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LAND OFF TATENHILL LANE, BRANSTON, BURTON UPON TRENT

NOCTURNAL EMERGENCE AND DAWN RE-ENTRY BAT SURVEYS

A Report to: Lioncourt Homes Limited

Report No: RT-MME-125936-01

Date: September 2017

MIDDLEMARCH ENVIRONMENTAL

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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 by:	Approved by:
Final	23/08/2017	Emily Wordley BSc (Ecological Project Officer) and Charlotte Richardson MSc (Ecological Consultant)	Ellie Rickman MSc, ACIEEM (Senior Ecological Consultant)	Dr Philip Fermor CEnv MCIEEM (Managing Director)

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, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.

NON-TECHNICAL SUMMARY

Middlemarch Environmental Ltd was commissioned by Lioncourt Homes to undertake nocturnal emergence and dawn re-entry bat surveys at No. 78 and No. 80 Tatenhill Lane, Branston, Burton-upon-Trent. This assessment is required to inform a planning application associated with the demolition of the buildings in order to facilitate a residential development on site.

|A Preliminary Bat Roost Assessment carried out in August 2017 found number 78 Tatenhill Lane to have low bat roost potential and number 80 Tatenhill Lane to have high bat roost potential. Therefore, a single nocturnal emergence survey was recommended for number 78 and three nocturnal emergence/dawn re-entry surveys were recommended for number 80 Tatenhill Lane. These were undertaken between 10th August 2017 and 7th September 2017.

Four bat species were recorded during the surveys, common pipistrelle, soprano pipistrelle and noctule. No bats were recorded emerging or returning to roost in either of the buildings on the site. Foraging activity was recorded in the garden areas by pipistrelle bats. The Leisler's and noctule bats recorded were all commuting high over the site and not using the habitats within the site boundary.

Following the results of the nocturnal emergence and dawn re-entry surveys, the following recommendations have been made:

R1 78 and 80 Tatenhill Lane
The buildings of 78 and 80 Tatenhill Lane have been subject to a full suite of activity surveys in line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), and no bat roosts were identified. There are therefore no constraints to the proposed works to these buildings with regards to bats. The survey data obtained for the site is valid for 12 months from the survey date. If development works to the surveyed building have not commenced within this timeframe it will be essential to update the survey effort to establish if bats have colonised the buildings in the interim.

R2 Boundary Features and Lighting
Where possible, mature trees and hedgerows should be included within the landscaping plans for the site to provide commuting corridors and foraging areas, particularly at the site boundaries. Any lighting, either temporary or permanent, along the site boundaries should be kept to a minimum and directed away from the boundary features to maintain dark areas and corridors.

R3 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 which were recorded on site. The planting of species which attract night flying insects is encouraged as this will be of value to foraging bats.

CONTENTS

1. INTRODUCTION

1.1 PROJECT BACKGROUND

Middlemarch Environmental Ltd was commissioned by Lioncourt Homes to undertake nocturnal emergence and dawn re-entry bat surveys at No. 78 and No. 80 Tatenhill Lane, Branston, Burton-upon-Trent. This assessment is required to inform a planning application associated with the demolition of the buildings in order to facilitate a residential development on site.

Middlemarch Environmental Ltd has previously carried out a Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment for Lioncourt Homes Limited at this site. The findings of these surveys are detailed in Report RT-MME-125936-01 and 125936-02 respectively.

Two properties were subject to a Preliminary Bat Roost Assessment on the 12th July 2017. Both buildings were rectangular bungalows of brick construction with pitched tiled roofs and integral garages. They were set in gardens containing trees, shrubs and lawn areas.

On No. 78 Tatenhill Lane, a gap was present in the soffit box at the south-western corner of the bungalow and light was noted to penetrate into the loft space at the eaves at the same corner. In addition, a small number of the roof tiles were found to be lifted around the eaves, and these areas could not be fully inspected. Therefore, the building was concluded to hold low bat roost potential.

On No. 80 Tatenhill Lane, a number of roof tiles were noted to be lifted and an area of lead flashing was lifted where the chimney met the roof. Internally the gap between the sarking and the roof tiles could not be inspected and thus its roost status could not be fully determined, whilst a small number of bat droppings (approximately 5) were recorded at the south-western corner of the loft space. The building was concluded to hold high bat roost potential.

The structures and trees in the gardens of both properties were concluded to hold negligible bat roost potential.

