

<b>Site:</b>	Bakers Quay, Gloucester, GL2 5QZ
<b>Client:</b>	Kinsler & Partners LLP
<b>Job Number:</b>	784-B034511
<b>Survey Type(s):</b>	Bat Roost Assessment
<b>Date of Survey(s):</b>	12 <sup>th</sup> April 2022
<b>File Location:</b>	<a href="#">\\ds-dc-vm-101\Data\Projects\784-B034511 Bakers Quay\60 Project Output\61 Work in Progress\BRA March 2022\</a>

## INTRODUCTION

Tetra Tech was commissioned by Kinsler & Partners LLP (the “client”) on 28<sup>th</sup> January 2022 to provide a Bat Roost Assessment (BRA) to assess the potential for the site to support bats, at High Orchard Street warehouse and the Brick Kilns, Gloucester Quays, GL2 5QZ, centred at SO826179 and shown on the site location plan (Figure 1), hereafter referred to as the ‘site’. The site comprised of the remains of Malthouse 1 kiln area, Malthouse 2, Malthouse 2 Kiln area and High Orchard Street Warehouse.

Malthouse 1 Kiln Area comprised only three high walls, with the remainder of the building no longer standing and no roof present.

The north-east of the site comprised the High Orchard Street warehouse, which was roofed and had four intact floors with a temporary scaffold staircase for access.

Malthouse 2 and the Malthouse 2 Kiln areas had been demolished and a large open area over bare ground remained. The north-west corner comprised the remains of a large kiln with an intact roof, but which had been stripped internally. The remainder of the Malthouse 2 kiln area and the Malthouse 2, at the centre of site, comprised only walls, with no roof. The south-west section of the building was missing its wall.

The proposed development is for the refurbishment of the building as a mixed-use development, including residential apartments, a gymnasium and retail units with associated car park and access roads.

This letter report will present the bat roost potential of the buildings and walls on site, identify any constraints they pose to future development and (if possible) any recommendations for any further surveys, avoidance, mitigation or enhancement measures that are needed (as appropriate).

This site visit was undertaken by Tetra Tech Principal Ecologist Sean Flynn MCIEEM CEnv and the report was produced by Tetra Tech Consultant Ecologist Nathan Orr QCIEEM; any conditions pertinent to it are found in Appendix A.

## METHODOLOGY

### Desk Study

Information was requested from the Gloucestershire Centre for Environmental Records (GCER) for information on any nature conservation designations and protected or notable species records within 2 km of the site.

The data search covered:

- Statutory designated sites for nature conservation, namely Special Areas of Conservation (SAC)

- Legally protected species, such as bats and birds
- Notable habitats and species, such as those listed as Habitats or Species of Principal Importance (HPIs or SPIs)

The data search did not cover:

- Tree Preservation Orders (TPOs); or
- Conservation Areas designated for their special architectural and historic interest.

## Online Resources

A search for relevant information was also made on MAGIC [www.magic.gov.uk](http://www.magic.gov.uk) – DEFRA’s interactive, web-based database for statutory designations and information on any European Protected Species Licence (EPSL) applications that have been granted in the local area since 2012.

## Bat Roost Assessment

An internal and external assessment of the main building was undertaken to assess the suitability for roosting bats. The survey was based on the Bat Conservation Trust’s Bat Surveys for Professional Ecologists: Good Practice Guidelines<sup>1</sup>. The site visit was undertaken on the 30<sup>th</sup> March 2022 by Tetra Tech Principal Ecologist Sean Flynn MCIEEM CEnv and, who holds a Natural England Level 2 bat licence (2022-56305-CLS-CLS). The weather at the time of survey was dry and overcast, with a temperature of 10°C.

The buildings were systematically inspected during daylight hours, and any features suitable for bats were noted, such as weatherboarding, hanging tiles, soffit boxes, gaps in brickwork, cracks, crevices, slipped or broken tiles and gaps around ridge tiles and lead flashing. Any potential bat access points were identified and inspected where access was possible for signs of bats such as:

- Bat droppings on the ground or stuck to walls;
- Suitable entry and exit points around eaves, soffits, flashing, under tiles or gaps in mortar;
- Live bats, bat corpses or skeletons; and,
- Oily marks (from fur) or localised clean spots around possible access points and roost areas.

