BAT SURVEY & REPORT

at

Wath Road Plot 1
Barnsley
South Yorkshire
S74 8JF

Client:
Oak Tree Development

Client Address:
3 Wath Road
Elsecar
Barnsley
S74 8HW

Client Contact:
01226 747684 (Tel)

JCA Ref:
16158b/AmB

Date of Report: 8th September 2020



JCA Limited
Arboricultural & Ecological Consultants

Quality Assurance

JCA ref.	**Desktop Survey Completed:**		**Site Surveyed:**		**Report Completed:**		**Checked:**	
	Date	Name	Date	Name	Date	Name	Date	Name
16158b/AmB	14/8/2020	Amanda Beck	6/8/2020 Bat Scoping Survey Bat Emergence Survey 26/8/2020 Re-entry survey 8/9/2020	Amanda Beck	8/9/2020	Amanda Beck	21/9/2020	Adam West

This report has been prepared and provided in accordance with the *British Standard 42020: Biodiversity – Code of practice for planning and development 2018* and the *CIEEM's Code of Professional Conduct.*

Risk Assessment Completed	
Bio-security Procedure Completed	
Lone Worker Procedure Completed	

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Summary

A report is required at **Wath Road Plot 1** to assess the site's potential for supporting bat species, in the form of roosting sites, foraging habitat and/or commuting routes. The aim of this report is to investigate the potential impact that the proposed development may have on the local/national bat population.

The development proposed on this site is to build nine residential houses with gardens and car parking facilities.

All bat species and their roosts in the UK are protected under European and UK law. The main item of legislation protecting UK bats is the Conservation of Habitats and Species (Amended) (EU Exit) Regulations 2019. In addition to this, bats and their roosts are also protected in England and Wales under the Wildlife and Countryside Act 1981 (as amended) and The Countryside and Rights of Way Act 2000.

A desktop study was undertaken on the 6th August 2020 in order to obtain any bat records that may be present within a 2km radius of the site and any nature conservation designations within the 2km radius of the site boundary.

The site was surveyed on the 26th August 2020 and the 8th September 2020 by Amanda Beck. A thorough site assessment was undertaken in accordance with the Bat Conservation Trust's (BCT) '*Bat Surveys - Good Practice Guidelines*', the Joint Nature Conservation Committee's (JNCC) '*Bat Workers Manual*' (3rd Edition) and Natural England's '*Bat Mitigation Guidelines*'.

Recommendations:

- As no bats have been found to be roosting at **Wath Road Plots 1**, we recommend that the proposed development should go ahead, and that no **Bat Mitigation License** is required. However, the work should be carried out with care and vigilance.
- Should any bats be found during any stage of the development, all work must stop immediately, and Natural England must be contacted. Natural England will provide advice on the best course of action. It must be stated that this is a legal requirement, and that bats may only be handled, and their roost disturbed by an experienced ecologist holding an appropriate licence.
- **Lighting Design**: Inappropriate lighting in the vicinity of bat roosts can cause disturbance to bat populations and individuals. Guidance in line with the information provided by the Institute of Lighting Professionals (ILP, 2018) must be used to aid any planning lighting schemes in the future with the aim of limiting the impact that lighting may have on local bat populations.

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- **Bat Boxes**: As the building is being demolished, mitigation for bat roosts must be included in the proposed development plans and integral bat boxes be installed into three of the new properties been created. These should be either Habibat 001 Built-in Bat Box, Habibat 3s Built-in Bat Box or Schwegler 1FR or 2FR Bat Tubes. Bat boxes must be positioned in the south, south-west or south-east direction at 5 to 7 meters above ground level and have a clear flight path to them.

- Monitoring of the newly installed bat boxes must be undertaken for a period of three years.

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1. Introduction and Terms of Reference

1.1 Purpose of the Report

1.1.1 A report is required at **Wath Road Plot 1** to assess the site's potential for supporting bat species, in the form of roosting sites, foraging habitat and/or commuting routes.

1.1.2 The aim of this report is to investigate the potential impact that the proposed development may have on the local/national bat population.

1.2 Terms of Reference

1.2.1 JCA Limited have been instructed by **Oak Tree Development** to visit the site and prepare the findings in a report.

1.2.2 For this purpose, JCA Limited have been supplied with a site map and brief details of the proposal. See **Appendix 2** for proposed development plans.