In line with the BCT guidelines it was recommended that one dusk emergence survey or dawn re-entry survey be undertaken on No. 78 Tatenhill Lane and three dusk emergence and/or dawn re-entry surveys be undertaken on No. 80 Tatenhill Lane in order to determine the presence/absence of roosting bats within the structure. This report details the results of these surveys undertaken between 10th August 2017 and 7th September 2017.

All UK bat species are European 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 development site is located approximately 200 m south-west of the B5018/A38 road junction in Branston, to the south-west of Burton-Upon-Trent, Staffordshire, at National Grid Reference SK 217 212. The site includes the properties and gardens of No. 78 and No. 80 Tatenhill Lane at its northern end, extending to approximately 0.2 ha and comprising houses and outbuildings surrounded by areas of hardstanding, amenity grassland, ornamental planting and mixed formal boundaries of wooden fences, ornamental hedgerows and brick walls. To the south of this is a poor semi-improved grassland field with occasional scrub and tall ruderal vegetation extending to approximately 2.4 ha and bounded by fencing, hedgerows, scattered trees and a dry ditch.

Further residential properties and Tatenhill Lane are located immediately adjacent to the northern and north-eastern boundary of the site; to the south-east is a narrow strip of woodland with adjacent area of light industrial usage, with the A38 and Branston beyond and to the south-west is Branston Water Park, a former area of gravel extraction now reinstated as a general amenity area for the public, whilst to the immediate west is the Trent & Mersey canal with farmland present beyond this. The River Trent is located approximately 700 m to the south-east at its closest point.

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
BRTL_01_02A – Site Plan	Lioncourt Homes Ltd
BRTL_01_02A – Site Plan CLR	Lioncourt Homes Ltd

Table 1.1: Documentation Provided by Client

2. METHODOLOGY

2.1 DESK STUDY

As part of the Preliminary Ecological Appraisal (Report RT-MME-125808-01) an ecological desk study (which included a search for records of bats) was undertaken within a 1 km radius of the site. The consultees for the desk study were Derbyshire Wildlife Trust and Staffordshire Ecological Record.

Middlemarch Environmental Ltd then assimilated and reviewed the desk study data provided by these organisations. 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 SURVEYS

2.2.1 Overview of Nocturnal Emergence and Dawn Re-entry Surveys

No. 80 Tatenhill Lane was classed as having high potential to support roosting bats due to the numerous features of potential interest to roosting bats identified during the daytime survey, and due to the presence of a small number of bat droppings within the loft space. In line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), three bat surveys were carried out consisting of two nocturnal emergence bat surveys and one dawn re-entry bat survey. The aim of these surveys was to detect whether bats are roosting within the buildings, and to enable a profile of site utilisation by bats to be compiled.

No. 78 Tatenhill Lane was classed as having low potential to support roosting bats as limited features of interest to bats were identified during the daytime survey. In line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), one nocturnal emergence survey was carried out.

2.2.2 Nocturnal Emergence Bat Surveys

In line with the specifications detailed Bat Surveys: Good Practice Guidelines (Collins, 2016), two nocturnal emergence bat surveys were conducted on No. 80 Tatenhill Lane, and one nocturnal emergence bat survey was completed on No. 78 Tatenhill Lane. The surveys commenced 20 minutes prior to sunset and continued until 120 minutes after sunset. The nocturnal emergence surveys were conducted using electronic bat detectors (EM3 and Echo Meter Touch time expansion and Bat Box Duet with associated recording devices) to facilitate the detection of bats and to aid in the determination of species of bat using the site. Subsequent computer analysis of recordings allowed all species of bat using the site to be identified.

2.2.3 Dawn Re-Entry Bat Survey

One dawn re-entry survey was undertaken on No. 80 Tatenhill Lane. Bats swarm at their roost site 10-90 minutes prior to entering the roost at dawn (Mitchell-Jones & McLeish, 2004). Surveying for dawn swarming by bats is an efficient way of detecting bat roosts. In line with the specifications detailed by Bat Surveys: Good Practice Guidelines (Collins, 2016) the dawn survey commenced 120 minutes prior to sunrise and continued until 15 minutes after sunrise. To facilitate the detection of bats and to aid in the determination of species of bat using the site, the dawn survey was conducted using electronic bat detectors (EM3 and Echo Meter Touch time expansion and Bat Box Duet with associated recording devices). Computer analysis of bat detector information collected was utilised to identify all species recorded on the site.

