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Bat Dusk Emergence Surveys

University of Manchester Fallowfield Campus, Manchester

For

Rider Levett Bucknall

Report Ref.: RID002-002-003/001/001

October 2024

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RID002-002-003	001

Revision No.	Date of Issue	Author	Reviewer	Approver
001	22/01/2025	Olivia Satur	Callum Salter	Irfaan Junaideen

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1. Summary and Main Recommendations

1.1 Summary

1.1.1 Rider Levett Bucknall (RLB) has been engaged by the University of Manchester (UoM) to support with the residencies redevelopment program, which involves plans for the future of their residential campuses. An aspect of this programme is the redevelopment of the University's Fallowfield Campus. The works to be undertaken include the phased demolition of existing residences within the Fallowfield Campus and the provision of new Purpose Built Student Accommodation (PBSA), these proposals are hereafter referred to as 'the scheme'. Outline planning permission (Ref. 138126/OO/2023) was granted for the site which allowed the demolition of the first phase of the development, Owen's Park.

1.1.2 Works at Owen's Park are currently underway, supported by bat licencing. The need for an update on bat survey for the other phases of the development to support the reserved matters application and inform future mitigation measures was set out within Condition 9 attached to the Outline Planning Permission. Thomson Environmental Consultants have been appointed by RLB to undertake update bat emergence surveys on buildings within the campus to inform the reserved matters.

1.1.3 RLB commissioned Thomson Environmental Consultants in May 2024 to undertake further bat surveys of the 13 remaining properties with potential to support roosting bats to provide essential information to support the planning application and the European Protected Species Licence (EPSL) prior to commencement of the works. Depending on the potential of each property (Buro Happold, 2023) to support roosting bats, between one and three dusk emergence to roost surveys were scheduled and carried out in line with Bat Conservation Trust best practice guidelines (4th Edition) (Collins, J (ed), 2023).

1.1.4 The previous bat dusk and dawn surveys confirmed the presence of common pipistrelle (*Pipistrellus pipistrellus*) roost within B19 Oak House. A single common pipistrelle bat was observed incidentally re-entering a roost at B25 whilst the surveyors were surveying B27 (during the visit 2 dawn re-entry survey). The updated bat dusk surveys confirmed the presence of one additional pipistrelle roost in B18 Oak House, along with the existing roosts in B19 and B25. The locations of the properties with confirmed bat roosts are shown on Figure 2 and Figure 3, with photographs of the features on Figure 4.

1.1.5 The roosts have been assessed as not having the potential to support hibernating bats due to the variation of temperature within the buildings, the lack of humid cold spaces (the buildings are mostly sealed student accommodation which cannot be humid for health and safety), the structure of the roofing, and the lack of cellars or basements.

1.1.6 As it is an offence to kill or injure bats, or to disturb, damage or destroy their roosts under the Conservation of Habitats and Species Regulations (2017) (as amended), as well as disturb bats whilst in their roosts and obstruct roosts under the Wildlife and Countryside Act (WCA) 1981 (as amended), mitigation measures, under licence from Natural England, are recommended below

so that the proposed demolition of these properties is compliant with the relevant legislation and policy with respect to bats.

1.1.7 Bird nests were not identified during the bat surveys; however, it is likely that bird nests are present within the buildings and surrounding trees on site. Birds are protected under the WCA 1981, which makes it an offence to intentionally kill, injure or take any wild bird; intentionally take, damage, or destroy the nest of any wild bird while that nest is in use or being built; and intentionally take or destroy the nest or eggs of any wild bird.

Main Recommendations

1.1.8 The main recommendations are set out below:

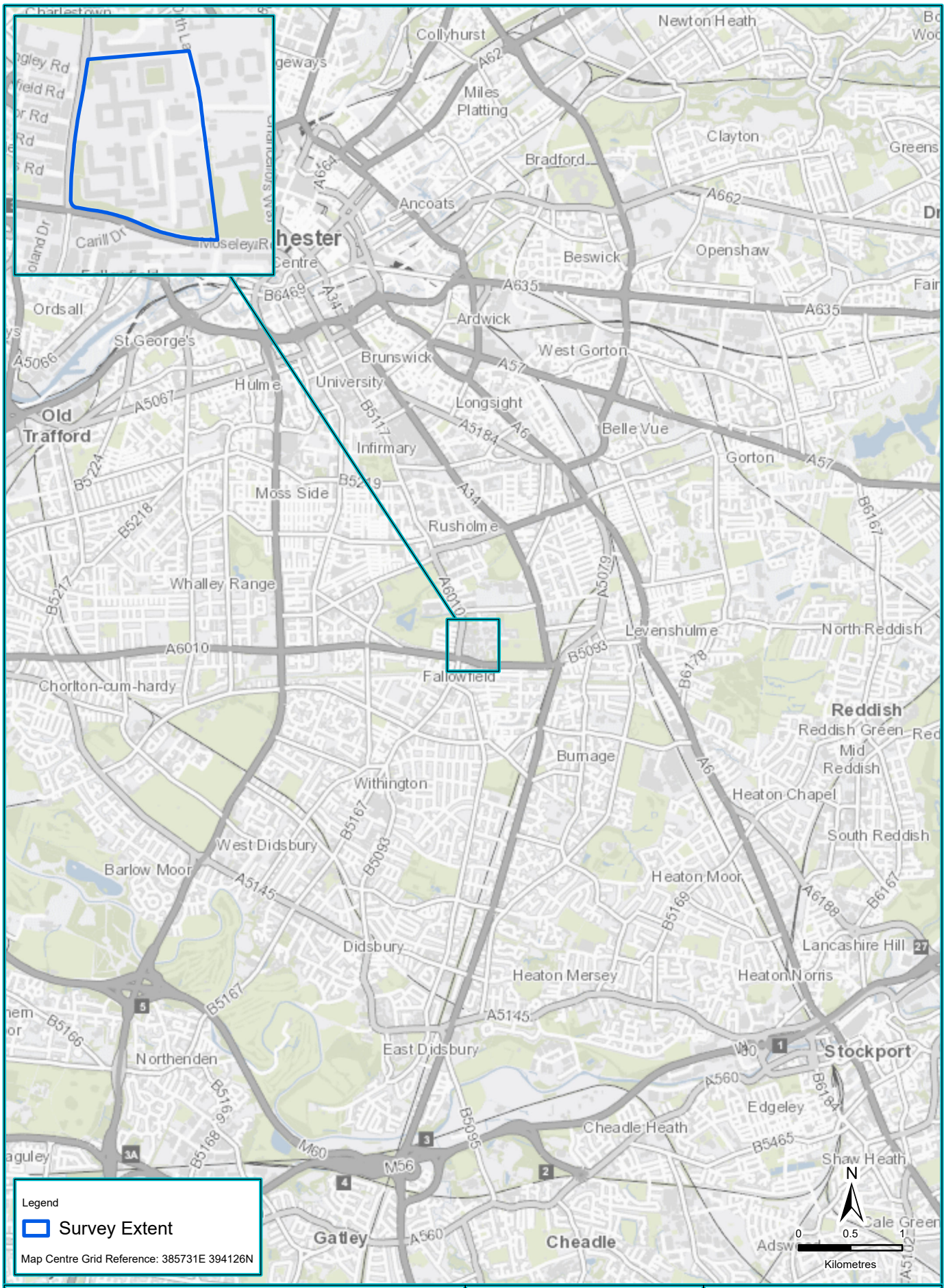
- It is not possible for the confirmed bat roosts within B18, and B19 Oak House and B25 Woolton Hall to be retained as the entire site is due for demolition. Thus, a European Protected Species Licence (EPSL) application should be submitted to and approved by Natural England to enable the scheme to proceed lawfully. This will include the requirement for mitigation during demolition and provision of suitable alternative roosts for the bats to roost in, both in the form of temporary bat boxes and permanent suitable bat structures in the new building design. Full details of the mitigation will be provided in the EPSL but are outlined in Section 6 of this report.
- If the licence application is not written within three months of the last visit to the site a further site visit will be required to confirm that the condition of the site has not changed.
- Compensatory nesting opportunities should be provided alongside bat mitigation where features used by nesting birds will be lost as a result of the works. Bird boxes should be installed across the site onto the exterior of properties involved in the scheme. The number of bird boxes should be proportional to the number of properties involved in the scheme and be suited to common bird species known to use, and likely to be found on site.
- Prior to the works commencing, Appendix 1: Toolbox Talk – Bats should be delivered to the site team that outlines the potential constraints posed by bats during the scheme, and actions to be taken should a roosting bat be identified during the works. This may need to be amended once the EPSL mitigation measures have been agreed with Natural England.

Further Bat Surveys

1.1.9 An internal inspection is being undertaken at Oak House and Woolton Hall in order to obtain additional information regarding the roost characteristics and inform the EPSL.

1.1.10 It is recommended that a Mobile Elevating Work Platform (MEWP) is used to inspect the buildings at Oak House, specifically the fascia boards and socket boxes. This is to identify if bats are using these features on buildings

1.1.11 If the works on the buildings do not proceed before May 2026, or if the condition of the buildings change, then the buildings should be re-assessed for their potential to support roosting bats and dusk emergence and dawn return to roost surveys should be repeated.



Client: Rider Levett Bucknall		Drawing Ref: RID002-002/406051/1	
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Figure Title: Site Location		Drawn: KC	Checked: AS
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Legend

- Roost Locations
- *Pipistrellus pipistrellus* flight line
- *Pipistrellus spp.* flight line
- Building
- Building under Licensed Demolition
- Site Boundary

Map Centre Grid Reference: 385731E 394126N

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Client	Rider Levett Bucknall
Figure Number	2

Figure Title

2023 and 2024 Bat Dusk Emergence and Dawn Re-entry Survey Results

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Legend

- Property with Confirmed Roost;
- Property without Confirmed Roost
- Site Boundary

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Client	Rider Levett Bucknall
Figure Number	3
Figure Title	Confirmed Roost Locations



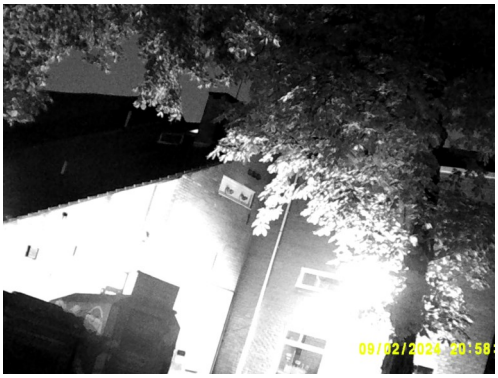
Photograph 1: Carill House – **B15A**



Photograph 2: Carill House – **B15B**



Photograph 3: Carill House – **B15C**



Photograph 4: Squirrels Bar - **B16A**



Photograph 5: Squirrels Bar - **B16B**



Photograph 6: Squirrels Bar - **B16C**



Photograph 7: Squirrels Bar - B16D (Visit 2)



Photograph 8: Squirrels Bar - **B16E**

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Figure Title: Camera view from each surveyor location		Date: 19/09/2024	



Photograph 9: Beech Court – **B17A**



Photograph 10: Beech Court – **B17B**



Photograph 11: Beech Court – **B17C**



Photograph 12: Beech Court – **B17D**



Photograph 13: Beech Court – **B17E**



Photograph 14: Beech Court – **B17F**



Photograph 15: Maple Court – **B18A**



Photograph 16: Maple Court – **B18B**

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Figure Title: Camera view from each surveyor location		Date: 19/09/2024	



Photograph 17: Maple Court – **B18C**



Photograph 18: Maple Court – **B18D**



Photograph 19: Maple Court – **B18E**



Photograph 20: Maple Court - **B18F**



Photograph 21: Maple Court - **B18F**
Emergence location, drops down from barge board. 21:15:36.



Photograph 22: Holly Court - **B19A**



Photograph 23:Holly Court - **B19B**



Photograph 24: Holly Court - **B19C**

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Figure Number: Figure 4c		Drawn: DJ	Checked: IJ
Figure Title: Camera view from each surveyor location		Date: 19/09/2024	



Photograph 25: Holly Court - **B19D**



Photograph 26: Holly Court - **B19E**



Photograph 27: Sycamore Court - **B20A**



Photograph 28: Sycamore Court - **B20B**



Photograph 29: Sycamore Court - **B20C**



Photograph 30: Sycamore Court - **B20D**



Photograph 31: Sycamore Court - **B20E**



Photograph 32: Sycamore Court - **B20F**

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Figure Number	Figure 4d	Drawn DJ / Checked IJ	
Figure Title	Camera view from each surveyor location	Date	19/09/2024

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Photograph 33: Sycamore Court - **B20F** (Visit 2)



Photograph 34: Chestnut Court - **B21A**



Photograph 35: Chestnut Court - **B21B**



Photograph 36: Chestnut Court - **B21C**



Photograph 37: Chestnut Court - **B21D**



Photograph 38: The Bungalow - **TN12A**



Photograph 39: The Bungalow - **TN12B**



Photograph 40:The Bungalow - **TN12C**

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Figure Number: Figure 4e		Drawn: DJ	Checked: IJ
Figure Title: Camera view from each surveyor location		Date: 19/09/2024	



Photograph 41: Woolton Hall - **B22A**



Photograph 42: Woolton Hall - **B22B**



Photograph 43: Woolton Hall - **B22C**



Photograph 44: Woolton Hall - **B22D**



Photograph 45: Woolton Hall - **B22E**



Photograph 46: Spencer House - **B24A**



Photograph 47: Spencer House - **B24B**



Photograph 48: Spencer House - **B24C**

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Figure Title: Camera view from each surveyor location		Date: 19/09/2024	www.thomsonec.com enquiries@thomsonec.com



Photograph 49: Spencer House - **B24D**


Photograph 50: Lindsay House - **B25A**


Photograph 51: Lindsay House - **B25B**


Photograph 52: Lindsay House - **B25C**


Photograph 53: Lindsay House - **B25D** (Visit 1)


Photograph 54: Morely House - **B26A**


Photograph 55: Morely House - **B26B**


Photograph 56: Morely House - **B26C**

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Figure Title: Camera view from each surveyor location		Date: 19/09/2024	