1.3 Scope of the Report

1.3.1 This report is compiled in accordance with the Bat Conservation Trust's (BCT) '*Bat Surveys - Good Practice Guidelines*', the Joint Nature Conservation Committee's (JNCC) '*Bat Workers Manual*' (3rd Edition) and Natural England's '*Bat Mitigation Guidelines*'.

1.3.2 The results and recommendations contained within this report are considered to be valid for a period of 18 months. After this period, an update to the report and re-assessment of the site may be required in order to inform ecological constraints to any developments proposed, and/or to accompany a planning submission. If the proposed development changes significantly or land use alter substantially, updates may be required in advance of the expiry period of the report.

1.4 Details of Proposed Development

1.4.1 The development proposed on this site is to build nine residential houses with gardens and car parking facilities.

1.5 Site Description

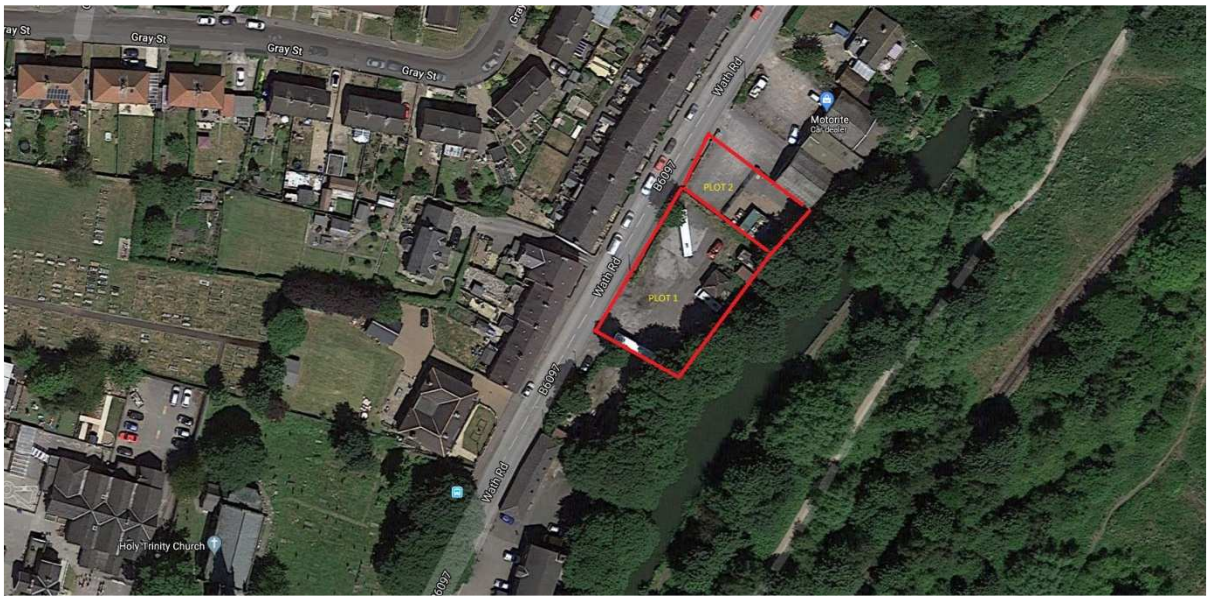
1.5.1 **Wath Road Plot 1** is situated 8km north of Rotherham, at grid reference: SE3881000315.

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1.5.2 Plot 1 is a large area of hard standing with a single-story storage shed to the north-east along with two metal containers. An embankment with scattered broad-leaved trees runs along the southern boundary down to the Dearne and Dove Canal. Tall ruderals, scattered scrub and introduced shrubs have started to grow around the edges of the boundaries and some tall ruderals are growing to the centre of the site through cracks in the hard standing. There is dense scrub to the east and south of the site behind the building and containers and along part of the northern fencing. To the north of the site is Heras fencing, to the east is wooden ranch fencing.

1.5.3 The site is surrounded by residential dwellings, Holy Trinity Church and graveyards to the north-west. To the south is the Dearne and Dove Canal with scattered trees along its embankments, further south is open grassland, Giles wood, Simon Wood, Kings Wood and Rainborough Park. To the east is residential housing and fields for arable crops and livestock. A map of the site in relation to surrounding habitats can be seen below.

