A1 in Northumberland: Morpeth to Ellingham

Scheme Number: TR010041

6.7 Environmental Statement – Appendix 9.7 Bat Roost Potential Survey Report 2017

Part A

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

June 2020

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The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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CONTENTS

EXECUTIVE SUMMARY

This technical report presents the findings of bat roost potential surveys undertaken by Jacobs UK Ltd. (Jacobs) on behalf of Highways England. The report provides a summary of ecological information obtained from a desk study as well as the results from bat roost potential surveys that were undertaken on the 21st – 23rd March, 17th – 19th August and 5th – 6th December 2016.

The desk study records received from the local records centre, the Environmental Records Information Centre North East and the Northumberland Bat Group revealed 532 records of bats within 5 km of the proposed scheme in Section A, 186 of which were bat roosts; and 233 records of bats within 5 km of Section B, 57 of which were bat roosts. Records from MAGIC comprised ten bat licences within 5 km of Section A, and nine within 5 km of Section B.

Trees and structures within 100 m of the proposed scheme were inspected (externally and from ground level) for their potential to support roosting bats; Table E.1 below summarises the results.

Table E.1 Summary of Bat Roost Potential Surveys for Section A and Section B.

Survey Type	Category	Section A Results		Section B Results	
		Individual trees	Woodlands	Individual trees	Woodlands
Woodland / trees bat roost potential survey	Confirmed Roost	0	0	0	0
	High	13	0	12	1
	Moderate	45	0	29	0
	Low	137	4	43	3
Buildings / structures bat roost potential survey	Confirmed Roost	3		1	
	High	7		1	
	Moderate	21		2	
	Low	25		7	
	Negligible	43		6	

Overall the survey area for Section A and Section B was deemed to have moderate quality habitat for bats.

Further bat activity surveys for trees, buildings and structures with bat roost potential have been recommended (See Section 4.2 for details).

1 INTRODUCTION

1.1 Scheme Background

1.1.1 Following the outcomes of the 2014 A1 North of Newcastle Feasibility Study, the Department for Transport confirmed in its first Roads Investment Strategy, the intention to upgrade twenty-one kilometres of the existing A1 to a dual carriageway between Morpeth and Ellingham. This comprises two discreet sections:

- Section A from Morpeth to Felton, and;
- Section B from Alnwick to Ellingham.

1.1.2 At the time of survey three options were under consideration for Section A and Section B. Subsequent to the commencement of the survey, a preferred option was identified for each section. The preferred option for each section is briefly described below:

Section A - Morpeth to Felton

- Offline Option – this option would be online at its north and south ends, but a large central section would form a new bypass to the west of the existing A1 between the Floodgate Burn crossing and Bockenfield Bridge. The existing A1 would be detrunked and form part of a local road network, which would separate local and strategic traffic.

Section B – Alnwick to Ellingham

- Online Option – this option follows the route of the existing A1. This option includes the construction of a single compact grade separated junction accommodating all movements, with an overbridge, at Charlton Mires, linking the A1 with the B6347; all other junctions would be closed off, and the provision of a number of accommodation bridges to improve connectivity and allow access to farm units.

1.2 Report Rationale

1.2.1 The aim of this report is to identify the quality of the habitat in the area around the proposed schemes in terms of its potential to support bats, and to present current information regarding the potential for buildings, structures and trees to support roosting bats, as assessed during surveys undertaken between March and December 2016. The information presented may affect future planned operations and mitigation strategies.

1.3 Definitions

1.3.1 The habitat quality assessment survey area comprised a 500 m buffer around the proposed options. The survey area for the bat roost potential inspections was a 100 m buffer around the proposed improvements. The extents of the survey areas are shown in Figures 2.2 to 2.12 for Section A and 3.2 to 3.8 for Section B.

1.4 Legislative, Policy, and Regulatory Context

1.4.1 Wildlife and countryside legislation and planning policy is referred to in this report; this comprises the following articles:

- The Wildlife and Countryside Act 1981 (as amended) (WCA);

- The EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive 1992) as amended (92/43/EEC);
- The Natural Environment and Rural Communities Act 2006 (NERC 2006);
- Working With Wildlife: The Northumberland Biodiversity Action Plan 2008 (Northumberland LBAP);
- The Conservation of Habitats and Species Regulations 2010 (as amended);
- National Planning Policy Framework 2012 (NPPF); and
- The Highways England Biodiversity Action Plan 2015 (HEBAP).

1.4.2 Appendix A of this report provides a brief synopsis of how the above relate to the protection of bats within the UK. The legislation can also be obtained from www.legislation.gov.uk.

1.5 Objectives

1.5.1 Table 1.1 below summarises each survey undertaken together with its objective.

Table 1.1 Bat Roost Potential Surveys Undertaken and Objectives.

Survey	Objective
Desk study	To identify designated sites important for their bat assemblage / population within 2 km of the proposed scheme, to identify any Special Areas of Conservation (SAC) important for their bat assemblage / population within 30 km of the proposed scheme, and to identify bat records from the past 10 years (2006 to early 2016) within 5 km of the proposed scheme.
Bat habitat quality assessment	To assess the habitat present within the survey area using the ecological constraints walkover survey data, bat roost potential assessment data, desk study data, and aerial photography to classify the habitat as being of low, moderate, or high quality for bats.
Tree, building, and structure inspections	To classify the trees, buildings, and structures within the survey area as having negligible, low, moderate, or high potential to support roosting bats, or as a confirmed bat roost if sufficient evidence was present.

2 METHODOLOGY

2.1 Desk Study

2.1.1 A search of online resources was undertaken to obtain ecological information about the survey area and surrounding landscape. The study area for desktop searches of bat records was based on a combined 5 km buffer from all proposed options. The 5 km study area is shown on Figures 1.1A and 1.2A, and 100 m buffer is shown in Figures 2.2 to 2.12 for Section A and 3.2 to 3.8 for Section B.

2.1.2 The desk study also used aerial imagery from Google Earth[1] to identify all buildings, structures, scattered trees, woodland, tree lines and hedgerows within 100 m of the proposed scheme; this data was subsequently used as part of the ground-based tree inspections and external building and structure assessments.

2.1.3 The following websites were researched:

- National Biodiversity Network (NBN)[2],
- Multi Agency Geographic Information for the Countryside (MAGIC)[3]; and
- Northumberland Biodiversity Action Plan[4].

2.1.4 In addition to online resources, consultation was undertaken in 2016 with:

- Alnwick & District Natural History Society;
- Alnwick Wildlife Group;
- Environmental Records Information Centre North East (ERIC North East);
- Northumberland Bat Group;
- Natural History Society of Northumberland; and
- Ordnance survey maps and aerial photographs were also studied to identify habitats of possible conservation importance within the study area.

2.1.5 A review was also undertaken of the Phase 1 Habitat Survey Report (Jacobs, November 2016) to identify the presence of international and European designated sites within 5 km, Special Areas of Conservation (SACs) within 30 km and statutory and non-statutory sites designated for nature conservation within 5 km of the proposed scheme that may be of relevance to bats.

2.2 Field Survey

2.2.1 The field surveys were undertaken between 21 and 23 March, 17 and 19 August 2016, and 5 and 6 December .

2.2.2 The survey area for the habitat quality survey was defined as all the land within 500 m of the proposed improvement options, as the distance at which bat activity outside of roosts can be impacted by the scheme is greater than the distance at which bat roosts are likely to be impacted. The survey area for bat roost potential was defined as all land within 100 m of the proposed improvement options, as shown in Figures 2.2 to

[1] https://www.google.co.uk/maps
[2] https://data.nbn.org.uk/
[3] http://magic.defra.gov.uk/ (accessed November 2016)
[4] https://www.nwt.org.uk/sites/default/files/files/Nland_Biodiversity_Action_Plan.pdf

2.12 for Section A and 3.2 to 3.8 for Section B. The survey area was determined through consideration of the likely zone of influence[5] given the potential impacts of the scheme, geographical area, desk study results, habitat quality and the bat species likely to be present. This is in accordance with good practice guidance[5] and was considered appropriate to meet the objectives of the surveys (as described in Section 1.5 above).

2.2.3 Consideration was also given to the presence of any potentially significant features for roosting bats beyond the 100 m study area, where these were identified during the desk study exercise or during the field surveys (such as anecdotal evidence received from landowners or the presence of additional features on the ground which could not be identified during desk study review).

2.2.4 Initial daytime inspections were undertaken to visually assess the bat roost potential of all trees and buildings within the survey area in March, August and December 2016. Any structures, such as culverts or bridges, found within this survey area were also assessed and were recorded along with building assessments.

2.2.5 The following field surveys were undertaken in relation to bats:

- Tree bat roost potential assessment (ground level inspection);
- Building and structure bat roost potential assessment (external inspection);
- Habitat quality assessment.

2.3 Tree Bat Roost Potential Assessment (Ground Level Inspection)

2.3.1 Surveys were conducted from the ground, using binoculars and a one-million candlepower Clulite torch. Woodlands and trees were mapped using a handheld mapping device with GPS functionality and photos were taken of each tree.

2.3.2 All potential roost features (PRFs) identified on each tree that was considered suitable for bats were recorded. These included: decay (woodpecker holes; knot holes; flush cuts; tear-outs; double-leaders; wounds and cankers; and butt rot); damage (hazard-beams; frost cracks; subsidence, shearing and helical splits; lightning strikes; impact shatters; desiccation fissures; transverse snaps; and lifting bark); and associations (unions; ivy; and bird and bat boxes).

2.3.3 The overall bat roost potential of woodlands was recorded. Trees which were found to have a bat roost potential which exceeded the assessment of the surrounding woodland were recorded individually.

2.3.4 The trees, including all stems, accessible limbs and crevices, were also searched for signs of roosting bats. These included the presence of bat droppings, scratches, smoothing, staining, and flies in / around or below possible points of access/egress; presence of dead bats; distinctive odour of bats; and sightings of bats.

2.3.5 Trees surveyed as part of the bat roost potential assessment within this report were numbered sequentially from south to north. Each tree number also referred to either Section A or B, such as T1A, T1B, etc.

2.3.6 Each woodland or individual tree was then assigned a bat roost potential category as per Table 2.1 (adapted from the current Bat Conservation Trust (BCT) guidelines

[5] Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).* The Bat Conservation Trust, London.

below). Only trees with a bat roost potential of “low” or above were recorded (i.e. not trees with negligible bat roost potential).

Table 2.1: Bat Roost Potential Categories for Tree Assessments.

Bat Roost Potential Category	Indicators
Confirmed roost	Observation of bats (including emergence / re-entry). Fresh or old bat droppings; scratches, smoothing and staining around entrances; flies around entrances; dead juvenile bats; and sighting of bats.
High	One or more PRFs obviously suitable for use by larger numbers of roosting bats on a more regular basis, and potentially for longer periods of time, due to their size, shelter, protection, or the appropriate conditions (temperature, humidity, height above ground level, light levels, or levels of disturbance), and the presence of suitable surrounding habitat. Bats may be suspected to roost here (at least at certain times of year), but no supporting evidence found.
Moderate	One or more PRFs of obvious potential value to roosting bats due to the shelter, protection, or the appropriate conditions (temperature, humidity, height above ground level, light levels, or levels of disturbance) it would provide, and the presence of suitable surrounding habitat. Unlikely to support a maternity colony or large population of hibernating bats.
Low	Few PRFs. Features unsuitable for use as a roost by anything other than low numbers of bats (e.g. apparently shallow crevices)These PRFs would not be likely to provide enough space, shelter, protection, or the appropriate conditions (temperature, humidity, height above ground level, light levels, or levels of disturbance), and / or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (unlikely to be suitable for use by a maternity colony or during hibernation). Trees of a sufficient size and age to contain PRFs but where no such features can be seen from the ground would also be included.
Negligible	No, or very few, low quality PRFs. Trees without ivy or loose bark, holes, and cracks / fissures. Usually young or occasionally semi-mature specimens with small girth.

2.4 Buildings Bat Roost Potential Assessment (External Inspection)

2.4.1 Each building and structure within 100 m of the proposed scheme was assessed externally at ground level to identify its potential to support roosting bats.

2.4.2 During the ground-level assessment the height, width, use, and constituent construction materials were identified for each building and structure along with any potential roost features such as gaps in mortar / brickwork, lifted lead flashing or gaps behind cladding (including fascia and barge boards). Evidence of the presence of a bat roost such as droppings, feeding signs, or sightings of bats was also recorded, where present.

2.4.3 Buildings and structures surveyed as part of the bat roost potential assessment within this report were numbered sequentially from south to north. Each building / structure number also refers to either Section A or B, such as B1A, B1B, etc.

2.4.4 The information recorded during the external inspection was then used to categorise the potential of the building or structure to support roosting bats as per the categories summarised in Table 2.2 below.

Table 2.2. Bat Roost Potential Categories for Building and Structure Assessments.

Category	Description
Confirmed roost	Bats discovered roosting within the building, or recorded emerging from / entering the building at dusk and / or dawn. Buildings found to contain conclusive evidence of occupation by bats, such as bat droppings. A confirmed record (as supplied by an established source such as the local bat group) would also apply to this category.
High	A building or structure with one or more PRFs that are obviously suitable for use by larger numbers of roosting bats on a more regular basis and potentially for longer periods of time due to their size, shelter protection, or the appropriate conditions (temperature, humidity, height above ground level, light levels, or levels of disturbance), and the presence of suitable surrounding habitat. Bats may be suspected to roost within the building (at least at certain times of year), but no supporting evidence found.
Moderate	A building or structure, usually of brick or stone construction, with one or more PRFs of obvious potential value to roosting bats due to the provision of shelter, protection, and the appropriate conditions (temperature, humidity, height above ground level, light levels, or levels of disturbance), and the presence of suitable surrounding habitat. PRFs present may include: loose roof / ridge tiles, gaps in brickwork, gaps under fascia boards, and / or warm sealed roof-spaces with under-felt. The building or structure would be unlikely to support a maternity colony or large population of hibernating bats.
Low	A building or structure with few features of potential opportunistic value to low numbers of bats (e.g. gaps above windows, apparently shallow crevices). These PRFs would not be likely to provide enough space, shelter, protection, or the appropriate conditions (temperature, humidity, height above ground level, light levels, or levels of disturbance), and / or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (unlikely to be suitable for use by a maternity colony or during hibernation). No supporting evidence (e.g. droppings / staining) found. Buildings may be surrounded by poor or sub-optimal bat foraging habitat.
Negligible	Buildings with no or very few low quality features capable of supporting roosting bats. Often buildings are of 'sound' well-sealed structure, or have a single skin and no roof void. They tend to have high interior light-levels, and little or no insulation. Buildings without a roof or chimney may also fall into this category.

2.5 Habitat Quality Assessment

2.5.1 The value (in terms of potential for use by roosting, commuting, or foraging bats) of habitats within the 500 m survey area was identified to inform the overall bat habitat quality category.

2.5.2 An assessment of the value of the habitat within the survey area was made, taking into account features likely to be used by foraging, and commuting bats, and also the

availability of potential roost features, and known roosts. A high, medium, low, or no habitat value was assigned using the bat habitat quality wheel (Appendix B).

2.5.3 It is recognised that any assessment of habitat use for bats is complex. Habitat requirements vary between bat species due to the range of foraging strategies employed by different species, which also varies by season. Even habitats which may appear unsuitable, for example those that lack cover and foraging opportunities such as bare arable fields may be traversed and used for commuting and dispersal.

2.6 Limitations

2.6.1 Although the data provided by the desk study consultees / sources is the most complete set of species data available, the absence of records should not be taken as an indication of the absence of species. Additionally, it is possible that some records were double-counted as they could have been supplied by more than one of the consultees. As the desk study data was used to inform further survey, rather than being relied upon alone, to identify the importance of the area to bat populations, this is not considered a significant limitation.

2.6.2 Some sections of the survey area were unable to be accessed during the survey period due to a lack of landowner permission. Additional areas of proposed work have also been added to the scheme since bat roost potential surveys were undertaken. This meant that trees and buildings with the potential to support roosting bats, within the current 100 m buffer around the proposed scheme, were not surveyed. These areas are shown in Figures 2.2 to 2.12 for Section A and 3.2 to 3.8 for Section B and it is recommended that they are surveyed prior to the final identification of likely impacts.

2.6.3 Wind and rainfall may degrade bat droppings and other evidence of bat presence on trees and on external walls, windows and exposed surfaces that may otherwise provide evidence of a roost. An absence of droppings to exterior building surfaces does not therefore indicate an absence of roosting bats. A precautionary approach was adopted to ensure the lack of evidence of roosting bats did not cause the bat roost potential category to be downgraded.

2.6.4 Bat occupation of a roost is often transitory or seasonal in nature and the results of this assessment reflect the baseline conditions at the specific time of survey. The buildings, structures and trees surveyed may not have supported a bat roost at the time of survey, but they may be used by roosting bats in the future if they have features that would indicate their potential for use as seasonal roosts. Again, a precautionary approach was applied during the interpretation of results in consideration of this factor and appropriate recommendations for further surveys have been provided.

2.6.5 It should be noted that the grading system applied at the time of survey may not necessarily reflect the condition of the tree, structure or building at a later date. Should the physical characteristics of the tree, structure or building change (due, for example, to storm damage or lighting strike) the category may need to be revised.

2.6.6 The findings of this report represent the professional opinion of qualified ecologists and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited in this document. Should there be a delay in the proposed construction programme, it is considered prudent that the survey findings be reviewed and updated as required for subsequent planning application(s) to ensure that the assessment of ecological impacts is undertaken against an accurate baseline.

3 SURVEY RESULTS

3.1 Desk Study

3.1.1 The desk study revealed one designated site within the scheme footprint which had relevance for bats; River Coquet and Coquet Valley Woodlands Site of Special Scientific Interest (SSSI) (Ordnance Survey Grid Reference (OSGR): NZ 17438 99796). Nursery roosts of Daubenton's bat (*Myotis daubentonii*), Natterer's bat (*Myotis nattereri*), noctule (*Nyctalus noctula*), whiskered bat (*Myotis mystacinus*), Brandt's bat (*Myotis brandti*), common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) have been recorded at Brinkburn Priory, approximately 6 km upstream of the proposed scheme. The site also provided good quality foraging habitat for bats. The citation for this designated site is shown in Appendix C.

3.1.2 There were five non-statutory Local Nature Reserves (LNR) identified within the 5 km survey area which could be of importance for bat species. These comprised Borough Woods LNR (OSGR: NZ 18265 85510), Bracken Bank LNR (OSGR: NZ 18800 86322), Scotch Gill Wood LNR (OSGR: NZ 18630 86098) and Davies Wood LNR (OSGR: NZ 19034 86500), which all had woodland habitats, and Carlisle Park LNR (OSGR: NZ 19839 85620) which had a remnant semi-natural ancient woodland. These woodland habitats may provide roosting and foraging opportunities for bats[6].

3.1.3 Data containing 532 records of bat species within 5km of Section A and 233 records of bat species within 5km of Section B was provided by ERIC North East and Northumberland Bat Group to supplement the bat surveys undertaken by Jacobs. The data are presented in Tables 3.1 and 3.2 below.

Table 3.1 Summary of Bat Species Records within 5 km of Section A from ERIC and Northumberland Bat Group from 2006 to 2016.

Bat Species	Number of Records from Eric North East	Number of Records from Northumberland Bat Group	Total Number of Records
Common pipistrelle	48	77	125
Soprano pipistrelle	45	59	104
Unidentified *Pipistrellus* species	6	5	11
Noctule	27	33	60
Whiskered bat / Brandt's bat	17	18	35
Daubenton's bat	1	27	28
Natterer's bat	27	17	44
Brown long-eared bat (*Plecotus auritus*)	37	26	63
Unidentified *Myotis* bat species	13	25	38

[6] Site details provided by MagicMap application (http://magic.defra.gov.uk/, accessed 25.01.17), full citations were not provided.

Bat Species	Number of Records from Eric North East	Number of Records from Northumberland Bat Group	Total Number of Records
Unidentified *Plecotus* bat species	1	0	1
Leisler's bat (*Nyctalus leisleri*)	1	3	4
Nathusius' pipistrelle (*Pipistrellus nathusii*)	2	1	3
Unidentified *Nyctalus* bat species	0	1	1
Unidentified bat species	11	4	15

3.1.4 Amongst these 532 records of bat species, a total of 186 records related specifically to bat roosts for Section A. These included: The roost records returned comprised:

- 44 common pipistrelle roosts;
- 34 soprano pipistrelle roosts;
- six unidentified pipistrelle species roosts;
- 12 Noctule roosts;
- five whiskered bat / Brandt's bat roosts;
- nine Daubenton's bat roosts;
- 23 Natterer's bat roosts;
- 40 brown long-eared bat roosts;
- four unidentified *Myotis* bat species roosts;
- one Nathusius' pipistrelle roost;
- one unidentified *Nyctalus* bat species roosts; and
- seven unidentified bat species roosts.

Table 3.2: Bat species records within 5 km of Section B from ERIC and Northumberland Bat Group from 2006 to 2016.

Bat Species	Number of Records from Eric North East	Number of Records from Northumberland Bat Group	Total Number of Records
Common pipistrelle	37	19	56
Soprano pipistrelle	28	10	38
Unidentified *Pipistrellus* species	4	2	6
Noctule	7	0	7
Whiskered bat / Brandt's bat	19	5	24

Bat Species	Number of Records from Eric North East	Number of Records from Northumberland Bat Group	Total Number of Records
Daubenton's bat	1	0	1
Natterer's bat	7	12	19
Brown long-eared bat	21	5	26
Unidentified *Myotis* species	2	0	2
Unidentified bat species	53	1	54

3.1.5 Amongst these 233 records of bat species within 5km of Section B, 57 were records of bat roosts, including:

- 15 common pipistrelle roosts;
- 14 soprano pipistrelle roosts;
- one unknown pipistrelle species roost;
- four whiskered bat / Brandt's bat roosts;
- 13 Natterer's bat roosts;
- seven brown long-eared bat roosts; and
- three unknown bat species roost.

3.1.6 A search on MAGIC revealed ten records of European Protected Species Licences (EPSLs) relating to bat species from the past ten years (2006 to 2016) within the 5 km desk study area of Section A, and nine EPSLs relating to bats from the desk study area for Section B. EPSLs derogate the Conservation of Habitats and Species Regulations (2010) (as amended), allowing certain, conditioned actions which would otherwise be illegal (such as the exclusion of bats from a roost). Details of these records are shown in Table 3.3 below, and the records can be seen on Figures 1.1A to 1.1M for Section A and 1.2A to 1.2K for Section B.

Table 3.35 Records of EPSL relating to bats within 5 km of Section A and Section B from 2006 to 2016.

Section A			
Licence Start / End Date	**Species**	**Grid Reference**	**Distance From Scheme (Approximate)**
06/2013 – 10/2014	Common pipistrelle	NZ 197 901	1.2 km east
	Soprano pipistrelle		
11/2011 – 09/2013	Common pipistrelle	NZ 200 911	1.4 km east
	Soprano pipistrelle		
	Brown long-eared bat		
	Whiskered bat / Brandt's bat		
	Natterer's bat		
08/2010 – 06/2011	Soprano pipistrelle	NZ 190 998	1.6 km east

06/2010 – 06/2012	Common pipistrelle	NZ 201 864	2.8 km south-east
	Soprano pipistrelle		
03/2012 – 09/2012	Common pipistrelle	NU 169 034	2.8 km north
11/2011 – 12/2011	Common pipistrelle	NZ 199 861	2.8 km south-east
10/2008 – 09/2010	Soprano pipistrelle	NZ 167 856	3.4 km south-west
06/2013 – 08/2014	Common pipistrelle	NU 204 029	3.7 north-east
	Soprano pipistrelle		
01/2013 – 08/2014	Soprano pipistrelle	NZ 131 984	4.3 km west
	Brown long-eared bat		
11/2008 – 09/2009	Common pipistrelle	NZ 235 957	4.5 km east

Section B			
Licence Start / End Date	**Species**	**Grid Reference**	**Distance from Scheme (Approximate)**
07/2014 – 07/2019	Common pipistrelle	NU 193 118	2 km south-west
04/2011 – 08/2012	Common pipistrelle	NU 186 122	2.3 km south-west
10/2011 – 08/2013	Common pipistrelle	NU 210 183	2.3 km east
	Soprano pipistrelle		
	Natterer's bat		
03/2015 – 04/2021	Common pipistrelle	NU 205 202	2.6 km east
10/2011 – 09/2013	Common pipistrelle	NU 227 152	2.7 km east
	Soprano pipistrelle		
10/2012 – 08/2014	Common pipistrelle	NU 153 189	3 km west
	Daubenton's bat		
04/2011 – 12/2011	Soprano pipistrelle	NU 149 190	3.4 km west
09/2011 – 09/2014	Common pipistrelle	NU 207 248	4.6 km north-east
	Soprano pipistrelle		
	Natterer's bat		
03/2012 – 09/2012	Whiskered bat / Brandt's bat	NU 151 273	5 km north

3.2 Field Survey – Tree Bat Roost Potential Assessments

3.2.1 Overall the results of the tree roost potential assessments showed that there were:

- four woodlands of low potential or above surveyed in Section A;
- four woodlands of low potential or above surveyed in Section B;
- 195 individual trees of low potential or above surveyed in Section A; and
- 84 individual trees of low potential or above surveyed in Section B.

3.2.2 Trees and woodlands which were found to have less than low potential were discounted and not recorded.

3.2.3 The locations of all trees and woodlands and their assessment categories are shown on Figures 2.2 to 2.12 for Section A and 3.2 to 3.8 for Section B[7]. A full description of the trees surveyed is provided in Appendix D. No confirmed roosts within trees were recorded within the survey area for either section. Table 6 below gives an indication of the bat roost potential of trees and woodlands surveyed for Section A and Section B of the scheme.

[7] In some cases several individual trees have been grouped under one reference point within the figures and appendix.

Table 6 Bat roost potential tree survey results within the survey area.

Bat Roost Potential Category	Section A		Section B	
	Individual Trees	Woodlands	Individual Trees	Woodlands
Confirmed roost	0	0	0	0
High	13	0	12	1
Moderate	45	0	29	0
Low	137	4	43	3

3.3 Field Survey – Building Bat Roost Potential Assessments

3.3.1 A total of 99 buildings and structures were surveyed for bat roost potential in Section A, and a total of 17 were surveyed in Section B.

3.3.2 The locations of all buildings and structures are shown in Figures 2.2 to 2.12 for Section A and 3.2 to 3.8 for Section B. A full description of the buildings and structures surveyed is provided in Appendix E. For Section A, a total of 53 buildings / structures were assessed as having bat roost potential (low, moderate or high) and an additional three confirmed roosts were recorded in the following buildings;

- Building B65A;
- B84A (unknown species, previous observations of bats by building owners); and
- Building B21A (approximately 20 bat droppings (unknown species) indicative of a roost).

3.3.3 There were 43 buildings which were assessed as having negligible potential to support roosting bats.

3.3.4 In Section B, a single confirmed roost was recorded in B10B (unknown species, previous observations of bats by building owners). A total of ten buildings / structures were assessed as having some bat roost potential (low, moderate, or high). There were also six buildings assessed as having negligible potential to support roosting bats. These results are summarised in Table 7 below.

Table 7 Bat Roost Potential Building Survey Results Within the Survey Area.

Bat Roost Potential Category	Section A	Section B
Confirmed roost	3	1
High	7	1
Moderate	21	2
Low	25	7
Negligible	43	6

3.4 Habitat Quality

3.4.1 The 500 m survey area was dominated by improved grassland, semi-improved grassland and arable land with occasional pockets of broadleaved, coniferous and

mixed woodland, linked by a network of hedgerows (as shown in the figures provided in the Extended Phase 1 Habitat Survey Report[8].

3.4.2 Bats require a variety of roosts of different types and sizes throughout the year, and many species can travel long distances from a roost to foraging habitat. There were a high number of roost opportunities present within the 500 m survey area, many of which were situated along linear features providing commuting habitat for bats. Four buildings were known to provide roosts, although the species of roosting bat was unknown. Any known roosts may be used during the transitional, hibernation, or breeding seasons and could be important to bat species throughout the year.

3.4.3 The majority of these habitats (i.e. arable fields or exposed improved grassland fields) provide relatively limited foraging opportunities for bats. However, discreet areas of high value foraging and commuting habitat for bats were also present, i.e. habitat such as scrub, grasslands, woodland habitats, hedgerows, ditches, streams and a small number of ponds.

3.4.4 Many bat species are reluctant to cross open spaces and rely upon linear features, such as hedgerows, tree lines and waterways, for commuting to feeding areas. The survey area was found to have numerous commuting features which could enable movement of bats for foraging or moving between roosts.

3.4.5 Overall the survey area for Section A and Section B was deemed to have moderate quality habitat for bats as identified using the bat habitat quality wheel (Appendix B).

[8] Jacobs (2017) *A1 in Northumberland Extended Phase 1 Habitat Survey Report B2104700/OD/264*

4 DISCUSSION

4.1 Conclusions

4.1.1 The desk study revealed 186 bat roosts of eight known bat species present within 5 km of the proposed scheme in Section A and 57 bat roosts of five known bat species present within 5 km of the proposed scheme in Section B.

4.1.2 A total of four woodlands and 195 trees were identified as having low or above potential to support roosting bats in Section A, with no individual trees found to have higher potential than the surrounding woodland. Of the individual trees surveyed in Section A, 13 were classified with high bat roost potential, 45 with moderate potential, and 137 with low potential. The four woodlands were each classified as having low bat roost potential.

4.1.3 A total of four woodlands and 84 trees were identified as having low or above potential to support roosting bats in Section B, with no trees assessed as having a higher potential than the surrounding woodland. Of the individual trees surveyed in Section B, 12 were classified as having high bat roost potential, 29 with moderate potential and 43 with low potential. One woodland was classified as having high bat roost potential, and three woodlands with low potential.

4.1.4 The bat roost potential surveys on buildings and structures for Section A revealed three confirmed roosts present in buildings Building B21A, Building B65A and Building B84A, seven buildings or structures with high bat roost potential, 21 with moderate potential, 25 with low potential and 43 with negligible potential.

4.1.5 The field surveys revealed that of the buildings and structures in Section B revealed one confirmed roost present in B10B, one building with high bat roost potential, two buildings or structures with moderate potential, seven with low potential, and six with negligible potential.

4.2 Recommendations for further survey

Trees and Woodlands

4.2.1 It is recommended that all trees that have been assigned a category of high, or moderate bat roost potential are subject to a climb and inspect survey where possible. This type of survey can be undertaken at any time of year however evidence of bats may be more prevalent in the bat active season (March-September). Depending on the results of the climb and inspect survey, further emergence or re-entry surveys may be required in line with good practice guidance[9].

4.2.2 Multiple survey visits should be spread out to sample as much of the recommended survey period (May to September) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more.

Buildings and Structures

4.2.3 It is recommended that all buildings and structures that are confirmed roosts or have been assigned the category of high bat roost potential are subject to three separate survey visits. These surveys should comprise at least one dusk emergence survey and

[9] Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).* The Bat Conservation Trust, London.

a separate dawn re-entry survey, the third visit could be either a dusk emergence or dawn re-entry survey.

4.2.4 All buildings that have been assigned a category of moderate bat roost potential should be subject to two separate survey visits consisting of one dusk emergence survey and a separate dawn re-entry survey.

4.2.5 All buildings that have been assigned a category of low bat roost potential should be subject to one survey visit. This could be one dusk emergence survey, or one dawn re-entry survey.

4.2.6 Multiple survey visits should be spread out to sample as much of the recommended survey period (May to September) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more.

Activity Surveys

4.2.7 It is recommended that crossing point surveys are undertaken at locations likely to provide representative data on the frequency and height at which bats are crossing the road. This should be completed at least once in spring (April / May), once in early to mid-summer (June to mid-August) and once in late summer / early autumn. This should be done to provide data on the risk of fragmentation and mortality.

4.2.8 It is recommended that monthly activity surveys are undertaken (in line with that required for a site with moderate habitat quality)[10]. The monthly activity surveys should be designed to provide data on any seasonal and geographical differences in activity levels. Every representative habitat type within 1 km of the road should be sampled[11]. This should be done to identify high risk areas, and to provide a baseline against which habitat degradation / improvement could be measured.

General

4.2.9 The number of surveys required to assess the presence, or importance of a roost within a woodland, tree, building, or structure may need to be adjusted following the initial (or subsequent surveys). For example, if the presence of a bat roost is established during a survey of a tree identified with moderate bat roost potential, a minimum of three surveys would be required to gather sufficient information about the characteristics of the roost.

[10] Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).* The Bat Conservation Trust, London.

[11] Berthinussen, A & Altringham, J (2012) *The effect of a major road on bat activity and diversity.* The Journal of Applied Ecology. Vol 49;1, p82 – 89.

FIGURES

Figures 1.1A To 1.1M: Desk Study Bat Species Records And Licence Records Within 5 Km Of Section A.

Figures 1.2A To 1.2K: Desk Study Bat Species Records And Licence Records Within 5 Km Of Section B.

Figure 2.1: Bat Roost Potential Figure Overview For Section A.

Figures 2.2 To 2.12: Bat Roost Potential Survey Results For Section A.

Figure 3.1: Bat Roost Potential Figure Overview For Section B.

Figures 3.2 To 3.8: Bat Roost Potential Survey Results For Section B.

