

JACQUET UK, TANKERSLEY

INTERIM BAT REPORT



ECO03127
Jacquet UK Tankersley
Interim Bat Report
V1
31 July 2023

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
1	Interim report	Toni Winbourne	Peter Watson	Peter Watson	26/07/23

Approval for issue

Peter Watson

26 July 2023

The report has been prepared for the exclusive use and benefit of our client and solely for the purpose for which it is provided. Unless otherwise agreed in writing by R P S Group Limited, any of its subsidiaries, or a related entity (collectively 'RPS') no part of this report should be reproduced, distributed or communicated to any third party. RPS does not accept any liability if this report is used for an alternative purpose from which it is intended, nor to any third party in respect of this report. The report does not account for any changes relating to the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report.

The report has been prepared using the information provided to RPS by its client, or others on behalf of its client. To the fullest extent permitted by law, RPS shall not be liable for any loss or damage suffered by the client arising from fraud, misrepresentation, withholding of information material relevant to the report or required by RPS, or other default relating to such information, whether on the client's part or that of the other information sources, unless such fraud, misrepresentation, withholding or such other default is evident to RPS without further enquiry. It is expressly stated that no independent verification of any documents or information supplied by the client or others on behalf of the client has been made. The report shall be used for general information only.

Prepared for:
Jarvale Construction Ltd

Prepared by:
RPS
Toni Winbourne
Ecologist
Willow Mere House, Compass Point Business Park,
Stocks Bridge Way, St Ives,
Cambridgeshire
PE27 5JL

T 01480 466 335
E Toni.Winbourne@rpsgroup.com

Contents

1	INTRODUCTION	1
1.1	Purpose and scope of this report	1
1.2	Study area	1
1.3	Development proposals	1
1.4	Legislation and policy	1
2	METHODS.....	3
2.1	Activity Survey Transects	3
2.2	Bat detectors and data analysis	3
2.3	Limitations.....	3
	Accurate Lifespan of Ecological Data	4
3	RESULTS	6
3.1	Activity Transects	6
3.2	Static Surveys	6
4	EVALUATION AND POTENTIAL IMPACTS	8
5	MITIGATION	9
5.2	Enhancement	9
6	CONCLUSIONS	10
	REFERENCES	11

Tables

Table 2.2: Dates and Weather conditions during activity survey.....	3
---	---

Figures

Figure 2.1: Activity survey transect route.	5
--	---

Appendices

Appendix A New redline boundary layout

Appendix B Survey Results

Appendix C Impact and Design of Artificial Light for Bats

1 INTRODUCTION

1.1 Purpose and scope of this report

- 1.1.1 RPS was commissioned by the Jarvale Construction Ltd to undertake bat activity surveys at a proposed redevelopment of the Jacquet UK, Tankersley site that was identified as requiring surveys during the Preliminary Ecological Appraisal (PEA) produced by RPS in June 2023 (RPS, 2023).
- 1.1.2 The site was assessed as having low potential to support foraging and commuting bats due to the small scale of the proposals and avoidance of impacts to higher value linear habitat such as the woodland edges. Therefore, in line with current best practice guidelines (Collins, 2016) one walked transect per season between April and October (inclusive) was recommended along with automated surveys undertaken through the deployment of static recording devices. For a site assessed as having low potential to support foraging and commuting bats, deployment of at least one static device at points on the transect for five consecutive nights each season in suitable weather conditions is required.
- 1.1.1 This report aims to:
- Report on the findings of the initial activity surveys; and
 - Assess the likely impacts (if any) of the proposed development and any mitigation measures required to minimise any impacts.
- 1.1.2 This report pertains to these results only; recommendations included within this report are the professional opinion of an experienced ecologist and therefore the view of RPS.

1.2 Study area

- 1.2.1 The site is located on Wentworth Way Industrial Estate, Tankersley, Barnsley. The site is approximately 1.77 ha in size. The National Grid coordinates for the centre of the site are SK 34050 99585.
- 1.2.2 The site comprises primarily hardstanding and buildings, with an area of young / semi-mature woodland, amenity grass, ponds, ornamental shrubs, and scattered scrub. The surrounding area is industrial to the south and west with woodland and parkland to the east and north.
- 1.2.2 The PEA identified one building on site with high potential to support roosting bats (B2), no impacts or works are proposed to this building therefore emergence surveys are not required at this time.
- 1.2.3 The study area for this report comprised a walked transect of the wider Jacquet UK site boundary with a particular focus on the proposed area of development.