Photograph 57: Morely House - **B26D**



Photograph 58: Cavendish House - **B27A**


Photograph 59: Cavendish House - **B27B**



Photograph 60: Cavendish House - **B27C**


Photograph 61: Cavendish House - **B27D**

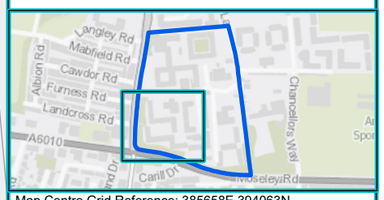
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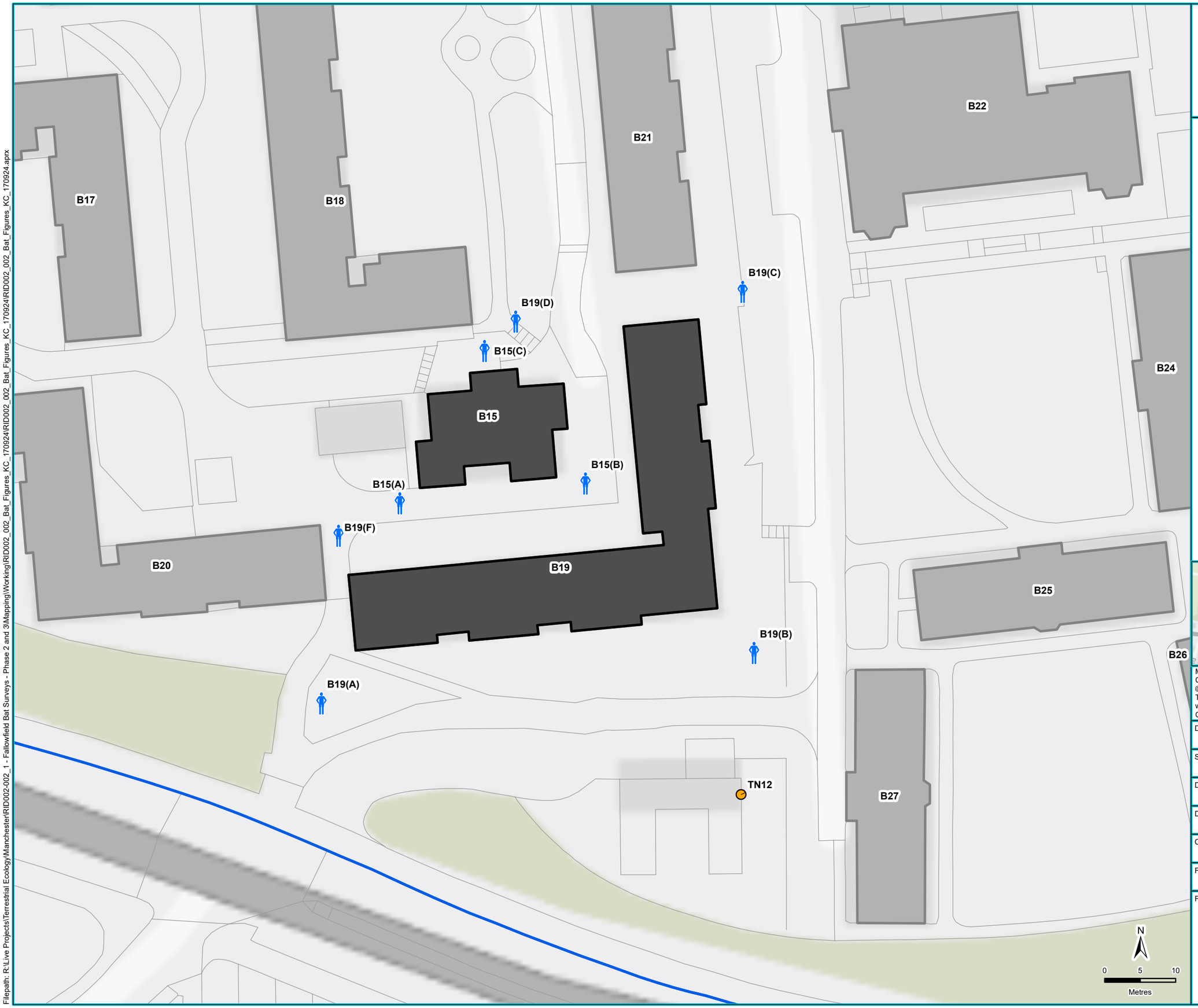
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Legend
- Surveyor Location
- Building
- Survey Extent



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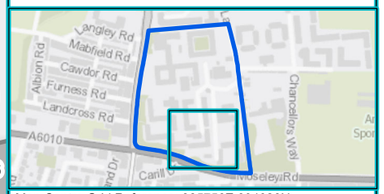
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Figure Title	Surveyor Locations (B17, B20)



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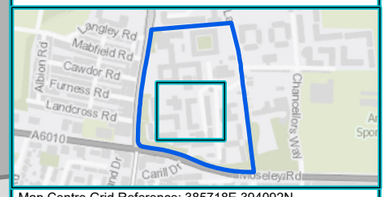
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Figure Number	5 (Page 2)
Figure Title	Surveyor Locations (B15, B19)



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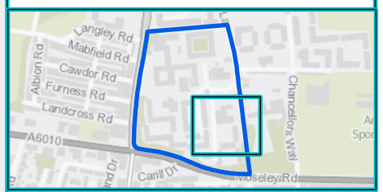
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Client	Rider Levett Bucknall
Figure Number	5 (Page 3)
Figure Title	Surveyor Locations (B16, B18, B21)



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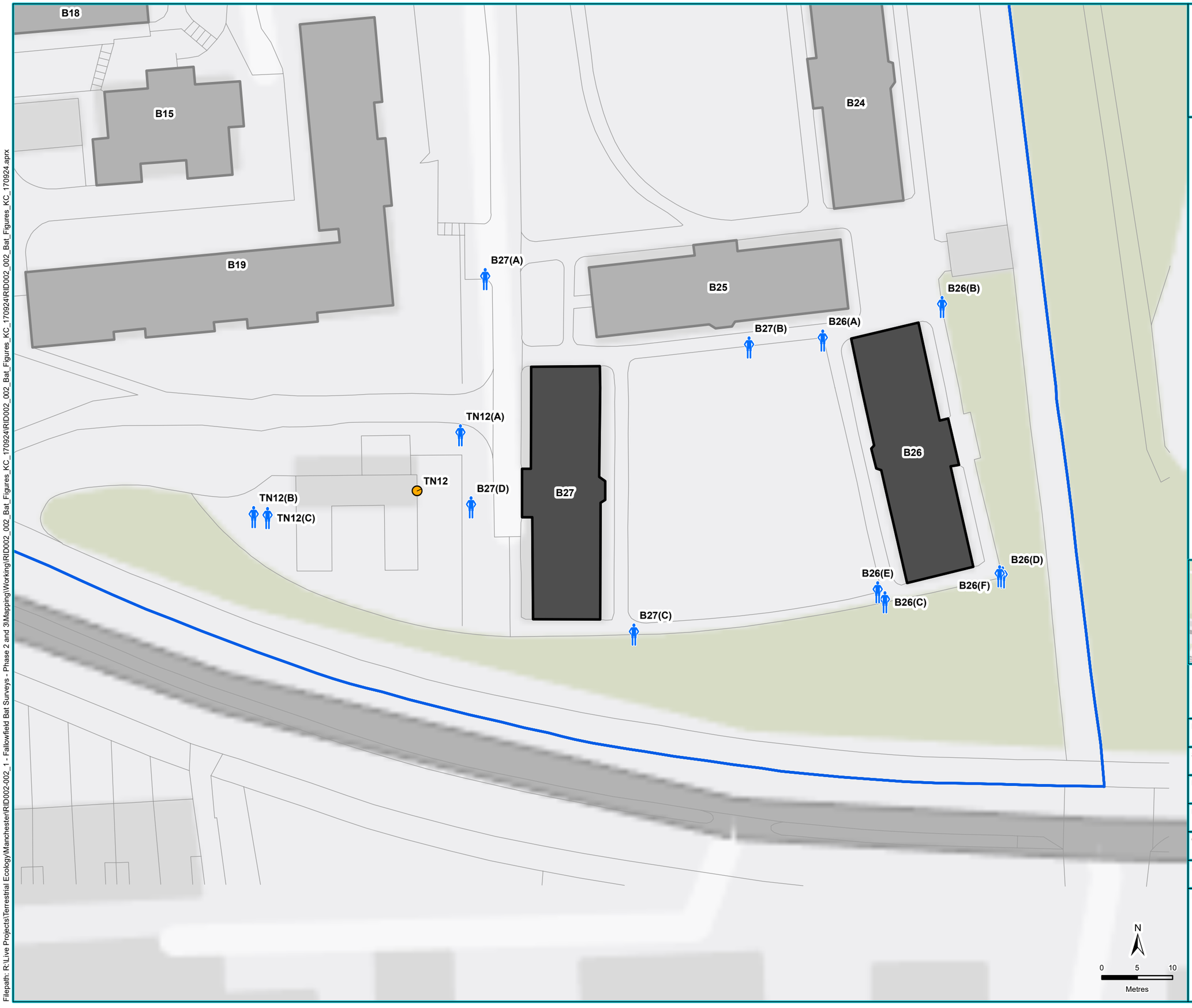
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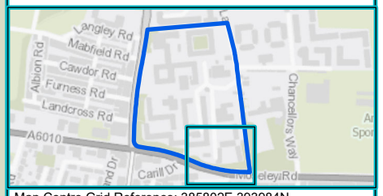
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Figure Number	5 (Page 4)
Figure Title	Surveyor Locations (B22, B24, B25)



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Client	Rider Levett Bucknall
Figure Number	5 (Page 5)
Figure Title	Surveyor Locations (B26, B27, TN12)

2. Introduction

2.1 Development Background

2.1.1 Rider Levett Bucknall (RLB) has been engaged by the University of Manchester (UoM) to support with the residencies redevelopment program, which involves plans for the future of their residential campuses. An aspect of this programme is the redevelopment of the University's Fallowfield Campus. The works to be undertaken include the phased demolition of existing residences within the Fallowfield Campus and the provision of new Purpose Built Student Accommodation (PBSA), these proposals are hereafter referred to as 'the scheme'. Outline planning permission (Ref. 138126/OO/2023) was granted for the site which allowed the demolition of the first phase of the development, Owen's Park.

2.1.2 Works at Owen's Park are currently underway, supported by bat licencing. The need for an update on bat survey for the other phases of the development to support the reserved matters application and inform future mitigation measures was set out within Condition 9 attached to the Outline Planning Permission.

2.1.3 The areas within the University's Fallowfield Campus effected by the scheme are hereafter referred to collectively as 'the site'. The location of the site is shown on Figure 1. The site is located within a largely residential suburban area of Fallowfield, South Manchester, with the campus comprising of three main campus areas: Owen's Park (central section), Oak House (south-east section) and Woolton Hall (south-west section) with recreational greenspace and meeting areas. The campus area features mature trees, associated gardens, woodland, hardstanding and residential road and car parking networks. There are also several small areas of recreational amenity grassland within the campus. Please see Table 1 for which buildings are in which group and Figure 2 for a visual reference.

2.2 Ecology Background

2.2.1 The site's buildings and trees have been assessed in a Preliminary Roost Assessment (PRA), completed by Buro Happold in November 2022 (Buro Happold, 2023). This was undertaken as part of an Ecological Constraints and Opportunities Report. After the assessment it was concluded that the site features a total of 22 buildings with bat potential in the three campus areas, 14 of which were high potential, 2 were of moderate potential and 6 were of low potential for roosting bats, in accordance with criteria detailed within the third edition of the Bat Survey Guidelines (Collins ed., 2016). A previous desk study undertaken by Buro Happold obtained records of five granted European Protected Species licences within 2km of the site. All licences relate to common pipistrelles (*Pipistrellus pipistrellus)*. The closest licence is located approximately 1.3km north. The outcome of this assessment was the recommendation of further survey of the buildings. It was recommended that any trees identified as having potential to support roosting bats should be retained and protected, and a sensitive lighting design should be promoted for the site.

2.2.2 Six trees on site were assessed as having potential for roosting bats during the PRA completed by Buro Happold (Buro Happold, 2023). All six of which were of low potential for roosting bats. If any of these trees are adjacent to buildings due for demolition, then distance must be considered if the trees have not been felled in advanced. The low potential trees have been considered in the roost assessment by Buro Happold (2023), with recommendations made. There should be a protection buffer surrounding retained trees for the root protection zone, which typically will be enough to avoid potential impacts for bats too (refer to Buro Happold, 2023 for more detail). There is a tree of moderate potential which was located in the northern section of the University of Manchester campus, Ashbourne Hall, which is off-site and not included in the study and can thus be discounted from further survey. Thomson are updating the tree bat assessment with a Ground Level Tree Assessment in October 2024, and this will inform mitigation.

2.2.3 An environmental statement (ES) completed by BDP (BDP, 2015) relating to previous proposals for the site, discusses the presence of bat roosts on site. Three bat roosts were identified during these bat surveys. A maternity roost of forty-four common pipistrelle bats was recorded during the survey within Little Court and Green Court (Owen's Park, B12 and B11 respectively), and a day roost of two common pipistrelle bats within Tree Court (Owen's Park B10). The building locations are outlined in Figure 1.

2.2.4 Foraging and commuting habitat for bats on, and surrounding the site, is considered to be of moderate value. This is due to the presence of high-quality habitat features in the vicinity, however there is limited connectivity through commuting routes to suitable habitat in the wider environment, due to the largely residential, artificially lit landscape of the area.

2.2.5 Thomson Environmental Consultants were commissioned in May 2023 to undertake further bat surveys of the 22 properties with potential to support roosting bats to provide essential information to support the planning application and the European Protected Species Licence (EPSL) prior to commencement of the works. Depending on the potential of each property (Buro Happold, 2023) to support roosting bats, between one and three dusk emergence and dawn re-entry surveys were scheduled and carried out in line with BCT best practice guidelines (3rd Edition) (Collins, J (ed), 2016).

2.2.6 The bat dusk and dawn surveys confirmed the presence of common pipistrelle (*Pipistrellus pipistrellus*) bat roosts, with six roosts at B10, four roosts at B11, three roosts at B12 Owen's Park and one roost at B19. B10 also supported a soprano pipistrelle (*Pipistrellus pygmaeus*) roost. Furthermore, a single common pipistrelle was incidentally recorded re-entering a roost at B25 during a survey on B27.

