

ECOLOLOCATION

Protected Species Surveys for Development

Ryton Organic Gardens Wolston Lane Ryton-on-Dunsmore Rugby Warwickshire CV8 3LG 02476 217727 ecolocation@gbae.co.uk

Bat Assessment Report

for

Saville Lane
Thurlstone
Barnsley
S36 9RE

for

HTC Architects Ltd.

(2nd October 2014)
REVISION A

2014-05(03)

Contents

Summary

1. Instructions
2. Legislation
3. The Site
4. Desktop Study
5. Walkover Survey and Analysis
6. Intrusive Survey and Results
7. Survey Conclusions
8. Obligations and Recommendations
9. Mitigation and Enhancements
10. References

Original Report Author: Becky May MA (Cantab) MCIEEM
Report Date: 09/06/14
Quality check: Anna Swift BSc MSc MCIEEM
Check Date: 09/06/14
Report Revision A Author: Anna Swift BSc MSc MCIEEM
Revision A Report Date: 02/10/14

Summary

- An initial walkover survey for bats was carried out at Saville Lane, Penistone, Barnsley on 30th May 2014 by licensed bat surveyor, Becky May. Three buildings in total, all now disused, were surveyed: Old Printing Store, Sales Purchasing and Old Top Office.
- The proposed development included demolition of the Old Printing Store and Sales Purchasing buildings and replacement with residential dwellings, and conversion of the Old Top Office building into residential apartments.
- There were a number of potential bat access points into the interiors of all the buildings, although the interior of the Old Printing Store was considered unlikely to support roosting bats given its draughty and damp condition. There were also potential roosting opportunities for crevice-dwelling bats on the exterior of all three buildings.
- Foraging opportunities for bats nearby was considered average and a number of roosting bats were recorded within a 1km radius of the site.
- No evidence of bats was recorded externally or internally of any of the three surveyed buildings, although a small number of external roosting opportunities for crevice-dwelling bats were found on each building. Therefore there remains low potential for a low number of crevice-dwelling bats to roost in hidden areas of this building, given the presence of suitable bat foraging habitat nearby. In addition, there is a small possibility that the Old Top Office building could support long-eared bats in its easternmost void, which was not fully accessible during the survey.
- 2no. bat activity surveys were undertaken in early September 2014 in order to determine the presence of any bat roosts at the site. No evidence of emerging bats was confirmed. There was a pipistrelle noted as possibly emerging from the Sales Purchasing building but this was not confirmed by a camera or another surveyor and was considered more likely to be roosting in a building just north of the site.
- it is known that a single indeterminate pipistrelle has been noted as roosting in other buildings in the wider site, but has not been recorded using any of the subject buildings. In addition to this, in early September, some bat species may have already dispersed from their summer or nursery roosts. As bats can change roosts frequently during the summer months it is considered that sensitive working practices are necessary to all subject buildings during disturbing works at roof level

1. Introduction

Instructions

ECOLOLOCATION were appointed by HTC Architects to undertake a bat assessment of three disused office buildings at Saville Lane, Penistone, Barnsley.

Purpose and Scope

The purpose of the survey and report was to assess the likelihood of presence or use of the buildings by bats to support a planning application for demolition of two of the buildings and conversion of the third building into residential apartments, submitted to Barnsley Metropolitan Borough Council.

The scope of the survey was to encompass the buildings and a reasonable amount of working space around them but to concentrate on the built structures.

2. Legislation

The Wildlife and Countryside Act 1981 (WCA) protects bats and their roosts in England, Scotland and Wales. Some parts have been amended by the Countryside and Rights of Way Act 2000 (CRoW) which applies only in England and Wales, and by the Nature Conservation (Scotland) Act 2004 which applies in Scotland.

The Conservation of Habitats and Species Regulations 2010 consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994 in respect of England and Wales. The 1994 Regulations transposed Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law. The Regulations came into force on 30 October 1994.

The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites. All bats are listed as 'European protected species of animals'.

