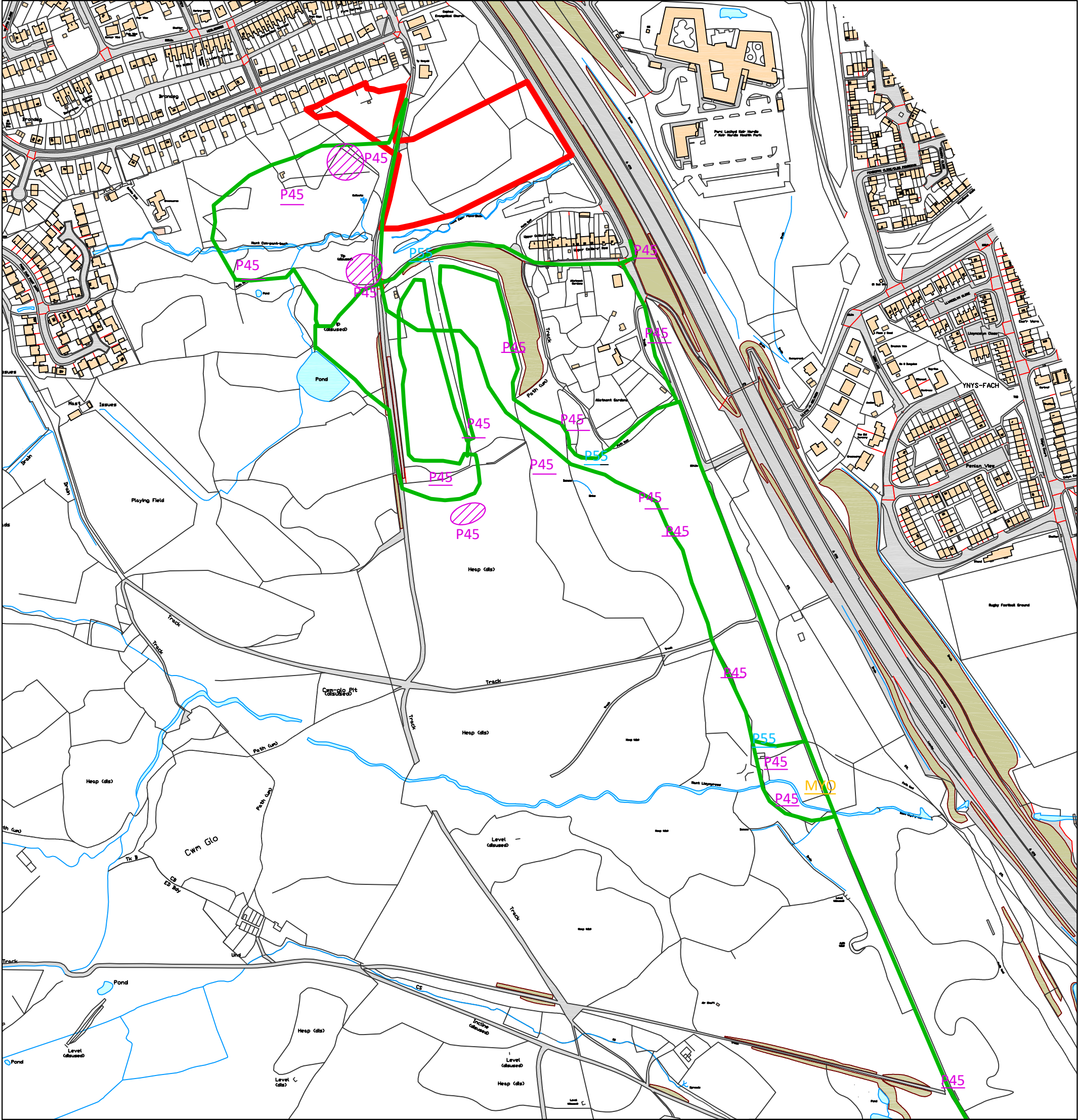




Key

- Application site boundary
- Transect route
- P45 Common Pipistrelle
- P55 Soprano Pipistrelle
- MYO Myotis Species
- Foraging area
- BAT Bat passing by