1.3 Development proposals

- 1.3.1 The proposals involve the construction of warehouse space and hardstanding extending the existing office and warehouse provision on the site.

1.4 Legislation and policy

- 1.4.1 All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. All British bats are also included on Schedule 2 of The Conservation of Habitats and Species Regulations 2017 (as amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019) as European Protected Species. It is an offence to:
- intentionally or recklessly kill, injure or capture bats;

- deliberately or recklessly disturb bats (whether in a roost or not); and
- damage, destroy or obstruct access to bat roosts

- 1.4.2 A roost is defined as 'any structure or place which [a bat] uses for shelter or protection'. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present at the time of survey.
- 1.4.3 A licence will therefore be required by those who carry out any operation that would otherwise result in offences being committed.
- 1.4.4 The following bat species are listed as being of principal importance for the conservation of biodiversity in England, (commonly referred to as UKBAP Priority species): barbastelle, Bechstein's, noctule, soprano pipistrelle, brown long-eared, greater horseshoe, and lesser horseshoe.

2 METHODS

2.1 Activity Survey Transects

- 2.1.1 Dusk activity surveys were conducted in June and July 2023. Transects were walked by an ecologist, covering the habitats identified as likely to be the most important for foraging and commuting bats. This included linear and boundary features which are often favoured by bats. Transect routes are shown on Figure 2.1.
- 2.1.2 Bat detectors were used during the activity surveys to record bat echolocation.
- 2.1.3 Dusk surveys started at sunset and lasted for 2 hours. This includes the expected peak period of bat activity. All bat passes were recorded, including time and species. Behaviour was also recorded, if possible, for example foraging and commuting.

Table 2.1: Dates and Weather conditions during activity survey

Date	Weather	Sunset time	Start time	End time
22.06.2023	21°C 6/8 Cloud cover F1 Wind Dry	21:39	21:34	23:39
27.07.2023	17°C 0/8 Cloud cover F1 Wind Dry	21:11	21:01	23:11

- 2.1.4 The surveys were carried out following current guidelines (Collins, 2016). The dates and weather conditions during the surveys are shown in Table 2.2.

2.2 Bat detectors and data analysis

- 2.2.1 Anabat Swift and EMT2 Pro bat detectors were used for the activity transect surveys. An Anabat Swift was deployed for the static surveys.
- 2.2.2 The recorded calls were analysed using Kaleidoscope software to identify the bat species encountered on each survey.

2.3 Limitations

- 2.3.1 It should be noted that bats are a group of species with a range of dynamic behaviours and as such, bats can roost in different locations, forage in different areas and preferentially commute along different routes in response to a number of changing physical and environmental factors. Bats exhibit seasonal use of buildings, built structures and trees, and being mobile may arrive and start using a site after it has been surveyed or be roosting somewhere else during the period it was surveyed.
- 2.3.2 Therefore, this survey provides a snapshot of ecological constraints found to be present at the time and should not be relied upon as evidence of presence / absence for periods longer than one year from the most recent bat survey.
- 2.3.3 The bat data presented shows the number of contacts for different bat species. It is important to note that the number of contacts does not equate to the number of individual bats, as several contacts can be generated by one bat flying past the surveyors several times. Instead, the number

