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Volume 3 Technical Appendix 8.3: Bat Survey Report

Department: ERM
Project: Bowshiel Solar Farm and BESS
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INDEX

1 INTRODUCTION

1.1.1.1 This Technical Appendix (TA) describes the methods and results of bat surveys undertaken to obtain baseline information in connection with the proposed ground-mounted solar photovoltaic (PV) system and Battery Electric Storage System (BESS) (the Proposed Development). The following terminology is used throughout this TA:

- The Site: all land within the proposed red line boundary as shown on **Figure 8.3.1, Appendix A**;
- The Proposed Development: the proposed solar PV farm and BESS, inclusive of all necessary infrastructure. The Development layout is shown on **Figure 8.3.2, Appendix A**; and
- Bat Survey Area (BSA): the land within bats could be affected by the Proposed Development, and where bat surveys were undertaken. The BSA is shown on **Figure 8.3.3, Appendix A**.

1.2 The Proposed Development

1.2.1.1 The Proposed Development will occupy an area of approximately 190 hectares (ha), with the layout is shown in **Figure 8.1.2, Appendix A**. A full detailed description of the Proposed Development is found in C**hapter 3: Development Description** of the Environmental Impact Assessment Report (EIAR).

1.3 Site Description

1.3.1.1 The Site is centred on grid coordinates National Grid Reference (NGR) NT 78702 67899 approximately 2.4 kilometres (km) south of Cockburnspath, and 13 km southeast of Dunbar.

1.3.1.2 A full description of the Site and its surroundings can be found in **Chapter 2: Site Design and Evolution**.

1.4 Purpose of Report

1.4.1.1 Bat surveys were undertaken to collect detailed information regarding the occurrence and distribution of bats within the Site and its surrounds, to provide an accurate baseline on which to base an Ecological Impact Assessment (EcIA). The purpose of this report is to detail the methods and results of the bat surveys.

1.4.1.2 Information relating to Protected Species (PS) is detailed within the **Volume 3 Technical Appendix 8.2: Protected Species Survey (PSS) Report**[1].

[1] Environmental Resources Management (ERM) (2025). *Springfield Farm Solar PV and BESS: TA8.2 Protected Species Appendix*. ERM, Glasgow, Scotland, UK

2 METHODOLOGY

2.1 Daytime Bat Walkover

2.1.1.1 A Daytime Bat Walkover (DBW) was completed in accordance with Bat Conservation Trust (BCT)[2] on 23 May 2024 during daylight hours by ERM Senior Ecologist David Milburn MCIEEM AECW Mem.RES. David was accompanied by Senior Ecologist Anna Domaradzka.

2.1.1.2 The aim of the DBW was to determine the suitability of the Site for bats, and to assess whether further surveys were necessary.

2.1.1.3 In accordance with latest guidelines[2], ecologists walked the Site, and a buffer of 50 m, where accessible (the BSA), and identified and recorded habitats that were suitable for bats to commute, forage or swarm at or in. Furthermore, any structures, trees, or other features, which may be affected by the Proposed Development were identified and recorded. Where suitability for bats was identified BCT Guidelines were used as a basis to evaluate the Site, and any features, for their suitability to support roosting bats as per Tables 4.1 and 4.2 within the BCT guidance[2].

2.2 Nighttime Bat Walkover

2.2.1.1 Following the DBW, the BSA was assessed as being of moderate suitability for foraging and commuting bats. BCT Guidelines[2] state that sites with moderate suitability require one nighttime bat walkover (NBW) per season, in each of the three seasons when bats are active (Spring – April / May, summer – June / July/ August, autumn – September / October).

2.2.1.2 NBW surveys in the form of transects were undertaken in May, July and September 2024 to record bat activity across the Site. Transect routes were consistent in each location for all three surveys however, the start point varied to sample different areas in each location at different times for bat activity. The transect, and the starting points of each survey are shown on **Figure 8.3.4 Appendix A**.

2.2.1.3 NBW started at sunset and lasted for between 2-3 hours. Transects were walked at a slow, consistent pace by surveyors, and point counts were undertaken at multiple stopping points, pausing for five minutes at each one.

2.2.1.4 Surveyors recorded bat activity with a Batlogger M handheld bat detector and recordings were analysed using Bat Explorer software. In addition to the digital recordings, information about bat registrations was recorded, including if possible:

- Time of bat registration;
- Direction of flight;

[2] Bat Conservation Trust (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition* [Online] Available at: Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition - Guidance for professionals - Bat Conservation Trust (Accessed February 2025)

- Bat behaviour e.g., foraging;
- Environmental variables, including cloud cover, wind strength, precipitation and air temperature were recorded at the start and the end of the survey; and
- Surveyor and equipment details.

2.2.1.5 Survey details including timings, weather conditions, surveyors and equipment used during the surveys is shown in **Table 2.1** and **Table 2.2** below.

TABLE 2.1 NBW SURVEYS DATES, TIMINGS AND WEATHER CONDITIONS

SURVEY DATE AND PERIOD	TIMINGS			WEATHER							
				TEMPERATURE (°C)		WIND STRENGTH (BEAUFORT)		CLOUD (OKTAS)		*RAIN	
	START	SUNSET	END	START	END	START	END	START	END	START	END
21/05/2024 Dusk	21:27	20:57	23:29	12	10	0	0	8	8	0	0
23/07/2024 Dusk	21:32	21:32	00:09	14	12	1	1	6	4	0	0
09/09/2024 Dusk	20:15	20:31	01:25	12	10	0	0	6	5	0	1

*Rain 0 = None, 1 = Drizzle, 2 = Light showers, 3 = Heavy showers, 4 = Heavy Rain.