2.2.7 A European Protected Species Licence (EPSL) for bats was granted in 2024 (ref:2024-67055-EPS-MIT) which allowed for the destruction of multiple bat roosts of common pipistrelle and soprano pipistrelle bats at B10, B11 and B12 within Owen's Park. In December 2023, 11 bat boxes were erected on site under the supervision of experienced ecologists from Thomson Environmental Consultants. Mitigation works including destructive roost searches, dusk emergence and dawn re-entry surveys commenced in May 2024 and were concluded by July

2024. B10, B11 and B12 have now been demolished. The roosts at B19 Oak House and B25 Woolton Hall remain.

2.3 The Brief and Objectives

2.3.1 Thomson Environmental Consultants was commissioned on 7th June 2024 by RLB to undertake a suite of dusk emergence surveys on 13 buildings at University of Manchester Fallowfield Campus, which were identified as having bat roost potential in a Preliminary Roost Assessment (PRA) completed by Buro Happold Ltd in 2022. The buildings surveyed comprise Oak House and Woolton Hall.

2.3.2 The brief was to:

- Conduct one, two or three emergence surveys of the properties with the survey method to be based on Bat Conservation Trust guidelines (4th edition) (Collins, J (ed), 2023). A visit to comprise one dusk survey and last approximately two hours. Bat detectors and Night Vision Aids (NVA) devices will be used to capture bat calls and emergence/re-entry footage for later analysis, if required. Where multiple visits are required, these should be spaced at least three weeks apart. Sub-optimal weather conditions will be avoided as far as possible. In addition, according to the BCT guidelines, survey visits should be spaced appropriately during the suitable bat survey season (i.e. May to September inclusive). Concentrating all survey visits in one month should be avoided. Data collected all in one month may not be accepted by Natural England in case of licence applications; and.
- Provide a report on the survey giving the methods and results of the survey, discussion of the legal and planning policy issues and our recommendations, including opportunities for enhancement; and
- Provide a digitised map of the survey results.

2.4 Limitations

2.4.1 On occasion, NVA's in the form of Infrared Cameras (IR) replaced human surveyors, and they were equipped with bat detectors. This was not a limitation and guidance from the BCT moving forward will include the use of cameras replacing surveyors.

2.5 Surveyors

2.5.1 The surveys were undertaken by: Callum Salter BSc (Hons), from Olivia Satur MSc (Hons), Raeece Ali BSc (Hons), Katie Woodfine BSc (Hons), Pascale Palethorpe BSc (Hons), Tom Nelson BSc (Hons), Matthew Henderson BSc (Hons), Danielle Johnson BSc (Hons), Fiona Yee BSc (Hons), Caroline Barr BSc (Hons), Georgina Kelly MSc (Hons) MRSB, Kath Smycki MSc (Hons) and Elsa Little BSc (Hons).

3. Methodology

3.1 Desk Study

3.1.1 A desk study was undertaken by Buro Happold (Buro Happold, 2023) for bat licences within 2km of the site, utilising the online data repository Multi-Agency Geographic Information for the Countryside (MAGIC).

3.2 Dusk Emergence Surveys

3.2.1 Emergence/re-entry surveys were carried out to ascertain the presence or likely absence of roosting bats within each of the 13 properties which had previously been identified as having potential during the Preliminary Bat Roost Assessment Survey Report (PRA) (Buro Happold, 2023). The number and timing of the survey visits was determined by the level of potential assigned to each property to support roosting bats as per the results, as shown in Error: Reference source not found. The buildings at Owen's Park have been removed from this table as the demolition is underway with a bat licence in place.

Table 1: Bat roosting potential of properties and required survey effort following the Bat Roost Assessment Survey (Buro Happold, 2023)

Building Group	Building Name and Number	Bat Roost Potential and Survey Effort
Oak House	B15: Carill House	Moderate – Two separate dusk emergence survey separated by a minimum of three weeks, between May and September with at least one visit between May and August.
	B16: Squirrels Bar	High – Three separate dusk emergence surveys each separated by a minimum of three weeks, between May and September with at least two visits between May and August.
	B17: Beech Court	High – Three separate dusk emergence surveys each separated by a minimum of three weeks, between May and September with at least two visits between May and August.
	B18: Maple Court	High – Three separate dusk emergence surveys each separated by a minimum of three weeks, between May and September with at least two visits between May and August.

	B19: Holly Court	High – Three separate dusk emergence surveys each separated by a minimum of three weeks, between May and September with at least two visits between May and August.
	B20: Sycamore Court	High – Three separate dusk emergence surveys each separated by a minimum of three weeks, between May and September with at least two visits between May and August.
	B21: Chestnut Court	High – Three separate dusk emergence surveys each separated by a minimum of three weeks, between May and September with at least two visits between May and August.
Woolton Hall	B22: Main Building	Low – One dusk emergence survey visit, May to August inclusive.
	B23: Ashley	Negligible – None.
	B24: Spencer	High – Three separate dusk emergence surveys each separated by a minimum of three weeks, between May and September with at least two visits between May and August.
	B25: Lindsay	High – Three separate dusk emergence surveys each separated by a minimum of three weeks, between May and September with at least two visits between May and August.
	B26: Morley	High – Three separate dusk emergence surveys each separated by a minimum of three weeks, between May and September with at least two visits between May and August.
	B27: Cavendish	High – Three separate dusk emergence surveys each separated by a minimum of three weeks, between May and September with at least two visits between May and August.
	'TN12': 'The Bungalow'	High – Three separate dusk emergence surveys each separated by a minimum of three weeks, between May and September with at least two visits between May and August.

	'TN19': 'Cycle Store'	Negligible – None.
	'TN20': Garages/ outbuildings adjacent to B22/23	Negligible – None.
	'TN21'	Negligible – None.
	'TN22'	Negligible – None.

3.2.2 The emergence surveys began 15 minutes before sunset and ended 90 minutes after sunset. This survey effort, number of survey visits, timeframes, and survey start and finish times follows good practice guidance (Collins ed., 2023).

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 GPS location of each surveyor was recorded, and a photograph was taken of their survey view.

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

Table 2 Guidance on weather conditions (adapted from met office data on the Beaufort scale and BCT Guidance for Onshore Wind Turbine survey)

Conditions	Temperature at sunset (°C)	Precipitation	Beaufort wind force scale
Optimal	>10	Dry	0 to 3 (calm to slight wind)
Suitable	10	Dry	3- 4 (slight to moderate winds)
Suitable	10	Dry to light showers/drizzle	3- 4 (slight to moderate winds)
Sub-optimal	10	Moderate Rainfall	5 to 7 (fresh to strong winds)
Unsuitable	<10	Heavy rainfall	> 7 (near gale)

3.2.5 Surveyors were stationed around the properties based upon the features identified during the PRA (Buro Happold, 2023), and further informed by the previous scoping survey and emergence/re-entry surveys (Thomson, 2023).

3.2.6 NVA's were used on every survey of all buildings on site, in the form of IR Cameras. These were stationed to cover PRFs on each aspect of the building. As indicated in good practice guidance (Collins ed., 2023) it is a requirement for all PRFs to be covered by NVAs. This reduces uncertainty caused by dark conditions and enables review of footage for detailed re-assessment of bat activity post survey. The surveys were mostly completed with Nightfox whisker, along with Cannon XA10 and XA60, and a FLIR T530 thermal imaging camera. NVA type Thermal Imaging or Infrared (TI or IR) and location was determined by the PRF data gathered during the PRA and PRF inspection surveys.

3.2.7 The locations of the surveyors were selected to ensure that all egress points could be viewed by the surveyors and/or NVAs without obstruction. The GPS location of each surveyor/NVA location was recorded and a photograph was taken of their survey view.

3.2.8 During the emergence surveys, access points/PRFs were watched continuously by the surveyors, whilst during the re-entry surveys bats were tracked back to any access points/PRFs within the view of the surveyors.

3.2.9 Recordings of bats were taken using Elekon Bat Logger M detectors and any bats seen to emerge from PRFs were noted, along with the flight direction. Species were identified in the field where possible, however recordings were retained for later analysis if necessary to identify the species more accurately. NVAs were monitored during the survey particularly after light levels had decreased below visible levels, to record any roost activity later into the survey not visible with the naked eye.

3.2.10 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 surveys of the PRFs. This incidental data was used to determine the presence of other on or off site roosts based on timing and behaviour.

3.3 Data Analysis

3.3.1 Data was reviewed as soon as possible after the survey event, ensuring this was carried out prior to the following survey, allowing results of former surveys to inform those subsequent.

3.3.2 All NVA footage was checked through post-survey to find roost activity not recorded during the survey. For surveys where roosts were recorded, footage of all roost activity was retained. Where no roost activity was recorded, a screenshot of the darkest period of the survey was retained as evidence of suitable visibility of the roost feature during the survey.

3.3.3 All bat calls were recorded, and these were analysed using Elekon BatExplorer software. Quality assurance was undertaken on 60% of the bat call sound and noise files, and any rare or notable species.

3.4 Date of the Surveys

3.4.1 The surveys were undertaken between 10th June and 2nd September 2024.

4. Results

4.1 Desk Study

4.1.1 The records of five granted European Protected Species licences within 2km of the site were returned during the desk study undertaken by Buro Happold. All licences relate to common pipistrelles. The closest licence is located approximately 1.3km north.

4.1.2 These records comprise three records of common pipistrelle bat roosts, all dated 2015 (25/06/2015, 23/07/2015 and 18/06/2015). These bat roost records were obtained from the 2015 surveys on the site and provided in the preliminary assessment (Buro Happold, 2023). The result of the 2015 bat emergence/re-entry surveys (BDP, 2015) are as follows:

4.1.3 "Two bat roosts were located during the bat surveys. A maternity roost of forty-four common pipistrelle bats was recorded within Little Court and Green Court (B11 and B12 respectively, Owen's Park) and a day roost of two common pipistrelle bats within Tree Court (B10 Owen's Park)".

4.2 Site Description

4.2.1 Foraging and commuting habitat for bats on, and surrounding the site is considered to be moderate value. This is due to the presence of high quality habitat features in the vicinity, however there is limited connectivity through commuting routes to suitable habitat in the wider environment, due to the largely residential, artificially lit landscape of the area.

4.2.2 The building construction details within Preliminary Roost Assessment (Buro Happold, 2023) listed the following:

- Oak House (B15 to B21): More recent construction of brick with a shallow pitched tiled roof with small soffits or fascia boards. The majority have numerous weep holes above the windows and potential gaps beneath the fascia boards/soffits that could offer roosting opportunities. They have negligible to high potential to support bats.
- Woolton Hall (B22 to B27): Brick construction with a pitched metal roof and large timber soffits. They have ornate ventilation slits on some of the gable ends that could allow access into any roof voids that may be present.

4.3 Dusk Emergence Survey

4.3.1 PRFs surveyed across the 13 properties include lifted/raised/missing tiles, gaps/missing ridge tiles, drainpipe fixtures, lifted/raised flashing, weepholes, missing mortar, damaged fascia boards, gaps in soffits and chimney rendering.

4.3.2 The location of each property surveyed across Oak House and Woolton Hall is shown on Figure 2. Each property is numbered as per its university building number, this was also used in the PRA completed by Buro Happold (B15 – B27 on Figure 2).

4.3.3 Following the suite of surveys, one new single bat roost was identified upon footage review in B18, Oak House and no new bat roosts were recorded in the buildings at Woolton Hall.

4.3.4 Bats were not observed using B19 Oak House or B25 Woolton Hall in 2024. Previous surveys (Thomson, 2023) recorded roosts within B19 at Oak House and B25 at Woolton Hall, both these buildings are considered to have confirmed roosts.

4.4 Roost Categorisation

4.4.1 A single bat was observed on an unmanned camera location at B18 emerging from the fascia board, the bat did not emit a bat call from this emergence but the species was assessed as likely being a pipistrelle by the camera footage review team. This was due to the shape and size of the bat, as well as flight behaviour, along with pipistrelle making of the majority of all on-site calls during the surveys, and previously recorded roosts which were all common/soprano pipistrelles for the building. This roost has been considered to be a transitional/occasional roost.

4.4.2 During the previous surveys, bats were observed swarming before returning to the roost at B19. Therefore, this roost is considered to be a bachelors/maternity roost for common pipistrelle bats. At B25, the roost is considered to be a transitional/occasional roost. Both roosts have not been recorded during surveys at the site before 2023.

4.4.3 The roosts have not been assessed as having the potential to support hibernating bats due to the variation in temperature within the buildings, the lack of humid cold spaces (the buildings are all sealed student accommodation which cannot be humid for health and safety) and the structure of the roofing/lack of cellars or basements. The heating will be constant through the winter months and noise disturbance will be high as Oak House and Woolton Hall are still active student campuses.

4.5 Incidental Activity

4.5.1 At least four species of bat, common pipistrelle, soprano pipistrelle (*Pipistrellus pygmaeus*), Myotis (*Myotis spp.*) and noctule (*Nyctalus noctula*) were recorded incidentally during the dusk emergence/dawn re-entry survey visits. The majority of surveys recorded common and soprano pipistrelle bats.

4.5.2 Activity across the site was typically commuting bats, but also included foraging and social calling pipistrelle bats. Rare passes of noctule bats were heard, but flightpaths unseen. Bat activity was deemed either absent, low, or moderate during the vast majority of survey visits and surveyor locations (please refer to appendix 2 for activity levels at each building). Occasionally, areas of the sites were used as commuting corridors by multiple pipistrelles to access nearby greenspaces such as Platt Fields Park and Firs Botanical Gardens. These sections of the site featured moderate to high activity.

4.6 Birds

4.6.1 During the update dusk surveys, several common garden bird species were recorded on site, which have the potential to nest within the properties included in the scheme. The following species were observed during the surveys, but were not observed performing nesting behaviour:

- Blackbird (Turdus merula);
- Black-headed Gull (Chroicocephalus ridibundus)
- Bullfinch (*Pyrrhula pyrrhula*);
- Carrion crow (*Corvus corone*);
- Goldcrest (*Regulus regulus*); and
- Jackdaw (*Coloeus monedula*).

5. Legal and Policy Considerations

5.1.1 This section presents the legislation requirements and policy considerations known to be relevant based on the results of dusk emergence/dawn re-entry surveys across the site.

5.1 Bats

5.1.1 As set out in Appendix 3, all British bats receive comprehensive protection under the Conservation of Habitats and Species Regulations, 2017 (as amended) and the WCA 1981 (as amended).

5.1.2 All bat species are protected by the Conservation of Habitats and Species (Amendment) Regulations 2017. 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.

5.1.3 In addition to the protection given to bats under the Conservation of Habitats and Species (Amendment) Regulations 2012 already described, bats are also partially protected in England under the WAC, 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.

5.1.4 The proposals include demolition works of all buildings at Owen's Park (now completed), Oak House and Woolton Hall. The buildings Oak House (B19) has been found to support a confirmed roost of multiple common pipistrelle bats. Building B18 Oak House and B25 Woolton Hall has been observed to have a single bat roost. Development affecting bats and their roosts is governed by a licensing procedure administered by Natural England.

