

Bat Report



Aston Rise

On behalf of Mr & Mrs Lewsey

September 2024

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Registered in England and Wales No. 9318075.



Project Code	Title	Date of Issue
EBD03725	Aston Rise, Aston	13 th September 2024

	Name	Date
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Contents

1	Executive Summary	4
2	Introduction	5
2.1	Background	5
2.2	Site Description	5
2.3	Proposed Works	5
2.4	Aims of Report	5
2.5	Personnel	5
3	Methods	6
3.1	Desk Study	6
3.2	Daytime Bat Walkover	6
3.3	Preliminary Roost Assessment	6
3.4	Night Time Roost Surveys	7
3.5	Limitations/Constraints	8
4	Results and Interpretation	9
4.1	Desk Study	9
4.2	Daytime Bat Walkover	9
4.3	Preliminary Roost Assessment	9
4.4	Night Time Roost Surveys	10
4.5	Site/ Species Valuation for Bats	11
5	Potential Impacts and Recommendations	12
5.1	Bats	12
6	Relevant Legislation and Policy	13
6.1	Exit from European Union	13
6.2	National Planning Policy Framework	13
6.3	Protection of Bats	15
6.4	Local Planning Policy	15
7	References	17
Appendix 1 -	Photographs	18
Appendix 2 -	Figures	19

1 Executive Summary

Report purpose	This report identifies the assemblage of bats within B2 at Aston Rise, Aston, potential impacts of the proposals and mitigation, compensation and enhancement measures required.
Date and methods of survey	A Preliminary Roost Assessment and Daytime Bat Walkover of the annex (B2), and the surrounding buildings on site was conducted in March 2024 which identified the need for further surveys for bats including: Night Time Roost Survey (conducted 25th June 2024).
Key findings	The site, situated in Aston, Oxfordshire, is 1.3ha in extent and includes three buildings, including the main house, the annex and the workshop, and a large residential garden with woodland surrounding these. The woodland surrounding the site is priority habitat deciduous woodland. During the night time roost survey of the building, the following was recorded: Three species of bat actively foraging and commuting around the Annex (B2).
Potential impacts	The proposals include the demolition of the annex (B2) and building a new one in its place. In the absence of mitigation, development within the site may result in: The severance of bats' commuting routes through the use of insensitive lighting.
Measures to avoid and/or reduce impacts and deliver biodiversity enhancements	- One bat box within the woodland in the same land ownership - Sensitive Lighting on any new buildings

2 Introduction

2.1 Background

- 2.1.1 Ecology by Design Ltd was commissioned by Mr & Mrs Lewsey to undertake Bat Night Time Roost Surveys of the land at Aston Rise, Aston, Oxfordshire, RG9 3DE (central grid reference SU 78270 84092).

2.2 Site Description

- 2.2.1 The site is approximately 2.2 ha in extent, comprises the main house (B1), the annex (B2) and the workshop (B3), as well as an area of Priority Habitat deciduous woodland in the east and west of the site, hardstanding in the northwest and centre of the site, residential garden in the north and the south of the site, and arable land in the south of the site.
- 2.2.2 The site is surrounded by arable field to the north, south and west, with further Priority Habitat deciduous woodland to the west of the site. In the wider landscape, the hamlet of Aston is situated to the north and east, arable land in all directions, and the River Thames to the north, east and west.

2.3 Proposed Works

- 2.3.1 The proposals include the demolition of the annex (B2) to make way for an extension on the main house (B1).

2.4 Aims of Report

- 2.4.1 This report presents an appraisal of the potential impacts of the proposed development works on bats. The report outlines recommendations for avoidance, mitigation, compensation and enhancement measures of Building B2.

2.5 Personnel

- 2.5.1 This project is led by Senior Ecologist Oli Bulpitt BSc (Hons) MSc ACIEEM who has five years' experience in ecological consultancy. Oli is experienced in conducting habitat and protected species assessments of this size and nature. The Preliminary Roost Assessment survey was completed by Senior Ecologist Jo Sykes BSc (Hons) ACIEEM, who holds a Natural England Level 1 class licence for surveying bats (Licence number Level 1 - 2021-10092-CL17-BAT) and Assistant Ecologist Kat Hale BSc (Hons).
- 2.5.2 Review of the report was provided by Senior Ecologist Anna Spence, BSc (Hons), MSc, MCIEEM, who has been an ecological consultant for eight years.

