safety or for some other imperative reasons of overriding public interest, including those of a social or economic nature, and beneficial consequences of primary importance to the environment;
- There must be no satisfactory alternative; and
- The proposed action must not be detrimental to the maintenance of the species at favourable conservation status.

2.1.3 Under the Nature Conservation (Scotland) Act 2004[4], public bodies in Scotland have a duty to further the conservation of biodiversity. The Scottish Biodiversity List (SBL)[5] is a list of habitats, plants and animals that Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland. The purpose of the SBL is to identify habitats and species that are of highest priority for biodiversity conservation, thereby helping public bodies to carry out their biodiversity duty.

2.1.4 The following bat species are identified through their listing on the SBL as being of principal importance for biodiversity conservation in Scotland:

- Common pipistrelle;
- Soprano pipistrelle;
- Nathusius' pipistrelle;
- Brown long-eared bat;
- Noctule;

[3] UK Government, 1994. *The Conservation (Natural Habitats &c.)* [Online]. [Accessed 14 February 2025]. Available from: https://www.legislation.gov.uk/uksi/1994/2716/contents

[4] UK Government 2004. *Nature Conservation (Scotland) Act 2004.* [Online] [Accessed 14 February 2025] Available from: Nature Conservation (Scotland) Act 2004

[5] Nature Scot (2020). *Scottish Biodiversity List.* [Online] Available from: Scottish Biodiversity List | NatureScot

- Leisler's bat;
- Daubenton's bat;
- Whiskered bat;
- Natterer's bat; and
- Brandt's bat;

2.2 Guidance

2.2.1 The Perth and Kinross Council follows the Tayside Local Biodiversity Action Plan[6] (LBAP) (2016 - 2026). The Tayside LBAP does not contain a list of priority species; however, some key species are mentioned throughout in relation to the ecosystems they are found, which includes bats (no species specified in the LBAP).

[6] Tayside Local Biodiversity Action Plan - https://www.angus.gov.uk/sites/default/files/Tayside%20Local%20Biodiversity%20Action%20Plan%202016_2026.pdf

3. METHODOLOGY

3.1 Desk study

3.1.1 A desk study was carried out to identify nature conservation designations for which bats are qualifying or notified species, and to search for existing records of bats in proximity to the Site. The desk study sought to identify:

- Statutory designated sites for nature conservation for which bats are qualifying / notified features, including SACs within 10 km and SSSIs within 2 km of the Site (see **Figure 5-1, Appendix A Figures** of the Cambushinnie 400 kV Substation Haul Track EA);
- Local non-statutory nature conservation sites within 1 km of the Site for which bats are an identified reason for designation or, where no designation information is available, for which bats are likely to be part of the reason for site selection; and
- Records of bats from the past 20 years within 1 km of the Site using the NBN Atlas Scotland[7].

3.2 Field survey

3.2.1 A Field survey was conducted to assess the suitability of habitats within the Site for roosting, commuting, and foraging bats and to search for specific bat roosting locations within the Site, plus a 50 m buffer, herein referred to as the 'Survey Area'. The survey buffer extended along roadsides up to 250 m from two central points of the Site, on the A822 and B8033, to account for visual splays that may be felled for the Proposed Development. A description of the field survey methods employed is provided below. Pre-application bat surveys normally remain valid for two more survey periods / years[8].

Bat Habitat Suitability Assessment

3.2.2 In accordance with industry-standard guidelines published by the Bat Conservation Trust (BCT) (Collins, 2023)[9], an initial Daytime Bat Walkover (DBW) was carried out on 18 March 2024 to assess habitats the suitability of habitats within the Site for roosting, commuting, and foraging bats within the Survey Area and in the wider environment.

3.2.3 The general suitability of the habitat within the Survey Area was also classified according to the definitions provided in Collins (2023)[9] and shown in **Table 1** below.