A systematic search was made of the interior of the buildings to identify potential or actual presence of bat access points and roosting places, and any evidence of bats.

All accessible areas were checked, paying particular attention to the following:

- Cracks and crevices in timbers / stone or brick work;
- Surfaces such as ledges, walls, missing bricks or joist holes.

The categories of bat roost suitability were assessed in accordance with Table 1.

Table 1 Categories of Bat Roost Suitability (BCT Guidelines)

Suitability	Typical Roosting Features
Negligible	Negligible habitat feature on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat

<sup>1</sup> Collins, J., (2016), Bat Surveys for Professional Ecologists: Good Practice Guidelines, Bat Conservation Trust: London; hereafter referred to as ‘the BCT Guidelines’.

Suitability	Typical Roosting Features
	to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis & potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

### Foraging/commuting Bats

The BCT Guidelines use the criteria in Table 2 below to categorise the potential value of habitats and features for use by foraging and commuting bats and these have been used to characterise the value of this site.

Table 2 Categories of Habitat Suitability (BCT Guidelines)

Suitability	Typical Foraging & Commuting Features
<b>Negligible</b>	Negligible habitat features on site likely to be used by commuting or foraging bats.
<b>Low</b>	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
<b>Moderate</b>	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.
<b>High</b>	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. 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. Site is close to and connected to known roosts.

## RESULTS

### Previous Surveys

This BRA is supported by a previous bat survey report prepared by WYG (WYG, 2018)<sup>2</sup>. This survey recorded no bats roosting in Malthouse 2 and Malthouse 2 kiln areas, but a single serotine *Eptesicus*

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<sup>2</sup> WYG (2018) Gloucester Quays Phase 2 Bat Roost Assessment Report A085893-2 - Rokeby Merchant Developments (Gloucester) Ltd,

*serotinus* was observed roosting in a neighbouring building, the Malthouse extension and kiln area, directly to the west of the site.

## Desk Study

No designated sites were reported within 2km of the site. Seven local wildlife sites (LWS) were reported, the closest being Alney Island at 0.5km from the site; although, this site is not designated for bats or bat roosts.

## Protected and Notable Species

Data searches returned information on four EPSL licences for bats granted since 2012 within 2km of the site, as detailed in Table 3 below. Scientific names are given on first instance, with common names used from then on.

Table 3 EPSL Licences within 2km

Species	Date of Licence	Number of Maternity Roosts	Number of Day Roosts	Licence No.	Notes	Distance and Bearing
Brown long-eared bat <i>Plecotus auritus</i> , Common pipistrelle <i>Pipistrellus pipistrellus</i>	2017		1	2016-26998-EPS-MIT	Destruction of resting place	245m W
Brown long-eared bat, Common pipistrelle, Greater horseshoe <i>Rhinolophus ferrumquinum</i> , Lesser horseshoe <i>Rhinolophus hipposideros</i> , Natterer's bat <i>Myotis natteri</i> , Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	2014		1	2014-702-EPS-MIT	Destruction of resting place	1.4km SW
Soprano pipistrelle	2016		1	2016-22324-EPS-MIT-1	Destruction of resting place	1.5km W
Brown long-eared Lesser horseshoe	2021	1		2020-50283-EPS-MIT	Damage of breeding site, damage of a resting site	1.9kmnw

Data returned from GCER included 98 records of bat activity within 2km of the site, roosting species information and direction/distance from site are provided in Table 4 (below).