5.1.5 Soprano pipistrelle and noctule are both species of principle importance in England under the NERC Act 2006. 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 National Planning Policy Framework (NPPF) 2024 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.

5.1.6 Without mitigation and licensing, the Proposed Development would contravene the legislation and policy set out above with respect to bats. B18 and B19 Oak House, and B25 Woolton Hall would destroy bat roosts and could result in disturbance, harm and death of individual bats. However, using established techniques it should be possible to:

- Avoid harm to individual bats during the development process; and
- Maintain the population of bats at a favourable conservation status.

5.1.7 The recommendations set out in Section 6 for mitigation and licencing should be followed in order to proceed lawfully with regard to bats and their roosts.

5.2 Birds

5.2.1 No bird nests were recorded on site during the surveys, however it is likely that the site features several bird nests. All birds are protected under the Wildlife and Countryside Act (WCA) 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird; intentionally take, damage, or destroy the nest of any wild bird while that nest is in use or being built; and intentionally take or destroy the nest or eggs of any wild bird.

5.2.2 The recommendations set out in Section 6 should be followed in order to proceed lawfully with regard to breeding birds.

5.3 Ecological Enhancement

5.3.1 Planning permission is in the process of being applied for, therefore consideration of policies by the NPPF relating to the natural environment should be made. The NPPF states that developments should aim to conserve or enhance biodiversity and encourages opportunities to incorporate biodiversity in and around developments.

5.3.2 Within the Biodiversity Strategy (City of Manchester Nature Recovery, 2022) one of the actions is to "*Increase species records associated with rivers, canals and pond habitats - targeted at 29 indicators including daubenton's bat*". This species was however not observed during the survey.

5.3.3 The Greater Biodiversity Action Plan includes a species action plan for bats, which includes the local positive factors and threats (GMRC, 2009). The threats include the following: Exclusion of bats from their roosting places by obstruction of roost entrances and felling of mature trees.

5.3.4 Within the BAP, the only national action plan covering bats known to occur in Greater Manchester is for Pipistrelles. The national conservation objectives are:

- Maintain the existing population size of *Pipistrellus pipistrellus* and *Pipistrellus pygmaeus*.
- Maintain the existing geographical range of *P. pipistrellus* and *P. pygmaeus*.
- Restore population size of *P. pipistrellus* and *P. pygmaeus* to pre-1970 numbers.

5.3.5 Recommendations are made in Section 6 to ensure that the development is compliant with respect to the above legislation and policy.

6. Recommendations

6.1 Bat Safeguarding and Mitigation

6.1.1 The dusk emergence/dawn re-entry surveys of 2023 and update dusk emergence surveys of 2024 confirmed the presence of three common pipistrelle roosts, one of which featured multiple bats (B19 Oak House). A single bat was observed emerging at B18 Oak House, and B25 Woolton Hall. It will be necessary to apply to Natural England for a European Protected Species (EPS) Mitigation Licence to ensure the demolition works proceed in accordance with the relevant legislation. The roosts are Owen's Park in B10, B11 and B12 have been appropriately mitigated during their demolition.

6.1.2 Buro Happold recommended that any trees identified to have potential to support roosting bats should be retained and protected. The site also offers foraging opportunities for bats, and therefore, a sensitive lighting design should be promoted for the site. The details should be stated within the licence application and follow the best practice guidelines for artificial light and bats (BCT, 2023). Thomson are updating the ground level tree assessment (GLTA) on trees due to be removed during the development, a follow up report will inform on next steps in regards to trees.

6.1.3 The data obtained during the dusk emergence detailed in Section 4 will be used to inform the licence application along with the previous 2023 data, including the recommendations for provision of suitable compensatory and enhancement roost features which should include structure mounted artificial bat boxes and permanent roosting features, as applicable.

6.1.4 EPSL applications for works affecting bats are subject to very close scrutiny and must satisfy regulations set out in the Conservation of Habitats and Species Regulations 2017 (as amended), that:

- The actions are essential for 'imperative reasons of overriding public interest;
- There is no satisfactory alternative; and
- The action authorised will not be detrimental to the maintenance of the population of the species conserved at a favourable conservation status in their natural range'.

6.1.5 Details of mitigation plans will be included in the EPSL such as a works schedule, bat box/roosting feature installation, and recommendations for ecological watching briefs. This is outlined below.

6.1.6 For the buildings on site, specifically B18 and B19 at this stage, due to the size and scale of the buildings it would be difficult to use the approach of excluding the bats from their respective roosts. Therefore, a combination of both roost exclusion and soft demolition is likely to be the approach required. This is subject to the approval of the licence application from Natural England, which cannot be submitted until planning permission has been granted. This method includes the supervision by a licensed bat ecologist for the demolition of the roof and all suitable

roost features on each building, as well as blocking up certain aspects of the building, and fitting roost exclusion devices at specific points where bats can leave but not re-enter. If bats are found during the demolition, then the licenced ecologist will remove the bat and move it into interim maternity bat roost boxes and traditional bat boxes provided as part of the mitigation for the roost destruction. The bat roost boxes must be set up in advance of the demolition work, and if bats are found during the soft demolition, then the bats will be moved into these bat boxes.

6.1.7 Appendix 1: 'Toolbox Talk – Bats' should be delivered to the site demolition team that outlines the potential constraints posed by bats during the scheme, and actions to be taken should a roosting bat be identified during the works.

6.1.8 Replacement bat roosts within the new buildings will be provided to ensure alternative roosting opportunities exist within the application site to compensate for the loss of the existing bat roosts. Integrated bat boxes will be provided within the proposed buildings in a similar location and of a similar feature type, and as the existing identified roosts, as far as practicable. The details will be developed to support the licence application. Bat roost access (numbers and placement subject to licence recommendations) should be appropriately integrated into the Proposed Development during the early construction stages, ideally this would have been prior to the demolition of the Owen's Park campus buildings, but this was not possible, therefore a total of interim 11 bat roost boxes have been installed on retained trees associated with the retained broadleaved woodland that forms the site boundaries and is considered to provide foraging, commuting and dark areas appropriate for bat box placement. The integrated bat roost access will not be directly lit and will be located in areas of low light levels, surrounded by an appropriate landscape strategy to provide flight paths across the site towards Platt Fields Park, which previous bat surveys suggest is the principle foraging habitat for the roosting bats. The locations of replacement roosts, as well as interim roosts (maternity and small bat boxes discussed in 6.1.9 below) were with the Owen's Park licence application (ref:2024-67055-EPS-MIT) and placed where possible in the location of the original roosting features.

6.1.9 Before the next stage of demolition can take place, additional initial interim replacement roosts will need to be installed around Oak House and Woolton Hall. It's important that the roosts are being replaced by integrating replacement features into the final builds that are identical to the originals (this is by far the best way to compensate, as occupancy in separately built roost features and buildings is known to be quite unreliable). As the roosts at Owen's Park (B11 and B12) are maternity roosts, and the roost at B19 Oak House was classified as a bachelors roosts, the initial interim bat box features need to be suitable for maternity roost bats as well; there are boxes that are designed for this (NHBS, 2023), which should be sufficient for pipistrelles. At least six additional maternity roost boxes will be provided near to the roosts at Oak House within retained trees.

6.2 Opportunities for Enhancement

6.2.1 In addition to the proposed replacement roost areas at Owen's Park, a further minimum of 8 replacement roost areas will be created around Oak House and Woolton Hall. 6 additional

interim maternity roost boxes and 6 small bat boxes will be provided in other sections of the site as a minimum amount, these should remain after the proposed work where possible.

6.2.2 The site featured woodland habitats suitable for foraging and commuting, with both activities recorded during the surveys. These wooded habitats should be kept as dark as possible, with sensitive lighting considerations in place.

6.2.3 Further bat enhancements could include the planting of new hedges, trees, or night scented vegetation to provide foraging opportunities for invertebrate as a food source. There should be no new lighting to suitable habitats, and any enhancement or replacement habitats should be kept dark too, otherwise they are of limited suitability.

6.3 Further Survey

6.3.1 Internal inspection surveys are being undertaken on all buildings between the 30th September to the 8th October, 2024 to assess if the 13 buildings have signs of roosting bat, further informing the mitigation licence to support the next phase of demolition in 2025.

6.3.2 It is recommended that a Mobile Elevating Work Platform (MEWP) is used to inspect the buildings at Oak House, specifically the fascia boards and socket boxes. This is to identify if bats are using these features on buildings.

7. Conclusion

7.1.1 A new roost was recorded in B18 during the 2024 update surveys, with the previous two roost in B19 and B25 remaining confirmed roosts from the 2023 surveys, despite not being recorded on this occasion. Common pipistrelle and a pipistrelle species are the species confirmed to be using the roosts,

7.1.2 The new roost at B18 has been considered to be a transitional/occasional roost. During the previous 2023 surveys, bats were observed swarming before returning to the roost at B19. Therefore, this roost is considered to be a bachelors/maternity roost for common pipistrelle bats. At B25, the roost is considered to be a transitional/occasional roost. Without mitigation the development will result in the destruction of multiple bat roosts, these roosts are legally protected from destruction and disturbance and therefore an EPSL must be applied for with Natural England so works can proceed lawfully

7.1.3

8. References

8.1.1 Bat Conservation Trust (Accessed 2023) updated 'Bats and Artificial Lighting in the UK' Guidance Note GN 08 23. Available at: https://www.bats.org.uk/our-work/buildings-planning-and-development/lighting

8.1.2 BDP (2015) Owen's Park, Fallowfield: Campus Redevelopment for the University of Manchester. Part 2: Environmental Statement. P2006665_(REP)_PL_001.2

8.1.3 Buro Happold (2023). Ecological Constraints and Opportunities Report. University of Manchester, Fallowfield [Version 1 February 2023].

8.1.4 City of Manchester Nature Recovery (2022) Biodiversity Strategy 2022-2030. Available at chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://democracy.manchester.gov.uk/documents/s35928/Appendix%201%20Biodiversity%20Strategy.pdf

8.1.5 Collins ed. (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*. Bat Conservation Trust, London.

8.1.6 Greater Manchester Records Centre (GMRC, 2009). Greater Manchester Biodiversity Action Plan, Appendix 1 Species Action Plans – Bats. Available at: https://gmlrc.org/projects/gm_bap/

8.1.7 Multi-Agency Geographic Information for the Countryside (MAGIC) (http://www.natureonthemap.naturalengland.org.uk/). Accessed on 07/07/2023.

8.1.8 Natural History Book Service (NHBS) – Maternity Bat Boxes. https://www.nhbs.com/4?slug=maternity-roost-boxes&q=&fR[hide][0]=false&fR[live][0]=true&fR[shops.id][0]=4&fR[subsidiaries][0]=1&hFR[subjects_equipment.lvl1][0]=Bat%20Boxes%20%3E%20Maternity%20Roost%20Boxes Accessed on 07/08/2023.

8.1.9 National Planning Policy Framework (2019). Secretary of State for Housing, Communities and Local Government, London, England.

8.1.10 Thomson Environmental Consultants (2023). Bat Dusk Emergence and Dawn Re-entry Surveys – Final Report. University of Manchester Fallowfield Campus, Manchester

Appendix 1: Toolbox Talk – Bats

8.1 Toolbox Talk

8.1.1 This toolbox talk is designed for those carrying out works as part of the demolition scheme on properties where likely absence of roosting bats has been established following the nocturnal surveys. This will outline the survey results, legislation surrounding bats in the UK and how they are protected from disturbance and destruction of themselves and their roosts, and actions that should be taken should a roosting bat be encountered.

8.2 Development Background

8.2.1 Rider Levett Bucknall are undertaking demolition works as part of the demolition Scheme. The scope of the improvements includes 22 properties across Owen's Park, Oak House, and Woolton Hall within the Fallowfield University Campus Manchester, M14 6HD.

8.3 Ecology Background

8.3.1 In November 2022 Buro Happold undertook external inspections of the 29 properties included in the scheme to establish their potential to support roosting bats. The properties were assigned a bat roosting potential value from negligible – high. During May - July 2023, Thomson Environmental Consultants undertook bat dusk emergence and dawn re-entry surveys to establish presence/likely absence of bats within 22 properties. As the mitigation and demolition has been undertaken at Owen's Park, 13 buildings remain in the scope in 2024, with three identified roosts within buildings B18, B19 and B25.

8.3.2 Multiple roosts of multiple common pipistrelle (*Pipistrellus pipistrellus*) bats were recorded within B18 and B19 Oak House and B25 Woolton Hall.

8.3.3 Before works can commence on B18 and B19 Oak House and B25 Woolton Hall, a European Protected Species (EPS) Mitigation Licence will be required from Natural England.

8.4 Legislation

8.4.1 All bat species in the UK 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.

8.4.2 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.

8.4.3 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.

8.4.4 What constitutes 'disturbance' includes any work in or affecting a bat roost; in the context of these works these would include disturbance through noise from demolition works, site operatives and equipment moving around site, as well as artificial lighting during any night works.

8.5 Discovery of a Bat

8.5.1 Roosting bats are assumed 'likely absent' from the remaining properties involved in the scheme. However, bats are highly mobile, and there is therefore the potential for them to utilise any of the numerous suitable roosting features present across the site, during and in advance of the works.

8.5.2 If any bats are discovered during any stage of the demolition works, then the following steps should be taken:

- Works should be halted immediately;
- An ecologist should be consulted as soon as is practicable, as a Natural England licence will be required before works can proceed;
- If possible, leave the individual(s) covered up, ensuring safety from predation, injury, and protection from the weather; and
- Only if the life of the individual(s) is at risk, should the bat(s) be moved to a suitable safe place by a site operative, as soon as possible. See section 8.5.3 for advice. Thick protective gloves must be worn at all times should handling be required. The details and location of any bat(s) moved must be recorded.

