

MOSS LANE EAST, MANCHESTER

**PRELIMINARY BAT ROOST
ASSESSMENT**

A Report to: CS Moss Lane East Ltd

Report No: RT-MME-158021-02

Date: July 2022



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REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 “Biodiversity, Code of practice for planning and development.

Report Version	Date	Completed by:	Checked and Approved by:
Final	15/07/2022	Amy Carter MSc (Ecological Project Officer)	Ellie Rickman MCIEEM (Principal Ecological Consultant)

The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client’s brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, it may be necessary to undertake an updated survey to allow any changes in the status of bats on site to be assessed, and to inform a review of the conclusions and recommendations made.

NON-TECHNICAL SUMMARY

In June 2022, CS Moss Lane East Ltd commissioned Middlemarch Environmental Ltd to undertake a Preliminary Bat Roost Assessment at Moss Lane East, Manchester. This assessment is required to inform a planning application associated with the proposed development of new student accommodation by demolishing an existing building and re-developing the other.

To fulfil the above brief to assess the potential for the existing buildings on site to support roosting bats, a Preliminary Bat Roost Assessment was undertaken on 30th June 2022.

Two main buildings and a bike shed were subject to assessment – A large irregular sized red brick building (Building 1) and a large grade II listed building (Building 2). Building 1 was a three-story building constructed of red brick with an irregular shaped roof, covered in slate tiles, some of which were dislodged or broken. During the assessment, several features were identified which had potential to be used by bats to gain access to the inside of the building and potential roosting locations. These included missing or dislodged roof tiles, missing mortar in brickwork, lifted lead flashing and worn fascia boards. Taking into account the large number of potential access/roosting features, Building 1 was considered to have high bat roost potential.

Building 2 was also a three-story building constructed of red brick with a mansard shaped roof, covered in slate tiles, some of which were dislodged. Several features were identified which had potential to be used by bats to gain access to the inside of the building and potential roosting locations. These included missing or dislodged roof tiles, missing mortar in brickwork, lifted lead flashing and worn fascia boards. This building was also considered to have high bat roost potential due to the number of suitable features.

B3 was a small bike shed. It had a hipped roof with clay tiles all in good condition and had a metal grate door which allowed a view of the interior. The interior was open up to the roof. The structure had wooden fascia boards, all in good condition with heavy cobwebbing. The bike shed was considered to have negligible bat roost potential due to lack of roosting features and being open to weather conditions.

It is understood that B1 will be demolished to facilitate new student accommodation, with B2 being redeveloped for student amenities. If bat roosts were present within either of the buildings, potential impacts would include roost loss and/or direct harm/injury to bats. In order to determine the presence/absence of roosting bats within the buildings, further survey work will be required. Bird nests were also identified within both buildings, so a recommendation with regards to the timing of works has also been made.

Following the results of the Preliminary Bat Roost Assessment, the following recommendations have been made:

R1: Building 1 (470 Moss Lane East)

Building 1 has been identified as having high potential to support roosting bats. Bat Surveys: Good Practice Guidelines published by the Bat Conservation Trust (Collins, 2016) recommends that for structures with high bat roosting potential at least three dusk emergence and/or dawn re-entry surveys be undertaken during the bat emergence/re-entry survey season to determine the presence/absence of roosting bats within the structure.

R2: Building 2 (466/468, Moss Lane East)

Building 2 has also been identified as having high potential to support roosting bats. Bat Surveys: Good Practice Guidelines published by the Bat Conservation Trust (Collins, 2016) recommends that for structures with high bat roosting potential at least three dusk emergence and/or dawn re-entry surveys be undertaken during the bat emergence/re-entry survey season to determine the presence/absence of roosting bats within the structure.

R3 Lighting:

In accordance with best practice guidance relating to lighting and biodiversity (Miles *et al*, 2018; Gunnell *et al*, 2012), any new lighting should be carefully designed to minimise potential disturbance and fragmentation impacts on sensitive receptors, such as bat species. Examples of good practice are provided in Chapter 6.