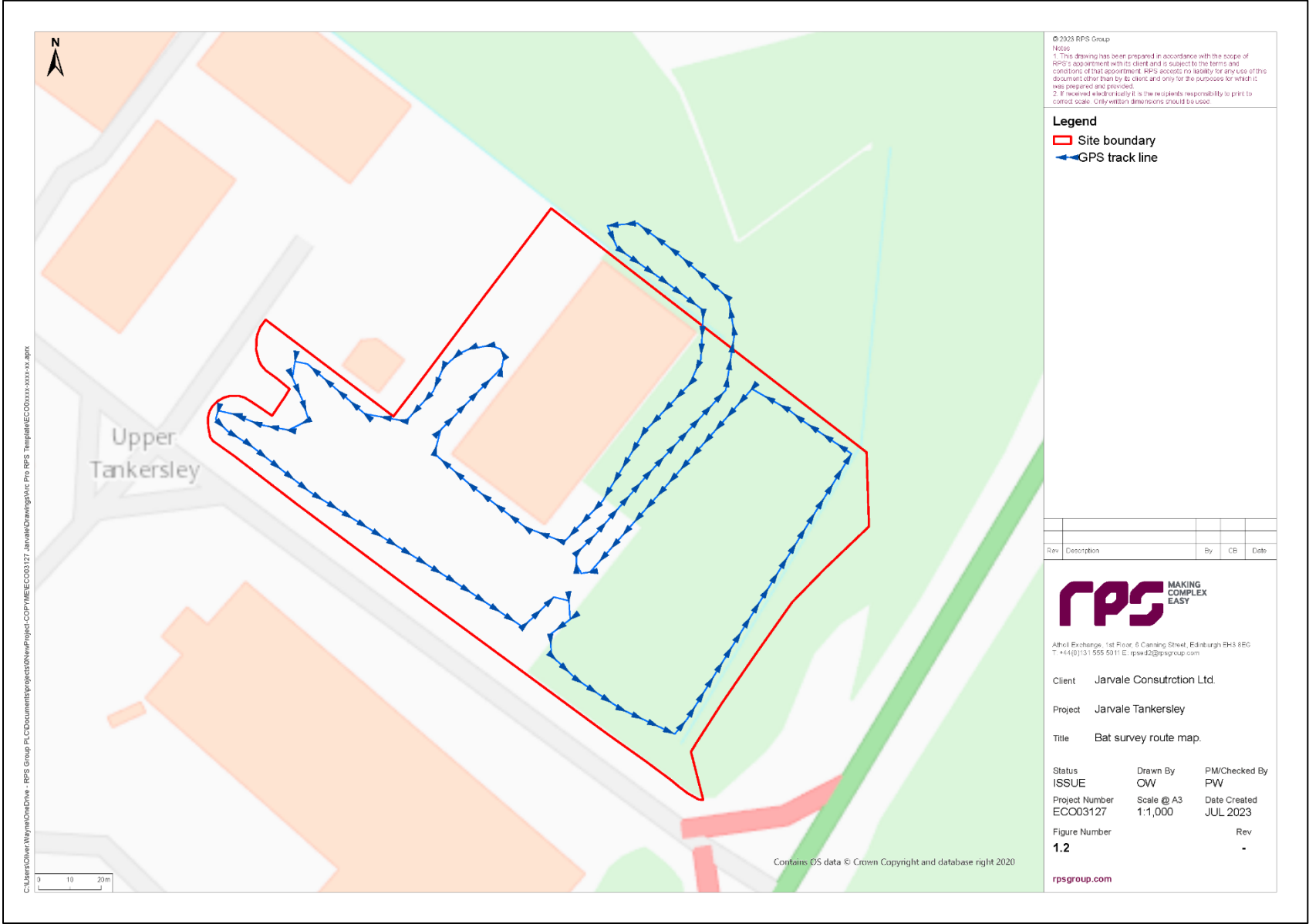
of contacts provides an index of bat activity, which can be used to identify areas of habitat of greater or lesser importance for bats.

- 2.3.4 Species identification by sonogram is limited to a certain extent by similarities in call structure parameters for certain species. All bats modulate their calls according to the habitats they are navigating and their behaviour. This imposes limitations on reliable identification of bats to species level for species of the same genus, and specifically for *Plecotus*, *Myotis* and *Nyctalus* bats.

Accurate Lifespan of Ecological Data

- 2.3.5 The majority of ecological data remain valid for only short periods due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for one year, assuming no significant considerable changes to the site conditions.

Figure 2.1: Activity survey transect route.



3 RESULTS

3.1 Activity Transects

3.1.1 Table 3.1 shows the total bat contacts for each species on each transect (Figure 2.1). Full results can be found in Appendix B.

Table 3.1: Number of bat contacts recorded during activity transects.

Date	COP	SOP	NAP	NOC	LEI	NYS	SER	BLE	MYO	Total
22.06.2023	10									10
27.07.2023	11								1	12

*NYS indicates bats of *Nyctalus* species, either Noctule or Leisler's.

3.1.2 Common pipistrelles *Pipistrellus pipistrellus* were the only encountered bat species during the June transect.

3.1.3 The common pipistrelles were encountered in the north-eastern corner of the site adjacent to the woodland edge.

3.1.4 Common pipistrelles *Pipistrellus pipistrellus* were the most encountered bat species during the July transect, However there was one contact from a *Myotis* sp. bat recorded half way through the survey.

3.1.5 During the July transect, the common pipistrelles were mostly encountered in the eastern area of the site adjacent to the woodland edge.