Table 1 Bat roosting and commuting/foraging suitability categories (taken from Collins (2023)[9])

Suitability	Description of roosting habitats	Description of potential flight-paths and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines or generate/shelter insect populations available to foraging bats).
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains to account for non-standard bat behaviour.

[7] NBN Atlas (2025). [Online] Available from: https://nbnatlas.org/ Accessed 04 February 2025

[8] NatureScot (2025) Standing advice for planning consultations – Bats. Available at: https://www.nature.scot/doc/standing-advice-planning-consultations-bats (Accessed: 01 April 2025)

[9] Collins, J. (ed.) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

Suitability	Description of roosting habitats	Description of potential flight-paths and foraging habitats
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats).	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-linked watercourses and grazed parkland. Site is close to and connected to known roosts.

Ground Level Tree Assessment Survey

3.2.4 Further to this, a Ground Level Tree Assessment (GLTA) was also carried out on 18 March 2024 to search for trees with potential roost features (PRFs) which could be used by bats within the Survey Area (which included an area 250 m from the centre point of the Site along roads only to account for potential felling operations). Trees were categorised as NONE (no PRF), PRF (contain potential roost feature) and FAR (further assessment required). PRFs searched for included suitable holes, cracks or splits in trees. Where such features existed, searches were made as far as possible for evidence of bat use such as droppings, staining, foraging remains, auditory evidence and the presence of live or dead bats.

3.2.5 All identified PRFs were then further categorised based on ground-level assessment only, without the use of specialist equipment such as mirrors, torches, or endoscopes. Consequently, the suitability classification assigned at this stage are considered indicative rather than definitive, as internal inspection was not carried out. As a result, some PRFs may have been assigned a higher or lower suitability category than would be determined

through a more detailed inspection. Where required to gain a suitable level of information for trees likely to be impacted by the Proposed Development (within a disturbance zone where a tree is likely to be felled or otherwise disturbed by construction works), a more detailed assessment was conducted, as described in **Section 3.2.7** to **3.2.14**.

3.2.6 Trees were categorised according to the descriptions provided in **Table 2**.

Table 2 Categories of potential suitability of PRFs in trees (Collins, 2023)[9]

Suitability	Description of roosting habitats
PRF-I	Tree has a PRF which is only suitable for individual or very small numbers of bats; either due to their size or lack of suitable surrounding habitat.
PRF-M	Tree has a PRF which is suitable for multiple bats and may be used by a maternity colony.

Bat emergence surveys

3.2.7 Only a subset of trees was further evaluated to determine the need for additional bat emergence surveys, as they were located within the area subject to clearance. Among those trees, only three were identified as possessing PRF-M and dusk emergence surveys were carried out on these.

3.2.8 Dusk emergence surveys were carried out on 22 August and 17 September 2024 on three trees recorded as having PRF-M bat roost suitability following the surveys described above, and which were deemed likely to be subject to disturbance by the Proposed Development. Detailed survey timings and weather conditions can be found in **Table 3**.

3.2.9 Dusk emergence bat surveys were carried out by suitably qualified AECOM ecologists in accordance with industry-standard recommendations described in Collins (2023)[9] as far as was practicable.

3.2.10 Dusk emergence surveys commenced approximately fifteen minutes prior to sunset and ended at least 1.5 hours after sunset.

3.2.11 During the emergence surveys the PRF identified during the GLTA surveys were watched carefully by experienced bat surveyors and, if any bats emerged, the surveyors would note the exact location, species (using bat detection equipment, see below) and count the number of bats emerging (where light conditions allowed). General bat activity was also noted during the surveys to provide further information on use of the wider area by bats.

3.2.12 The surveyors used Elekon Batlogger M2 (‘Batlogger’) detectors, which are set to record continuously throughout the survey, in real-time (i.e. including all calls and gaps, allowing distinctive ‘rhythms’ to be ascertained) and in full spectrum (i.e. all frequencies are recorded). This results in a complete sonogram and allows detailed analysis of the audio recording.