Figure 1: Google Maps image of **Wath Road Plot 1** showing the survey site in relation to the surrounding landscape and habitats. Red line indicates site boundary.



Google map image © 2020.

1.6 Bats and the Law

1.6.1 All bat species and their roosts in the UK are protected under European and UK law. The main piece of legislation protecting UK bats is the Conservation of Habitats and Species (Amended) (EU Exit) Regulations 2019.

1.6.2 In addition to this, bats and their roosts are also protected in England and Wales under the Wildlife and Countryside Act 1981 (as amended) and The Countryside

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and Rights of Way Act 2000.

1.6.3 Under these legislations, it is an offense to:

- Deliberately capture, injure or kill a bat.
- Deliberately disturb a bat in a way that would affect its ability to survive, breed or rear young (or hibernate or migrate in England, Wales and Northern Ireland) or (significantly in England, Wales and Scotland) affect the local distribution or abundance of the species.
- Damage or destroy a roost (this is an 'absolute' offence).
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat.
- Intentionally or recklessly disturb a bat at a roost.
- Intentionally or recklessly obstruct access to a roost.

If it is discovered that development may impact upon bat roosts (thus leading to an offence being committed) a **Mitigation Plan** should be devised and a **Bat Mitigation Licence** applied for from the relevant government department (i.e. Natural England). Gaining a licence will depend on many variables, such as the bat species present, roost type, roost size and its local/regional/national importance.

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2. Methodology

2.1 Desktop Study Methodology

2.1.1 A desktop study has been undertaken in order to obtain any relevant records of bats from local bat groups and ecology units within a 2km radius of the site.

2.1.2 The Multi-Agency Geographic Information for the Countryside (MAGIC) website was used to locate any designated sites, both statutory and non-statutory, such as; Local Nature Reserves (LNRs), Ramsar Sites, Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Sites of Special Scientific Interest (SSSIs) that may be present within 2km of the survey site.

2.2 Scoping Survey Methodology

2.2.1 The site was surveyed by Amanda Beck, NE Level 1 Class Bat Licence – 2018-38295-CLS-CLS.

2.2.2. The site was surveyed for foraging, commuting and roosting potential. A detailed search of habitat, buildings structures and trees were conducted during daylight hours in order to identify potential bat roosting sites and look for evidence of bat activity. Potential roost sites and features deemed to be of value to bats were documented and photographic evidence was taken.

2.2.3 All surveys are conducted by experienced surveyors using the following equipment to ensure an accurate assessment; a printed site map, camera and 1 million candlelight torch.

2.2.4 Signs that bats have previously or are currently using a potential roost site include:

- Scratch marks, urine and oil stains around holes in buildings or trees.
- Droppings, carcasses and/or food remains found around the site.
- Bats observed flying in/out of a hole in a building or tree.
- Bats heard ‘chattering’ within a potential roost site, especially on warm summer days.

2.2.5 Please see **Table 1** below for the guidelines used for assessing the roosting potential of a site. Please note these guidelines are applied using the professional judgement of the licenced bat worker undertaking the assessment.

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Table 1: Guidelines used for assessing the bat roosting suitability of a site *(taken from the BCT: Bat surveys for professional Ecologists, Good Practice Guidelines; 3rd Edition)*.

Suitability	Roosting Features Present	Commuting & Foraging Habitats	Number of surveys/visits required
Negligible	Negligible building structures or trees on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.	None
Low	A structure with one or more potential roosting sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, or appropriate conditions and/or suitable surrounding habitat, to be used on a regular basis or by larger numbers of bats e.g. unlikely to support hibernation or maternity roosts. A tree of sufficient size and age to contain features suitable for bat roosting, but with no features seen from the ground. No signs of bat use found during the initial assessment.	Habitat that could be used by a small number of commuting bats such as gappy hedgerow or unvegetated stream, but isolated. i.e. not very well connected to the surrounding landscape by other habitats. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in parkland situation) or a patch of scrub.	One
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitats but unlikely to support a roost of high conservation status. With respect to roost type only- the assessment in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens . Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.	Two
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by a larger number of bats (maternity roosts, hibernating bats) on a regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used more regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edges. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Sites that are close to and well connected to known roosts.	Three

2.2.6 Limitations: It must be highlighted that the absence of any of these signs is not proof that the site is not being used by bats. Weathering and other factors will

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often remove any signs of bat activity, especially when present on the exterior of a building or a tree. As previously explained, many bat species will have several roost sites which they regularly move between and therefore an absence during a survey visit does not exclude their presence at a later date.