TABLE 2.2 SURVEYOR AND EQUIPMENT DETAILS

DATE	SURVEYOR NAMES	EQUIPMENT USED
21/05/2024	David Milburn & Anna Domaradzka	Batlogger M
23/07/2024	David Milburn & Shelley Wilson	Batlogger M
09/09/2024	David Milburn & Jennifer Bonner	Batlogger M

2.3 Remote (Static) Monitoring

2.3.1.1 Following the DBW surveys the Site was classified as moderate suitability for foraging and commuting bats, therefore in accordance with BCT guidelines[2] remote static monitoring surveys were required using at least one full spectrum static bat detector collecting five

nights of data per month, during the time in which bats area active (April to September inclusive). In this instance five Anabat Ranger and / or Anabat Swift bat detectors were deployed at five fixed locations, (see **Figure 8.3.5, Appendix A**).

2.3.1.2 Each night of remote monitoring included two separate dates as surveys are carried out throughout the night from dusk on one day to dawn the next. To assist with interpreting the data, each survey night is identified by the date on which the remote monitoring survey began, as detailed in **Table 2.3**.

TABLE 2.3 REMOTE MONITORING DATES AND LOCATION

SURVERY MONTH	STATIC LOCATION	SURVEY DATE RANGE	NO. OF SURVEY NIGHTS
May	A	30/05/2024 – 04/06/2024	5
	B	30/05/2024 – 04/06/2024	5
	C	30/05/2024 – 04/06/2024	5
	D	30/05/2024 – 04/06/2024	5
	E	30/05/2024 – 04/06/2024	5
July	A	23/07/2024 – 28/07/2024	5
	B	23/07/2024 – 28/07/2024	5
	C	23/07/2024 – 28/07/2024	5
	D	23/07/2024 – 28/07/2024	5
	E	23/07/2024 – 28/07/2024	5
August	A	20/08/2024 – 25/08/2024	5
	B	20/08/2024 – 25/08/2024	5
	C	20/08/2024 – 25/08/2024	5
	D	20/08/2024 – 25/08/2024	5
	E	20/08/2024 – 25/08/2024	5
September	A	10/09/2024 – 15/09/2024	5
	B	10/09/2024 – 15/09/2024	5
	C	10/09/2024 – 15/09/2024	5
	D	10/09/2024 – 15/09/2024	5
	E	10/09/2024 – 15/09/2024	5

SURVERY MONTH	STATIC LOCATION	SURVEY DATE RANGE	NO. OF SURVEY NIGHTS
October	A	10/10/2024 – 15/10/2024	5
	B	10/10/2024 – 15/10/2024	5
	C	10/10/2024 – 15/10/2024	5
	D	10/10/2024 – 15/10/2024	5
	E	10/10/2024 – 15/10/2024	5

2.4 Bat Call Analysis

2.4.1.1 Ultrasonic recordings captured during the NBW and static surveys were subject to detailed analysis using audio software BatExplorer, using bat call identification guidance[3].

2.4.1.2 Remote monitoring data was adjusted to account for the varying lengths of time between sunset and sunrise across surveys. A Bat Activity Index (BAI) was calculated for each taxon by dividing by number of recorded Anabat files from each sample night by the number of hours between sunrise and sunset per night. The mean value was then calculated for each location, survey, and taxon to represent BAI as the mean number of bat passes per hour for each sample night.

2.4.1.3 The BAI presents the data as an activity level, rather than total number of bat passes, as it is difficult to differentiate between a single bat passing several times or several bats passing separately. In addition, BAI removes most of the temporal bias introduced by variation in survey length.

2.5 Equipment Calibration

2.5.1.1 In line with BCT Guidance, all detectors were subject to routine maintenance and testing. Detectors used for remote monitoring are routinely calibrated using appropriate equipment and software by the equipment supplier.

2.6 Limitations

2.6.1.1 The Spring transect completed on 21 May 2024, began at 20:57, which was 30 minutes prior to, this was because of misty conditions, which meant that it had started to become darker earlier than expected, and so it was believed bats may begin to emerge earlier. Though the survey started earlier, bats were recorded throughout the survey, and so it this is not considered a significant limitation.

[3] Russ, J. (2012) British Bat Calls: A Guide to Species Identification. Pelagic Publishing, Exeter, UK.

2.6.1.2 The transect route undertaken as part of the NBW had to be changed between Spring and Summer. This is because the Site is on a working farm, and cattle with calves had been moved into areas of the transect. For the surveyor's safety, the transect route was altered. This largely occurred between Stopping Point (SP) 03 and SP 04. The transect routes undertaken in Spring, Autumn and Summer are shown on Figures 8.3.4. Although, the transect route changed, the location of the static detectors remained the same throughout the six months, meaning that these locations could be compared across a six-month period. Furthermore, despite the change in transect route all habitats within the Site were covered within each transect, and so it allows a comparison in bat numbers between seasons; therefore, this is not seen as a significant limitation.

2.6.1.3 Each bat species differs in its likelihood of detectability, repetition, and call intensity. For example, bats with calls at low frequency and / or high amplitude such as noctule (*Nyctalus noctula*) can be detected over greater distances, whereas species such as brown-long eared bat (*Plecotus auritus*) that use low amplitude calls, or horseshoe (*Rhinolophus*) bats that high frequency calls are more difficult to detect. Some bats from the same genus often have calls which overlap, or calls which vary dependent on behaviour undertaken, and so species identification is therefore applied with a level of confidence. Additionally, there is also variation in the sensitivity of different models of bat detectors to different bat calls. These variations have been considered and do not form a significant limitation.