FIGURE 1.1A

Legend

5km Buffer (all options combined)

Bat Species Records

- Unidentified Bat Species
- Unidentified Bat Species (Confirmed Roost)

0 2,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	JAN 17	Initial Issue	IM	SP	AM	MC

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Project: A1 NORTHUMBERLAND

Drawing Title: SECTION A
BAT SPECIES RECORDS
UNIDENTIFIED BAT SPECIES

Drawing Status

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101a

FIGURE 1.1B

Legend

5km Buffer (all options combined)

Bat Species Records

- Pipistrelle Bat species
- Pipistrelle Bat species (Confirmed Roost)

N W E S

0 2,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Project: A1 NORTHUMBERLAND

Drawing Title: SECTION A
BAT SPECIES RECORDS
PIPISTRELLE BAT SPECIES

Drawing Status

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101b

FIGURE 1.1C

Legend

5km Buffer (all options combined)

Bat Species Records

- Common Pipistrelle
- Common Pipistrelle (Confirmed Roost)

N W E S

0 2,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Drawing Title: SECTION A
BAT SPECIES RECORDS
COMMON PIPISTRELLE

Drawing Status:

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101c

FIGURE 1.1D

Legend

5km Buffer (all options combined)

Bat Species Records

- Soprano Pipistrelle
- Soprano Pipistrelle (Confirmed Roost)

N W E S

0 2,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Project: A1 NORTHUMBERLAND

Drawing Title: SECTION A
BAT SPECIES RECORDS
SOPRANO PIPISTRELLE

Drawing Status:

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101d

FIGURE 1.1E

Legend

5km Buffer (all options combined)

Bat Species Records

Nathusius's Pipistrelle

N
W E
S

0 2,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Client: highways england

Project: A1 NORTHUMBERLAND

Drawing Title: SECTION A
BAT SPECIES RECORDS
NAUTHISIUS' PIPISTRELLE

Drawing Status:

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101e

FIGURE 1.1F

Legend

5km Buffer (all options combined)

Bat Species Records

- Myotis Bat Species
- Myotis Bat Species (Confirmed Roost)

N
W E
S

0 2,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Project: A1 NORTHUMBERLAND

Drawing Title: SECTION A
BAT SPECIES RECORDS
MYOTIS BAT SPECIES

Drawing Status:

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101f

FIGURE 1.1G

Legend

5km Buffer (all options combined)

Bat Species Records

- Daubenton's Bat
- Daubenton's Bat (Confirmed Roost)

N
W E
S

0 2,000 m

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Project: A1 NORTHUMBERLAND

Drawing Title:
SECTION A
BAT SPECIES RECORDS
DAUBENTON'S BAT

Drawing Status:

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101g

FIGURE 1.1H

Legend

5km Buffer (all options combined)

Bat Species Records

- Natterer's Bat
- Natterer's Bat (Confirmed Roost)

N
W E
S

0 2,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Drawing Title: SECTION A
BAT SPECIES RECORDS
NATTERER'S BAT

Drawing Status:

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101h

FIGURE 1.1I

Legend

5km Buffer (all options combined)

Bat Species Records

- Whiskered/Brandt's Bat
- Whiskered/Brandt's Bat (Confirmed Roost)

N W E S

0 2,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Project: A1 NORTHUMBERLAND

Drawing Title: SECTION A
BAT SPECIES RECORDS
WHISKERED/BRANDT'S BAT

Drawing Status:

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101i

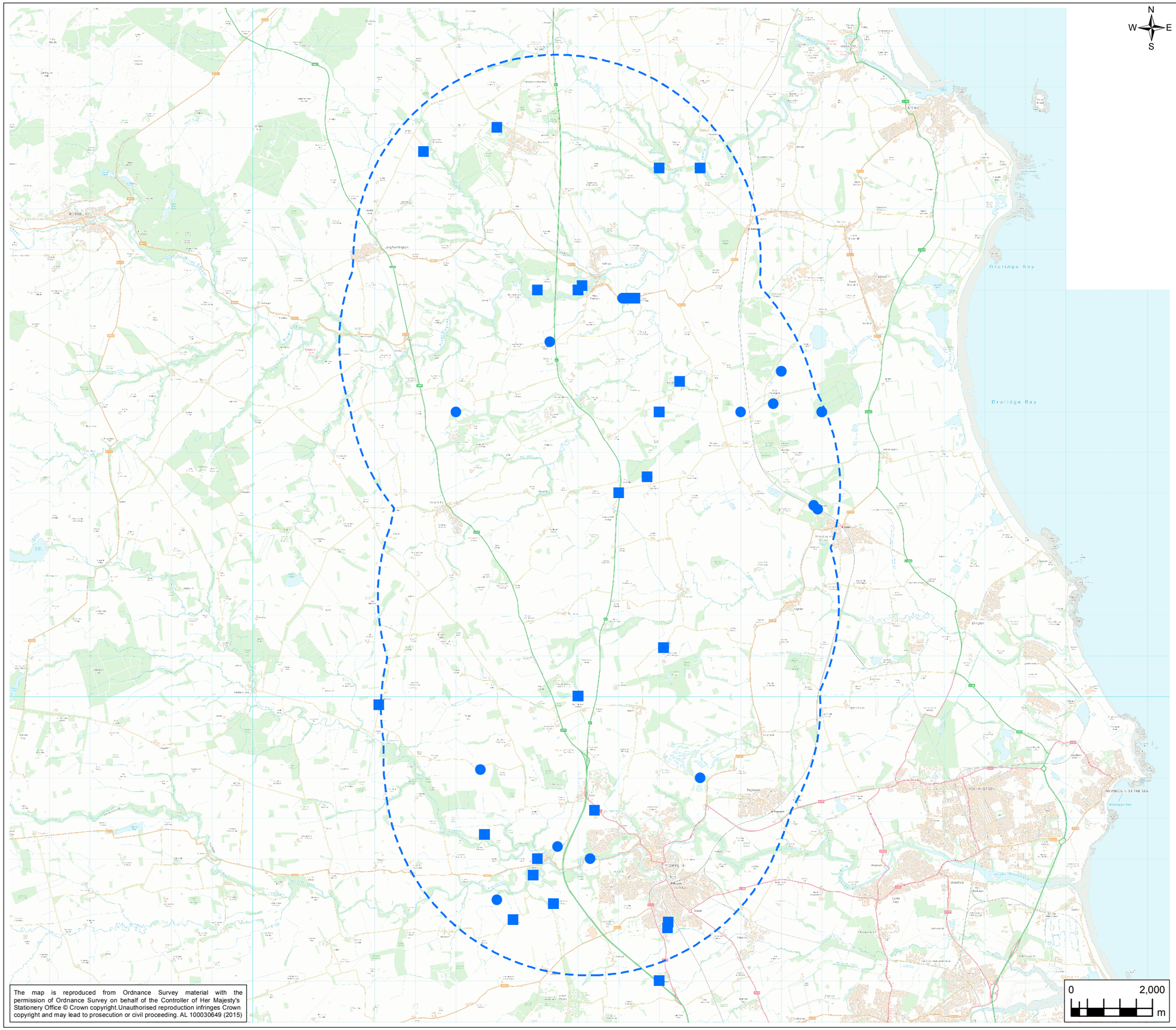

FIGURE 1.1J

Legend

5km Buffer (all options combined)

Bat Species Records

- Brown Long-eared Bat
- Brown Long-eared Bat (Confirmed Roost)

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	JAN 17	Initial Issue	IM	SP	AM	MC

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Drawing Title: SECTION A
BAT SPECIES RECORDS
BROWN LONG-EARED BAT

Drawing Status:

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101j

FIGURE 1.1K

Legend

5km Buffer (all options combined)

Bat Species Records

- Noctule Bat
- Noctule Bat (Confirmed Roost)

N
W E
S

0 2,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Project: A1 NORTHUMBERLAND

Drawing Title: SECTION A
BAT SPECIES RECORDS
NOCTULE BAT

Drawing Status

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101k

FIGURE 1.1L

Legend

5km Buffer (all options combined)

Bat Species Records

Leisler's Bat

N
W E
S

0 2,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Client: highways england

Project: A1 NORTHUMBERLAND

Drawing Title: SECTION A
BAT SPECIES RECORDS
LEISLER'S BAT

Drawing Status:

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101l

FIGURE 1.1M

Legend

5km Buffer (all options combined)

Bat License Records

- Brown Long-eared Bat
- Common Pipistrelle
- Natterer's Bat
- Soprano Pipistrelle
- Whiskered / Brandt's Bat

1 Common Pipistrelle
1 Soprano Pipistrelle

1 Brown Long-eared Bat
1 Soprano Pipistrelle

1 Brown Long-eared Bat
1 Common Pipistrelle
1 Natterer's Bat
1 Soprano Pipistrelle
1 Whiskered / Brandt's Bat

1 Common Pipistrelle
1 Soprano Pipistrelle

1 Common Pipistrelle
1 Soprano Pipistrelle

N W E S

0 2,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Drawing Title: SECTION A
BAT LICENSE RECORDS

Drawing Status:

Scale @ A3	1:90,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0101m

FIGURE 1.2A

Legend

5km Buffer

Bat Species Records

- Unidentified Bat Species
- Unidentified Bat Species (Confirmed Roost)

N
W E
S

0 1,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	JAN 17	Initial Issue	IM	SP	AM	MC

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Project: A1 NORTHUMBERLAND

Drawing Title: SECTION B
BAT SPECIES RECORDS
UNIDENTIFIED BAT SPECIES

Drawing Status:

Scale @ A3	1:70,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0102a

FIGURE 1.2B

Legend

5km Buffer

Bat Species Records

- Pipistrelle Bat species
- Pipistrelle Bat species (Confirmed Roost)

0 1,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	JAN 17	Initial Issue	IM	SP	AM	MC

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Client: highways england

Project: A1 NORTHUMBERLAND

Drawing Title: SECTION B
BAT SPECIES RECORDS
PIPISTRELLE BAT SPECIES

Drawing Status:

Scale @ A3	1:70,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0102b

FIGURE 1.2C

Legend

5km Buffer

Bat Species Records

- Common Pipistrelle
- Common Pipistrelle (Confirmed Roost)

N
W E
S

0 1,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	JAN 17	Initial Issue	IM	SP	AM	MC

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Project: A1 NORTHUMBERLAND

Drawing Title: SECTION B
BAT SPECIES RECORDS
COMMON PIPISTRELLE

Drawing Status:

Scale @ A3	1:70,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0102c

FIGURE 1.2D

Legend

5km Buffer

Bat Species Records

- Soprano Pipistrelle
- Soprano Pipistrelle (Confirmed Roost)

N
W E
S

0 1,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	JAN 17	Initial Issue	IM	SP	AM	MC

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Client: highways england

Project: A1 NORTHUMBERLAND

Drawing Title: SECTION B
BAT SPECIES RECORDS
SOPRANO PIPISTRELLE

Drawing Status:

Scale @ A3	1:70,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0102d

FIGURE 1.2E

Legend

5km Buffer

Bat Species Records

Myotis Bat Species

0 1,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	JAN 17	Initial Issue	IM	SP	AM	MC

JACOBS
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Client: highways england

Project: A1 NORTHUMBERLAND

Drawing Title: SECTION B
BAT SPECIES RECORDS
MYOTIS BAT SPECIES

Drawing Status:

Scale @ A3	1:70,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0102e

FIGURE 1.2F

Legend

5km Buffer

Bat Species Records

Daubenton's Bat

N
W E
S

0 1,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	JAN 17	Initial Issue	IM	SP	AM	MC

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Client: highways england

Project: A1 NORTHUMBERLAND

Drawing Title: SECTION B
BAT SPECIES RECORDS
DAUBENTON'S BAT

Drawing Status:

Scale @ A3	1:70,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0102f

FIGURE 1.2G

Legend

5km Buffer

Bat Species Records

- Natterer's Bat
- Natterer's Bat (Confirmed Roost)

N W E S

0 1,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	JAN 17	Initial Issue	IM	SP	AM	MC

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Client: highways england

Project: A1 NORTHUMBERLAND

Drawing Title: SECTION B
BAT SPECIES RECORDS
NATTERER'S BAT

Drawing Status:

Scale @ A3	1:70,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0102g

FIGURE 1.2H

Legend

5km Buffer

Bat Species Records

- Whiskered/Brandt's Bat
- Whiskered/Brandt's Bat (Confirmed Roost)

N W E S

0 1,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	JAN 17	Initial Issue	IM	SP	AM	MC

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Client: highways england

Project: A1 NORTHUMBERLAND

Drawing Title: SECTION B
BAT SPECIES RECORDS
WHISKERED/BRANDT'S BAT

Drawing Status:

Scale @ A3	1:70,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0102h

FIGURE 1.2I

Legend

5km Buffer

Bat Species Records

- Brown Long-eared Bat
- Brown Long-eared Bat (Confirmed Roost)

N W E S

0 1,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Client: highways england

Project: A1 NORTHUMBERLAND

Drawing Title: SECTION B
BAT SPECIES RECORDS
BROWN LONG-EARED BAT

Drawing Status:

Scale @ A3	1:70,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0102i

FIGURE 1.2J

Legend

5km Buffer

Bat Species Records

Noctule Bat

N
W E
S

0 1,000 m

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
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Client: highways england

Project: A1 NORTHUMBERLAND

Drawing Title: SECTION B
BAT SPECIES RECORDS
NOCTULE BAT

Drawing Status:

Scale @ A3	1:70,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0102j

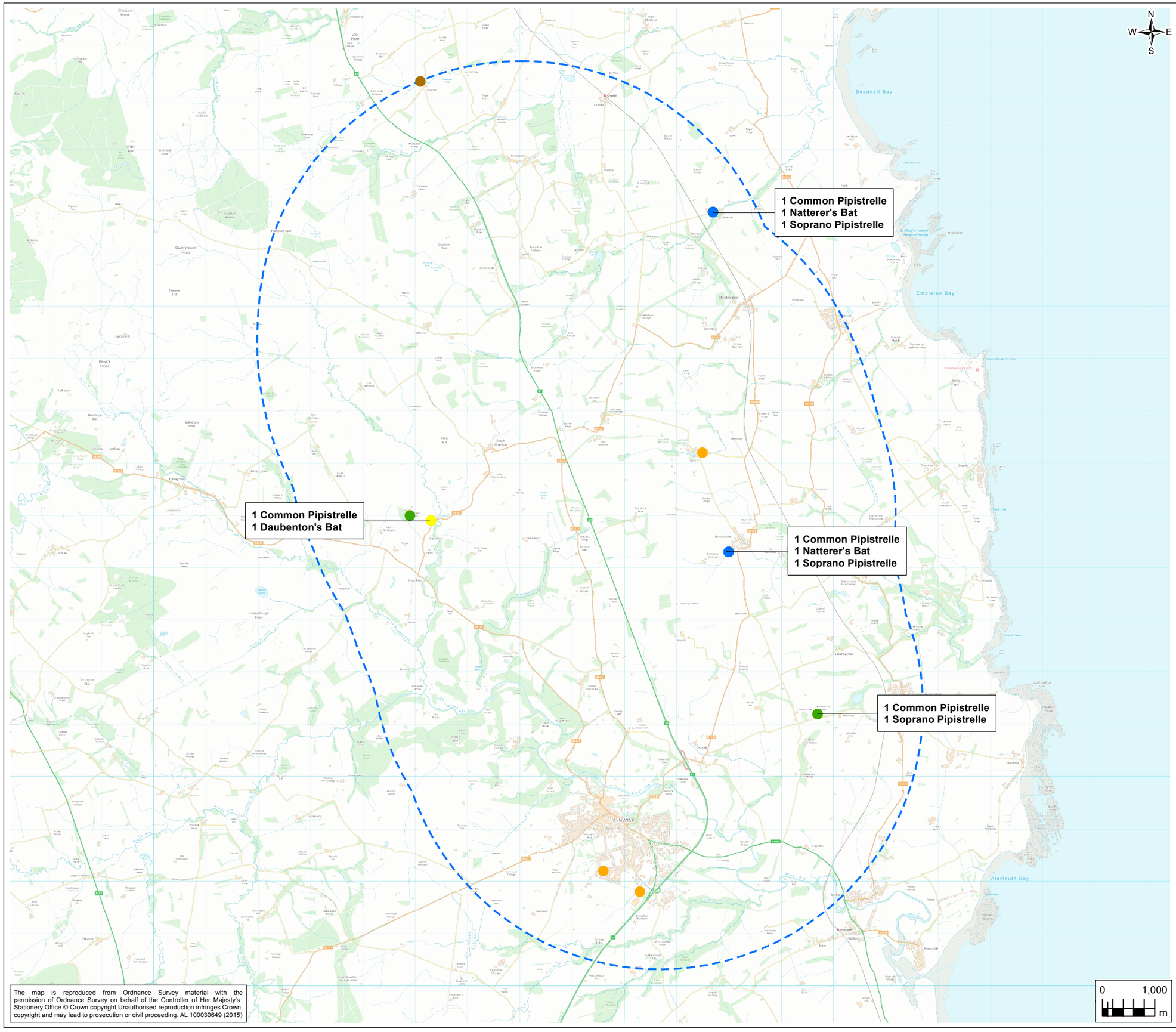

FIGURE 1.2J

Legend

5km Buffer

Bat License Records

- Common Pipistrelle
- Daubenton's Bat
- Natterer's Bat
- Soprano Pipistrelle
- Whiskered / Brandt's Bat

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BAT LICENSE RECORDS

Drawing Status

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Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_0102k

FIGURE 2.1

Legend

- 100m Buffer (all options combined)
- Sheet Extents (sheet number)

001
002
003
004
005
006
007
008
009
010
011

N
W E
S

0 2,000 m

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Drawing Title: SECTION A
BAT ROOST POTENTIAL
FIGURE OVERVIEW

Drawing Status:

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Drawing No. B2104700_EC_BRP_0201

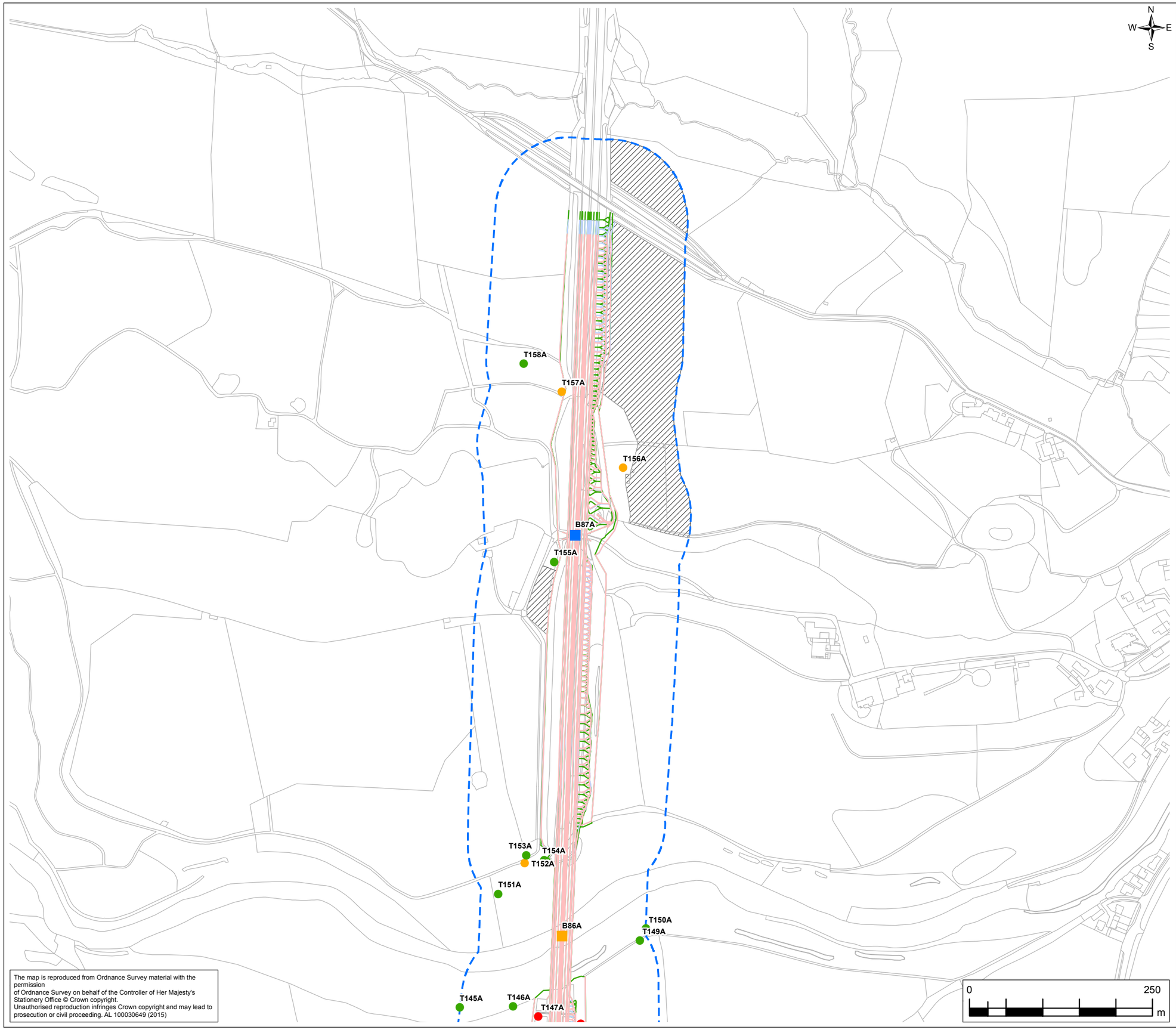

FIGURE 2.2

Legend

- Online Option
- Hybrid Option
- Offline Option
- 100m Buffer (all options combined)

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION A
BAT ROOST POTENTIAL
Sheet 1

Drawing Status:

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Drawing No.: B2104700_EC_BRP_SectionA_001

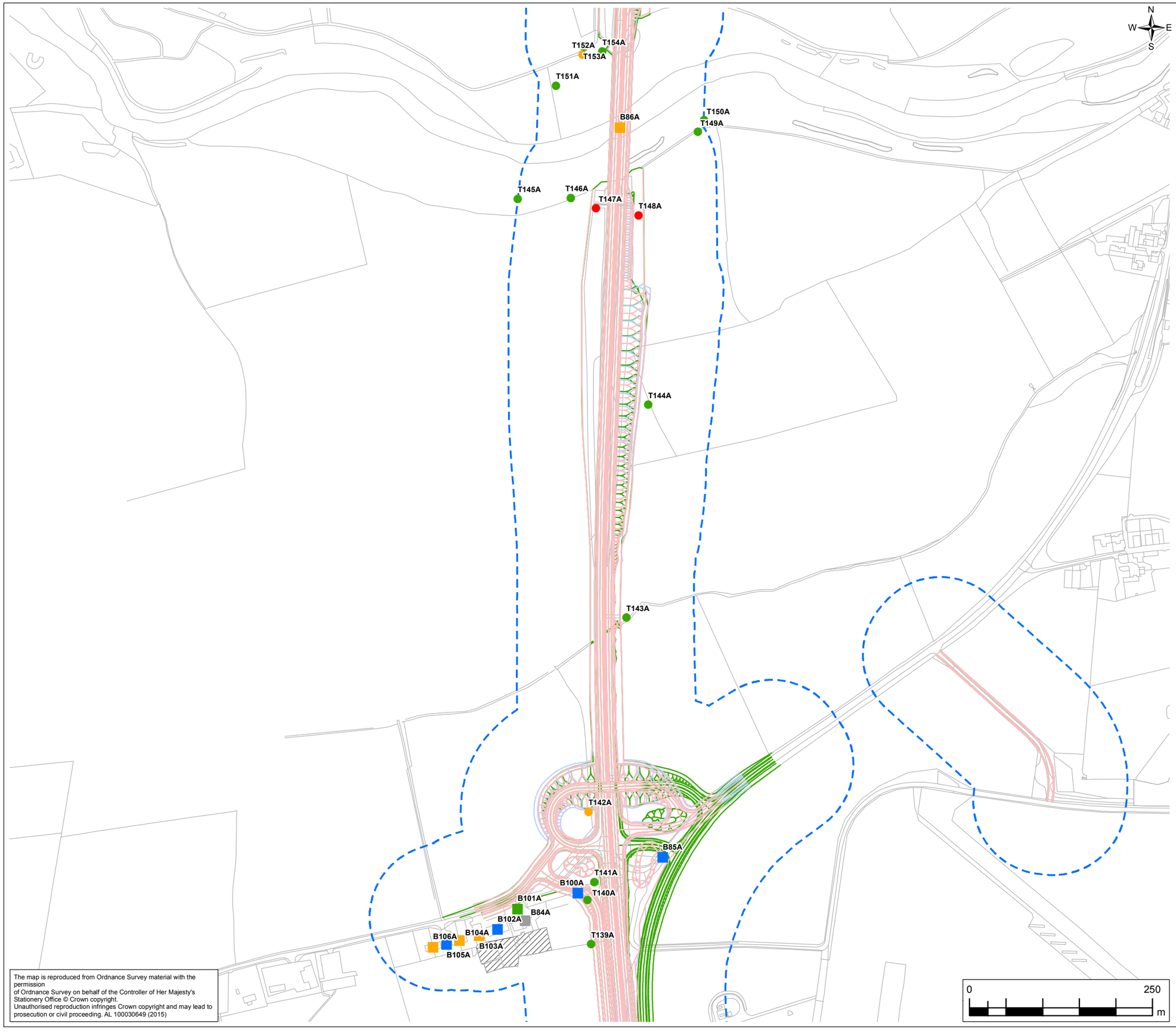

FIGURE 2.3

Legend

- Online Option
- Hybrid Option
- Offline Option
- 100m Buffer (all options combined)

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION A
BAT ROOST POTENTIAL
Sheet 2

Drawing Status:

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Client No.		

Drawing No. B2104700_EC_BRP_SectionA_002

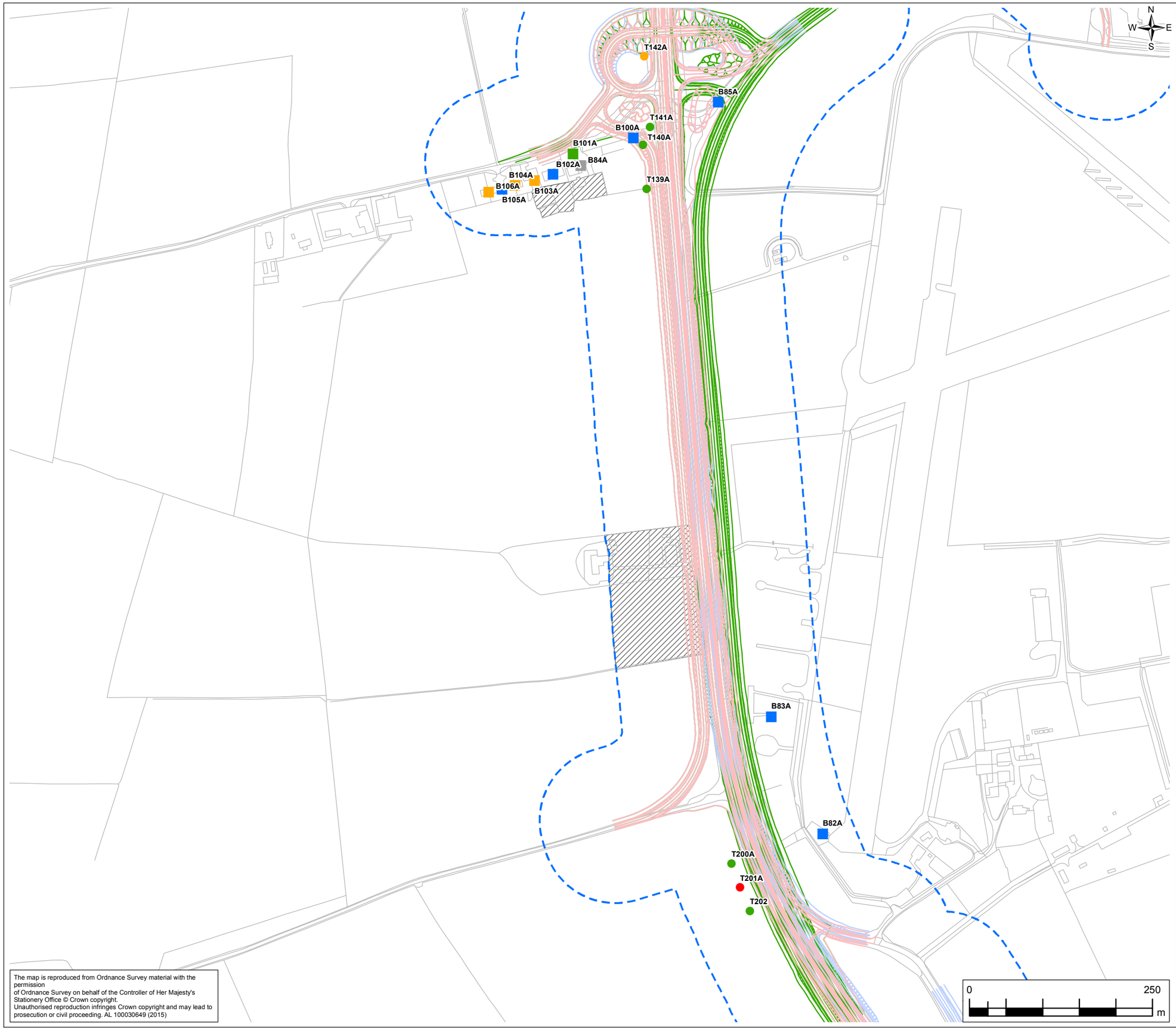

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FIGURE 2.4

Legend

- Online Option
- Hybrid Option
- Offline Option
- 100m Buffer (all options combined)

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION A
BAT ROOST POTENTIAL
Sheet 3

Drawing Status:

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Client No.		

Drawing No. B2104700_EC_BRP_SectionA_003

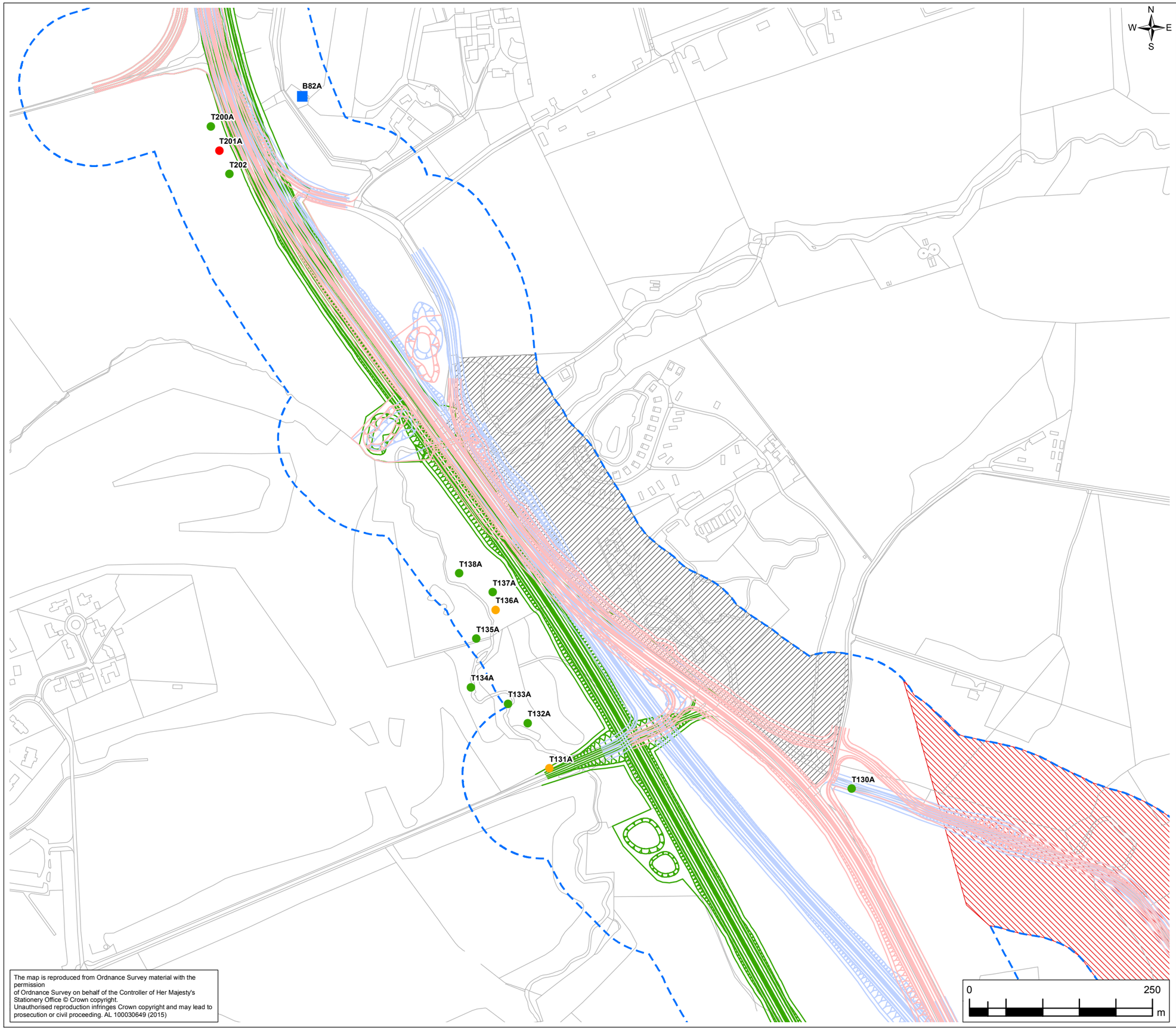

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FIGURE 2.5

Legend

- Online Option
- Hybrid Option
- Offline Option
- 100m Buffer (all options combined)

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION A
BAT ROOST POTENTIAL
Sheet 4

Drawing Status

Scale @ A3	1:5,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		
Drawing No.	B2104700_EC_BRP_SectionA_004	

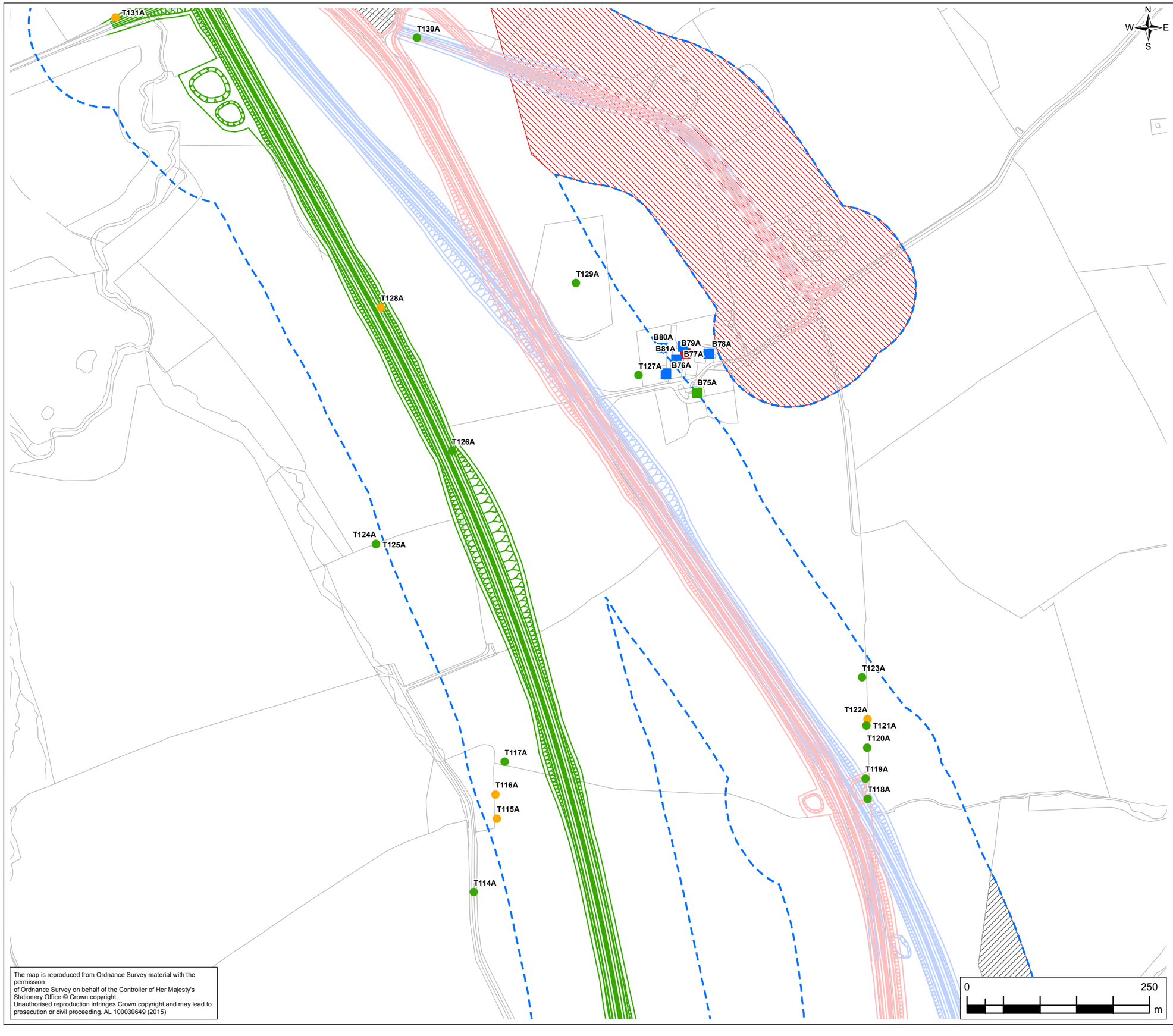

FIGURE 2.6

Legend

- Online Option
- Hybrid Option
- Offline Option
- 100m Buffer (all options combined)

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION A
BAT ROOST POTENTIAL
Sheet 5

Drawing Status

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Client No.		