2.2.7 There were no perceived limitations that would significantly impact on the conclusions and recommendations given within this report.

2.3 Emergence/re-entry Survey Methodology

2.3.1 Emergence re-entry surveys are conducted either 15 minutes before sunset and up to two hours after or up to 2 hours before sunrise and 15 minutes after. Due to the lifecycle of bats emergence surveys are conducted between the months of May through to August and can occasionally run into September. All surveyors used by JCA have experience in conducting bat emergence surveys and an appropriate level of knowledge in bat ecology.

2.3.2 At **Wath Road Plot 1** it was previously recommended that two bat surveys were required on a brick storage building due to gaps under the roof ridge tiles and internally there is wooden panelling covering the roof tiles, so if bats or bat droppings were present they could not be observed.

2.3.3 The surrounding landscape offers good quality foraging and commuting habitat a canal runs along the back of the building, with tree lined banks down to the canal and a church with graveyard across the road from the site.

2.3.4 All surveyors present are equipped with the following items during each survey; a bat detector, walkie talkie, clock, printed site map, note pad and pen.

2.3.5 An initial Scoping survey of the site highlighted all the areas of the site that are likely to support bat roost sites. This information will then be used to influence the number of surveyors used and their positions around the site.

Limitations: Detecting bats using bat detectors can be limited. Bat species that produce calls at both a high amplitude (loud) and a low frequency, such as noctules are easier to detect than bats with low amplitude (quiet) and high frequency calls such as the brown long-eared bat.

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3 Results

3.3 Desktop Study Results

3.3.1 Local Data Centre Records: Barnsley Metropolitan Borough Council (BMBC) and Rotherham Metropolitan Borough Council (RMBC) have been commissioned to provide the records held for bat species within a 2km radius of the survey site. The results have been summarised below. It should be noted that the absence of records should not be taken as confirmation bat species are absent from the search area. Please see **Table 2** below for a summary of the bat records obtained.

Table 2: Summary of bat records held by BMBC & RMBC within 2km of the site.

Taxonomic Group	Common Name	Scientific Name	On site	Within 500m	Within 1km	Within 2km	Notes
Bats	Unidentified Myotis	*Myotis sp.*	×	×	✓	✓	One record from 2016 of bat at Elsecar reservoir.
	Pipistrelle bat sp.	*Pipistrellus sp.*	×	×	✓	✓	Two records from 2008 to 2016 of bats at Elsecar reservoir.
	Daubenton's bat	*Myotis daubentoni*	×	×	✓	✓	One record from 2016.
	Unidentified bat species	*Chiroptera sp.*	×	×	✓	✓	One record from 2018 on Elsecar reservoir.

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3.2 Nature Conservation Designations

Statutory Nature Conservation Sites

3.2.1 There are no statutory nature conservation sites within the boundary of the site.

3.2.2 The search revealed one designated conservation site within 2km of the site, which can be seen in **Table 3** below.

Table 3: Statutory designated sites with 2km of the site.

Name	Designation	Description	Distance from Site
Elsecar Reservoir	Local Nature Reserve	Mature willow carr, wetland habitats, acid grassland with a large water body fringed with vegetation, a bird hide, and pond dipping area are to the north and a walk that takes you around the reservoir	850m south-west

Non-Statutory Nature Conservation Sites

3.2.3 There are no non-statutory nature conservation sites within the boundary of the site.

3.2.4 The search revealed seven non-statutory conservation sites within 2km of the site, which can be seen in **Table 4** below.

Table 4: Non-statutory designated sites with 2km of the site.

