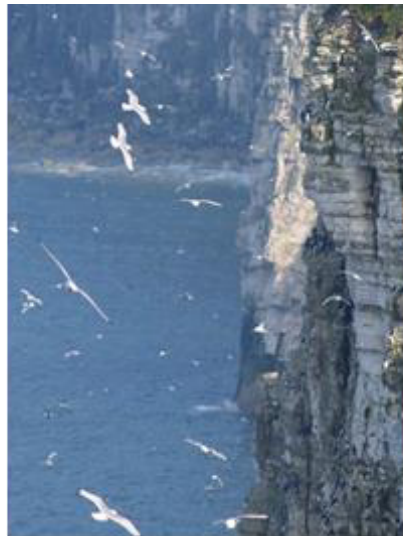




**Bat Surveys: Dusk Emergence
and Dawn Re-entry**

Spurr House

For

Gardiner and Theobald LLP

Project No.: GAR001-001-002

October 2022

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Figure 1 Site Location

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1. Summary and Main Recommendations

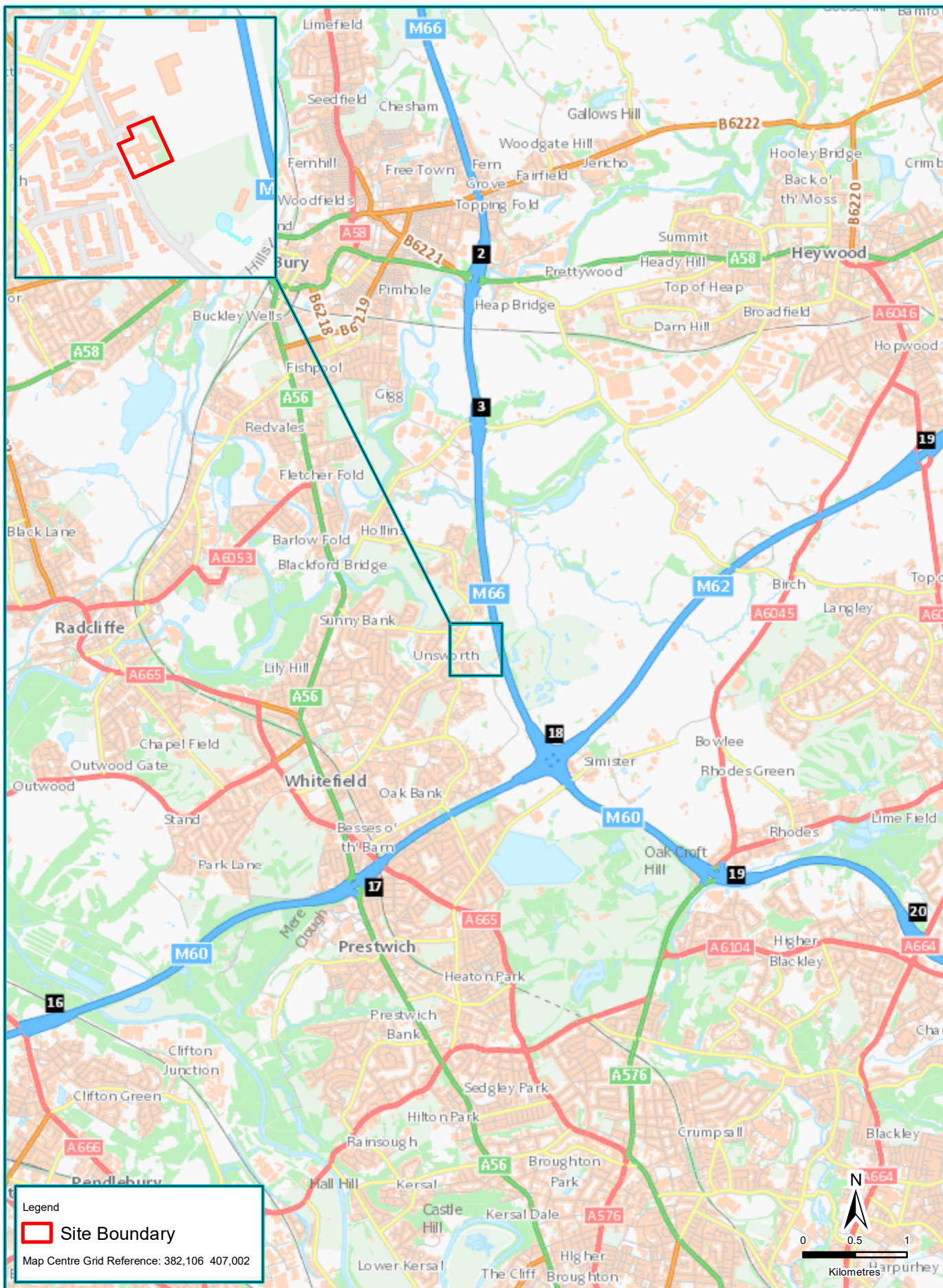
1.1 Summary

- 1.1.1** Gardiner and Theobald LLP, on behalf of Bury Council, propose the redevelopment of Spurr House, near Bury, Greater Manchester (see Figure 1). The proposed development will create a school within the existing building, with a newly created multi-use sports pitch in the south of the site.
- 1.1.2** Thomson Environmental Consultants undertook a Preliminary Roost Assessment of the buildings and trees on site for bats in August 2022 (Thomson Environmental Consultants, 2022). Buildings B1 and B2 were assessed as having moderate and low potential respectively for day, night, occasional and transitional bat roosts. Two trees on site, T1 and T2, were assessed as having moderate potential for day, night, occasional and transitional bat roosts. Thomson Environmental Consultants was commissioned to undertake dusk emergence and a dawn re-entry to roost bat surveys to establish the presence or likely absence of roosting bats within the potential roost features identified on the buildings and trees.
- 1.1.3** No bats were seen to emerge from or re-enter the buildings or trees on site. Common pipistrelle (*Pipistrellus pipistrellus*) were recorded foraging over and commuting through the site, however overall bat activity was low.
- 1.1.4** Bats are afforded protection under the Conservation of Species and Habitats Regulations 2017, (as amended), and are afforded some additional protection under the Wildlife and Countryside Act 1981, (as amended). As no bats were identified to be roosting within the buildings or trees, there should be no further legal or planning policy issues in relation to roosting bats and the proposed development.

1.2 Main Recommendations

- 1.2.1** The main recommendations are set out below:
- If the proposed development on the site is not commenced by May 2024 (inclusive), an updated inspection of the building should be completed to confirm bat roosting potential. Further dusk/dawn surveys may be required following an updated inspection;
 - If bats are found unexpectedly during the proposed redevelopment, works should stop immediately, and a suitably experienced ecologist consulted to advise on the appropriate measures to be taken in accordance with relevant legislation; and
 - Two maintenance-free bat boxes should be incorporated into the design of the proposed development which will enhance the ecological interest of the building(s) for bats;