3 Methods

3.1 Desk Study

- 3.1.1 Records of bats were requested from Thames Valley Environmental Records Centre (TVERC) for within a 2km radius of central OS national grid reference SU 78270 84092. MAGIC (www.magic.gov.uk) was also used to identify presence of granted bat European Protected Species Mitigation licences within the local area.

3.2 Daytime Bat Walkover

- 3.2.1 A daytime bat walkover (DBW) survey was conducted by Jo Sykes (Natural England Level 1 - 2021-10092-CL17-BAT) and Kat Hale on 11th March 2024.
- 3.2.2 During the DBW the surveyors noted any habitats suitable for roosting, foraging or commuting bats within or adjacent to the site. This includes recording structures, habitat features and trees which could be suitable for bats.

Table 3.1: *Categorisation of Potential Suitability of Sites for Bats (Collins, 2023)*

Suitability	Description of Potential Flightpaths and Foraging Habitats
None	No suitable features for flightpaths and foraging.
Negligible	No obvious flightpath or foraging features but cannot be discounted.
Low	Habitats with limited connectivity suitable for use by low numbers of bats.
Moderate	High habitat connectivity including flightpath or foraging habitats features.
High	Well-connected habitats high quality habitats for foraging which is likely to be in regular use.

3.3 Preliminary Roost Assessment

- 3.3.1 An external and internal Preliminary Roost Assessment was conducted of the buildings on site, on the 11th March 2024.
- 3.3.2 The assessment was based on the guidance in Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023) and government guidance (Gov.uk., 2015a).
- 3.3.3 The surveyors used a high-power torch and binoculars to inspect features of interest. All external areas of the building were inspected as well as internal areas, including all lofts.
- 3.3.4 Evidence searched for included the presence of free hanging bats and bats within gaps and crevices, bat droppings, urine stains, rub marks, scratch marks and feeding remains.

Table 3.2: *Description of potential roosting habitats in structures*

Suitability	Description of potential roosting habitats in structures
None	No habitat features on site likely to be used by any roosting bats at any time of year (i.e. a complete absence of crevices/suitable shelter).
Negligible	No obvious habitat features on site likely to be used by roosting bats but cannot be discounted.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of year. However these do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. maternity or classic hibernation site).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, appropriate conditions and suitable surrounding habitat but unlikely to support a roost of high conservation status (i.e. maternity or classic hibernation site – roost type only, irrespective of species conservation status).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have potential to support high conservation status roosts (i.e. maternity or classic hibernation site).

3.4 Night Time Roost Surveys

- 3.4.1 A further survey was conducted to establish if bats are roosting within Building B2 identified as having low potential to support roosting bats. One emergence survey is required for low roost suitability to confirm presence or likely absence.
- 3.4.2 The survey was completed in June 2024, in the suitable surveying season (May and September) with three surveyors located around the building focused on potential roosting features.
- 3.4.3 The surveys undertaken within the site are detailed in Table 3.3.

Table 3.3: *Night time roost survey details*

Date	Surveyors	Type of Survey
25/06/2024	Ian Reynolds, Harry Eldon and Jack Wheeler.	Dusk emergence

This survey was part of a larger emergence survey carried out on the wider site under the supervision of Jo Graham (Natural England Level 2 Class Licence 2018-36787-CLS-CLS).

- 3.4.4 The surveys were based on the guidance included in the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023). Bat detectors utilized included Elekon Batlogger M detectors to record any bats emerging from or re-entering the buildings.