Name	Designation	Description	Distance from Site
Simon Wood	Rotherham Local Wildlife Site (LWS)	A semi-mature woodland with a diverse canopy with understory and ground layer flora reflective of the acid soils. Two streams flow along the east and western boundaries. The site is designated for its acidic woodland.	297m south-east
King's Wood	Rotherham Local Wildlife Site (LWS)	A mixed woodland with planted areas of natural regeneration and developed scrub. There is a ground layer of plant species. The site has a rare spider beetle *Ptinus lichenum* living in it. The site is classed as an ancient woodland, with acid, neutral and calcareous woodland.	579m south

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Elsecar Reservoir	Barnsley Wildlife Site (LWS)	Information as above.	850m south-west
Rainborough Park	Rotherham Local Wildlife Site (LWS)	A large wood on the Wentworth Estate which is a plantation of acid, neutral and calcareous ancient woodland.	1.1km east
Wombwell Wood	Barnsley Wildlife Site (LWS)	The site has a rich diversity of habitats which include kestrels, meadow pipits, skylarks and woodpeckers. In spring there are carpets of bluebells.	1.5km north
Lee Wood	Rotherham Local Wildlife Site (LWS)	This a mature even-aged woodland with dense canopy over sparse ground with a more diverse understory. The woodland is a mixture of acid and neutral soils.	1.5km south
Skiers Spring Wood	Barnsley Wildlife Site (LWS)	A mixed deciduous ancient acid, neutral and calcareous woodland habitat which is wetter in the south.	1.9km south-west

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3.3 Scoping Survey Results

3.3.1 Survey conditions are summarised in **Table 4**.

Table 4: Survey times and weather conditions.

Survey date	Lead surveyor	Temp	Humidity	Wind speed/Direction		Cloud Cover	Precipitation
6/8/2020	Amanda Beck	18.0°C	86%	6mph	WSW	10%	None

3.3.2 Habitats and Features Present

The site has valuable commuting and foraging habitat owing to the dense scrub and scattered trees along the canal to the south of the site. The building on site has gaps under ridge tiles which could possibly be used as entrances and exit points by roosting bats.

3.3.3 Building Assessment/ Built Structure Assessment

The building on site is single-story and is being used as a storage area and it is not being used on a daily basis.

External Inspection: The building has a pyramid hip roof with concrete ridge tiles that have gaps under some of the tiles. The roof tiles are slate with some covered in moss, along the drainpipes a stone crop plant is growing to the front and sides of the building. The walls are constructed of red brick and have holes into the wall cavities. There is a single wooden frame window with broken glass and double metal door to the front of the building.

Internal Inspection: There is no enclosed loft space within the building. Internally the building is broken up into two areas. The first on the left is a small office with a low ceiling that does not reach the top of the main buildings structure. The second part is a storage area, the roof to this part of the building has wooden treated paneling, in some areas the wooden boards are missing, and you can see the roof slate tiles.

Signs of Bat Use: There were no signs of droppings, urine stains, live or dead bats, feeding signs, oil stains or a smell of bats.

3.3.4 Tree Assessment

Trees were semi-mature to young and were mainly situated along the earth bank to the canal, south of the site. Some younger trees were growing along the boundary lines. None of the trees inspected had potential for roosting bats.

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3.4 Emergence Survey Results

3.4.1 The site was surveyed from the 26th August 2020 and the 8th September 2020 by lead surveyor, Amanda Beck NE Licence WML–CL09-2019-42404-CLS-CLS. Other Surveyors included: Heath Charnock and Lorraine Spink. Conditions are summarised in **Table 5**.

Table 5: Survey times and weather conditions.

Survey date	Lead surveyor	Start/Finish		Temp Start/Finish		Humidity	Wind speed/Direction		Cloud Cover	Precipitation
26/8/2020	Amanda Beck	19:56	21:41	15.0°C	14.0°C	77%	8mph	W	20%	None
8/9/2020	Amanda Beck	04:58	06:43	22.0°C	20.0°C	89%	12mph	WSW	100%	None

3.4.2 Emergence Survey 1 results – 26th August 2020

Bat Emergence – No bats were seen emerging from the building.

Bat Activity - There was a moderate level of activity from 20:12 to 21:28, species consisted of common pipistrelle, soprano pipistrelle and noctule bats. Common and soprano pipistrelle bats were foraging and commuting along the tree line to the east of the site up and down the canal, they commuted off the canal and foraged on site in the trees to the rear of the building being surveyed. At 20:42 and 21:15 noctule bats were heard commuting above the site.

3.4.3 Re-entry Survey 2 results – 8th September 2020

Bat Re-entry – No bats were observed re-entering the building during the survey.