Table 4 GCER Roost Records

Species	No. of Records	Date	Peak Count	Distance (km)	Direction
Lesser Horseshoe	18	2011-2015	221	1.94	NW
Lesser Horseshoe	4	2015	1 & droppings	1.30	SW
Lesser Horseshoe	3	2018	3	1.99	NNW
Lesser Horseshoe	2	2016-2018	7	1.97	NNW
Lesser Horseshoe	5	2014-2015	30	1.84	NNW
Pipistrelle Species	1	2013-12-13	1	1.94	NW
Common Pipistrelle	1	2015-02-24	1	1.94	NW
Common pipistrelle	1	2015-07-29	1	1.30	SW
Common Pipistrelle	2	2014-08-28	1	0.22	WNW
Common Pipistrelle	1	2014-09-23	1	0.22	WNW
Common Pipistrelle	1	2016-06-16	1	0.73	NNE
Whiskered bat <i>Myotis mystacinus</i>	1	2015-07-29	1	1.30	SW
Brown Long-eared Bat	1	2014-10-08	9	0.22	WNW

## Bat Roost Assessment




The potential roost features of the remaining buildings and walls are described in Table 5 below. In summary the findings were as follows:

- High Orchard Street Warehouse had four intact floors and was cleared to the roof leaving exposed rafters and beams within the roof structure and on each of the levels.
- the Malthouse 2 Kiln had been fully stripped internally, but retained its roof intact with features providing a **moderate** suitability for roosting bats due to the presence of multiple Potential Roost Features (PRFs)
- The remaining walls around the site were considered to have **low** suitability for roosting bats.


The streetside elevation of all building and walls was entirely covered by scaffolding and mesh protective barrier so was assessed as being unsuitable as there was no access possible for bats and will not be considered further in this report.

A summary of the assessment of each part of the site is found in Table 5 (below).

Table 5 Site Summary

Feature name	Description	Potential Roost Feature	BRA	Photograph
Malthouse 2 Kiln	Kiln with intact roof	Louvered vents on roof provides access to internal space, gaps between tiles and sarking board on roof. Internally building has been stripped/floors removed	Moderate	
High Orchard St Warehouse	Roof intact, internal floors intact with occasional holes in floorboards but staircase is missing and has been replaced with a scaffold tower internally	Missing brickwork/joist holes, cracks and missing mortar Multiple access points to the internal space	Moderate	
Malthouse 1 Kiln Wall	High walls on southern, eastern and northern ends	Numerous missing brickwork/joist holes, cracks and missing mortar	Low	



Feature name	Description	Potential Roost Feature	BRA	Photograph
Malthouse 2 Wall	High walls on southern and eastern ends	Missing brickwork/joist holes, cracks and missing mortar, bricked-in archways	Low	
External Aspect, High Orchard St	Scaffold and netting	No access due to scaffold and netting	Negligible	N/A as just scaffold covered
Northern Aspect (Malthouse 2 Kiln Area)	Scaffolding and netting	No access due to scaffold and netting	Negligible	N/A as just scaffold covered

### Foraging/Commuting Bats

The site was considered to be of negligible suitability for foraging/commuting bats due to a lack of habitat for invertebrates (food for bats), as well as its location within a well-lit urban context. Bats may be using the site for roosting to access the nearby canal system, which offers some foraging and commuting opportunities.

## DISCUSSION & RECOMMENDATIONS

The High Orchard Street Warehouse and the kiln of Malthouse 2 kiln area have been assessed as having **moderate** bat roost potential. Therefore, in accordance with the BCT Guidelines, **two nocturnal surveys** (i.e. one dusk emergence and pre-dawn one re-entry) should be undertaken between May and September, inclusive with at least one survey between May and August. The aim of the surveys will be to confirm the presence or likely absence of roosting bats. Any bat activity will be recorded during the surveys and static detectors (three) will be placed on each floor of the of the High Orchard Street warehouse, left in place overnight and retrieved in the morning to give evidence of any bats using the internal space without requiring a surveyor on each floor of the building during the survey.

The remaining walls of Malthouse 2, Malthouse 2 Kiln area and Malthouse 1 Kiln area have been assessed as having **Low** bat roost potential. Therefore, in accordance with the BCT Guidelines, **a single** emergence (dusk) or a single re-entry (pre-dawn) survey should be undertaken between May and August, inclusive. The survey will confirm the presence or likely absence of roosting bats.

