



ECOLOGYSOLUTIONS

Part of the ES Group

ENVISION AESC
UK BATTERY PLANT,
SUNDERLAND

**Interim
Bat Survey Report**

June 2021
9777.Bats.vf

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PLAN ECO1	Bat Activity Survey Results 26.05.21
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1. INTRODUCTION

- 1.1. Ecology Solutions was commissioned by Envision AESC to carry out updated bat surveys of the site proposed for the UK Battery Plant at the International Advanced Manufacturing Park (IAMP), Sunderland. The site forms Phase 2 of IAMP ONE, the southern section of the wider scheme.
- 1.2. Survey work has previously been undertaken at the site as part of the wider study of the baseline information for the IAMP scheme. The current survey focuses on the UK Battery Plant site and the immediate environs, to establish whether any significant differences have arisen in the time since the earlier work was completed.
- 1.3. This report sets out the findings of the work completed to date. Further work is to be completed over the current survey season and will be reported in due course.
- 1.4. A specific assessment of bats and Barn Owls at the West Moor Farm complex within the site has been completed by DWS Ecology, the details of which are provided separately.

2. LEGISLATION

- 2.1. All bats are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"). These include provisions making it an offence:
- Deliberately to kill, injure or take (capture) bats;
 - Deliberately to disturb bats in such a way as to:-
 - (i) be likely to impair their ability to survive, to breed or rear or nurture their young; or to hibernate or migrate; or
 - (ii) affect significantly the local distribution or abundance of the species to which they belong;
 - To damage or destroy any breeding or resting place used by bats;
 - Intentionally or recklessly to obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).
- 2.2. While the legislation is deemed to apply when bats are not in residence, Natural England guidance suggests that certain activities such as re-roofing can be completed outside sensitive periods when bats are not in residence provided these do not damage or destroy the roost.
- 2.3. The words deliberately and intentionally include actions where a court can infer that the defendant knew that the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
- 2.4. The offence of damaging (making worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.
- 2.5. Licences are available from Natural England in certain circumstances, and permit activities that would otherwise be considered an offence.
- 2.6. In accordance with the Habitats Regulations Natural England must apply the three derogation tests as part of the process of considering a licence application. These tests are that:
1. the activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
 2. there must be no satisfactory alternative; and
 3. the favourable conservation status of the species concerned must be maintained.
- 2.7. Licences can usually only be granted if the development is in receipt of full planning permission.

3. SURVEY METHODOLOGY

- 3.1. The site was subject to an activity transect survey in May 2020, with further surveys to be undertaken in July and August / September. The transect route covers the majority of the site.
- 3.2. The transect commenced at sunset and continued for approximately two hours in order to maximise the encounter rate of bats i.e. both early and late emerging species. The echolocation calls of bats were recorded on iPads paired with Echo Meter Touch 2 PRO bat detectors.
- 3.3. The surveyors observed the behaviour of any bat recorded, i.e. foraging or commuting, together with noting the species present and number of bats present at that location.
- 3.4. The surveys were conducted when the night-time temperature was above 10°C. The insectivorous diet of bats means there is little or no food available when temperature falls below this level and consequently levels of activity are low and may not accurately reflect the value of the site for bats. The weather conditions for the surveys were recorded and any limitations noted.
- 3.5. Following the completion of the surveys all of the recorded data was analysed using the Kaleidoscope Viewer computer program.
- 3.6. Field surveys were undertaken with regard to best practice guidelines issued by Natural England (2004¹), the Joint Nature Conservation Committee (2004²) and the Bat Conservation Trust (2016³).

¹ Mitchell-Jones, A. J. (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough

² Mitchell-Jones, A.J. & McLeish, A.P. (Eds.) (2004). *Bat Workers' Manual*. 3rd edition. Joint Nature Conservation Committee, Peterborough.

³ Collins, J. (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd Edition. The Bat Conservation Trust, London.

4. SURVEY RESULTS

4.1. Previous Survey Results

- 4.1.1. Bat surveys were completed by WYG in 2014 and 2015, encompassing the wider IAMP site and including the area for the proposed development (see Appendix 1).
- 4.1.2. At least five species of bat were recorded during the activity transect surveys, including Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus*, *Myotis* species, Noctule *Nyctalus noctule* and Brown Long-eared Bat *Plecotus auritus*. The majority of observations were of Common Pipistrelle (90% of 419 recorded calls in 2014, 99% of 193 recorded calls in 2015; totalling a combined 93% of 612 calls recorded overall) with Soprano Pipistrelle being the second most recorded species (7% in 2014, 1% in 2015 and 5% overall). In 2014, Pipistrelle bat species echolocating at 50 kHz and bat passes each made up 0.7% of recorded calls while *Myotis* species bats and Brown Long-eared bats made up 0.3% and 0.2% of recorded calls, respectively. Noctule, *Myotis* sp. and Brown Long eared bats were not recorded during the 2015 surveys.
- 4.1.3. Remote surveys undertaken recorded at least six species of bat, including; Common Pipistrelle, Soprano Pipistrelle, Nathusius' Pipistrelle, *Myotis* species, Noctule and Brown Long eared bat. In 2014 the vast the majority (94%) of calls were attributed to Pipistrelle bats, 2.6% of calls were attributed to *Myotis* species, 2.2% to Soprano Pipistrelles, 1.2% to Pipistrelle spp., 0.03% to Nathusius' Pipistrelle, 0.009% to *Nyctalus* species, 0.005% to Brown Long-eared bats. In 2015, 97.5% of calls were attributed to Common Pipistrelles, 2.2% to Soprano Pipistrelles and 0.4% Pipistrelle spp.
- 4.1.4. Survey work undertaken by Tetra Tech (formerly WYG) of the ELMA One area to the north of the site in 2020 chiefly recorded activity from Common Pipistrelles (90%), Noctules (7%) and Soprano Pipistrelles (2%). The results of this work are illustrated on the plans at Appendix 2.

4.2. 2021 Survey Results

Activity Transect Survey

- 4.2.1. The transect survey was undertaken in favourable weather conditions. The temperature was approximately 11°C, there was no precipitation and there was a light breeze during the survey.
- 4.2.2. The activity survey was carried out by the two surveyors walking a circular route around the site. The transect route covered the whole site, as illustrated on Plan ECO1.

26 May 2021

- 4.2.3. Bat activity recorded during the survey is summarised in Table 4.1 below and illustrated on Plan ECO1.

- 4.2.4. A low level of activity was observed across the transect route, with a total of 139 registrations recorded. The majority of the registrations recorded were attributed to Common Pipistrelle (88%), with some activity from Soprano Pipistrelles (4%) and Nathusius' Pipistrelles *Pipistrellus nathusii* (8%) also recorded.
- 4.2.5. The earliest registrations recorded were for Common Pipistrelle and Nathusius' Pipistrelle, both recorded 47 minutes after sunset.

Survey Night	Species	No. Registrations	%	First Registration after sunset
26.05.21	Ppip	122	88	47 min
	Ppyg	6	4	50 min
	Pnat	11	8	47 min
Total	3	139		

Table 4.1. Summary of activity transect survey 26.05.21⁴.

- 4.2.6. The results of the survey work to date are broadly in line with the findings of the previous survey work from the wider area, with a relatively limited species assemblage and the majority of activity attributed to Common Pipistrelles.
- 4.2.7. Overall the results to date confirm that the current site is not of high value for foraging or commuting bats, and is overall considered to be of local value.
- 4.2.8. Further work will be completed during the 2021 survey season, but there is no reason to suggest that the overall results of the surveys will differ significantly from those obtained to date.

⁴ Ppip: Common Pipistrelle *Pipistrellus pipistrellus*; Ppyg: Soprano Pipistrelle *Pipistrellus pygmaeus* and Pnat: Nathusius' Pipistrelle *Pipistrellus nathusii*.