Bat Activity - There was a moderate level of activity from 05:17 to 06:14. Species consisted of noctule, common and soprano pipistrelle bats. Foraging activity was along the canal and in the tree line to the east up and down the canal. One common pipistrelle bat at 06:09 came from the canal treeline foraged continually over surveyor's head and the trees and vegetation on site then commuted off across Wath Road pass the row of terrace houses. Seven common pipistrelle bats were observed coming from the canal through the trees and across the Wath Road between 05:53 to 06:14 indicating a possible bat roost off site to the west. Two noctule bats were heard commuting but not observed. At 05:41 a soprano pipistrelle bat along with a noctule bat were heard commuting one after the other but not observed. In total seventeen common pipistrelle, one soprano pipistrelle and two noctule bats were heard during the survey.

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4 Discussion and Analysis of Results

4.1 Bat Records and Nature Conservation Designations

4.1.1 There are no designated nature conservation sites located within the boundary of the site. There is one designated site Elscar Reservoir is a Local Nature Reserve 850m from site. Due to no waterbodies being directly on site none of the species using the reservoir would be able to use the proposed development site. The proposed development will not have an effect on this designated conservation site.

4.1.2 There are seven non-statutorily designated sites within 2km of the development. Three are Barsnley and four are Rotherham sites and all are Local Wildlife sites: Simon Wood 297m, Kings Wood 579m, Elscar Reservoir 850m, Rainsborough Park 1.1km, Wombwell Wood 1.5km, Lee Wood 1.5km, Skiers Spring Wood 1.9km.

4.1.3 The proposed development will not have an effect on any of the non-designated sites due to distance of many of the sites and the fragmented habitats. The only species that would be able to commute between the sites would be bats, birds and flying insects and this can be mitigated through the use of faunal boxes and pollen rich native plants.

4.2 Scoping Survey

4.2.1 The site contains the following habitats of a building, dense scrub, scattered scrub, scattered broad-leaved trees, poor semi-improved grassland, tall ruderals, introduced shrubs, fence, earth bank and hard standing

4.2.2 The bat scoping survey highlighted a number of features on the site suitable for supporting roosting in the form of a building with gaps and crevices under slate ridge tiles, roof tiles and in walls. Scattered trees and vegetation offer foraging opportunities with areas of darkness along tree lines being ideal for commuting bats.

4.3 Emergence/Re-entry Surveys

4.3.1 No bat roost was identified during the emergence or re-entry surveys however the activity levels during the night suggest that the site is a useful foraging and commuting area. The timing and direction of the activity also suggests a roost within approximately 300m of the site to the west.

4.4 Impacts of the Proposed Development

4.4.1 The proposed development will have an impact on biodiversity for wildlife by reducing roosting opportunities for bats in buildings. The increase of light and

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noise during the demolition of the building is likely to remove roosting habitat for bats and the removal of vegetation will limit the foraging habitat for bats.

4.4.2 The site is within Elscar conservation area.

4.4.3 There are no Barnsley or Rotherham local BAP habitats on site.

NB: The overall impact of the proposed development is based upon plans provided by Oak Tree Development, see drawing included in ***Appendix 3.*** *This report has been compiled and produced by JCA Ltd, and accounts for and assesses the likely impacts on local wildlife populations and biodiversity that is to occur as a result of the development given in* ***Appendix 3.*** *Should these plans change then this report will need revising and the potential impacts re-evaluating.*

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5 Recommendations

5.1.1 As no bats have been found to be roosting at **Wath Road Plot 1 building**, we recommend that the proposed development at **Wath Road** should go ahead, and that no **Bat Mitigation Licence** is required. However, the work should be carried out with care and vigilance.

5.1.2 Should any bats be found during any stage of the development, all work must stop immediately, and Natural England must be contacted. Natural England will provide advice on the best course of action. It must be stated that this is a legal requirement, and that bats may only be handled, and their roost disturbed by an experienced ecologist holding an appropriate licence.

The development of any building or structure has the potential risk of removing bat roosting habitat. Therefore, JCA always recommended that alternative bat roosting opportunities should be provided to replace any that are lost due to building alterations. Should you like advice on putting up bat boxes, or on increasing your site's value to bats through carefully designed planting schemes and habitat creation, JCA can provide this service.