3.2 Static Surveys

3.2.1 Table 3.2 shows the total bat contacts for each species during the June deployment.

3.2.2 Table 3.3 shows the same static bat detector data but divides the number of calls recorded by the number of nights of recording to give an average for each night. This allows for an easier comparison with the transect data on occasions when the static detectors did not record for the whole 5-day period.

3.2.3 The common pipistrelle was the most frequently encountered species. The next most frequently recorded species was the noctule. One soprano pipistrelle was recorded on 3 nights, a brown long-eared bat was recorded on 2 nights and a *Myotis* sp bats was recorded on 2 nights. In total 5 species were confirmed.

3.2.4 The static detector was installed at the southern end of the proposed new building adjacent to the existing warehouse.

Table 3.2: Numbers of bat contacts recorded during static monitoring surveys.

Night Number	Survey nights	Recorder	Number of nights recording	Bat Species										Total
				COP	SOP	NAP	NOC	LEI	NYS	SER	BLE	MYO	BAR	
1	22/06/23-23/06/23	Swift 707468	1	12	1		2					1		16
2	23/06/23-24/06/23	Swift 546492	1	7	1		3				1			12
3	24/06/23-25/06/23	Swift 546492	1	19	1		1				1	1		23
4	25/06/23-26/06/23	Swift 546492	1	4			9							13
Total				42	3		15				2	2		64

Table 3.3: Average bat contacts recorded per night of recording during static monitoring surveys.

	Survey nights	Recorder	Number of nights recording	Bat Species										Total
				COP	SOP	NAP	NOC	LEI	NYC	SER	BLE	MYO	BAR	
	22/06/23-26/06/23	Swift 707468 & Swift 546492	4	10.5	0.75		3.75				0.5	0.5		16

COP = Common Pipistrelle, SOP = Soprano Pipistrelle, NAP = Nathusius' Pipistrelle, NOC = Noctule, LEI = Leisler's, NYC = *Nyctalus sp.*, SER = Serotine, BLE = Brown Long-eared bat

4 EVALUATION AND POTENTIAL IMPACTS

- 4.1.1 Levels of bat activity were very low during the first survey and only slightly more frequent during the second survey, when some *Pipistrelle* foraging (likely one or two bats) was recorded around the carpark area.
- 4.1.2 Activity during the transect was restricted to two areas of the site. One was the woodland edge in the north-eastern portion of the site which will not be impacted by the proposed works. The second area of activity was the existing carpark.
- 4.1.3 The findings of the surveys so far indicate that the onsite and surrounding habitat are not of high importance for foraging and commuting bats.
- 4.1.2 Best practice recommendations to avoid impacts on foraging bats across the wider site are provided in Section 5.

5 MITIGATION

Bat activity

- 5.1.1 The site was assessed as offering low potential for commuting and foraging bats therefore three bat activity surveys were required. Two have now been completed, as such one further activity survey has been commissioned for the autumn, however these interim results suggest the proposed development is unlikely to negatively impact foraging and commuting bats.
- 5.1.2 Bats are nocturnal and adapted to roost and forage in low light conditions therefore increases in artificial lighting can cause disturbance or disrupt existing flight paths and roosting, even with more light tolerant bats such as *Pipistrelle* and *Nyctalus* species.
- 5.1.3 Lighting will be designed to minimise or avoid light spillage on buildings and site boundaries where possible.
- 5.1.4 The points listed below will also help to minimise any potential impacts from lighting:
- Avoid the illumination of retained boundary features;
 - Use light sources that emit minimal ultraviolet light and avoid white or blue wavelengths to avoid attracting lots of insects (attracting insects to lamps may reduce their abundance in darker foraging areas favoured by bats);
 - Individual lamps should be hooded and directed where needed to avoid unnecessary light spillage;
 - Use motion detectors to activate security lamps rather than continual flood lighting and if any CCTV security system is proposed, Infra-Red lighting would be preferential; and
- 5.1.5 No direct illumination of any new roost features provided as part of the development (e.g. bat boxes, access tiles)
- 5.1.6 Design recommendations for wildlife friendly lighting are included in the Statement on the impact and design of artificial light on bats produced by BCT (2011). This list can be found in Appendix C.

5.2 Enhancement

- 5.2.1 The wider site will be enhanced for bats by the use of native plant species for soft landscaping and BNG habitat creation wherever practicable.