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

Records of bat species within a 1 km radius of the survey area provided by the local record centres 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 / Conservation Status
Mammals (Bats)					
Common pipistrelle *Pipistrellus pipistrellus*	8	2012	350 m north-west	-	ECH 4, WCA 5, WCA 6
Unidentified bat *Myotis sp.*	5	2012	350 m north-west	*	*
Noctule *Nyctalus noctula*	7	2012	350 m north-west	✓	ECH 4, WCA 5, WCA 6
Soprano pipistrelle *Pipistrellus pygmaeus*	4	2012	350 m north-west	✓	ECH 4, WCA 5, WCA 6
Pipistrelle bat *Pipistrellus sp.*	6	2012	630 m south	*	ECH 4, WCA 5, WCA 6

Key:
* Species dependent.
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.
Note. This table does not include reference to the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats), the Bonn Convention on the Conservation of Migratory Species of Wild Animals or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

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

3.3 PREVIOUS BAT SURVEYS

A previous survey of the buildings undertaken by Middlemarch Environmental in March 2013 (Report Number RT-MME-113555-02) identified a limited number of features considered to provide potential access into suitable roosting locations within the buildings. The buildings were therefore concluded to hold negligible bat roost potential and no further surveys were recommended at that time.

In addition, previous nocturnal and dawn bat surveys of the small field to the south of the properties were undertaken by Middlemarch Environmental in May/June 2010 (Report Number RT-MME-107305-02). These identified the presence of four bat species using the area: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Daubenton's bat *Myotis daubentonii* and noctule *Nyctalus noctula*. Branston Water Park LNR to the immediate south of the field and the strip of woodland along the south-eastern boundary were the main focus of activity during the surveys, with foraging and commuting recorded. Minor bat activity was also recorded along the Trent and Mersey Canal to the west of No. 80 Tatenhill Lane.

4. SURVEY RESULTS

4.1 FIRST NOCTURNAL EMERGENCE SURVEY

The first nocturnal emergence survey was undertaken on 10th August 2017 on No. 78 and No. 80 Tatenhill Lane by:

- Ellie Rickman (Senior Ecological Consultant; Bat Licence Number 2016-22513-CLS-CLS);
- Charlotte Richardson MSc (Ecological Consultant; Bat Licence Number 2015-9325-CLS-CLS);
- Archie Bird (Ecological Project Officer; Bat Licence Number 2017-27467-CLS-CLS);
- Emily Wordley BSc (Hons) (Ecological Project Officer); and
- Geoff Nickolds (Ecological Project Officer).

The weather conditions recorded at the time of the survey are detailed in Table 4.1.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	16	14
Cloud Cover (%)	5	10
Precipitation	Dry	Dry
Wind Speed (Beaufort)	F1	F1

Table 4.1: Weather Conditions During First Nocturnal Emergence Survey

The nocturnal emergence survey commenced 20 minutes prior to sunset and continued until 120 minutes after sunset. Sunset was at 20:43 hrs (BBC Weather Centre Data for Branston). Four species of bat, Leisler's bat *Nyctalus leisleri*, noctule, common pipistrelle and soprano pipistrelle, were recorded during the survey. Survey results are plotted on Drawing C125936-01 in Chapter 7.

Leisler's bat
The first recording was considered to be from a Leisler's bat, which was recorded at 21:03 hrs (18 minutes after sunset). This bat was recorded but not seen.

Noctule
At 20:20 hrs, the first noctule bat was detected but not observed. Three more foraging bats were recorded and at 21:23 hrs, 21:32 hrs and 21:34 hrs, of which were also not seen.

Common pipistrelle
The first observation was a common pipistrelle bat detected at 21:21 hrs (38 minutes after sunset). This bat did not emerge from the building but was seen flying onto site from the south west behind No. 78 Tatenhill Lane, then foraged behind the south-west elevation for a short while until exiting the site to the south-west.

Several common pipistrelle bats were recorded foraging but were not observed during the survey, these sightings occurred at the following times: 21:21 hrs, 21:35 hrs, 21:41 hrs and 21:43 hrs.

At 21:45 hrs, a bat entered the site from the south-east, following the south-western gable end of No. 78 Tatenhill Lane until flying over the garden boundary across to property No. 80 Tatenhill Lane. This bat then continued to forage along the south-western elevation of the property, exiting the site towards the east.

The last common pipistrelle recording was at 21:46 hrs, entering the northern garden of property 78 from the north east, flying and exiting the site directly towards the south.

Soprano pipistrelle
At 21:23 hrs, the first soprano pipistrelle bat entered the site by the eastern corner of No. 80 Tatenhill Lane, then shortly proceeded towards the south-eastern gable end around the southern corner of the building.