R4: Habitat Enhancement

The proposals for the site should seek to enhance the site for bats. Bat boxes should be installed to provide roosting habitat for species such as pipistrelle and the planting of species which attract night flying insects is also encouraged.

CONTENTS

1. INTRODUCTION	4
1.1 PROJECT BACKGROUND	4
1.2 SITE DESCRIPTION AND CONTEXT	4
1.3 DOCUMENTATION PROVIDED	4
2. METHODOLOGY	5
2.1 DESK STUDY	5
2.2 FIELD SURVEY	5
R3. DESK STUDY.....	7
3.1 STATUTORY NATURE CONSERVATION SITES	7
3.2 SPECIES RECORDS	7
4. SURVEY RESULTS.....	8
4.1 INTRODUCTION	8
4.2 CONSTRAINTS.....	8
4.3 SURVEY RESULTS	8
4.3.1 Building 1.....	8
4.3.2 Building 2.....	11
4.4 SITE AND SURROUNDING HABITATS.....	13
5. DISCUSSION AND CONCLUSIONS	14
5.1 SUMMARY OF PROPOSALS	14
5.2 ASSESSMENT OF BUILDINGS.....	14
5.4 POTENTIAL IMPACTS ON BATS	14
6. RECOMMENDATIONS.....	15
7. DRAWINGS.....	17
REFERENCES AND BIBLIOGRAPHY	18
APPENDIX 1	19

1. INTRODUCTION

1.1 PROJECT BACKGROUND

In June 2022 CS Moss Lane East Ltd commissioned Middlemarch Environmental Ltd to undertake a Preliminary Bat Roost Assessment at Moss Lane East, Manchester. This assessment is required to inform a planning application associated with the demolishing of 470 Moss Lane East (identified as Building 1 for the purposes of this report) to make way for new student accommodation and the redevelopment of 466/468 Moss Lane East (identified as Building 2 for the purposes of this report) to create student amenities.

In addition, Middlemarch Environmental Ltd has been commissioned to undertake the following assessments:

- Preliminary Ecological Appraisal RT-MME-158021-01

To fulfil the above brief to assess the potential for the existing buildings and structures on site to support roosting bats, a Preliminary Bat Roost Assessment was undertaken on 30th June 2022.

All UK bat species are legally protected species, and they are capable of being material considerations in the planning process. A summary of the legislation protecting bats is included within Appendix 1. This section also provides some brief information on the ecology of British bat species.

1.2 SITE DESCRIPTION AND CONTEXT

The site consisted of two large buildings 466/468 and 470 Moss Lane East, Manchester with a central OS Grid Reference of SJ 84858 95654. The buildings have been split into flats. The entire site area was Approximately 0.16 ha in area and as well as the buildings, included a large hardstanding carpark with access paths, amenity grassland, scattered trees throughout and occasional scattered privet and laurel planted borders.

The wider landscape consisted of the urban area of Hulme, dominated with businesses, residential houses, flats and gardens, hospitals, schools, car parks and carriageways. Whitworth Park is situated immediately to the north of the survey area.

1.3 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.1.

Document Name / Drawing Number	Author
AC20238-466-470MossLane East_Manchester	CS Moss Lane East Ltd

Table 1.1: Documentation Provided by Client

2. METHODOLOGY

2.1 DESK STUDY

As part of the Preliminary Ecological Appraisal (Report RT-MME-158021-01) an ecological desk study (which included a search for records of bats) was undertaken within a 1 km radius of the site. The consultee for the desk study was Greater Manchester Records Centre.

Middlemarch Environmental Ltd then assimilated and reviewed the desk study data provided by this organisation. Relevant bat data are discussed in Chapter 3. In compliance with the terms and conditions relating to its commercial use, the full desk study data are not provided within this report.

The desk study included a search for statutory nature conservation sites designated for bats within a 10 km radius of the site.

2.2 FIELD SURVEY

In line with the specifications detailed in Bat Mitigation Guidelines (English Nature, 2004) and Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), a Preliminary Bat Roost Assessment of the buildings was conducted during daylight hours. A visual assessment was undertaken to determine the presence of any Potential Roost Features (PRFs), together with a general appraisal of the suitability of the site for foraging and commuting. Table 2.1 provides examples of PRFs. Any accessible PRFs were inspected using binoculars, a torch and endoscope for evidence of possible bat presence. Buildings were surveyed externally and internally. For reasons of health and safety, the survey was only undertaken in areas accessible from 3.5 m ladders.