6 CONCLUSIONS

- 6.1.1 The site offers low potential for commuting and foraging bats therefore three bat activity surveys were required. Two have now been completed, as such one further activity survey has been commissioned for the autumn, however these interim results suggest the proposed development is unlikely to negatively impact foraging and commuting bats.
- 6.1.2 Bat activity transect surveys were undertaken on the 22nd of June and 27th July 2023.
- 6.1.3 Five species of bats were recorded foraging or commuting during the transect surveys.
- 6.1.4 Static recording of bat activity was undertaken for 4 nights between the 22nd and 26th of June 2023
- 6.1.5 A sensitive lighting scheme will be designed to minimise light spillage potential foraging and commuting routes at the site.
- 6.1.6 The wider site will be enhanced for bats by the use of native plant species for soft landscaping.

REFERENCES

- Bat Conservation Trust (2011). *Statement on the Impact and Design of Artificial Light on Bats*. Bat Conservation Trust, London.
- Bat Conservation Trust (2014). *Artificial lighting and wildlife Interim Guidance: Recommendations to help minimise the impact of artificial lighting on bats*. Bat Conservation Trust, London.
- Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edition). The Bat Conservation Trust, London.
- HMSO (1981). *Wildlife and Countryside Act 1981 (as amended)*. HMSO, London.
- HMSO (2017). *The Conservation of Habitats and Species Regulations 2017*. HMSO, London.
- Mitchell-Jones, A.J. & McLeish, A.P. (2004). *Bat Worker's Manual*. Joint Nature Conservation Committee, Peterborough.
- Mitchell-Jones, A.J. (2004). *Bat Mitigation Guidelines*. Joint Nature Conservation Committee, Peterborough.
- RPS (2023). *Tankersley-Ecology Report*. RPS, St Ives, Cambridgeshire.
- .

APPENDICES

Appendix A

New redline boundary layout

ECO03127 | Interim Bat Report | V1 | 31 July 2023



Appendix B

Survey Results

TANKERSLEY - INTERIM BAT REPORT

Date	Recorder	Bat Species										
		COP	SOP	NAP	NOC	LEI	NYS	SER	BLE	MYO	BAR	Total
22 to 23.07.23	Swift 707468	12	1		2					1		16
23 to 24.07.23	Swift 546492	7	1		3				1			12
24 to 25.07.23	Swift 546492	19	1		1				1	1		23
25 to 26.07.23	Swift 546492	4			9							13
												0
		42	3	0	15	0	0	0	2	2	0	64

Transect date	Recorder	Bat Species										
		COP	SOP	NAP	NOC	LEI	NYS	SER	BLE	MYO	BAR	Total
22.06.2023	Swift	10										10
27.07.2023	Swift 546492	11								1		12
												0
												0
		21	0	0	0	0	0	0	0	1	0	22

COP: common pipistrelle; SOP: soprano pipistrelle; NAP: Nathusius' pipistrelle; NOC: noctule; LEI: Leisler's bat; NYS: *Nyctalus* species (NOC or LEI); SER: serotine; BLE: brown long-eared bat; MYO: *Myotis* species; BAR: barbastelle.

Appendix C

Impact and Design of Artificial Light for Bats

Design recommendations for wildlife-friendly lighting include:

- Do not "over" light. This is a major cause of obtrusive light and is a waste of energy. Use only the minimum amount of light needed for safety. There are published standards for most lighting tasks, adherence to which will help minimise upward reflected light.
- Eliminate any bare bulbs and any light pointing upwards. The spread of light should be kept near to or below the horizontal.
- Use narrow spectrum bulbs to lower the range of species affected by lighting.
- Use light sources that emit minimal ultra-violet light. Insects are attracted to light sources that emit ultra-violet radiation.
- Reduce light-spill so that light reaches only areas needing illumination. Shielding or cutting light can be achieved through the design of the luminaire or with accessories, such as hoods, cowls, louvers and shields to direct the light.
- Reduce the height of lighting columns. Light at a low level reduces ecological impact. However, higher mounting heights allow lower main beam angles, which can assist in reducing glare.
- For pedestrian lighting, use low level lighting that is directional as possible and below 3 lux at ground level.
- Use embedded road lights to illuminate the roadway and light only high-risk stretches of roads, such as crossings and merges, allowing headlights to take up the slack at other times.
- Limit the times that lights are on to provide some dark periods for wildlife.
- Use lighting design computer programs and professional lighting designers to predict where light spill will occur.