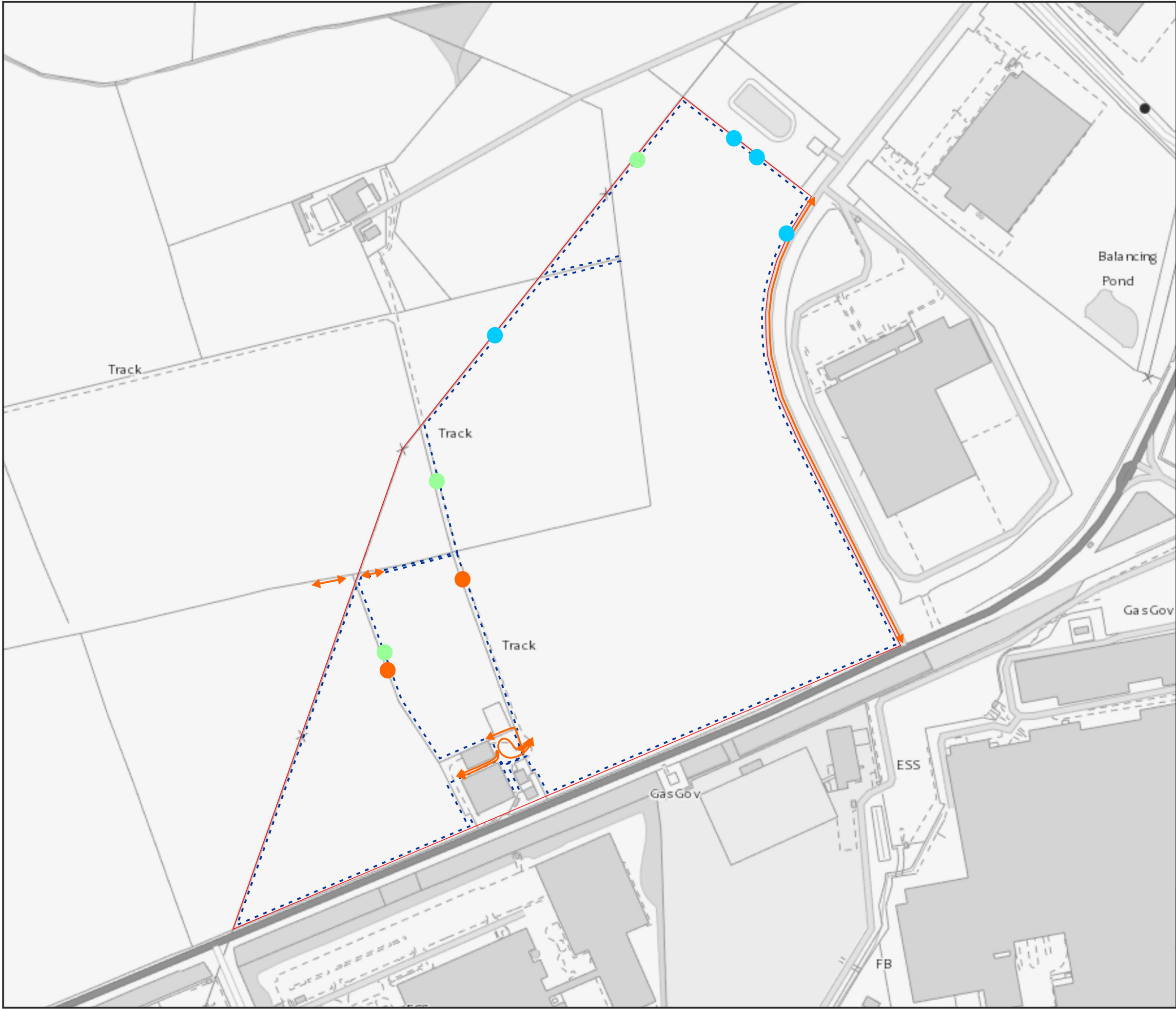
5. SUMMARY AND CONCLUSIONS

- 5.1. Ecology Solutions was commissioned by Envision AESC to carry out updated bat surveys of the site proposed for the UK Battery Plant at the International Advanced Manufacturing Park (IAMP), Sunderland. The site forms Phase 2 of IAMP ONE, the southern section of the wider scheme.
- 5.2. Survey work has previously been undertaken at the site as part of the wider study of the baseline information for the IAMP scheme. The current survey focuses on the UK Battery Plant site and the immediate environs, to establish whether any significant differences have arisen in the time since the earlier work was completed.
- 5.3. This report sets out the findings of the work completed to date. Further work is to be completed over the current survey season and will be reported in due course.
- 5.4. The results of the survey work to date are broadly in line with the findings of the previous survey work from the wider area, with a relatively limited species assemblage and the majority of activity attributed to Common Pipistrelles.
- 5.5. Overall the results to date confirm that the current site is not of high value for foraging or commuting bats, and is overall considered to be of local value.
- 5.6. Further work will be completed during the 2021 survey season, but there is no reason to suggest that the overall results of the surveys will differ significantly from those obtained to date.







PLANS

PLAN ECO1

Bat Activity Survey Results 26.05.21



KEY:

-  SITE BOUNDARY
-  TRANSECT WALKED
-  COMMON PIPISTRELLE REGISTRATION
-  COMMON PIPISTRELLE FLIGHT PATH
-  SOPRANO PIPISTRELLE REGISTRATION
-  NATHUSIUS' PIPISTRELLE REGISTRATION



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UK BATTERY PLANT, SUNDERLAND

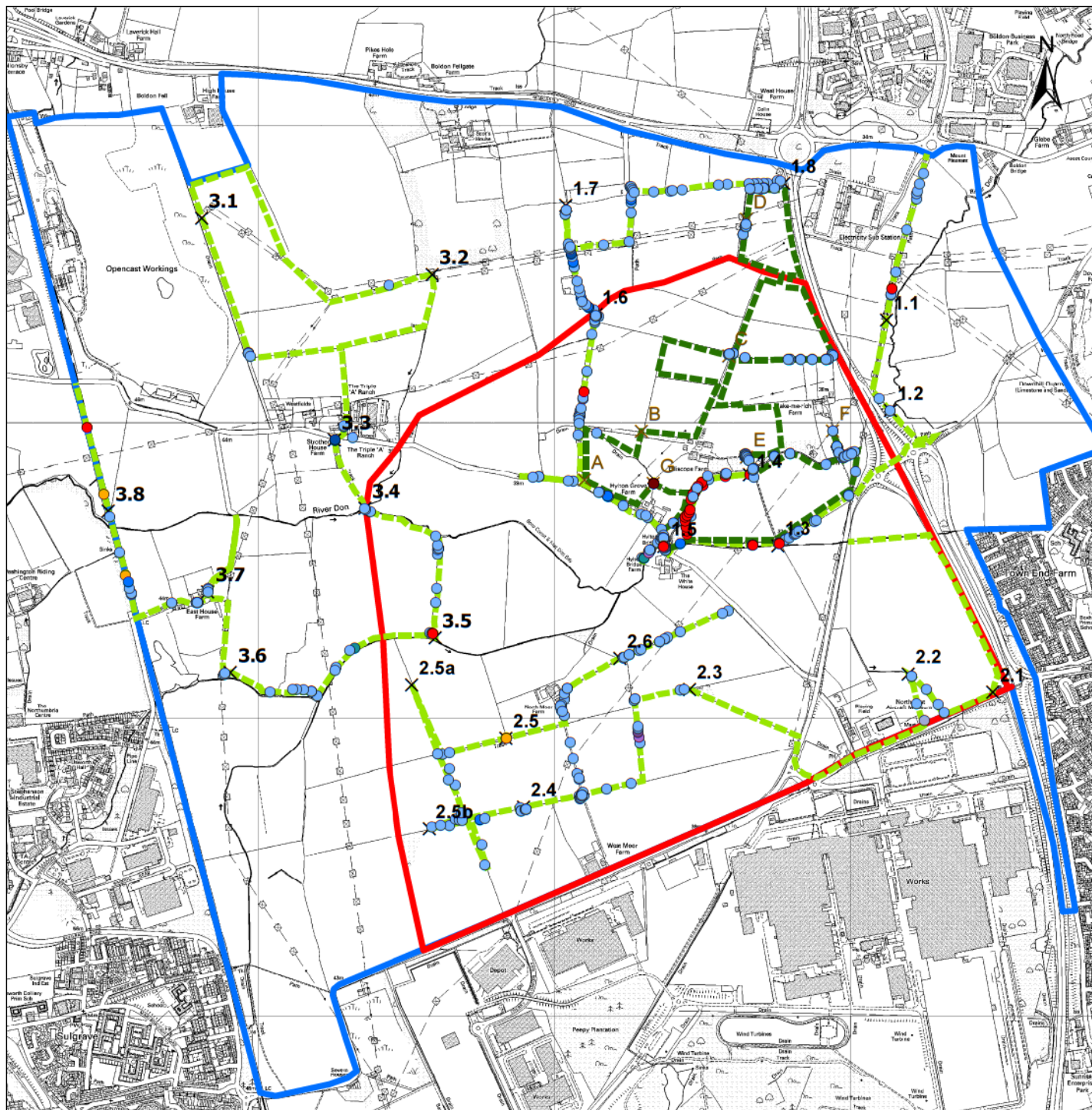
PLAN ECO1:
BAT ACTIVITY SURVEY
RESULTS 26.05.21

Rev: A
Jun 2021

APPENDICES

APPENDIX 1

Survey Plans from WYG (2015)



Legend

- Amended RLB
- Amended BLB
- Transects 1, 2 and 3 (May to October 2014)
- ✕ Listening stops on Transects 1, 2 and 3 (May to October 2014)
- Transect 4 (July to October 2015)
- ✕ Listening stops on Transect 4 (July to October 2015)

Bat species / species group and call type

- Myotis species
- noctule bat
- brown long-eared bat
- Pipistrelle species
- Pipistrelle species - foraging
- common pipistrelle
- common pipistrelle - foraging
- common pipistrelle - social call
- soprano pipistrelle