Both at 21:26 hrs and 21:38 hrs, a soprano pipistrelle bat entered the site from the north then proceeded to follow the eastern elevation of No. 80 Tatenhill Lane, commuting towards the south over the garden

boundary into the grounds of No. 78 Tatenhill Lane. This bat then foraged for a short while in front of the north-eastern gable end of the property, then exited the site towards the east.
At 21:47 hrs the final bat was detected briefly passing over the site but was not seen.

No other species of bat were detected or observed during this survey. Analysis of the sound recordings did not identify any further species of bat.

4.2 DAWN RE-ENTRY SURVEY

The dawn re-entry bat survey was undertaken on 24th August 2017 on No. 80 Tatenhill Lane by:

- Ellie Rickman (Senior Ecological Consultant; Bat Licence Number 2016-22513-CLS-CLS);
- Charlotte Richardson MSc (Ecological Consultant; Bat Licence Number 2015-9325-CLS-CLS); and
- Emily Wordley BSc (Hons) (Ecological Project Officer).

The weather conditions recorded at the time of the survey are detailed in Table 4.2.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	12	9
Cloud Cover (%)	0	10
Precipitation	None	None
Wind Speed (Beaufort)	F1	F1

Table 4.2: Weather Conditions During Dawn Re-entry Survey

The dawn re-entry survey commenced 120 minutes prior to sunrise and continued until 15 minutes after sunrise. Sunrise was at 06:03 hrs (BBC Weather Centre Data for Branston). Three species of bat, common pipistrelle, soprano pipistrelle and noctule, were recorded during the survey. Survey results are plotted on Drawing C125936-02 in Chapter 7.

Soprano pipistrelle
The first recording was at 04:50 hrs (73 minutes before sunrise). This bat was foraging in the back garden of the property along the south-western boundary of the site (no visual contact was made). Two other recordings were also noted were no visual contact was also made, these occurred at 05:05 hrs and 05:17 hrs.

At 05:13 hrs, a commuting bat was observed and recorded entering the site from the south-west, then proceeded along the south-east boundary, exiting the site to the north-east. One minute later at 05:14 hrs, another soprano pipistrelle entered the site from the north east, proceeding to exit the site over the garden hedge towards No. 78 Tatenhill Lane.

The final sighting was observed and recorded at 05:16 hrs, where the bat entered the site from the south-west, dog-legging across along the south-western boundary, then proceeding to exit the site to the north-east over the garden hedge site boundary.

Common pipistrelle
The first common pipistrelle bat was recorded at 05:09 hrs (54 minutes before sunrise) foraging and entering the site from the south-west. This bat flew over the hedge lined site boundary separating No. 78 and No. 80 Tatenhill Lane, then proceeded to exit the site to the north-east through the front garden of No. 80 Tatenhill Lane. At 05:14 hrs another bat was recorded foraging (no visual contact made).

Noctule
At 04:35 hrs, a noctule was detected but no visual contact was made.

No other species of bat were detected or observed during this survey. Analysis of the sound recordings did not detect any further species of bat.

4.3 SECOND NOCTURNAL EMERGENCE SURVEY

The second nocturnal emergence survey was undertaken on 7th September 2017 on No. 80 Tatenhill Lane by:

- Charlotte Richardson MSc (Ecological Consultant; Bat Licence Number 2015-9325-CLS-CLS); and
- Emily Wordley BSc (Hons) (Ecological Project Officer) and
- Anna Evans BSc (Hons) (Ecological Project Officer).
-

The weather conditions recorded at the time of the survey are detailed in Table 4.3.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	15	15
Cloud Cover (%)	100	90
Precipitation	None	Light drizzle
Wind Speed (Beaufort)	F2-3	F2

Table 4.3: Weather Conditions During Second Nocturnal Emergence Survey

The nocturnal emergence survey commenced 20 minutes prior to sunset and continued until 120 minutes after sunset. Sunset was at 19:40 hrs (BBC Weather Centre Data for Branston). Three species of bat, common pipistrelle *Pipistrellus pipistrellus,* noctule *Nyctalus noctula* and Soprano pipistrelle *Pipistrellus pygmaeu*s were recorded during the survey. Survey results are plotted on Drawing C125936- 03 in Chapter 7.

Common pipistrelle
The first common pipistrelle bat was recorded at 19:58, eighteen minutes after sunset. This was a faint call that was detected but not seen. At 20:02, twenty-two minutes after sunset, a common pipistrelle was observed and detected flying north east to south west past the building. A second common pipistrelle was observed following the same route at 20:24.