- 3.4.5 The emergence survey commenced approximately 15 minutes before sunset and lasted until 1.5 hours after sunset.
- 3.4.6 Surveyors were located on each aspect of the buildings, focused on features identified during the preliminary roost assessment as being suitable for roosting bats. During the surveys emergence and/or re-entry points were mapped, species were identified (where possible) and flight lines were noted. The results of the survey are detailed in Figure 2 in Appendix 2.
- 3.4.7 A TrackIR Pro 19mm thermal imaging camera was used on the western elevation of the building to aid the surveyor watching this elevation, as there was heavy obstruction from foliage. The footage was only reviewed if the surveyor had indicated that a bat may have emerged or re-entered the building.

Table 3.4: *Dusk emergence survey methods*

Date	Start and end times and time of sunset	Structure reference / location	Equipment used	Weather
25/06/24	21:10-22:55; 21:25	B2	Batlogger M TrackIR Pro 19mm (TI scope)	Start: 25°C, Cloud 5/8 ¹ , Wind 1 ² End: 20°C, Cloud 0/8, Wind 1

3.5 Limitations/Constraints

- 3.5.1 Survey position D was constrained due to vegetation obscuring the view of the western elevation of B2. Additionally, as the vegetation was growing over a wooden pergola directly adjacent to the western elevation of B2, surveyor D was not sat as close to B2 as preferred. However, the surveyor was still able to view PRF-8. As such surveyor D was assisted by a TI camera which provided an improved field of view.

¹ Cloud cover is measured using the system called oktas. The visible sky is divided into eight and cloud presence is determined within each section. A value of one to eight is then assigned (1 okta being cloudless to 8 oktas being total cloud cover).

² The Beaufort scale is an empirical measure from 0-12 which relates wind speed to observed conditions. . 0- Calm, 1- Light air, 2- Light breeze, 3- Gentle breeze, 4- Moderate breeze, 5- Fresh breeze, 6- Strong breeze, 7- Moderate gale, 8- Fresh gale, 9- Strong gale, 10- Whole gale, 11- Storm, 12- Hurricane force.

4 Results and Interpretation

4.1 Desk Study

163 records of at least ten bat species have been recorded within 2km of the site including common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathuius' pipistrelle (*Pipistrellus nathusii*), brown long-eared (*Plecotus auritus*), noctule (*Nyctalus noctula*), serotine (*Eptesicus serotinus*), Daubenton's (*Myotis daubentonii*), Natterer's (*Myotis nattereri*), greater horseshoe (*Rhinolophus ferrumequinum*) and barbastelle (*Barbastella barbastellus*). The closest of these records was of common pipistrelle, soprano pipistrelle, serotine, noctule, and *myotis* sp. bats approximately 0.04km NE of the site in June 2022.

12 European Protected Species Licence (EPSL) for bats have been returned within 2km, with the closest for the destruction of a common pipistrelle breeding place in 2016, approximately 0.7km northeast of the site.

4.2 Daytime Bat Walkover

4.2.1 Habitats with suitability for foraging or commuting bats within or adjacent to the site include:

- The woodland within the east of the site.
- The woodland adjacent to the western boundary of the site.
- The scattered trees in the south of the site.

4.2.2 Habitats with suitability for roosting bats are discussed within the Preliminary Roost Assessment section below.

4.2.3 Overall, the site is identified as being of high suitability for bats.

4.3 Preliminary Roost Assessment

4.3.1 Table 4.1 includes descriptions of building B2 within the site, any evidence of roosting bats found and an assessment of their suitability to support roosting bats.

4.3.2 Buildings B1 and B3 on site are not referenced within Table 4.1 below, and are instead detailed within a separate bat report (Ecology by Design, 2024).