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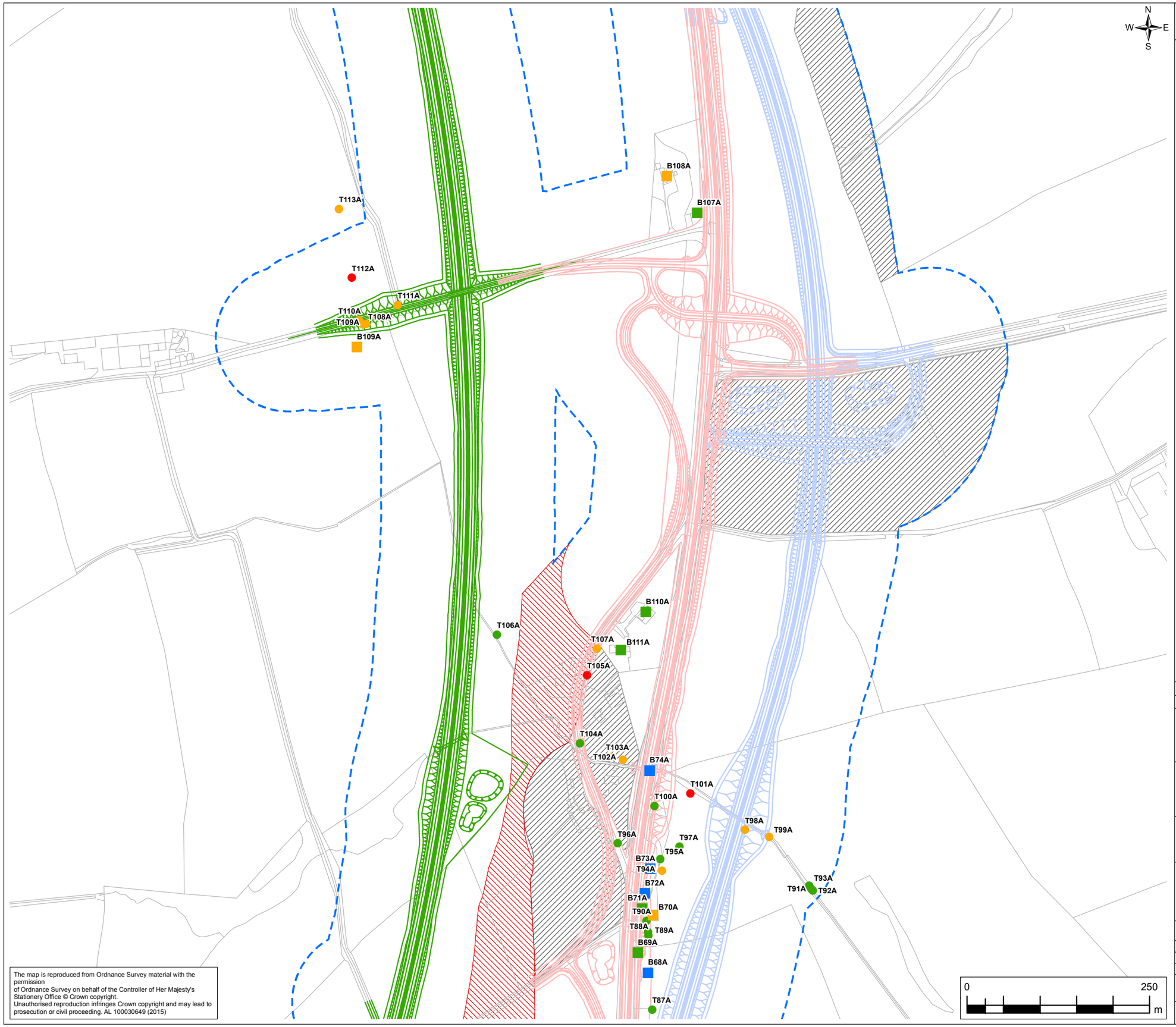

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FIGURE 2.7

Legend

- Online Option
- Hybrid Option
- Offline Option
- 100m Buffer (all options combined)

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION A
BAT ROOST POTENTIAL
Sheet 6

Drawing Status:

Scale @ A3	1:5,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No.: B2104700_EC_BRP_SectionA_006

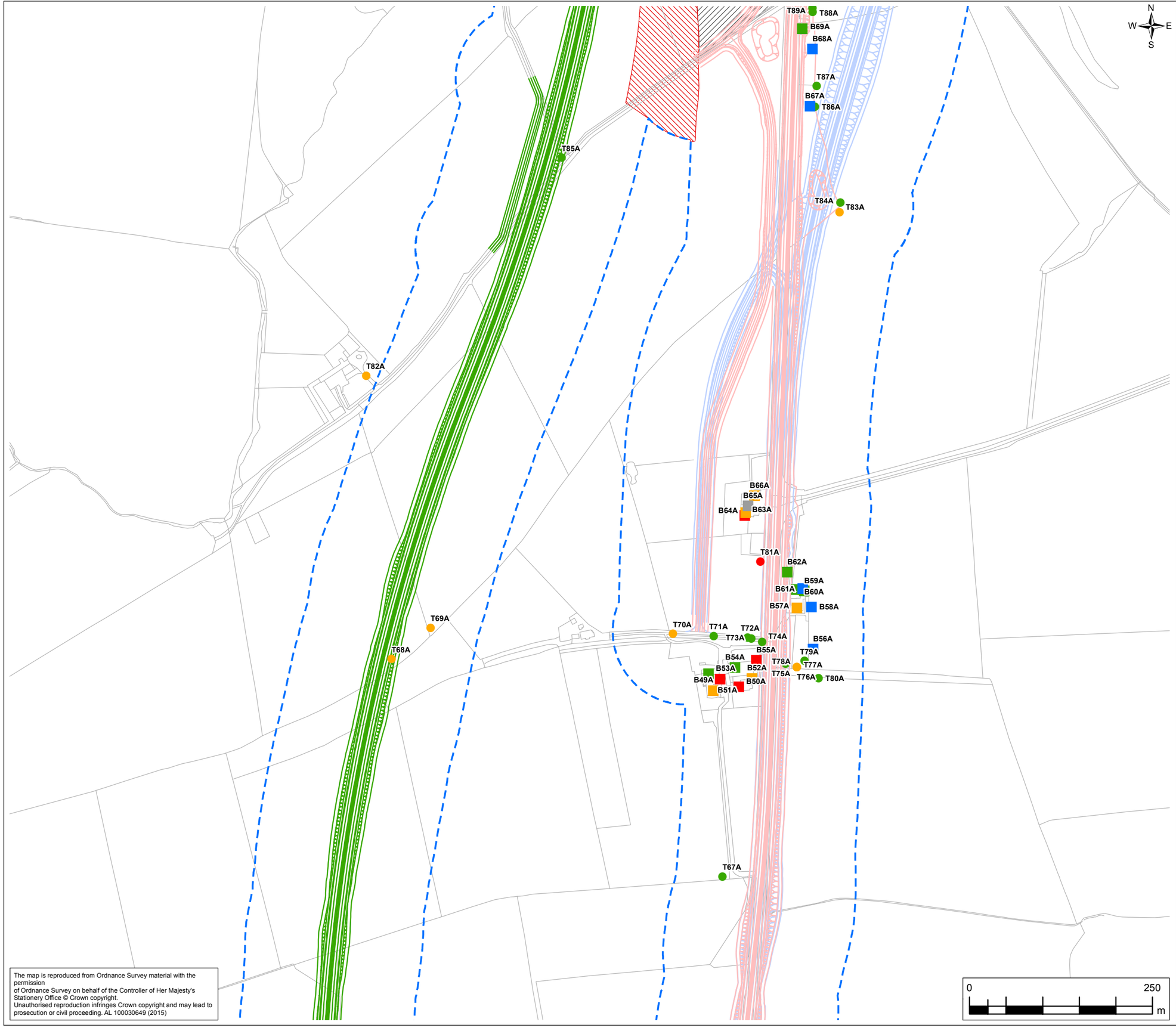

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FIGURE 2.8

Legend

- Online Option
- Hybrid Option
- Offline Option
- 100m Buffer (all options combined)

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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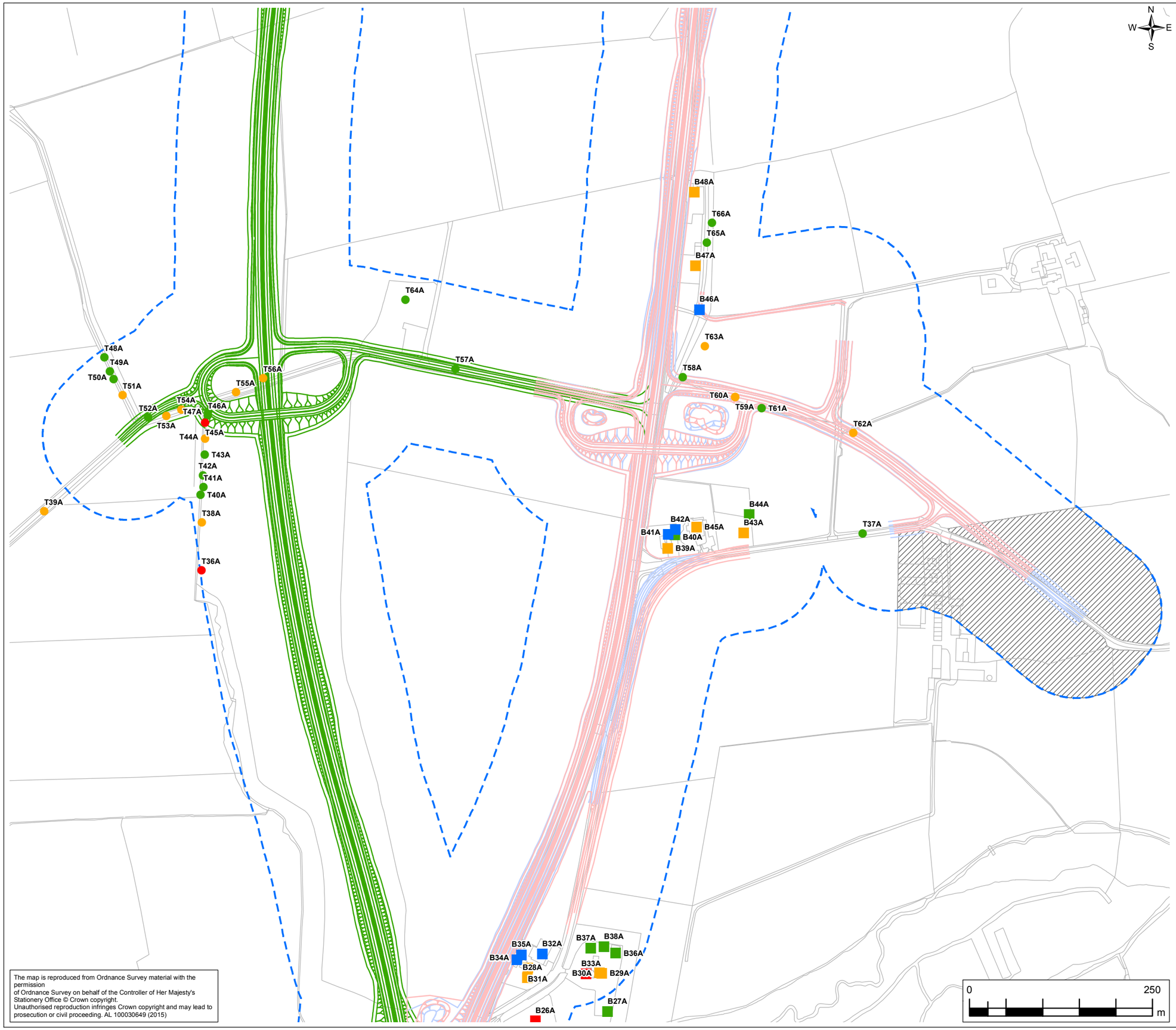
Drawing Title: SECTION A
BAT ROOST POTENTIAL
Sheet 7

Drawing Status:

Scale @ A3	1:5,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		
Drawing No.	B2104700_EC_BRP_SectionA_007	

FIGURE 2.9



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Legend

- Online Option
- Hybrid Option
- Offline Option
- 100m Buffer (all options combined)

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION A
BAT ROOST POTENTIAL
Sheet 8

Drawing Status:

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Client No.		

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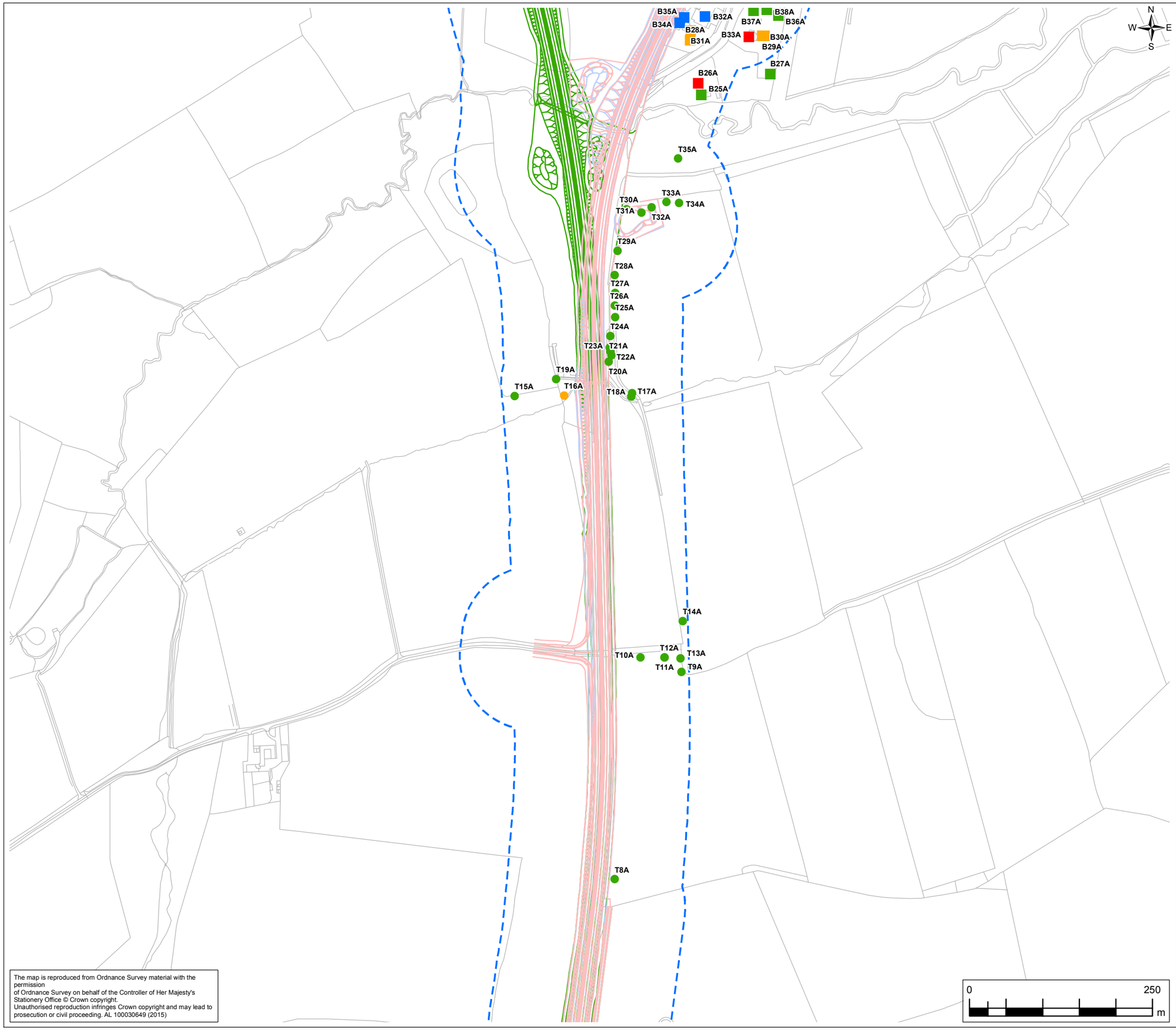

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FIGURE 2.10

Legend

- Online Option
- Hybrid Option
- Offline Option
- 100m Buffer (all options combined)

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION A
BAT ROOST POTENTIAL
Sheet 9

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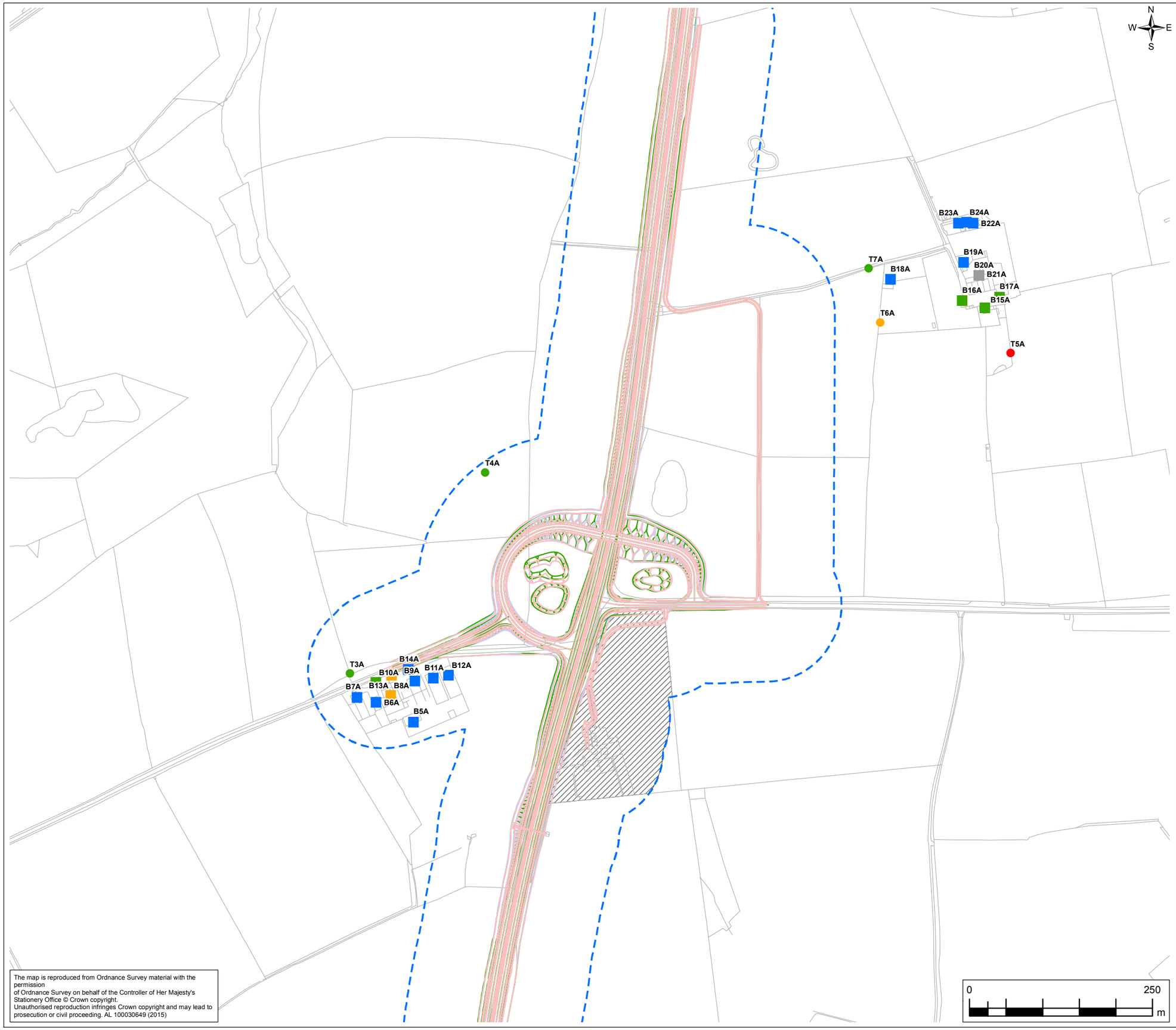

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FIGURE 2.11

Legend

- Online Option
- Hybrid Option
- Offline Option
- 100m Buffer (all options combined)

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION A
BAT ROOST POTENTIAL
Sheet 10

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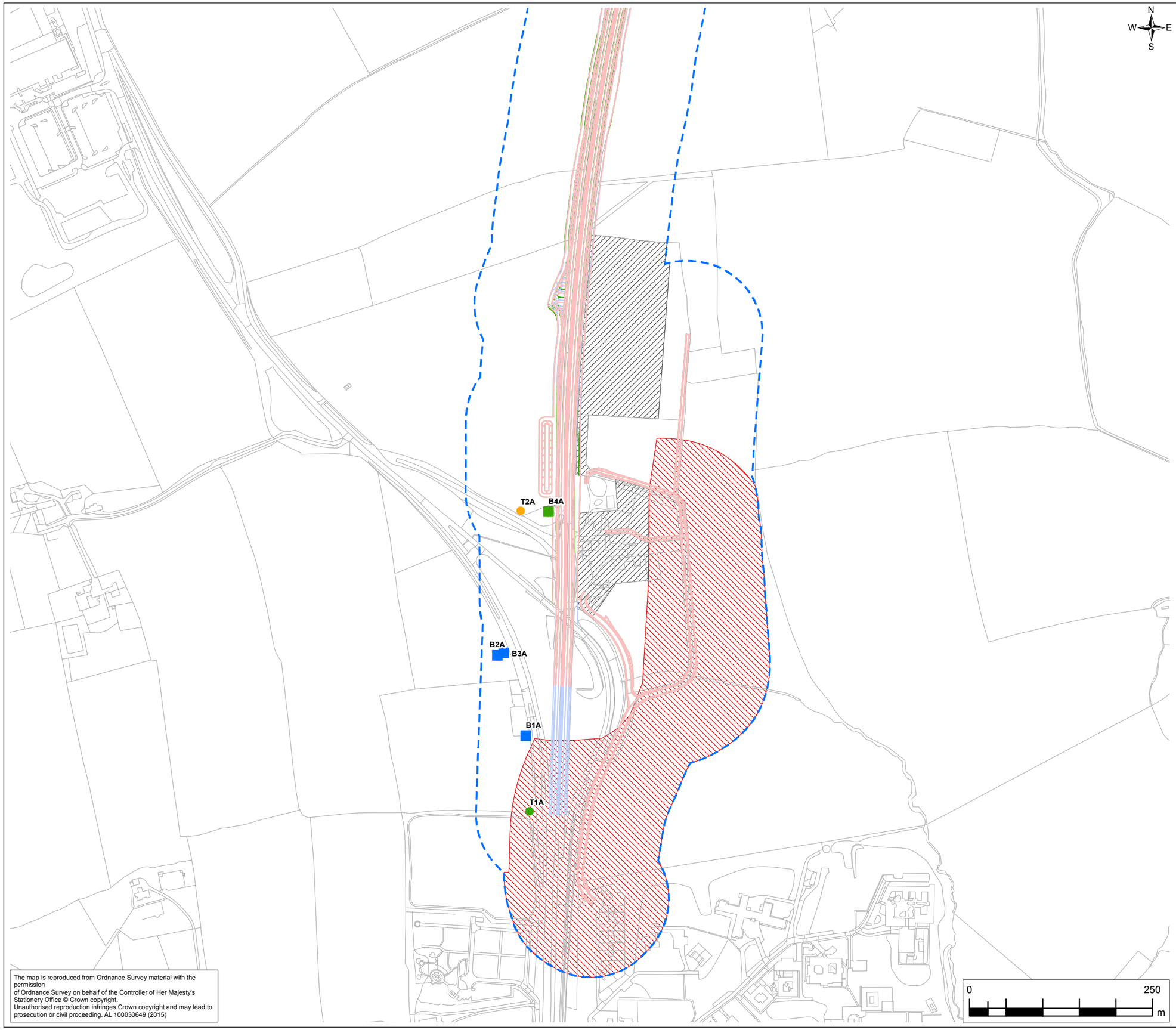

FIGURE 2.12

Legend

- Online Option
- Hybrid Option
- Offline Option
- 100m Buffer (all options combined)

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION A
BAT ROOST POTENTIAL
Sheet 11

Drawing Status:

Scale @ A3	1:5,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_SectionA_011

FIGURE 3.1

Legend

- 100m Buffer
- Sheet Extents (sheet number)

001
002
003
004
005
006
007

0 1,000 m

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Drawing Title: SECTION B
BAT ROOST POTENTIAL
FIGURE OVERVIEW

Drawing Status

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Client No.		

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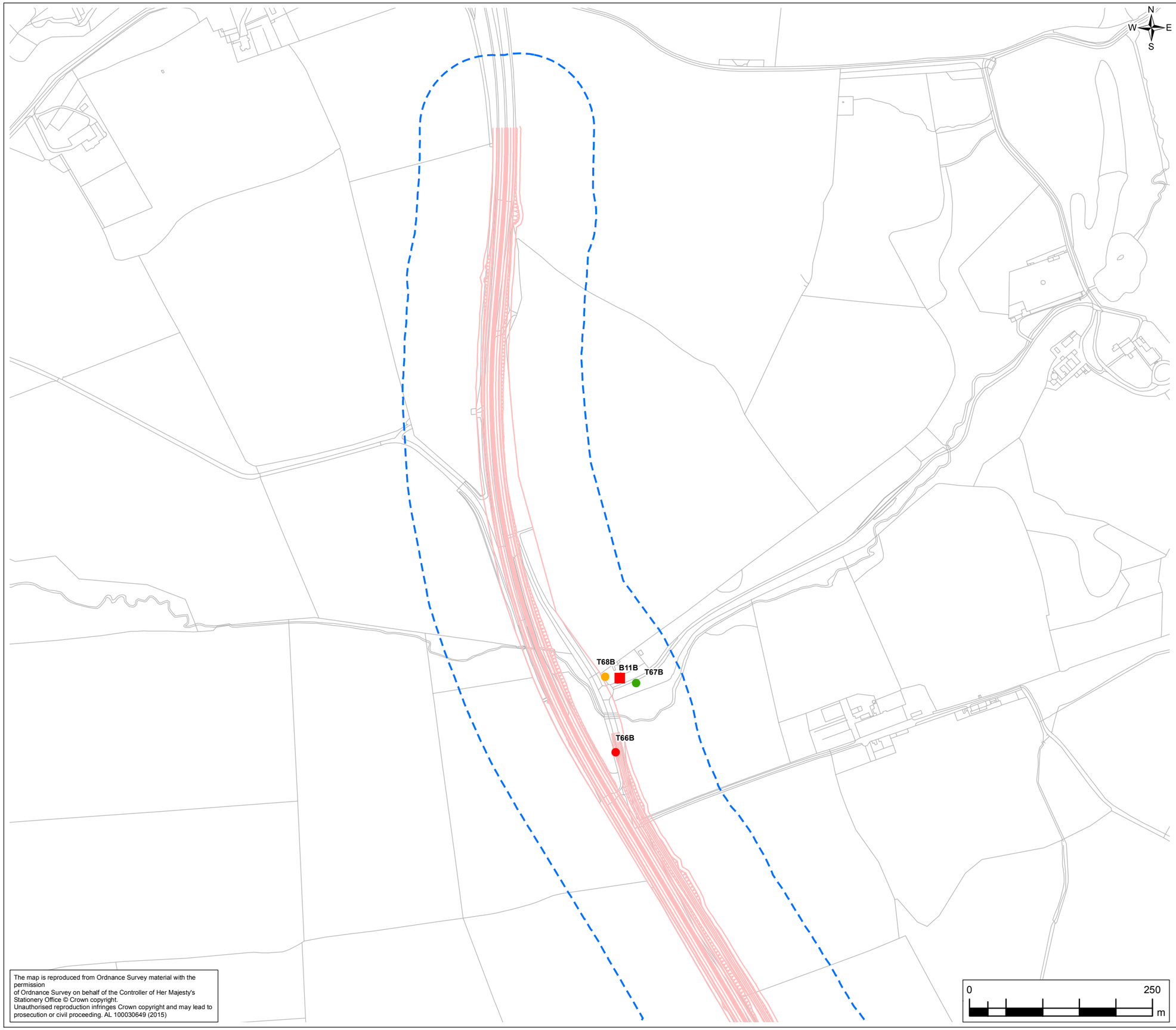

FIGURE 3.2

Legend

- Online Option
- 100m Buffer

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION B
BAT ROOST POTENTIAL
Sheet 1

Drawing Status:

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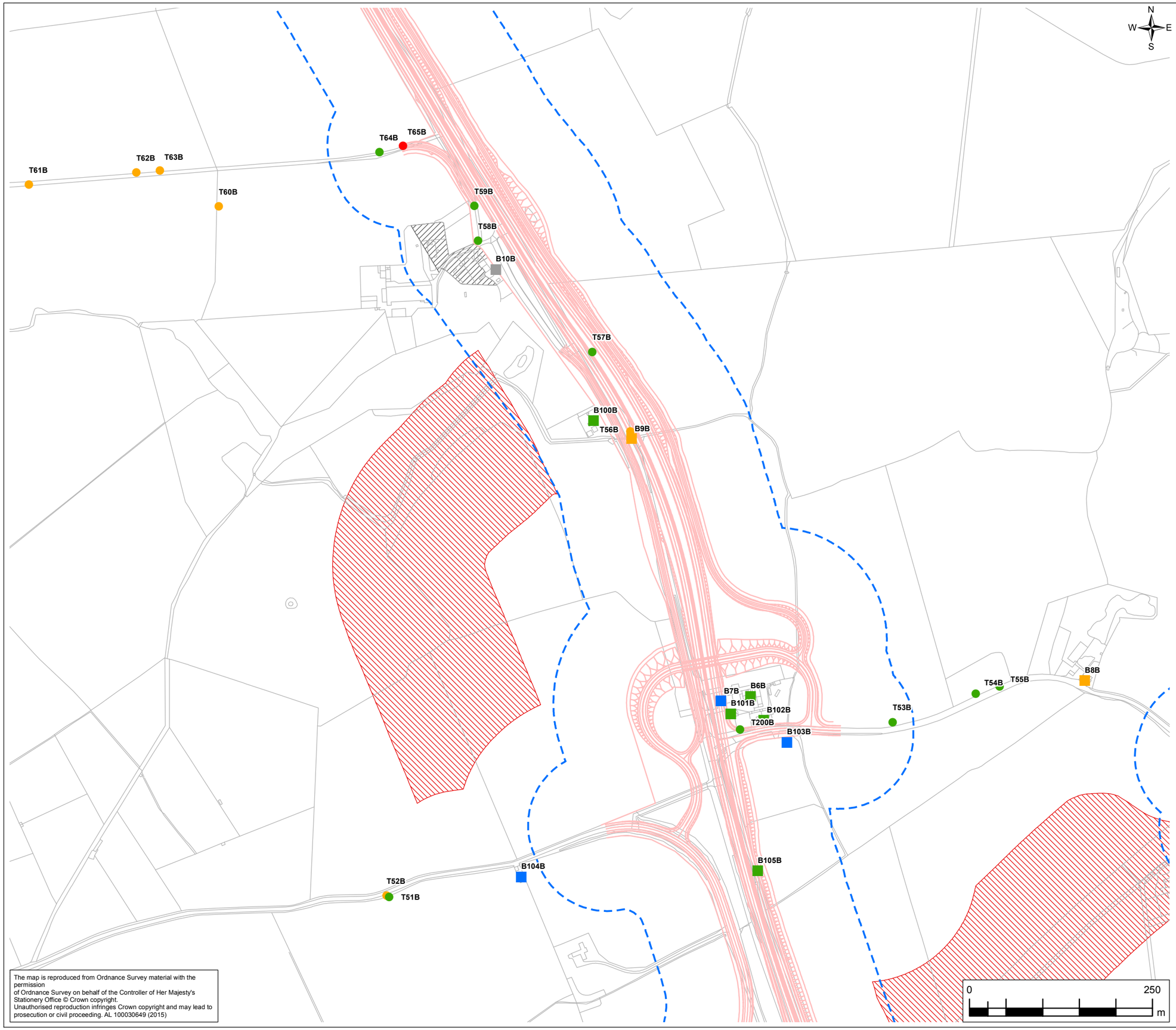

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FIGURE 3.3

Legend

- Online Option
- 100m Buffer

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION B
BAT ROOST POTENTIAL
Sheet 2

Drawing Status

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Client No.		