5.1.3 Lighting Design: Inappropriate lighting in the vicinity of bat roosts can cause disturbance to bat populations and individuals. Guidance in line with the information provided by the Institute of Lighting Professionals (ILP, 2018) will aid in planning lighting schemes with the aim of limiting the impact that lighting may have on local bat populations.

It is important to avoid:

- Uniform levels of luminance across the site.
- Metal halide and florescent lighting.
- Upward tilting lighting that increases skyline luminance.

Instead the following should be installed:

- Dark buffer zones.
- Screening in the form of vegetation, fences and structures.
- Appropriately designated darkened areas.
- Luminaries absent of UV elements.
- LED luminaries with a sharp cut-off, low intensity and good rendition.
- Peak luminaire wavelength at a minimum of 550nm.

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- Downward directional luminaires with upward light ratios of 0%.
- Lower light columns to limit light spill.
- Recessed internal light fixtures.
- Window glazing treatments or automated blind systems.

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6. Conclusions

6.1.1 As no bats have been found to be roosting at **Wath Road Plot 1 building**, we recommend that the proposed development at **Wath Road** should go ahead, and that no **Bat Mitigation Licence** is required. However, the work should be carried out with care and vigilance.

6.1.2 Bats can be encountered unexpectedly during building work, and if this occurs, it is important to immediately stop activity in the vicinity of the bat(s). It is possible that a bat will be in a torpid state and unable to fly off for several minutes or even up to 20 minutes. In such an event, advice must be sought from a bat ecologist who holds the appropriate level of licence. To proceed without taking advice would be an offence under the provisions of the Wildlife and Countryside Act 1981 (as amended).

6.1.3 External lighting features on the new proposed buildings must be of low output; lights must be attached to external walls at a low level with all light directed downwards. There must be no upward light spill, shrouds or deflector fittings are a simple way of avoiding this. Lights must be on timers to ensure that lights are extinguished within 30 seconds of movement ceasing. To the west of the site currently the tree line must be kept in darkness to allow the commuting and foraging activity of bats along the canal to continue.

6.1.4 As the building is being demolished, mitigation for bat roosts must be included in the proposed development plans and integral bat boxes be installed into three of the new properties been created. These should be either Habibat 001 Built-in Bat Box, Habibat 3s Built-in Bat Box or Schwegler 1FR or 2FR Bat Tubes. Bat boxes must be positioned in the south, south-west or south-east direction at 5 to 7 meters above ground level and have a clear flight path to them.

6.1.5 Monitoring of the newly installed bat boxes must be undertaken for a period of three years.

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7 References

Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)*. The Bat Conservation Trust, London

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Websites:

Bat Conservation Trust (BCT). <http://www.bats.org.uk/>

Google Maps. **<**http://maps.google.co.uk/**>**

Natural England. < http://www.naturalengland.org.uk/>

Relevant Legislation:

Countryside and Rights of Way Act 2000
<http://www.legislation.gov.uk/ukpga/2000/37/pdfs/ukpga_20000037_en.pdf?view=interweave>

National Planning Policy Framework < https://www.gov.uk/government/publications/national-planning-policy-framework--2>

Relevant Legislation:

Wildlife and Countryside Act 1981 <http://jncc.defra.gov.uk/page-3614>

The Conservation of Habitats and Species Regulations (Amendment) (**EU Exit**) **Regulations** 2019 (SI 2019/579)
https://www.legislation.gov.uk/ukdsi/2019/9780111179512/contents

Countryside and Rights of Way Act 2000
<http://www.legislation.gov.uk/ukpga/2000/37/pdfs/ukpga_20000037_en.pdf?view=interweave>

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Appendices

Appendix 1: Bat Emergency Survey Results

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W E

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Dearne & Dove Canal

Appendix 1: Bat Emergence Survey Results

TITLE: Address: Wath Road Plot 1,
Elscar, Barnsley, S74 8JF
JCA Ref: 16158b/AmB

Not to scale

KEY

- Building
- Foraging and commuting route
- Metal container
- Scattered trees

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Appendix 2: Bat Re-entry Survey Results

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W E

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Dearne & Dove Canal

Appendix 1: Re-entry Survey Results

TITLE: Address: Wath Road Plot 1,
Elscar, Barnsley, S74 8JF
JCA Ref: 16158b/AmB

Not to scale

KEY

- Building
- Foraging and commuting route
- Metal container
- Scattered trees

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Appendix 3: Proposed Development Plan



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Appendix 4: Photographic Evidence



Photo 1: Bat foraging in tree line to east of site.