Based on the PRF's present, the survey area was assessed using the suitability classes detailed within Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), as detailed in Table 2.2.

Example of Potential Roost Features	
<u>Externally</u>	
• Access through window panes, doors and walls; • behind peeling paintwork or lifted rendering; • behind hanging tiles; • weatherboarding; • eaves; • soffit boxes and fascias; • lead flashing; • gaps under felt (even including those of flat roofs); • under tiles/slates; • existing bat and bird boxes; and • any gaps in brickwork or stonework permitting access into access to cavity- or rubble-filled walls.	
<u>Internally</u>	
• behind wooden panelling; • in lintels above doors and windows; • behind window shutters and curtains; • behind pictures, posters, furniture, peeling paintwork; • peeling wallpaper, lifted plaster and boarded-up windows; • inside cupboards and in chimneys accessible from fireplaces. • within attic voids: • the top of gable end or dividing walls; • the top of chimney breasts; • ridge and hip beams and other roof beams; • mortise and tenon joints; • all beams (free-hanging bats); • the junction of roof timbers, especially where ridge and hip beams meet; • behind purlins; • between tiles and the roof lining; and • under flat felt roofs.	

Table 2.1: Potential Roost Features (Adapted from Collins, 2016)

Suitability	Description
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Negligible	Negligible habitat features on site likely to be used by roosting bats.

Table 2.2: Classification of Structures with Bat Potential (Adapted from Collins, 2016)

3. DESK STUDY

3.1 STATUTORY NATURE CONSERVATION SITES

The site is not located within 10 km of any statutory nature conservation sites designated for the presence of bats.

3.2 SPECIES RECORDS

The data search was carried out in July 2022 by Greater Manchester Records Centre. Records of bat species within a 1 km radius of the survey area provided by the consultee are summarised in Table 3.1. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Species of Principal Importance?	Legislation
Brown long-eared bat <i>Plecotus auritus</i>	1	2016	440 m East	✓	ECH 4, WCA 5, WCA 6
Common pipistrelle <i>Pipistrellus pipistrellus</i>	6	2017	320 m North	-	ECH 4, WCA 5, WCA 6
Pipistrelle <i>Pipistrellus</i> sp.	1	2010	800 m North-East	#	ECH 4, WCA 5, WCA 6
Unidentified bat <i>Chiroptera</i> sp.	1	2015	850 m East	#	ECH 2 #, ECH 4, WCA 5, WCA 6
Key: #: Dependent on species. ECH 2: Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation. ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest in need of strict protection. WCA 5: Schedule 5 of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods. Species of Principal Importance: Species of Principal Importance for Nature Conservation in England.					

Table 3.1: Bat Species Records Within 1 km of Survey Area

4. SURVEY RESULTS

4.1 INTRODUCTION

The Preliminary Bat Roost Assessment was conducted on 30th July 2022 by Charlotte Richardson MSc (Senior Ecological Consultant and Natural England Bat Licence Ref: 2015-9325-CLS-CLS) and Amy Carter MSc (Ecological Project Officer).

Weather conditions were recorded and are presented in Table 4.1.

Parameter	Conditions
Temperature (°C)	18
Cloud Cover (%)	60
Precipitation	Dry
Wind Speed (Beaufort)	F0

Table 4.1: Weather Conditions During the Preliminary Bat Roost Assessment

4.2 CONSTRAINTS

No significant constraints were encountered during the external survey, however within the roof spaces, the floor was deemed too dangerous to manoeuvre across making it difficult to inspect all areas fully.

4.3 SURVEY RESULTS

Two buildings and a structure were subject to assessment – 470 Moss Lane East, a large irregular shaped building (Building 1) and 466/468 Moss Lane East, a grade II listed building (Building 2), plus a bike shed (B3). For ease of reference throughout this section of the report, the building locations are highlighted on Figure 4.1, below.