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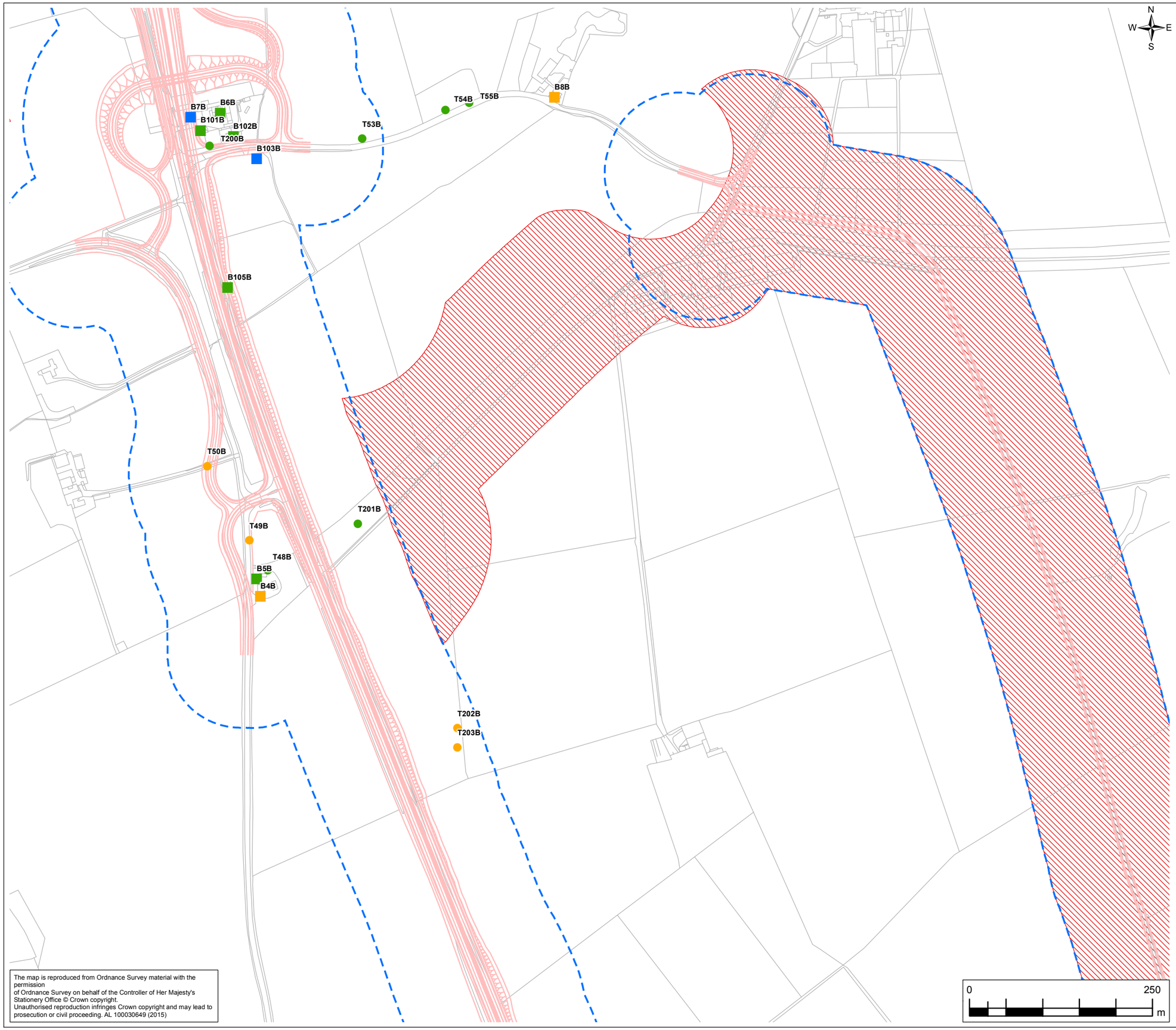

FIGURE 3.4

Legend

- Online Option
- 100m Buffer

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Drawing Title: SECTION B
BAT ROOST POTENTIAL
Sheet 3

Drawing Status:

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Client No.		

Drawing No.: B2104700_EC_BRP_SectionB_003

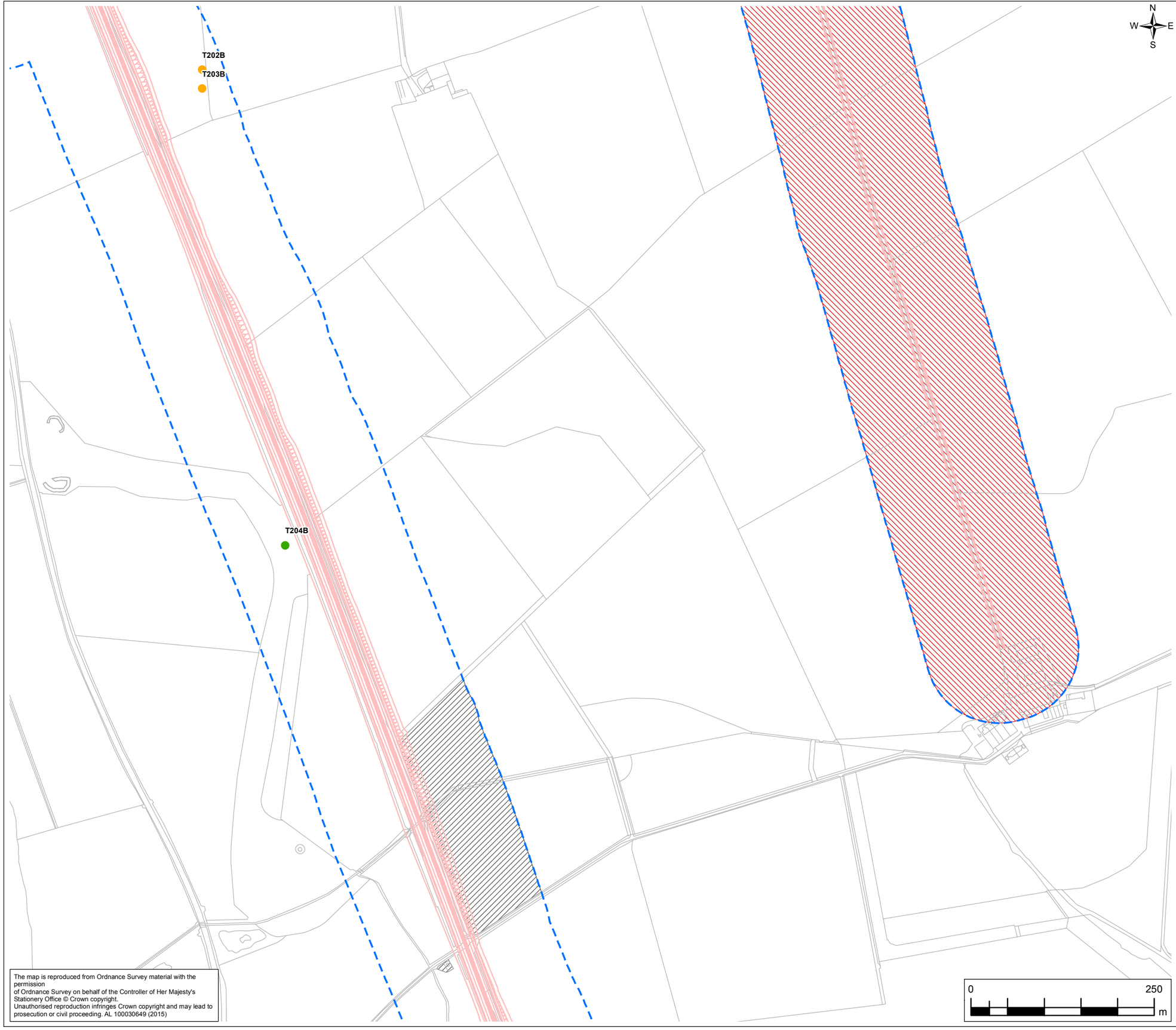

FIGURE 3.5

Legend

- Online Option
- 100m Buffer

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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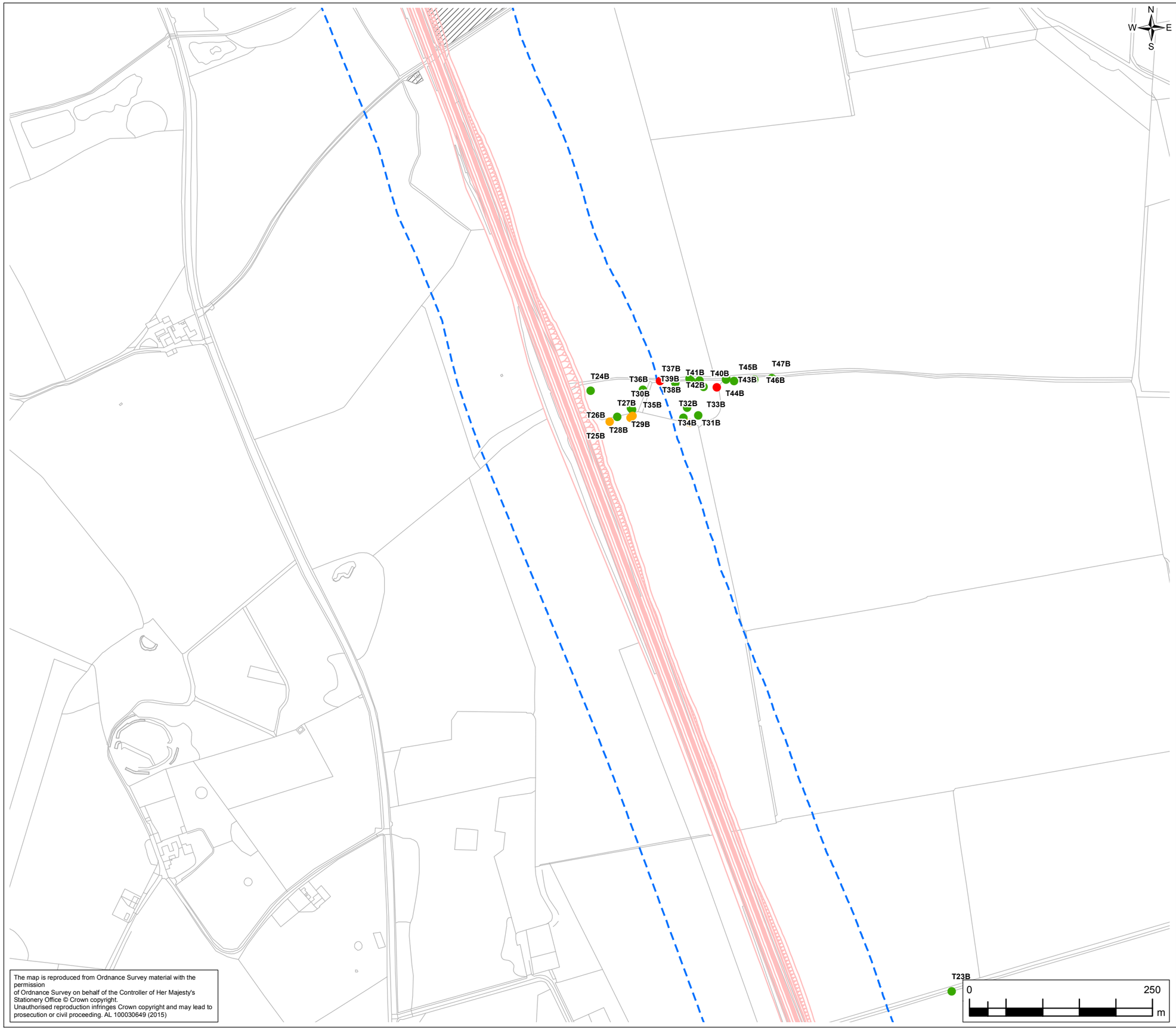
Drawing Title: SECTION B
BAT ROOST POTENTIAL
Sheet 4

Drawing Status

Scale @ A3	1:5,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No.: B2104700_EC_BRP_SectionB_004

FIGURE 3.6



Legend

- Online Option
- 100m Buffer

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

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Client: highways england

Project: A1 NORTHUMBERLAND

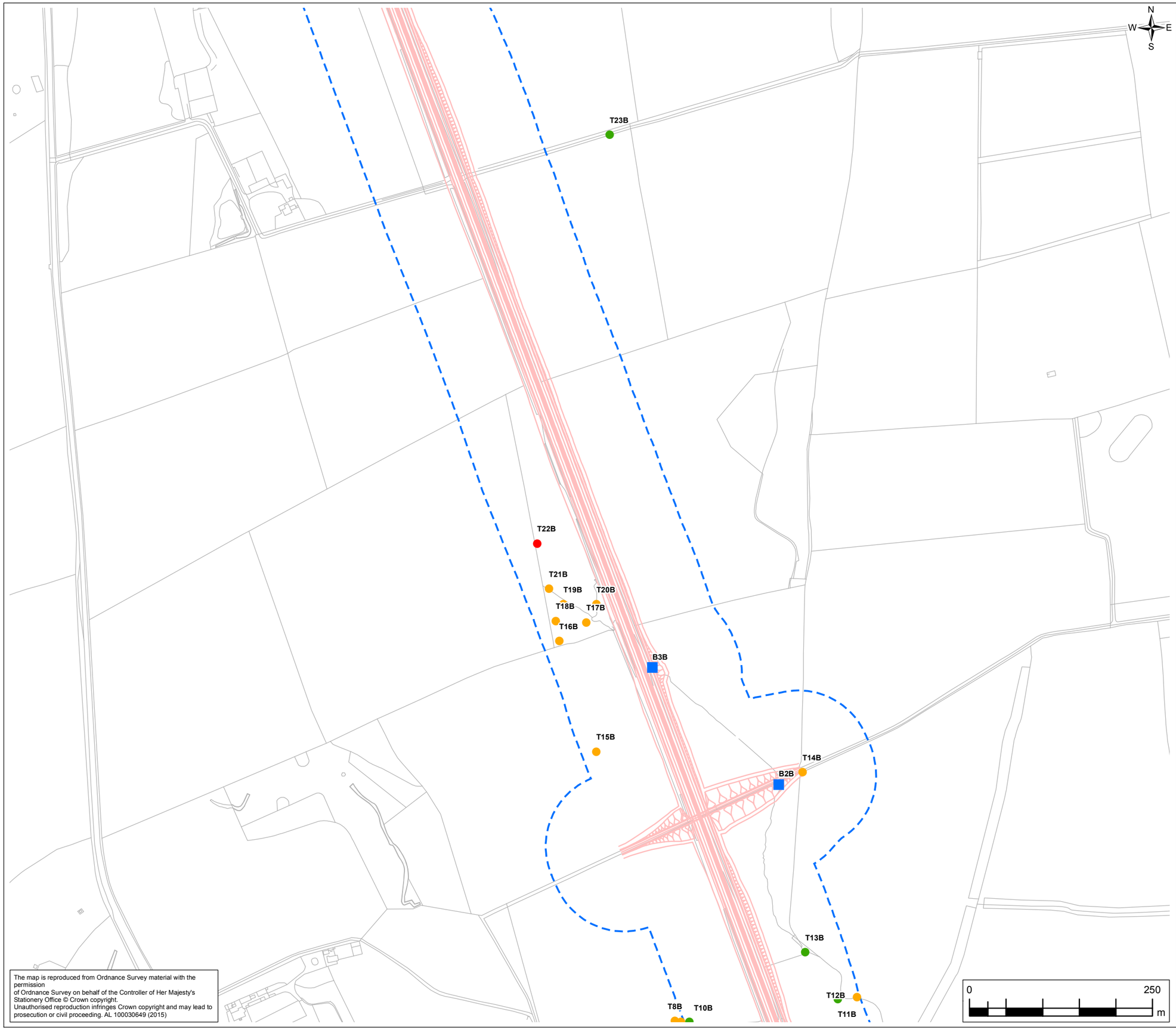
Drawing Title: SECTION B
BAT ROOST POTENTIAL
Sheet 5

Drawing Status:

Scale @ A3	1:5,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No. B2104700_EC_BRP_SectionB_005

FIGURE 3.7



Legend

- Online Option
- 100m Buffer

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	FEB 17	Initial Issue	IM	SP	AM	MC

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Project: A1 NORTHUMBERLAND

Drawing Title: SECTION B
BAT ROOST POTENTIAL
Sheet 6

Drawing Status:

Scale @ A3	1:5,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No.: B2104700_EC_BRP_SectionB_006

FIGURE 3.8

T13B
T11B
T12B
T8B
T10B
T9B
T7B
T6B
T5B
T4B
T3B
B1B
T2B
T1B

N
W
E
S

0
250
m

Legend

- Online Option
- 100m Buffer

Tree Scoping Assessment

- High
- Moderate
- Low

Building Assessment

- High
- Moderate
- Low
- Negligible
- Confirmed Roost
- No access at time of survey
- Not part of original buffer

Rev.	Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
0	FEB 17	Initial Issue	IM	SP	AM	MC

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Project: A1 NORTHUMBERLAND

Drawing Title: SECTION B
BAT ROOST POTENTIAL
Sheet 7

Drawing Status:

Scale @ A3	1:5,000	DO NOT SCALE
Jacobs No.	B2104700	
Client No.		

Drawing No.: B2104700_EC_BRP_SectionB_007

APPENDIX A: LEGISLATION AND POLICY BACKGROUND

A.1 Legislation

All bat species and their roosts and resting places are protected under Schedules 5 & 6 of the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CRoW) Act 2000, and the Conservation of Habitats and Species Regulations 2010 (as amended). The relevant sections of this legislation make it an offence to:

- intentionally kill, injure, capture, or take a bat;
- possess, or control a bat (live or dead animal, part or derivative);
- deliberately (intentionally) or recklessly damage, destroy or obstruct access to a breeding site or any structure or place used for shelter or protection by a bat;
- deliberately (intentionally) or recklessly disturb a bat whilst it is occupying such a structure or place; and
- sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

A.2 National Planning Policy

National Planning Policy Framework 2012 (NPPF) and Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places a duty on all public bodies, including local planning authorities, to consider habitats and species of Principal Importance listed in Section 41 of the NERC Act and Priority Species/Habitats within Biodiversity Action Plans when considering a planning application.

It is recognised by the NPPF that the planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes, recognising the benefits of ecosystem services, minimising impacts on biodiversity and providing net gain where possible by establishing coherent and resilient wildlife networks. Furthermore, it prevents both new and existing development from contributing to, or being put at unacceptable risk from, or being adversely affected by, soil, air, water or noise pollution or land instability.

When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following:

- If significant harm from a development cannot be avoided, mitigated or compensated, then planning should be refused;
- Development within or outside SSSIs should not normally be permitted;
- Development proposals where the primary objective is to conserve or enhance biodiversity should be permitted as should those that encourage opportunities to incorporate biodiversity; and

- Development that would result in deterioration of irreplaceable habitats (such as ancient woodland etc.) should be refused unless the benefits outweigh the loss.

The seven bat species present in Northumberland are listed on the Northumberland Local Biodiversity Action Plan (LBAP) 2008. The Northumberland LBAP which aims to maintain the current population and range of bats in Northumberland. The species listed comprise; Brandt's bat, brown long-eared bat, common pipistrelle, Daubenton's bat, Leisler's bat, Nathusius' pipistrelle, Natterer's bat, noctule, soprano pipistrelle and whiskered bat. The Highways England Biodiversity Action Plan (HE BAP) 2015 aims to improve biodiversity of target species as identified in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

APPENDIX B: BAT HABITAT QUALITY WHEEL

Feature Quality Definitions

Habitat Quality	[1]Bat roost feature quality	[2]Bat foraging feature quality	[3]Bat commuting feature quality
None	No trees or structures present, or structures and / or trees, obviously unsuitable to support a roost.	No features likely to be used by foraging bats.	No features likely to be used by commuting bats.
Low	Few buildings or trees with potential to support a roost. Buildings / trees that are young or in exposed locations.	Features such as ditches or urban parkland, likely to be used occasionally by low numbers of foraging bats.	Features such as low hedgerows in arable farmland, fences, and ditches. Include hedgerows and planting belts next to major roads or well lit, built up areas. Not features connecting high quality roosting or foraging habitat (within or beyond the survey area).
Moderate	Some older buildings or trees likely to be present and within suitable (although not necessarily optimal) habitat.	Features such as hedgerows in arable farmland, or small woods, ponds and ditches. Moderate quality features are likely to suffer from some light pollution although generally not directly lit.	Relatively dark features such as tall hedgerows, hedges with associated ditches or tree lines. This could include linear features adjacent to minor roads.
High	High density of older buildings / mature trees likely to have high potential to support roosting bats.	Extensive mosaic of dark features such as tree lined rivers, ponds, rivers, broadleaved woodland and mature parkland.	Features such as double hedgerows, linear belts of broadleaved woodland, larger rivers, and tree lined watercourses. Likely to be dark. Include linear habitat connecting areas of moderate or high quality foraging or roosting habitat (within or beyond the survey area).

Directions

Starting at the centre of the wheel, roosting habitat, foraging habitat, and commuting habitat are considered in turn.

If the text matches the habitat present within the survey area is as described (or worse) follow the green arrow out towards the edge of the wheel. If the habitat within the survey area is of higher quality, follow the red arrow around in a clockwise direction. Repeat until the outside edge of the wheel, has been reached.

Note the green arrows must be followed in a clockwise direction. If the habitat quality on site is worse than that described, use the red arrow to proceed to the next level out straight away.

All statements in the wheel have been based on *Hundt L. (2011) Bat Surveys – Good Practice Guidelines 2nd Edition, Surveying for onshore wind farms. Bat Conservation Trust.*

APPENDIX C: CITATION FOR RIVER COQUET VALLEY WOODLANDS SSSI

SITE NOTIFIED TO THE SECRETARY OF STATE ON THE 31ST JULY 1996

COUNTY: NORTHUMBERLAND **SITE NAME:** RIVER COQUET AND COQUET VALLEY WOODLANDS

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981 as amended.

Local Planning Authorities: Northumberland County Council
Northumberland National Park
Alnwick District Council
Castle Morpeth Borough Council

National Grid Reference: NT 786082 to NU 260051 **Area:** 1192.42 (ha.)

Ordnance Survey Sheets 1:50,000: 80 and 81 **1:25,000:** NT 80, 81, 90,91
NU 00, 10, 20
NY 99, NZ 09,19

Length of River: 125 km approx

First Notified: 1996

Description:
The River Coquet runs about 90km (57 miles) across Northumberland, from its tributaries south of Cheviot summit to reach the sea below Warkworth. As a relatively unmodified fast-flowing upland river supporting characteristic fauna and flora the Coquet is of key significance in the national resource fir nature conservation. The river vegetation shows a natural succession from mineral poor upland streams, through to vegetation which reflects the characteristics of gravel, sandstone, limestone and alluvial sediments of the middle and lower reaches. The river is one of the most important game fisheries in the north of England, with large runs of sea trout and salmon. The fish are dependent on the rich insect life, of which the many species of mayfly are particularly significant. Coquetdale is a key area for otters and supports a high diversity of breeding birds which depend on riverine habitats. Many of the woodlands rear the river are semi-natural and ancient woodland sites, representative of valley woodlands in Northumberland.

High in the Cheviot Hills the upper reaches of the river are torrential moorland streams on resistant bedrock. The descent becomes more gradual and substrates less stable in the middle reaches as the underlying geology changes in turn to cement stone, sandstone and limestone. Where the flood plain broad river meanders across the riverine deposits, forming oxbows, pools and marshy areas as the river channel moves with time. The lower river cuts through thick drift deposits, in places reaching underlying limestones and millstone grit, and forming a steep-sided, often wooded, valley with boulders along the river bed. Run-off within the catchment is very rapid, causing short but often violent floods. The water is clean, low in mineral content and moderately calcareous.

The plant life of the upper reaches, beyond Alwinton, 125m above sea level, is dominated by species typical of base and nutrient poor upland rivers. Several mosses including *Bryum pseudotriquetrum*, *Fontinalis antipyretica*, *Racomitrium aciculare* and *Philonotis fontana* are abundant on boulders and bed rocks. The lack of tree cover in the grazed moorland catchment influences the vegetation of the river with filamentous green algae a characteristic feature. Two species of water-crowfoot; *Ranunculus penicillatus* v. *pseudofluitans* and *R. peltatus* are the most commonly found water plants of slacks and riffles. A diatom, *Didymosphenia*, found in the upper reaches, is a species which

produces a seasonal bloom in streams on volcanic rocks; and the Cheviots are the only location in England where this phenomenon is recorded. Waterside plants including soft-rush *Juncus effusus*, common spike-rush *Eleocharis palustris*, procumbent pearlwort *Sagina procumbens*, blinks *Monta fontana* and a variety of sedges *Carex* spp. occur along the banks. Between Alwinton and Rothbury the river flows through a transitional zone taking a meandering course over a relatively level floodplain. Water-crowfoots *Ranunculus* spp. are the dominant plants, floating over the gravel and pebbles of the river bed. Below Rothbury in the lower reaches where the river cuts through sand, gravel and alluvium the richer and finer sediments support a greater diversity of plants. On rocks, the mosses *Fontinalis antipyretica* and *Rhyncostegium hustitanicum* are found. River water-crowfoot *Ranunculus fluitans*, characteristic of large clean rivers, is common on riffles while the presence of curled, perfoliate and horned pondweeds *Potamogeton crispus*, *P. perfoliatus* and *Zannichellia palustris*, branched and unbranched bur-weeds *Sparganium erectum* and *S. emersum* and the alga *Enteromorpha* reflect the base-rich nature of the river.

Many of the species of insects dependent on the river are typical of fast flowing waters. Most noticeable are the large numbers of caddis flies, *Trichoptera* and black flies, *Simulildae*, with larvae living on the river bed, and the mayflies and stoneflies which emerge from their larval stars in the water for short lives on the wing. Of 23 species of mayfly identified from the river, two; *Ephemerella notata* and *Ameletus inopinatus* have a restricted distribution. The riverside shingle and sand habitats support an important assemblage of ground beetles with several nationally scarce species including *Bembidion schuppeli*.

The birdlife associated with the Coquet includes large numbers of common sandpipers, grey and yellow wagtails which nest and feed in high densities along or near the river above Alwinton. Oystercatchers, ringed plover, lapwing, snipe and redshank all breed on the haugh land, or floodplain. Dippers are common along the entire length and, unusually for a northern river, kingfishers hold several nesting territories in the lower reaches.

The lower and middle reaches of the river provide undisturbed habitat for otters, which are known to range throughout the catchment. The rich insect life also creates feeding grounds for bat colonies which roost and rear their young within the valley. Of particular note is the area around Brinkburn Priory where colonies of Daubenton's, natterer's, noctule, whiskered, Brandt's and pipistrelle bats have nursery roosts. The river is frequented by water voles along much of its length.

The fish fauna of the Coquet is diverse with salmon and trout being particularly significant Salmon *Salmo salar* are known to spawn in the main river, with redds at Rothbury and upstream to Blindburn and along the River Alwin and the Wreighburn. Over 20,000 sea trout *Salmo trutta trutta* travel up the main river to spawn in many of the tributaries (1994); the River Alwin, the Rowhope and Trows Burns and several of the Wreigh Burn tributaries provide extensive spawning grounds. Also important is the occurrence of lampreys; brook lampreys *Lampetra planeri* have been recorded in the fresh waters as high as Alwinton, with sea lampreys *Petromyzon marinus* coming into the lower river, below Morwick, to breed. Other fish found regularly in the river system include stone loach *Noemacheilus barbatulus*, eels *Anguilla anguilla*, minnows *Phoxinus phoxinus* and sticklebacks *Gasterosteus aculeatus*.

The Coquet valley has several woodlands which are as being long established, relatively unmodified by planting and retaining semi-natural plant communities. There are few such woodlands now remaining in Northumberland and most are confined to steep river valleys, as along the Coquet below Rothbury. Most of the woodlands included in this site are of those along river valleys in the east of the County. Red squirrels are found in many of the woodlands.

Much of the woodland immediately adjacent to the river is characterised by alder *Alnus glutinosa*, occasionally associated with ash *Fraxinus excelsior* or willows *Salix* spp. The ground flora here is diverse and characterised by meadowsweet *Filipendula ulmaria* and tufted hair-grass *Deschampsia cespitosa*, with pendulous sedge *Carex pendula*, yellow pimpernel *Lysimachia nemorum*, woodruff *Galium odoratum* and locally marsh Hawk's-beard *Crepis paludosa* and opposite-leaved golden-saxifrage *Chrysosplenium oppositifolium*. In the lower reaches where silt and debris is deposited the alder woodland has a species-poor ground flora characterised by stinging nettle *Urtica dioica* and cleavers *Galium aparine* and is locally bordered by osier *Salix viminalis*, both uncommon woodland habitats in Northumberland. Further back from the river ash and pedunculate oak *Quercus robur* are typical canopy species with wych elm *Ulmus glabra* found in some areas. Climbers including ivy *Hedera helix*, brambles *Rubus fruticosus* and honeysuckle *Lonicera periclimenum* are found in the oak woodlands with species-rich ground floras often dominated by great wood-rush *Luzula sylvatica* and other species present include bluebell *Hyacinthoides non-scripta*, wood-sorrel *Oxalis acetosella*, hedge woundwort *Stachys sylvatica* and wood avens *Geum urbanum*. Hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, rowan *Sorbus aucuparia*, holly *Ilex aquifolia* and downy birch *Betula pubescens* are the main shrub species found in the ash woods with dog's mercury *Mercurialis perennis* often dominating the ground flora and associated with wood avens *Geum urbanum*, enchanter's nightshade *Circea lutetiana*, several fans including male-fern *Dryopteris filix-mas*, broad buckler-fern *Dryopteris dilatata* and lady-fern *Athyrium filix-femina*, an abundance of mosses and occasionally sanicle *Sanicula europea*.

Other Information:

Parts of this site are notified as separate SSSIs under the Wildlife and Countryside Act 1981, as amended; overlapping SSSI are: Linbriggs, Harbottle Moors and Barrow Meadows. The River Coquet SSSI also abuts Warkworth Dunes and Saltmarsh SSSI.

Otters, red squirrel and all species of bats in Britain are protected under Schedule 5 of the Wildlife and Countryside Act 1981, otters and bats are also listed on schedule 2 of The Conservation (Natural Habitats, etc) Regulations 1994.

Floating vegetation of *Ranunculus* of plain and submountainous rivers is a habitat listed in Annex I of the EC Habitats and Species Directive (92/43/EEC). Of species associated with the River Coquet, Annexes IIa, VIa and Va of the EC Habitats and Species Directive (92/43/EEC) list the following as specially protected: otters (IIa, IVa), all species of bats (IVa), salmon (IIa, Va) and all species of lamprey (IIa,).

APPENDIX D: BAT ROOST POTENTIAL ASSESSMENT OF TREES AND WOODLANDS

Table B.1 Results of Bat Roost Potential Assessment of Trees And Woodlands for Sections A nd B.

