JAMES BLAKE ASSOCIATES

Bat Activity Survey Report

Of

Land at Buntingford West, Hertfordshire,

on behalf of

Vistry Group Ltd.

April 2022
Revision A – June 2022

Over 30 Years of Service, Value and Innovation

34-52 Out Westgate, Bury St. Edmunds, Suffolk IP33 3PA
tel: **01284 335797** email: **jamesblake@jba-landmarc.com**
Chairman: James Blake BA (Hons) Dip LA (Hons) CMLI
Company Secretary: Louise Blake BSc PGCE
Directors: Elzbieta Zebrowska MSc Eng LArch MScEnvSc CMLI
Associate Directors: Vivienne Jackson : Marie Lowe CIMA Cert BA : Paulina Blasiak MSc EngLA CMLI
Abby Stallwood BSc (Hons) PG Dip LM CMLI : Samantha Rigg BSc (Hons) ACIEEM

www.jba-landmarc.com

Registration no. 08169866 VAT no. 512 4127 91

Revision	Purpose	Originated	Checked	Authorised	Date
		SR	JBA	JBA	April 2022
A	Minor amendments following client comments	SR		JBA	June 2022
Job Number: JBA 17/316		JAMES BLAKE ASSOCIATES **Title:** Bat Activity Survey Report of Buntingford West, Hertfordshire			

Disclaimer

James Blake Associates Ltd. have made every effort to meet the client's brief. However, no survey ensures complete and absolute assessment of the changeable natural environment. The findings in this report were based on evidence from thorough survey: It is important to remember that evidence can be limited, hard to detect or concealed by site use and disturbance. When it is stated that no evidence was found or was evident at that point in time, it does not mean that species are not present or could not be present at a later date: The survey was required because habitats are suitable for a given protected species, and such species could colonise areas following completion of the survey.

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CONTENTS

0 NON TECHNICAL SUMMARY

Site:	Buntingford West, Hertfordshire
Ordnance Survey National Grid Reference (from the centre of the site)	TL 358 288
Report Commissioned by:	Vistry Group Ltd.
Date of Bat Activity Survey:	1st May 2020 to 22nd September 2020

Considerations	Description	Potential impacts and timings
Roosts Identified	No roosts identified on site.	N/A
Foraging and commuting bats	Common and soprano pipistrelle, noctule and brown long-eared were recorded foraging and/or commuting on site.	Loss of foraging and commuting routes if existing gaps are not used. Additional planting should be incorporated as mitigation. Lighting minimisation scheme to be implemented to avoid impact to foraging and commuting bats.

1 INTRODUCTION

Background to the study

1.1 James Blake Associates Ltd. (JBA) was commissioned by Vistry Group Ltd. to undertake a bat activity survey of land at Buntingford West, Hertfordshire (grid ref TL 358 288, taken from the centre of the site).

1.2 All UK bat species are protected under European and UK law (Conservation of Habitats and Species Regulations 2010; Wildlife and Countryside Act 1981), and some are Species of Principal Importance (SPI) in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Protected and principally important species are a consideration under the National Planning Policy Framework (NPPF) 2021. The NPPF places responsibility on Local Planning Authorities to aim to conserve and enhance biodiversity and to encourage biodiversity in and around developments.

Previous surveys

1.3 Previous bat activity surveys were undertaken in 2017 by JBA which identified the following species on site: common (*Pipistrellus pipistrellus*) and soprano pipistrelle *(Pipistrellus pygmaeus)*, a single brown long-ear (*Plecotus auritus)* and a single *Myotis* bat.