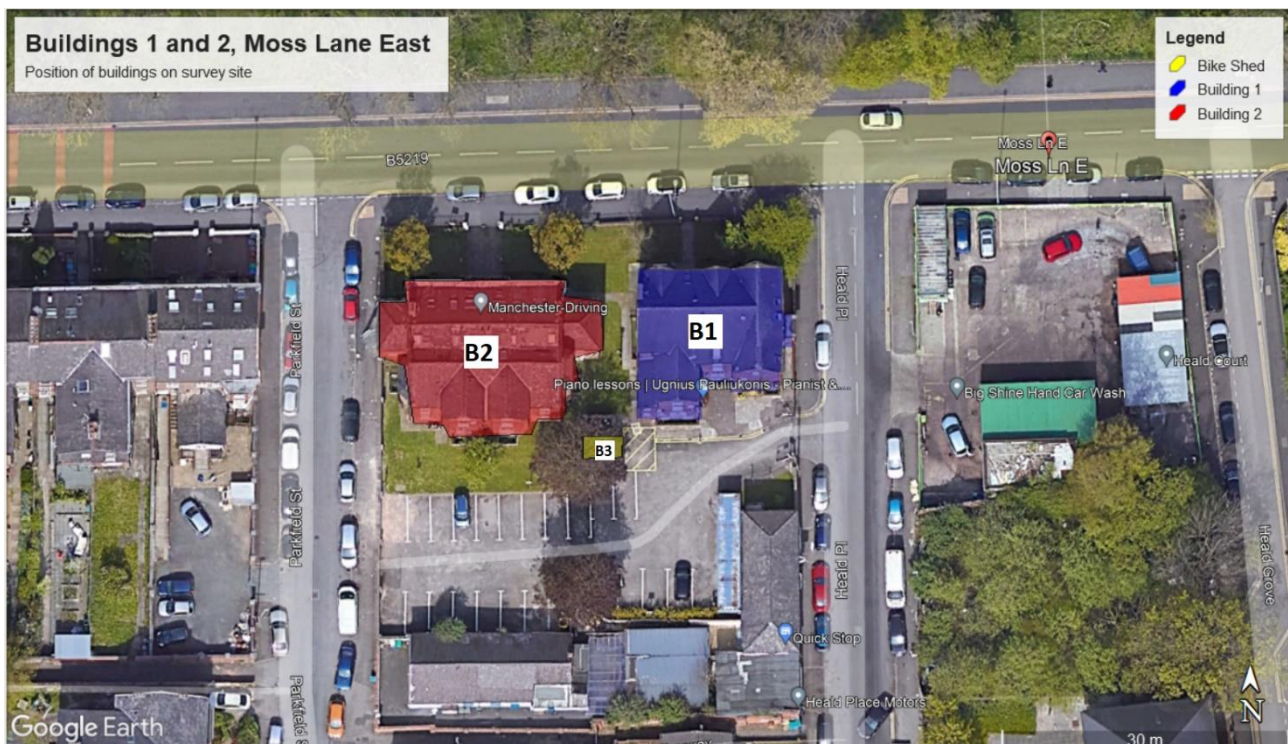


Figure 4.1: Locations of B1, B2 and Bike Shed

4.3.1 Building 1

External Assessment

The first building (B1) was a three-story building constructed of red brick with an irregular shaped roof, covered in slate tiles, some of which were broken or dislodged (Plate 1). Windows and doors were noted to

have uPVC frames in places but wooden in other areas (predominantly to the north and east) with brick and concrete window ledges (Plates 2). The front of the building (to the north) had black wooden fascial boards with ornate designs, which were worn in places (Plate 1). The building also had a flat roof porch area to the east, and a converted basement area. Multiple areas of degraded mortar and gaps between the bricks and above windows were noted but were too high to fully inspect (Plate 3 and 4).



Plate 1: Dislodged and Warped Tiles Near Skylights



Plate 2: Eastern Elevation of B1.