Table 4.1: Suitability of buildings for roosting bats and summary of roosts found

Building Reference	Description	Assessment
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B2 'The Annex' 	B2 is a single-storey building with a garage space in the north, an annex in the south and a generator room between the two. Externally, B2 is constructed of brick with a clay-tiled, gable-ended roof in the south and a clay-tiled hipped roof in the north. The south of B2's walls are clad with wooden panels on top of the brickwork, however these do not provide any suitable features. Both the northern and the southern roofs are open at the eaves (PRF-8) and approximately 5% of the tiles on the roof are damaged, broken or missing. There is also a broken ridge tile on the southern roof (PRF-9). This provides suitability for crevice dwelling species of bat. The roofs are otherwise in good condition. Internally, the garage has a loft space used for storage (L4a), the generator room has a loft space accessible from the annex (L4b), and the annex has a converted loft space. L4a and L4b are connected via a small gap. There is a 19th century well in the floor of the garage that is sealed with a grate. The garage has a timber frame, bitumen felt-lined and wooden boarded, hayloft style loft space (Loft L4a). This area has one sky-light window on the western elevation and is very heavily cobwebbed, particularly at the apex of the roof, reducing its suitability for hanging and crevice dwelling species of bats. No droppings were found in this space. The generators loft space (L4b) is a very small (approximately 150cm in height, 200cm in width and 150cm in depth) triangular space of loft in the very north of the roof. Like Loft L4a, this space is timber framed with bitumen linings and wooden boarding. No droppings or other evidence of bats was present within this loft space. The annex's loft space has been completely converted for residential use and storage.	Low suitability for roosting bats internally and externally.
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4.4 Night Time Roost Surveys

- 4.4.1 Details of the night time roost survey is given in Table 4.2 below. The locations of the surveyors and the roost present is given in Figure 1 in Appendix 2.
- 4.4.2 The survey timings and weather conditions for the night time roost survey are detailed in Table 4.4 below.

Table 4.2: Survey weather conditions

Date	Sunset/ Sunrise	Start	End	Weather
25 th June 2024	20:25	20:10	21:55	25°C to 20°C, Cloud 5/8 to 0/8, 2 Beaufort 1

Dusk emergence survey 25th June 2024

- 4.4.3 No bats were recorded emerging from the building during the survey. Common pipistrelle and soprano pipistrelle were noted to commuting and foraging around the building between 21:34 to 22:28. A noctule was also heard commuting overhead at 22:21 and 22:27. A common and soprano pipistrelle commuting route was observed between the north of B2 and the southeast of B1.
- 4.4.4 A photograph of the thermal imaging camera's range of view during the survey can be found within Appendix 1.

4.5 Site/ Species Valuation for Bats

- 4.5.1 As no roost were identified within B2, the valuation of the building of roost is negligible. The site does have suitability for commuting and foraging bats however, with commuting lines observed between the north of B2 and the south-east of B1.

5 Potential Impacts and Recommendations

5.1 Bats

5.1.1 The construction of the proposed extension to building B1, in the area between where B2 and B1 currently are, is likely to result in the severance of a common and soprano pipistrelle commuting route.

5.1.2 Increased levels of artificial light can cause disturbance to bats. Though several bat species can take advantage of artificial lighting systems for foraging, feeding off the insects they attract, other species avoid them as foraging within an illuminated area increases the risk of predation by nocturnal birds of prey or even domestic cats. If lighting is intensive and widespread, particularly lighting from lamps, which emit UV light (such as mercury vapour); it can deter some bats from utilising the site and in some instances can act as a barrier across commuting lines. Research has also shown that certain types of artificial lighting have been proven to disturb the emergence patterns of bats when they are placed within the vicinity of entrances to a bat roost.

Recommendation R1: Sensitive Lighting

5.1.3 Any lighting for the development (if required) will need to be designed sensitively in accordance with industry standard guidance (BCT & ILP, 2023) and the following principles will need to be adopted:

- Maintaining dark corridors along the site boundaries;
- Where lighting is required, ensuring:
 - Light levels are less than 3 Lux;
 - LED luminaires with a warm white spectrum ideally <2700 Kelvin (to avoid blue / UV elements);
 - Bollard or low-level downward directional luminaires are used and mounted on the horizontal (with no upward tilt); and
 - Security lighting, if required, is motion-activated with short (<1 minute) timers.

Recommendation R2: Bat box

5.1.4 It is recommended that the inclusion of one integrated bat box, such as a 2F Schwegler Bat box or similar, is secured as part of the proposed development. This will need to be affixed to a retained tree within the woodland in the wider land ownership to provide a continuation of roosting opportunities for bats. Boxes should be installed at 3-5m height on a southern or western aspect with a clear flight line away from artificial light sources.