Occasional calls by common pipistrelles were detected but not observed along Tatenhill Lane and above the garden and neighbouring gardens between 20:24 and the end of the survey. It was considered that a small number of common pipistrelle bats were foraging occasionally over the site.

Noctule
A single pass by a noctule bat was recorded at 20:00, twenty minutes after sunset. This was detected but not observed and was considered to be a bat commuting high over the site.

Soprano pipistrelle
The first soprano pipistrelle was detected at 20:02. This entered the site from the north east and foraged briefly above the front garden before leaving site again. Soprano pipistrelles were then recorded at 20:26 and again at 20:29, forty-six and forty-nine minutes after sunset. These were detected by surveyors located to the front and rear of the building but not observed.

A soprano pipistrelle was also recorded but not observed to the rear of the building foraging over the back garden between 20:38 and 20:40.

No other species of bat were detected or observed during this survey. Analysis of the sound recordings did not detect any further species of bat.

5. DISCUSSION AND CONCLUSIONS

5.1 DISCUSSION

5.1.1 Summary of Proposals

Proposals for the site are for the demolition of existing buildings and the creation of a new residential estate including the gardens and land to the south and south east of the building locations. The proposed access road to the site will run through the survey area from Tatenhill Lane and two new residential dwellings will be built close to the current building locations.

5.1.2 Summary of Nocturnal Emergence and Dawn Re-entry Surveys

Nocturnal Emergence Survey/s

Four bat species was recorded during the two nocturnal emergence surveys. These were common pipistrelle, soprano pipistrelle, Leisler's and noctule. Of these, small numbers of common and soprano pipistrelle were observed to use the garden areas for foraging. The Leisler's and noctule were not considered to be using the site but only commuting over the site at height. No bats were observed to emerge from either of the buildings surveyed.

Dawn Re-entry Survey

As with the dusk emergence surveys, three bat species were recorded in the dawn re-entry survey of 80 Tatenhill Lane. These were common pipistrelle, soprano pipistrelle and noctule. Common and soprano pipistrelles were observed to forage within the garden area in small numbers while the noctule was recorded commuting overhead. No bats were observed returning to roost in the building.

5.2 CONCLUSIONS

Given that no bats emerged or re-entered any of the buildings and low levels of bat activity on site during the surveys, it is concluded that there are no bat roosts present in either 78 or 80, Tatenhill Lane. Although a small number of bat droppings were discovered in the loft space of number 80, Tatenhill Lane, it is considered that the building does not currently contain a bat roost and these were likely to be the result of exploratory behaviour by a single bat.

The site surrounding the buildings provides some foraging habitat for common and soprano pipistrelle bats. In particular, a mature tree to the front of number 80 Tatenhill Lane and hedgerow boundaries provided some suitable foraging and commuting features.

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 78 and 80 Tatenhill Lane

The buildings of 78 and 80 Tatenhill Lane have been subject to a full suite of activity surveys in line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), and no bat roosts were identified. There are therefore no constraints to the proposed works to these buildings with regards to bats. The survey data obtained for the site is valid for 12 months from the survey date. If development works to the surveyed building have not commenced within this timeframe it will be essential to update the survey effort to establish if bats have colonised the buildings in the interim. Updated Preliminary Bat Roost Assessments can be undertaken at any time of year. Updated surveys requiring nocturnal or dawn assessment will need to adhere to the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016) with the surveys undertaken between April and September inclusive. In the unlikely event that a bat is found during site works all works in that area must immediately cease and a suitably qualified ecologist should be contacted.

R2 Boundary Features and Lighting

Where possible, mature trees and hedgerows should be included within the landscaping plans for the site to provide commuting corridors and foraging areas, particularly at the site boundaries. In line with paragraph 125 of the National Planning Policy Framework, the development should aim to limit the impact of light pollution on bats through the careful use of lighting in critical areas only and at a low level with minimum spillage. Any lighting, either temporary or permanent, along the site boundaries should be kept to a minimum and directed away from the boundary features to maintain dark areas and corridors.