2.6.1.4 During remote (static) monitoring, three Anabat detectors experienced a malfunction. This effected July (location B) and August (C and D). These malfunctions resulted in a total loss of 141.45 survey hours which resulted in 16.5% of survey hours lost. This would be considered a significant limitation to the static monitoring survey results as a large percentage of data was lost. This may lead to potential inaccuracies in the final results.

3 BASELINE SURVEY RESULTS

3.1 Daytime Bat Walkover

3.1.1 Habitat Assessment

3.1.1.1 The BSA is situated within an agricultural setting, with habitats dominated by a mixture of arable fields and grazing pasture (mostly grazed by both cattle and sheep). The grazing pasture within the BSA has a sward height of less than 20 millimetres (mm), with few, if any, flowering plants. Arable fields are either recently ploughed or contained a monoculture of crop growing within the field. These habitats are unlikely to contain a large amount of invertebrate prey for bats and lack any form of features for roosting; therefore, in isolation, these habitats are of negligible suitability for foraging and commuting bats.

3.1.1.2 However, the fields in the southern half of the BSA, particularly between the farmhouse and Bowshiel Wood are delineated with hedgerows. These hedgerows provide high quality habitat that have potential to be used as flight paths for bats. In addition, towards the centre of the Site is a medium sized pond, which provides foraging habitat for bats. The pond connects to Bowshiel Wood to the south, by the presence of hedgerows, and wet ditches in the southern half of the Site. This meant that the southern half of the Site is well connected to areas of habitat, in the form of woodland, and a watercourse Pease Burn, which are likely to be used regularly by foraging and commuting bats.

3.1.1.3 A further area of woodland, Gledstane Forest, is present adjacent to the northeastern edge of the BSA; however, fields in the northern part of the Site are mostly demarked by a mixture of post and wire fences and stone walls, both of which have lower suitability for foraging and commuting bats, meaning connection between the northern part of the BSA, and Gledstane Forest to the north and Bowshiel Wood to the south, was limited. Therefore, bats are unlikely to cross the Site north to south between Gledstane Forest and Bowshiel Wood.

3.1.1.4 With the above in mind, the BSA was of low suitability for foraging and commuting bats.

3.1.1.5 Buildings and mature trees within the BSA are classified as Further Assessment Required (FAR). These features were considered highly suitable for roosting bats, therefore have some potential for roosting bats. Further surveys would be required to ascertain if any trees contain bat roosts.

3.2 Nighttime Bat Walkover

3.2.1.1 The NBW surveys recorded common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), *Myotis spp.* and *Nyctalus spp.*. The most abundant species recorded was soprano pipistrelle (96 bat passes), common pipistrelle with a total of 68 bat passes recorded.

3.2.1.2 The first survey in May recorded the highest activity levels with 102 bat passes recorded. This decreased to 34 bat passes recorded in July with activity further decreasing in September with 30 bat passes recorded in total. A *Myotis spp.* was recorded once during the July NBW and *Nyctalus* spp. recorded once during the September NBW walkover in a pasture located on the eastern side of the Site. The majority of bat passes were recorded

during the May walkover, with 102 passes, while the July walkover recorded 34 passes, and the September walkover recorded 30. This indicates the Site is of significant usage by foraging bats during the early summer months.

3.3 Remote Bat (Static) Monitoring

3.3.1.1 A total of 10,058 bat passes were recorded over a total of 851.05 survey hours across the Bat Survey Season, giving a 'total mean BAI' (across the Survey Season by Location (SSL) as well as the mean across each of the SSLs by Survey Season) of 8.15 passes per hour (pph). The remote monitoring surveys recorded five species / species groups of bats: common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus),* brown-long eared bat (*Plecotus auritus*), *Myotis spp.* and *Nyctalus spp.* A table presenting the number of bat registrations per taxon per location and percentage total of activity recorded per month is available in **Table 3.1** and **Table 3.2**.

TABLE 3.1 NUMBER OF BAT REGISTRATIONS PER TAXON

MONITORING SEASON	LOCATION	MYOTIS SPP.	COMMON PIPISTRELLE	SOPRANO PIPISTRELLE	BROWN LONG-EARED BAT	NYCTALUS SPP.
May	A	1	607	705	0	0
	B	144	355	1002	0	6
	C	2	37	28	1	5
	D	0	0	0	0	0
	E	30	98	95	0	3
Mean per species		**35**	**219**	**366**	**0**	**3**
July	A	0	423	913	0	8
	B	0	0	0	0	0
	C	1	6	9	0	2
	D	3	1582	113	1	4
	E	2	9	12	0	6
Mean per species		**1**	**404**	**209**	**0**	**4**
August	A	0	15	3	0	34
	B	3	237	298	0	3

MONITORING SEASON	LOCATION	MYOTIS SPP.	COMMON PIPISTRELLE	SOPRANO PIPISTRELLE	BROWN LONG-EARED BAT	NYCTALUS SPP.
	C	0	0	0	0	0
	D	0	0	0	0	0
	E	34	29	19	0	50
Mean per species		**7**	**56**	**305**	**0**	**17**
September	A	0	0	0	0	0
	B	2	22	8	0	10
	C	5	150	29	0	8
	D	15	437	98	0	3
	E	1	5	5	0	9
Mean per species		**5**	**123**	**28**	**0**	**6**
October	A	2	2	3	0	0
	B	530	41	951	0	27
	C	1	0	0	0	0
	D	37	582	134	0	1
	E	0	0	1	0	1
Mean per species		**71**	**125**	**136**	**0**	**6**