6 Relevant Legislation and Policy

6.1 Exit from European Union

- 6.1.1 The Conservation of Habitats and Species Regulations 2017 (as amended), referred to as the '2017 Regulations,' are one of the pieces of domestic law that transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known as the Nature Directives). Changes to the 2017 Regulations have been made by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (referred to as the '2019 Regulations') to transfer functions from the European Commission to the appropriate authorities in England and Wales.
- 6.1.2 The amendments prescribed by the 2019 Regulations allow existing protections afforded by current wildlife legislation and transposed EC Council Directives to be operable from 01 January 2021.
- 6.1.3 The 2019 Regulations protect rare and vulnerable birds and the habitats that they depend upon. This is achieved in part through the classification of Special Protection Areas (SPAs). The Habitats Directive aims to protect plants, habitats and animals other than birds. This is achieved in part through the creation of Special Areas of Conservation (SACs). SPAs and SACs are collectively referred to as the 'National Site Network'.
- 6.1.4 Designated Wetlands of International Importance (known as Ramsar sites) do not form part of the National Site Network, however, all Ramsar sites remain protected in the same way as SACs and SPAs.

6.2 National Planning Policy Framework

- 6.2.1 The National Planning Policy Framework (NPPF) was updated in December 2023 (DLUHC, 2023) thereby replacing the older version of September 2023. The new framework sets out in section 15 that planning policies and decisions should contribute to and enhance the natural and local environment by ... (d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures (Para 180).
- 6.2.2 To protect and enhance biodiversity and geodiversity (Para 185), plans should:
- identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and

areas identified by national and local partnerships for habitat management, enhancement, restoration or creation and

- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

6.2.3 When determining planning applications, local planning authorities should apply the following principles (Para 186):

- if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

6.2.4 The following should be given the same protection as habitats sites (Para 187):

- potential Special Protection Areas and possible Special Areas of Conservation;
- listed or proposed Ramsar sites; and
- sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site (Para 188).

6.3 Protection of Bats

6.3.1 Bats and their roost sites are protected by UK legislation.

6.3.2 The Wildlife and Countryside Act (1981) (as amended) makes it an offence to:

- Intentionally kill, injure or take a bat;
- Possess or control any live or dead specimen or anything derived from a bat;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat; and
- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for that purpose.

6.3.3 Additionally, The Conservation of Habitats and Species Regulations 2017 (as amended) make it an offence to:

- Deliberately capture or kill a bat;
- Deliberately disturb¹ a bat;
- Damage or destroy a breeding site or a resting place of a bat; and
- Keep, transport, sell or exchange or offer for sale or exchange a live or dead bat or any part of a bat.

¹Disturbance of animals includes in particular any disturbance which is likely—

a) to impair their ability—

- i. to survive, to breed or reproduce, or to rear or nurture their young; or
- ii. in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

b) to affect significantly the local distribution or abundance of the species to which they belong.

6.4 Local Planning Policy

6.4.1 The Wokingham Borough Local Development Framework Adopted Core Strategy Development Plan Document was adopted in January 2010. The following policies may be of some relevance to this development.

CP7 – Biodiversity

Sites designated as of importance for nature conservation at an international or national level will be conserved and enhanced and inappropriate development will be resisted. The degree of protection given will be appropriate to the status of the site in terms of its international or national importance.

Development:

A) Which may harm county designated sites (Local Wildlife Sites in Berkshire), whether directly or indirectly, or

B) Which may harm habitats or, species of principle importance in England for nature conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife and river corridors), whether directly or indirectly, or

C) That compromises the implementation of the national, regional, county and local biodiversity action plans will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need, and:

i) Mitigation measures can be put in place to prevent damaging impacts; or

ii) Appropriate compensation measures to offset the scale and kind of losses are provided.