Plate 3: Ornate Fascia Boards on Southern Elevation

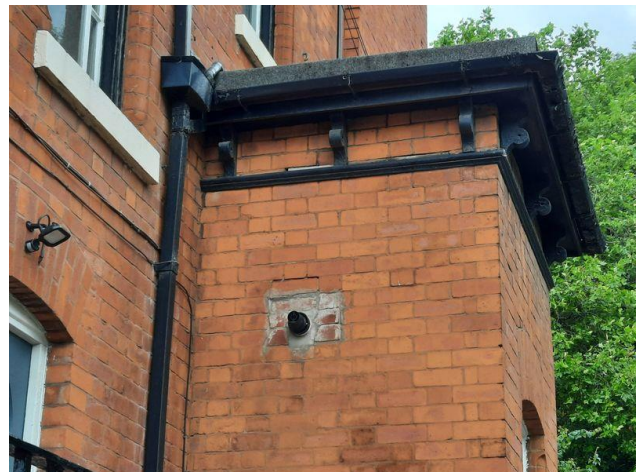


Plate 4: Flat Roof Porch Area to East With Some Mortar Degradation in Areas.

Numerous features were recorded around the building which could be utilised by bats to gain entry into the building and potential roost locations. These features include:

- Missing, lifted or warped roof tiles.
- Missing, lifted or warped ridge tiles.
- Gaps at the eaves.
- Gaps around the soffit box.
- Lifted lead flashing.
- Cracks or holes in brickwork.
- Gaps around door frames and window frames.

It was not possible to inspect all of the gaps in mortar, above windows and gaps around fascia boards due to the height at which they were located and as such it was not possible to establish if bats had used these features to enter a roost location at the time of surveying. No evidence of roosting bats, e.g. droppings, urine staining, feeding remains or scratch marks, was recorded within the external features that could be fully inspected during the survey.

Internal Assessment

Internally, B1 had been split into flats on every floor, with connecting stairs and corridors (Plate 5). The flats had been converted up into the attic spaces with the addition of skylights and with only a very small area of intact attic that remained accessible within one of the flats (Plate 6).



Plate 5: Narrow Corridors and Stairwells Leading to Flats



Plate 6: Skylights Visible From The Outside Of The Building Associated With the Attic Flats

The dimensions of the space was approximately 2m from floor to apex with a steep pitch. The visible areas had wooden floors, wooden beams, and purlins and the loft was sectioned by breezeblock walls. Insulation was noted on the floor to the west but was not consisted across the entire roof space (Plate 7). An area of light was seen to be shining into the attic from the north (Plate 9), and mouse droppings and a disused bird's nest were also noted within the loft space.



Plate 7: Area within The Attic Space, Separated By Breezeblocks



Plate 8: Some Areas of Insulation within the Roof Space

It was not possible to fully inspect all features within the loft space e.g. the area between the felt and roof tiles and as such the bat roosting potential of this area could not be determined. Whilst no evidence of bats, e.g. droppings, urine staining, feeding remains or scratch marks, was recorded during the internal inspection of the building, not all areas could be fully assessed.

4.3.2 Building 2

External Assessment

The second building (B2) was also a three-story building constructed of red brick with a Mansard shaped roof which was covered in slate tiles, some of which were broken or dislodged (Plate 10). Windows and doors were noted to have wooden painted frames with brick and concrete window ledges. Gaps were noted around windows and window ledges. The front of the building (to the north) was fronted with white painted stucco on brick extending all the way up to the roof. (Plates 10 to 12).



Plate 10: Lifted Tiles and Degraded Fascia to the South



Plate 11: Mansard Style Roof, Wooden Fascia Boards, and Wooden Framed Windows Consistent Throughout The Building



Plate 12: North Of The Building Entirely Painted up To Roof and in Good Condition



Plate 13: The South Of The Building with Worn Fascia Boards and Windows

To the north, the building had exposed red brick, with black fascia's boards that had been worn in areas. Multiple areas of degraded mortar and gaps between the bricks and above windows were noted to the south, east and west but were too high to fully inspect with the endoscope (Plate 13 and 14).