<table>
<tr><td colspan="4">A1 Ecological Inspection of Trees and Woodlands</td></tr>
<tr><td colspan="4">SITE DETAILS</td></tr>
<tr><td>Project Name:</td><td>A1 in Northumberland</td><td>Project Number:</td><td>B2104700</td></tr>
<tr><td>Site Name (if different):</td><td>Section A</td><td>Date of Inspection:</td><td>21st -23rd March 2016; 17th – 19th August 2016; 5th – 6th December 2016</td></tr>
<tr><td rowspan="4">Tree 1A

Low bat roost potential</td><td colspan="3">  </td></tr>
<tr><td>Description</td><td colspan="2">Grid reference: NZ 18174 88257

Mature ash, approximately 15 m high and 1 m diameter at breast height.</td></tr>
<tr><td>Limitations</td><td colspan="2">Restricted access due to the presence of horses in the field. The tree could not be fully assessed from one side.</td></tr>
<tr><td>Bat evidence</td><td colspan="2">None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 2A

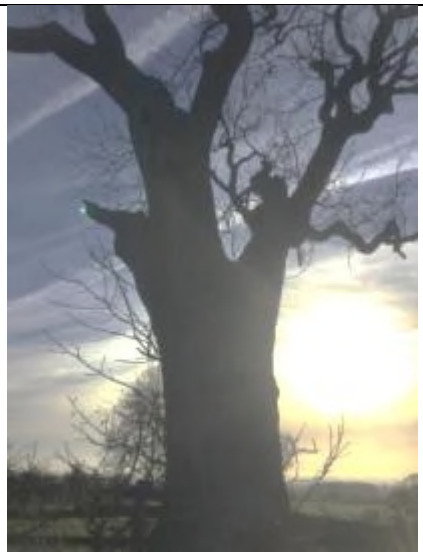
Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18162 88668

Mature ash, approximately 11 m high and 0.93 m diameter at breast height, with thick ivy coverage which was itself a potential bat roost feature and could have hidden other potential features.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 3A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18071 89681 Mature ash, approximately 14 m tall with a diameter at breast height of 1 m. Many dead and cut branches were present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 4A **Low bat roost potential**		
	Description	Grid reference: NZ 18256 89956 Four mature beech trees, three were approximately 20 m high and 0.5 m diameter at breast height and one was approximately 5 m high and 0.5 m diameter at breast height. The smaller tree featured a large hole within a dead branch.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 5A **High bat roost potential**		
	Description	Grid reference: NZ 18974 90119 Mature ash, approximately 16 m high and 1.06 m diameter at breast height, with three woodpecker holes, and dead and split branches. Knot holes were also present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 6A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18796 90161, in a line of trees with two negligible trees either side.

		Mature ash, approximately 16 m high and 0.93 m diameter at breast height, with many rot holes, cavities in the bark and split branches.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 7A **Low bat roost potential**		
	Description	Grid reference: NZ 18780 90235 Mature ash, approximately 12 m high and 1 m diameter at breast height, with knot holes and cracks.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 8A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18555 90605

Dead oak, approximately 7 m high and 0.56 m diameter at breast height. Tree had dead branches arising from branch removal with an impact shattered limb. Rot holes were present in the trunk and on branches.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>The features were investigated using an endoscope and no bat evidence was found.</td></tr>
<tr><td>Tree 9A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18646 90888 Three mature oak trees approximately 10 m high and 1.4 m diameter at breast height. Split limbs, cracks in limbs and occasional lifted bark were observed. Tree was well connected to woodland and treeline to the east.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 10A **Low bat roost potential**		
	Description	Grid reference: NZ 18590 90908 Three oak trees were present within a 10 m area. One mature and two semi-mature, approximately 9 m high and 1 m diameter at breast height on average. A large split and smaller splits with further potential unseen entrances. There was good connecting habitat.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 11A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18623 90908

Two mature oaks adjacent to Tree 12A, approximately 10 m high and 1.2 m diameter at breast height. Some splits and lifted bark were observed. Survey required as these are unmanaged trees with large limbs near good connecting woodland habitat.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 12A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18623 90908

A mature ash adjacent to Tree 11A, approximately 9 m high and 1 m diameter at breast height. Five small callous rolls, three small splits, and one large split were observed. Woodland edge had good connecting habitat and was south-facing.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

Tree 13A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18646 90913 Mature ash, approximately 10 m high and 1 m diameter at breast height, with a woodpecker hole, split branch, dead branches and knot holes.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 14A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18648 90957

Two semi-mature oak trees approximately 10 m high with a diameter at breast height of 0.8 m. Small holes and splits were observed. The trees were 10 m apart.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 15A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18418 91265 A semi-mature oak tree approximately 10 m high with a diameter at breast height of 0.6 m. One small split was visible.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 16A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18486 91266 A mature ash tree approximately 15 m high with a diameter at breast height of 1.5 m. Medium sized holes, splits and occasional lifted bark were observed. The tree was located on the woodland edge.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 17A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18577 91264

A mature oak with a diameter breast height of 0.9 m. A dead and hollow branch was observed, also some lifted bark and occasional splits and small holes. The tree was well connected on woodland edge.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 18A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18579 91269 A mature oak, approximately 10 m high with a diameter at breast height of 1 m. Dead branches, rot holes and split bark were present. The tree was located on a woodland edge.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 19A **Low bat roost potential**		
	Description	Grid reference: NZ 18475 91288 A mature ash tree approximately 12 m high with a diameter at breast height of 1.2 m. Tree had fissures and lifted bark.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 20A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18547 91312

Two semi-mature oak trees; 9 m high and 6 m high with a diameter at breast height of 0.7 m and 0.6 m respectively. Ivy covered the tree. Small holes and splits, and some lifted bark were also observed.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 21A

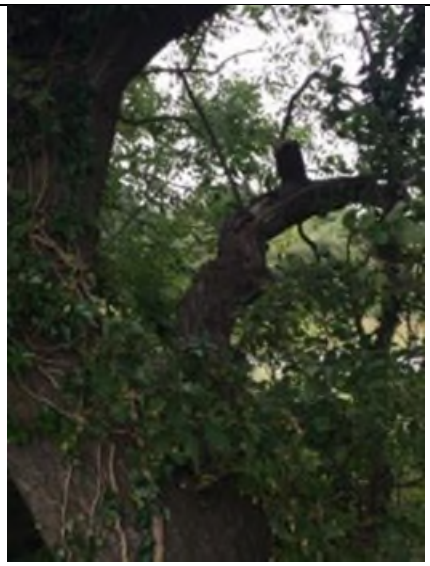
Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18550 91320 A semi-mature oak tree approximately 7 m high with a diameter at breast height of 0.6 m. Small holes, splits, and some lifted bark was observed. A dead limb was also present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 22A **Low bat roost potential**		
	Description	Grid reference: NZ 18549 91326 A semi-mature oak tree approximately 7 m high with a diameter at breast height of 0.7 m. The tree had ivy covering small splits and holes and small dead limbs.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 23A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18548 91331

A semi-mature oak tree approximately 6 m high with a diameter at breast height of 0.6 m. Medium sized splits with occasional holes were observed.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td rowspan="2">Tree 24A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18549 91347</td></tr>
</table>

		Five oak trees, all semi-mature with heights between 6 m and 8 m. The trees all had a diameter at breast height of 0.7 m. Medium dead limbs, holes and splits were present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 25A **Low bat roost potential**		
	Description	Grid reference: NZ 18555 91373 Three semi-mature oak trees approximately 7 m high with a diameter at breast height of 0.8 m. Occasional holes and lifted bark were observed.
	Limitations	None recorded.
	Bat evidence	None recorded.

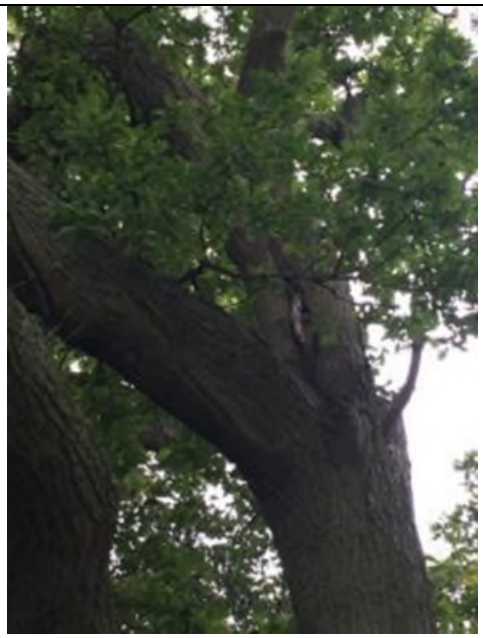
<table>
<tr><td rowspan="4">Tree 26A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18555 91389

Two semi-mature oak trees approximately 8 m high with a diameter at breast height of 0.7 m. Dead limbs and occasional holes were present.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 27A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18555 91406 A semi-mature oak located close to the A1, approximately 9 m high with a diameter at breast height of 0.7 m. Dead and hollow limbs observed, there was also good connectivity to surrounding habitat.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 28A **Low bat roost potential**		
	Description	Grid reference: NZ 18555 91430 Three semi-mature oaks located close to the A1 approximately 9 m high, with a diameter at breast height of 0.6 m. Dead limbs, splits and lifted bark were observed.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 29A **Low bat roost potential**		
	Description	Grid reference: NZ 18559 91463 Three semi-mature oak trees located very close to the A1. Approximately 9 m high with a diameter at breast height of 0.6 m. A large but open fissure was present in one oak at height approximately 4.5 m. Splits and small holes were also present.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 30A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18571 91520

A mature oak located on a woodland edge approximately 9 m high with a diameter at breast height of 0.8 m. Small splits and occasional holes were observed along with lifted bark in places.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 31A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18591 91516

Two semi-mature oaks present within a treeline. The trees were approximately 10 m high with a diameter at breast height of 0.7 m. Occasional splits and holes were present. The trees were located on the woodland edge.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 32A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18605 91523

Two semi-mature oaks were present within a treeline approximately 11 m high with diameters at breast height of 0.6 m and 0.7 m. Low numbers of small splits and holes were present, there were also small sections of lifted bark</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 33A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18625 91530

A semi-mature oak present in a treeline approximately 10 m high with a diameter at breast height of 0.8 m. Dead limbs, lifted bark and a small hole were observed.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 34A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18643 91529

Two semi-mature oaks situated in a treeline approximately 11 m high with diameters at breast height of 0.8 and 0.6 m. Small splits and lifted bark observed.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td rowspan="2">Tree 35A

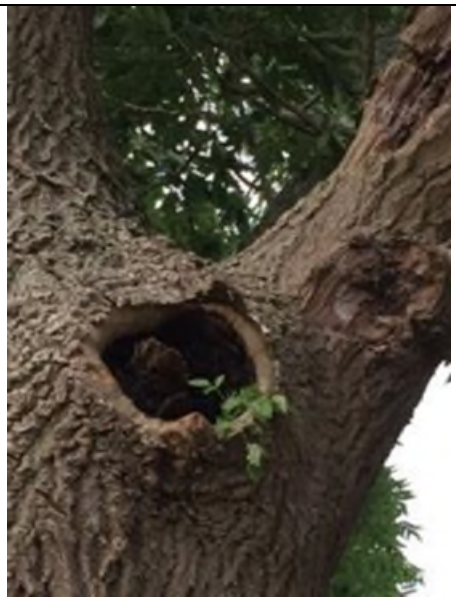
Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18641 91589</td></tr>
</table>

		A woodland containing semi-mature oak, beech and sycamore. Average height was approximately 20 m and average diameter at breast height was 0.7 m. No trees within the 100 m buffer were found to have higher than low bat roost potential.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 36A **High bat roost potential**		
	Description	Grid reference: NZ 18213 92308 Two mature ash trees which were within five metres of each other, both approximately 9 m high. One had a diameter at breast height of 1.1 m and the other had a diameter at breast height of 0.9 m. A large cavity and smaller holes were observed in the northern tree. The southern tree had callouses and small holes.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 37A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 19116 92358

A mature ash tree of height 10 m and diameter at breast height of 1.5 m. A callous was present on the tree.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td rowspan="2">Tree 38A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18213 92373</td></tr>
</table>

		A mature ash approximately 12 m high with a diameter at breast height of 1.4 m. Two large hollow branches with numerous holes were present and a large split. Good flight lines and connectivity were also observed.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 39A **Moderate bat roost potential**		
	Description	Grid reference: NZ 17997 92388 A mature ash approximately 10 m high with a diameter at breast height of 1.1 m. A large, downward facing cavity with a small calloused hole and a split was observed. There was also a large hole at front of tree but surveyors were unable to see whether there was an associated cavity.
	Limitations	Surveyors unable to assess depth of cavity from ground inspection.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 40A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18211 92411

A semi-mature ash approximately 11 m high with a diameter at breast height of 1 m. One callous hole and a small split were observed.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 41A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18215 92422 A mature ash tree approximately 12 m high with a diameter at breast height of 1.2 m. Tree had a forked trunk.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 42A **Low bat roost potential**		
	Description	Grid reference: NZ 18214 92438 A mature ash approximately 10 m high with a diameter at breast height of 1 m. A small hole was observed.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 43A

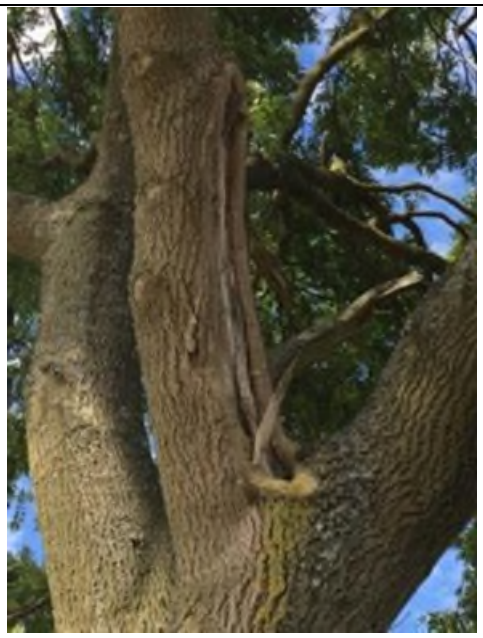
Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18217 92466

A four-stemmed mature ash tree approximately 12 m high and 0.75 m diameter at breast height.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td rowspan="2">Tree 44A

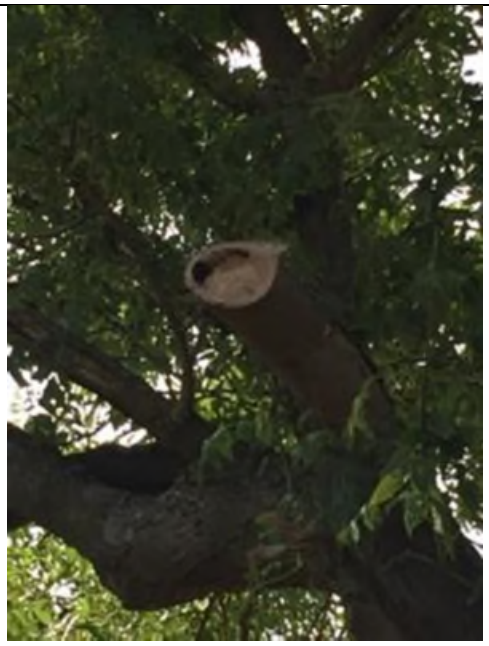
Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18217 92488</td></tr>
</table>

		A mature ash tree approximately 10 m high with a diameter at breast height of 1.1 m. A large hole was present from a fallen limb (tear out), there were also numerous splits and good connectivity with hedgerows.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 45A **High bat roost potential**		
	Description	Grid reference: NZ 18217 92510 A mature ash tree approximately 8 m high with a diameter at breast height of 1.1 m. The tree appeared to be dying, numerous holes and splits were observed with good habitat connectivity.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 46A **Low bat roost potential**		
	Description	Grid reference: NZ 18221 92520 A semi-mature ash tree approximately 12 m high with a diameter at breast height of 1 m. Some holes and splits were observed.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 47A **Low bat roost potential**		
	Description	Grid reference: NZ 18222 92525 (Part of a treeline with trees 40A – 46A) A double-stemmed mature ash tree approximately 12 m high with a diameter at breast height of 1.2 m. One of a line of

		similarly large trees. A few knotholes were present and there was good connectivity along treeline.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 48A **Low bat roost potential**		
	Description	Grid reference: NZ 18079 92599 A semi-mature ash tree approximately 11 m high with a diameter at breast height of 0.9 m. Minor splits and a hole were observed.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 49A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18087 92580

A semi-mature ash tree approximately 10 m high with a diameter at breast height of 0.9 m. Two small holes and splits were present.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 50A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18092 92569 A semi-mature ash tree approximately 10 m high with a diameter at breast height of 0.9 m. Small knot holes, splits and a small dead limb were observed.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 51A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18105 92547 A mature ash tree approximately 10 m high with a diameter at breast height of 1.1 m. A medium sized cavity was observed at a height of approximately 3 m and small splits were present.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 52A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18139 92517

A semi-mature ash approximately 8 m high with a diameter at breast height of 0.7 m. Two dead limbs were present with small holes, although these were exposed with sparse foliage.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 53A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18164 92519

A semi-mature ash approximately 6 m high with a diameter at breast height of 0.7 m. A south-facing, medium sized fissure was present, also a small hole and a medium hollow limb.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 54A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18185 92528 A semi-mature ash tree approximately 7 m high with a diameter at breast height of 0.9 m. A large, hollow limb was observed with a number of potential entrance points. Evidence of disease also found which was not thought to be ash dieback.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 55A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18260 92551 A mature ash tree of approximately 10 m height with a diameter at breast height of 1 m. A large hole was present but this was quite low down. Dead limbs, splits and knotholes were also observed although tree was quite exposed.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 56A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18297 92570

A mature ash approximately 12 m high with a diameter at breast height of 1.1 m. A calloused hole was observed at front of tree, however surveyors were unable to identify from ground level whether it was hollow. There were also numerous knotholes and good habitat connectivity.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 57A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18560 92584 A semi-mature oak tree approximately 9 m high with a diameter at breast height of 0.75 m. Tree had a dead limb which was quite exposed.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 58A **Low bat roost potential**		
	Description	Grid reference: NZ 18870 92572 One of two mature ash trees situated in close proximity. Tree was approximately 10 m high with a diameter at breast height of 2.5 m. A tear out caused by the loss of a large limb was present, however this was upwards facing and had no obvious gap.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 59A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ1894292545

A mature ash tree with a height of approximately 8 m was present within a hedgerow. The tree had a diameter at breast height of 1 m. There was some lifted bark and the tree appeared to be decaying. A large hole was observed at the rear of the tree and a split limb was present with two hollows.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

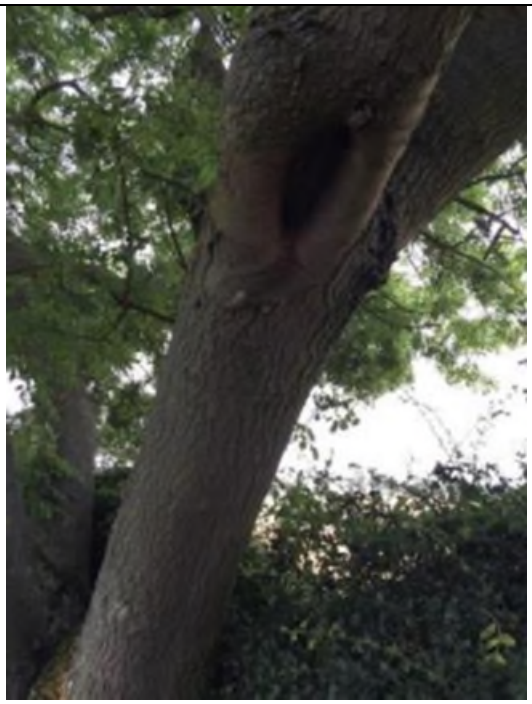
Tree 60A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18942 92545 A mature ash present within a hedgerow. The tree's diameter at breast height was 2 m. Height was not recorded at the time of survey. A tear out caused by a fallen limb had resulted in the presence of large holes in the stem.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 61A **Low bat roost potential**		
	Description	Grid reference: NZ 18978 92530

		A mature ash present within a hedgerow. The trees height was 10 m and its diameter at breast height was 1.5 m. A small split was observed but no other obvious field signs.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 62A **Moderate bat roost potential**		
	Description	Grid reference: NZ 19103 92496 Two mature ash trees with a height of 8 m and a diameter at breast height of 0.5 m and 1.5 m respectively. Numerous gaps near the base of the tree indicated that a hollow was present. There were also holes and a split observed in a limb.
	Limitations	Tree was ivy clad which restricted visibility.
	Bat evidence	None recorded.

Tree 63A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18900 92614 One of two mature ash trees in close proximity. The tree was approximately 10 m tall with a diameter at breast height of 1.2 m. A few splits and small holes were present as well as a knot hole.
	Limitations	Surveyors unable to view some holes and splits from ground observation.
	Bat evidence	None recorded.
Tree 64A **Low bat roost potential**		
	Description	Grid reference: NZ 18491 92678

		Four similar oaks planted closely together in predominantly birch woodland. The trees were semi-mature approximately 16 m high with a diameter at breast height of 0.6 m.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 65A **Low bat roost potential**		
	Description	Grid reference: NZ 18903 92756 A mature ash tree with a height of 12 m and a diameter at breast height of 1.2 m. A rot hole was observed on one of the branches.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 66A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18910 92783

A mature ash tree approximately 12 m high with a diameter at breast height of 0.8 m. A shallow tear out was present, however after external surveying this did not appear to lead to a cavity.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

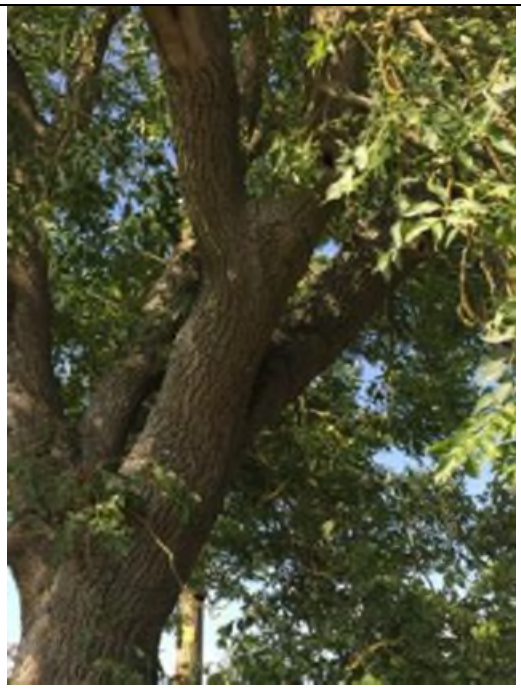
Tree 67A **Low bat roost potential**		
	Description	Grid reference: NZ 18842 93157 A mature ash tree with a height of 16 m and a diameter at breast height of 2 m.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 68A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18389 93454

		A mature ash tree approximately 13 m high with a diameter at breast height of 1.5 m. A knothole and numerous splits were observed.
	Limitations	Tree was densely ivy clad so assessment was visually restricted.
	Bat evidence	None recorded.
Tree 69A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18443 93497 A mature ash tree with a height of 12 m and a diameter at breast height of 1 m. A downward facing knothole was observed. Also, there was good connectivity with hedgerows and good flight lines.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 70A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18774 93489

A semi-mature ash tree with a height of 16 m and a diameter at breast height of 1 m. Numerous knotholes were observed which were quite large. There was also a split limb and good habitat connectivity.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 71A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18830 93486 A semi-mature ash tree with a height of 16 m and a diameter at breast height of 0.7 m. PRFs at height could not be ruled out.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 72A **Low bat roost potential**		
	Description	Grid reference: NZ 18876 93484 An immature ash tree with a height of 16 m and a diameter at breast height of 0.7 m. PRFs at height could not be ruled out.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 73A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18881 93482

A mature ash tree with a height of approximately 16 m and a diameter at breast height of 1 m. The tree had a split limb with some lifted bark.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 74A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18896 93478

A mature ash tree with a height of approximately 10 m and diameter at breast height of 1 m. The tree was exposed and near a road. Small holes and a broken branch were observed.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 75A

Low bat roost potential</td><td colspan="2"> 
  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18928 93448 (Part of treeline with Trees 76A, 77A, 78A, 79A and 80A)

A mature ash tree approximately 13 m high with a diameter at breast height of 1 m. Lifted bark was observed.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 76A

Moderate bat roost potential</td><td colspan="2"> 
Photo of treeline, photo of individual tree not available.</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18943 93444 (Part of a treeline with Trees 75A, 77A, 78A, 79A and 80A)

One of six ashes present in a treeline. The tree was a mature ash approximately 15 m high with a diameter at breast height of 1.2 m. Upwards facing holes were present and split limbs at height.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 77A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Photo of treeline, photo of individual tree not available.	
	Description	Grid reference: NZ 18943 93444 (part of a treeline with Tree 75A, 76A, 78A, 79A and 80A) One of a treeline of six mature ash trees. The tree had a height of 15 m and a diameter at breast height of 1.2 m. Upwards facing holes and split limbs were observed. According to the landowner, woodpeckers have frequently used these trees.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 78A **Moderate bat roost potential**	 Photo of treeline, photo of individual tree not available.	
	Description	Grid reference: NZ 18943 93444 (Part of a treeline with Trees 75A, 76A, 77A, 79A and 80A) One of six ashes present in a treeline. The tree was a mature ash with a height of approximately 15 m and a diameter at breast height of 1.2 m. Upwards facing holes were present and split limbs at height.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 79A

Low bat roost potential</td><td colspan="2"> 
 
Photo of treeline.</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18954 93452 (Part of a treeline with Trees 75A, 76A, 77A, 78A and 80A)

A mature ash tree approximately 13 m high with a diameter at breast height of 1 m. The tree had occasional small splits and lifted bark.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 80A

Low bat roost potential</td><td colspan="2"> 
Photo of treeline, photo of individual tree not available.</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18973 93428 (Part of a treeline with Trees 75A, 76A, 77A, 78A and 79A)

Semi-mature ash tree with a height of 12 m and a diameter at breast height of 1 m. Splits were present.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td rowspan="2">Tree 81A

High bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18894 93588</td></tr>
</table>

		A mature ash approximately 10 m high with a diameter at breast height of 2 m. According to the owner, the tree was hollow and bats had been observed inside prior to trunk recently snapping.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 82A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18355 93842 Semi-mature ash tree situated in a farmhouse garden. Approximately 15 m high with a diameter at breast height of 0.75 m. Deep fissure in scaffold limb leading up to potential voids inside limb.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 83A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 19002 94065

A mature hawthorn, approximately 6 m tall with a diameter at breast height of 0.3 m. A small tear out was present with a relatively deep crevice.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 84A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 19003 94079 A dead ash tree, approximately 8 m tall and a diameter at breast height of 0.6 m (each stem). The tree had a rotten core with small rot holes present and lifted bark.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 85A **Low bat roost potential**		
	Description	Grid reference: NZ 18622 94140 An immature ash tree with a height of 8 m and a diameter at breast height of 0.6 m. The tree was covered by ivy.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 86A **Low bat roost potential**		
	Description	Grid reference: NZ 18968 94209 A mature ash tree, approximately 16 m tall with a diameter at breast height of 1.1 m. Broken and rotten limbs, and broken branches were present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 87A **Low bat roost potential**		
	Description	Grid reference: NZ 18970 94238

		Two twin-stemmed mature ash trees, approximately 14 m tall with a diameter of between 0.5 m and 1 m at breast height. Rot holes were present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 88A **Low bat roost potential**		
	Description	Grid reference: NZ 18965 94339 Mature cherry tree, approximately 10 m tall with a diameter at breast height of 0.5 m. A tear out was present as well as a helical split in the rotten trunk.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 89A **Low bat roost potential**		
	Description	Grid reference: NZ 18965 94344 Mature cherry tree, approximately 7 m tall with a diameter of 0.3 m at breast height. The tree had a split and torn trunk.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 90A **Low bat roost potential**		
	Description	Grid reference: NZ 18962 94359

		Mature ash tree, approximately 10 m tall with a diameter of 0.5 m at breast height. Rot holes and a rotten trunk were present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 91A **Low bat roost potential**		
	Description	Grid reference: NZ 19190 94401 Semi-mature ash, approximately 14 m high with a diameter at breast height of 0.5 m. Sideward-facing rot hole.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 92A **Low bat roost potential**		
	Description	Grid reference: NZ 19189 94403 Mature alder, approximately 14 m high with a diameter at breast height of 0.4 m. Numerous rot holes, some potentially shallow.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 93A **Low bat roost potential**		
	Description	Grid reference: NZ 19185 94408

		Semi-mature ash with twin-trunks, approximately 16 m high with a diameter at breast height of 0.8 m. Sideward-facing rot hole and a broken branch.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 94A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18984 94428 Mature ash, approximately 14 m tall with a diameter of 0.7 m at breast height. Large split in trunk, tear out, and rot holes.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 95A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18981 94444

Mature ash tree, approximately 16 m tall with a diameter of 0.6 m at breast height. Stress fracture on limb and snapped second stem with rot hole.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 96A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18923 94466 Semi-mature ash present in a layby, approximately 12 m high with a diameter at breast height of 0.5 m. Multi-stemmed with extensive ivy.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 97A **Low bat roost potential**		
	Description	Grid reference: NZ 19007 94461 Mature ash, approximately 20 m tall with a diameter of 1.4 m at breast height. Snapped and broken limbs, and rot holes.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 98A **Moderate bat roost potential**		
	Description	Grid reference: NZ 19097 94484 Mature ash, approximately 18 m tall with a diameter of 1.3 m at breast height. Rot hole, flush cut and broken branches present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 99A **Moderate bat roost potential**		
	Description	Grid reference: NZ 19131 94474

		Mature ash, approximately 18 m high with a diameter at breast height of 0.9 m. A rot hole was identified with additional features presumed likely due to size.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 100A **Low bat roost potential**		
	Description	Grid reference: NZ 18974 94517 Three semi-mature ash trees, approximately 18 m high with diameters at breast height of 0.25 – 0.5 m. Thick ivy which could have obscured other potential features was present.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 101A

High bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 19023 94534

A mature ash, approximately 14 m high with a diameter at breast height of 0.9 m. Downward- and sideward-facing rot holes, and numerous, broken and dead limbs were present.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 102A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18930 94580 Mature alder present in a tree line along a stream, approximately 15 m high with a diameter at breast height of 0.7 m. Extensive ivy cover which could have obscured multiple features.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 103A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18915 94584 Mature ash present in a tree line along a stream, approximately 15 m high with a diameter at breast height of 0.8 m. Extensive ivy cover which could have obscured multiple features.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 104A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18871 94603

Semi-mature silver birch present in a private garden, approximately 12 m high with a diameter at breast height of 0.6 m. Rot pocket with void on main trunk.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

Tree 105A **High bat roost potential**		
	Description	Grid reference: NZ 18881 94696 Ancient sycamore present on a roadside, approximately 14 m high with a diameter at breast height of 1.1 m. Numerous rot holes and very large cavities present.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 106A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18757 94752

Semi-mature oak situated within a hedgerow, approximately 9 m high with a diameter at breast height of 0.4 m. Split bark peeled back with shallow cavity on eastern aspect of stem.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 107A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18894 94733 Ancient ash present on a roadside, approximately 15 m high with a diameter at breast height of 1.2 m. Rot hole on western aspect of stem, and holes at base of broken off branch.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 108A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18574 95177 Mature oak situated in a hedgerow, approximately 14 m high and 0.75 m diameter at breast height. Crevices present between bark and ivy.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 109A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18578 95178

Ancient oak situated in a hedgerow, approximately 14 m high with a diameter at breast height of 1.2 m. Old specimen with snagged limb ends and longitudinal fissures on some limbs, covered in ivy.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 110A

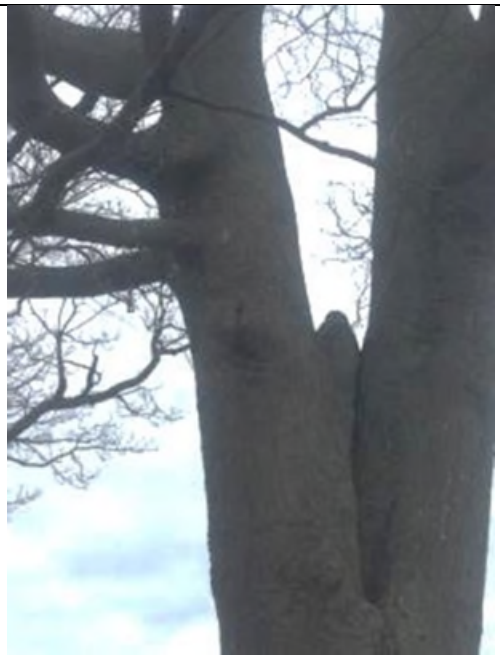
Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18569 95183

Ancient oak situated in a hedgerow, approximately 20 m high with a diameter at breast height of 1 m. Numerous splits and cracks which were obscured by ivy.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 111A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18622 95204 Ancient oak situated in a hedgerow, approximately 14 m high with a diameter at breast height of 1 m. Old specimen with snagged limb ends and longitudinal fissures on some limbs, covered in ivy.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 112A **High bat roost potential**		
	Description	Grid reference: NZ 18559 95241 Ancient ash situated in a field, approximately 20 m high with a diameter at breast height of 1 m. Numerous voids, cavities, splits and rot holes of various sizes on all aspects.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 113A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18541 95335

Ancient sycamore present on a kart track, approximately 22 m high with a diameter at breast height of 1.3 m. Rot pocket with staining.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">T114A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18474 95680

Mature sycamore present in a hedgerow, approximately 15 m high with a diameter at breast height of 0.5 m. Rot hole on eastern aspect which potentially leads up into the stem.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">T115A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18505 95781

Ancient sycamore present on a woodland edge, approximately 20 m high with a diameter at breast height of 1.2 m. Four rot pockets at 4 - 5 m, woodpecker holes and crevices in limbs.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

Tree 116A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18503 95814 Mature ash present on a woodland edge, approximately 16 m high and 0.75 m diameter at breast height. Frost crack leading upwards to void.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 117A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18516 95858

Mature ash situated in a replanted defunct hedgerow, approximately 12 m high with a diameter at breast height of 0.6 m. East-facing rot pocket at 3.5 m and vertical crevice on western side leading to potential void.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 118A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 19013 95808 Mature ash, approximately 14 m high with a diameter at breast height of 0.4 m. Crack in dead branch facing downwards.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 119A **Low bat roost potential**		
	Description	Grid reference: NZ 19011 95836 Semi-mature ash, approximately 10 m high with a diameter at breast height of 0.4 m. Twin trunks have rubbed / grown together, no cavity visible from northern side but may be visible from the south.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 120A **Low bat roost potential**		
	Description	Grid reference: NZ 19013 95878 Semi-mature ash approximately 10 m high with a diameter at breast height of 0.5 m. Rotten peg on eastern side at a relatively low level.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 121A **Low bat roost potential**		
	Description	Grid reference: NZ 19012 95908

		Two semi-mature sycamore trees, approximately 7 m high with a diameter at breast height of 0.2 m. Deep rot hole on eastern aspect and loose bark.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 122A **Moderate bat roost potential**		
	Description	Grid reference: NZ 19013 95917 Semi-mature ash approximately 6 m high with a diameter at breast height of 0.3 m. Rotten core and broken limbs.
	Limitations	Surveyor not able to access southern aspect therefore a precautionary grading of moderate potential has been applied.
	Bat evidence	None recorded.