BC
21:30-23:36
18.5°C
75% cloud
No wind

Title
Dusk transect 12.07.2018

Project
Land south of Brondeg, Pine Fields plc
Heolgerrig

Drawing No. Appendix 2I
Revision -
Project No. E1835a

Drawn CD
Checked DW
Date September 2020

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Oxford,
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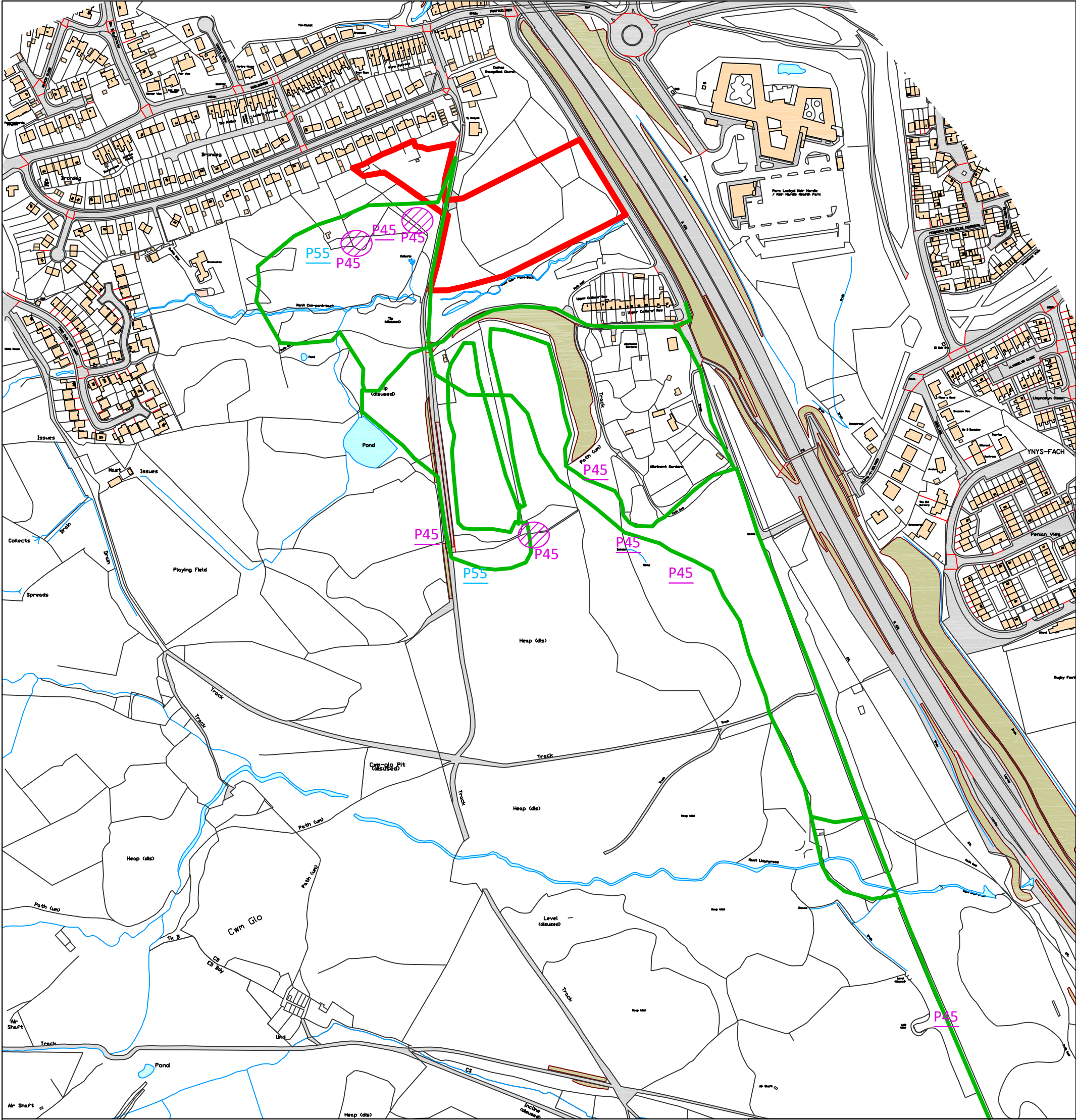
T: +44 (0) 1865 341321
F: +44 (0) 1865 343674
bioscan@bioscanuk.com
www.bioscanuk.com

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DO NOT SCALE





Key

- Application site boundary
- Transect route
- P45 Common Pipistrelle
- P55 Soprano Pipistrelle
- Foraging area
- BAT Bat passing by