TABLE 3.2 PERCENTAGE OF TOTAL RECORDED ACTIVITY PER MONITORING PERIOD

MONITORING PERIOD	MYOTIS SPP.	COMMON PIPISTRELLE	SOPRANO PIPISTRELLE	BROWN LONG-EARED	NYCTALUS SPP.
May	5.67%	35.17%	58.67%	0.03%	0.45%
July	0.19%	65.29%	33.84%	0.03%	0.58%

MONITORING PERIOD	MYOTIS SPP.	COMMON PIPISTRELLE	SOPRANO PIPISTRELLE	BROWN LONG-EARED	NYCTALUS SPP.
August	5.10%	38.76%	44.14%	0.03%	12.00%
September	2.85%	76.08%	17.35%	0.00%	3.72%
October	24.64%	27.02%	47.08%	0.00%	1.25%
Percentage of total calls	8.08%	46.10%	44.00%	0.02%	1.77%

3.3.1.2 Of the total activity recorded, the majority 46.10% was attributed to common pipistrelle, with a further 44% attributed to soprano pipistrelle. The remaining activity was split between *Myotis* spp. (8.08%), Brown-long eared bat (0.02%) and *Nyctalus* spp. (1.79%).

3.3.1.3 To account for the variation in the number of monitoring nights completed per month, and the varying length of time between sunset and sunrise between surveys a BAI was calculated. The BAI represents the mean number of passes per hour for each taxon, shown in **Table 3.3**.

TABLE 3.3 BAI PER TAXON AND MONITORING PERIOD

MONITORING SEASON	LOCATION	MYOTIS SPP.	COMMON PIPISTRELLE	SOPRANO PIPISTRELLE	BROWN LONG-EARED BAT	NYCTALUS SPP.
May	A	0.03	15.50	18.01	0.00	0.00
	B	3.68	9.07	25.59	0.00	0.15
	C	0.05	0.95	0.72	0.03	0.13
	D	0.00	0.00	0.00	0.00	0.00
	E	0.77	2.50	2.43	0.00	0.08
Mean BAI per species		**0.906**	**5.604**	**9.35**	**0.006**	**0.072**
July	A	0.00	11.16	24.09	0.00	0.18
	B	0.00	0.00	0.00	0.00	0.00

MONITORING SEASON	LOCATION	MYOTIS SPP.	COMMON PIPISTRELLE	SOPRANO PIPISTRELLE	BROWN LONG-EARED BAT	NYCTALUS SPP.
	C	0.03	0.16	0.24	0.00	0.03
	D	0.08	41.74	2.98	0.03	0.11
	E	0.05	0.24	0.32	0.00	0.16
Mean BAI per species		**0.032**	**10.66**	**5.526**	**0.006**	**0.096**
August	A	0.00	0.31	0.06	0.00	0.71
	B	0.06	4.95	6.22	0.00	0.06
	C	0.00	0.00	0.00	0.00	0.00
	D	0.00	0.00	0.00	0.00	0.00
	E	0.71	0.61	0.40	0.00	1.04
Mean BAI per species		**0.154**	**5.87**	**6.68**	**0.00**	**0.362**
September	A	0.00	0.00	0.00	0.00	0.00
	B	0.26	2.84	0.04	1.29	1.29
	C	0.65	19.35	3.74	1.03	1.03
	D	1.94	56.39	12.65	0.39	0.39
	E	0.13	0.65	0.65	1.16	1.16
Mean BAI per species		**0.59**	**15.846**	**3.416**	**0.774**	**0.774**
October	A	0.03	0.03	0.05	0.00	0.00
	B	8.05	0.62	14.45	0.00	0.41
	C	0.02	0.00	0.00	0.00	0.00
	D	0.56	8.84	2.04	0.00	0.02
	E	0.00	0.00	0.02	0.00	0.02
Mean BAI per species		**8.66**	**1.898**	**3.312**	**0.00**	**0.09**

3.3.1.4 BAI was varied amongst species, survey period and location. Common pipistrelle exhibited the largest variation in activity with a BAI ranging from 0.16 to 56.39 pph. Location A had the highest BAI out of the five static detector locations with a total of 13.647 pph. Location B had the second highest BAI (10.317 pph) followed by Location D (8.579 pph) and Location E (1.950 pph). Location C had the lowest mean of bat activity (BAI of 0.458 pph) amongst the five static detector locations with all bat taxon registered at this location having the lowest average BAI. Common pipistrelle had the highest mean BAI at Location D with a BAI of 7.970 pph and the lowest BAI with a mean of 0.217 at Location C. Soprano pipistrelle had the highest mean BAI (8.166 pph) at Location A and the lowest average bat activity levels at Location C (BAI of 0.186 pph). *Myotis* spp. had exhibited the highest activity (BAI of 0.741 pph) at Location B, indicating this area within the BSA is of significant importance to *Myotis* spp. *Nyctalus* spp. exhibited its highest activity levels at Location E with a mean BAI of 0.297. The brown-long eared bat was the only species to not have BAI greater than 1 at any location. The high mean BAI values of the common pipistrelle and soprano pipistrelle through the monitoring period suggests that bat activity is generally high across the Site.