0 195 390 780 Meters

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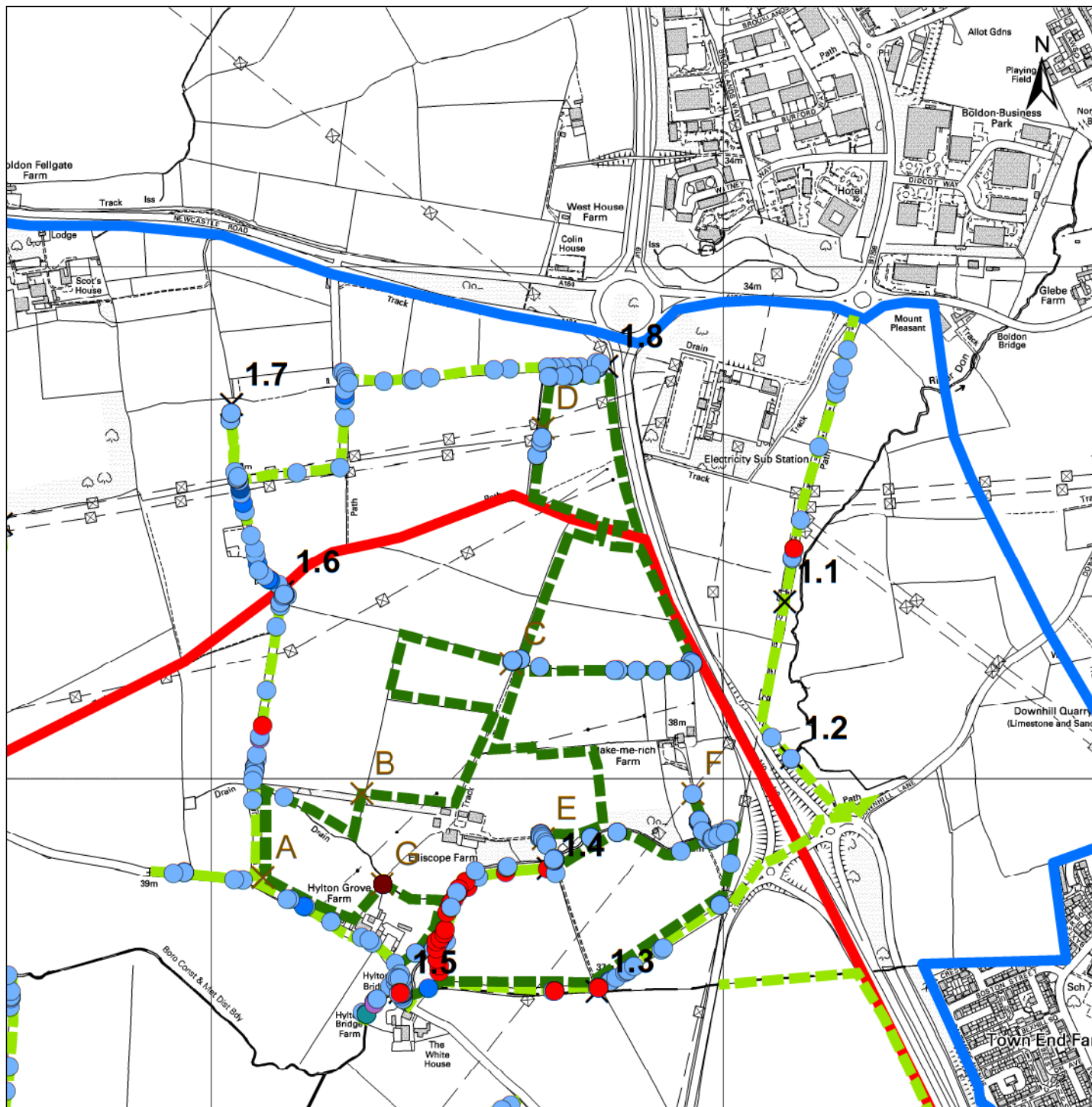
WYG Environment

Project **LAND NORTH OF NISSAN**

Drawing Title:
**Figure 4.1.7: Bat activity - walked
transect survey results**

Scale at A3: 1:13,000	Drawn by: MN Date: 09/10/15	Checked By: MJ Date: 09/10/15	Approved By: MJ Date: 09/10/15
Project No: A086945	Office 45	Type 94	Drawing No. 86945-4.1.7
			Revision 02

Base map provided by Sunderland City Council



Legend

- Amended RLB
- Amended BLB
- Transects 1, 2 and 3 (May to October 2014)
- X Listening stops on Transects 1, 2 and 3 (May to October 2014)
- Transect 4 (July to October 2015)
- X Listening stops on Transect 4 (July to October 2015)

Bat species / species group and call type

- Myotis species
- noctule bat
- brown long-eared bat
- Pipistrelle species
- Pipistrelle species - foraging
- common pipistrelle
- common pipistrelle - foraging
- common pipistrelle - social call
- soprano pipistrelle

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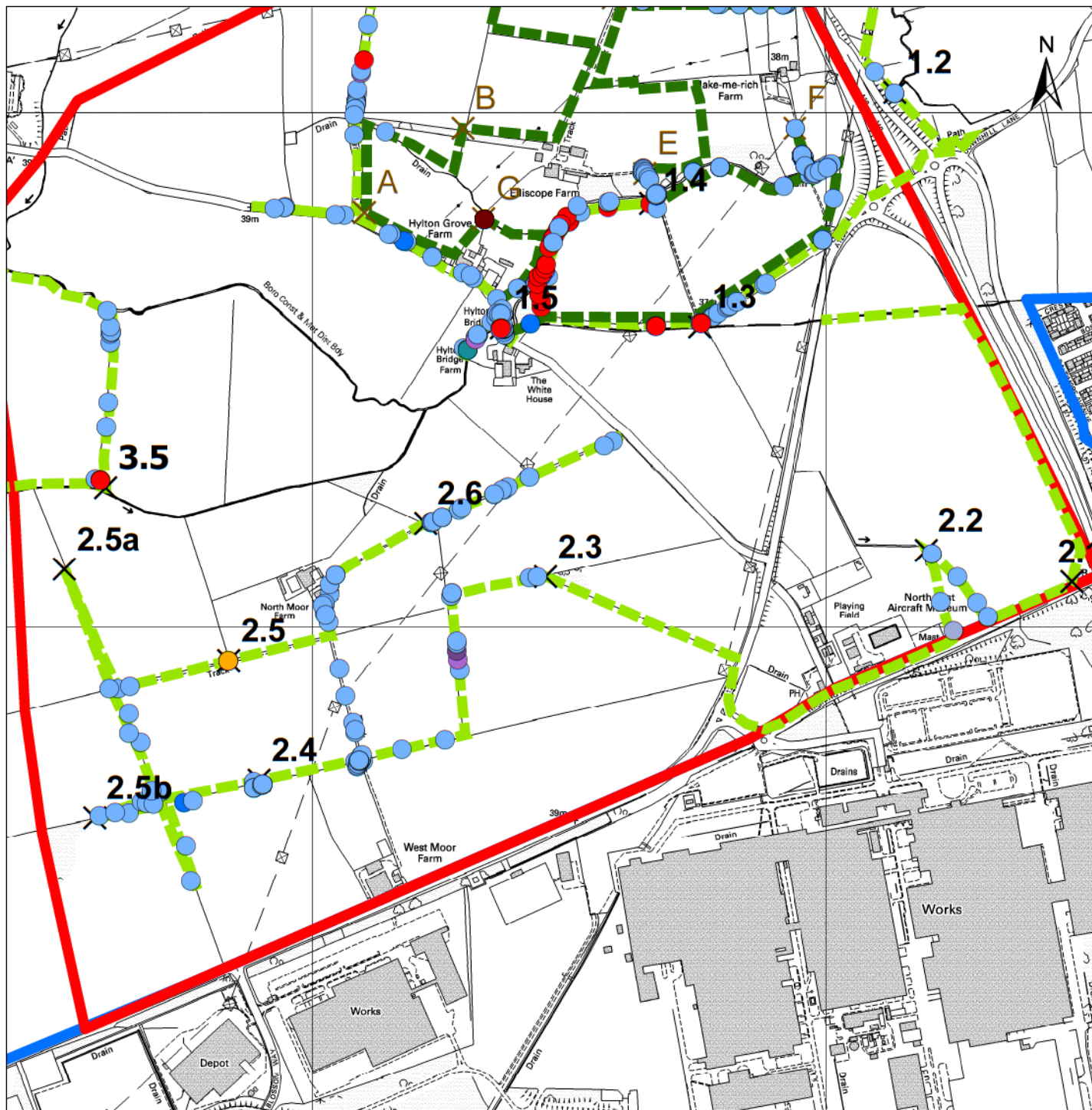
WYG Environment

Project **LAND NORTH OF NISSAN**

Drawing Title:
**Figure 4.1.7i: Bat activity - walked
transect survey results**

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Project No: A086945	Office 45	Type 94	Drawing No. 86945-4.1.7i
			Revision 02

Base map provided by Sunderland City Council



Legend

- Amended RLB
- Amended BLB
- Transects 1, 2 and 3 (May to October 2014)
- X Listening stops on Transects 1, 2 and 3 (May to October 2014)
- Transect 4 (July to October 2015)
- X Listening stops on Transect 4 (July to October 2015)

Bat species / species group and call type

- Myotis species
- noctule bat
- brown long-eared bat
- Pipistrelle species
- Pipistrelle species - foraging
- common pipistrelle
- common pipistrelle - foraging
- common pipistrelle - social call
- soprano pipistrelle