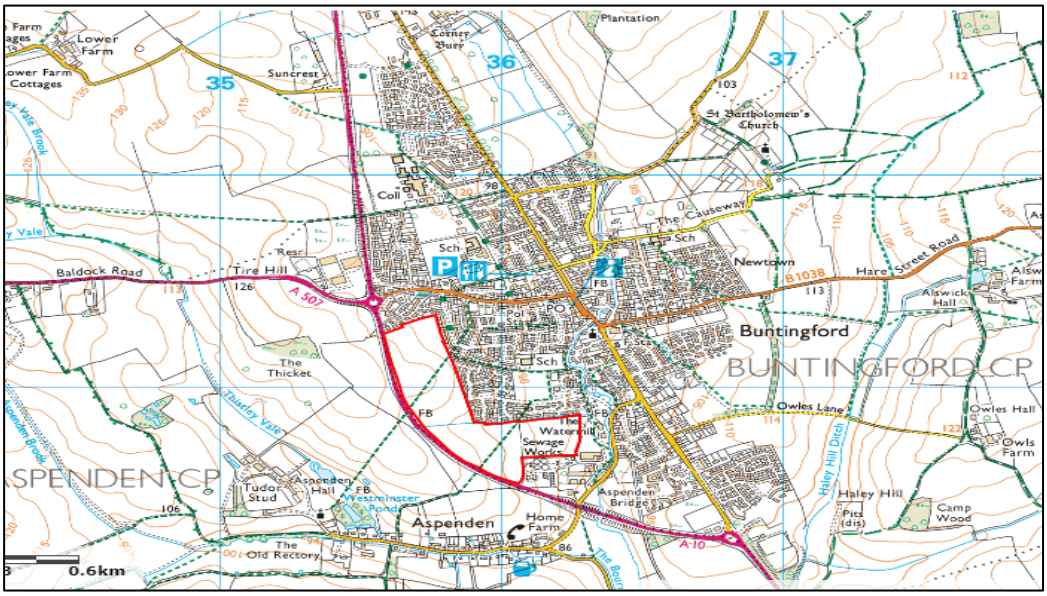
1.4 Activity was dominated by both common and soprano pipistrelle.

1.5 It was considered that there were potential nearby roosts for common pipistrelles and a *Myotis* species due to the first/last recorded times during the activity surveys.

Site Description

1.6 The site is approximately 20 hectares in size and is located to the west of Buntingford and east of the A10. The wider landscape includes the town of Buntingford, residential and commercial buildings and arable land (see Figure 1 below).

Figure 1: Site location



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Details of the proposals

1.7 The proposed development involves a hybrid planning application for 350 residential dwellings and new highway junction from the A10, with public open spaces, play areas and allotments (in full). The proposals also a include new local centre (up to 500 sqm) and employment uses (up to 4,400 sqm) (in outline). The employment area and local centre provide the opportunity for a variety of uses which could include a convenience store, café, a doctors' surgery, home working hub, gym and small business units.

Aims and objectives

1.8 The aims of the surveys were;

- To determine bat use of the site, including the species, amount and type of activity; and
- Assess the risk of impact on bats, bat roosts and local bat conservation status from the proposed development and, if necessary, design appropriate precautionary measures, compensation or mitigation measures.

2 SITE SURVEY AND ASSESSMENT

Desk Study

2.1 A desk study was undertaken for statutory and non-statutory designated wildlife sites within a 7km and 2km radius of the site, respectively using 'MAGIC', the Multi-Agency Geographic Information system for the Countryside. The data provided from Herts Environmental Records Centre (HERC) was consulted for records of non-statutory sites and protected and rare species within a 2km search radius (HERC data provided on the 4th March 2020).

2.2 The site is covered by the Local Biodiversity Action Plan (LBAP) for Hertfordshire which was consulted as part of the desk study.

2.3 Lack of species records does not necessarily indicate that they are absent from the surrounding area, and can be due to a lack of survey efforts in the area.

2.4 Within the desk study, a common pipistrelle roost was recorded within 2km east of the site in 2013 and by field observations 260m east in 2015. A soprano pipistrelle roost was recorded within 2km east in 2013 and by field observations 385m east in 2014. Brown long-eared bat roosts were also highlighted in the desk study within 1.4km east in 2013 and by field observations within 2km in 2016. Lesser noctule (*Nyctalus leisleri*) roost 380m east in 2017, western Barbastelle (*Barbastella barbastellus)* was recorded 680m north in 2017, noctule (*Nyctalus noctula*) was recorded 680m north in 2014, Daubenton's bat (*Myotis daubentonii*) was recorded within 2km in 2017, Natterer's bat (*Myotis nattereri*) within 2km in 2017 (JBA 2020)

2.5 Previous bat activity surveys undertaken by JBA (2013) recorded six species of bat commuting on site, much of the activity comprised small numbers of common and soprano pipistrelles and Daubenton's bats using boundary features.