3.2.13 Use of night visions aids for bat emergence surveys (BCT, 2022), and an infra-red (IR) camera recording set-up was implemented as a survey aid. This set up included one Canon infra-red camera which recorded continuously throughout the survey, supported by use of an infra-red torch and / or floodlights. This allowed enhanced infra-red visibility which would allow any bats exiting or returning to PRF, even in complete darkness, to be viewed in the footage recorded. Cameras were focussed on individual PRF or more widely across the feature being surveyed, as appropriate. After surveys were completed, the infra-red footage was reviewed in full by an experienced ecologist to look for footage of bats

emerging PRF. **Table 4** below provides a snapshot of the darkest point of each survey taken.

Table 3 Details of emergence and re-entry surveys

Tree reference	Survey date	Sunset time	Start time	End time	Weather conditions
T07, T31 and T32	22 August 2024	20:35	20:20	22:05	Calm, no precipitation throughout most of the survey but rain towards the end. Complete cloud cover and temperatures around 12ºC during survey.
	17 September 2024	19:27	19:12	20:54	Warm, but humid due to recent rain. No precipitation during survey. No cloud cover and no wind. Temperatures varying from 15ºC at start to 11ºC at end of survey.

Table 4 Photograph of darkest point captured on the NVA during each emergence bat survey

Tree reference	Survey date	Photograph of darkest point
T07	22 August 2024	

	17 September 2024	
T31	22 August 2024	
	17 September 2024	

T32	17 September	

3.2.14 Analysis of recorded bat calls was carried out using Kaleidoscope Pro software to allow identification to species level where possible. 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. Due to a lower volume of recorded files in the emergence surveys, an ecologist experienced in bat call analysis then checked all of auto-analysed recordings, which includes all bat auto-identified calls as well as all auto-identified noise files. This analysis was then audited by an expert bat ecologist to verify identifications.

3.3 Limitations

3.3.1 The aim of a desk study is to characterise the baseline context of a proposed development and provide valuable background information that may not be captured by field survey alone. Information obtained during the course of a desk study is dependent upon people and organisations having made and submitted records for the area of interest. As such, lack of records for a particular species does not necessarily mean that they do not occur in the study area. Likewise, the presence of records for particular species does not automatically mean that these still occur within the area of interest or are relevant to the Proposed Development.

3.3.2 The surveys of Tree T31 and T32 were accidentally ended slightly earlier than the scheduled, at 20:42, rather than 20:57, which would have marked 1.5 hours post-sunset. However, this does not constitute a significant limitation that would have affected the results, as bat activity had already diminished at that time.

3.3.3 The line of trees located on the western side of the B8033 road was not surveyed due to its location on private property. However, this is not an issue as these trees will not be impacted by the Proposed Development.

3.3.4 Tree T18 has a potential roost feature at a height of 9 metres, thus it could not be accurately assessed. Therefore, tree T18 was categorised as ‘FAR’. Based on the current understanding of works at the Site, tree T18 is not anticipated to be impacted, and no additional surveys are required. However, should the design of the Proposed Development change, further survey would be required.

3.3.5 Only one bat logger was used to record tree T31 and tree T32 on the 17 September 2024, placed adjacent to tree T32. Therefore, there are no audio files for the survey of tree T31. While these recordings could provide an additional indication of bat presence immediately around the tree, this does not pose a limitation to the results, as no bats were recorded

emerging from the tree on the infra-red camera and there are audio files from tree T32, which is located next to tree T31, therefore it is likely that it would have had similar species / number of registrations as T32 for this night.

4. RESULTS

4.1 Desk study

4.1.1 There are no nature conservation sites designated specifically for bat species within the search distances specified in **Section 3**.

4.1.2 NBN Atlas Scotland returned three records of bats within 1 km of the Site, two of soprano pipistrelle bats and a single of an unidentified pipistrelle bat. Those records were provided by NatureScot and do not specify whether the records are of a single bat or a roost.