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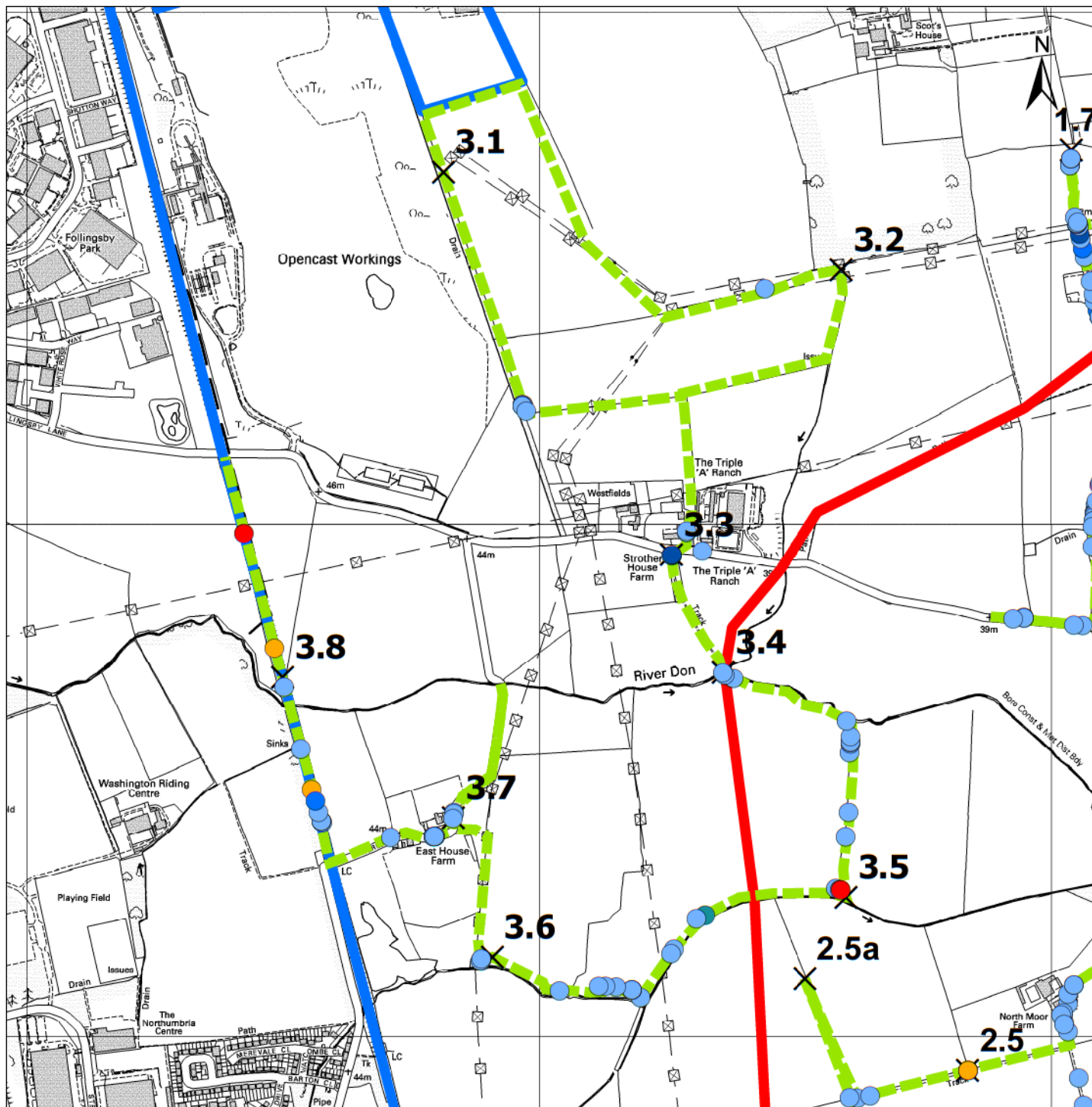
WYG Environment

Project **LAND NORTH OF NISSAN**

Drawing Title:
**Figure 4.1.7ii: Bat activity - walked
transect survey results**

Scale at A3: 1:7,500	Drawn by: MN Date: 09/10/15	Checked By: MJ Date: 09/10/15	Approved By: MJ Date: 09/10/15
Project No: A086945	Office 45	Type 94	Drawing No. 86945-4.1.7ii
			Revision 02

Base map provided by Sunderland City Council



Legend

- Amended RLB
- Amended BLB
- Transects 1, 2 and 3 (May to October 2014)
- X Listening stops on Transects 1, 2 and 3 (May to October 2014)
- Transect 4 (July to October 2015)
- X Listening stops on Transect 4 (July to October 2015)

Bat species / species group and call type

- Myotis species
- noctule bat
- brown long-eared bat
- Pipistrelle species
- Pipistrelle species - foraging
- common pipistrelle
- common pipistrelle - foraging
- common pipistrelle - social call
- soprano pipistrelle

0 112.5 225 450 Meters

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WYG Environment

Project **LAND NORTH OF NISSAN**

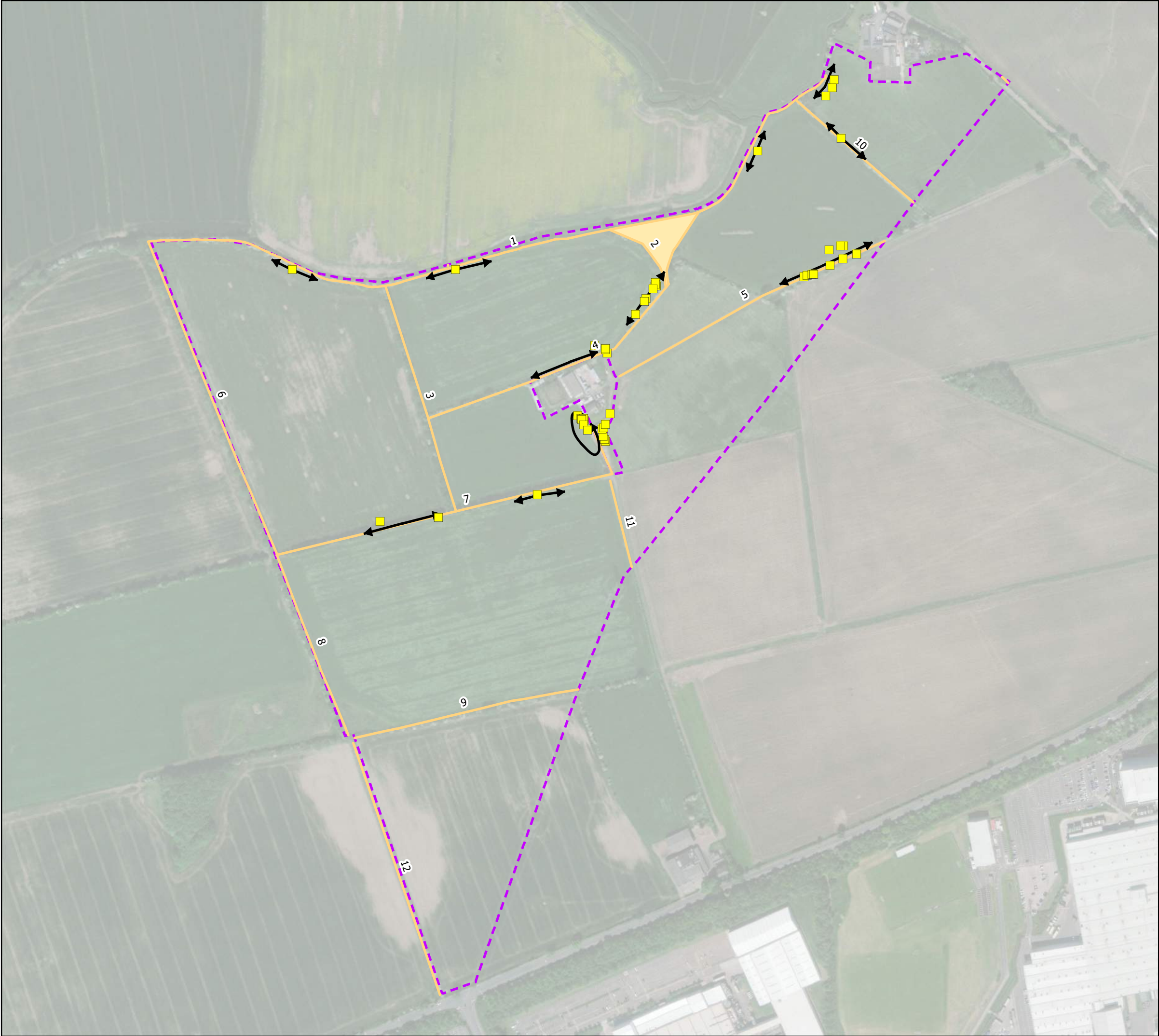
Drawing Title:
**Figure 4.1.7iii: Bat activity - walked
transect survey results**

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Project No: A086945	Office 45	Type 94	Drawing No. 86945-4.1.7iii
			Revision 02

Base map provided by Sunderland City Council

APPENDIX 2

Survey Plans from WYG (2021)



Rev	Date	Notes
A	26/10/20	Initial map production

- Legend**
- ELMA One Boundary
 - Flight lines
 - Bat foraging and commuting area
 - Bat foraging and commuting route
 - Common pipistrelle, *Pipistrellus pipistrellus*