Bat Activity Survey Methodology

2.6 Six activity surveys were undertaken between 1st May 2020 and 22nd September 2020, comprising of two dawn activity surveys, three dusk activity surveys and a single dusk and immediate dawn activity survey. The surveys were undertaken within the optimal survey window for bat activity. For clarity, the optimal survey window for bat activity is April to September inclusive.

2.7 The surveys were carried out by ecologists; Sam Rigg BSc (Hons) ACIEEM (Natural England Bat Survey Class Licence, level 1, WML-CL17), Dr Alison Collins MCIEEM, Rachel Hall BSc (Hons) (Natural England Bat Survey Class Licence, level 1, WML-CL17) and Dan Blake BSc (Hons) QCIEEM.

2.8 The survey methodology followed standard techniques and designs recommended by Natural England and the Bat Conservation Trust. The transect routes are shown in Appendix A. The dates of the surveys carried out is shown in Table 1 below:

Table 1: Survey dates and weather conditions

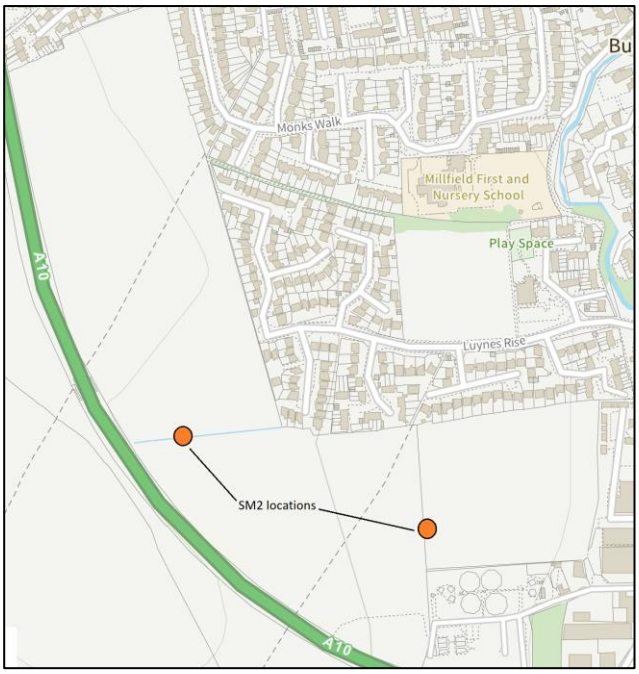
Date	Dusk /Dawn	No. Of surveyors	Weather
01/05/20	Dawn	2	Cloud cover 30%, Beaufort scale 2, temperature 12ºC
20/05/20	Dusk	2	Cloud cover 10%, Beaufort scale 0-1, temperature 21ºC
22/06/19	Dusk	2	Cloud cover 100%, Beaufort scale 0, temperature 24ºC
20/07/20	Dusk	2	Cloud cover 20%, Beaufort scale 0, temperature 18ºC
21/07/20	Dawn	2	Cloud cover 10%, Beaufort scale 1, temperature 20ºC
12/08/19	Dawn	2	Cloud cover 50%, Beaufort scale 1, temperature 20ºC
22/09/19	Dusk	2	Cloud cover 100%, Beaufort scale 2, temperature 19ºC

2.9 All surveys were conducted in optimal weather conditions (mild, dry, little wind). Dusk activity surveys started at sunset and continued for approximately two hours after sunset. Dawn activity surveys started approximately two hours prior to sunrise and finished at sunrise.

2.10 Equipment used included Wildlife Acoustics EM3 and EM3+ detectors. Recordings were analysed using BatSound and Kaleidoscope software.

2.11 Two static bat detectors (SM2) were used on all surveys and placed within the two central hedgerows separating the arable fields. These were then left in situ for at least five consecutive days. The locations are shown on Figure 2.

Figure 2: Location of SM2 static automated detector



2.12 Two survey visits were undertaken in May and weather conditions is April 2020 were not considered suitable. However, as the first survey visits was conducted on the 1st May and then second on the 20th May; the survey visits were suitably spread out and therefore this is not considered a constraint to the survey.