R3 Habitat Enhancement

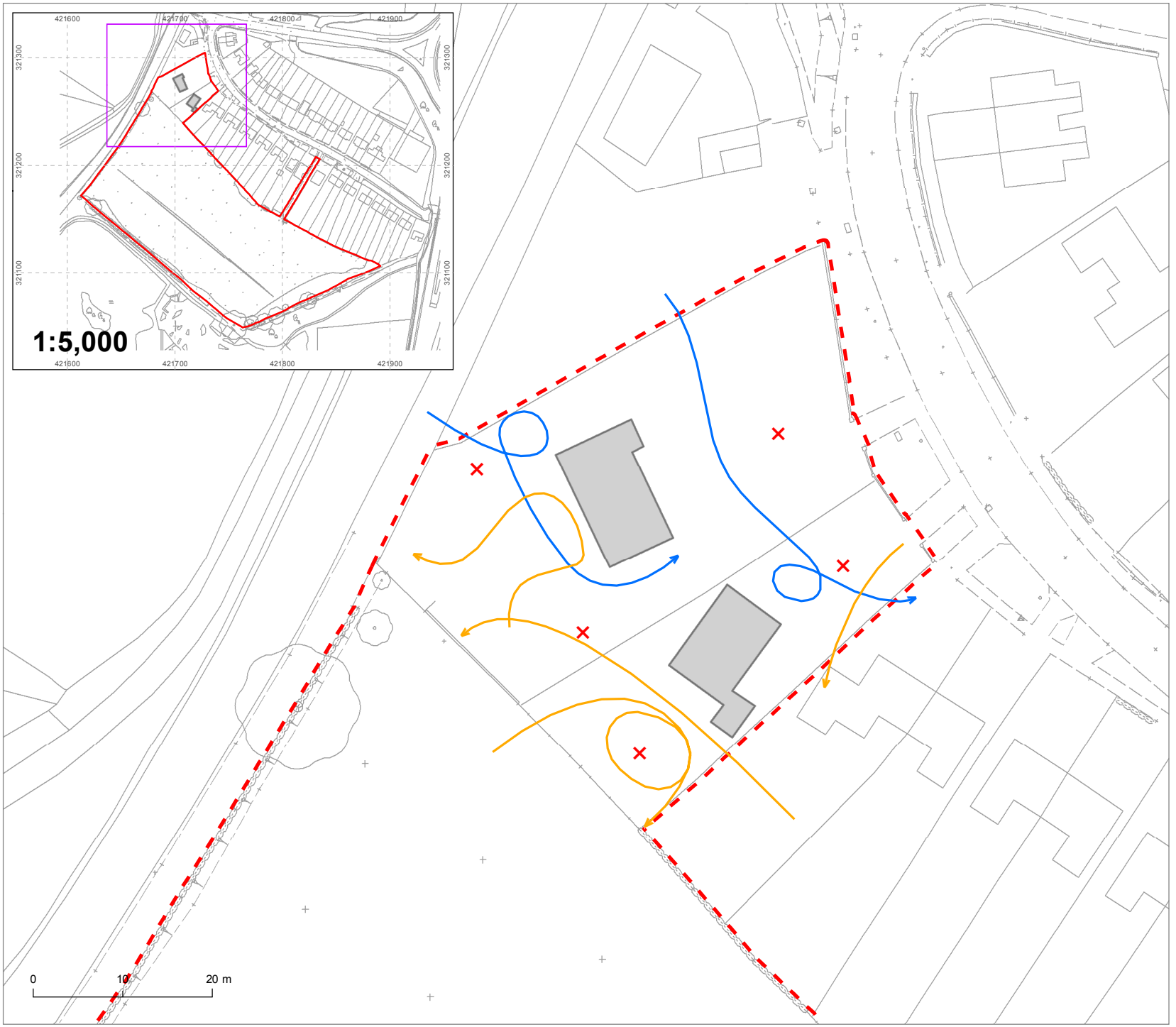
In line with the National Planning Policy Framework, the development should aim to enhance the site for bats. Bat boxes should be installed to provide roosting habitat for species such as pipistrelle which were recorded on site. In general, bats seek warm places and for this reason boxes should be located 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 3 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

Drawing C125936-01 – First Nocturnal Emergence Survey

Drawing C125936-02 – Dawn Re-entry Survey

Drawing C125936-03 – Second Nocturnal Emergence Survey



C125936-01-01

Legend

- Surveyor location
- Common pipistrelle activity
- Soprano pipistrelle activity
- Building surveyed
- Site boundary

N

Project	Land off Tatenhill Lane, Branston
Drawing	First Nocturnal Emergence Bat Survey
Client	Lioncourt Homes
Drawing Number: C125936-01-01	Revision: 00
Scale @ A4: 1:600	Date: August 2017
Approved By: CR	Drawn By: GP