7 References

- BCT & ILP (2023). *Guidance Note GN08/23 Bats and artificial lighting at night*. Bats and the Built Environment series
- BSI Standards Limited (2013). BS42020:2013 Biodiversity: Code of practice for planning and development
- CIEEM (2017). *Guidelines for preliminary ecological appraisal, 2nd edition*. Chartered institute of Ecology and Environmental management, Winchester.
- CIEEM (2019). *Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater, Coastal and Marine*. Version 1.1 Updated September 2019. Chartered Institute of Ecology and Environmental Management, Winchester
- Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)*. The Bat Conservation Trust, London.
- Ecology by Design (2024). *EBD – Bat Report – 3725 Aston Rise – Main House (B1) + Workshop (B3)*
- Gov.uk (2015). *Guidance. Bats: surveys and mitigation for development projects*. Natural England and Department for Environment, Food & Rural Affairs, Worcester.
- Wokingham Borough Council (2010). *Wokingham Borough Local Development Framework Adopted Core Strategy Development Plan Document*. Adopted January 2010.

Appendix 1 - Photographs

Photograph 1: B2 – Eastern elevation



Photograph 2: View of B2's roof with B3's roof in the background



Photograph 3: Internal space above garage of B2



Photograph 4: Access to eaves in B2



Photograph 5: View from thermal Imaging Camera at the darkest point of the survey



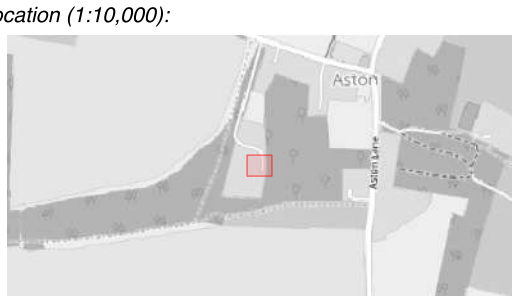
Appendix 2 - Figures

Next page:

- Figure 1: Suitability and Surveyor Map
- Figure 2: Emergence Surveys Results



- LEGEND
- Site Boundary (2.2 ha)
 - Surveyor Locations - B2
 - PRFs - B2
 - Lofts - B2
 - Buildings - B2



Project:
Aston Rise, Henley-on-Thames

Client:
Mr & Mrs Lewsey

Drawing Title:
Suitability and Surveyor Map - B2

Drawing No.: EBD_3725_DR003	Scale (@A3): 1:100
Central Eastings, Northings: 478284, 184076	Date Drawn: 04/09/2024
Drawn by: KH	Approved by: BG

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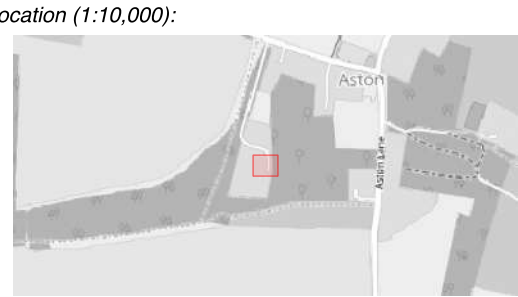
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- LEGEND
- Site Boundary (2.2 ha)
 - Surveyor Locations - B2
 - Buildings - B2
 - Flight lines



Project:
Aston Rise, Henley-on-Thames

Client:
Mr & Mrs Lewsey

Drawing Title:
Emergence Survey Results

Drawing No.: EBD_3725_DR004	Scale (@A3): 1:100
Central Eastings, Northings: 478284, 184076	Date Drawn: 04/09/2024
Drawn by: KH	Approved by: BG

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Appendix 3 – Mitigation and/or Enhancement Measures

Products	Description
	2F Schwegler Bat Box (or similar) A standard bat box for smaller bats to be placed on a mature tree. http://www.nhbs.com/2f-schwegler-bat-box-general-purpose
	Miramare Woodstone Bat Box The Miramare is designed to mimic a hollow tree. It is a large bat box with four internal cavities and an external construction of woodcrete to be long-lasting and provide opportunities to large numbers of bats. The box is open to the bottom meaning that it is effectively self-cleaning. https://www.wildcare.co.uk/miramare-woodstone-bat-box-11268.html