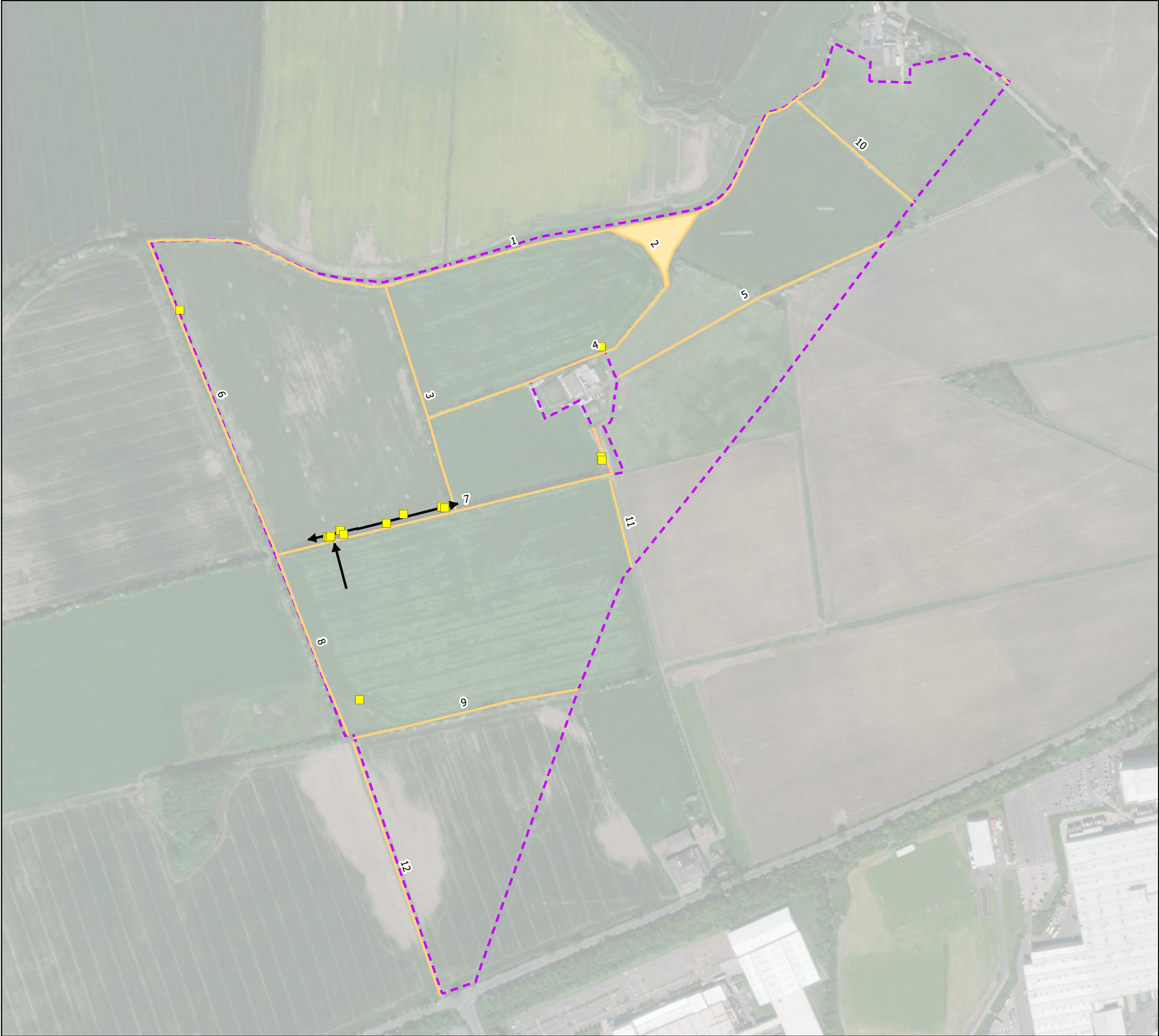
Bat Survey Result April 2020

**ELMA One - Year 1
IAMP LLP**

Scale at A3: 1:4,500	Project No: A105835-25-1	Drawing No: Figure 9	Revision: A
Drawn by: Maddie Errington	Drawn date: 30/10/2020	Approved by: Monica Souza	

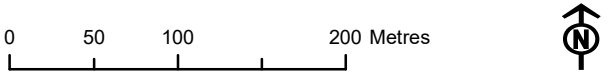
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C:\Users\ben.stevens\Documents\WY01\ELMA\GIS - Projects\A105835-25-1 - ELMA\Drawings\IAMP\Figure 9 - Bat Results_April2020_20201030.mxd



Rev	Date	Notes
A	26/10/20	Initial map production

- Legend**
- ELMA One Boundary
 - Flight lines
 - Bat foraging and commuting area
 - Bat foraging and commuting route
 - Common pipistrelle, *Pipistrellus pipistrellus*



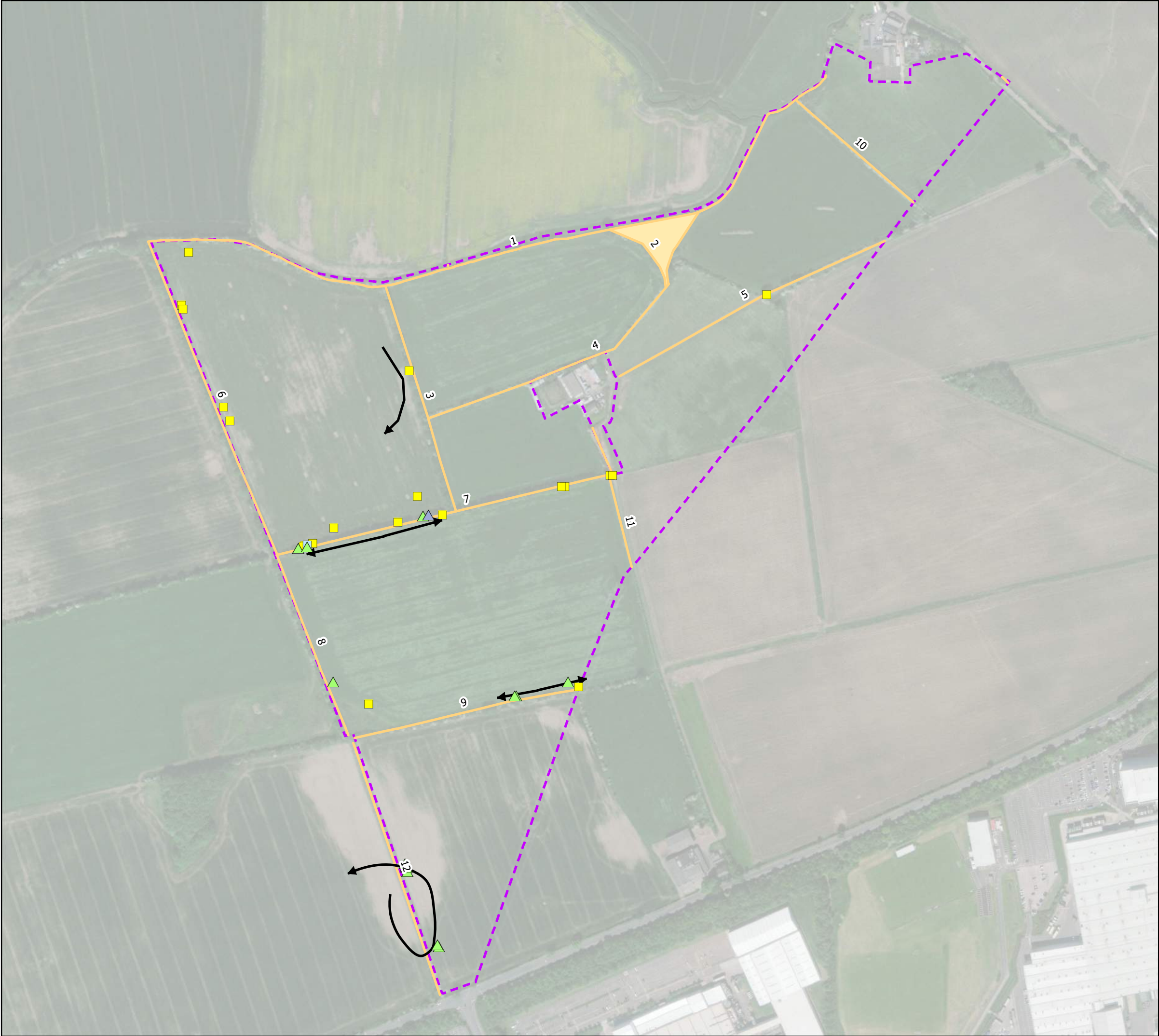
Bat Survey Result May 2020

**ELMA One - Year 1
IAMP LLP**

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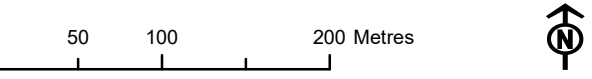
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Rev	Date	Notes
A	26/10/20	Initial map production

- Legend**
- ELMA One Boundary
 - Flight lines
 - Bat foraging and commuting area
 - Bat foraging and commuting route
 - Leisler's bat, *Nyctalus leisleri*
 - Noctule, *Nyctalus noctula*
 - Common pipistrelle, *Pipistrellus pipistrellus*
 - Pipistrelle sp., *Pipistrellus spec.*