3 RESULTS AND EVALUATION

Dusk activity surveys

3.1 The first activity of each bat species on each survey, and the approximate time after sunset is provided in Table 2. Commuting common pipistrelle and noctule were recorded during the dusk survey visits; which was dominated by common pipistrelle. Foraging activity from common pipistrelle was only observed (no other species).

3.2 The static monitoring detector recorded similar information to that recorded by surveyors during the surveys, although low foraging activity by common pipistrelle was also recorded.

Table 2: First bat activity recorded per bat species on dusk activity surveys

20th May 2020 - Sunset: 20:55		
Time recorded (time past sunset)	**Bat species**	**Activity**
21:26 (31 minutes)	Common pipistrelle	Very faint bat pass at south eastern boundary of the site.
21:27 (32 minutes)	Noctule	Heard but not seen by surveyor (HNS), although considered to be commuting. Surveyor at south eastern corner of the site
22nd June 2020 - Sunset: 21:10		
Time recorded (time past sunset)	**Bat species**	**Activity**
22:20 (70 minutes)	Common pipistrelle	Commuting through centre of site, north east to south west.
22:40 (90 minutes)	Noctule	Commuting at the south eastern boundary of the site.

20th July 2020 - Sunset: 21:07		
Time recorded (time past sunset)	**Bat species**	**Activity**
21:50 (43 minutes)	Common pipistrelle	Very brief bat pass HNS. Surveyor was at the southern boundary of the site.
22nd September 2020 - Sunset: 18:58		
Time recorded (time past sunset)	**Bat species**	**Activity**
19:23 (25 minutes)	Common pipistrelle	Commuting along northern central hedgerow, east to west.
20:24 (86 minutes)	Noctule	HNS but considered to be commuting. Surveyor at the northern central hedgerow.

3.3 Pipistrelle bats usually emerge within 15-20 minutes after sunset. They will usually forage in habitats around the roost before commuting to other feeding areas or other roosts such as a night roost. Pipistrelle bats typically roost under roof tiles of where there are suitable gaps, around window sills, behind barge boards, under soffits or above doorways. They can roost in trees, usually behind loose bark. Common pipistrelles were recorded on every dusk survey,

however the times of the recordings does not suggest there is a nearby roost. A single common pipistrelle was recorded 25 minutes after sunset on the 22nd September, however given that no other recording was made around this time, a roost is unlikely.

3.4 Noctule bats usually emerge at the time of sunset and have been known to emerge a few minutes before sunset. They will usually forage in large open habitats. Noctule bats rarely roost in buildings and typically roost in trees, often in rot holes and woodpecker holes. Noctule bats were also recorded on all the dusk surveys (with the exception of 20th June) at time which does not imply there is a roost nearby. Noctule bats have been recorded to fly far distances from roost to feeding areas.

3.5 No bat activity was recorded by surveyors or static detectors during the initial survey visits on the 1st May, further suggesting roosts are absent from the immediate surrounding areas.

Dawn activity surveys

3.6 The last activity of each bat species on the dawn surveys, and the approximate time before sunrise is provided in Table 3.

Table 3: Last bat activity recorded per bat species.

21st July 2020 - Sunrise: 05:07		
Time recorded (time before sunrise)	**Bat species**	**Activity**
04:16 (51 minutes)	Common pipistrelle	Foraging along the northern boundary of the site.
12th August 2020 - Sunrise: 05:40		
Time recorded (time before sunrise)	**Bat species**	**Activity**
04:04 (96 minutes)	Brown long-ear	Very brief commuting pass from south (over the A10) to north east.
04:43 (57 minutes)	Common pipistrelle	Foraging along the south eastern boundary. It was noted a c. pip was foraging here the entire survey period

3.7 Brown long-eared bats usually emerge 55 minutes after sunset and often make short flights within the roost prior to emergence and remain active throughout the night before returning approximately an hour before sunrise. They usually forage close to the roost in open woodland or parkland and gardens. In the summer they will often roost in roofs of buildings and barns either in the crevices and timber or in clusters around chimneys and ridge ends. A single brown long-eared bat was recorded during the August dawn survey commuting towards the north eastern boundary of the site. However, this was 96 minutes

before sunrise and as this was the only recording of this species during the entire survey period, a roost nearby is considered unlikely.