3.3.1.5 There was some variation in bat activity between the locations and during seasons, though this varied between species. Soprano pipistrelle had their highest levels of activity in May, and their lowest in September while common pipistrelle had its highest level of activity in May and lowest recorded activity in August. Myotis spp., however, had their highest level of activity in October and its lowest level of activity in July. *Nyctalus* spp. exhibited its high levels of bat activity in August and its lowest levels in May. The five detectors exhibited a range of bat activity per location and survey period. Location B was most favourable by bats in May, August and October while Location D was most preferred by bats in July and September. As these two locations recorded the highest levels of bat activity, these areas within the BSA are considered of significant importance to bats. This information is shown visually in **Chart 3.1** and **Chart 3.2** below.

CHART 3.1 BAI AT EACH STATIC SURVEY LOCATION

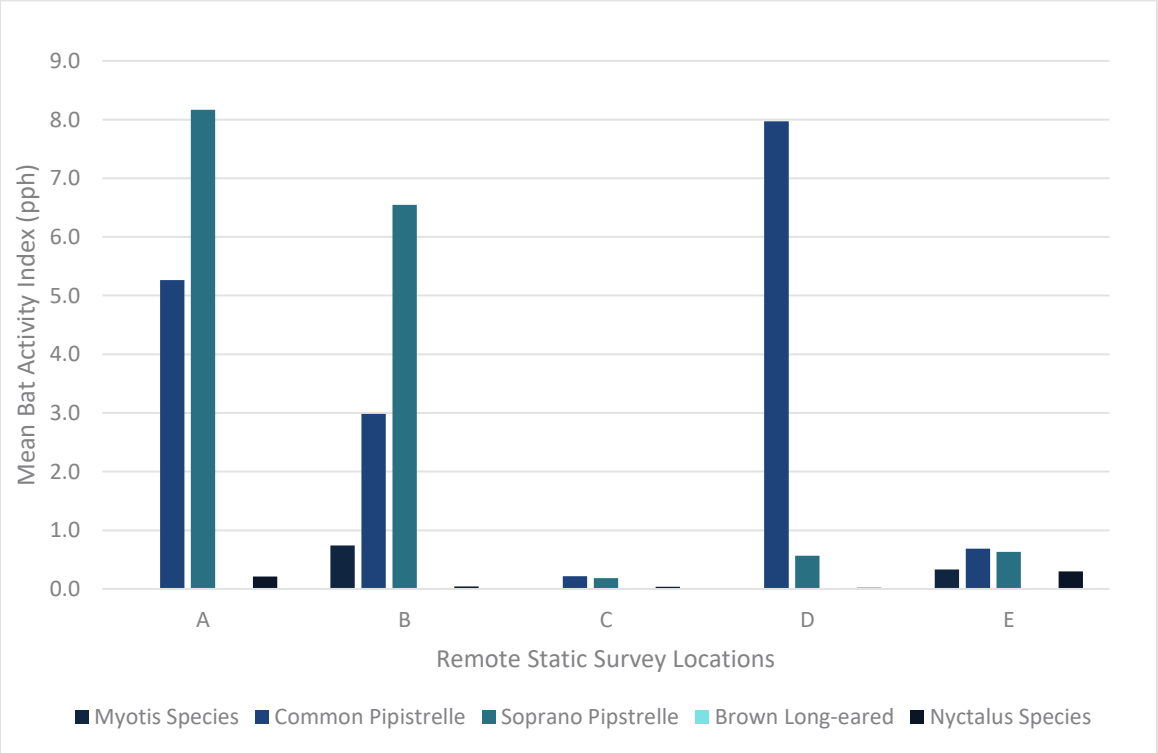
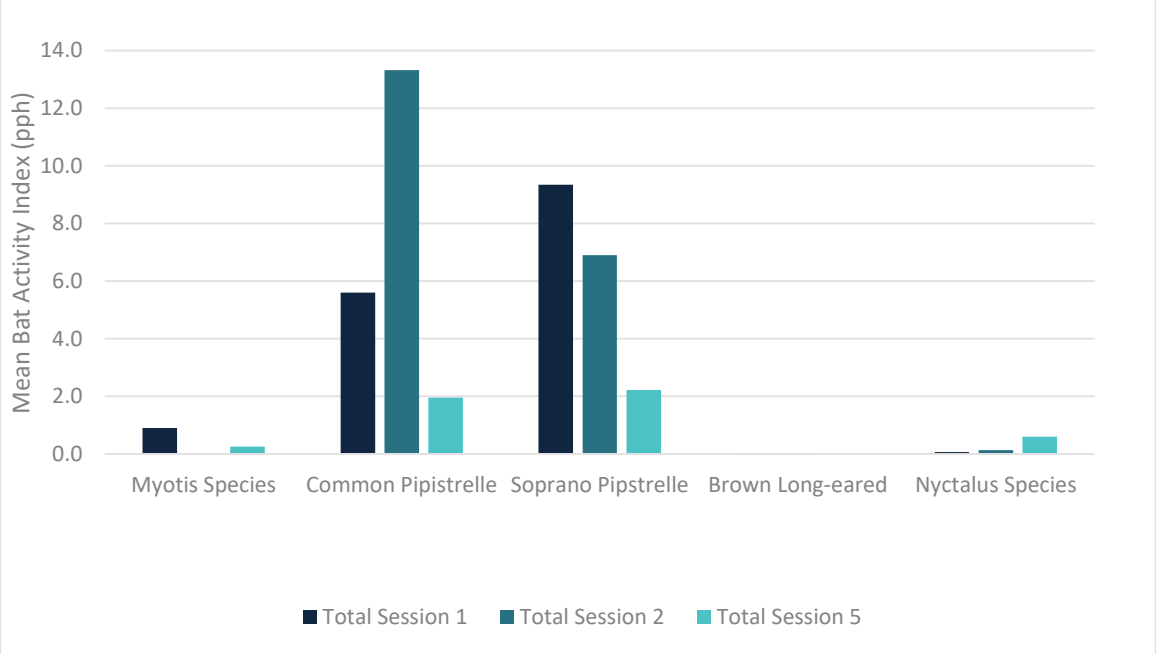


CHART 3.2 MEAN BAI FOR EACH SPECIES AT EACH SEASON



4 SUMMARY

4.1.1.1 Bat Activity Surveys confirmed the presence of common pipistrelle, soprano pipistrelle, brown long-eared bat, *Myotis* spp. and *Nyctalus* spp. within the Site, with common and soprano pipistrelle, both common and widespread species in Scotland, making up the majority of species present.