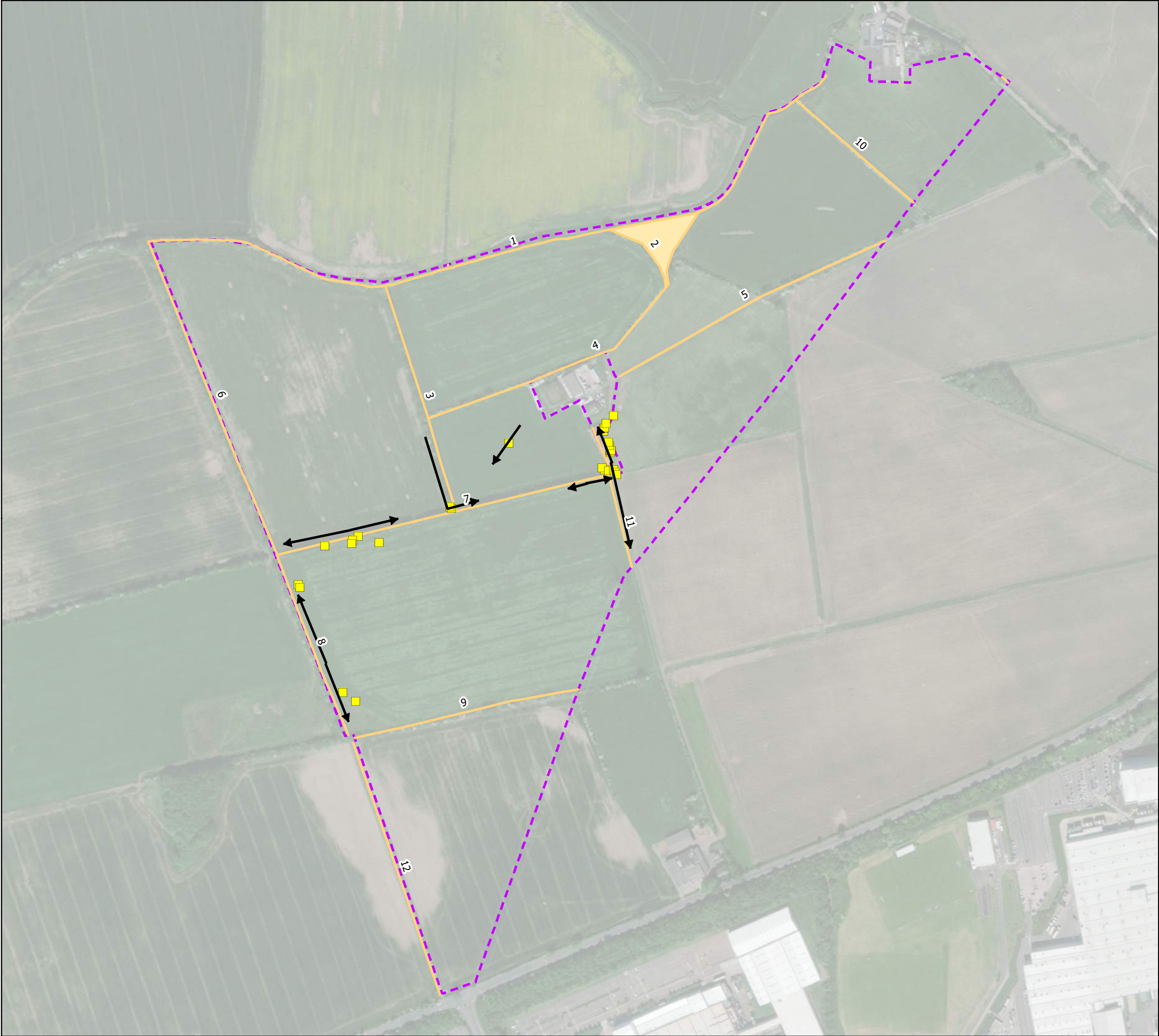


Bat Survey Result June 2020

**ELMA One - Year 1
IAMP LLP**

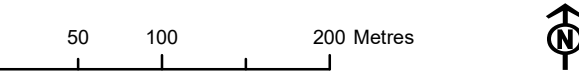
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Drawn by: Maddie Errington	Drawn date: 30/10/2020	Approved by: Monica Souza	

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Rev	Date	Notes
A	26/10/20	Initial map production

- Legend**
- ELMA One Boundary
 - Flight lines
 - Bat foraging and commuting area
 - Bat foraging and commuting route
 - Common pipistrelle, *Pipistrellus pipistrellus*



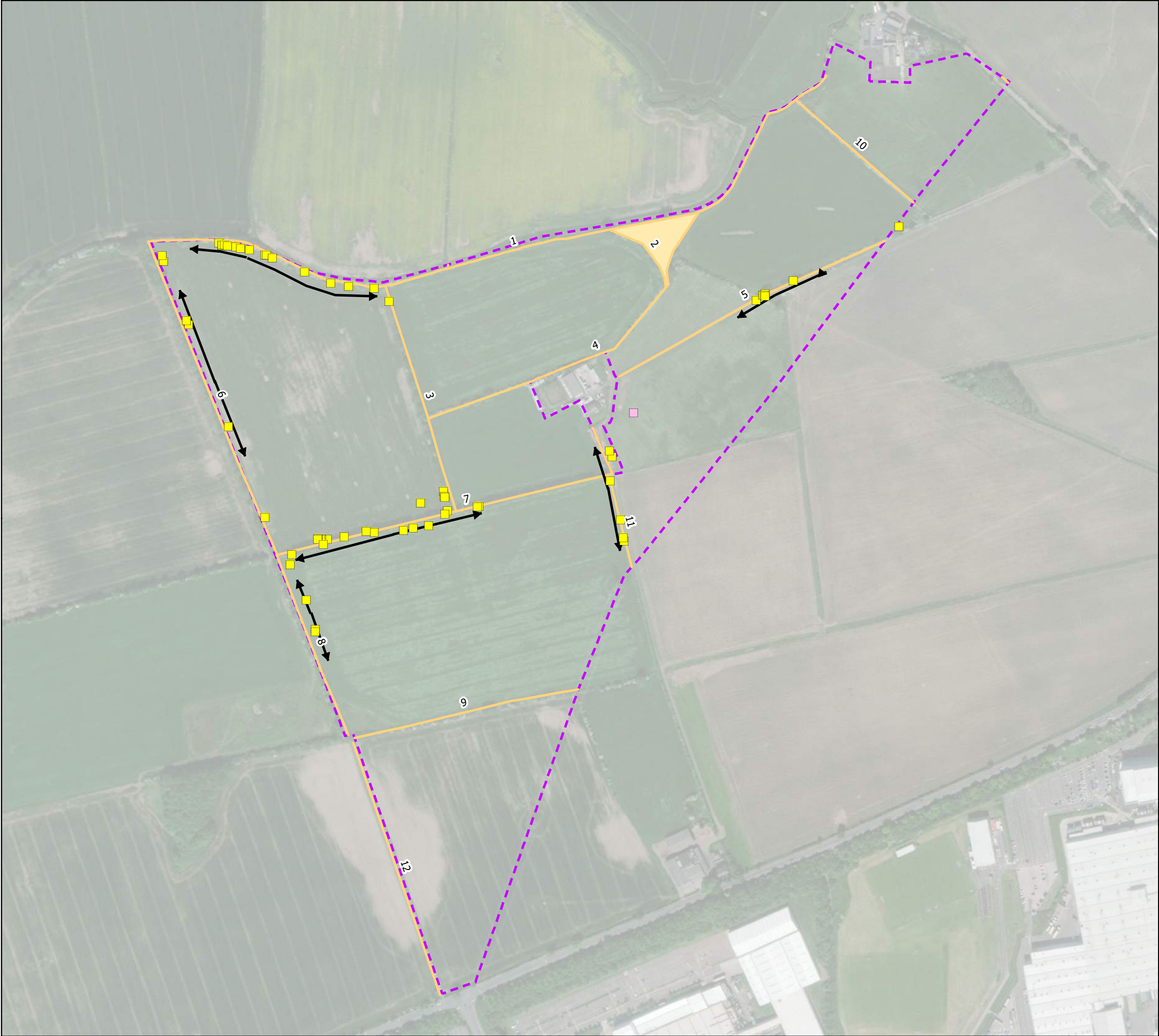
Bat Survey Result July 2020

**ELMA One - Year 1
IAMP LLP**

Scale at A3: 1:4,500	Project No: A105835-25-1	Drawing No: Figure 12	Revision: A
Drawn by: Maddie Errington	Drawn date: 30/10/2020	Approved by: Monica Souza	

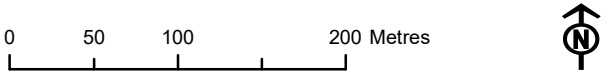
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Rev	Date	Notes
A	26/10/20	Initial map production

- Legend**
- ELMA One Boundary
 - Flight lines
 - Bat foraging and commuting area
 - Bat foraging and commuting route
 - Common pipistrelle, *Pipistrellus pipistrellus*
 - Soprano pipistrelle, *Pipistrellus pygmaeus*