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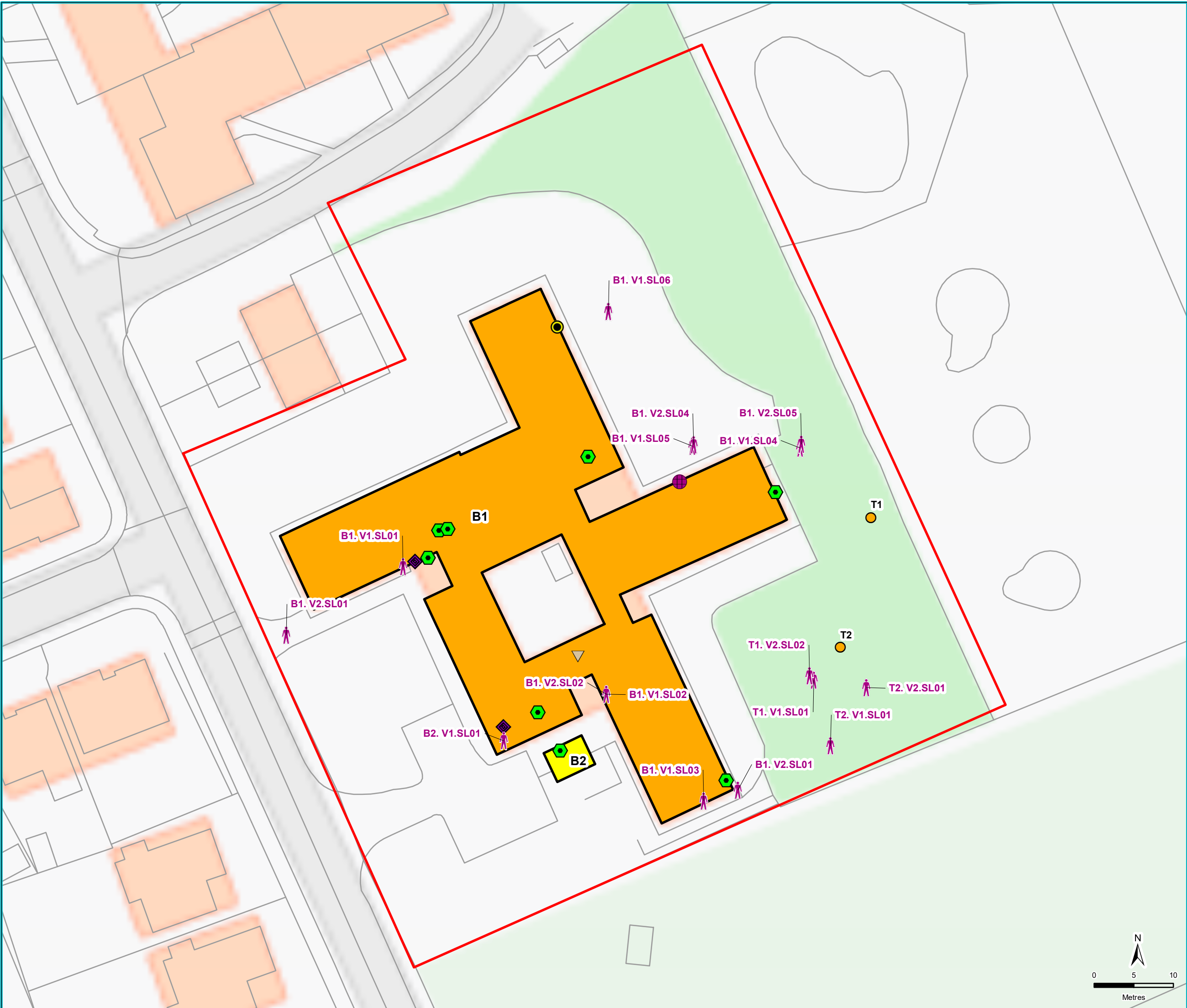
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- Legend
- Surveyor Location
 - Potential Roost Feature**
 - Hole in fascia
 - Lifted/raised felt
 - Broken ridge tile
 - Broken cladding
 - Damaged ventilation feature
 - Overall Potential (of Tree) to Support Roosting Bats**
 - Moderate
 - Overall Potential (whole building) to Support Roosting Bats**
 - Moderate
 - Low
 - Site Boundary

Map Centre Grid Reference: 382,106 407,002

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Gardiner and Theobald LLP			
Figure Number		2	
Figure Title			

Bat Dusk Emergence
and Dawn Re-entry
Survey Results

2. Introduction

2.1 Development Background

- 2.1.1** Gardiner and Theobald LLP, on behalf of Bury Council, propose the refurbishment and minor redevelopment of Spurr House, a large former care home near Bury, Greater Manchester. The proposed development will convert the existing building into a school, with a newly created multi-use sports pitch in the south of the site requiring the removal of some trees. Planning permission has not yet been sought.
- 2.1.2** The proposals described above are hereafter referred to collectively as ‘the development’.
- 2.1.3** The development will be located on a 0.6ha area of land previously used as a care home, and associated gardens (Grid Reference SD 82103 06996), adjacent to Pole Lane, Unsworth, Bury, BL9 8QB, see Figure 1.
- 2.1.4** The area affected by the development is hereafter referred to as ‘the site’.

2.2 Ecology Background

- 2.2.1** Thomson Environmental Consultants undertook a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of the buildings and trees within the site on the 8th August 2022 (Thomson Environmental Consultants, 2022).
- 2.2.2** The PRA identified the school building (B1) as having moderate potential to support roosting bats and adjacent shed (B2) as having low potential. Two trees (T1 and T2) within the site were also found to have moderate potential to support roosting bats.
- 2.2.3** Dusk emergence and dawn re-entry surveys were recommended to determine whether bat roosts were present or likely in the buildings and trees on the site.
- 2.2.4** A summary of the biology, conservation status and legal protection of bats is given in Appendix 1.