8.5.3 If the welfare of the bat is at risk, advice provided by the Bat Conservation Trust should be followed: https://www.bats.org.uk/advice/help-ive-found-a-bat

8.6 Toolbox Talk Attendance Form

TOOL BOX TALK BRIEFING RECORD					
I, the undersigned site supervisor, have briefed the site operatives on the tool box talk and am satisfied with the competency of everyone on site to adhere to a safe method of working with regard to bats, GCN and common reptiles'.					
Briefing delivered by:		**Position:**		**Date**	
We (the undersigned) have attended and understood the tool box talk and will comply with the specified requirements					
NAME (PRINT)	**SIGNATURE**	**DATE**			

8.7 Ecologist contact details in the event of discovery of a bat

Lauren Hornsby-Riley BSc (Hons) ACIEEM

Senior Ecological Consultant

T: 0113 247 3782 M:07399 554 587

lauren.hornsby-riley@thomsonec.com

Appendix 2: Bat Dusk Emergence/Dawn Re-entry Survey Results

8.8 Survey Results

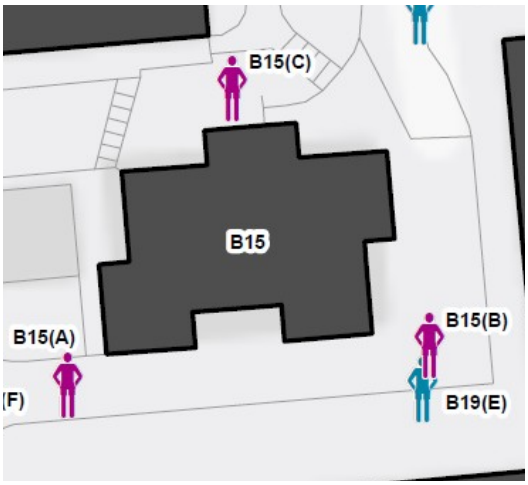
8.8.1 The results of all the bat dusk emergence and dawn re-entry surveys are provided below as a 'case study' table for each property.

8.8.2 The property description, PRF description and bat roost potential for each property is listed in accordance with the results of the Bat Risk Assessment Survey Report results (Buro Happold, 2023). Where properties had been given general PRF types, or repairs have been undertaken, these were updated during the scoping surveys on site.

8.8.3 The survey results of the one new confirmed roost properties are shown B18 Oak House, the previous two roosts are references in the original bat report (Thomson, 2023) - B19 Oak House and B25 Woolton hall).

Project Code	RID002-002-003	**Property**	B15
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Brick built construction with a multiple mono shallow pitched tiles roof.				
Description of PRFs	There are large gaps along the roof verges where the mortar has fallen away. The roof line was not fully visible from the ground but there may be gaps between the tiles that could offer PRFs.	Bat roost potential **Low/Moderate/High**	**Moderate**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence Surveys

Visit 1 17/06/24 DUSK	**Surveyor and Surveyor Location (SL)**	**B15A** Caroline Barr + Nightfox 07244, **B15B** Danielle Johnson + Nightfox 07309, **B15C** Gemma Hassall + Cannon 07199.				
	Sunset time	21:40	**Start Time**	21:25	**End Time**	23:10
	Weather	Clear. 60-70% Cloud coverage.			**Start Temp (°C)**	14(°C)
	Rain	Dry	**Wind (Beaufort)**	f1	**End Temp (°C)**	12(°C)
	Activity Summary: **B15A=** 22:37- Heard not seen C.pip **B15B=** 22:37- Heard not seen C.pip **B15C**= No Activity					
	Limitations: N/A					
Visit 2 19/08/24 DUSK	**Surveyor and Surveyor Location (SL)**	**B15A** Unmanned Nightfox 07239, **B15B** Callum Salter + Nightfox 07245, **B15C** Kath S				
	Sunset time	20:27	**Start Time**	19:50	**End Time**	22:27
	Weather	66-100% cloud coverage			**Start Temp (°C)**	18°C
	Rain	Dry	**Wind (Beaufort)**	f5	**End Temp (°C)**	17°C
	Activity Summary:					

	B15A- No activity observed. **B15B-** No activity observed. **B15C-** No activity observed.					
	Limitations: Sub-optimal					
Visit 3 **N/A**	**Surveyor and Surveyor Location (SL)**					
	Sunset time		**Start Time**		**End Time**	
	Weather				**Start Temp (°C)**	
	Rain		**Wind (Beaufort)**		**End Temp (°C)**	
	Activity Summary:					
	Limitations:					

Project Code	RID002-002-003	**Property**	B16
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Brick built construction with a multiple mono pitched tiles roof				
Description of PRFs	Brick work in a good condition but gaps noted between the tiles at the gable ends and fasciae.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence Surveys

Visit 1 **27/06/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B16A** Matthew Henderson + Nightfox 07239, **B16B** Unmanned Nightfox 07244, **B16C** Unmanned IR07245, **B16D** Kath S + Cannon XA10, **B16E** Callum Salter + Thermal				
	Sunset time	21:26	**Start Time**	21:26	**End Time**	23:11
	Weather	66-100 cloud coverage. Wind.			**Start Temp (°C)**	16°C
	Rain	Dry	**Wind (Beaufort)**	f3	**End Temp (°C)**	14°C
	Activity Summary: **B16A-** No activity **B16B-** No activity **B16C-** No activity **B16D-** No activity **B16E-** No activity					
	Limitations:					
Visit 2 **18/07/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B16A** Unmanned Nightfox 07239, **B16B** Matthew Henderson + Nightfox 07309, **B16C** Danielle Johnson + Nightfox 07245, **B16D** Unmanned Nightfox 07244**, B16E** Callum Salter + Thermal.				
	Sunset time	21:25	**Start Time**	21:10	**End Time**	22:55
	Weather	85-95% Cloud coverage			**Start Temp (°C)**	22°C
	Rain	Dry	**Wind (Beaufort)**	f1	**End Temp (°C)**	20°C
	Activity Summary: **B16A -** Incidental bat activity, no emergence. **B16B-** common pip foraging going along treeline headed towards B16A 21:28 45khz, same again 21:36 44khz, consistent foraging common pip/soprano 44khz & 50khz 21:47, also foraging around beech court, consistent foraging activity until survey end 22:55.					

<table>
<tr><td></td><td colspan="6">B16C- 21:16- HNS C.pip, 21:27-C.pip commuting NE over trees, 21:33- HNS C.pip, 21:35- 1x C.pip foraging, 21:37- 1x C.pip foraging between B16C&D, 21:38- 1x C.pip seen foraging above trees NE directly behind building, 21:41- 1x C Pip commuted from behind building toward B16C, 21:42 21:43- 1x C.pip foraging between B16C&D, 21:47- 1x C.pip commuting overhead, 21:48- 1x C.pip foraging , 21:49- 1x C.pip commuting from trees in front to SW, 21:50 & 21:53- 1x C.pip commuting towards B16D, 21:55- 1x C.pip commuting from left towards B16D, 21:57- 1x C.pip foraging between B16C&D, 22:59- C Pip foraging above rooftop 22:12- 1xC.pip commuting NE over building 22:14- 1x C.pip foraging over building 22:20 & 22:21- C.pip HNS, 22:24- 1xc.pip commuting, 22:30- 1xC.pip commuting NW, 22:33,22:37,22:30- HNS C.pip, 22:38, 22:45, 22:51- C.pip HNS close.
B16D- No emergence. Various foraging and commuting activity throughout the survey.
B16E- Occasional PIPI passes commuting from start of survey onwards until 20:25, occasional foraging PIPI 21:49-54 this continued into 22:10 from 22:15-20 a total of 4 PIPI were observed foraging over B18, with 4 bats foraging in same area. and between the buildings B16. no roosts observed. activity stopped at 22:30. occasional foraging picking back up between 40-50.</td></tr>
<tr><td></td><td colspan="6">Limitations: Equipment failure at B16C meaning surveyor had to move here to watch. Nightfox 07245 at this location cut out after 20 minutes form start time.</td></tr>
<tr><td rowspan="6">Visit 3

02/09/24

DUSK</td><td colspan="2">Surveyor and Surveyor Location (SL)</td><td colspan="4">B16A Unmanned Nightfox 07243, B16B Callum Salter + Nightfox 07244, B16C Olivia Satur + Nightfox 07245, B16D Kath S.</td></tr>
<tr><td>Sunset time</td><td>19:55</td><td>Start Time</td><td>19:40</td><td>End Time</td><td>21:55</td></tr>
<tr><td>Weather</td><td colspan="3">67-100% Cloud Coverage</td><td>Start Temp (°C)</td><td>17°C</td></tr>
<tr><td>Rain</td><td>Dry</td><td>Wind (Beaufort)</td><td>f1</td><td>End Temp (°C)</td><td>17°C</td></tr>
<tr><td colspan="6">Activity Summary:
B16A- Incidental bat activity, no emergence.
B16B- PIPI HxS 20:36, continuously pip foraging from 20:50 to 21:05, activity continues again from 21:10-21:20.
B16C- C.pip= pass 20:29.
B16D- No activity.</td></tr>
<tr><td colspan="6">Limitations:</td></tr>
</table>

Project Code	RID002-002-003	**Property**	B17
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large building brick built over four storeys with a shallow pitched tiled roof.				
Description of PRFs	Fascia boards are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence Surveys

Visit 1 **20/06/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B17A** Matthew Henderson + Nightfox 07243, **B17B** Danielle Johnson + Thermal 00298, **B17C** Katie Woodfine + 07309 Canon 07199, **B17D&E** Callum Salter + Nightfox's 07239 & 07244, **B17F** Kath S.				
	Sunset time	21:41	**Start Time**	21:26	**End Time**	23:11
	Weather	Clear. 10-20% cloud coverage start. End 80%.			**Start Temp (°C)**	18°C
	Rain	Dry	**Wind (Beaufort)**	f1	**End Temp (°C)**	16°C
	Activity Summary: **B17A-** No Activity. **B17B-** 22:23 C.pip commuting from behind North to South over building. 22:48= C.pip HNS. 22:48 C.pip commuting east to west. 22:50 1x C.pip commuting east to west. 22:50 1 x foraging then headed north. 22:52 1x C.pip commuting west to north toward construction site. 22:55- HNS Noctule. **B17C-** 22:39 PiPi pass from courtyard. 22:48, 22:52: PiPi pass northwards towards B17A.22:59 PiPi HNS. **B17D&E**- No activity. **B17F-** Foraging at trees.					
	Limitations:					
Visit 2 **11/07/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B17A** Matthew Henderson + Nightfox 07243**, B17B** Caroline Barr + Nightfox 07243**, B17C** Unmanned camera, **B17E** Fiona Yee + Nightfox 07309**, B17F** Danielle Johnson + Canon**.**				
	Sunset time	21:34	**Start Time**	21:19	**End Time**	23:03
	Weather	Dry. 33-66% cloud coverage to start. 80% end.			**Start Temp (°C)**	15°C
	Rain	Dry	**Wind (Beaufort)**	f2- light breeze	**End Temp (°C)**	14°C
	Activity Summary: **B17A**= No emergence, incidental bat activity throughout survey. **B19B=** 21:37 & 22:48 & 22:53 - C.pip HNS // 21:47 & 22:20- foraging bat above surveyor // 22:30- commuting bat					

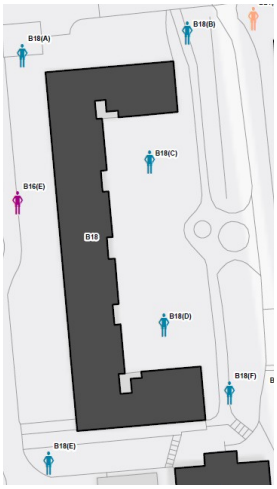
<table>
<tr><td></td><td colspan="6">West to East.
B17C= No emergence, incidental bat activity throughout survey.
B17E= No emergence, incidental bat activity throughout survey.
B17F= 22:30- C.pip HNS commuting. 22:53- C.pip HNS commuting.</td></tr>
<tr><td></td><td colspan="6">**Limitations:**</td></tr>
<tr><td rowspan="6">**Visit 3**

06/08/24

DUSK</td><td colspan="2">**Surveyor and Surveyor Location (SL)**</td><td colspan="4">**B17A** Matthew Henderson + Nightfox 07243, **B17B** Danielle Johnson + Thermal**, B17C** Unmanned Nightfox 07244, **B19D** Callum Salter + Nightfoxes 07239 and 07244, **B17F** Gemma Hassall + Canon**.**</td></tr>
<tr><td>**Sunset time**</td><td>20:54</td><td>**Start Time**</td><td>20:39</td><td>**End Time**</td><td>22:24</td></tr>
<tr><td>**Weather**</td><td colspan="3">Cloud coverage 10-15%</td><td>**Start Temp (°C)**</td><td>18°C</td></tr>
<tr><td>**Rain**</td><td>Dry</td><td>**Wind (Beaufort)**</td><td>f2</td><td>**End Temp (°C)**</td><td>17°C</td></tr>
<tr><td colspan="6">**Activity Summary:**
B17A= 22:11- C.pip commute HNS.
B17B= 22:11- C.pip commute HNS.
B17C= Incidental bat activity, no emergence.
B17D= No bats seen or heard throughout the survey until 22:38 where a PIPI was observed flying high over B17.
B17F= No bats seen or heard throughout the survey.</td></tr>
<tr><td colspan="6">**Limitations:**</td></tr>
</table>

Project Code	RID002-002-003	**Property**	B18
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map - Property with surveyor locations (SL)



Photograph of property



Description of property					
Description of PRFs	Large building brick built over four storeys with a shallow pitched tiled roof. Fascia boards are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**YES**

Results of Bat Dusk Emergence Surveys

Visit 1 **25/06/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B18A** Georgina + Personal canon camera, **B18C** Caroline Barr + Nightfox 07243, **B18D** Unoccupied Nightfox 07309, **B18E** Danielle Johnson + Thermal camera, **B18F** Matthew Henderson + Nightfox 07309				
	Sunset time	21:26	**Start Time**	21:10	**End Time**	23:12
	Weather	Cloudy. 70-80% Cloud coverage			**Start Temp (°C)**	21°C
	Rain	Dry	**Wind (Beaufort)**	f1	**End Temp (°C)**	20°C
	Activity Summary: **B18A=** First P.pip at 22:59. Low levels of activity. Four P.pip passes and single brief pass of P.pyg. P.pip flew over building from the North at 22:28, otherwise not seen. **B18C=** 22:39 (50kHz) & 22:43 (43 kHz) commuting C.pip east to west over surveyor. 23:03 = Heard but not seen 47kHz. **B18D**= Unoccupied Nightfox. Footage reviewed by DJ- No activity. **B18E= 22:44- Distant C.pip HNS.** **B18F=** 2x C.pip foraging around trees behind point B18F, 22:45- C.pip foraging overhead flying towards inside of c shape.					
	Limitations:					
Visit 2 **24/07/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B18A** Danielle Johnson + Thermal, **B18B** Pascale Palethorpe + Nightfox 07243, **B18C** Unmanned canon, **B18D** Unmanned Nightfox, **B18E** Kath, Unmanned Nightfox. **B18F** Matthew Henderson + Nightfox 07309				
	Sunset time	21:17	**Start Time**	21:02	**End Time**	22:47
	Weather	33-66% cloud coverage			**Start Temp (°C)**	
	Rain	Dry	**Wind (Beaufort)**	f2	**End Temp (°C)**	