4.2 Field survey

Bat habitat suitability assessment

4.2.1 Habitats across the Site largely comprise modified grassland and coniferous plantation woodland, however, these are connected via hedgerows and lines of mature trees along the field edges, small watercourses and Keir Burn and patches of broadleaved woodland and semi-improved neutral grassland. Therefore, the Site is considered of 'High' suitability for foraging and commuting bats. There are trees with bat roost suitability within the Survey Area, but there are no buildings suitable for roosting or hibernating bats within the Survey Area.

Ground level tree assessment survey

4.2.2 Within the Survey Area, GLTA identified 41 trees, of which 13 are classified as being 'PRF-M', 27 as 'PRF-I', and one as 'FAR' due to height of the feature. Details on the trees, their location and a photograph are provided in **Table 5** below, in **Annex A Bat Roost Suitability Assessment Results** and presented on **Figure 5-7, Appendix A Figures** of the Cambushinnie 400 kV Substation Haul Track EA.

Table 5 Bat roost suitability assessment results

Tree (T) reference	Tree description	Bat roost suitability	Description of potential roost feature (s) (PRF)	Relationship to the Site
T01	Pedunculate oak *Quercus robur*	PRF-I	Single feature caused by a twisting branch at around 7 m from the ground, facing west.	Within the Site, but approximately 3 m north of the Site Clearance Zone.
T02	Pedunculate oak	PRF-I	Peeling bark of damaged branch at around 4 m from the ground.	Within the Site, but approximately 3 m east of the Site Clearance Zone.
T03	Pedunculate oak	PRF-I	East-facing hollow cavity, extending up at around 10 m from the ground.	Within the Site, and within the Site Clearance Zone.
T04	Pedunculate oak	PRF-I	North-facing rotting branch with a possible cavity at around 10 m from the ground.	Within the Site, and within the Site Clearance Zone.
T05	Pedunculate oak	PRF-I	Single south-facing feature at dropped limb at around 10 m from the ground.	Within the Site, and within the Site Clearance Zone.

Tree (T) reference	Tree description	Bat roost suitability	Description of potential roost feature (s) (PRF)	Relationship to the Site
T06	Lime *Tilia x europaea*	PRF-I	Single north-facing rotting branch at around 10 m from the ground.	Within the Site, and within the Site Clearance Zone.
T07	Pedunculate oak	PRF-M	Single rot south-facing hole at around 6 m from the ground. Additional damaged top branch with heart rot facing north, at around 9 m from the ground.	Within the Site, and within the Site Clearance Zone.
T08	Pedunculate oak	PRF-I	Single north-facing split limb at around 7 m from the ground.	Within the Site, and approximately 1 m east of the Site Clearance Zone.
T09	Pedunculate oak	PRF-I	Split in an east-facing limb at around 7 m from the ground.	Within the Site, and approximately 0.5 m east of the Site Clearance Zone.
T10	Pedunculate oak	PRF-I	Single south-facing rotting limb with several features along length from around 4 to 7 m from the ground.	Within the Site, and approximately 1 m west of the Site Clearance Zone.
T11	Pedunculate oak	PRF-I	Single south-facing rot hole on a limb, at around 7 m from the ground.	Approximately 40 m south of the Site, and 55 m south of the Site Clearance Zone.
T12	Pedunculate oak	PRF-M	Exposed heartwood from split and rotting main stem starting from around 5 to 7 m from the ground.	Approximately 58 m south of the Site, and 73.5 m south of the Site Clearance Zone.
T13	Pedunculate oak	PRF-M	Two east-facing rot holes at around 6 m and 7 m from the ground.	Approximately 88 m south of the Site, and 103 m south of the Site Clearance Zone.
T14	Horse chestnut *Aesculus hippocastanu*	PRF-I	Two large rot holes at around 2 m from the ground, facing west.	Approximately 148 m north of the Site, and 178 m north of the Site Clearance Zone.
T15	Pedunculate oak	PRF-M	North-facing rot hole at around 7 m from the ground on a large z-shaped branch. Also, a split limb, facing east.	Approximately 152 m north of the Site, and 176 m north of the Site Clearance Zone.
T16	Pedunculate oak	PRF-I	North-facing break in a twisted branch at around 5 m from the ground.	Approximately 134 m north of the Site, and 158.4 m north of the Site Clearance Zone.