Numerous features were recorded around the building which could be utilised by bats to gain entry into the building and potential roost locations. These features include:

- Missing, lifted or warped roof tiles.
- Missing, lifted or warped ridge tiles.
- Gaps at the eaves.
- Gaps around Aerial Wires to the Internal Areas
- Lifted lead flashing.
- Cracks or holes in brickwork.
- Gaps around door frames and window frames.

Internal Assessment

Similarly to B1, the internal of the building had been modified and redeveloped into separate flats with narrow corridors and stairwells (Plate 15). The flats extended all the way into the attic space, apart from one small area within a flat which was accessible. The area was small and was 2 m from floor to apex, with insulation lining the floor (Plate 16 to 17). The area consisted of wooden eaves, purlins and rafters, which had been replaced in places recently. Foil backed roof felting was also recorded along the western side but was not consistent throughout with some exposed slate visible (Plate 17).



Plate 15: Inside of Building Redeveloped Into Flats with Narrow Corridors and Stairwells



Plate 16: Inside of the Attic Space with Insulation and Aerial Cables Visible



Plate 17: Foil Lined Roof Felting Visible to the West

A breezeblock wall was noted to the east and extended up to the eaves. A small gap was noted on an exposed slate, with a small gap between the felt and the tiles. There was also a small hole created for an aerial cable to enter the building. A wasp nest and mouse droppings were noted in this area.

It was not possible to fully inspect all features within the loft space e.g. the area between the felt and roof tiles and as such the bat roosting potential of this area could not be determined. Whilst no evidence of bats, e.g. droppings, urine staining, feeding remains or scratch marks, was recorded during the internal inspection of the building, not all areas could be fully assessed.

B3 – Bike Shed

External Assessment

The bike shed was situated to the south of the two buildings next to a refuse area. The structure was small and was constructed of red brick and had a hipped clay tile roof. The doors and windows were open, with metal grating for security (Plate 18). The structure also had black wooden fascia boards in good condition with heavy cobwebbing (Plate 19).



Plate 18: Small Bike Shed Structure to The South of The Main Buildings



Plate 19: Cobwebbing along Fascia Boards

Internal Assessment

The internal of the structure was visible, and was currently being used as storage for bikes. There were wooden supports across the roof with no roof void and the building was draughty and light (Plate 20). The inside was clean and no evidence of bats, e.g. droppings, urine staining, feeding remains or scratch marks were recorded.

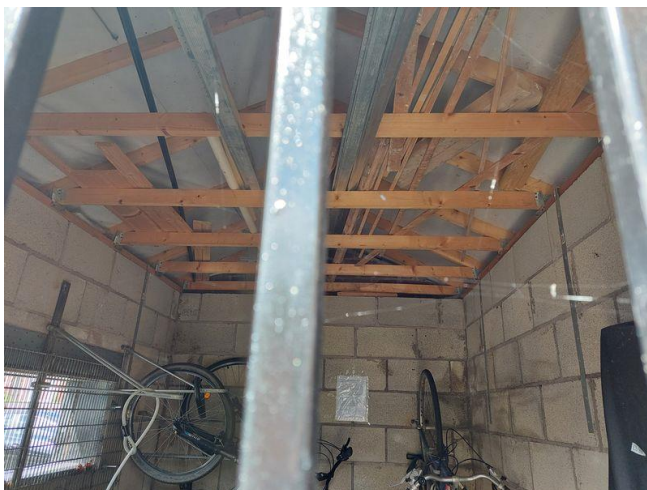


Plate 20: Inside of the Bike Shed visible up to the roof space

4.4 SITE AND SURROUNDING HABITATS

The site was dominated by residential buildings, gardens and hardstanding, with Whitworth Park located 20 m to the north. Although the site itself offers little in the way of foraging habitat, the immediately adjacent Park provides good foraging and commuting opportunities, as well as links to the wider surrounding landscape.

Whilst the lighting associated with the site and the surrounding buildings and car parks may deter light-sensitive bat species (such as brown long-eared bat and *Myotis* species), it is considered likely that species such as pipistrelles could utilize the site and its adjacent habitats for roosting and/or foraging/commuting purposes.