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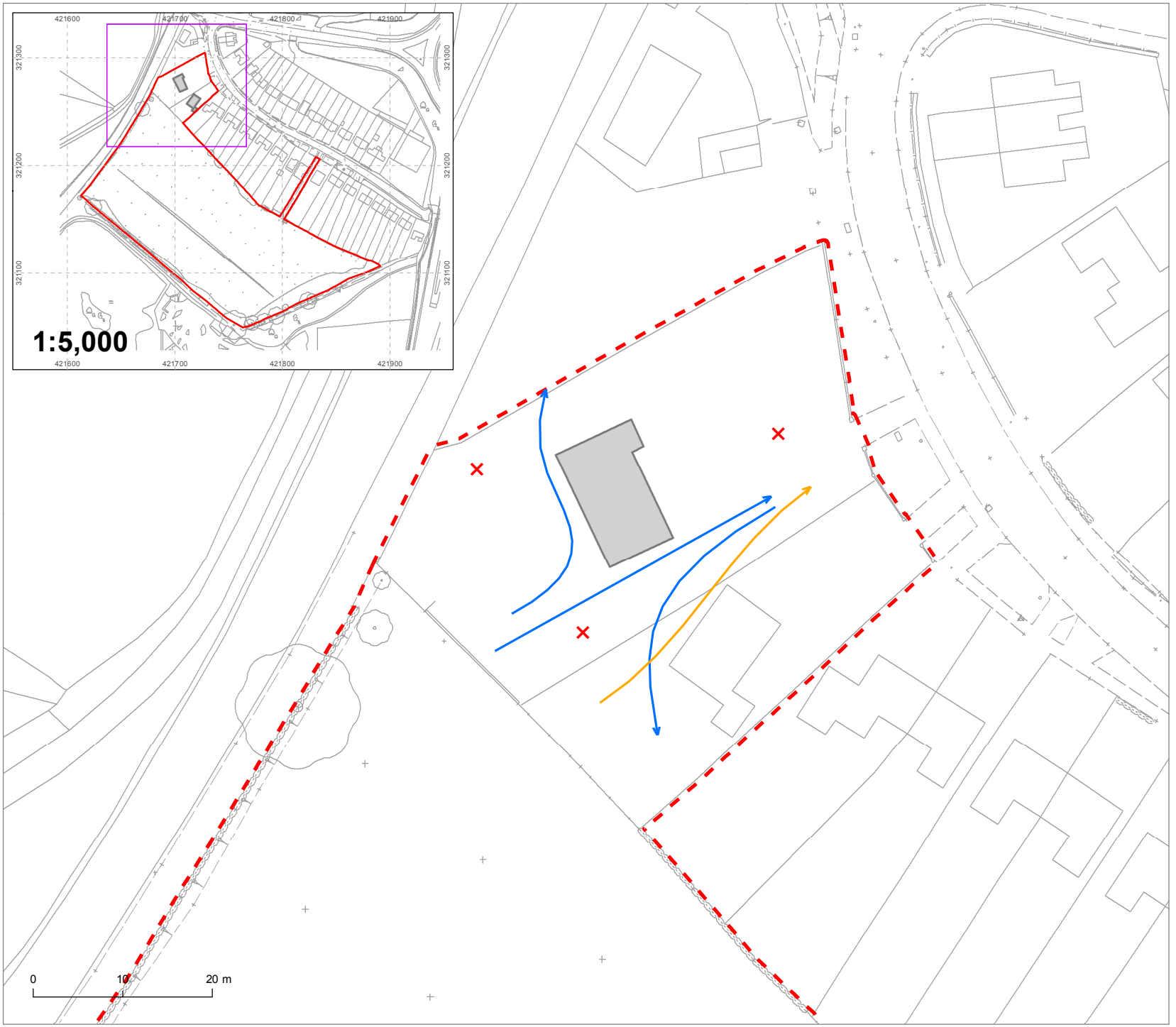

C125936-01-02

Legend

- Surveyor location
- Common pipistrelle activity
- Soprano pipistrelle activity
- Building surveyed
- Site boundary

N

Project	Land off Tatenhill Lane, Branston
Drawing	Dawn Re-entry Bat Survey
Client	Lioncourt Homes
Drawing Number: C125936-01-02	Revision: 00
Scale @ A4: 1:600	Date: August 2017
Approved By: CR	Drawn By: GP