Foraging / commuting bats

The number of bat passes per species was recorded during transects and static detectors on the bat activity surveys. A bat pass is a series of bat calls emitted as a bat flies by a detector, the number of bat passes can give an indication of the amount of bat activity on the site, but not an indication of the number of bats present. Overall, there was a low number of bats using the site during the survey period. The most active species recorded using the site was common pipistrelle.

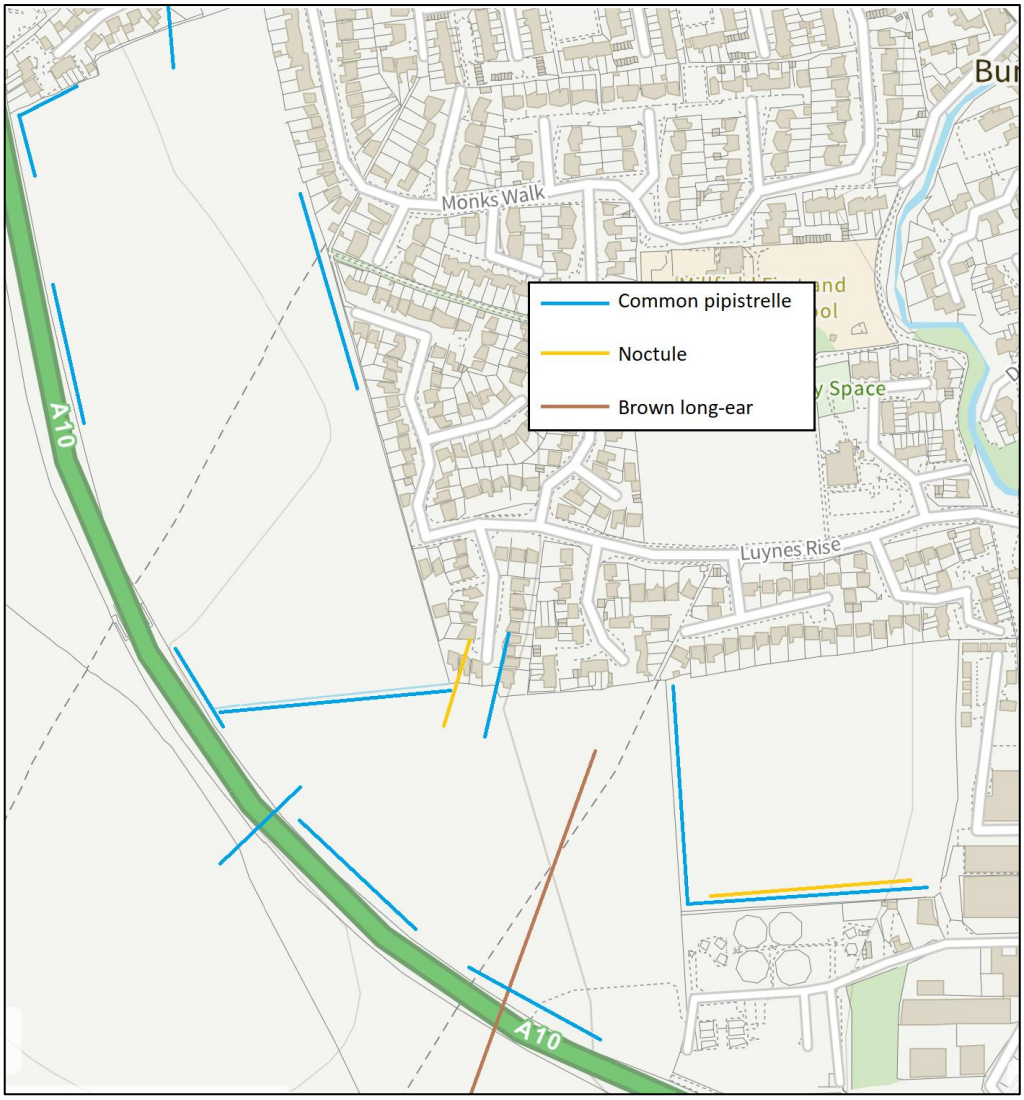
3.8 Commuting and foraging activity recorded by surveyors during the surveys was dominated by common pipistrelle; noctule bats were also observed commuting however no foraging activity was recorded of this species. Noctules were not recorded on either of the dawn surveys but was recorded during all the dusk surveys, with the exception of July. Behaviour was most noticeable commuting from the south of the site, either through the centre to the north eastern boundary or across the southern boundary vegetation; considered to be commuting to more suitable habitat in the surrounding area.