BC
20:48-22:50
13°C
10% cloud
No wind

Title
Dusk Transect 09.08.18

Project Client
Land south of Brondeg, Pine Fields plc
Heolgerrig

Drawing No. Revision Project No.
Appendix 2n - E1835a

Drawn Checked Date
CD DW September 2020

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Little Baldon Farm,
Little Baldon,
Oxford,
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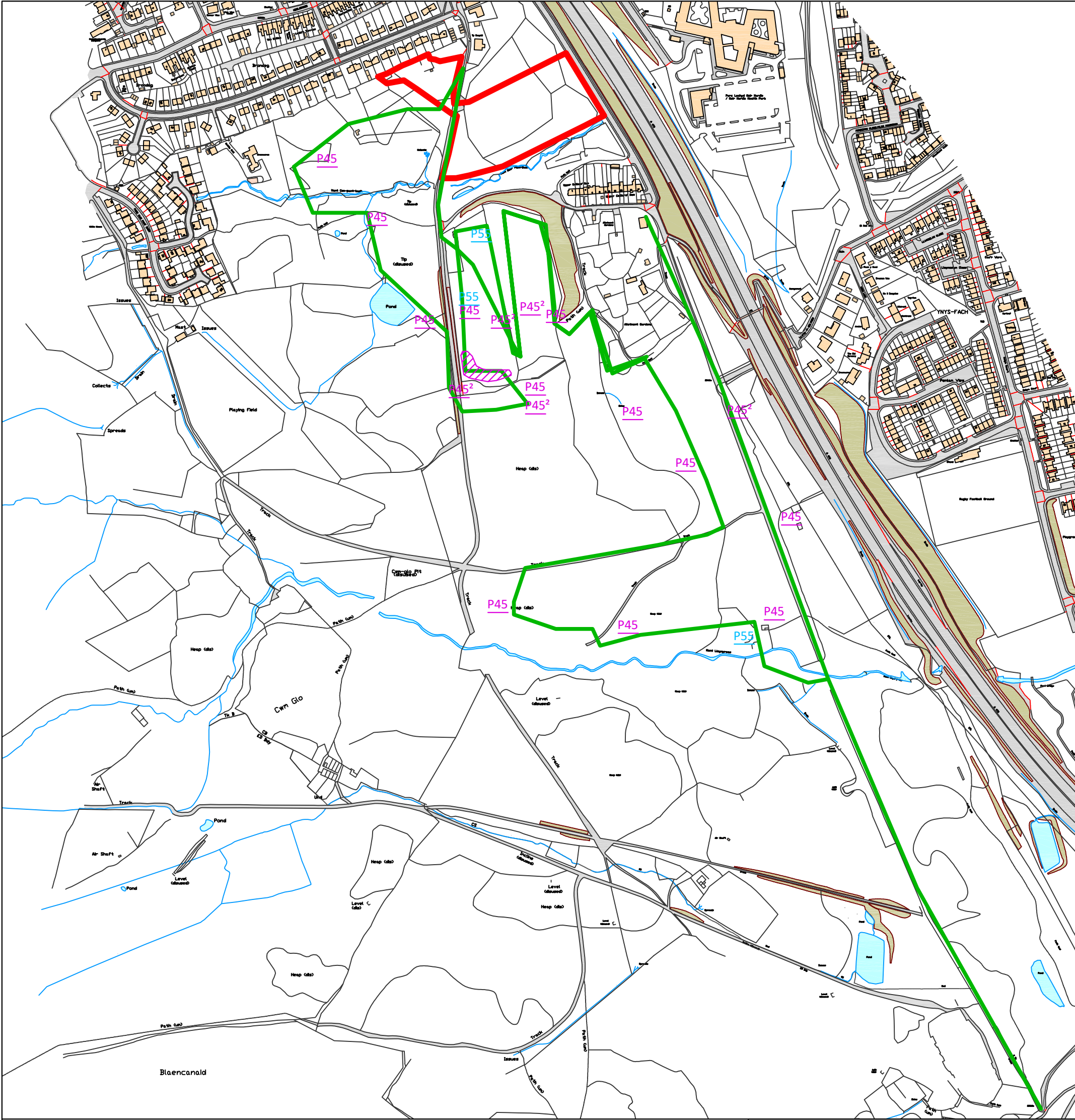
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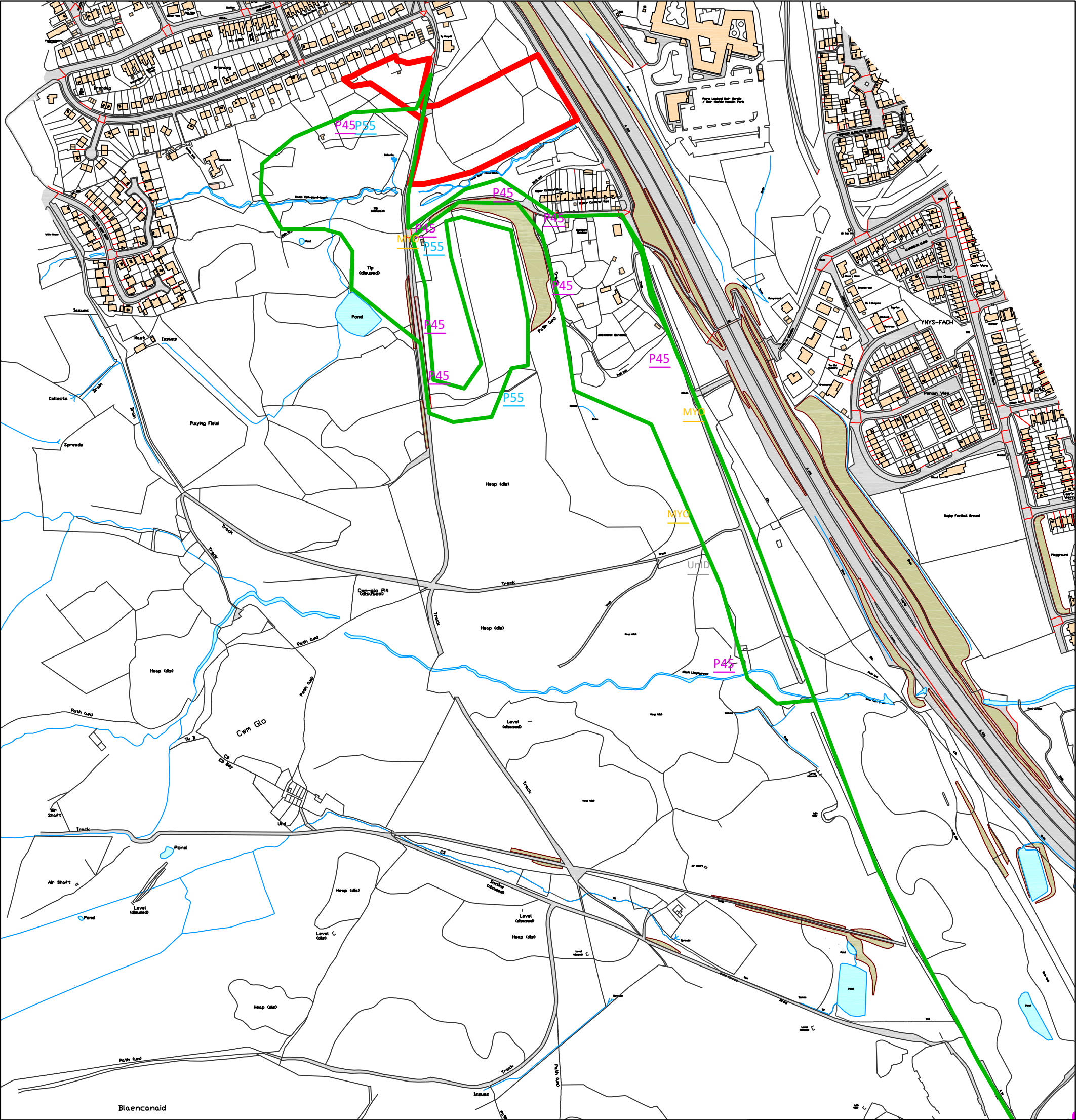