4.1.1.2 Bat activity varied throughout the monitoring period and differed between species, with common pipistrelle showing the highest variation. Location A had the highest BAI out of the 5 static detector locations with a total of 13.647 pph. Location B had the second highest BAI (10.317 pph) followed by Location D (8.579 pph) and Location E (1.950 pph). Location C had the lowest mean of bat activity (BAI of 0.458 pph) amongst the five static detector locations with all bat taxon registered at this location having the lowest average BAI. Location B was most favourable by bats in May, August and October while Location D was most preferred by bats in July and September as indicted by a high BAI. Common pipistrelle, and *Nyctalus* spp. exhibited peak activity in May, while *Myotis* spp. and soprano pipistrelle exhibited peak activity in September. Brown long-eared bat activity limited to May and July with peak activity recorded in July. Soprano pipistrelle were least active in September, while common pipistrelle exhibited lowest activity levels in October. *Myotis* spp. had the lowest activity levels in July with a mean BAI of 0.040. As locations A and B had the highest activity out of the 5 locations, these areas are considered of significant importance to bats. If the Proposed Development area is to affect these two areas of the Site, it is recommended to avoid development of areas of Location A and B as these are highly suitable for bats.

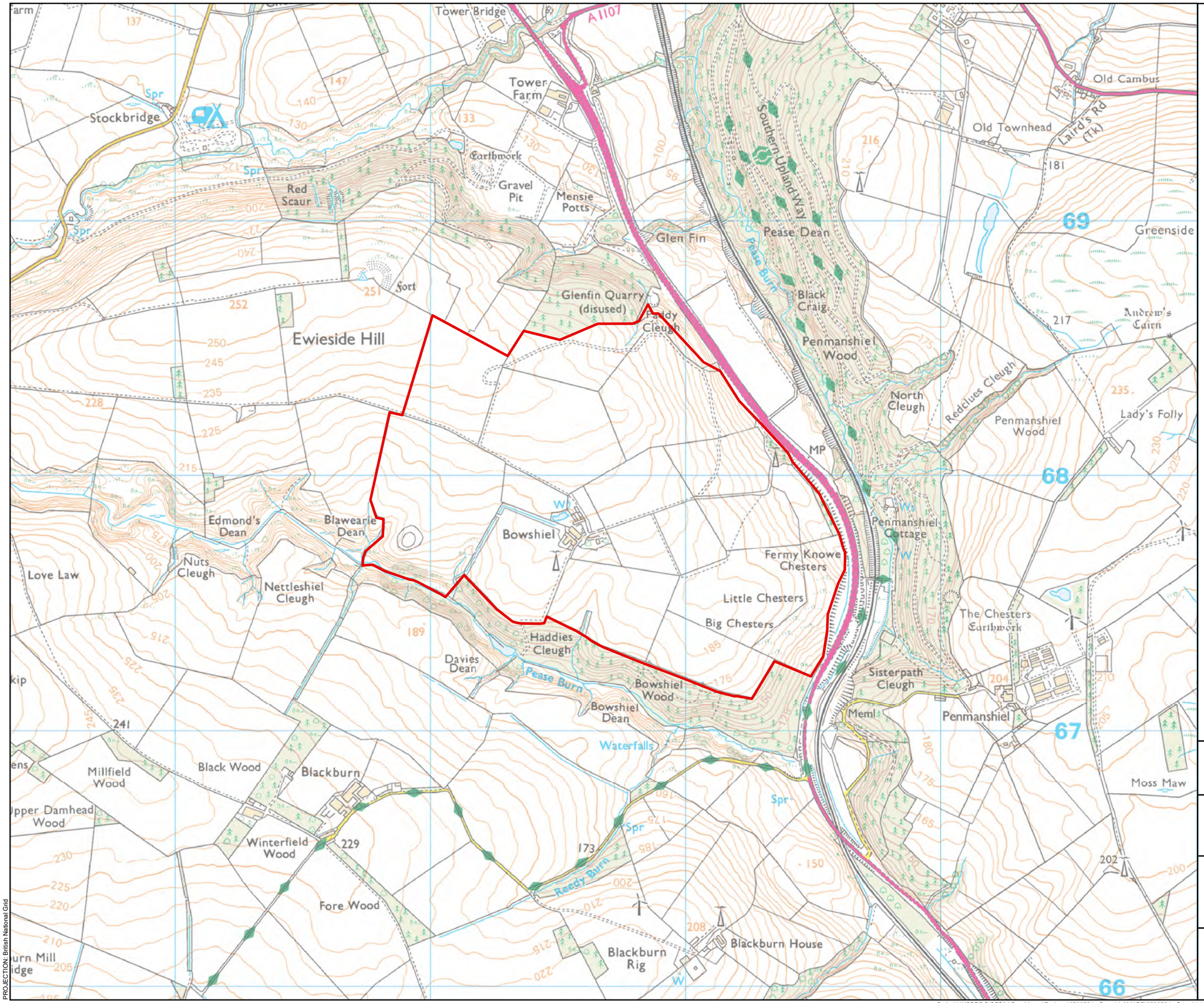
5 RECOMMENDATIONS

5.1.1.1 Roost surveys confirmed the presence of habitats within the BSA suitable to support roosting bats. If any trees or buildings classified as FAR are to be removed, pruned, or likely to be disturbed as a result of the Proposed Development, then further surveys to determine the presence of roosting bats is required.