3.9 Common pipistrelles were frequently observed foraging at the south eastern boundary adjacent to the sewer plant, and usually continued for the duration of the survey. Other hedgerows, particularly to the north, were used occasionally for foraging by common pipistrelles but did not continue for longer than an hour on any one hedgerow.

3.10 No bats were recorded during the initial survey visits on the 1st May 2020; this may be due to no roosts within the immediate surrounding area and bats still within their hibernation or transitional roost.

3.11 A map showing the locations where bats were recorded foraging or commuting are shown in the Figure 3.

Figure 3: Location of foraging and commuting bats



4 IMPACT ASSESSMENT

4.1 Based on the plans for the creation of new dwellings with associated infrastructure and access roads on the proposed development site and the results of the bat surveys the following assessment has been made of the likely impacts of the proposed development on bats in the absence of appropriate mitigation.

Foraging and Commuting Bats

4.2 The proposed works could **without** appropriate mitigation cause the following impacts:

- Long term fragmentation of commuting routes such as hedgerows known to be used by bats
- Long term increase in external lighting and noise levels around the site following the change to residential use.
- Disturbance to foraging and commuting bats if the development was undertaken at a time of year when bats were active (April to September inclusive).
- Increase in risk of mortality from cat predation.

4.3 Overall, bat activity recorded on site was low; those that were recorded during the transect surveys were observed mainly using southern boundaries and the far northern boundary. However, occasional activity was recorded at the north eastern boundary.

4.4 Within current proposals (Appendix B), most of the boundary vegetation will be retained due to screening from the adjacent busy road (A10), existing housing to the north and sewer and commercial units to the south east and east. However, it is unclear if the existing gaps in hedgerows currently separating the fields will be used or if new gaps are to be made for new access roads or proposed swale locations; if new gaps are made, there is a risk of fragmentating existing commuting routes.

4.5 It was considered that in the absence of appropriate mitigation, the impacts of lighting from new access roads could have a negative impact on commuting and foraging bats.

5 RECOMMENDATIONS

5.1 The following recommendations are made to comply with current legislation, planning policy and best practice as recognised by the various statutory authorities.

5.2 The installation of at least 30 bat boxes installed onto suitable retained trees and/or proposed new buildings will provide additional roosting opportunities throughout the site. The final location of bat boxes should be agreed with an ecologist at the time of construction. Suitable boxes include; 2F Schwegler, 2FE Schwegler, 1FR Schwegler and Ibstock 'Enclosed Bat Box'.

Restrictions in external lighting

5.3 External lighting would have a negative impact upon foraging and roosting bats. The use of lights near a known bat roost, or an area known to be used by bats that results in disturbance to bats and their normal patterns of behaviour is likely to be unlawful. Therefore the implementation of a lighting minimization scheme is recommended. This will enable the bats to use the hedgerows as commuting and foraging routes and roost in the trees undisturbed.

5.4 To minimise risk of disturbance to foraging and commuting, and potentially roosting bats on the site post-development, the follow lighting minimisation precautions are recommended for the development:

- No works on site should be conducted after sunset and if security lighting is required then this should be kept to the minimal level (as necessary for safety and security). If night work is necessary, lighting should only be used within that current working area.
- Post development lighting should be directed away from boundary vegetation and onsite trees and hedgerows that are to be retained, particularly those running through the centre of the site. Lighting is already present in relation to the sewer works and commercial units, however additional lighting spillage in these locations should still be minimal if possible.
- Any external lighting which is required for access (particularly where these occur along hedgerows) should be positioned low down (no higher than 1m from the ground) and the lights should be covered with a hood.

- Installation of lighting columns at the lowest practical height level with box shield fittings will minimise glare and light spillage.
- Lux level of lamps should be as low possible with covers made from glass rather than plastic as this minimises the amount of UV light, reducing the attraction effects of lights on insects.
- Security lights should be set on short timers, and be sensitive to large moving objects only.