Tree (T) reference	Tree description	Bat roost suitability	Description of potential roost feature (s) (PRF)	Relationship to the Site
T17	Sycamore *Acer pseudoplatanus*	PRF-I	Small south-west facing rot hole at around 5 m from the ground.	Approximately 109 m north of the Site, and approximately 133 m north of the Site Clearance Zone.
T18	Pedunculate oak	FAR	Single rot hole on an upper branch at around 9 m from the ground.	Approximately 91 m north of the Site, and 115.4 m north of the Site Clearance Zone.
T19	Norway maple *Acer platanoides*	PRF-M	Single feature of heart rot at around 1.5 m from the ground.	Approximately 79 m north of the Site, and 103.5 m north of the Site Clearance Zone.
T20	Lime	PRF-M	Single north-facing fallen limb feature at around 3 m from the ground. Additionally, two rot holes at around 3 m and 5 m from the ground, facing north.	Approximately 81 m north of the Site, and 105.2 m north of the Site Clearance Zone.
T21	Sycamore	PRF-I	Single west-facing rot hole at around 4 m from the ground.	Approximately 58 m north of the Site, and 83.4 m north of the Site Clearance Zone.
T22	Pedunculate oak	PRF-M	Two crevices on tree at around 5 m from the ground, facing north.	Approximately 55 m north of the Site, and 79.8 m north of the Site Clearance Zone.
T23	Lime	PRF-I	Single north-facing rot hole at around 5 m from the ground.	Approximately 41 m north of the Site, and 65.7 m north of the Site Clearance Zone.
T24	Lime	PRF-I	Single west-facing rot hole at the end of a branch that is around 4 m from the ground. Additional crevice in trunk, facing west.	Approximately 34 m north of the Site, and 59 m north of the Site Clearance Zone.
T25	Norway maple	PRF-I	Single west-facing rot hole at around 5 m from the ground.	Within the Site, and approximately 21 m north of the Site Clearance Zone.
T26	Pedunculate oak	PRF-M	Several rot holes around two cut branches facing south.	Within the Site, and approximately 8 m east of the Site Clearance Zone.
T27	Sycamore	PRF-I	West-facing rot in a cut branch at around 3 m from the ground.	Within the Site, and within the Site Clearance Zone.

Tree (T) reference	Tree description	Bat roost suitability	Description of potential roost feature (s) (PRF)	Relationship to the Site
T28	Pedunculate oak	PRF-I	Three east-facing features at around 8 m from the ground.	Within the Site, and approximately 10 m north and east of the Site Clearance Zone.
T29	Lime	PRF-I	Two rot holes at around 10 m from the ground, one facing north and one facing south-east.	Within the Site, and within the Site Clearance Zone.
T30	Pedunculate oak	PRF-I	Singe south-west facing rot hole at around 8 m from the ground.	Within the Site, and within the Site Clearance Zone.
T31	Horse chestnut	PRF-M	Two south-west facing rot holes at around 5 m from the ground.	Within the Site, and within the Site Clearance Zone.
T32	Horse chestnut	PRF-M	Single south-west feature from a fallen limb at around 4 m from the ground. Also, two rot holes from pruning cuts at around 5 m from the ground, facing south.	Within the Site, and approximately 3 m south of the Site Clearance Zone.
T33	Horse chestnut	PRF-M	Split of the main stem at around 5 m from the ground, facing south. Also, a single north-facing hole at around 2 m from the ground.	Within the Site, and within the Site Clearance Zone.
T34	Norway maple	PRF-I	Single hole at the end of the main stems. Feature at around 6 m from the ground, facing south.	Approximately 4 m south of the Site, and 7.1 m south of the Site Clearance Zone.
T35	Norway maple	PRF-I	Single hole from split in limb at around 3 m from the ground, facing north.	Within the Site, and within the Site Clearance Zone.
T36	Horse chestnut	PRF-M	Single hollow limb from around 2 m from the ground, extending up.	Approximately 5 m south of the Site, and 7 m south of the Site Clearance Zone.
T37	Lime	PRF-I	Single hole in in trunk and several pockets in trunk below 2 m from the ground.	Within the Site, and approximately 30 m west of the Site Clearance Zone.
T38	Lime	PRF-I	Single split crack on north-facing branch at around 5 m from the ground.	Within the Site, and approximately 82 m south of the Site Clearance Zone.
T39	Horse chestnut	PRF-I	Split in main trunk with a lot of damage from rot. Single north-facing hole	Within the Site, and approximately 91 m