Tree 123A **Low bat roost potential**		
	Description	Grid reference: NZ 19006 95974 Mature sycamore, approximately 14 m high with a diameter at breast height of 0.25 m. Rot holes and broken branches also present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 124A **Low bat roost potential**		
	Description	Grid reference: NZ 18340 96157

		Semi-mature oak situated in a tree line, approximately 12 m high with a diameter at breast height of 0.6 m. A rot hole was present under a branch on the southern aspect.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 125A **Low bat roost potential**		
	Description	Grid reference: NZ 18340 96157 A mature sycamore situated in a tree line, approximately 9 m high with a diameter at breast height of 0.6 m. Rot hole at 1 m leading into rotten branch.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 126A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18444 96284

Twin-stemmed mature oak situated in a hedgerow, approximately 16 m high with a diameter at breast height of 0.6 m (each stem). East-facing rot pocket at 5 m.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 127A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18699 96388

Mature Scots pine woodland with some ash, approximately 16 - 18 m high and 0.35 m diameter at breast height, on average. Ivy and broken branches present.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 128A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 18346 96481 Semi-mature ash present in a hedgerow, approximately 8-9 m high with a diameter at breast height of 0.6 m. Central cavity leading to potential void.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 129A **Low bat roost potential**		
	Description	Grid reference: NZ 18614 96515 Semi-mature to mature woodland containing predominantly larch in the centre but also oak, elder, sycamore and willow on the edges. Approximately 14 - 16 m high and 0.2 - 0.5 m diameter at breast height, on average. Broken and torn limbs and branches, and rot holes; but most trees were in good condition.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 130A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18396 96851

Semi-mature sycamore, approximately 10 m tall with a diameter at breast height of 0.22 m . Thick ivy present.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 131A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 17983 96879 Ancient ash present in a roadside verge, approximately 12 m high with a diameter at breast height of 1.3 m. Densely clad with ivy but numerous splits and rot pockets on visible limbs suggested that more featured were obscured.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 132A **Low bat roost potential**		
	Description	Grid reference: NZ 17953 96941 Mature sycamore situated 4 m to the east of a stream, approximately 12 m high with a diameter at breast height of 0.7 m. Two rot holes on the south-western aspect.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 133A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17926 96967

Mature alder situated on a stream bank, approximately 13 m high with a diameter at breast height of 0.7 m. Rot hole 3 m up on western aspect.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

Tree 134A **Low bat roost potential**		
	Description	Grid reference: NZ 17875 96989 Semi-mature alder situated along a stream/ditch, approximately 12 m high with a diameter at breast height of 0.5 m. Cavity in small dead limb overhanging stream.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 135A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17883 97056

Semi-mature sycamore situated within a defunct hedge and ditch, approximately 14 m high with a diameter at breast height of 0.6 m. A rot pocket was present at a height of 3.5 m.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

Tree 136A **Moderate bat roost potential**		
	Description	Grid reference: NZ 17909 97095 Ancient alder present along a riverbank, approximately 12 m high and 0.75 m diameter at breast height. Tree decaying, woodpecker hole at 7 m.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 137A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17905 97119

Semi-mature alder present along a riverbank, approximately 8 m high with a diameter at breast height of 0.4 m. Rot pocket at 2.5 m.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 138A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17859 97145

Semi-mature alder present along a riverbank, approximately 8 m high with a diameter at breast height of 0.4 m. A rot pocket was present at a height of 2 m.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>T200A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

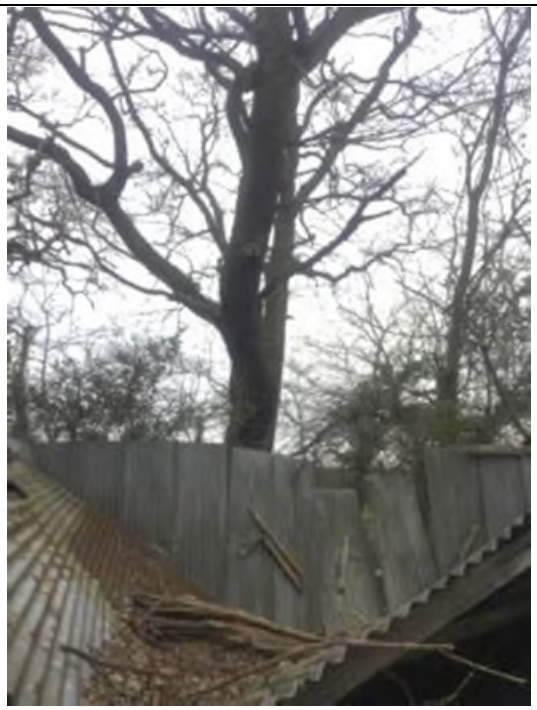
	Description	Grid reference: NZ 17547 97726 Mature ash, approximately 8 m high and 0.3 m diameter at breast height. PRFs at height could not be ruled out.
	Limitations	None recorded.
	Bat evidence	None recorded.
T201A **High bat roost potential**		
	Description	Grid reference: NZ 17549 97715 Mature ash, approximately 10 m high and 0.7 m diameter at breast height. The trunk was hollow with a potential access point at the base of the stem.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">T202A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17548 97706

Mature oak, approximately 10 m high and 0.9 m diameter at breast height. PRFs at height could not be ruled out.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 139A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 17404 98678 Mature oak present in a hedgerow along the border of an arable field. Approximately 22 m high with a diameter at breast height of 0.8 m. Ivy was present which appeared to be covering a crevice.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 140A **Low bat roost potential**		
	Description	Grid reference: NZ 17395 98747 Mature oak present in a woodland, approximately 20 m high with a diameter at breast height of 0.8 m. A knot hole was present at a height of approximately 4 m on the southern aspect.
	Limitations	The area directly beneath the tree was obstructed by a collapsed building.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 141A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17409 98763

Mature ash present on a woodland edge, approximately 17 m high with a diameter at breast height of 0.7 m. Ivy covered fissures which were accessible to bats.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 142

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17401 98859

Ancient ash situated in a hedgerow adjacent to A1, approximately 20 m high with a diameter at breast height of 1 m. Rot pockets were present on the eastern side of the trunk which appeared to be deep.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 143A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17453 99125

Two semi-mature ash trees, approximately 12 m tall with a diameter of 0.3 m at breast height. Dense ivy was present on both trees.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 144A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 17482 99416 Mature oak, approximately 16 m tall with a diameter of 0.9 m at breast height. Broken branches, split branches, knot hole with a dead peg, and other small knot holes present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 145 **Low bat roost potential**		
	Description	Grid reference: NZ 17304 99697 Young birch, approximately 10 m tall with a diameter of 0.2 m at breast height. Crevice between the trunks which had rubbed together.
	Limitations	None recorded.
	Bat evidence	None recorded.

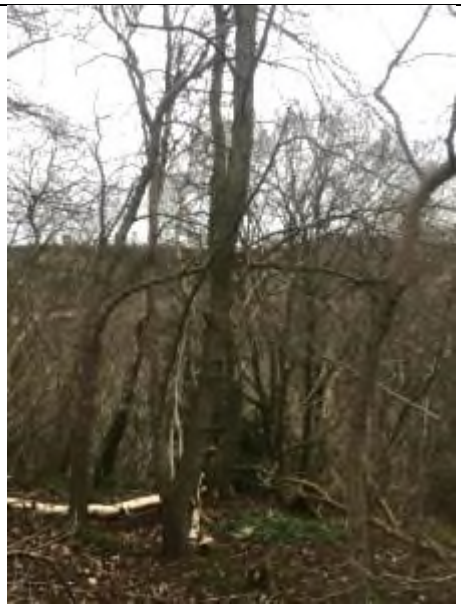
Tree 146 A **Low bat roost potential**		
	Description	Grid reference: NZ 17377 99699 Semi-mature ash, approximately 14 m tall with a diameter of 0.5 m at breast height. Frost crack present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 147A **High bat roost potential**		
	Description	Grid reference: NZ 17411 99685

		Two young ash trees, approximately 14 m tall with a diameter of 0.28 m at breast height. Two bat boxes on each tree.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 148A **High bat roost potential**		
	Description	Grid reference: NZ 17469 99675 Two semi-mature beech and ash, approximately 14 m high with diameters at breast height of 0.3 m. Two bat boxes on each tree; part of Highways England monitoring scheme.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 149A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17550 99789

Two semi-mature hawthorns and one semi-mature ash, between approximately 8 and 14 m tall. Both trees had a diameter of 0.3 m at breast height. Thick ivy was present on both trees.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 150A

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NZ 17559 99805 Semi-mature ash, approximately 18 m tall with a diameter of 0.27 m at breast height. Crevice where branches had rubbed together.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 151A **Low bat roost potential**		
	Description	Grid reference: NZ 17356 99852 Semi-mature sycamore and ash treeline (2 and 3, respectively), approximately 18 m high with an average diameter of 0.45 m at breast height. Thick ivy was present on each tree.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 152A **Moderate bat roost potential**		
	Description	Grid reference: NZ 17392 99894 Young ash, approximately 10 m tall with a diameter of 0.3 m at breast height. Large tear out of eastern side and hollow trunk.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 153A **Low bat roost potential**		
	Description	Grid reference: NZ 17395 99905

		Approximately 18 m high with a diameter of 0.5 m at breast height. A knot hole was present along with broken and torn branches.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 154 A **Low bat roost potential**		
	Description	Grid reference: NZ 17419 99899 Two trees; a semi-mature ash and a semi-mature oak, approximately 16 m high with diameters at breast height of 0.3 m. Thick ivy cover was present on both trees.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 155A **Low bat roost potential**		
	Description	Grid reference: NU 17433 00306 Mature ash, approximately 15 m tall with a diameter of 0.98 m at breast height. Broken and torn branches.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 156A **Moderate bat roost potential**		
	Description	Grid reference: NU 17526 00435

		Mature ash tree, approximately 24 m high with a diameter of 0.8 m at breast height. A large tear out was present with some ivy also present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 157A **Moderate bat roost potential**		
	Description	Grid reference: NU 17443 00538 Semi-mature oak tree, approximately 24 m high with a diameter of 0.5 m at breast height. A rot hole, broken limb, and a dead branch with a crevice was present.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 158A **Low bat roost potential**		
	Description	Grid reference: NU 17391 00577 A woodland with approximately 40 semi-mature ash, approximately 26 m high with a diameter of between 0.32 – 0.35 m at breast height, on average. Broken branches and one tree with a torn limb were present. Approximately 20 trees were covered in thick ivy.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td colspan="4">A1 Ecological Inspection of Trees and Woodlands</td></tr>
<tr><td colspan="4">SITE DETAILS</td></tr>
<tr><td>Project Name:</td><td>A1 in Northumberland</td><td>Project Number:</td><td>B2104700</td></tr>
<tr><td>Site Name (if different):</td><td>Section B</td><td>Date of Inspection:</td><td>21st -23rd March 2016; 17th – 19th August 2016; 5th – 6th December 2016</td></tr>
<tr><td rowspan="4">Tree 1B

Low bat roost potential</td><td colspan="3">  </td></tr>
<tr><td>Description</td><td colspan="2">Grid reference: NU 19775 15268

Mature ash, approximately 22 m tall and a diameter of 0.79 m at breast height. A tear out and a broken branch with large split at the end were present.</td></tr>
<tr><td>Limitations</td><td colspan="2">None recorded.</td></tr>
<tr><td>Bat evidence</td><td colspan="2">None recorded.</td></tr>
</table>

Tree 2B **Moderate bat roost potential**		
	Description	Grid reference: NU 19513 15585 Mature ash situated in a tree line, approximately 20 m high with a diameter at breast height of 0.85 m. Dense ivy on all aspects and several small cracks on northern aspect.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 3BModerate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 19571 15834

Dead ash, approximately 20 m tall with a diameter of 0.86 m at breast height. Lifted bark was present up to a height of 8 m and a rot hole led to a cavity in the stem.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 4B

High bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 19601 15851 Six mature ash trees, approximately 24 m tall on average (one 14 m tall) with a diameter of between 0.8 m and 1.3 m at breast height. Rot holes, a fissure, a hollow trunk and broken limb were present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 5B **High bat roost potential**		
	Description	Grid reference: NU 19517 15896 Over-mature ash, approximately 12 m tall with a diameter of 1 m at breast height. The tree had a hollow trunk and rot holes.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 6B

High bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 19529 15902

An over-mature ash, approximately 24 m tall with a diameter of 1.2 m at breast height. Thick-stemmed ivy and sideways-facing rot holes in limb.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 7B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 19389 15942 Standing dead tree present in a hedgerow, approximately 15 m high with a diameter at breast height of 1 m. Four small rot holes on the western aspect.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 8B **Moderate bat roost potential**		
	Description	Grid reference: NU 19246 16146 Ancient ash situated in a defunct hedgerow next to a stream, approximately 12 m tall with a diameter at breast height of 1 m. Deep internal rot, downward-facing rot pocket.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 9B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 19255 16144

Ancient ash situated in a hedgerow with a stream/ditch, approximately 15 m high and 0.75 m diameter at breast height. Lightning-struck with downward-facing hole.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 10B

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 19266 16145 Ancient oak situated in a hedgerow and ditch, approximately 15 m tall with a diameter at breast height of 0.85 m. One obvious rot pocket and superficial ivy.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 11B **Low bat roost potential**		
	Description	Grid reference: NU 19469 16175 Two mature ash trees, approximately 12 and 16 m tall with a diameter of 0.66 m at breast height. Thick ivy stems, possibly obscuring other features.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 12B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 19495 16178

Multi-stemmed mature ash, approximately 18 m tall with a diameter of 1.3 m at breast height. Sideways-facing rot holes, some thick ivy cover.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 13B

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 19425 16240 Mature ash, approximately 18 m tall and a diameter of 0.63 m at breast height. Cavities between duel trunks and small fissure but likely shallow.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 14B **Moderate bat roost potential**		
	Description	Grid reference: NU 19421 16486 Mature ash, approximately 14 m tall with a diameter of 1.06 m at breast height. Hollow cavity in trunk at lower level, broken limb with probable cavity but facing up, and sideways-facing rot hole.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 15B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 19139 16514

Ancient ash present in a field, approximately 14 m high with a diameter at breast height of 0.5 m. Broken branches present, one leading to a rot hole.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 16B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 19088 16665 Mature ash present in a thicket, approximately 15 m high with a diameter at breast height of 0.6 m. Large split in scaffold limb and pruning cut present.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 17B **Moderate bat roost potential**	No photo available	
	Description	Grid reference: NU 19125 16691 Mature beech tree situated within a thicket. The tree was approximately 25 m high with a diameter at breast height of 0.9 m. Two west facing rot holes were present at a height of 4 m and 7 m.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 18B **Moderate bat roost potential**		
	Description	Grid reference: NU 19084 16693 Mature oak present in a small remnant woodland, approximately 18 m high with a 0.75 m diameter at breast height. Long fissure in scaffold limb.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 19B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 19094 16715

Mature ash present in remnant woodland, approximately 22 m high with a 0.85 m diameter at breast height. Pockmarked bark and vertical fissures present with a possible crevice half way up main trunk.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 20B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 19139 16716

Mature ash tree situated in a thicket. The tree was approximately 24 m high with a diameter at breast height of 0.7 m. Four south-facing rot holes at various heights.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

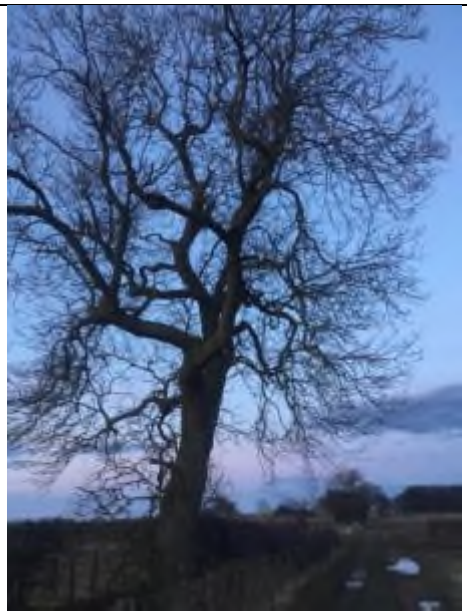
<table>
<tr><td rowspan="4">Tree 21B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 19074 16737

Mature oak present in a thicket, approximately 20 m high with a diameter at breast height of 0.6 m. A rot hole was present on the eastern aspect at a height of 4 m.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

Tree 22B **High bat roost potential**		
	Description	Grid reference: NU 19058 16799 Ancient oak present in a thicket, approximately 18 m high and 0.75 m diameter at breast height. Large knot hole on southern aspect at 3.5 m on trunk.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 23B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 19157 17357

Mature ash, approximately 26 m tall with a diameter of 1 m at breast height. The tree had a split bough and rot holes.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 24B

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 18664 18178 Mature ash, alder, sycamore, and oak woodland; some of which were multi-stemmed. The trees were approximately 20 m tall with an average diameter of 1.1 m at breast height. Thick ivy was present on many of the trees.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 25B **Moderate bat roost potential**		
	Description	Grid reference: NU 18690 18136 Mature ash, approximately 20 m tall with a diameter of 1.32 m at breast height. Broken branches and a knot hole were present near the top of the tree.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 26B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 18699 18142

11 mature birch trees in a row, approximately 14 m tall on average with a diameter of between 0.33 m and 0.7 m at breast height. Knot holes (relatively shallow) and open hollow trunks were present.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 27B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 18719 18141 Mature birch, approximately 6 m tall with a diameter of 0.3 m at breast height. The tree had a hollow trunk and knot holes.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 28B **Moderate bat roost potential**		
	Description	Grid reference: NU 18721 18143 Mature birch, approximately 14 m tall with a diameter of 0.71 m at breast height. The tree had a hollow trunk.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 29B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid Reference: NU 18721 18152

Mature multi-stemmed birch, approximately 14 m tall with a diameter of 1 m at breast height. The tree had broken branches and knot holes.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 30B

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 18719 18154 A mature birch, approximately 14 m tall with a diameter of 0.66 m at breast height. The tree had a hollow rotten trunk.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 31B **Moderate bat roost potential**		
	Description	Grid reference: NU 18799 18134 Mature ash, approximately 22 m tall with a diameter of 0.8 m at breast height. Multiple tear outs were present with rotten heartwood beneath creating crevices.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 32B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 18791 18141

Mature ash, approximately 22 m tall with a diameter of 1 m at breast height. Hollow core at base of twin trunks, crevice caused by rubbing branches. However, may be too exposed to be used by bats.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 33B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 18811 18144

Mature horse chestnut, approximately 20 m tall with a diameter of 1.1 m at breast height. The tree had split and broken branches.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 34B

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 18796 18155 Mature ash, approximately 22 m tall with a diameter of 1 m at breast height. The tree had broken branches, a rotten trunk, and a small section of lifted bark.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 35B **Low bat roost potential**		
	Description	Grid reference: NU 18735 18179 Mature ash, approximately 20 m tall with a diameter of 0.58 m at breast height. The tree had broken branches.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 36B

High bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 187598 18191

Mature ash, approximately 20 m tall with a diameter of 1.2 m at breast height. The tree had an old tear out, a rotten hollow trunk, and rot holes.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 37B

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 18780 18188 A mature ash, approximately 20 m tall with a diameter of 0.69 m at breast height. The tree had broken and split limbs.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 38B **Low bat roost potential**		
	Description	Grid reference: NU 18799 18195 Mature hawthorn, approximately 5 m tall with a diameter of 0.36 m at breast height. The tree had a split, rotten trunk.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 39B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 18801 18191

Mature ash, approximately 20 m tall with a diameter of 0.68 m at breast height. The tree had broken, dead branches, a small knot hole and a fissure on a branch on the northern aspect.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 40B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 18813 18192

Mature ash, approximately 16 m tall with a diameter of 0.85 m at breast height. Some dead and broken branches were present on the tree.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

Tree 42B **High bat roost potential**		
	Description	Grid reference: NU 18837 18183 Mature oak, approximately 20 m tall with a diameter of 1.2 m at breast height. A large tear out was present, as well as a crevice caused by rubbing branches, a hazard beam in a limb on the eastern side of the tree with side-facing opening, a knot hole on the northern aspect and lifted bark.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 43B **Low bat roost potential**		
	Description	Grid reference: NU 18849 18193 A mature sycamore, approximately 20 m tall with a diameter at breast height of 0.8 m. A tear-out was present on the southern aspect of at an approximate height of 8 m.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 44B **Low bat roost potential**		
	Description	Grid reference: NU 18849 18195 Mature wych elm, approximately 12 m tall with a diameter of 0.25 m at breast height. A frost crack was present leading to a crevice at the top as well as a small knot hole.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 45B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 18860 18191

Mature horse chestnut, approximately 20 m tall with a diameter of 0.72 m at breast height. Small rot holes were present next to broken branches as well as a hollow trunk with a low entrance.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 46B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 18888 18193

Mature horse chestnut, approximately 22 m tall with a diameter of 0.63 m at breast height. A tear-out was present near the top of the tree and a broken branch with a small crevice behind on the eastern aspect.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 47B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 18912 18195

Mature ash, approximately 16 m tall with a diameter of 0.68 m at breast height. A tear out on the southern aspect was present which has created a shallow crevice.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>T202B

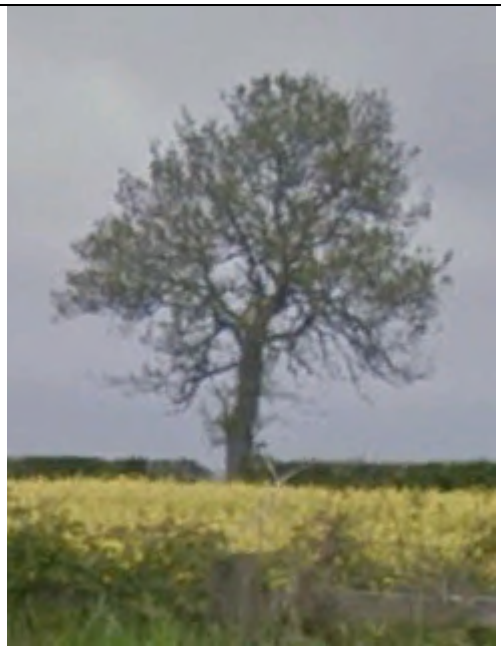
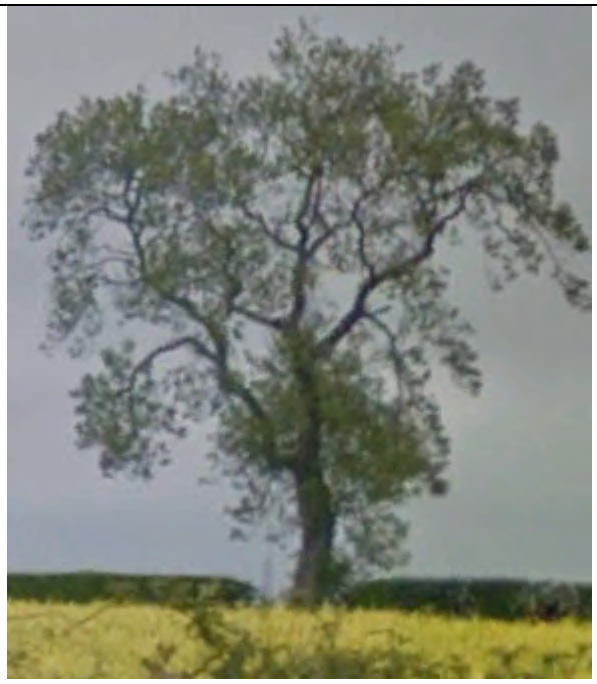
Moderate bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Image taken from Google Earth Pro	
	Description	Grid reference: NU 18099 19829 Mature ash, approximately 14 m high with a diameter at breast height of 0.8 m. No potential features were observed from a distance but the size of the tree suggested at features may have been present.
	Limitations	Surveyed from from the road, viewed from a distance so potential features could not be ruled out.
	Bat evidence	None recorded.
T203B **Moderate bat roost potential**	 Image taken from Google Earth Pro	
	Description	Grid reference: NU 18099 19809 Mature ash, approximately 14 m high with a diameter at breast height of 0.8 m. No potential features were observed from a distance but the size of the tree suggested at features may have been present.
	Limitations	Surveyed from from the road, viewed from a distance so potential features could not be ruled out.

	Bat evidence	None recorded.
T204B **Low bat roost potential**		
	Description	Grid reference: NU 18195 19190 Mixed plantation woodland which featured young and semi-mature oak, sycamore, sitka spruce, ash, silver birch, yew and cherry laurel, between approximately 6 and 14 m tall with an average diameter at breast height of approximately 0.3 m. No obvious potential roost features were observed but that woodland as a whole has potential to support roosting bats.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 48B **Low bat roost potential**	No photo available	
	Description	Grid reference: NU 17832 20046 Immature ash present in a garden, approximately 16 m high with a diameter at breast height of 0.3 m. Holes present in trunk leading to potential voids.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 49B **Low bat roost potential**		
	Description	Grid reference: NU 17808 20087 Mature ash present in a hedgerow, approximately 14 m high with a 0.75 m diameter at breast height. A rot hole with staining was present.
	Limitations	None recorded.
	Bat evidence	None recorded.
T201B **Low bat roost potential**		
	Description	Grid reference: NU 17918 20089 Mixed plantation woodland that contained mature and semi-mature Scots pine, ash, larch, beech and willow,

		approximately 14 m high on average with diameters at breast height between 0.3 and 0.8 m. A higher proportion of semi-mature trees were present close to the A1. No obvious features of roost potential were observed, although the woodland as a whole was considered to have potential to support roosting bats.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 50B **Moderate bat roost potential**		
	Description	Grid reference: NU 17750 20188 Semi-mature ash present in a hedgerow, approximately 12 m high with a 0.75 m diameter at breast height. A rot pocket was present at the point where the stem split, and a tear out facing south with rot led to void up in trunk. Smaller rot holes and minor crevices were also present.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 51B **Low bat roost potential**		
	Description	Grid reference: NU 17274 20397 Ancient sycamore in hedgerow, approximately 15 m high with a diameter at breast height of 1.3 m. A rot pocket was present on the eastern-facing limb leading to a potential void.
	Limitations:	None recorded.
	Bat evidence:	None recorded.

<table>
<tr><td rowspan="4">Tree 52B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 17270 20399

Ancient ash in hedgerow, approximately 15 m high with a diameter at breast height of 1.2 m. Fissure present in truck leading to potential voids.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">T200B

Low bat roost potential</td><td colspan="2"> 
Image taken from Google Earth Pro</td></tr>
<tr><td>Description</td><td>Grid reference: NU 17758 20625

Mature horse chestnut tree, approximately 16 m high and 0.8 m diameter at breast height. No features were observed from the southern side, but the size of the tree suggests that features may have been present on the northern aspect that could not be viewed.</td></tr>
<tr><td>Limitations</td><td>Surveyed from the road, so the northern aspect could not be viewed.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 53B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 17962 20636

Mature sycamore, approximately 16 m tall with a diameter of 0.6 m at breast height. A broken branch with sideways-facing rot hole was present.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 54B

Low bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 18076 20675 Mature London Plane, approximately 16 m tall with a diameter of 0.72 m at breast height. A rot hole was present, it was probably shallow and blocked, but could not be fully inspected from ground level.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 55B **Moderate bat roost potential**		
	Description	Grid reference: NU 18108 20685 Mature hawthorn, approximately 12 m tall with a diameter of 1.34 m at breast height. A tear-out with a very small cavity above was present, not suitable for more than one or two bats.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 56B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 17604 21033

Mature ash, approximately 16 m tall with a diameter of 1.3 m at breast height. A sideways-facing rot hole was present on the southern aspect as well as some welds where limbs rub together.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 57B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 17552 21142

Semi mature scots pine, approximately 12 m tall with a diameter of 0.35 m at breast height. Natural fluting in bark creating a crevice, at a height of 4 m on the north side of the stem.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

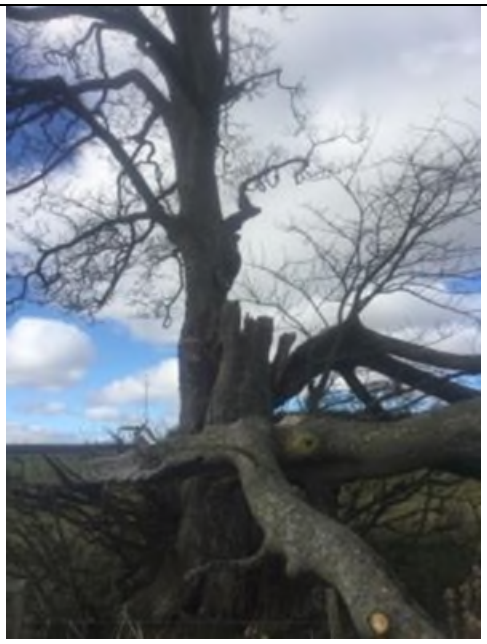
<table>
<tr><td rowspan="4">Tree 58B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 17395 21293

Ancient cypress tree situated within a garden, approximately 20 m high with diameter at breast height of 1.2 m. A large fissure was present on the northern aspect of the trunk.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

Tree 59B **Low bat roost potential**		
	Description	Grid reference: NU 17390 21341 Mature horse chestnut tree situated on a field edge. The tree was approximately 15 m high with a diameter at breast height of 0.7 m. Several fissures were present on the eastern aspect.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 60B

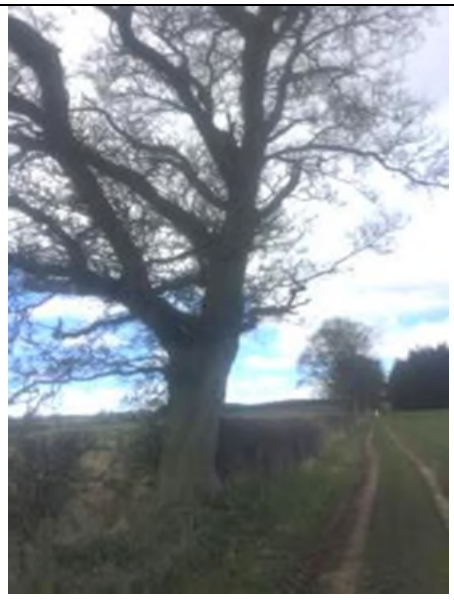
Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 17041 21341

Ancient sycamore situated on a field boundary, approximately 16 m high with a diameter at breast height of 1.4 m. Several cracks and fissures were present where the stem had collapsed.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 61B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 16781 21370

Mature sycamore situated on a field boundary. The tree was approximately 20 m high with a diameter at breast height of 1.1 m. Several rot holes were present on all aspects.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 62B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 16928 21387 Mature oak situated on a field boundary. The tree was approximately 16 m high with a diameter at breast height of 0.8 m. Several hazard beams were present in the limbs on all aspects of the tree.
	Limitations	None recorded.
	Bat evidence	None recorded.
Tree 63B **Moderate bat roost potential**		
	Description	Grid reference: NU 16960 21390 Mature alder situated on a field boundary. The tree was approximately 14 m high with a diameter at breast height of 0.7 m. Several long rot holes were present in the stem, on all aspects of tree.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">Tree 64B

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 17260 21415

Ancient beech situated in a defunct hedgerow, approximately 15 m high with a diameter at breast height of 1.4 m. A fissure was present where the branch had split away from limb on northern side of tree.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">Tree 65B

High bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 17293 21424

Ancient sycamore situated in a defunct hedgerow, approximately 12- 14 m high with a diameter at breast height of 1.2 m. Multiple deep fissures to northwest trunk and scaffold limbs. Longitudinal cracks along underside of smaller branches were widespread.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>Tree 66B</td><td colspan="2"></td></tr>
</table>

High bat roost potential		
	Description	Grid reference: NU 17164 21836 Mixed semi-mature scots pine, beech, silver birch, horse chestnut, alder and oak, approximately 20 m tall with an average diameter of 0.3 m at breast height. Nine bat boxes were present on three trees - labelled A1 IHS, box ref 84 and 93, date inspected (illegible).
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 67B **Low bat roost potential**		
	Description	Grid reference: NU 17191 21929 Mature sweet chestnut tree within woodland, approximately 18 m tall with a multi-stemmed diameter of 2.8 m at breast height. Dead branches were present but no cavities were recorded. A weld caused by the stems rubbing together was present.
	Limitations	None recorded.
	Bat evidence	None recorded.