If any bats are found to be roosting on site, additional surveys may be required for roost characterisation purposes, to be conducted between May and September, inclusive (with at least two from each survey set to fall between May and August, inclusive). This data will be required to support an EPSML that would enable the development to proceed legally.

Recommendations for further survey, mitigation and/or enhancement would be provided following completion of the required Phase 2 surveys.

## Other Species

There is potential for certain species of nesting birds to use the buildings and structures on site. All nesting birds are protected under the Wildlife and Countryside Act (1981) (as amended) whilst in the process of building their nests, whilst on eggs and until the young have fully fledged the nest. The buildings and retained walls were infested with feral pigeons *Columba livia* and are considered sub-optimal for most nesting birds due to the lack of nesting opportunities not already used by the feral pigeons, however if any other species of nesting bird is found then works should cease and the advice of a suitably experience ecologist sought.

Feral pigeons are not a protected species, their nests can be removed under licence in certain conditions. A suitably qualified pest controller should be consulted and appointed if required.

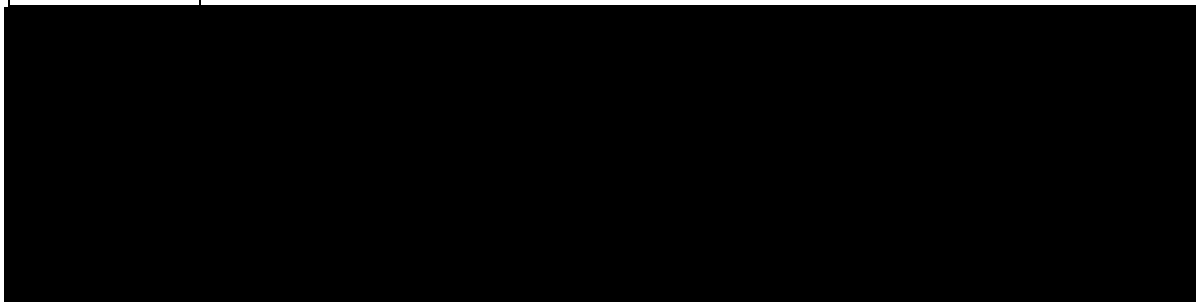
## SUMMARY

The site was visited on the 30<sup>th</sup> of April 2022 and assessed for its potential for roosting bats and potential bat activity. The roofed areas were assessed as having a **moderate** suitability for roosting bats and the high walls that made up the majority of the site were assessed as having **low** suitability for roosting bats; therefore, further surveys are required as detailed above. The site had no suitable foraging habitat and was unsuitable for activity surveys.

This letter report will be valid for 12 months from time of writing at which time the validity of this assessment should be reviewed to determine whether further updates are necessary.

### Document Control

<b>Revision:</b>	V1	<b>Status:</b>	<b>Issue</b>
<b>Date:</b>	13/04/2022		





## APPENDIX A; REPORT CONDITIONS

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The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

## FIGURE 1

# Site Map

Bakers Quay



Kinsler and Partners LLP

## Legend

- Site boundary
- Bare ground (demolished building)
- Section of retained building
- High walls



**Structures not to scale**

## Notes:

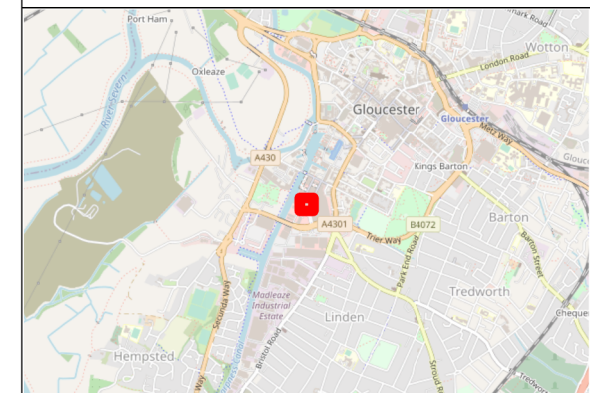
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Office: Southampton

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13 April 2022  
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