Tree (T) reference	Tree description	Bat roost suitability	Description of potential roost feature (s) (PRF)	Relationship to the Site
			at around 5 m from the ground. Also, an opening in trunk of size 20 x 40 cm, facing north.	south-west of the Site Clearance Zone.
T40	Norway maple	PRF-I	Single dropped branch with a single upwards and south-facing rot hole at around 7 m from the ground.	Approximately 15 m west of the Site, and 115.2 m south of the Site Clearance Zone.
T41	Beech *Fagus sylvatica*	PRF-M	Single relatively open cavity with size around 20 x 90cm, facing north-west. Feature is at around 4 m from the ground.	Approximately 225 m south of the Site, and approximately 265 m south-west of the Site Clearance Zone.

Bat emergence surveys

4.2.3 Each tree (T07, T31 and T32) within the likely disturbance zone of the Proposed Development (e.g. where a tree is likely to be impacted) received two bat emergence surveys to check for roosting bats. During the surveys and upon reviewing the infra-red camera footage, there were no bats recorded emerging from the features.

4.2.4 A minimum of four bat species were confirmed to be present within the Survey Area, following analysis of static detector data: common pipistrelle, soprano pipistrelle, brown long-eared bat and *Myotis* sp. The majority of *Myotis* calls were attributed to Daubenton's bat, however for consistency, were all left as *Myotis* throughout the analysis. There were several registrations of unidentified pipistrelle species (consisting of social advertisement calls without echolocation call), which were almost certainly of common pipistrelle or soprano pipistrelle, which were recorded in abundance.

4.2.5 The emergence survey sound analysis results are shown below in **Table 6**.

4.2.6 In total, there were 535 bat calls recorded and the vast majority (98.69%) recorded by the static detectors were of pipistrelles, comprising 75.14% soprano pipistrelles (402 registrations), 22.99% common pipistrelle (123 registrations) and 0.38% unidentified pipistrelles (3 registrations) (the latter consisting of social advertisement calls without echolocation call, or of calls between frequency parameters which could not be identified to species with certainty). The remaining registrations were of *Myotis* (1.14%, six registrations) and brown long-eared bat (0.19%, one registration). Feeding buzzes were occasionally recorded for common and soprano pipistrelle.

4.2.7 *Myotis* sp. were recorded at all detectors in small numbers, whereas brown long-eared bat was only recorded on a single occasion at T31 on the 22 August 2024. This species has a particularly quiet call that can only be detected at very short range; hence it is often subject to under recording. It is therefore almost certainly more frequent in the Survey Area than the results suggest, where there are broadleaved woodland/trees (the favoured foraging habitat).