2.3 The Brief and Objectives

- 2.3.1** Gardiner and Theobald LLP commissioned Thomson Environmental Consultants on the 12th August 2022 to undertake dusk emergence and dawn re-entry surveys of the two buildings and two trees within the site. The brief was to:
- Carry out one dusk and one dawn survey visit to Building 1 (B1), which will require 5 surveyors and 1 infrared camera for each survey;
 - Carry out one dusk and one dawn survey visit to each moderate potential tree (T1 and T2), which will require 1 surveyor per tree;
 - Carry out one dusk survey visit to Building 2 (B2), which will require 1 surveyor; and
 - Provide a bat report detailing the methodology, results of the surveys, legislation considerations and any recommendations and further surveys required.

2.4 Limitations

- 2.4.1** During the dawn re-entry survey of B1 on the 21st September 2022 one of the infrared cameras failed to record and therefore there were only five surveyors present for the survey. This limitation was mitigated for by the addition of a further dusk survey which was undertaken 10th October 2022 covering the affected PRF. The weather on 10th October was within survey guideline conditions and bats were recorded during the survey, proving bats were still active at this time.
- 2.4.2** This report is based on the development boundary and layout shown on the site plan (drawing number SK-026). Subsequent changes to either may result in a requirement to reassess the potential impacts of the development and the requirements for avoidance, mitigation and enhancement.

2.5 Surveyors

- 2.5.1** The dusk and dawn surveys of B1, B2, T1 and T2 on the 24th and 25th of August 2022 were undertaken by Assistant Ecologists Will Dearden BSc (Hons), Lucy Garbutt BSc (Hons), and Tom Ford BSc (Hons).
- 2.5.2** On the 20th and 21st of September the dusk and dawn surveys of B1, T1 and T2 were completed by Assistant Ecologists Jack Crutchley BSc (Hons), Lucy Garbutt, Matt White BSc (Hons) and Tom Ford.
- 2.5.3** The dusk survey on 10th October 2022 was undertaken by Ecological Consultant Elizabeth Redpath BSc (Hons) MSc ACIEEM and Assistant Ecologist Annabelle Burgin BSc (Hons).

3. Methodology

3.1 General Approach

- 3.1.1** Presence or likely absence surveys for bats were carried out on B1, B2, T1 and T2 as they were identified as having the potential to support roosting bats in locations that will be affected by the development. These surveys comprised looking for bats emerging from a roost at dusk or re-entering a roost at dawn.

3.2 Emergence and Re-entry Surveys

- 3.2.1** The number and timing of the survey visits was determined by the potential of each feature to support roosting bats, see Table 1.

Table 1: Survey effort according to the suitability of the potential bat roost, in line with the Bat Conservation Trust best practice guidelines (Collins ed., 2016).

Potential	Buildings or Structures	Trees
Negligible	None	None
Low	One survey visit at dusk or dawn, May to August inclusive	None
Moderate	Two separate survey visits, one at dusk and one at dawn separated by a minimum of two weeks, between May and September with at least one visit between May and August	As buildings
High and Confirmed Roost	Three separate survey visits, one at dusk, one at dawn and one at dusk or dawn, separated by a minimum of two weeks, between May and September with at least two visits between May and August	As buildings

- 3.2.2** The emergence surveys began 15 minutes before sunset and ended 120 minutes after sunset. The re-entry surveys began 120 minutes before sunrise and ended at sunrise or 15 minutes after the last bat call. This survey effort, number of survey visits, timeframes and survey start and finish times follows good practice guidance (Collins ed., 2016).

- 3.2.3** Weather conditions including the air temperature at 1m, windspeed and precipitation were recorded by the lead surveyor at the start and end of the survey. The suitability of weather

conditions for the bat survey were then categorised as per Table 2. Any limitations that could affect bat behaviour were recorded. The location of each surveyor was recorded (see Figure 2).