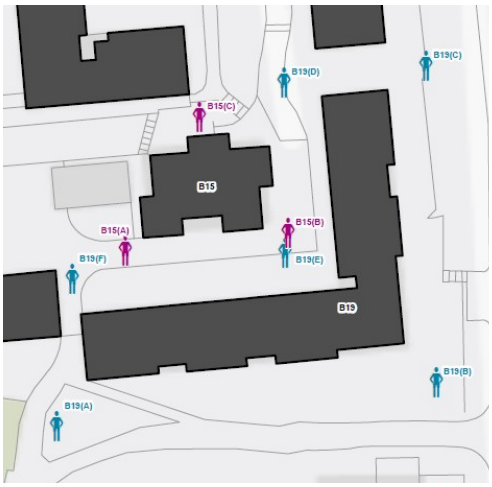
<table>
<tr><td></td><td colspan="6">Activity Summary:
B18A= 21:32- C.pip commuting West. 21:45- Distant HNS. 21:50, 21:55- C.pip HNS. 22:09- C. Pip foraging. 22:13- C.pip foraging then flying West over B16. 22:15- HNS. 22:20- C Pip foraging. 22:34, 22:36- C.pip HNS. 22:35- C.pip commuting NE over B18 then HNS. 22:38, 22:40- Close C.pip HNS. 22:45, 22:46, 22:47- Close C.pip HNS 22:47- C.pip commuting toward me along building.
B18B= Lots of incidental, but no emergence.
B18C= No activity.
B18D= No activity.
B18E= No activity.
B18F= 2 pips foraging around trees behind point b18f, common pip foraging overhead flying towards inside of c shape 22:45.</td></tr>
<tr><td></td><td colspan="6">Limitations:</td></tr>
<tr><td rowspan="5">Visit 3

15/08/24

DUSK</td><td colspan="2">Surveyor and Surveyor Location (SL)</td><td colspan="4">B18A Callum Salter + Thermal, B18B Unmanned Nightfox 07243, B18D Matthew Henderson + Nightfox 07239 & Nightfox 07244, B18E Danielle Johnson + Canon, B18F Gemma Hassall + Nightfox 07245.</td></tr>
<tr><td>Sunset time</td><td>20:36</td><td>Start Time</td><td>20:16</td><td>End Time</td><td>22:06</td></tr>
<tr><td>Weather</td><td colspan="3">Cloud coverage 85-95%</td><td>Start Temp (°C)</td><td>17°C</td></tr>
<tr><td>Rain</td><td>Dry</td><td>Wind (Beaufort)</td><td>f2</td><td>End Temp (°C)</td><td>16°C</td></tr>
<tr><td colspan="6">Activity Summary:
B18A= 2128 faint pip passes hxs 2155 pipi passing along treeline between B16 and B18. check 2159 (01:36 on cam) pip seen flying very close to B18.
B18B= No activity.
B18D= Common pip foraging 45khz 21:29, common pip foraging 46khz 21:56, same again 22:00 47khz
B18E= 21:51,21:57- HNS. 22:00- C.pip commute HNS.
B18F= EMERGENCE at 21:50:38- Emergence from under bargeboard at the edge of the building. Species unknown.
C.pip pass at 21:28, 21:47, 21:52, 21:54, 21:59.</td></tr>
<tr><td colspan="6">Limitations:</td></tr>
</table>

Project Code	RID002-002-003	**Property**	B19
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large building brick built over four storeys with a shallow pitched tiled roof.				
Description of PRFs	Fascia boards are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards. On the western gable, missing mortar was noted **Confirmed as a roost location in 2023 dusk surveys (Previous year).**	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**YES**

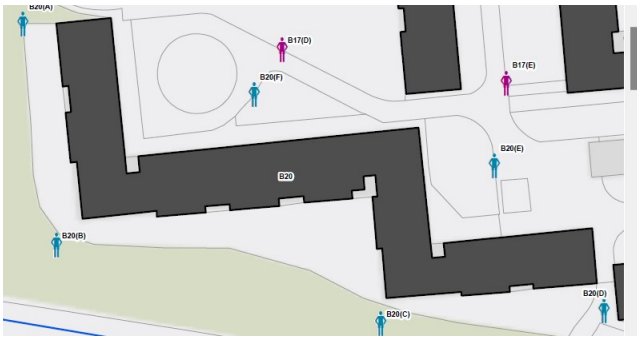
Results of Bat Dusk Emergence Surveys

Visit 1 **11/06/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B19A** Gemma Hassall + Canon 07199, **B19B** Danielle Johnson + Nightfox 07245, **B19C** Matthew Henderson 07243 + Nightfox, **B19D** Raeece Ali + Thermal, **B19E** Callum Salter + Nightfox 05999.				
	Sunset time	21:37	**Start Time**	21:22	**End Time**	23:07
	Weather	Cloud cover: 33-66%			**Start Temp (°C)**	12 Degrees
	Rain	Dry	**Wind (Beaufort)**	f1 - Optimal	**End Temp (°C)**	10 Degrees
	Activity Summary: **B19A=** 21:54 1x C. pip passes, flying east along tree line. 22:20 4x C. pip passes West over roof. **B19B=** 21:51 C. pip seen flying over roof then commuting southwest toward tree line HxS. 23:03 C. pip seen foraging at the corner of rooftop. **B19C**= No Activity. **B19D=** No Activity. **B19E=** 22:07 1x C.pip passing high above. 22:25 1x C.pip foraging HxS					
	Limitations:					
Visit 2 **24/0724** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B19A** Unmanned Thermal, **B19B** Danielle Johnson + Nightfox 07244, **B19C** Gemma Hassall + Nightfox 07245, **B19D** Matthew Henderson + Nightfox 07239, **B19E** Pascale Palethorpe + Nightfox.				
	Sunset time	21:18	**Start Time**	21:03	**End Time**	22:48
	Weather	Cloud coverage 66-88%.			**Start Temp (°C)**	19°C
	Rain	Dry	**Wind (Beaufort)**	f1-Optimal	**End Temp (°C)**	17°C
	Activity Summary:					

	B19A= Incidental bat activity, no emergence. **B19B=** 21:38,21:41,21:42= Seen not heard foraging along the side and roof of building. 21:47= C Pip foraging. 21:49= 2x C.pip foraging over roof and side of building, not heard on bat Logger. 21:50= C.pip commuting north. 21:51= Constant activity. Up to 2 C Pip foraging at a time until 21:58. 22:01= various foraging activity from this time onwards. Majority singular C. Pip. sometimes 2 C.pip foraging or commuting until 22:09. 22:13,22:21,22:22= HNS Distant C.pip. 22:25= Foraging C.pip heading North. Various commutes after this until end. **B19C=** C.pip flew over roof at 21:34 and 21:37 constant foraging until 22:00. Foraging from 22:05 to 22:11, heard but not seen. **B19D=** common pip commuting along treeline towards Gemma 21:27 46khz, common pip foraging in courtyard 21:46 45khz, common or soprano pip foraging 48khz 22:21 heard not seen, common pip foraging 22:36 45khz heard not seen, same again 22:47 43khz **B19E=** Incidental bat activity, no emergence.					
	Limitations:					
Visit 3 **23/08/24** **DUSK**	**Surveyor and Surveyor Location (SL)**		**B19A** Danielle Johnson + Canon, **B19B** Elsa + Nightfox 07245, **B19C** Callum Salter + thermal, **B19D** Matthew Henerson + Nightfox, **B19E** Unmanned Nightfox 07243.			
	Sunset time	20:38	**Start Time**	20:18	**End Time**	22:08
	Weather	Cloud coverage= 20-50%			**Start Temp (°C)**	19°C
	Rain	Dry	**Wind (Beaufort)**	f2	**End Temp (°C)**	17°C
	Activity Summary: **B19A**= 21:11, 21:14= C.pip commuting West, 21:35,21:51= C.pip foraging HNS. 21:57 onward= Incidental bat activity until the end of survey HNS. **B19B=** 20.53 P.pip HNS commuting, 21.09 P.pip HNS commuting, 21.14 P.pip H&S foraging along treeline, 21.35 P.pip HNS commuting, 21.53-10.05 P.pip HNS continuous foraging. **B19C=** 21:17 pipi commuting along treeline, check timestamp 47:00. 21:27 single pipi pass along treeline **B19D=** No activity. **B19E=** No activity.					
	Limitations:					

Project Code	RID002-002-003	**Property**	B20
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property					
Description of PRFs	Large building brick built over four storeys with a shallow pitched tiled roof. Fascia boards are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards. On the northern gable, missing mortar was noted.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence Surveys

Visit 1 **19/06/24** **DUSK**	**Surveyor and Surveyor Location (SL)**		**B20A** Caroline Barr + Nightfox 07244, **B20B** Katie Woodfine + Canon 05984, **B20C** Kath S, **B20D** Gemma Hassall + Nightfox 07245, **B20E** Matthew Henderson + Nightfox 07243, **B20F** Danielle Johnson + Thermal camera.			
	Sunset time	21:41	**Start Time**	21:26	**End Time**	23:11
	Weather	Clear. Cloud cover 10%			**Start Temp (°C)**	16 (°C)
	Rain	Dry	**Wind (Beaufort)**	f1- Light air. Optimal	**End Temp (°C)**	14 (°C)
	Activity Summary: **B20A**= 22:10 = Heard but not seen C.pip, 22:53 = Heard but not seen C.pip, 22:56 = Heard but not seen C.pip. **B20B**= 22:10 = 22:43, 22:49, 22:53, 22:56 PiPi HNS **B20C**= No activity. **B20D=** Common pipistrelle pass at 22:10, 22:45, 22:47. **B20E**= No Activity. **B20F**= 22:45= C.pip foraging. 22:47= HNS C.pip					
	Limitations: N/A Survey undertaken in 'suitable' conditions.					
Visit 2 **16/07/24** **DUSK**	**Surveyor and Surveyor Location (SL)**		**B20A** Caroline Barr + Nightfox 07244**, B20B** Unmanned Nightfox 07245, **B20C** Fiona Yee + Nightfox 07239, **B20D** Danielle Johnson + Thermal, **B20E** Matthew Henderson + Nightfox 07243, **B20F** Unmanned Nightfox 07244**, B20G** Gemma Hassall + Canon.			
	Sunset time	21:28	**Start Time**	21:13	**End Time**	22:58
	Weather	Overcast, 70-85% cloud coverage.			**Start Temp (°C)**	16°C
	Rain	Dry	**Wind (Beaufort)**	f2- Light Breeze	**End Temp (°C)**	14°C
	Activity Summary: **B20A=** 22:10 = Heard but not seen C.pip, 22:53 = Heard but not seen C.pip, 22:56 = Heard but not seen C.pip. **B20B**= C.pip foraging above trees at 21:29, 21:49.					

	B20C= Single bat flying past from east to west at 21:15, 21:34 east to west, 21:40 brief bat call, 21:44 east to north, 21:50 north to northeast, 21:52 northwest to north, 22:10 to 22:13 bats foraging **B20D=** 21:32- C.pip foraging in courtyard then along wall of B20F camera. 21:39- C.pip commuting, 21:45- 2x C.pip- constant activity, 21:47- 2x C.pip foraging to the left of surveyor. 21:48- HNS C.pip, 22:08- C.pip foraging, commutes towards courtyard, 22:15- C.pip HNS, 22:20- C.pip commuting from courtyard over surveyor, 22:25- C.pip commuting distantly over roof, 22:26- C.pip C.pip commuting from east over courtyard 22:31- C.pip commuted from top of building over surveyor, 22:34- C.pip foraging over courtyard, 22:43- C.pip commuting from courtyard over surveyor then foraging, 22:49- C.pip foraging from courtyard over surveyor, constant activity. 22:51- C. Pip commuting and foraging SW into courtyard. **B20E=** common pip heard foraging 21:33 44khz (heard not seen), heard again 21:46 44khz, common pip seen foraging between trees and b20 21:51 45khz going back and forth n & s, same again 22:02 44khz, same again 22:25 45khz (heard not seen), same again 22:30 45khz foraging between trees, heard not seen common pip 46khz 22:45. **B20F=** 21:33- C.pip commuted toward B20D from courtyard, 21:38- 2x C.pip foraging, 21:44 & 21:45 HNS C.pip, 21:46-47 C.pip foraging to and from courtyard, 21:49- HNS C.pip, 22:08- C.pip commuting toward courtyard, 22:18 22:19, 22:25, 22:30, 22:34, 22:44, 22:45- HNS C.pip, 22:49 – C.pip foraging, 22:52- HNS C.pip. **B20G=** C.pip seen at 21:23, 21:27, 21:34, 21:41, 21:45, 21:48(constantly foraging until survey end), noctule at 21:56					
	Limitations:					
Visit 3 **07/08/24** **DUSK**	**Surveyor and Surveyor Location (SL)**		**B20A** Danielle Johnson + Nightfox 07245, **B20B** Georgina**, B20E** Matthew Henderson + Nightfox 07243**, B20F** Callum Salter + Thermal, **B20G** Gemma Hassall + Canon**.**			
	Sunset time	20:52	**Start Time**	20:37	**End Time**	22:22
	Weather	Cloud coverage- 66-88%			**Start Temp (°C)**	17°C
	Rain	Dry	**Wind (Beaufort)**	f2	**End Temp (°C)**	16°C
	Activity Summary: **B20A=** 21:23,21:25,21:54,21:59,22:01-= Distant C.pip call HNS. 22:14= Close C.pip calls until survey end. **B20B**= P.pip flying around tree canopy above my position at SW corner at 21:21. Otherwise quiet eve, sporadic P.pip. Brief P.pyg pass at 21:45 **B20E**= No activity. **B20F**= No activity. **B20G**= No activity					
	Limitations: Floodlights on the side of building causes glare on camera footage.					