5.5 Please refer to the publication, *Bats and Lighting in the UK* for more information.

Avoidance and compensation measures for the loss of and fragmentation of commuting routes

5.6 Within current proposals (Appendix B), it is unclear if the existing gaps in hedgerows currently separating the fields will be used or if new gaps are to be made for new access roads or proposed swale locations. It is recommended that existing gaps are used to avoid fragmenting any commuting routes but where this is not possible and vegetation is being removed for access routes and/or swale locations, vegetation either side should be encouraged to grow so that it connects and forms a 'bridge' over the access route. This would be at a height to allow large vehicles to pass underneath (as necessary). This would help avoid fragmentation to commuting bats and increase foraging grounds.

5.7 Any existing hedgerows that are to be retained could be enhanced by native tree planting, where possible. New planting of trees and hedgerows using native species should be incorporated into the proposed development, where possible, to compensate for any potential loss of boundary vegetation and hedgerows and the loss of potential foraging habitat.

5.8 Additionally, areas of wildflower grassland could be planted throughout the development to provide suitable foraging habitats.

Updated surveys

5.9 A recent ecological walkover of the site undertaken in recent to badger activity (JBA, 2022) confirmed that the site has not changed significantly since the bat surveys in 2020, therefore updated surveys are not considered necessary. However, if there is a delay of 12 months from January 2022, then an updated

walkover survey will be necessary and if significant changes are noted, updated bat activity surveys may be required.

6 CONCLUSIONS

6.1 Overall bat activity recorded on site was low; a number of bat species were recorded using boundary vegetation as commuting routes and for foraging. Bat species recorded on site included; common pipistrelle, noctule and brown long-eared. All activity was dominated by common pipistrelle. Potential bat roosts are not considered to be in close proximity to the site.

6.2 A sensitive lighting scheme would be required to ensure that bats are not affected by an increase in external lighting from new houses and roads, particularly at the boundaries which bat were observed utilising.

6.3 Adequate mitigation and compensation will be required to reduce the impacts of bat commuting routes becoming fragmented, including using existing gaps in vegetation, implementation of a lighting minimization scheme, additional hedgerow planting.

6.4 If works do not commence within 12 months of January 2022, an updated ecological walkover survey and potentially updated bat activity surveys will be required to identify any changes which may have occurred in the interim.

7 REFERENCES

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Bat Mitigation Guidelines, English Nature, 2004

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JBA (2022) Updated Badger Survey of Land at Buntingford West, Hertfordshire on behalf of Vistry Group Ltd.