Table 2: Guidance on weather conditions for bat surveys (based on Slack and Tinsley, 2015)

Conditions	Temperature at dusk or dawn (°C)	Wind Speed (Beaufort windforce scale)	Precipitation
Optimal	>14	0 to 3 (calm to slight wind)	Dry
Acceptable	10-14	4 to 6.5 (moderate to strong breeze)	Light showers to moderate rainfall
Unsuitable	<10	6.5 and above (high wind and stronger)	Heavy rainfall

The overall suitability of the conditions is determined by the least suitable of the three parameters.

- 3.2.4** Based upon the results of the preliminary roost assessments, the number of surveyors at each Building or Tree is as given in Table 3.

Table 3: Number of surveyors at each building and tree

Building/Tree	No. of surveyor locations
B1	6
B2	1
T1	1
T2	1

- 3.2.5** The surveyor locations were selected to ensure that all potential roost features (PRFs) could be viewed by the surveyors without obstruction.
- 3.2.6** A 1080 HD infrared night vision camera with an external infrared light source was positioned in one of the surveyor locations, trained at the broken cladding on the eastern side of B1 during the dusk emergence survey. As indicated in the Bat Conservation Trust Interim Guidance Note night vision aids should be used to improve survey accuracy as standard protocol (Bat Conservation Trust, 2022).
- 3.2.7** During the emergence surveys, PRFs were watched continuously by the surveyors, whilst during the re-entry surveys bats were tracked back to any PRFs within the view of the surveyors.

- 3.2.8** Recordings of bats were made using Elekon Batlogger M bat detectors and any bats seen to emerge or return to roost were noted, along with the flight direction. The recordings were retained for later analysis if necessary to identify the species.
- 3.2.9** Incidental bat activity, including likely species, number of passes, direction of flight paths and number of bats was recorded by the surveyor, but only where doing so would not compromise the Emergence/Re-Entry surveys.

4. Results

- 4.1.1** The bat dusk emergence and dawn re-entry to roost surveys were undertaken in optimal or acceptable weather conditions, in line with Table 2. The weather data from the surveys is shown below in Table 4.

Table 4: Weather data recorded during the dusk emergence and dawn re-entry to roost surveys

Survey type	Date	Conditions	Temperature (° C)		Precipitation	Beaufort wind force scale
			Start	Finish		
Dusk	24/08/22	Optimal	19	17	Dry	1
Dawn	25/08/22	Acceptable	15	15	Drizzle	1
Dusk	25/08/22	Optimal	17	15	Dry	1
Dusk	20/09/22	Optimal	16	15	Dry	1
Dawn	21/09/22	Optimal	13	12	Dry	1
Dusk	10/10/22	Optimal	13	12	Dry	1

- 4.1.1** No bats were seen to emerge from or re-enter any of the PRFs on the buildings or the trees during the surveys. A summary of all the surveys is below in Table 5.
- 4.1.2** Individual common pipistrelle (*Pipistrellus pipistrellus*) bats were recorded commuting and foraging on several occasions during the surveys.

Table 5: Summary of the dusk emergence and dawn re-entry to roost surveys on all buildings and trees

Building/ Tree	Visit	Date	Sunset/ sunrise time	Start time	End time	Roost identified
B1	1 (dusk)	24/08/22	20:17	20:02	22:17	No
		25/08/22	20:15	20:00	22:15	No
	2 (dawn)	21/09/22	06:52	04:52	06:52	No
	3	10/10/2022	18:25	18:10	20:25	No

Building/ Tree	Visit	Date	Sunset/ sunrise time	Start time	End time	Roost identified
	(dusk)					
B2	1 (dawn)	25/08/22	06:05	04:05	06:05	No
T1	1 (dawn)	25/08/22	06:05	04:05	06:05	No
	2 (dusk)	20/09/22	19:14	18:59	21:14	No
T2	1 (dawn)	25/08/22	06:05	04:05	06:05	No
	2 (dusk)	20/09/22	19:14	18:59	21:14	No

5. Legal and Planning Policy Considerations

- 5.1.1 As no bats were recorded roosting in the buildings or trees during the surveys, it is unlikely that they are used by roosting bats. Therefore, there should be no legal and planning policy issues with respect to bat roosts and the development.
- 5.1.2 Central and local government policy now points towards ecological enhancement for wildlife. For example, Policy EN6 of the Adopted Bury Unitary Development Plan states that “The Council will retain, protect and enhance the natural environment of the Borough, particularly in relation to areas of ecological, wildlife and geological importance to increase biodiversity”.
- 5.1.1 Recommendations for the enhancement of the site for bats are provided in Section 6.