5.1.1.2 To mitigate potential impacts of the Proposed Development, it is recommended to avoid development of areas in Locations A and B as these are highly suitable for bats. Implementation of dark corridors in these locations within the Site will assist in mitigating the impacts of the Proposed Development on bats.

5.1.1.3 Further information relating to mitigation measures is detailed within **Volume 1 Chapter 8 Ecology and Nature Conservation**.

APPENDIX A FIGURES



0 100 200 300 400 500
Metres

N

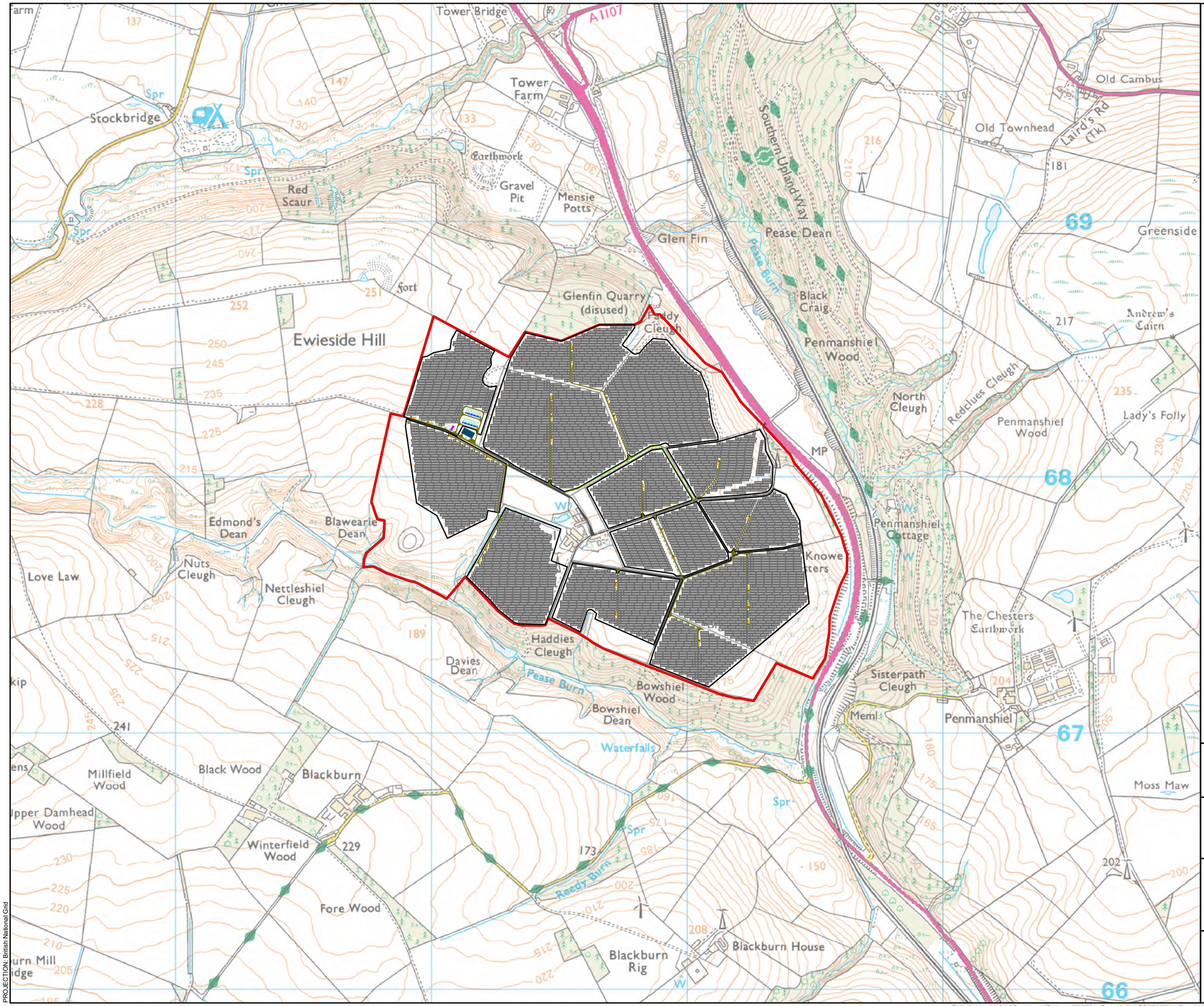
SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: JS
PROJECT: 0733745	CHECKED: MW
DATE: 05/03/2025	APPROVED: RO

Bowshiel Solar Farm and BESS
Protected Species Survey Report
Figure 8.3.1
Site Location Plan

ERM voltalia

PROJECTION: British National Grid

Path: \\UKSPRDGISFS01\Data\Arcus\Projects\0733784 - Bowshiel\MAPS\0733784 - Bowshiel - EIA Figures.aprx\0733784 - Bowshiel - Bat TA - Figure 8.3.1 - Site Location Plan - A01



0 100 200 300 400 500
Metres

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: JS
PROJECT: 0733745	CHECKED: MW
DATE: 6/3/2025	APPROVED: RO