Tree 68B Moderate bat roost potential		
	Description	Grid reference: NU 17150 21938 Mature horse chestnut tree, approximately 14 m tall with a diameter at breast height of 0.7 m. The tree had a hollow trunk and holes allowing access, the cavity was likely open at the top.
	Limitations	None recorded.
	Bat evidence	None recorded.

APPENDIX E: BAT ROOST POTENTIAL ASSESSMENT OF BUILDINGS AND STRUCTURES

Table B.1 Results of bat roost potential assessment of buildings and structures for Sections A and B.

<table>
<tr><td colspan="4">A1 Ecological Inspection of Buildings and Structures</td></tr>
<tr><td colspan="4">SITE DETAILS</td></tr>
<tr><td>Project Name:</td><td>A1 in Northumberland</td><td>Project Number:</td><td>B2104700</td></tr>
<tr><td>Site Name (if different):</td><td>Section A</td><td>Date of Inspection:</td><td>21st -23rd March 2016; 17th – 19th August 2016; 5th – 6th December 2016</td></tr>
<tr><td rowspan="3">B1A

Negligible bat roost potential</td><td colspan="3">  </td></tr>
<tr><td>Description</td><td colspan="2">Grid reference: NZ 18169 88361

A modern single-storey stable, approximately 2.5 m high, 3 m long and 3 m wide. The building was constructed from wood with a two-pitched roof covered with roofing felt.

The surrounding land was grazed pasture and hedgerows.</td></tr>
<tr><td>Features of bat potential</td><td colspan="2">None recorded.</td></tr>
</table>

	Limitations	None recorded.
	Bat evidence	None recorded.
B2A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18130 88471 A modern single-storey stable, approximately 2.5 m high, 3 m long and 5 m wide. The building was constructed from wood with a flat corrugated metal roof. The surrounding land was grazed pasture and hedgerows.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.

B3A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18139 88474 A modern single-storey stable, approximately 2.5 m high, 3 m long and 5 m wide. The building was constructed from wood with a flat roof constructed from corrugated metal. The surrounding land was grazed pasture and hedgerows.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">B4A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18200 88667

A detached three-storey dwelling, less than 100 years old. The building was approximately 15 m high, 20 m long and 20 m wide, and was constructed from stone with both uPVC and wooden-framed windows. The roof comprised both double pitched and single pitched sections covered with slates.

The surrounding land was grazed pasture, woodland and road.</td></tr>
<tr><td>Features of bat potential</td><td>There were some cracks in the stonework and missing/slipped/raised tiles. A soffit box was present, and it was possible that the eaves provided access for bats into the roof void.</td></tr>
<tr><td>Limitations</td><td>The building was assessed from a distance due to access restrictions.</td></tr>
</table>

<table>
<tr><td rowspan="4">B5A

Negligible bat roost potential</td><td colspan="2"> 
Photo from Google Earth (May 2016; Accessed December 2016)</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18158 89615

A modern single-storey farm outbuilding used for storage/cattle. The building was approximately 10 m high, 25 m long and 10 m wide, and was constructed from wood and breeze blocks. The roof was two-pitched and covered with of corrugated asbestos cement.

The surrounding land was pasture, farm buildings and woodland.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td></td><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B6A

Negligible bat roost potential</td><td colspan="2"> 
Photo from Google Earth street view (May 2016; Accessed December 2016)</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18107 89642

A modern detached single-storey building used for storage. The building was approximately 8 m high, 15 m long and 10 m wide. It was constructed from stone and corrugated metal. The roof was two-pitched and covered with corrugated metal sheeting.

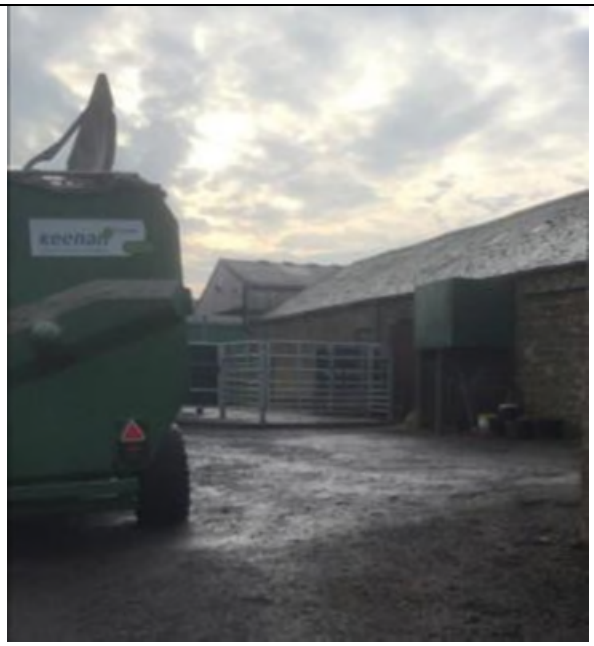
The surrounding land was pasture and farm buildings.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B7A

Negligible bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18081 89649

A three-storey detached dwelling, more than 100 years old. The building was approximately 12 m high, 10 m long and 11 m wide, and was constructed from stone with UPVC framed windows. The roof was two-pitched, with additional single-pitched extensions. In general the roof was covered with slates. The garage roof was flat and covered with corrugated metal sheeting. In general the building was well-maintained.

The surrounding land was pasture and farm buildings.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B8A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18127 89651 A single-storey detached farm outbuilding, less than 100 years old. The building was approximately 5 m high, 20 m long and 10 m wide, and was constructed from stone with a two-pitched slate roof. The surrounding land was pasture and farm buildings.
	Features of bat potential	There were some cracks in the stonework, some missing, slipped and raised roof tiles and slipped and raised ridge tiles. The eves provided access for bats.
	Limitations	None recorded.
	Bat evidence	None recorded.

		
B9A **Negligible bat roost potential**	Description	Grid reference: NZ 18160 89671 A modern single-storey farm outbuilding used for storage/cattle. The building was approximately 10 m high, 25 m long and 10 m wide, and was constructed from wood and breeze blocks. The roof was two-pitched and covered with corrugated metal sheeting. The surrounding land was pasture, farm buildings and woodland.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.

B10A **Low bat roost potential**		
	Description	Grid reference: NZ 18108 89671 A detached three-storey dwelling, less than 100 years old. The building was approximately 10 m high, 10 m long and 8 m wide, and was constructed from brick and render, with UPVC framed windows. The roof was partly two-pitched, covered with slates, and partly flat, covered with felt. The surrounding land was pasture and farm buildings.
	Features of bat potential	Fascia boards and barge boards were present, and a wall cavity was likely. The eves provided access for bats.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="5">B11A

Negligible bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18185 89675

A modern single-storey farm outbuilding used for storage/cattle. The building was approximately 10 m high, 25 m long and 10 m wide, and was constructed from wood and breeze blocks. The roof was two-pitched and covered with corrugated metal sheeting.

The surrounding land was pasture, farm buildings and woodland.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B12A

Negligible bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18206 89679

A modern single-storey farm outbuilding used for storage/cattle. The building was approximately 10 m high, 25 m long and 10 m wide, and was constructed from wood and breeze blocks. The roof was two-pitched and covered with corrugated metal sheeting.

The surrounding land was pasture, farm buildings and woodland.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B13A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18128 89679 A detached two-storey building, less than 100 years old. The building was disused; the previous use was unknown. The building was approximately 10 m high, 10 m long and 8 m wide, and was constructed from brick with wooden-framed windows, some boarded with corrugated metal. The roof was two-pitched and covered with tiles, but partly covered with corrugated metal. The surrounding land was pasture and farm buildings.
	Features of bat potential	There were some cracks in the brickwork and gaps under the fascia boards and around the windows. Some windows were broken, boarded up with holes apparent. There were missing, slipped and raised roof tiles and ridge tiles which presented gaps in the roof. The eves provided access for bats.
	Limitations	None recorded.
	Bat evidence	None recorded.

		
B14A **Negligible bat roost potential**	Description	Grid reference: NZ 18151 89687 A modern single-storey farm outbuilding used for storage/cattle. The building was approximately 10 m high, 25 m long and 10 m wide, and was constructed from wood and breeze blocks. The roof was single-pitched and covered with corrugated metal sheeting. The surrounding land was pasture, farm buildings and woodland.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.

B15A **Low bat roost potential**		
	Description	Grid reference: NZ 18939 90181 A three-storey detached dwelling, approximately 100 years old. The building was approximately 12 m high, 15 m long and 9 m wide, and was constructed from brick with wooden-framed windows. The roof was two-pitched with slates and coping stones at the gable ends. The surrounding land is pasture, arable fields and woodland.
	Features of bat potential	There were some cracks in the brickwork on the gable end, and a wall cavity was likely present. The eaves provided access for bats.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">B16A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18908 90191

A single-storey building used for storage, approximately 100 years old. The building was approximately 5 m high, 13 m long and 7 m wide, and was constructed from stone with one open side. The roof was two-pitched with slates and coping stones.

The surrounding land was pasture, arable fields and woodland.</td></tr>
<tr><td>Features of bat potential</td><td>Some roof tiles were raised, and gaps at the eaves provided access for bats.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td></td><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B17A **Low bat roost potential**		
	Description	Grid reference: NZ 18959 90196 A single-storey disused detached cottage, approximately 100 years old. The building was approximately 8 m high, 10 m long and 7 m wide, and was constructed from stone with UPVC framed windows. The roof was two-pitched and covered with slates and coping stones. The surrounding land is pasture, arable fields and woodland.
	Features of bat potential	There were some cracks in the stonework, and gaps at the eaves provided access for bats.
	Limitations	None recorded.
	Bat evidence	None recorded.

B18A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18810 90220 A modern building used for storage / as a livestock shelter. The building was approximately 4 m high, 10 m long and 9 m wide and was constructed from wood and corrugated metal. The roof was two-pitched with a central valley and covered with corrugated metal sheeting. The surrounding land was pasture and arable fields.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.

B19A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18910 90243 A single-storey modern barn used for storage, approximately 7 m high, 18 m long and 6 m wide. The building was open-sided with a two-pitched corrugated metal roof supported by wooden struts. The surrounding land was pasture, arable fields and woodland.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="5">B20A

Negligible bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18931 90254

A single-storey modern barn used for storage, approximately 7 m high, 18 m long and 7 m wide. The building was constructed on corrugated metal and was open on two sides, with a two-pitched corrugated metal roof.

The surrounding land was pasture, arable fields and woodland.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B21A

Confirmed bat roost</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18929 90232

A single-storey disused barn which consisted of older and newer parts. The older part of the building was approximately 100 years old. The building was approximately 6 m high, 16 m long and 20 m wide (at its widest point). The building was constructed from stone with wooden-framed windows. The roof was multi-pitched and covered with slate and corrugated metal. Coping stones were present at the gable end. The surrounding land was pasture, arable fields and woodland.</td></tr>
<tr><td>Features of bat potential</td><td>There were some slipped roof tiles, and gaps at the eaves provided access for bats.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>Approximately 20 droppings were recorded at the older part of the building running parallel with the central ridge board. Evidence of the buildings use as a feeding perch was observed with butterfly and moth wings present in a line along the ground beneath the central roof beam.</td></tr>
</table>

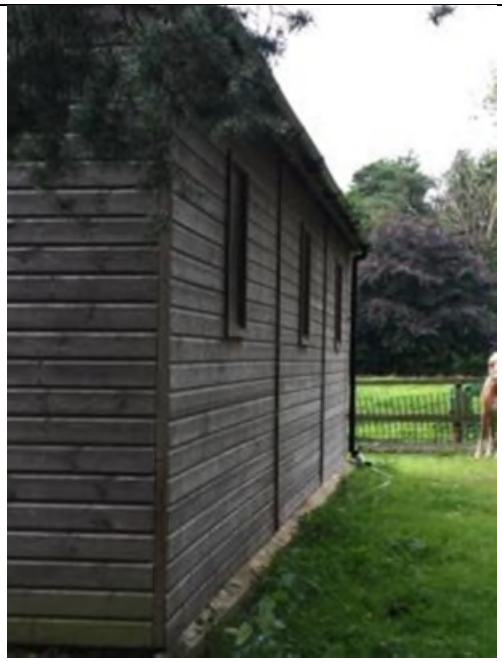
B22A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18923 90297 A single-storey modern building used to store telecom equipment. The building was approximately 5 m high, 3 m long and 4 m wide and was constructed from stone. The roof was two-pitched and covered with slates. The surrounding land was pasture, arable fields and woodland.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.

B23A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18914 90298 A single-storey modern building used to store telecom equipment. The building was approximately 5 m high, 2 m long and 4 m wide. The building was constructed from stone. The roof was two-pitched and covered with slates. The surrounding land was pasture, arable fields and woodland.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.

B24A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18914 90298 A single-storey modern building used to store telecom equipment. The building was approximately 5 m high, 5 m long and 4 m wide and was constructed from stone. The roof was two-pitched and covered with slates. The surrounding land was pasture, arable fields and woodland.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.

B25A High bat roost potential.		
	Description	Grid reference: NZ 18670 91678 A two-storey residential house approximately 80 years old, and approximately 7 m high, 12 m long and 5 m wide. The walls were constructed from sandstone and the two-pitched roof was covered with slate. The windows had wooden frames. The surrounding land featured woodland and grassland.
	Features of bat potential	There were numerous features with potential to support roosting bats. Gaps led into the soffit boxes, and slightly damaged fascias and barge boards were present. There were also occasional cracks in the stonework, small gaps in the mortar and areas of raised lead flashing. The roof tiles were generally in good repair as the roof had been re-tiled approximately 40 years ago.
	Limitations	None recorded.
	Bat evidence	None recorded.

B26A Low bat roost potential.		
	Description	Grid reference: NZ 18679 91679 A single-storey garage approximately 50 years old. The building was approximately 3 m high, 8 m long, and 4 m wide. The building was constructed from sandstone with a corrugated metal, flat roof and fascias. The surrounding land included woodland and grassland.
	Features of bat potential	The garage had wooden barge boards which were fairly intact with occasional small gaps behind. No obvious gaps in the mortar or roofing felt could be found.
	Limitations	None recorded.
	Bat evidence	None recorded.

B27A Low bat roost potential.		
	Description	Grid reference: NZ 18767 91705 A single-storey, wooden stable approximately 10 years old. The building was approximately 3 m high, 12 m long, and 8 m wide and had a tiled roof, barge boards, and fascias. There were extensive grounds surrounding the building with woodland and arable habitats nearby.
	Features of bat potential	Tiles were slightly raised with small gaps present and fascia had a small gap.
	Limitations	None recorded.
	Bat evidence	None recorded.

B28A Moderate bat roost potential.		
	Description	Grid reference: NZ 18658 91751 A single-storey commercial shed approximately 80 years old. The building was 3 m high, 10 m long and 4 m wide. The walls were brick and the two-pitched roof was covered with corrugated asbestos cement with lead flashing and skylights.
	Features of bat potential	Numerous opportunities existed for bats to enter the building. These included three permanently open doors, holes in brickwork and the roof, and gaps around door frames. The interior ceiling comprised the asbestos roof without a roof void and the thin wooden beams were broadly unsuitable for roosting bats.
	Limitations	None recorded.
	Bat evidence	None recorded.

B29A Moderate bat roost potential.		
	Description	Grid reference: NZ 18756 91758 Single-storey small outbuilding, approximately 90 years old, with a two-pitched roof with a gable end. The roof was covered with tiles. Wooden fascias and barge boards were present on the roof. The building was used for storage purposes. The building was approximately 4 m long, 2 m wide and 2.5 m high with one door and small air vent on south side. There were extensive grounds surrounding the building with woodland and arable habitats nearby.
	Features of bat potential	Occasional gaps in brickwork where bricks and mortar were missing.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="5">B30A Moderate bat roost potential.</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18758 91759

Single-storey small outbuilding, approximately 90 years old, with two-pitched roof with gable ends. The roof was covered with tiles. Wooden fascias and barge boards were present. The building was used for storage purposes. The building was approximately 5 m long, 3.5 m wide and 2.5 m high with three wooden doors on the western side.

There were extensive grounds surrounding the building with woodland and arable habitats nearby.</td></tr>
<tr><td>Features of bat potential</td><td>The old outbuilding had tiles and wooden facias/ barge boards with occasional gaps, and occasional gaps in mortar.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">B31A
Moderate bat roost potential.</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18658 91765

A two-storey building which was commercially used for storage. The building was approximately 80 years old. The approximate height was 6 m, length 12 m, and width 6 m. The walls were constructed from brick, and window frames were wooden on the ground floor and uPVC on the upper floor. The two-pitched roof was covered with tiles. An extension had a flat roof which was covered with corrugated asbestos cement. Soffit boxes were present on the northern side, and tightly fitting lead flashing was present.</td></tr>
<tr><td>Features of bat potential</td><td>The wooden-framed ground floor windows were in part broken with some with large gaps around the frames. There were gaps in the chimney mortar and in the mortar in the western wall.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td></td><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B32A Negligible bat roost potential.		
	Description	Grid reference: NZ 18681 91766 A single-storey garage used for car repair services. It was approximately 30 years old and approximately 7 m high, 40 m long, and 35 m wide. The building was constructed from metal with an asbestos and metal two-pitched roof with lead flashing and concrete barge boards.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.

B33A High bat roost potential.		
	Description	Grid reference: NZ 18747 91771 A two-storey residential house with brick walls, wooden window frames, air vents and a uPVC framed conservatory. The building was approximately 7 m high, 15 m long and 15 m wide. The roof was of a mixed design with a dormer and was covered with tiles. Fascias and barge boards were present. The building had large grounds and surrounding land use was arable.
	Features of bat potential	The building featured many small mortar gaps, some loose lead flashing, occasional loose, missing, or raised tiles on the roof, air vents and a gap at the adjoining barge boards.
	Limitations	None recorded.
	Bat evidence	None recorded. Anecdotal evidence of high bat activity by owner.

<table>
<tr><td rowspan="4">B34A Negligible bat roost potential.</td><td colspan="2"> 
Photo taken from Google Earth (June 2016; Accessed December 2016)</td></tr>
<tr><td>Description</td><td>Grid reference: NZ18644 91776

Metal canopy from former petrol station approximately 16 m long, 4.5 m high and 8 m wide. The building was constructed from metal and some plastic.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td></td><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B35A
Negligible bat roost potential.</td><td colspan="2"> 
</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18650 91783

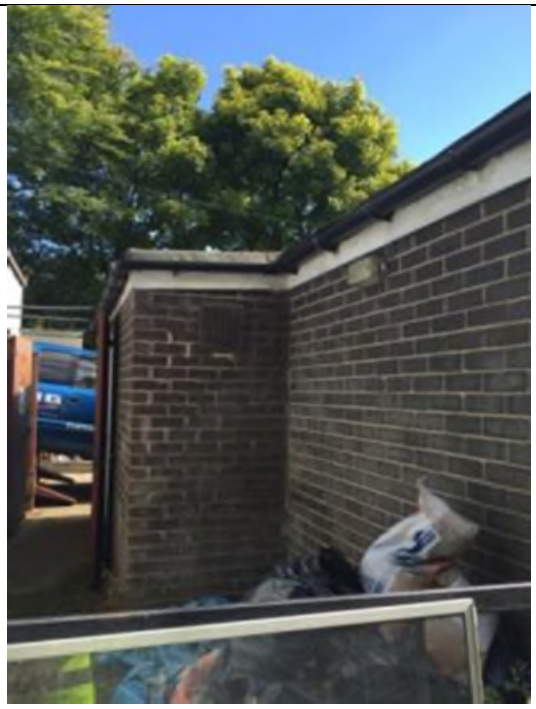
The building was used as a reception for the garage and was approximately 30 years old. The building was single-storey, and approximately 3 m high, 20 m long, and 3 m wide. The walls were brick, with wooden cladding on the southern side, the roof was covered with corrugated metal sheeting and the window frames were uPVC. Tightly fitting lead flashing was present.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B36A Low bat roost potential.		
	Description	Grid reference: NZ 18779 91785 A single-storey office building, approximately 25 years old. The building was approximately 4 m high, 12 m long and 6 m wide. Walls were brick with uPVC window frames and the roof was two-pitched and tiled with a skylight. Fascias and barge boards were present, and there was an east facing, open room. Tightly fitting lead flashing was present around the chimney. There were extensive grounds surrounding the building with woodland and arable habitats nearby.
	Features of bat potential	Small gaps around beams in open room, there were some mortar gaps beneath the fascia, the fascia had some gaps, the window frames and skylight had possible gaps and there were some raised roof and ridge tiles.
	Limitations	None recorded.
	Bat evidence	None recorded.

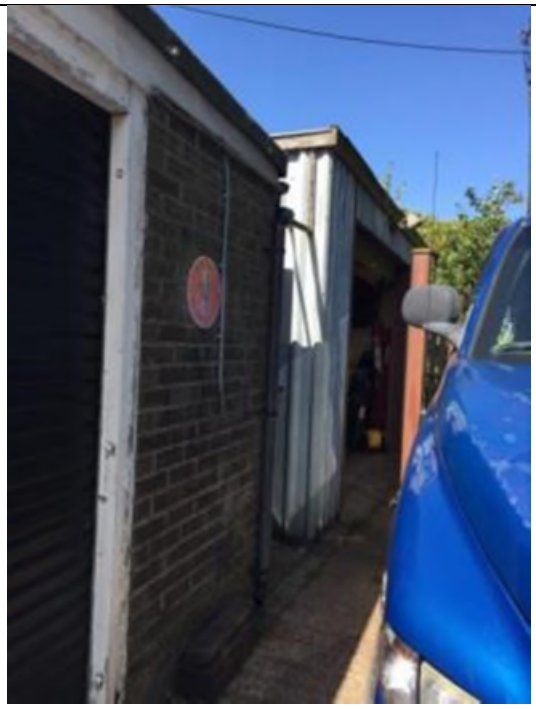
B37A Low bat roost potential.		
	Description	Grid reference: NZ 18745 91792 A garage with a residential second storey, approximately 30 years old. The approximate height of the building was 7 m, width 10 m and length 9 m. The building was brick with wooden window frames and the roof was gabled and covered with tiles. Fascias and barge boards were present. There were extensive grounds surrounding the building with woodland and arable habitats nearby.
	Features of bat potential	Occasional, small mortar gaps, occasional raised tiles near a skylight gaps next to the wall of an alcove.
	Limitations	None recorded.
	Bat evidence	None recorded.

B38A Low bat roost potential.		
	Description	Grid reference: NZ 18763 91793 A single-storey storage building approximately 40 years old. The building was approximately 2.5 m high, 10 m long and 10 m wide and was constructed from brick with wooden window frames, and uPVC fascias. A flat roof was present which was covered by felt. The building was surrounded by grounds, woodland and arable habitat.
	Features of bat potential	There were occasional holes in the brickwork, a gap surrounding the fascias approximately 1 to 3 cm wide and occasional holes in window frames and in the metal door.
	Limitations	None recorded.
	Bat evidence	None recorded.

B39A Moderate bat roost potential.		
	Description	Grid reference: NZ 18849 92340 Semi-detached two-storey residential building approximately 50 years old. The building was approximately 6 m high, 25 m long, and 12 m wide. The walls were constructed from sandstone with some tile cladding, and the window frames were uPVC. The two-pitched roof with a two-pitched dormer were covered with slate and a flat-roof extension was also present. Fascias, soffit boxes and barge boards were present, as was tightly fitting lead flashing. The surrounding land featured arable fields.
	Features of bat potential	Small gaps behind the fascias were present.
	Limitations	None recorded.
	Bat evidence	None recorded.

B40A **Low bat roost potential**		
	Description	Grid reference: NZ 18860 92357 Brick outbuilding approximately 40 years old, 7m long, 3m high and 7m wide with a flat bituminous felt roof. The building was used as a garage/ storage adjacent to the main house.
	Features of bat potential	Wooden barge boards were intact with occasional small gaps behind.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="5">B41A

Negligible bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18851 92358

Corrugated metal storage building/ garage with a flat roof. The building was approximately 7 m long, 2.5 m high and 5 m wide, and was approximately 20 years old.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B42A **Negligible bat roost potential**		
	Description	Grid reference: NZ18860 92359 Small wooden shed used for storage in garden of house. The shed was approximately 10 years old with a two-pitched roof covered with bituminous felt. The shed was approximately 6 m long, 2 m high and 2 m wide.
	Features of bat potential	The shed is in good repair, no obvious entry points were visible.
	Limitations	None recorded.
	Bat evidence	None recorded.

B43A **Low bat roost potential**		
	Description	Grid reference: NZ 18961 92384 A single-storey shed used for storage, approximately 40 years old, and approximately 2 m high, 4 m long, and 3 m wide. The building had a flat felt roof and wooden window frames. The surrounding land featured arable fields.
	Features of bat potential	Very small gaps were present under the roofing felt.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="5">B44A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18955 92368

A two-storey residential house, approximately 40 years old. The building was approximately 7 m high, 20 m long, and 12 m wide. The window frames were uPVC and the two-pitched, hipped roof was covered with slate with a flat-roofed extension. Soffit boxes, barge boards and tightly fitting lead flashing were also present.

The surrounding land generally comprised arable fields.</td></tr>
<tr><td>Features of bat potential</td><td>There were raised tiles and small gaps under roof edging on eastern side.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

		
B45A **Moderate bat roost potential**	Description	Grid reference: NZ 18890 92369 The single-storey building was in use as a primary school, and was approximately 25 years old. The school was approximately 5 m high, 25 m long, and 24 m wide. The walls were brick, and window and skylight frames were uPVC. The two-pitched roof was covered with slate and a flat roof section was present. The surrounding land generally comprised arable fields.
	Features of bat potential	Although the school was relatively new, the barge boards, fascias and soffit boxes had potential to provide roosting opportunities for bats. Additionally, there were at least thirteen air vents on the roof which were approximately 30 cm by 5 cm, some raised roof tiles and cavity walls were present.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="5">B46A

Negligible bat roost potential.</td><td colspan="2"> 
Photo taken from Google Earth (June 2016; Accessed December 2016)</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18896 92652

A stable which was approximately 10 years old, single-storey and in use. Height was 2 m, length 4 m and width 3 m. Walls and roof were covered with corrugated metal sheeting.

The surrounding land featured arable fields and pasture.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B47A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18888 92725

A two-storey, residential building built around 1960s and subsequently extended. Height was 8 m, length 8 m and width 8 m. Walls were brick with some tile cladding and window frames were uPVC. Roof was slate and hipped with a flat roof extension.

The surrounding land featured arable fields.</td></tr>
<tr><td>Features of bat potential</td><td>Birds nesting in eaves were indicative of a large gap under guttering.</td></tr>
<tr><td>Limitations</td><td>Owners were not present so surveyors could only view the front of the building.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B48A **Moderate bat roost potential**		
	Description	Grid reference: NZ 18887 92827 A two-storey residential building built in 1927, approximately 8 m high, 25 m long and 6 m wide. The walls were constructed from sandstone with some tile cladding. The windows were framed with wood. The two-pitched roof was relatively new and covered with slate with lead flashing around the chimneys. Fascias were present but could not be viewed underneath. The surrounding land featured arable fields.
	Features of bat potential	None recorded.
	Limitations	Surveyors were only able to view front of building as owners were not in.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="5">B49A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18830 93415

Single-storey domestic dwelling, approximately 80 years old and constructed from sandstone with some tile cladding. The two-pitched roof had coping stones on the gable end. The windows were framed with uPVC and the roof featured some tightly fitting lead flashing. The building was approximately 12 m long, 5 m high and 7 m wide.

The surrounding land featured arable fields and farm buildings.</td></tr>
<tr><td>Features of bat potential</td><td>The house was in generally good repair. Some gaps were present underneath the fascias, and one or two slightly raised tiles were present near the skylight.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B50A **High bat roost potential**		
	Description	Grid reference: NZ 18871 93415 A two-storey dwelling, approximately 80 years old, with a multi-pitched roof covered with slates. The building also had a small extension to the south and a balcony terrace. The building was constructed from sandstone and brick, and was approximately 24 m long, 6 m high, and 17 m wide (at its widest point). The house also had wooden cladding and climbing ivy, and the window frames were wooden. Tightly sealed lead flashing was present on the roof. The dwelling was adjacent to a 40 year old mixed plantation, and the surrounding land featured arable fields and farm buildings.
	Features of bat potential	The building was generally in good repair, however there were occasional small gaps under the fascias. The house also had wooden cladding, some of which was loose, that could provide further roosting opportunities. There were also some cracks in the brickwork and numerous loose roof tiles.
	Limitations	None recorded.
	Bat evidence	None recorded. The owners reported bats being found in the property, although they are not aware of a roost being present.

<table>
<tr><td rowspan="4">B51A

High bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18849 93428

A residential two-storey building of height 6 m, length 16 m and width 4 m. The walls were constructed from sandstone with some tile cladding and windows had wooden frames. The two-pitched roof was covered with slate.

The surrounding land featured arable fields and farm buildings.</td></tr>
<tr><td>Features of bat potential</td><td>Lots of gaps were present along roof edging. The fascia board under guttering had a hole underneath with some staining. According to owner, starlings nest here.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B52A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18887 93430

Sandstone and brick storage shed / workshop and garage adjoining building to the north. The building was approximately 80 years old, a mix of two-storey and single-storey. The roof was two-pitched and covered by corrugated asbestos with wooden beams and ceiling, and no apparent roof void. The building was approximately 8 m long, 5 m high and 4 m wide.

The surrounding land featured arable fields and farm buildings.</td></tr>
<tr><td>Features of bat potential</td><td>The building had an open fronted garage with no obvious roosting opportunities. There were a few small gaps between the mortar and the fascia boards. The ground floor had a wooden ceiling, and timber framed workshop on the second floor, and an asbestos covered roof.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">B53A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18823 93434

Single-storey outbuilding used for storage, approximately 80 years old. The building was constructed from sandstone and breezeblocks, and had a wooden ceiling and corrugated asbestos roof. The building was located to the north-west of a farm complex, and adjacent to the main domestic dwelling. The building was approximately 6 m long, 5 m wide and 3 m high.

The surrounding land featured arable fields and farm buildings.</td></tr>
<tr><td>Features of bat potential</td><td>Some gaps were present between corrugated roof and bricks. Potential void between wooden ceiling and roof.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td></td><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B54A **Low bat roost potential**		
	Description	Grid reference: NZ 18869 93443 Large single-storey farm building approximately 80 years old used for housing livestock and farm equipment. The building was approximately 15 m long, 5 m high and 10 m wide, constructed from a mix of breezeblock and brick walls, with a two-pitched roof with metal beam support frame, covered with corrugated asbestos. The surrounding land featured arable fields and farm buildings.
	Features of bat potential	Some cracks and mortar gaps were present, small nesting birds in brick cavities.
	Limitations	None recorded.
	Bat evidence	None recorded.

		
B55A **High bat roost potential**	Description	Grid reference: NZ 18888 93453 A two-storey storage shed / workshop, approximately 80 years old. The building had brick walls with cladding which was loose in some places, and a two-pitched, corrugated asbestos roof with wooden beams and ceiling. The windows had wooden frames, and some frames were absent leaving open brickwork. The building was approximately 10 m long, 5 m high and 5 m wide. The surrounding land featured arable fields and farm buildings.
	Features of bat potential	The building had a broken window, numerous medium and small gaps in the mortar next to the eaves and window on the east-facing side (shown in the photo), which could provide roosting opportunities. On the north-facing side potential entrance points were also present around the only door and a boarded up window. Within the building itself the roof had two Perspex skylights. The ground floor had a wooden ceiling and timber framed storage racks throughout, potentially providing roosting opportunities.
	Limitations	None recorded.

	Bat evidence	None recorded.
B56A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18966 93468 A single-storey wooden stable less than 5 years old. The building was 3 m high, 8 m long, and 3m wide. The roof was two-pitched and covered with bitumen felt. The building was wooden and the windows were PCA sheeting. Surrounding land use was paddocks.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">B57A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18944 93525

A two-storey sandstone farmhouse, approximately 30 years old. The building was 7 m high, 15 m long and 8 m wide. The window frames were uPVC and slate cladding was present on part of the gable end as shown. The multi-pitched roof and dormer windows were covered with slate. Soffit boxes, fascias and barge boards were present.

The building was surrounded by paddocks.</td></tr>
<tr><td>Features of bat potential</td><td>Roof repairs were visible with some small gaps still present, and small gaps were present in the stonework and mortar. Fascias were also present with some gaps found particularly at the rear of the building. Some gaps were present between the roof tiles and the adjoining lead flashing.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td></td><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B58A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18963 93521 A single-storey wooden building, less than five years old, currently in use as a playhouse. The building was approximately 3 m high, 3 m long and 2 m wide. Window frames were wooden and roof was two-pitched and covered in felt. The surrounding land featured paddocks and stables.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">B59A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid Reference: NZ 18942 93566

A modern wooden stable, built within the last five years, with a two-pitched, felt covered roof. The building was approximately 25 m by 20 m long in an ‘L’ shape, 4 m high and 4 m wide.