Photo 2: Bats commuting and foraging along the canal.



Photo 3: Bats foraging in vegetation to rear of building.



Photo 4: Bats commuted across site and off onto Wath Road behind the houses.

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Appendix 5: Glossary

Activity surveys - are used to assess the level of bat activity at a site. This can be done either by using equipment such as an AnaBat device, or manually walking around a site with a heterodyne detector, documenting the number of bat passes and interceptions.

Dawn surveys - begin around 2 hours before and up to sunrise when bats are returning to their roosts from foraging, and swarming behaviour can be seen close to roost entrances.

Dusk surveys - begin around 30 minutes before sunset and up to 2 hours afterwards. These are done in order to see bats emerging from their roost sites at night.

Echolocation – is a system similar to sonar that allows bats to travel and forage even in total darkness. Bats make a call and then listen to the returning echoes in order to build up a map of their surrounding area. This allows bats to gauge the identity and distance of an object by how long the echo takes to return to them.

Habitat - the ecological or environmental area that is inhabited by a particular species of animal, plant or other type of organism.

Hibernation - is a state of inactivity and metabolic depression characterized by lower body temperature, slower breathing, and lower metabolic rate. Hibernating animals conserve energy, especially during winter when food is short, tapping energy reserves, i.e. body fat, at a slow rate.

Hibernacula - typically consist of underground sites, such as caves and cellars, which remain relatively cold and humid. Bats will hibernate to conserve energy over the winter months when falling temperatures cause a drop in the abundance of insects. These will typically be colonised around November to around March.

Insectivorous – is when an organism feeds exclusively on insects.

Nocturnal - a behaviour characterized by being active during the night and sleeping during the day.

Maternity roosts – colonised around late May early June and consist of mature females and their young. These roosts need to be warm and quiet, and are used up until around August, with females typically leaving first and then the young.

Mating roosts – mating begins around late October to November. Males of most species use special mating calls to attract females. These can include purrs, clicks and buzzing.

Roost – a site where bats live during the day, rear young and hibernate. These can be in manmade structures, such as buildings, bridges, tunnels, cellars and mines, or natural features such as mature trees and caves.

Roosts in buildings – many types of buildings will be used by bats. The most likely sites are agricultural buildings (e.g. farmhouses and barns), buildings with exposed wooden beams (greater than 20cm thick), buildings with weather boarding and/or hanging tiles, and buildings close to woodland and/or water.

Roosts in trees – these are typically in mature trees with deep sheltered cracks, under loose sections of bark, or in woodpecker holes.

Species – a group of organisms in which all members can interbreed and produce viable offspring.

Summer roosts (non-breeding) - these are generally occupied by groups of males and immature females during the summer and are usually only occupied for a short period before the group moves to another location.

Swarming – a behaviour exhibited by bats returning to their roost sites at dawn. Bats can be seen repeatedly flying to and from the roost entrance, making it much easier for consultants to identify where roosts are on a building or structure.

Temporary/Transitory roosts – These are used after hibernation (March – April) before mature females disperse to maternity roosts and male/immature females colonise summer (non-breeding) roosts. Similarly, temporary roosts form before hibernation (August -October).

Underground Roosts – these are typically used during the winter and can be mines, caves, tunnels or cellars.

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The information which we have prepared and provided is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct. We confirm that the opinions expressed are our true and bona fide opinions.

Signed



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Amanda Beck *Cert/He in Field Ecology, Diploma Field and Conservation Ecology, Qualifying CIEEM member*
8th September 2020

Proofread by



.....

Adam West *GradCIEEM*
Senior Ecologist
21st September 2020

For and on behalf of ***JCA Ltd***

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ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes
- Butterfly & Insect Surveys

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)
- Planting Schemes
- Monitoring of bird or bat boxes.

ARBORICULTURAL SERVICES

Guidance for Architects & Developers

- British Standard 5837 Surveys
- Arboricultural Implications Assessments (AIA)
- Arboricultural Method Statements (AMS)

Advice for Engineers, Loss Adjusters and Insurers

- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

Tree Advice for the Legal Profession

- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

Veteran Tree Management

- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control

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