DO NOT SCALE



Key		Title Dusk Transect 13.09.18	
Application site boundary Transect route P45 Common Pipistrelle P55 Soprano Pipistrelle Foraging area BAT Bat passing by BAT² Two bats	SW 19:30-21:34 15°C No wind	Project	Client
		Land south of Brondeg, Heolgerrig	
		Drawing No.	Revision
		Appendix 2p -	
		Project No.	E1835a
		Drawn	Checked
		CD	DW
		Date	September 2020
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Key		Title Dusk transect 27.09.18	
Application site boundary Transect route P45 Common pipistrelle P55 Soprano pipistrelle MYO Myotis species UnID Unidentified bat species BAT Bat passing by	SW 19:01-20:45 15-13°C Wind 0-1 (Beaufort)	Project	Client
		Land south of Brondeg, Heolgerrig	Pine Fields plc
		Drawing No.	Revision
		Appendix 2q	-
		Project No.	E1835a
		Drawn	Checked
		CD	DW
		Date	September 2020
		Bioscan (UK) Ltd The Old Parlour, Little Baldon Farm, Little Baldon, Oxford, OX44 9PU. T: +44 (0) 1865 341321 F: +44 (0) 1865 343674 bioscan@bioscanuk.com www.bioscanuk.com Reproduced from Ordnance Survey © Crown Copyright. All rights reserved Licence No. 100005491	

APPENDIX 3

Survey session		May-15	Jun-15	Jul-15	Aug-16		Sep-16		Apr-18	May-18	Jun-18		Jul-18		Aug-18			Sep-18		Total number of calls	Percentage of calls
Date		26/05	24/06	15/07	23/08	24/08	15/09	16/09	24/04	17/05	14/06	26/06	12/07	18/07	09/08	20/08	21/08	13/09	27/09		
Transect (see fig xx)		T2	T2	T2	T1	T1	T1	T1	North	North	North	North	North	North	North	North	North	North	North		
Species		Number of files	Number of files	Number of files	Number of files	Number of files	Number of files	Number of files	Number of files	Number of files	Number of files	Number of files	Number of files	Number of files	Number of files	Number of files	Number of files	Number of files	Number of files		
Common Pipistrelle		34	36	45	22	10	8	10	3	61	19	33	35	50	23	44	13	22	9	477	78.2
Soprano Pipistrelle		12	3	1	5	2	1	4	0	13	8	4	3	2	2	8	1	3	3	75	12.3
Nathusius'/common pipistrelle ¹		0	3	3	0	0	0	0	0	0		0	0	2	0	0	0	0	0	8	1.3
Common/soprano Pipistrelle ²		4	4	0	0	0	1	2	0	5	2	0	0	1	0	0	2	0	0	21	3.4
Nathusius' pipistrelle		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.2
Noctule		0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0.5
Myotis sp. ³	WAB ⁴	2	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	6	1.0
	Myotis sp.	0	1	1	0	0	2	7	0	1	1	0	1	1	0	0	0	0	3	18	2.8
	Daubenton's bat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.2
Unidentified bat		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2
Total		52	48	50	27	12	13	23	3	81	32	37	39	57	25	56	16	25	16	611	

¹ Where calls were around 40kHz these have been noted to genus level only, as the calls could not be definitively attributed to either Nathusius' or common pipistrelle.

² Where Pipistrelle calls were at approximately 50kHz these have been noted as Pipistrelle sp. Both common and soprano pipistrelle can produce calls at or around 50kHz and as such it is not possible to directly attribute a call of this frequency to either species.

³ The use of the slope function in Analook is used to aid in the identification of Myotis species (Myotis calls are generally difficult to attribute to a specific species); however, where slope is ambiguous these have been noted as Myotis sp. The Myotis species above (Daubenton's bat, Natterer's bat, whiskered/Alcathoe/Brandt's bat) are probable identifications.

⁴ Whiskered/Alcathoe/Brandt's Bat

Survey period	Aug-16				Sep-16			
Detector location (see Figure 3 for the location of these detectors)								
	D1		D2		D9		Total number	
Species	Number of files	%	Number of files	%	Number of files	%	Total	%
Common Pipistrelle	0	0	572	95.4	13	8.6	585	77.8
Soprano Pipistrelle	0	0	14	1.6	22	16.6	36	4.8
Pipistrelle sp. ⁵ (common/soprano)	0	0	0	0.0	14	9.8	14	1.9
Noctule	0	0	4	0.6	1	2.5	5	0.7
Brown long-eared ⁶	0	0	8	2.2	100	62.6	112	14.9
Myotis sp. ⁷	4	100	572	95.4	13	8.6	585	77.8
Total	4		598		150		752	

⁵ Where Pipistrelle calls were at approximately 50kHz these have been noted as Pipistrelle sp. Both common and soprano pipistrelle can produce calls at or around 50kHz and as such it is not possible to directly attribute a call of this frequency to either species.