Web references

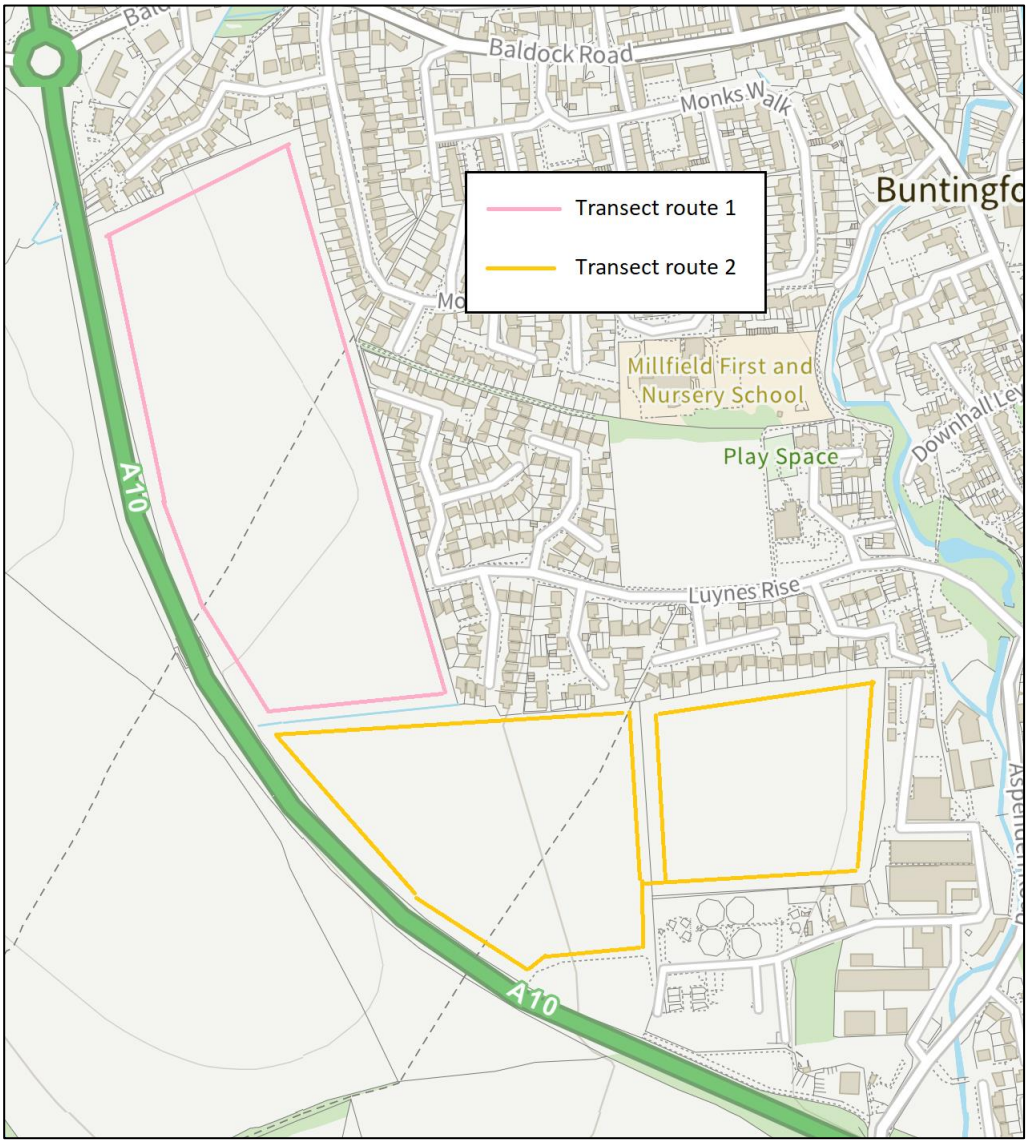
MAGIC: Designated area data downloaded from URL
http://www.magic.gov.uk.html

Natural England online guidance: “Bats: surveys and mitigation for development projects.

UK BAP www.ukbap.org.uk

9 APPENDICES

Appendix B: Transect Routes



Appendix A: Landscape Plans

Scale: 1:2500 @ A1

0 50 100 150 200 250m

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- **Site Boundary**
- Existing Trees
- Proposed Native Buffer Planting
- Proposed Boulevard Tree Planting (Type A)
- Proposed Street Tree Planting (Type B)
- Proposed Formal POS Tree Planting (Type C)
- Proposed Flowering Fruit Tree Planting (Type D)
- Proposed Native Hedgerow
- Proposed Native Trees within POS
- Proposed wooodland edge planting
- Amenity Grassland
- Species Rich Wildflower Grassland
- Proposed Equipped Play Area
- Proposed Trim Trail [Boulders & Log Features set within species rich grassland]
- Proposed Multi Use Games Area (MUGA)
- Proposed Allotments
- Proposed Dry Attenuation Basin (including wet tolerant grass species)
- Proposed Wet Attenuation Basin
- Proposed Swales
- Proposed Formal Footpaths (2m wide all access hard surface)
- Proposed Informal Footpath (2m wide cut grass with reinforcement)
- Proposed Hard Surface and Seating
- Proposed Viewpoints / Sculptures
- Proposed 2m Acoustic Fence on top of 2m Landscape Bund (4m total)
- Proposed Planted 3m Landscape Strip to rear of gardens
- Proposed wildflower meadow (fenced) west of A10

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Buntingford West
Buntingford, Hertfordshire
Vistry

LANDSCAPE STRATEGY PLAN

1:2500 @ A1
17 June 2022 JED / KMN
10537-FPCR-XX-XX-DR-L-0001 rev. **P02**

masterplanning
environmental assessment
landscape design
urban design
ecology
architecture
arboriculture

FPCR Environment and Design Ltd
Lockington Hall
Lockington
Derby DE74 2RH

t: 01509 672772
e: mail@fpcr.co.uk
w: www.fpcr.co.uk