The stables were surrounded by paddocks.</td></tr>
<tr><td>Features of bat potential</td><td>Some cracks were present in the wood, and small voids were present in the roof due to ventilation strips.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td></td><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B60A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18953 93547

A newly built, single-storey, storage building of approximate height 4m, length 7 m and width 4m. The building was constructed from breeze blocks and sandstone and the roof was corrugated metal.

The surrounding land featured paddocks and stables.</td></tr>
<tr><td>Features of bat potential</td><td>A few small cracks in the structure.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td rowspan="2">B61A

Negligible bat roost potential</td><td colspan="2">No photo available</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18952 93551

A fairly new kennel, approximately 8 m long and 5 m wide. The kennel was constructed from corrugated metal with a flat corrugated metal roof. No roof void was present.</td></tr>
</table>

	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.
B62A **Low bat roost potential**		
	Description	Grid Reference: NZ 18930 93573 A single-storey open-fronted wooden shed constructed with a wooden ceiling and flat corrugated metal roof. The shed was used for storage of stable equipment and hay bales. The building was approximately 10 years old and approximately 6 m plus 2 m long in an 'L' shape, 2.5 m high and 3 m wide. The surrounding land featured broadleaved plantation woodland and paddocks.
	Features of bat potential	There were large gaps between the wooden boarding which were very open. Anecdotal evidence of bat sightings in fields behind.

	Limitations	None recorded.
	Bat evidence	None recorded.
B63A **High bat roost potential**		
	Description	Grid reference: NZ 18885 93656 A two-storey residential building approximately 50 years old. The approximate height was 8 m, length 20 m, and width 10 m. The building was brick with weatherboarding on the gable of an extension. The window frames were uPVC. The multi-pitched roof was covered with tiles and in overall good condition. Some tightly fitting lead flashing. The surrounding land features coniferous plantation woodland, arable fields and paddocks.
	Features of bat potential	Some gaps behind weatherboarding, small gaps under fascias and barge boards and a house martin entered underneath soffit box indicating a gap.
	Limitations	None recorded.
	Bat evidence	None recorded.

B64A **Low bat roost potential**		
	Description	Grid reference: NZ 18873 93658 A single-storey building approximately 50 years old. The building was approximately 2 m high, 3 m long and 1.5 m wide. The building was constructed from brick, and had wooden chipboard and plastic frames, and the roof was flat and covered in felt. The surrounding land featured arable fields and paddocks, and a coniferous plantation woodland.
	Features of bat potential	Cracks were present around the windows.
	Limitations	None recorded.
	Bat evidence	None recorded.

B65A **Confirmed bat roost**		
	Description	Grid reference: NZ 18874 93674 A single-storey open-fronted outhouse / storage building approximately 80 years old. The building was approximately 3 m high, 8 m long, and 5 m wide. The walls were sandstone and the roof was covered with corrugated metal / cement with wooden beams underneath. The windows had wooden frames. The surrounding landscape featured arable fields and paddocks, and a coniferous plantation woodland.
	Features of bat potential	There was a void behind the soffit box, and a gap in the soffit; according to the owner a bat has previously been found in the gap.
	Limitations	None recorded.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="5">B66A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18888 93685

A single-storey stable approximately 10 years old. The building was approximately 3 m high, 20 m long and 5 m wide. The walls were wooden, and the windows had wooden frames and were open. The roof was covered with corrugated metal.

The surrounding land featured arable fields and paddocks, and a coniferous plantation woodland.</td></tr>
<tr><td>Features of bat potential</td><td>Gaps were present behind fascias. Barge boards and joists had created cavities suitable for bats. Numerous birds’ nests were present.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B67A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18961 94210 A single-storey wooden stable with a flat corrugated asbestos cement roof. The stable was approximately 2 m tall, 6 m long and 3 m wide, and approximately 15 years old. The stable had wooden window frames. Land around the stable was arable and grazed land.
	Features of bat potential	None recorded.
	Limitations	None noted.
	Bat evidence	None recorded.

B68A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18965 94288 A single-storey wooden shed with a two-pitched roof covered with bitumen felt. The shed had wooden window frames and barge boards. The building was approximately 3 m tall, 7 m long and 5 m wide, and approximately 15 years old. The shed was surrounded by gardens and arable farmland and grazed land.
	Features of bat potential	None recorded.
	Limitations	None noted.
	Bat evidence	None recorded.

B69A **Low bat roost potential**		
	Description	Grid reference: NZ 18951 94316 A two-storey 50 year old detached dwelling, approximately 8 m high, 10 m long and 8 m wide. The walls were rendered pebble dash while the two-pitched roof was covered with slates. Fascias and coping stones were present, with lead flashing around the gable ends. The windows were uPVC. The surrounding land was used for grazing.
	Features of bat potential	A gap in the fascia was observed, which could have potentially led to a void.
	Limitations	Only seen from north-eastern side.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="5">B70A

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18971 94367

A single-storey brick dwelling with wooden cladding on the gable end. The building was approximately 30 to 40 years old, and was approximately 4 m high, 10 m long, and 5 m wide. The building had soffit boxes and barge boards. The two-pitched roof was covered with ‘pan tile’ style concrete tiles.

The building was adjacent to a dirt bike track and areas used for grazing and storage.</td></tr>
<tr><td>Features of bat potential</td><td>Gaps were observed in the barge boards and mortar. However, the gaps were not large enough for bats.</td></tr>
<tr><td>Limitations</td><td>The building could only be assessed from the southern and eastern aspects.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">B71A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18957 94376

A single-storey brick dwelling with a two-pitched, hipped roof. The building was approximately 30 years old, and approximately 4 m high, 15 m long and 10 m wide. The roof comprised pan tile-effect tiles. The windows were uPVC and soffit boxes were present.

The building was adjacent to a dirt bike track and areas used for grazing and storage.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>The building could only be viewed from the southern end.</td></tr>
<tr><td></td><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B72A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18960 94397 A single-storey detached dwellling; approximately 10 years old, and approximately 4 m high, 11 m long, and 12 m wide. The building was prefabricated with rendered walls. The roof was two-pitched and hipped with slate, or slate-effect, tiles. The windows were framed with uPVC and a soffit box was present. The building was adjacent to a dirt bike track and areas used for storage.
	Features of bat potential	None recorded.
	Limitations	The building could only be inspected from the northern side.
	Bat evidence	None recorded.

B73A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18974 94442 An open-fronted single-storey corrugated metal garage with a two-pitched metal roof. The garage was approximately 4 m tall, 6 m wide and 8 m long, and approximately 10 years old. The building was adjacent to a dirt bike track and areas used for grazing and storage.
	Features of bat potential	None recorded.
	Limitations	None noted.
	Bat evidence	None recorded.

B74A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18967 94566 Concrete culvert underneath the A1, between 30 and 60 years old. Approximately 2 to 3 m tall, 2.5 m wide and 30 m long. The culvert entrance was surrounded by a drainage ditch overgrown with brambles.
	Features of bat potential	None recorded.
	Limitations	The culvert could only be viewed from a distance due to the barrier of dense bramble. However, the culvert may be used by bats commuting under the A1.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="5">B111A

Low bat roost potential</td><td colspan="2"> 
Image taken from Google Earth Pro</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18924 94732

A modern single-storey detached dwelling, approximately 25 m long and 13 m wide. The dwelling had stone walls and a multi-pitched roof with interlocking tiles. The windows were uPVC.

The surrounding land featured arable and grazed fields, hedgerows and a stream.</td></tr>
<tr><td>Features of bat potential</td><td>None were observed, but features may have been present on the southern and eastern aspects of the building that could not be viewed.</td></tr>
<tr><td>Limitations</td><td>Surveyed from the road, viewed from a distance and no view of the southern or eastern sides.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B110A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18960 94783

A two-storey semi-detached dwelling built in 2010, approximately 20 m long and 10 m wide. The building had stone walls and the roof was double-pitched with dormer windows and covered with slate. The windows were uPVC. Barge boards and soffit boxes were present, and lead flashing was located around the chimney and in the joins between the roof and the dormer windows.

The surrounding land featured arable and grazed fields, hedgerows and a stream.</td></tr>
<tr><td>Features of bat potential</td><td>None were observed, and although features may have been present on south-eastern and northern aspects of the building that could not be viewed, this is considered unlikely due to the buildings age.</td></tr>
<tr><td>Limitations</td><td>Surveyed from the road, no view of the south-eastern and northern sides.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B109A

Moderate bat roost potential</td><td colspan="2"> 
Image taken from Google Earth Pro</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 18564 95146

A single-storey brick building with a two-pitched, slate covered roof. The building was approximately 4 m long and 3 m wide. The windows had wooden frames.

The surrounding land featured open farmland, with hedgerows approximately 25 m away.</td></tr>
<tr><td>Features of bat potential</td><td>There were some raised, slipped and missing tiles. No other features were observed.</td></tr>
<tr><td>Limitations</td><td>None.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B107A

Low bat roost potential</td><td colspan="2"> 

Image taken from Google Earth Pro</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 19032 95331

A single-storey dwelling, at least 100 years old and approximately 10 m long and 10 m wide. The dwelling had stone walls and a hipped, slate covered roof. An extension with rendered and wooden walls and a flat, felt-covered roof was attached to the northern side of the dwelling. The windows of the main building were wooden and were uPVC in the extension.

The surrounding land featured woodland, arable fields and hedgerows.</td></tr>
<tr><td>Features of bat potential</td><td>None were observed, and the building well maintained but features may have been present on the northern aspect of the building that could not be viewed.</td></tr>
<tr><td>Limitations</td><td>Surveyed from the road, no view of the northern side.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>B108A</td><td colspan="2"></td></tr>
</table>

Moderate bat roost potential		
	Description	Grid reference: NZ 18986 95384 A single-storey building, used as a studio and for storage of wood. The building was approximately 20 m long and 6 m wide. The walls were stone and the roof was multi-pitched and covered with pan tiles. The surrounding land featured woodland, arable fields and hedgerows.
	Features of bat potential	The eastern aspect of the log store was open fronted and gaps were present under the pan tiles.
	Limitations	None.
	Bat evidence	None recorded.

		
B75A **Low bat roost potential**	Description	Grid reference: NZ 18780 96364 Three-storey detached dwelling with brick and stone walls and a multi-pitched, slate roof. The dwelling was approximately 8 m high, 19 m long, and 26 m wide. The building had uPVC framed windows, and a soffit box (on the extension only), fascias and barge boards were present. Tightly-fitting lead flashing was present around the ground floor. The building was surrounded by a farm and woodland.
	Features of bat potential	Slipped roof tiles were noted.
	Limitations	None noted.
	Bat evidence	No bat evidence was observed during the inspection of the building. The owners of the dwelling were not aware of any bat roosts.

B76A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18737 96391 An open-fronted, single-storey, storage shed with corrugated metal walls and roof. The roof was single-pitched. The shed was approximately 3.5 m tall, 7 m long, and 21 m wide, and was approximately 30 years old. The shed was surrounded by a farm and woodland.
	Features of bat potential	None recorded.
	Limitations	None noted.
	Bat evidence	None recorded

B77A **High bat roost potential**		
	Description	Grid reference: NZ 18764 96419 Two-storey stone barn, likely constructed in the 18th century and occasionally used for storage. The barn was approximately 5 m tall, 26 m long, and 7 m wide. The roof was two-pitched and was covered with a mixture of slates and asbestos concrete sheets. The barn had wooden window frames; some were without glass. Windows allowed light to enter the building. Fascias were present on parts of the building, and tightly-fitting lead flashing was present in the roof valley where the barn forms an 'L' shape. The barn was surrounded by farm buildings and woodland.
	Features of bat potential	It was noted that there were several missing and slipped roof tiles. There were gaps in the mortar beneath the ridge and the window lintels and between stonework. Holes were also oberved in the building where joists were previously attached to building.
	Limitations	None noted.
	Bat evidence	Bat droppings were observed on the outside of one of the windows. However, upon inspection, there was no likely roost location above.

B78A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18796 96418 Semi-detached single-storey barn constructed approximately 20 years ago. The building was approximately 6 m tall, 6 m long and 10 m wide. The barn was made of three materials; breeze blocks, red brick and corrugated asbestos concrete sheeting. The building had a two-pitched roof made from corrugated asbestos concrete. The building was surrounded by farm and woodland.
	Features of bat potential	Small gaps in mortar and overlapping tiles were observed but these were closely inspected and no evidence of, or substantial potenital for, roosting bats was identified.
	Limitations	None noted.
	Bat evidence	No bat evidence was observed during the inspection of the building. The owners of the barn were not aware of any bat roosts.

B79A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18761 96428 An open-fronted, corrugated metal barn with a curved roof, used for storing straw. The barn was approximately 6 m tall, 10 m long and 5 m wide, and was approximately 30 years old. The barn was surrounded by a farm and woodland.
	Features of bat potential	None recorded.
	Limitations	None noted.
	Bat evidence	None recorded.

B80A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18732 96426 A disused single-storey saw mill constructed approximately 60 years ago. The building had wooden walls and a curved corrugated metal roof. The building was approximately 3.5 m tall, 16 m long and 4 m wide. The mill had wooden window frames however there was no glass in the frames. The building was surrounded by farm buildings and woodland.
	Features of bat potential	There were cracks in the wall. However, these were large and exposed. The barn was open at the front and side providing bats with access to the interior but no suitable crevices were identified inside.
	Limitations	None noted.
	Bat evidence	No bat evidence was observed during the inspection of the building. The owners of the barn were not aware of any bat roosts.

B81A **Negligible bat roost potential**		
	Description	Grid reference: NZ 18751 96410 A single-storey working barn constructed from breeze blocks and corrugated asbestos concrete sheeting, approximately 20 years old. The barn was approximately 8 m high, 27 m long and 16 m wide. The barn roof was two-pitched. The building was surrounded by farm and woodland.
	Features of bat potential	No potential bat roost features were recorded. The barn was open at the front providing bats with access to the interior.
	Limitations	None noted.
	Bat evidence	No bat evidence was observed during the inspection of the building. The owners of the barn were not aware of any bat roosts.

B82A **Negligible bat roost potential**		
	Description	Grid reference: NZ 17645 97797 A single-storey open-fronted stable with a single pitch roof, approximately 30 years old. The building was approximately 3 m tall, 11.5 m long, and 3.5 m wide. The stable's walls were corrugated metal with some tiles at the end, while the roof was covered with corrugated asbestos cement. Windows were corrugated plastic with wooden frames. An airfield was located immediately north of the building, and a woodland strip was located to the west.
	Features of bat potential	The stable was open at the front providing bats with access to the interior. No potential bat roost features were recorded.
	Limitations	None noted.
	Bat evidence	None recorded.

B83A **Negligible bat roost potential**		
	Description	Grid reference: NZ 17575 97957 An open-fronted single-storey red brick log shed with a single pitch corrugated metal roof, approximately 40 years old. The building was approximately 2.5 m tall, 3 m long, and 6 m wide. The building was adjacent to a woodland strip.
	Features of bat potential	Cracks were recorded in the mortar between breeze blocks and brick work but these were closely inspected and found to be generally too small or open to support roosting bats.
	Limitations	None noted.
	Bat evidence	No evidence of roosting bats was identified.

		
B84A **Confirmed bat roost**	Description	Grid reference: NZ 17314 98710 A single-storey stone garage, less than 20 years old, with pan-tile roof. The building was approximately 4.5 m high, 20 m long and 6 m wide. The building had barge boards behind guttering and wooden window frames. The surrounding land featured residential and farm buildings, arable fields and private gardens.
	Features of bat potential	Gaps were recorded beneath barge boards and behind gutters on eastern aspect and some on western aspect.
	Limitations	None noted.
	Bat evidence	Anecdotal evidence from a neighbour identified that a pipistrelle roost was present in the northernmost section of the garage. No physical evidence was found during the survey.

<table>
<tr><td rowspan="5"></td><td colspan="2"> 
Image taken from Google Earth Pro</td></tr>
<tr><td rowspan="4">B106A

Moderate bat roost potential</td><td>Description</td><td>Grid reference: NZ 17189 98677

A block of two terraced single-storey dwellings with brick and rendered walls and two-pitched tiled roofs. The building was approximately 22 m long and 10 m wide, and the windows were uPVC. Soffit boxes and barge boards were present, and lead flashing was located around the chimneys.

The surrounding land featured woodland, arable fields and hedgerows.</td></tr>
<tr><td>Features of bat potential</td><td>None were observed, but features may have been present on the southern aspect of the building that could not be viewed.</td></tr>
<tr><td>Limitations</td><td>Surveyed from the road, no view of the southern side.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B105A

Negligible bat roost potential</td><td colspan="2"> 
Image taken from Google Earth Pro</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17206 98679

A single-storey garage, approximately 11 m long and 6 m wide. The garage had brick walls and a flat felt-covered roof. The garage doors were constructed of metal, and one was wooden with glass panes.

The surrounding land featured woodland, arable fields and hedgerows.</td></tr>
<tr><td>Features of bat potential</td><td>None were observed, but features may have been present on the southern aspect of the building that could not be viewed.</td></tr>
<tr><td>Limitations</td><td>Surveyed from the road, no view of the southern side.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B104A **Moderate bat roost potential**		
	Description	Grid reference: NZ 17222 98684 A block of two terraced single-storey dwellings with brick and rendered walls and double-pitched tiled roofs. The building was approximately 22 m long and 10 m wide, and the windows were framed by uPVC. Soffit boxes and barge boards were present, and lead flashing was located around the chimneys. The surrounding land featured woodland, arable fields and hedgerows.
	Features of bat potential	None were observed, but features may have been present on the southern aspect of the building.
	Limitations	Surveyed from the road, no view of the southern side.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="5">B103A

Negligible bat roost potential</td><td colspan="2"> 
Image taken from Google Earth Pro</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17250 98695

A modern single-storey farm outbuilding, approximately 28 m long and 12 m wide. The building was constructed of breeze blocks and corrugated metal, and the roof was two-pitched and covered with corrugated cement sheets.

The surrounding land featured woodland, arable fields and hedgerows.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>Surveyed from the road, no view of the southern side.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B102A

Negligible bat roost potential</td><td colspan="2"> 
Image taken from Google Earth Pro</td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17276 98701

A modern single-storey farm outbuilding, approximately 29 m long and 13 m wide. The building was constructed of breeze blocks and wood, and the roof was two-pitched and covered with corrugated cement sheets with skylights.

The surrounding land featured woodland, arable fields and hedgerows.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>Surveyed from the road, no view of the southern side.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

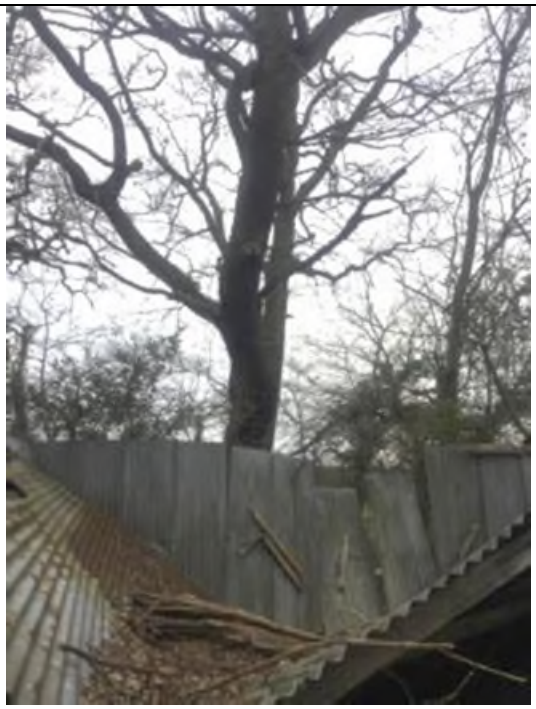
<table>
<tr><td rowspan="5">B101A

Low bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17303 98729

Single-storey, stone-walled dwelling with a two-pitched interlocking tile roof. The dwelling was approximately 15 m long and 9 m wide. The windows were uPVC. A flat-roofed conservatory was attached to the western side of the dwelling, and a small felt-roofed porch was attached to the eastern side. Soffit boxes were present, and lead flashing was located around the chimneys.

The surrounding land featured woodland, arable fields and hedgerows.</td></tr>
<tr><td>Features of bat potential</td><td>None were observed, but features may have been present on the southern aspect of the building that could not be viewed.</td></tr>
<tr><td>Limitations</td><td>Surveyed from the road, no view of the southern side.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B100A

Negligible bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NZ 17394 98747

Derelict wooden shed with a collapsed roof covered with corrugated metal. The building was approximately 15 m long and 6 m wide.

The surrounding landscape featured woodland and farmland.</td></tr>
<tr><td>Features of bat potential</td><td>There was no roof void and the building provided little shelter as it was exposed to the elements.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B85A **Negligible bat roost potential**		
	Description	Grid reference: NZ 17502 98797 Single-storey 20 year old bus shelter, approximately 2 m tall, 2 m wide and 3 m long. The building's walls were made from stone-faced breeze blocks while the flat roof was covered with bitumin roofing felt. The building had windows with wooden frames and fascias. The building was surrounded by grazed pasture and a minor road. The A1 was approximately 70 m west of the building.
	Features of bat potential	A missing section of roofing felt was recorded on the building's southwest corner but its exposed position with adjacent minor road and nearby A1 reduced potential substantially.
	Limitations	None noted.
	Bat evidence	None recorded.

B86A **Moderate bat roost potential**		
	Description	Grid reference: NZ 17442 99885 The A1 concrete road bridge over the River Coquet, approximately 30 years old. The bridge had three spans and was approximately 16 m tall, 14 m wide and 70 m long. There was woodland eitherside of the bridge.
	Features of bat potential	The bridge had expansion gaps at either end of the northern span.
	Limitations	Classified as having moderate bat roost potential as a precaution, as the expansion gaps could not be accessed for inspection.
	Bat evidence	None recorded.

B87A **Negligible bat roost potential**		
	Description	Grid reference: NU 17444 00344 Concrete underpass that allowed a farm track to pass under the A1, approximately 40 years old. The underpass was approximately 5 m tall, 12 m long, and 4 m wide. Either side of the underpass was woodland and parkland.
	Features of bat potential	Negligible potential for bat roosting, however may be an important A1 crossing point for bats.
	Limitations	None noted.
	Bat evidence	None recorded.

<table>
<tr><td colspan="4">A1 Ecological Inspection of Buildings and Structures</td></tr>
<tr><td colspan="4">SITE DETAILS</td></tr>
<tr><td>Project Name:</td><td>A1 in Northumberland</td><td>Project Number:</td><td>B2104700</td></tr>
<tr><td>Site Name (if different):</td><td>Section B</td><td>Date of Inspection:</td><td>21st -23rd March 2016; 17th – 19th August 2016; 5th – 6th December 2016</td></tr>
<tr><td rowspan="5">B1B

Low bat roost potential</td><td colspan="3">  </td></tr>
<tr><td>Description</td><td colspan="2">Grid reference: NU 19625 15631

Concrete culvert; approximately 30 years old. The culvert was approximately 1 m tall, 60 m long and 2 m wide.

The land surrounding the culvert was arable and young plantation.</td></tr>
<tr><td>Features of bat potential</td><td colspan="2">Although it was not inspected internally there were likely to be cracks inside the culvert, based on the culverts age and external condition.</td></tr>
<tr><td>Limitations</td><td colspan="2">None noted.</td></tr>
<tr><td>Bat evidence</td><td colspan="2">None recorded.</td></tr>
</table>

B2B **Negligible bat roost potential**		
	Description	Grid reference: NU 19389 16469 Stone culvert with stone slabs forming its deck. Approximately 90 cm tall, 80 cm wide and 3.5 m long. Land surrounding the culvert is grazed pasture.
	Features of bat potential	Gaps between stonework were observed in the culvert's roof but these provided little shelter and the level of the streem was considered likely to rise such that potential gaps would not be suitable for use by roosting bats.
	Limitations	None noted.
	Bat evidence	None recorded.

B3B **Negligible bat roost potential**		
	Description	Grid reference: NU 19216 16629 Concrete culvert approximately 30 years old. The culvert was approximately 1 m tall, 1 m wide and 30 m long. Land surrounding the culvert was grazed pasture.
	Features of bat potential	None recorded.
	Limitations	None noted.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="5">B4B

Moderate bat roost potential</td><td colspan="2"> 
Photo from Google Earth (April 2011; Accessed December 2016)</td></tr>
<tr><td>Description</td><td>Grid reference: NU 17818 20034

A two-storey residential cottage approximately 150 years old with a modern Dutch pitch barn style roof. The cottage was approximately 6 m high, 12 m long and 9 m wide, constructed from stone and had a slate covered roof with some cladding. The windows were uPVC.

The surrounding land use was residential garden and woodland, with roads to the east and west.</td></tr>
<tr><td>Features of bat potential</td><td>Gaps present in porch fascia, and lead flashing was open to western aspect along the roof top.</td></tr>
<tr><td>Limitations</td><td>None noted.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">B5B

Low bat roost potential</td><td colspan="2"> 
Photo from Google Earth (April 2011; Accessed December 2016)</td></tr>
<tr><td>Description</td><td>Grid reference: NU 17836 20034

A storage shed approximately 10 years old of height 4.5 m, width 6 m and length 15 m. The shed was constructed from wood panels and the roof was covered by bitumen felt. The windows had wooden frames.

The surrounding land use was residential garden and woodland, with roads to the east and west.</td></tr>
<tr><td>Features of bat potential</td><td>Gaps present between top of gable ends and the roof overhang on eastern and western aspects.</td></tr>
<tr><td>Limitations</td><td>None noted.</td></tr>
<tr><td></td><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="4">B105B

Low bat roost potential</td><td colspan="2"> 
Image taken from Google Earth Pro</td></tr>
<tr><td>Description</td><td>Grid reference: NU 17776 20415

Stone bus-shelter with a flat bitumen felt-covered roof. The building was approximately 3 m long and 2 m wide.

The surrounding land featured farmland and hedgerows.</td></tr>
<tr><td>Features of bat potential</td><td>The roof overhung the front of the bus shelter on the western aspect, and the door and window were open, providing access for bats to the inside of the building. A small gap was present between the fascia and the stonework.</td></tr>
<tr><td>Limitations</td><td>None recorded.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
<tr><td>B104B

Negligible bat roost potential</td><td colspan="2">  </td></tr>
</table>

	Description	Grid reference: NU 17455 20423 A single-storey barn, approximately 4 m high, 10 m long and 5 m wide. The building was constructed of red brick with a two-pitched, slate covered roof. The surrounding land was grazed pasture and hedgerows.
	Features of bat potential	None recorded.
	Limitations	None recorded.
	Bat evidence	None recorded.
B103B **Negligible bat roost potential**	 Image taken from Google Earth Pro	
	Description	Grid reference: NU 17827 20609 Rendered breeze-block and wooden clad stable built within the last 10 years, approximately 14 m long by 14 m wide. The two-pitched roof was covered with corrugated bitumen sheets. The surrounding land featured farmland and hedgerows.
	Features of bat potential	None recorded.
	Limitations	None recorded.

	Bat evidence	None recorded.
	 Image taken from Google Earth Pro	
B102B **Low bat roost potential**	Description	Grid reference: NU 17787 20638 Single-storey detached stone dwelling, which appeared to be well-maintained. The dwelling was approximately 17 m long and 10 m wide. The roof was two-pitched and slate-covered. Two stone extensions were located on the northern side with single-pitched, slate-covered roofs without roof voids. The windows had uPVC frames, lead flashing was present around the chimneys, solar panels were present on the southern roof pitch and barge boards were also present. The surrounding land featured farmland and hedgerows.
	Features of bat potential	There was an overhang at the gable ends and the eaves. Additionally, features may have been present on the northern aspect of the building that could not be viewed.
	Limitations	Surveyed from the road so no view of the northern aspect.
	Bat evidence	None recorded.
B101B		

<table>
<tr><td rowspan="5">Low bat roost potential</td><td colspan="2"> 
Image taken from Google Earth Pro</td></tr>
<tr><td>Description</td><td>Grid reference: NU 17741 20647

Two-storey, detached, stone dwelling which appeared to be well-maintained. The dwelling was approximately 18 m long and 12 m wide. The dwelling had a hipped slate-covered roof and a single-storey extension to the east with a multi-pitched hipped slate-covered roof. The windows had wooden frames and lead flashing was present around the chimney. Climbing foliage was present on the southern aspect which may have obscured potential roost features.

The surrounding land featured farmland and hedgerows.</td></tr>
<tr><td>Features of bat potential</td><td>None were observed, but features may have been present on the northern and eastern aspects of the building that could not be viewed.</td></tr>
<tr><td>Limitations</td><td>Surveyed from the road so no view of the northern or eastern aspects.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

B6B **Low bat roost potential**		
	Description	Grid reference: NU 17743 20678 Old, two storey, detached barn. The building was constructed from stone. The roof was double pitched and covered with corrugated asbestos cement sheets with pitched extensions. The roof material overlapped the building's gable ends. There were no windows. The building was 12 m tall and 50 m long. The land surrounding the building was grazed pasture.
	Features of bat potential	Small cracks and low level mortar gaps were observed.
	Limitations	None noted.
	Bat evidence	None recorded.

<table>
<tr><td rowspan="4">B7B

Negligible bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 17722 20681

Open ended, single-storey barn constructed from breeze blocks and corrugated metal. The barn was approximately 40 years old. The barn’s roof was covered with corrugated asbestos concrete sheeting, with tiles lapping over the gable end. The barn was approximately 10 m tall, 24 m long and 6 m wide.

The land surrounding the barn was grazed pasture.</td></tr>
<tr><td>Features of bat potential</td><td>None recorded.</td></tr>
<tr><td>Limitations</td><td>None noted.</td></tr>
<tr><td></td><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B8B

Moderate bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 18225 20693

Stone detached dwelling. The single storey building was approximately 15 m long and 6 m wide. The building’s two pitched roof was covered with slate. The building’s windows were uPVC.

A smallholding surrounded the building on three sides. A minor road was present to the south.</td></tr>
<tr><td>Features of bat potential</td><td>The dwelling’s owner (Mr Douglas) reported a crack going into the loft. There was some missing mortar between the ridge tiles.</td></tr>
<tr><td>Limitations</td><td>None noted</td></tr>
<tr><td>Bat evidence</td><td>None recorded. Owner reported bats flying around house.</td></tr>
</table>

<table>
<tr><td rowspan="5">B9B

Negligible bat roost potential</td><td colspan="2">  </td></tr>
<tr><td>Description</td><td>Grid reference: NU 17605 21027

Concrete culvert allowing a stream to flow under the A1. The structure was approximately 30 m long, 2 m high, and 2 m wide.

The land surrounding the culvert was grazed pasture and arable.</td></tr>
<tr><td>Features of bat potential</td><td>No obvious cracks were observed in the concrete.

Negligible potential for bat roost. However, the culvert had high potential to be used by commuting bats to cross under the A1.</td></tr>
<tr><td>Limitations</td><td>None noted.</td></tr>
<tr><td>Bat evidence</td><td>None recorded.</td></tr>
</table>

<table>
<tr><td rowspan="5">B100B

Low bat roost potential (dwelling)

- Negligible bat roost potential other structures</td><td colspan="2"> 
Image taken from Google Earth Pro</td></tr>
<tr><td>Description</td><td>Grid reference: NU 17554 21051

Single-storey, well maintained, stone dwelling with associated kennels and modern pre-fabricated garage. The dwelling had a two-pitched roof, covered with slate and windows with wooden frames. The dwelling was approximately 11 m in length and width.

The surrounding land comprised grazed pasture and hedgerows.</td></tr>
<tr><td>Features of bat potential</td><td>Small gaps under ridge tiles and beneath coping stones.</td></tr>
<tr><td>Limitations</td><td>No access to the rear of the property as dogs were loose.</td></tr>
<tr><td>Bat evidence</td><td>None recorded but additional features and evidence at the rear of the property could not be ruled out.</td></tr>
</table>

<table>
<tr><td rowspan="4">B10B

Confirmed roost</td><td colspan="2"> 
Photo from Google Earth (June 2016; Accessed December 2016)</td></tr>
<tr><td>Description</td><td>Grid reference: NU 17420 21255

A two-storey house approximately 100 years old. The house measured 6 m high, 18 m long and 12 m wide. The house was constructed from stonework. The roof was two-pitched and covered with slates. The windows had wooden frames.

The surrounding land use was residential and pasture.</td></tr>
<tr><td>Features of bat potential</td><td>Gaps were present between the top of the eastern wall and the roof tiles. There was also a large gap above the garage door potentially leading into a roof void. Gaps were present under the flashing around the dormer extensions on eastern aspect.</td></tr>
<tr><td>Limitations</td><td>None noted.</td></tr>
<tr><td></td><td>Bat evidence</td><td>None recorded. Anecdotal evidence of bats emerging from owner.</td></tr>
</table>

B11B **High bat roost potential**		
	Description	Grid reference: NU 17170 21936 Victorian era detached dwelling constructed from sandstone and bricks. The roof was double pitched in a mansard style and covered with slates. The gable end had wooden cladding and overhanging slates on an extension. The window frames were wooden. The dwelling was 6 m tall, 11 m long and 7 m wide. The land surrounding the building was a mixture of woodland and grazed pasture.
	Features of bat potential	A small gap was noted in the mortar on the northeastern end of the building. The soffit box on the overhung roof had gaps present. Raised tiles were observed that provided potential access for bats. There was also missing mortar beneath the building's ridgetiles.
	Limitations	None noted.
	Bat evidence	None recorded.

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If you have any enquiries about this document A1inNorthumberland@highwaysengland.co.uk or call **0300 470 4580***.

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