⁶ There are two long-eared bat species with a resident population within the UK: the brown long-eared bat and the grey long-eared bat *Plecotus austriacus*, which cannot be reliably distinguished on the basis of echolocation calls alone. The brown long-eared bat is described as “common and widespread in Britain”; whereas by contrast, the grey long-eared bat “is rare and confined to the extreme south of the country” (S M Swift. (1998) “*Long-eared bats.*” T & AD Poyser Ltd.). Given that there are no local records for grey long-eared bat it is concluded highly likely that all *Plecotus* calls from the Application Site derive from brown long eared bats.

⁷ The use of the slope function in Analook is used to aid in the identification of Myotis species (Myotis calls are generally difficult to attribute to a specific species); however, where slope is ambiguous these have been noted as Myotis sp. The Myotis species above (Daubenton’s bat, Natterer’s bat, whiskered/Alcathoe/Brandt’s bat) are probable identifications.

Survey period		Apr-18		May-18				Jun-18				Jul-18				Aug-18				Sep-18				Total number			
Detector location (see Figure 3 for the location of these detectors)		A		A		B		A		B		A		B		A		B		A		B					
Species		Number of files	%	Number of files	%	Number of files	%	Number of files	%	Number of files	%	Number of files	%	Number of files	%	Number of files	%	Number of files	%	Number of files	%	Number of files	%	A	%	B	%
Common Pipistrelle		188	72.3	55	31.1	149	91.4	0	0.0	280	65.9	0	0.0	223	56.5	0	0.0	533	84.9	0	0	139	72.0	243	22.9	1324	73.4
Soprano Pipistrelle		63	24.2	1	0.6	4	2.5	3	0.8	12	2.8	14	42.4	126	31.9	31	13.7	53	8.4	0	0	13	6.7	112	10.6	208	11.5
Pipistrelle sp. (common/soprano) ⁸		1	0.4	0	0.0	0	0.0	0	0.0	3	0.7	0	0.0	5	1.3	29	12.8	11	1.8	0	0	23	11.9	30	2.8	42	2.3
Noctule		0	0.0	1	0.6	3	1.8	0	0.0	0	0.0	0	0.0	16	4.1	3	1.3	11	1.8	0	0	0	0.0	4	0.4	30	1.7
Unidentified bat ⁹		0	0.0	2	1.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	1	0.4	1	0.2	1	10	0	0.0	4	0.4	2	0.1
Brown long-eared	Brown long-eared	0	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7	70	0	7	0.7	0.7	0	0.0
	Query ¹⁰	0	0.0	0.0	0.0	4	2.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.3	0	0	5	0	0.0	0.0	11	0.6
Myotis sp. ¹¹	Daubenton's	4	1.5	57.6	59.3	1	0.6	215	60.7	118	27.8	7	21.2	7	1.8	124	54.9	4	0.6	0	0	0	452	42.6	42.9	130	7.2
	Myotis sp.	4	1.5	6.2	6.2	2	1.2	136	38.4	12	2.8	12	36.4	17	4.3	38	16.8	13	2.1	2	20	13	203	19.2	19.2	57	3.2
Total		260		172		163		354		425		33		395		226		628		10		193		1055		1804	
																								2859			

⁸ Where Pipistrelle calls were at approximately 50kHz these have been noted as Pipistrelle sp. Both common and soprano pipistrelle can produce calls at or around 50kHz and as such it is not possible to directly attribute a call of this frequency to either species

⁹ Unidentified bat⁹ is used to describe calls which cannot be reliably ascribed to any species, for example when only a single pulse (or portion of a pulse) from a call was captured by the detector.

¹⁰ Calls which were probable brown long-eared bats, but the survey could not be 100% confident in the identification.

¹¹ The use of the slope function in Analook is used to aid in the identification of Myotis species (Myotis calls are generally difficult to attribute to a specific species); however, where slope is ambiguous these have been noted as Myotis sp. The Myotis species above (Daubenton's bat, Natterer's bat, whiskered/Alcathoe/Brandt's bat) are probable identifications.



Bioscan (UK) Ltd
The Old Parlour
Little Baldon Farm
Oxford
OX44 9PU

Tel: +44 (0) 1865 341321
Fax: +44 (0) 1865 343674

bioscan@bioscanuk.com
www.bioscanuk.com