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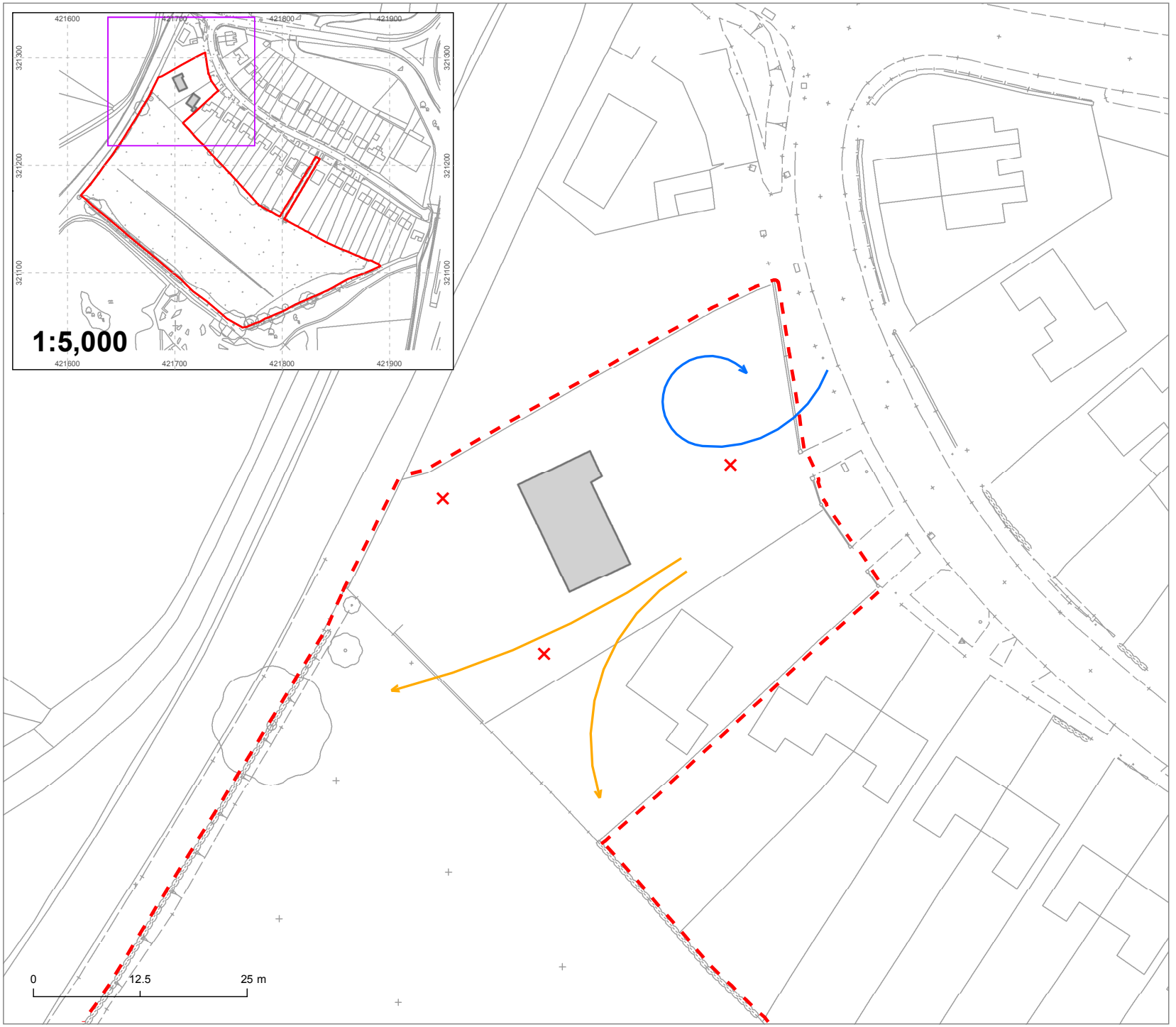

C125936-01-03

Legend

- Surveyor location
- Common pipistrelle activity
- Soprano pipistrelle activity
- Building surveyed
- Site boundary

N

Project	Land off Tatenhill Lane, Branston
Drawing	Second Nocturnal Emergence Survey 7th September 2017
Client	Lioncourt Homes
Drawing Number: C125936-01-03	Revision: 00
Scale @ A4: 1:628	Date: September 2017
Approved By: ER	Drawn By: JL

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APPENDIX 1

LEGISLATION

Bats and the places they use for shelter or protection (i.e. roosts) receive European protection under The Conservation of Habitats and Species Regulations 2010, as amended (Habitats Regulations 2010, as amended). 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 2010 (as amended), 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 2010 (as amended) 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.

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 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*.

Common pipistrelle, soprano pipistrelle and noctule are listed as priority species within the Staffordshire Biodiversity Action Plan.

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

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.