Habitats within 1 km of the site suitable for roosting, commuting and foraging include:

- Residential houses and associated gardens;
- Scattered trees;
- Parkland (i.e. Whitworth Park) with tree lined boundaries;
- Churches, schools and associated grounds;

5. DISCUSSION AND CONCLUSIONS

5.1 SUMMARY OF PROPOSALS

It is thought that B1 is to be demolished completely in order to make way for new student accommodation. B2 will remain but will undergo redevelopment in order to repurpose the building for student amenities on site

5.2 ASSESSMENT OF BUILDINGS

During the Preliminary Bat Roost Assessment, Building 1 contained a number of features which could be used by bats to gain access to the building and/or potential roost locations. This included gaps below roof and ridge tiles, lifted lead flashing, dislodged or worn fascia boards. In addition, brickwork gaps were noted in several areas around the building and were too high to be fully inspected. These features are considered large enough to potentially support larger numbers of bats, in line with Bat Conservation Trust guidance (as outlined in Table 2.2) and Building 1 was considered to have high bat roost potential.

Building 2 contained a similar number of features which could be used by bats to gain access to the building and/or potential roost locations. This included gaps below roof and ridge tiles and above windows, lifted lead flashing, missing mortar between bricks and dislodged or worn fascia boards. Due to the age of the building, these features are considered large enough to potentially support larger numbers of bats, in line with Bat Conservation Trust guidance (as outlined in Table 2.2) and Building 1 was considered to have high bat roost potential.

B3 was a small bike shed which was open inside all the way up to the roof. It had black wooden painted fascia boards which were heavily cobwebbed and the tiles on the hipped roof were in good condition. There was no evidence of bats present in the shed or on the shed floor and therefore was considered to have negligible bat roost potential.

5.3 POTENTIAL IMPACTS ON BATS

The proposed works could impact upon bats through roost loss and/or direct harm/injury. In order to determine the presence/absence of roosting bats within the buildings, further survey work will be required, and a recommendation in relation to this is made in Chapter 6.

Any new lighting, either temporary or permanent, at the site has the potential to impact foraging and commuting bats. As such, a precautionary recommendation with regards to lighting has been made in Chapter 6.

The sites value for bats could be increased via the incorporation of wildlife friendly planting and/or bat box installation on site. A recommendation in relation to this is made in Chapter 6.

6. RECOMMENDATIONS

All recommendations provided in this section are based on Middlemarch Environmental Ltd's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

R1 Building 1 (470 Moss Lane East)

Building 1 has been identified as having high potential to support roosting bats. Bat Surveys: Good Practice Guidelines published by the Bat Conservation Trust (Collins, 2016) recommends that for structures with high bat roosting potential at least three dusk emergence and/or dawn re-entry surveys be undertaken during the bat emergence/re-entry survey season to determine the presence/absence of roosting bats within the structure. The bat emergence/re-entry survey season extends from May to September. At least two of the surveys should be undertaken during the peak season for emergence/re-entry surveys between May and August and one of the three surveys should be a dawn re-entry survey. If a roost is discovered during these surveys, a Natural England licence application may be required.

R2 Building 2 (466/468 Moss Lane East)

Building 1 has been identified as having high potential to support roosting bats. Bat Surveys: Good Practice Guidelines published by the Bat Conservation Trust (Collins, 2016) recommends that for structures with high bat roosting potential at least three dusk emergence and/or dawn re-entry surveys be undertaken during the bat emergence/re-entry survey season to determine the presence/absence of roosting bats within the structure. The bat emergence/re-entry survey season extends from May to September. At least two of the surveys should be undertaken during the peak season for emergence/re-entry surveys between May and August and one of the three surveys should be a dawn re-entry survey. If a roost is discovered during these surveys, a Natural England licence application may be required.

R3 B3 – Bike Shed

The bike shed was fully inspected, and no bat roost was identified. This structure had no potential for roosting bats. The survey data obtained for the site is valid for 12 months from the survey date. If development works to the surveyed structure have not commenced within this timeframe it will be essential to update the survey effort to establish if suitable features have developed and if bats have colonised the structure in the interim. In the unlikely event that a bat is found during demolition works all works must immediately cease and a suitably qualified ecologist should be contacted.