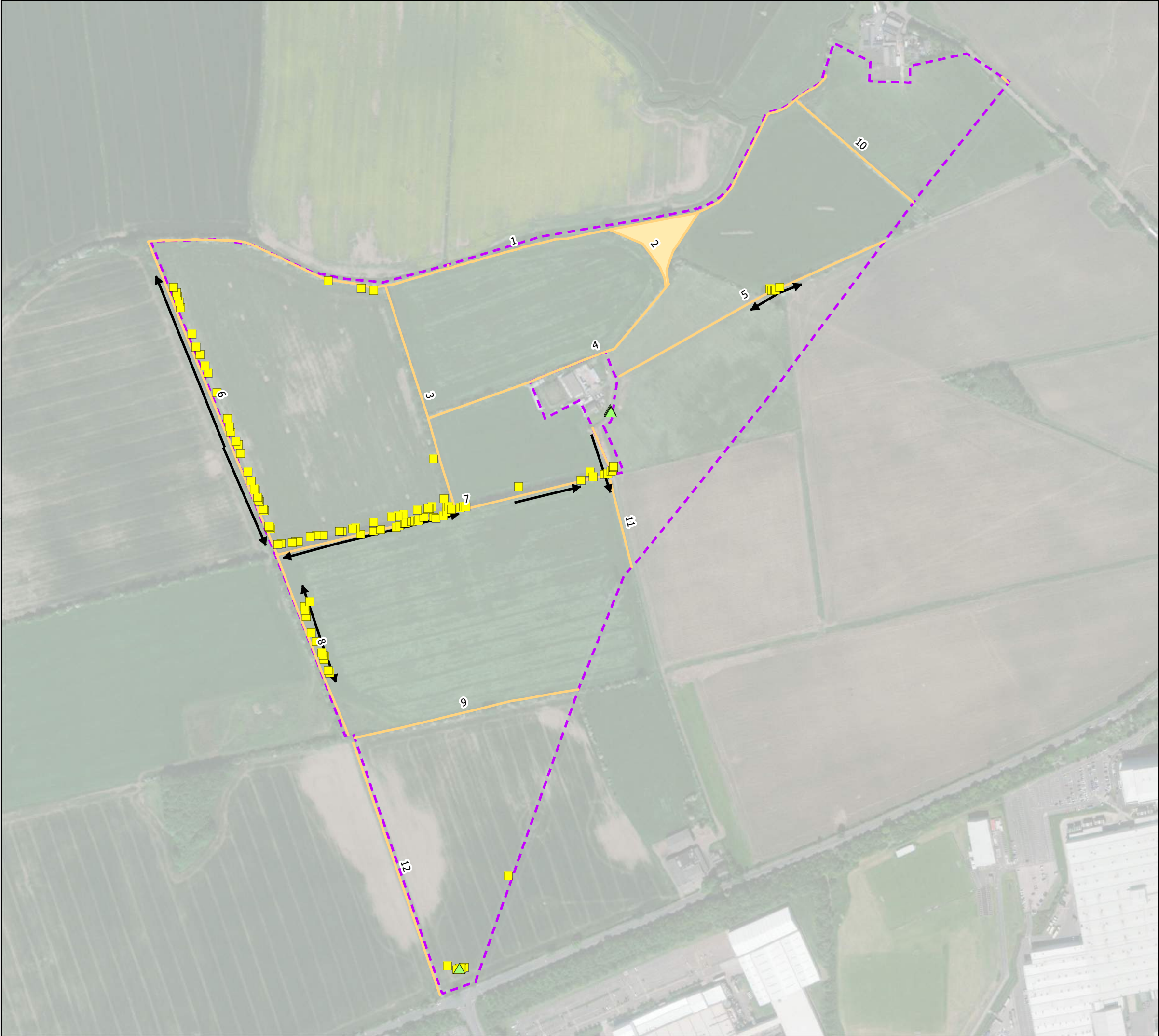


Bat Survey Result August 2020

**ELMA One - Year 1
IAMP LLP**

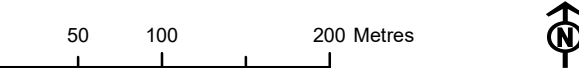
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Drawn by: Maddie Errington	Drawn date: 30/10/2020	Approved by: Monica Souza	

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Rev	Date	Notes
A	26/10/20	Initial map production

- Legend**
- ELMA One Boundary
 - Flight lines
 - Bat foraging and commuting area
 - Bat foraging and commuting route
 - Noctule, *Nyctalus noctula*
 - Common pipistrelle, *Pipistrellus pipistrellus*

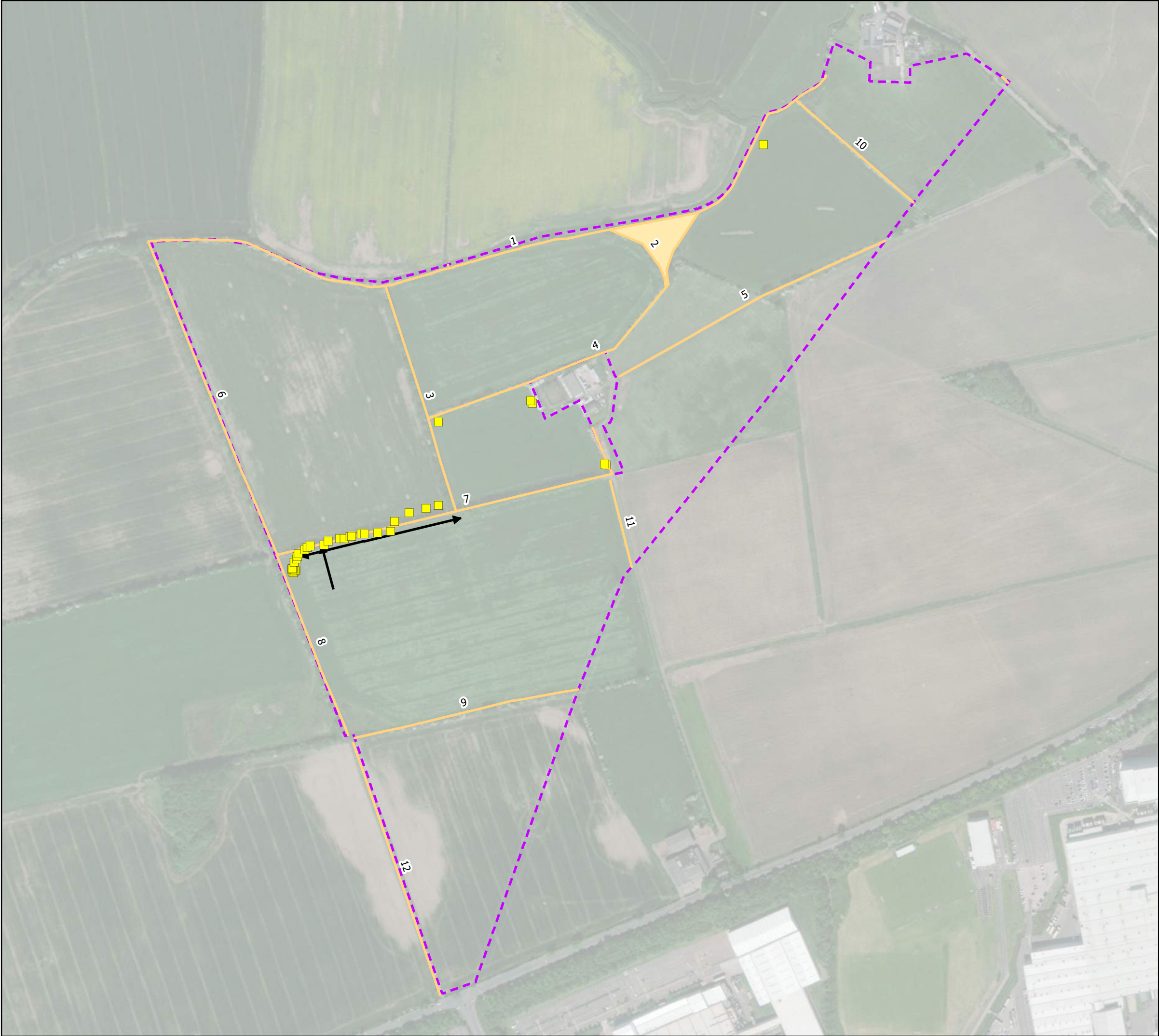


Bat Survey Result September 2020 (Dusk)

ELMA One - Year 1 IAMP LLP			
Scale at A3: 1:4,500	Project No: A105835-25-1	Drawing No: Figure 14	Revision: A
Drawn by: Maddie Errington	Drawn date: 30/10/2020	Approved by: Monica Souza	

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Rev	Date	Notes
A	26/10/20	Initial map production

- Legend**
- ELMA One Boundary
 - Flight lines
 - Bat foraging and commuting area
 - Bat foraging and commuting route
 - Common pipistrelle, *Pipistrellus pipistrellus*

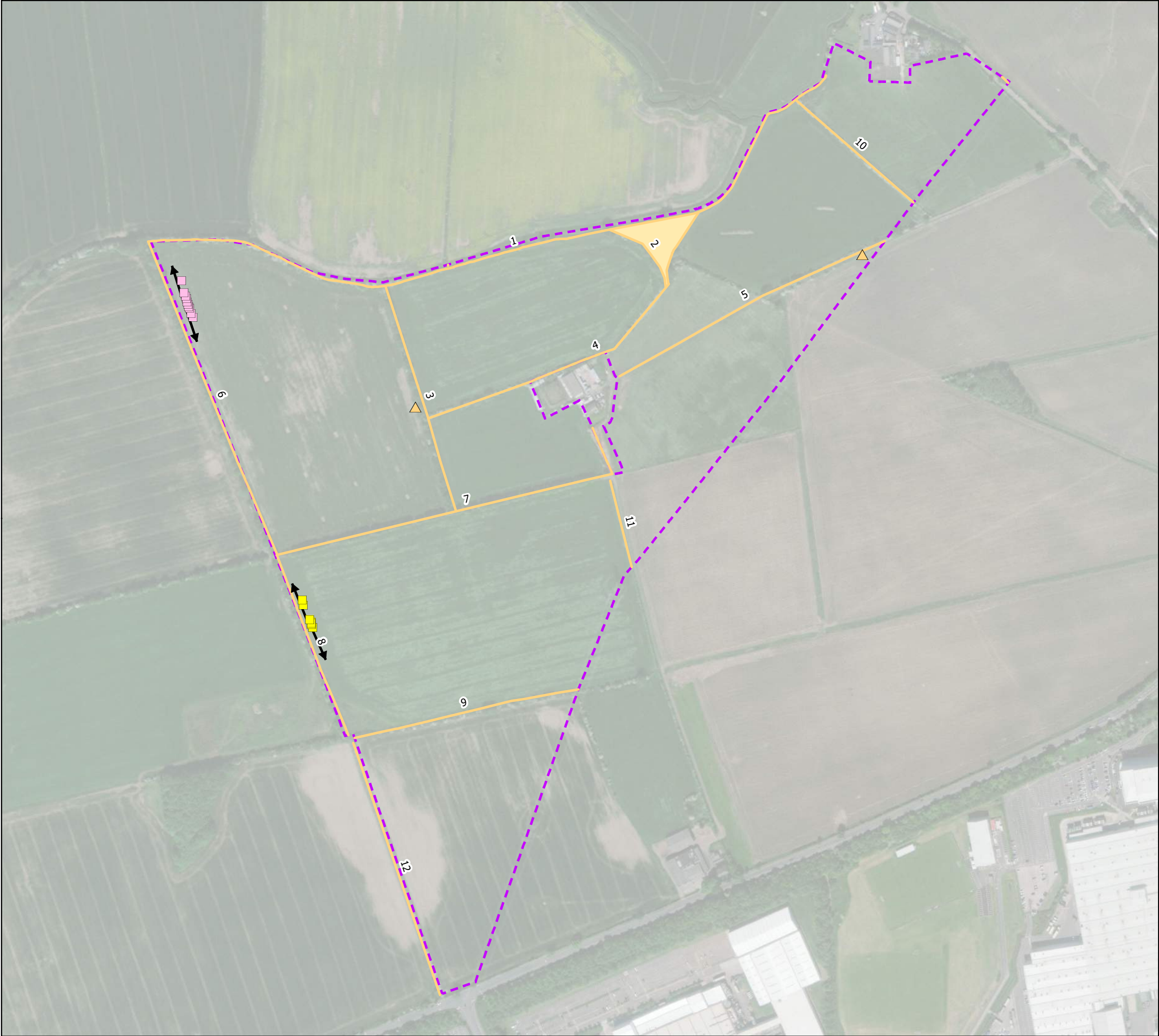


Bat Survey Result September 2020 (Dawn)