6. Recommendations

6.1 Mitigation

- 6.1.1 As no roosting bats were recorded in the buildings or trees during the surveys, no specific mitigation is required as part of the development.
- 6.1.2 If the development is not commenced by May 2024 (inclusive), an updated inspection of the buildings and trees should be completed to confirm bat roosting potential. Further dusk and/or dawn surveys may be required following an updated inspection.
- 6.1.3 If bats are found unexpectedly during the proposed development, works should stop immediately, and a suitably experienced ecologist consulted to advise on the appropriate measures to be taken in accordance with relevant legislation.
- 6.1.4 Any future lighting should be designed sensitively with regards to nocturnal species and following published guidelines, such as 'bats and artificial lighting in the UK' (BCT, 2018).

6.2 Opportunities for Enhancement

- 6.2.1 During the development of the site proposal designs, consideration should be given to the incorporation of ecological enhancements for bats.
- 6.2.2 To comply with the Adopted Bury Unitary Development Plan policy EN6, at least two maintenance free bat boxes should be incorporated into the design of the proposed development, as discussed in the PRA report (Thomson Environmental Consultants, 2022), which will enhance the ecological interest of the building(s) for bats. Suitable integrated bat box options include, but are not limited to:
 - Ibstock Enclosed Bat Box 'C', designed to provide transitional roosting opportunities for pipistrelle species. The Bat Box C requires no maintenance; and
 - Ibstock Enclosed Bat Box 'B', which provides transitional roosting opportunities for pipistrelle bats with a more discrete design than the Bat Box C and also requires no maintenance.

7. Conclusion

- 7.1.1 No bats were recorded emerging or re-entering the buildings or trees within the site. Incidental activity of common pipistrelle bats commuting and foraging around the site was recorded.
- 7.1.2 The enhancement measures detailed in Section 6.2 should be incorporated as part of the proposed redevelopment to comply with central and local government policy.
- 7.1.3 Should more than 18 months elapse between the date of the surveys and the proposed redevelopment, an updated inspection of the building and trees on the site should be completed.

8. References

- 8.1.1 Bat Conservation Trust (2022). Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys. Bat Conservation Trust, London.
- 8.1.2 Bury Council (2015) Adopted Bury Unitary Development Plan [Online] Available at: <https://www.bury.gov.uk/index.aspx?articleid=10734>
- 8.1.3 Collins ed (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). Bat Conservation Trust, London.
- 8.1.4 Slack, G. and Tinsley, E. (2015) Linking bat surveys with meteorological data: a way to target operational wind farm mitigation. In practice: Bulletin of the Chartered Institute of Ecology and Environmental Management No. 87. CIEEM, Winchester.
- 8.1.5 Thomson Environmental Consultants (2022) Spurr House PEA and PRA. Gardiner and Theobald LLP. Ref: GAR001-001-001/001/001.

Appendix 1 British Bats

Introduction

A summary of the biology of British bats and the legislation and policy that protects them is provided below.

Biology

There are 18 British species of bats, belonging to two families; the horseshoe bats (*Rhinolophidae*) and vesper bats (*Vespertilionidae*). Of the 18 species, two species are horseshoe bats and belong to the genus *Rhinolophus*. The remaining 16 species are vesper bats and are sub-divided between six genera; *Myotis*, *Eptesicus*, *Nyctalus*, *Pipistrellus*, *Plecotus* and *Barbastella*. Whilst there are many differences in the biology of the different species, all share certain characteristics and these are described below.

Roosting

Bat species utilise roost sites of varying character; some preferring tree roosts whilst others are thought to be almost entirely dependent on built structures. Most bats will have a number of available roosting sites within their range, which they move between throughout the year. They are generally faithful to their roosts and a colony of bats may use the same roost site(s) year after year.