Bowshiel Solar Farm and BESS
Protected Species Survey Report
Figure 8.3.2
Development Plan

ERM voltalia

PROJECTION: British National Grid

Path: \\uksprdgisfs01\Data\Arcus\Projects\0733784 - Bowshiel\MAPS\0733784 - Bowshiel - EIA Figures.aprx\0733784 - Bowshiel - Bat TA - Figure 8.3.2 - Development Plan - A01

Site Boundary
Site Boundary - 50 m Buffer

0 50 100 150 200 250
Metres

N

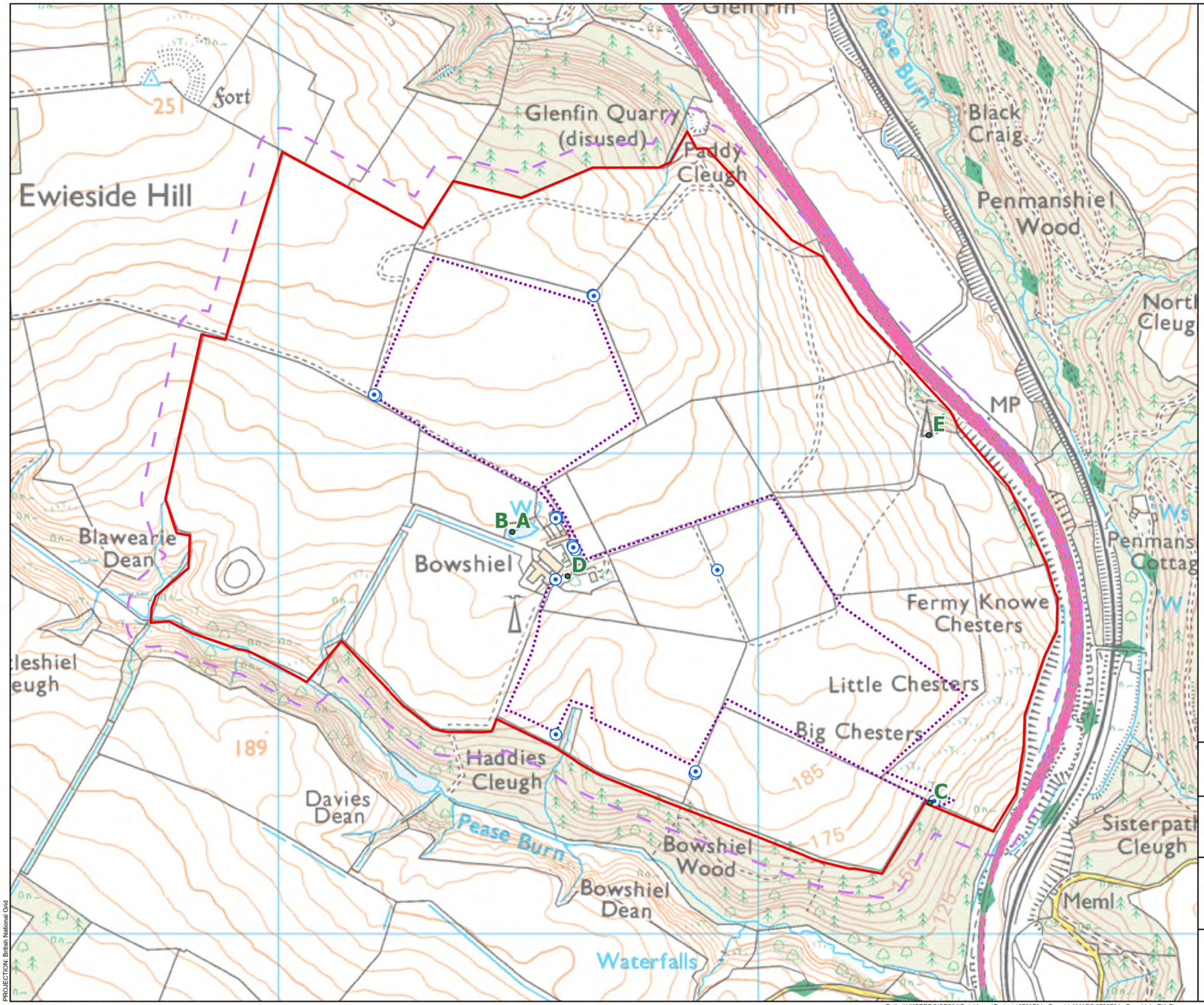
SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: JS
PROJECT: 0733745	CHECKED: MW
DATE: 20/05/2025	APPROVED: RO

Bowshiel Solar Farm and BESS
Protected Species TA
Figure 8.3.3
Daytime Bat Walkover Survey Area Plan

ERM voltalia

PROJECTION: British National Grid

Path: \\UKSPRDGISFS01\Data\Arcus\Projects\0733784 - Bowshiel\MAPS\0733784 - Bowshiel - EIA Figures.aprx\0733784 - Bowshiel - Bat TA - Figure 8.3.3 - Datetime Bat Walkover Survey Area - A01



SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: JS
PROJECT: 0733745	CHECKED: MW
DATE: 01/04/2025	APPROVED: RO

Bowshiel Solar Farm and BESS
Protected Species TA
Figure 8.3.4
Nighttime Bat Walkover Survey Area Plan

ERM voltalia

PROJECTION: British National Grid

Path: \\UKSPRDGISFS01\Data\Arcus\Projects\0733784 - Bowshiel\MAPS\0733784 - Bowshiel - EIA Figures.aprx\0733784 - Bowshiel - Bat TA - Figure 8.3.4 - Nighttime Bat Walkover Survey Area - A01