Project Code	RID002-002-003	**Property**	B21
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large building brick built over four storeys with a shallow pitched tiled roof.				
Description of PRFs	Fascia boards are present the entire way around the building. Weepholes present above most windows and gaps noted around fascia boards. On the northern gable, missing mortar was noted.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence Surveys

Visit 1 **18/06/24** **DUSK**	**Surveyor and Surveyor Location (SL)**		**B21A** Katie Woodfine + Canon Camera, **B21B** Danielle Johnson + Thermal Camera, **B21C** Matthew Henderson + Nightfox 07343, **B21D** Caroline Barr + Nightfox 07244.			
	Sunset time	21:41	**Start Time**	21:26	**End Time**	23:11
	Weather	Cloudy- 90-95% Cloud coverage.			**Start Temp (°C)**	14(°C)
	Rain	Light rain 15 minutes before survey end.	**Wind (Beaufort)**	Start: f0 End: f2	**End Temp (°C)**	13(°C)
	Activity Summary: **B21A=** 22:54 HNS C.pip **B21B=** 22:14- 1x bat heard and seen commuting west over building. 22:30- 1x C.pip seen commuting along the treeline from North (behind) to southeast. 22:43- C.pip HNS. 22:44- 1x C.pip seen foraging around the building at top window height. Went around the building towards B21A. 22:51- 1x C.pip commuting over the top of building from behind surveyor to northwest. **B21C=** No Activity. **B21D=** No Activity.					
	Limitations: Light wind & rain during last 15 minutes of the survey.					
Visit 2 **17/07/24** **DUSK**	**Surveyor and Surveyor Location (SL)**		**B21A** Fiona Yee + Nightfox 07239, **B21B** Gemma Hassall + Canon, **B21C** Matthew Henderson + Thermal, **B21D** Caroline Barr + 07309.			
	Sunset time	21:27	**Start Time**	21:12	**End Time**	22:57
	Weather	0-33% Cloud cover			**Start Temp (°C)**	19
	Rain	Dry	**Wind (Beaufort)**	f1	**End Temp (°C)**	18
	Activity Summary: **B21A** = Bats overhead 21:18 onwards **B21B**= C.pip seen foraging at 21:15, repeat passes until 21:33. C.pip 21:48. C.pip and S.pip at 21:52, C.pip 22:09,					

<table>
<tr><td></td><td colspan="6">consistently foraging until 22:18. C.pip multiple passes 22:31 to end of survey.
B21C= common pip foraging between tree and buildings (b21 & b19) 21:13 44khz, same again 21:17 44khz, same again 21:36 48khz, same again 21:43 44khz, 3 bats seen foraging around b18, 2 common pips foraging above between trees and buildings (b21 & b19) 21:55 46khz, soprano pip foraging same direction 21:57 50khz, same again but common pip 45khz 22:09, consistent foraging above going same direction from previous note 22:20 46khz, constant foraging activity until survey end 22:57.
B21D= No Activity.</td></tr>
<tr><td></td><td colspan="6">Limitations: B21D – Dense tree coverage.</td></tr>
<tr><td rowspan="6">Visit 3

12/08/24

DUSK</td><td colspan="2">Surveyor and Surveyor Location (SL)</td><td colspan="4">B21A Unmanned Nightfox 07239, B21B Gemma Hassall + Canon, B21C Matthew Henderson + Thermal, B21D Danielle Johnson + Nightfox 07309.</td></tr>
<tr><td>Sunset time</td><td>20:42</td><td>Start Time</td><td>20:22</td><td>End Time</td><td>22:12</td></tr>
<tr><td>Weather</td><td colspan="3">Cloud coverage- 55-77%</td><td>Start Temp (°C)</td><td>19°C</td></tr>
<tr><td>Rain</td><td>Dry</td><td>Wind (Beaufort)</td><td>f2</td><td>End Temp (°C)</td><td>17°C</td></tr>
<tr><td colspan="6">Activity Summary:
B21A= No activity
B21B= 21:13 C.pip pass, 21:15 C.pip continuously foraging along tree line until 21:19, c.pip 21:33, 21:42, 21:46, 21:52, 22:08
B21C= soprano pip foraging 21:24 56khz
B21D= A couple of distant C.pip calls heard on the batlooger throughout survey. Heard not seen.</td></tr>
<tr><td colspan="6">Limitations:</td></tr>
</table>

Project Code	RID002-002-003	**Property**	B22
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85808 94076
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property					
Description of PRFs	Large two storey brick-built building with a multi-pitched metal roof. Large timber soffits, which appeared well sealed through. Lead flashing at join between sections and elevations. Main ornate entrance to Woolton Hall on western elevation.	Bat roost potential **Low/Moderate/High**	**Low**	Confirmed Roost **YES/NO**	**NO**

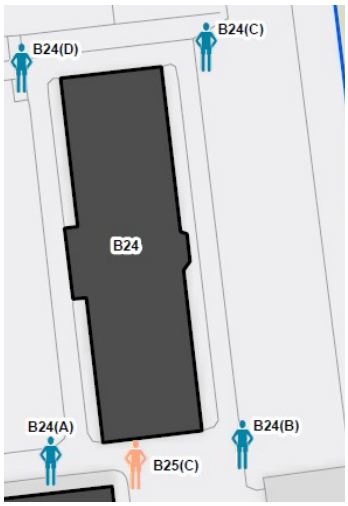
Results of Bat Dusk Emergence Surveys

Visit 1 **02/07/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B22A** Unmanned Nightfox 07245, **B22B**- Matthew Henderson + Nightfox 07239, **B22C** Callum Salter + Nightfox 07309, **B22D** Georgina + Personal equipment, **B22E**- Gemma Hassall + Thermal.				
	Sunset time	21:40	**Start Time**	21:25	**End Time**	23:10
	Weather	Start= Cloud coverage 33-66% End= 66-100%. No rain.			**Start Temp (°C)**	17°C
	Rain	Dry	**Wind (Beaufort)**	f1	**End Temp (°C)**	15°C
	Activity Summary: **B22A=** No activity. **B22B=** common pip foraging overhead between and along tree line 21:49. soprano pip 53khz foraging same path 22:15. soprano foraging 22:58. **B22C=** No activity. **B22D=** First P.pip at 21:57. Constant activity throughout survey (last recording 23:06). Activity generally above my position and further east, near tree canopy. **B22E=** Common pipistrelle foraging along tree line and wall of B24 from 21:40 onwards.					
	Limitations:					
Visit 2 **2024** **DUSK**	**Surveyor and Surveyor Location (SL)**					
	Sunset time		**Start Time**		**End Time**	
	Weather				**Start Temp (°C)**	
	Rain		**Wind (Beaufort)**		**End Temp (°C)**	
	Activity Summary:					
	Limitations:					

Visit 3 2024 DUSK	Surveyor and Surveyor Location (SL)					
	Sunset time		Start Time		End Time	
	Weather				Start Temp (°C)	
	Rain		Wind (Beaufort)		End Temp (°C)	
	Activity Summary:					
	Limitations:					

Project Code	RID002-002-003	**Property**	B24
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property					
Description of PRFs	Large three storey brick-built building with a metal roof. Large timber soffits. Gaps noted along base of soffits. Ornate ventilation slits on the gable ends that could provide access into roof voids.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **26/06/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B24A** Callum Salter + IR 07309, **B24B** Unmanned Nightfox 07423, **B24C** Danielle Johnson + Thermal, **B24D** Unmanned Nightfox 07245.				
	Sunset time	21:41	**Start Time**	21:10	**End Time**	23:11
	Weather	Start= Clear 30-40% cloud coverage. Midway= 100% cloud coverage.			**Start Temp (°C)**	22°C
	Rain	Dry	**Wind (Beaufort)**	f1 light breeze	**End Temp (°C)**	20°C
	Activity Summary: **B24A= 2**2:11 single PIPI faint pass west of surveyor location 22:37 single PIPY commuting behind surveyor to the west. **B24B=** Incidental bat activity, no emergence. **B24C=** 21:55, 22:10- HNS C.pip. 22:11- C Pip foraging over the middle of the building, continuous activity, then commuted south. 22:12- C Pip commuting south to north past surveyor while other C.pip foraging over the top of the building. 23:30 until 23:33- 1x C.pip foraging at the side of the building surveyor is facing. Then commuted south. 22:41- Distant C.pip HNS. 22:43- C.pip HNS. 22:43- 1x C.pip foraging at the side of the building surveyor is facing. 22:49- C.pip HNS, constant activity until 22:50. 23:03 C.pip HNS. **B24D=** 21:43 onward constant activity- C.pip foraging over building and various commutes. Various foraging/ commutes throughout survey.					
	Limitations: 'Optimal' survey conditions.					
Visit 2 **26/07/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B24A** Unmanned Nightfox 07329**, B24B** Pascale P + Canon, **B24C** Unmanned Nightfox 07239**, B24D** Matthew Henderson + Thermal**.**				
	Sunset time	21:15	**Start Time**	21:00	**End Time**	22:45
	Weather	80% Cloud coverage			**Start Temp (°C)**	19°C
	Rain	Mostly dry, light rain mid survey.	**Wind (Beaufort)**	f4	**End Temp (°C)**	18°C

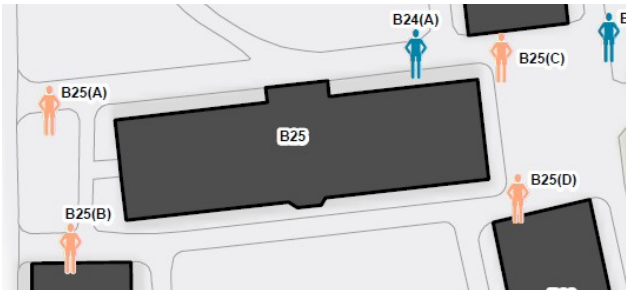
<table>
<tr><td></td><td colspan="6">Activity Summary:
B24A= Incidental bat activity, no emergence.
B24B= Moderate incidental P.pip activity throughout survey - no emergences
B24C= Incidental bat activity, no emergence.
B24D= common pip heard foraging 21:43 46khz, same again 21:55 46khz.</td></tr>
<tr><td></td><td colspan="6">Limitations: 21:45- Light rain that lasted 5 minutes.</td></tr>
<tr><td rowspan="6">Visit 3

22/08/24

DUSK</td><td colspan="2">Surveyor and Surveyor Location (SL)</td><td colspan="4">B24A Callum Salter + Nightfox 07245, B24B Unmanned Nightfox 07423,
B24C Kath, B24D Unmanned Nightfox 07243.</td></tr>
<tr><td>Sunset time</td><td>20:20</td><td>Start Time</td><td>20:00</td><td>End Time</td><td>21:50</td></tr>
<tr><td>Weather</td><td colspan="3">67-100% Cloud Coverage</td><td>Start Temp (°C)</td><td>15°C</td></tr>
<tr><td>Rain</td><td>Drizzle</td><td>Wind (Beaufort)</td><td>f1 calm</td><td>End Temp (°C)</td><td>14°C</td></tr>
<tr><td colspan="6">Activity Summary:
B24A= 20:38 PIPI flew towards B24A from the nearest tree (check footage) and foraged from 20:38-21:05, PIPI returned at 21:11 continuously foraging at one point 4 bats were present this continued until end of survey.
B24B= Incidental bat activity, no emergence.
B24C= Foraging around trees.
B24D= Incidental bat activity, no emergence.</td></tr>
<tr><td colspan="6">Limitations:</td></tr>
</table>

Project Code	RID002-002-003	**Property**	B25
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large three storey brick-built building with a metal roof.				
Description of PRFs	Large timber soffits. Gaps noted along base of soffits. Ornate ventilation slits on the gable ends that could provide access into roof voids. **Confirmed as a roost location in 2023 dusk surveys (Previous year).**	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**YES**

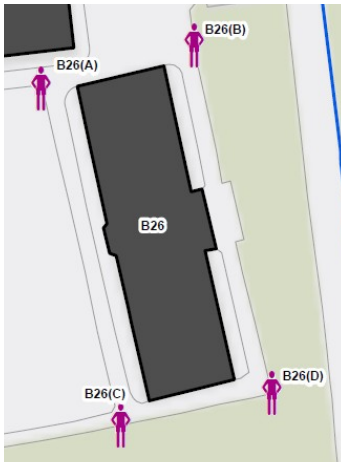
Results of Bat Dusk Emergence Surveys

Visit 1 **10/06/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B25A** Matthew Henderson + Nightfox 07243, **B25B** Matthew Henderson + Nightfox 05294, **B25C** Danielle Johnson + Nightfox 07245, **B25D** Gemma Hassall + Nightfox 06533.				
	Sunset time	21:36	**Start Time**	21:21	**End Time**	23:06
	Weather	Clear			**Start Temp (°C)**	12 (°C)
	Rain	Dry	**Wind (Beaufort)**	f2- light air	**End Temp (°C)**	10 (°C)
	Activity Summary: **B25A=** 1x C.pip flying overhead commuting along treeline towards parked cars. **B25B**= No Activity. **B25C=** No activity. **B25D**= No activity.					
	Limitations:					
Visit 2 **08/07/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B25A** Danielle Johnson + Cannon, **B25B** Unmanned Nightfox 07239, **B25C** Caroline Barr + Nightfox 07243.				
	Sunset time	21:36	**Start Time**	21:21	**End Time**	23:06
	Weather	Mostly dry. 33-66% Cloud coverage to start. Mid survey 80-90% coverage.			**Start Temp (°C)**	18°C
	Rain	Light droplets for 10 minutes mid survey.	**Wind (Beaufort)**	f4- Gentle breeze	**End Temp (°C)**	16°C
	Activity Summary: **B25A=** 22:03- C.pip commuting East to West from left side of the building over location B25A. 22:29, 22:34, 22:39, 22:39- C.pip heard not seen commuting close by. 22:44-22:45- Heard not seen, constant activity. 22:46-22:47- Heard not seen, constant activity. **B25B**= 22:03- C.pip commuting along the side of the building from B25C direction to B25A. **B25C=** 21:42 - 21:53 = foraging bat east of B24, 21:59 = foraging bat east of B25					

	Limitations:					
Visit 3 05/08/24 **DUSK**	**Surveyor and Surveyor Location (SL)**		**B25A** Unmanned Camera, **B25B** Danielle Johnson + Thermal, **B25C** Matthew Henderson + Nightfox 07243.			
	Sunset time	20:56	**Start Time**	20:41	**End Time**	22:26
	Weather	Dry. Cloud coverage 44-77%			**Start Temp (°C)**	22°C
	Rain	Dry	**Wind (Beaufort)**	f2	**End Temp (°C)**	21°C
	Activity Summary: **B25A=** No activity. **B25B**= 21:32, 21:57, 22:16= C.pip HNS **B25C=** Common pip heard foraging 47khz 21:12, consistent foraging activity from 21:12 to 21:24 45khz-50khz, common pip heard 45khz 22:17, bat heard 26khz 22:17, common pip heard foraging 45khz 22:22.					
	Limitations:					

Project Code	RID002-002-003	**Property**	B26
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large three storey brick-built building with a metal roof.				
Description of PRFs	Large timber soffits. Gaps noted along base of soffits. Ornate ventilation slits on the gable ends that could provide access into roof voids	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence Surveys

Visit 1 **24/06/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B26A** Danielle Johnson + Canon, **B26B** Unoccupied Nightfox 07309, **B26C** Caroline Barr + Nightfox 07243, **B26D** Gemma Hassall + Nightfox 07245.				
	Sunset time	21:42	**Start Time**	9:00	**End Time**	23:12
	Weather	Clear			**Start Temp (°C)**	22°C
	Rain	Dry	**Wind (Beaufort)**	f1	**End Temp (°C)**	20°C
	Activity Summary: **B26A=** No Activity **B26B=** No activity. **B26C=** 22:10, 22:57 = Heard but not seen bat 43kHz. **B26D=** Common pipistrelle pass at 22:01 along tree line to the south of the building. Again at 22:05, 22:07, 22:56, 22:57.					
	Limitations: 'Optimal' surveying conditions.					
Visit 2 **01/08/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B26A** Danielle Johnson + Nightfox 07245, **B26B** Unmanned Nightfox 07244, **B26C** Unmanned Nightfox 07243, **B26D** Gemma Hassall + Thermal.				
	Sunset time	21:03	**Start Time**	20:45	**End Time**	22:36
	Weather	33-66% Cloud coverage			**Start Temp (°C)**	°C
	Rain	Dry	**Wind (Beaufort)**	f1-2	**End Temp (°C)**	°C
	Activity Summary: **B26A=** No activity. **B26B=** No activity. **B26C=** No activity.					