Bats hibernate during the winter and will often gather to hibernate communally, remaining in the same hibernation roost from November to February/March. Hibernation roost sites typically have a constant low temperature and high humidity levels. Sites include caves, mines, thick walled buildings and hollow trees. With the arrival of spring, the ambient temperature and day length increase and bats begin to leave their hibernation roosts, either moving immediately to summer roost sites or occasionally, to a transitional roost.

By June, breeding females will begin to congregate in maternity roost sites where they will give birth to and nurture their young. Male bats are also occasionally found roosting in maternity roosts but during this period they mostly roost alone. Maternity roost sites include hollowed out trees, buildings and bridges. Male bats may use similar sites but also cracks and crevices in trees, under loose tiles or even amongst dense ivy growth during the summer period. Similar sites may be used by bats for brief periods during the night when they are resting or feeding on recently caught prey. In autumn, male bats establish mating roosts and are visited by females. A variety of roost sites may be used until the bats return to their hibernation roosts.

Foraging

All British bat species feed on invertebrates, with flies, beetles, moths and other insects making up much of their diet. Areas with an abundance of insect prey, such as woodlands, scrub, wetlands, river corridors and flower rich grasslands are therefore favoured foraging sites for bats. Habitats such as intensively farmed arable land, and amenity grassland support a much lower invertebrate abundance and are therefore less favoured foraging habitats for bats.

Commuting

Bats favour roost sites in close proximity to suitable foraging habitat, however, given variation in prey availability, land-use change, and competition with other bats, for at least part of the year bats must commute between their roosts and foraging habitat.

Commuting routes tend to follow linear features in the landscape such as hedgerows, woodland edges, rivers and other watercourses, particularly when crossing areas of less favourable habitat. The distance that bats commute between roost sites and foraging areas is dependent on local geography and also the species of bat. Some species will travel up to 18km, though shorter distances are more typical.

Site Designation

All bat roosts in the UK receive protection under the following legislation:

- Conservation of Habitats and Species Regulations 2017 (as amended) (which replaces the Conservation (Habitats &c) Regulations 1994 as amended)
- Wildlife and Countryside Act 1981, (as amended);
- The Countryside and Rights of Way Act 2000 (which amends the Wildlife and Countryside Act); and
- Natural Environment and Rural Communities Act 2006 (which amends the Wildlife and Countryside Act).

This is described in more detail under 'Species Protection' below. In addition, the most important sites for certain bat species in the UK receive further statutory protection through designation of Special Areas of Conservation (SACs) and/or Sites of Special Scientific Interest (SSSIs).

Four UK bat species, the greater and lesser horseshoe, barbastelle and Bechstein's bats, are included on Annex II of the European Community Directive of the Conservation of Natural Habitats and of Wild Fauna and Flora, referred to as the Habitats Directive. The Habitats Directive was transposed into UK law by the Conservation of Habitats and Species Regulations 2017 as amended. The Habitat Regulations, amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, now form stand-alone legislation for England and Wales, independent of the Directive. This legislation requires that areas are designated as Special Areas of Conservation (SACs) to protect populations of these 4 bat species. These sites form part of the National site network and are considered to be of international importance for the bat populations they support.

Sites designated under the Wildlife and Countryside Act 1981 (WCA) are known as Sites of Special Scientific Interest (SSSIs). SSSIs received further protection under the Countryside and Rights of Way Act 2000 (CroW) and the Natural Environment and Rural Communities (NERC) Act 2006.

Some SSSIs are designated for the population(s) of bats that they support. The criteria for selecting SSSIs on the basis of their bat populations are provided in Guidelines for the Selection of Biological SSSIs (NCC, 1989):

- Greater horseshoe bat - all main breeding roosts and all winter roosts with 50 or more adult bats;
- Lesser horseshoe bat - all main breeding roosts containing 100 or more adult bats and all winter roosts containing 50 or more bats;
- Barbastelle, Bechstein's and grey long-eared bats - any traditional breeding roosts;
- Natterer's, Daubenton's, whiskered, Brandt's, serotine, noctule and Leisler's bats - only exceptionally large breeding roosts or those with a long history of use; and
- Mixed Roost sites - all hibernacula containing four or more species and more than 50 individuals or three species and 100 or more individuals or two species and 150 or more individuals, though these criteria may be lower in some parts of the UK.

Sites that qualify as SSSIs for the bat populations they support are considered to be of at least national importance.