Table 6 Emergence survey sound analysis

Tree reference (T)	Survey date (2024)	Common pipistrelle	Soprano pipistrelle	Pipistrellus sp.	*Myotis* sp.	Brown long-eared bat	Total no of registrations*
T07	22 August	1	72	0	2	0	75
	17 September	1	9	1	0	0	11
T31	22 August	48	92	1	3	1	145
	17 September	See Limitation (**Section 3.3**). Likely to be similar species / number of registrations as T32 for this night.					
T32	22 August	68	116	0	1	0	185
	17 September	5	113	1	0	0	119
							Total number of bat registrations: 535

*A registration is defined as a bat call occurring during an individual pass by a bat, for comparability. The number of registrations is almost always higher than the number of actual bats because single bats often make multiple passes and therefore cause multiple registrations.

5. SUMMARY OF CONCLUSIONS

5.1.1 The Site is considered of 'High' suitability for foraging and commuting bats. Within the Survey Area, there were no buildings with bat roost or hibernation potential. A total of 41 trees were identified within the Survey Area as having PRFs, of which 13 were classified as being 'PRF-M', 27 as 'PRF-I', and one as 'FAR'. Three of those PRF-M trees were assessed further, and two dusk emergence surveys were carried out. There were no bats observed to be emerging from the trees during the surveys and upon review of the infra-red cameras. The most common species recorded foraging and commuting during those surveys were soprano pipistrelle, followed by common pipistrelle, *Myotis* sp and brown long-eared bats.

5.1.2 No further surveys are required at this stage. Pre-application bat surveys normally remain valid for two more survey periods[10]. No specific mitigation to safeguard bats is required at this stage. A pre-construction survey will be conducted as per the mitigation measures set out in **Chapter 5 Ecology and Nature Conservation** of the Cambushinnie 400 kV Substation Haul Track EA and further bat surveys will be conducted, if required.

[10] NatureScot (2025) Standing advice for planning consultations – Bats. Available at: https://www.nature.scot/doc/standing-advice-planning-consultations-bats (Accessed: 01 April 2025)

ANNEX A BAT ROOST SUITABILITY ASSESSMENT RESULTS

Table A-1: Bat roost suitability assessment results photographs

Tree (T) reference	Bat roost suitability	OS Grid Reference	Photograph
T01	PRF-I	NN 83662 09136	
T02	PRF-I	NN 83661 09113	
T03	PRF-I	NN 83656 09087	

T04	PRF-I	NN 83655 09080	
T05	PRF-I	NN 83654 09066	No photograph available.
T06	PRF-I	NN 83645 09009	
T07	PRF-M	NN 83644 08996	

T08	PRF-I	NN 83642 08969	
T09	PRF-I	NN 83640 08951	
T10	PRF-I	NN 83636 08935	

T11	PRF-I	NN 83624 08871	
T12	PRF-M	NN 83617 08853	
T13	PRF-M	NN 83617 08823	

T14	PRF-I	NN 83274 09370	
T15	PRF-M	NN 83294 09371	
T16	PRF-I	NN 83287 09354	

T17	PRF-I	NN 83272 09330	
T18	FAR	NN 83287 09310	
T19	PRF-M	NN 83271 09301	No photograph available
T20	PRF-M	NN 83284 09300	

T21	PRF-I	NN 83265 09280	
T22	PRF-M	NN 83283 09274	
T23	PRF-I	NN 83280 09261	

T24	PRF-I	NN 83261 09256	
T25	PRF-I	NN 83258 09218	
T26	PRF-M	NN 83271 09196	

T27	PRF-I	NN 83257 09157	
T28	PRF-I	NN 83269 09152	
T29	PRF-I	NN 83251 09135	

T30	PRF-I	NN 83258 09118	
T31	PRF-M	NN 83246 09116	
T32	PRF-M	NN 83251 09111	

T33	PRF-M	NN 83209 09105	
T34	PRF-I	NN 83203 09095	
T35	PRF-I	NN 83198 09105	

T36	PRF-M	NN 83193 09092	
T37	PRF-I	NN 83145 09090	
T38	PRF-I	NN 83093 09077	

T39	PRF-I	NN 83064 09068	
T40	PRF-I	NN 83032 09057	
T41	PRF-M	NN 82719 08908