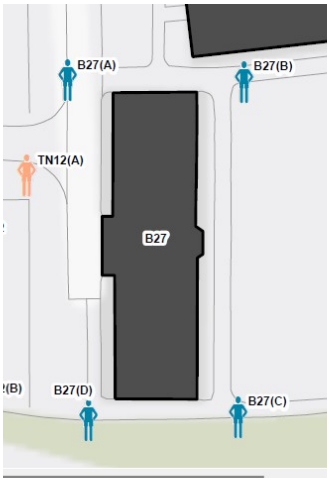
<table>
<tr><td></td><td colspan="6">B26D= C.pip flying over building at 21:48, 21:50, 21:53, 21:54, 22:15, 22:17</td></tr>
<tr><td></td><td colspan="6">Limitations:</td></tr>
<tr><td rowspan="6">Visit 3

27/08/24

DUSK</td><td colspan="2">Surveyor and Surveyor Location (SL)</td><td colspan="4">B26A Callum Salter + Nightfox 07243, B26B Unmanned Nightfox 07239, B26C Unmanned Nightfox 07244, B26D Gemma Hassall + Nightfox 07245.</td></tr>
<tr><td>Sunset time</td><td>20:09</td><td>Start Time</td><td>19:45</td><td>End Time</td><td>21:45</td></tr>
<tr><td>Weather</td><td colspan="3">67-100%</td><td>Start Temp (°C)</td><td>15°C</td></tr>
<tr><td>Rain</td><td>Showers</td><td>Wind (Beaufort)</td><td>1f</td><td>End Temp (°C)</td><td>13°C</td></tr>
<tr><td colspan="6">Activity Summary:
26A= No Activity recorded
26B= No Activity recorded
26C= No Activity recorded
26D= C.pip at 20:22, 20:24 (foraging over trees in lane to east of point), 20:35, 20:48 (flying over building to trees in east), 20:58, 21:21, 21:29 (foraging over trees)</td></tr>
<tr><td colspan="6">Limitations: Showers throughout</td></tr>
</table>

Project Code	RID002-002-003	**Property**	B27
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Large three storey brick-built building with a metal roof.				
Description of PRFs	Large timber soffits. Gaps noted along base of soffits. Ornate ventilation slits on the gable ends that could provide access into roof voids.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

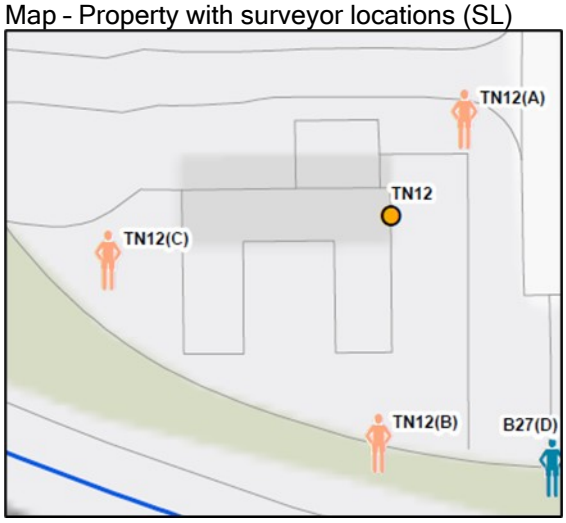
Results of Bat Dusk Emergence and Dawn Re-entry Surveys

Visit 1 **01/07/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B27A** Callum Salter Nightfox 07243, **B27B**- Unmanned Nightfox, **B27C** Danielle Johnson +Nightfox 07243. **B27D** Unmanned Nightfox 07309.				
	Sunset time	21:40	**Start Time**	21:26	**End Time**	23:10
	Weather	Dry. 63-83% Cloud coverage.			**Start Temp (°C)**	14°C
	Rain	Dry	**Wind (Beaufort)**	f1	**End Temp (°C)**	13°C
	Activity Summary: **B27A=** 22:01 faint PIPI pass hxs. 22:02 check for PIPI passing over building. 22:20 fair PIPI hxs in treeline. 22:28 PIPI commuting along treeline. 22:35 foraging PIPI intermittent. 22:38 PIPI commuting north. **B27B=** 22:02- C.pip HNS commuting. **B27C**= 22:43- C.pip HNS. **B27D=** No activity.					
	Limitations:					
Visit 2 **22/07/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**B27A** Callum Salter + Thermal, **B27B** Danielle Johnson + Nightfox 07245, **B27C** Unmanned Nightfox 07244, **B29D** Unmanned Nightfox 07239.				
	Sunset time	21:20	**Start Time**	21:05	**End Time**	22:50
	Weather	Cloud coverage 77-95%			**Start Temp (°C)**	17°C
	Rain	Light rain at the beginning of the survey. Lasted 15 minutes.	**Wind (Beaufort)**	f2	**End Temp (°C)**	16°C
	Activity Summary: **B27A=** 22:43 faint PIPI pass heard not seen, continued occasional PIPI passes along the treeline. **B27B**= 21:43, 21:57- C.pip HNS **B27C=** Low bat activity. Majority HNS C.pip commute. One forage. **B27D=** No activity.					

	Limitations: Rain at the beginning of the survey.					
Visit 3 **20/08/24** **DUSK**	**Surveyor and Surveyor Location (SL)**		**B27A** Callum Salter + Nightfox 07245, **B27B** Kath, **B27C** Unmanned Nightfox 07244**, B27D** Unmanned Nightfox 07245**.**			
	Sunset time	20:25	**Start Time**	20:05	**End Time**	21:55
	Weather	0-33% Cloud coverage.			**Start Temp (°C)**	15°C
	Rain	Dry	**Wind (Beaufort)**	f1 gentle breeze	**End Temp (°C)**	14°C
	Activity Summary: **B27A**= 22:01 faint PIPI pass hxs, 22:02 check for PIPI passing over building, 22:20 fair PIPI hxs in treeline, 22:28 PIPI commuting alone treeline, 22:35 foraging PIPI intermittent, 22:38 PIPI commuting north. **B27B=** No activity. **B27C=** No activity. **B27D=** No activity.					
	Limitations:					

Project Code	RID002-002-003	**Property**	TN12
Project Title	Bat Dusk Emergence Update Surveys, Fallowfield, Manchester	**Grid Reference**	SJ 85731 94126
		Address	293 Wilmslow Rd, Fallowfield, Manchester M14 6HD

Map – Property with surveyor locations (SL)



Photograph of property



Description of property	Brick built with a multi sloping tile roof. Open porch to front (northern elevation) with a sloping tiled roof.				
Description of PRFs	There is an extensive covering of moss across the roof line. Shaded by surrounding trees. Gaps noted between tiles, weep holes and gaps between fasciae.	Bat roost potential **Low/Moderate/High**	**High**	Confirmed Roost **YES/NO**	**NO**

Results of Bat Dusk Emergence Surveys

Visit 1 **08/07/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**TN12A** Raeece Ali, T**N12B** Fiona Yee				
	Sunset time	21:36	**Start Time**	21:21	**End Time**	23:06
	Weather	Mostly dry. 33-66% Cloud coverage to start. Mid survey 80-90% coverage.			**Start Temp (°C)**	18°C
	Rain	Light droplets for 10 minutes mid survey.	**Wind (Beaufort)**	f4- Gentle breeze	**End Temp (°C)**	16°C
	Activity Summary: No emergence from building. 21:36 onwards- Various foraging and commuting.					
	Limitations:					
Visit 2 **29/07/24** **DUSK**	**Surveyor and Surveyor Location (SL)**	**TN12A** Unmanned Nightfox 07249, **TN12B** Georgina + Personal cam, **TN12C** Callum Salter + Thermal.				
	Sunset time	21:09	**Start Time**	20:50	**End Time**	22:39
	Weather	33-66% cc			**Start Temp (°C)**	23°C
	Rain	Dry	**Wind (Beaufort)**	f1-2	**End Temp (°C)**	21°C
	Activity Summary: **TN12A=** 21:15 Bat heard flying around trees between B27 and TN12. very occasional PIPI foraging around trees between 21:20-22. Leislers? at 22:16 HxS peak frequency 23 kHz. **TN12B=** P.pip flew over building north to south east 21:28. Sporadic P.pip passes, mostly around tree canopy to south of building. 22:16 N.noc, heard for a couple of minutes but not seen. Generally, very low activity. **TN12C=** Incidental bat activity, no emergence.					
	Limitations:					
Visit 3	**Surveyor and Surveyor Location (SL)**	**TN12A** Unmanned Nightfox 07349, **TN12B** Unmanned Nightfox**, TN12C** Callum Salter + Nightfox 07245.				

26/08/24 DUSK	**Sunset time**	20:20	**Start Time**	20:00	**End Time**	21:55
	Weather	67-100% Cloud coverage			**Start Temp (°C)**	15°C
	Rain	Dry	**Wind (Beaufort)**	f1 - Gentle Breeze	**End Temp (°C)**	14°C
	Activity Summary: **TN12A=** Incidental bat activity, no emergence. **TN12B=** Incidental bat activity, no emergence. **TN12C=** 20:26 PIPI pass flying high over trees 20:41 PIPI pass flying from treeline towards B27 20:43 PIPI pads flying over B19 from trees 20:50-21:05 PIPI foraging around B19 21:08-21:12 3x PIPI foraging together around B19 21:15 Back to a single pipi continuous foraging 21:30 occasional PIPY foraging alongside PIPI					
	Limitations:					

Appendix 3: British Bats

8.9 Introduction

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

8.10 Biology

8.10.1 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

8.10.2 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.

8.10.3 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.

8.10.4 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

8.10.5 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

8.10.6 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.

8.10.7 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 the species of bat. Some species will travel up to 18km, though shorter distances are more typical.

8.11 Site Designation

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

- Conservation of Habitats and Species (Amendment) Regulations 2017;
- 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).

8.11.2 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).

8.11.3 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 is transposed into UK law by the Conservation of Habitats and Species (Amendment) Regulations 2012. This legislation requires that areas are designated as Special Areas of Conservation (SACs) to protect populations of these 4 bat species. To date, 26 SACs have been designated specifically to protect these species, and these sites are of international importance for the populations of bats that they support. A further 5 SACs have been designated, where the presence of at least one of the 4 bat species is a qualifying feature but not the primary reason for the statutory designation.

8.11.4 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.

8.11.5 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):

vi. 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.

8.12.2 In addition to the protection given to bats under the Conservation of Habitats and Species (Amendment) Regulations 2012 already described, bats are also partially protected in England under the WAC, 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.

8.12.3 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.

8.12.4 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.

8.12.5 If proposed actions, such as redevelopment of an existing building, 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.

8.12.6 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).

8.12.7 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.

8.13 UK Post-2010 Biodiversity Framework and Species of Principal Importance

8.13.1 Published by the Joint Nature Conservation Committee (JNCC) and the Department for Environment, Farming 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

- 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.

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

8.11.7 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

8.11.8 The National Planning Policy Framework (NPPF), 2012, 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 amphibians, 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 otters, are a material consideration for the planning authority when considering Proposed Developments.

8.12 Species Protection

Legislation

8.12.1 All bat species are protected by the Conservation of Habitats and Species (Amendment) Regulations 2017. 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:

iv. to impair its ability to survive, to breed or reproduce, or to rear or nurture its young; or

v. to impair its ability to hibernate or migrate; or

the basis of country specific priority lists, which for England, are specified under Section 41 of the NERC Act 2006. Targets for England's biodiversity strategy 'Biodiversity 2020': A strategy for England's wildlife and ecosystem services, are informed by this list.

8.13.2 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.

8.14 References

8.14.1 Altringham, J. (2003) British Bats. New Naturalist Series No. 93.

8.14.2 Entwistle, A. C., Harris, S., Hutson, A., Racey, P., Walsh, A., Gibson, S., Hepburn, I., and Johnston, J. (2002) Habitat management for bats: A guide for land managers, land owners and their advisors. JNCC, Peterborough.

8.14.3 Highways Agency (1999 et seq) Design Manual for Roads and Bridges, Volume 10 Environmental Design and Management, Section 3 The Good Roads Guide- Nature Conservation, Part 6 Nature Conservation Management Advice in Relation to Bats.

8.14.4 Hundt L (2012). Bat Surveys: Good Practice Guidelines, 2nd Edition. Bat Conservation Trust, London.

8.14.5 JNCC and Defra (on behalf of the Four Countries' Biodiversity Group). (2012). UK Post-2010 Biodiversity Framework. Available from: http://jncc.defra.gov.uk/page-6189.

8.14.6 Mitchell-Jones, A.J. & McLeish, A.P. (1999). Bat Workers' Manual (2nd Edition). Joint Nature Conservancy Committee, Peterborough

8.14.7 NCC (1989) Guidelines for Selection of Biological SSSIs. Nature Conservancy Council, Peterborough

8.14.8 Office of the Deputy Prime Minister (2005) Planning Policy Statement 9; Biodiversity and Geological Conservation.

8.14.9 Russ, J. (1999). The Bats of Britain and Ireland. Alana Ecology, Shropshire.