**ELMA One - Year 1
IAMP LLP**

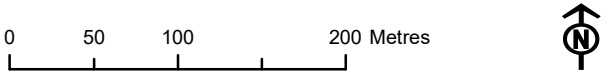
Scale at A3: 1:4,500	Project No: A105835-25-1	Drawing No: Figure 15	Revision: A
Drawn by: Maddie Errington	Drawn date: 30/10/2020	Approved by: Monica Souza	

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Rev	Date	Notes
A	26/10/20	Initial map production

- Legend**
- ELMA One Boundary
 - Flight lines
 - Bat foraging and commuting area
 - Bat foraging and commuting route
 - Noctule sp., *Nyctalus spec.*
 - Common pipistrelle, *Pipistrellus pipistrellus*
 - Soprano pipistrelle, *Pipistrellus pygmaeus*

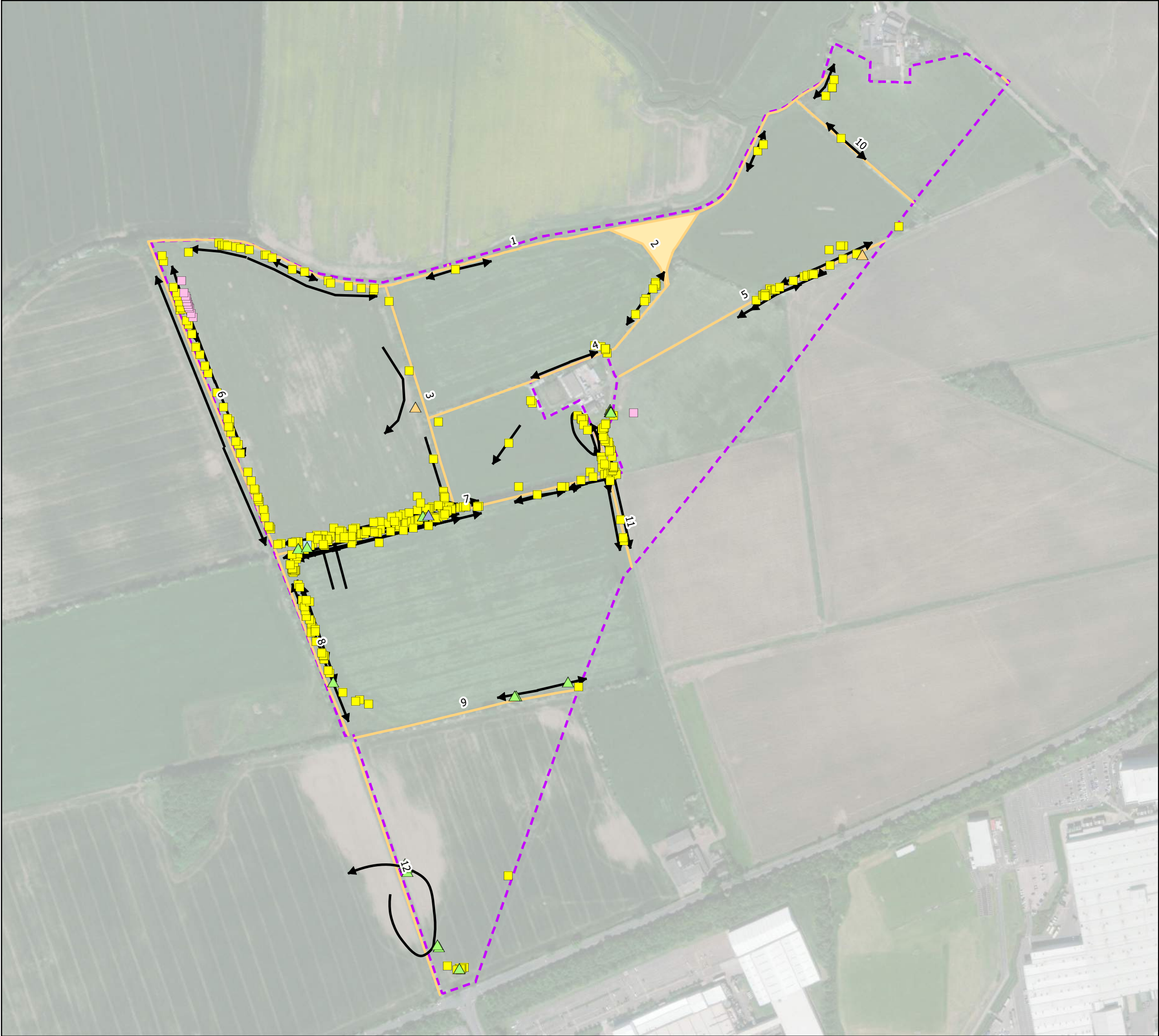


Bat Survey Result October 2020

**ELMA One - Year 1
IAMP LLP**

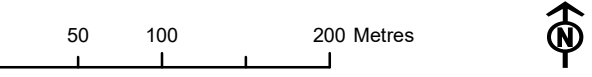
Scale at A3: 1:4,500	Project No: A105835-25-1	Drawing No: Figure 16	Revision: A
Drawn by: Maddie Errington	Drawn date: 30/10/2020	Approved by: Monica Souza	

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Rev	Date	Notes
A	06/11/20	Initial map production

- Legend**
- ELMA One Boundary
 - Flight lines
 - Bat foraging and commuting area
 - Bat foraging and commuting route
 - Leisler's bat, *Nyctalus leisleri*
 - Noctule, *Nyctalus noctula*
 - Noctule sp., *Nyctalus spec.*
 - Common pipistrelle, *Pipistrellus pipistrellus*
 - Soprano pipistrelle, *Pipistrellus pygmaeus*
 - Pipistrelle sp., *Pipistrellus spec.*



Bat Survey Result 2020 (all surveys)

**ELMA One - Year 1
IAMP LLP**

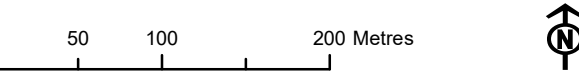
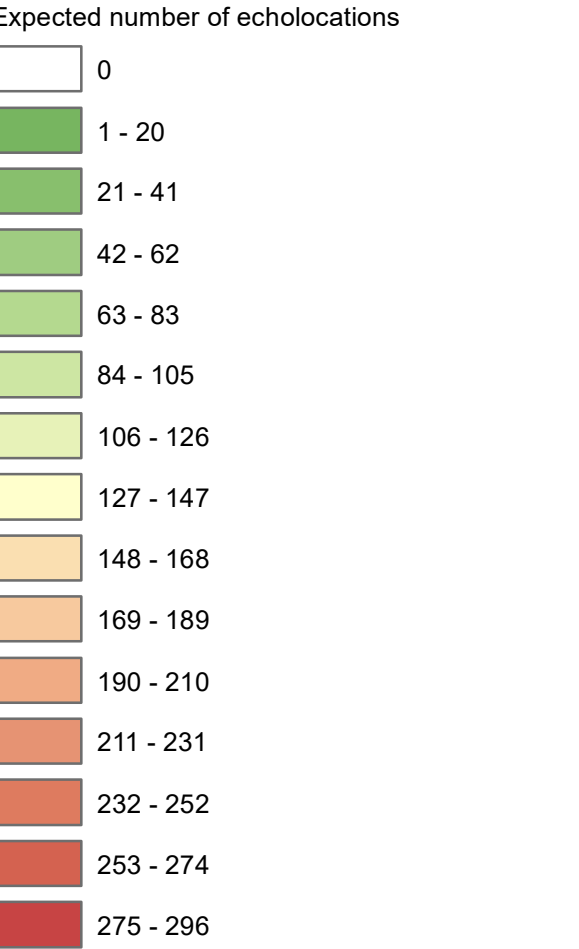
Scale at A3: 1:4,500	Project No: A105835-25-1	Drawing No: Figure 17	Revision: A
Drawn by: Maddie Errington	Drawn date: 06/11/2020	Approved by: Monica Souza	

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Rev	Date	Notes
A	06/11/20	Initial map production

- Legend**
- ELMA One Boundary
 - Bat foraging and commuting area
 - Bat foraging and commuting route



Heat Map of all Bat Survey Results in 2020

ELMA One - Year 1 IAMP LLP			
Scale at A3: 1:4,500	Project No: A105835-25-1	Drawing No: Figure 18	Revision: A
Drawn by: Maddie Errington		Drawn date: 06/11/2020	Approved by: Monica Souza

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