R4 Lighting

In accordance with best practice guidance relating to lighting and biodiversity (Miles et al, 2018; Gunnell et al, 2012), any new lighting should be carefully designed to minimise potential disturbance and fragmentation impacts on sensitive receptors, such as bat species. Examples of good practice include:

- Using modern LED fittings rather than metal halide or sodium fittings, as modern LEDs emit negligible UV radiation.
- The use of directional lighting to reduce light spill, e.g. by installing bespoke fittings or using hoods or shields. For example, downlighting can be used to illuminate features such as footpaths whilst reducing the horizontal and vertical spill of light.
- Where the use of bollard lighting is proposed, columns should be designed to reduce horizontal light spill.
- Implementing controls to ensure lighting is only active when needed, e.g. the use of timers or motion sensors.
- Use of floor surface materials with low reflective quality. This will ensure that bats using the site and surrounding area are not affected by reflected illumination.

R5 Habitat Enhancement

In line with the National Planning Policy Framework, the development should aim to enhance the site for bats. Bat boxes should be installed to provide roosting habitat for species such as pipistrelle. In general, bats seek warm places and for this reason boxes should be located where they will receive full/partial sun, although installing boxes in a variety of orientations will provide a range of climatic

conditions. Position boxes at least 4 m above ground to prevent disturbance from people and/or predators. The planting of species which attract night flying insects is encouraged as this will be of value to foraging bats, for example: evening primrose *Oenothera biennis*, goldenrod *Solidago virgaurea*, honeysuckle *Lonicera periclymenum* and fleabane *Pulicaria dysenterica*.

7. DRAWINGS

Areas surveyed have been detailed in Figure 4.1.

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APPENDIX 1

LEGISLATION

Bats and the places they use for shelter or protection (i.e. roosts) receive legal protection under the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2017, states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats; or
- damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2017 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Changes have been made to parts of the Habitats Regulations 2017 so that they operate effectively from 1st January 2021. The changes are made by the Habitats Regulations 2019, which transfer functions from the European Commission to the appropriate authorities in England and Wales.

All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

The obligations of a competent authority in the 2017 Regulations for the protection of species do not change. A competent authority is a public body, statutory undertaker, minister or department of government, or anyone holding public office.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, or *obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection*.

*Reckless offences were added by the Countryside and Rights of Way (CRoW) Act 2000.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The reader should refer to the original legislation for the definitive interpretation.

The following bat species are Species of Principal Importance for Nature Conservation in England: barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*. Species of Principal Importance for Nature Conservation in England are material considerations in the planning process. The list of species is derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006.

ECOLOGY

At present, 18 species of bats are known to live within the United Kingdom, of which 17 species are confirmed as breeding. All UK bat species are classed as insectivorous, feeding on a variety of invertebrates including midges, mosquitoes, lacewings, moths, beetles and small spiders.

Bats will roost within a variety of different roosting locations, included houses, farm buildings, churches, bridges, walls, trees, culverts, caves and tunnels. At different times of the year the bats roosting requirements alter and they can have different roosting locations for maternity roosts, mating roosts and hibernation roosts. Certain bat species will also change roosts throughout the bat activity season with the bat colony using the site to roost for a few days, abandoning the roost and then returning a few days or weeks later. This change can be for a variety of reasons including climatic conditions and prey availability. Bats are known live for several years and if the climatic conditions are unfavourable at a particular roost, they may abandon it for a number of years, before returning when conditions change. Due to the matriarchal nature of bat colonies, the locations of these roosts can be passed down through the generations.

Bats usually start to come out of hibernation in March and early April (weather dependent), when they start to forage and replenish the body weight lost during the hibernation period. The female bats then start to congregate together in maternity roosts prior to giving birth and a single baby is born in June or July. The female then works hard to feed her young so that they can become independent and of a sufficient weight to survive the winter before the weather gets too cold and invertebrate activity reduces. Males generally live solitary lives, or in small groups with other males, although in some species the males can be found living with the females all year. The mating season begins in the autumn. During the winter bats hibernate in safe locations which provide relatively constant conditions, although they may venture outside to forage on warmer winter nights.