Sites designated for nature conservation at the county level may also include bat populations as part of the site qualifying criteria, although the criteria used may vary from county to county. Such sites are protected through the planning system and there is generally a presumption against development that affects such sites in local authority development plans.

Planning Policy

The National Planning Policy Framework (NPPF) 2019, gives further direction with respect to biodiversity conservation and land use change / development. The NPPF encourages local planning authorities to identify, conserve and restore, ecological networks, which should benefit bats, and it also states that planning permission should be refused if significant harm to biodiversity cannot be avoided, mitigated or compensated. In addition, the Government Circular 06/05, which relates to biodiversity conservation, states that all protected species, such as bats, are a material consideration for the planning authority when considering proposed developments.

Species Protection

Legislation

All bat species are protected by the Conservation of Habitats and Species Regulations 2017 (as amended). The Regulations make it an offence, with very few exceptions, to:

- Deliberately capture, injure or kill a bat;
- Deliberately disturb a bat in such a way as to be likely:
 - i. to impair its ability to survive, to breed or reproduce, or to rear or nurture its young; or

- ii. to impair its ability to hibernate or migrate; or
 - iii. to affect significantly the local distribution or abundance of the species to which they belong.
- Damage or destroy a breeding site or resting place of a bat; or
 - Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from a bat.

In addition to the protection given to bats under the Conservation of Habitats and Species Regulations 2017 as amended already described, bats are also partially protected in England under the Wildlife and Countryside Act 1981 (as amended), which adds the following offences (with certain exceptions):

- Disturbance while it is occupying a structure or place which it uses for shelter or protection; or
- Obstructing access to any structure or place used for shelter or protection.

A roost is any structure or place used by bats for shelter or protection. As bats tend to re-use the same roosts year after year, the roost is protected whether bats are present or not, at the time.

In this context of the legislation, 'damage' would include such operations as treatment of wood with toxic preservatives or use of rodenticides near roosting bats while 'disturbance' includes any work in or affecting a bat roost.

If proposed actions, such as redevelopment of an existing building may lead to an offence under the above legislation, appropriate mitigation which seeks to avoid these impacts should be devised and implemented under licence from Natural England to allow the activity to proceed legally.

In addition to the above legislation, all bats are protected under the Bonn Convention, within which the Agreement on the Conservation of Bats in Europe (1991) or EUROBAT, establishes a mechanism for international collaboration to conserve bats and their habitats, including foraging habitats. All European bat species are covered under Appendix II of the Conservation of Migratory Species of Wild Animals (CMS).

The Hedgerow Regulations 1997 provide for the conservation of 'important' hedgerows and their constituent trees. The presence of a protected species such as bats is included in the assessment of whether a hedgerow is considered 'important' and applications to remove such hedgerows must be made to the planning authority.

UK Post-2010 Biodiversity Framework and Species of Principal Importance

Published by the Joint Nature Conservation Committee (JNCC) and the Department for Environment, Food and Rural Affairs (Defra) in July 2012, the UK Post-2010 Biodiversity Framework identifies UK-scale activities and priority works that are required to deliver the EU Biodiversity Strategy. Following a process of devolution, the framework is underpinned by country

level strategies which are now largely responsible for continuing the work carried out under the former UK Biodiversity Action Plans (UK BAP). JNCC guidance dictates that UK BAP background information on priority species and habitats still remains relevant and it now forms the basis of country specific priority lists, which for England, are specified under Section 41 of the Natural Environment and Rural Communities Act 2006 (the NERC Act). Targets for England's biodiversity strategy 'Biodiversity 2020': A strategy for England's wildlife and ecosystem services, are informed by this list.

Seven species of bats (Barbastelle, Bechstein's, greater and lesser horseshoe, brown long-eared, noctule and soprano pipistrelle) have been adopted as Species of Principal Importance for the Conservation of Biodiversity in England. This places a duty on all government departments to have regard for the conservation of these species and on the Secretary of State to further, or promote others to further, the conservation of these species. Furthermore, the NPPF states that local planning authorities should promote the protection and recovery of priority species populations linked to national and local targets, which presumably means those listed under the Section 41 of the NERC Act, the former UK BAP and on Local or Regional priorities species lists.

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