It is an offence for any person to:

- Deliberately capture, injure or kill a bat.
- Intentionally or recklessly disturb bats, where that disturbance may affect the ability of those bats to survive, breed, rear or nurture their young, or is likely to significantly affect the local distribution or abundance of any bat species, whether in a roost or not.
- Damage or destroy a place of shelter (roost) of a bat, be that a resting or breeding place.
- Possess a bat, whole or in part, alive or dead.
- Intentionally or recklessly obstruct access to a roost
- Sell or offer for sale or exchange whole or parts of bats, alive or dead.

3. The Site

The site (Grid Ref SE 2308 0338) was located on Saville Lane in the village of Thurlstone, located approximately 10 km west of Barnsley and 20 km north of Sheffield. The site included three disused office buildings.



Timing and Conditions

The site was visited on Friday 30th May 2014 commencing at 13:30 hrs.

Parameter	Recorded Figure
Temperature	18°C
Cloud cover	20%
Precipitation	Nil
Wind speed (Beaufort Scale)	2

Buildings/Structures

Old Printing Store

The Old Printing Store was a two-storey building of pitched roof and gable end design that was in a poor state of repair and had not been actively used for at least ten years apart from for storage. Its walls were stone on the eastern gable end, blue brick on the southern elevation and western gable end, and concrete render on the northern elevation. The roof tiles were slate with concrete ridge tiles. The roof was open at the eaves. Window and door frames were constructed of timber. A large roof void extended across two thirds of the building from the western gable end. The roof tiles were unlined and the floor was un-insulated. The eastern third of the building was open to the roof.

Sales Purchasing Building

This building was a two-storey building of pitched roof and gable end design. It had previously been used as offices but had been out of use for some time. Its walls were stone on the southern and eastern elevations and concrete render on the western and northern elevations. The roof had stone slate tiles and concrete ridge tiles and the eaves weren't boxed in. The window and door frames were constructed of timber. There was a two-storey brick extension with a flat bitumen roof adjoining the north elevation. A roof void ran along the whole building, which had been divided into two sections, each accessible via a separate loft hatch. In the eastern section (the original part of the building), the roof void was fairly low, the roof tiles were lined with bituminous lining and the floor was covered with Rockwool type insulation.

The central dividing wall between the sections was constructed of breeze-block. The western section of the roof void (the more recently constructed part of the building) was a low crawl space with numerous timber supports. The roof tiles were lined with bituminous lining and the floor was covered with Rockwool type insulation. A chimney breast was located at the eastern end of the westernmost void. Around this chimney some repairs to the roof had been made through use of a modern expanding adhesive sealant. However, significant holes in the roof remained.

Old Top Office

This building was a smaller two-storey building of pitched roof, gable end design. It had previously been used as offices but was now out-of-use. It had a chimney at its eastern end and adjoined a large stone and brick warehouse at its western end. The roof had stone slate tiles and concrete ridge tiles and the eaves weren't boxed in. The window and door frames were constructed of timber. A roof void ran along the whole building, which had been divided into two sections. The main void covered the western two-thirds of the building, and had been used as a storage place for files. Its roof and walls had been internally plastered. The eastern third of the void had a false ceiling with a void above that was inaccessible due to health and safety issues. However, it was possible to see from below that the roof tiles were underlined with a modern Tyvec style breathable membrane.



Fig. 1. Old Printing Store – roof void.



Fig. 2. Old Printing Store – upper room.



Fig. 3. Old Printing Store – open roof section.



Fig. 4. Old Printing Store – south/west elevations.



Fig. 5. Old Printing Store – north/east elevations.



Fig. 6. Purchasing Sales – eastern roof void.



Fig. 7. Purchasing Sales – western roof void.



Fig. 8. Purchasing Sales – typical room interior.



Fig. 9. Purchasing Sales – north/west elevations



Fig. 10. Old Top Office – western roof void.



Fig. 11. Old Top Office – eastern roof void.



Fig. 12. Old Top Office – typical room interior.



Fig. 13. Old Top Office – north/east elevations.



Fig. 14. Old Top Office – south/east elevations.

4. Desktop Study

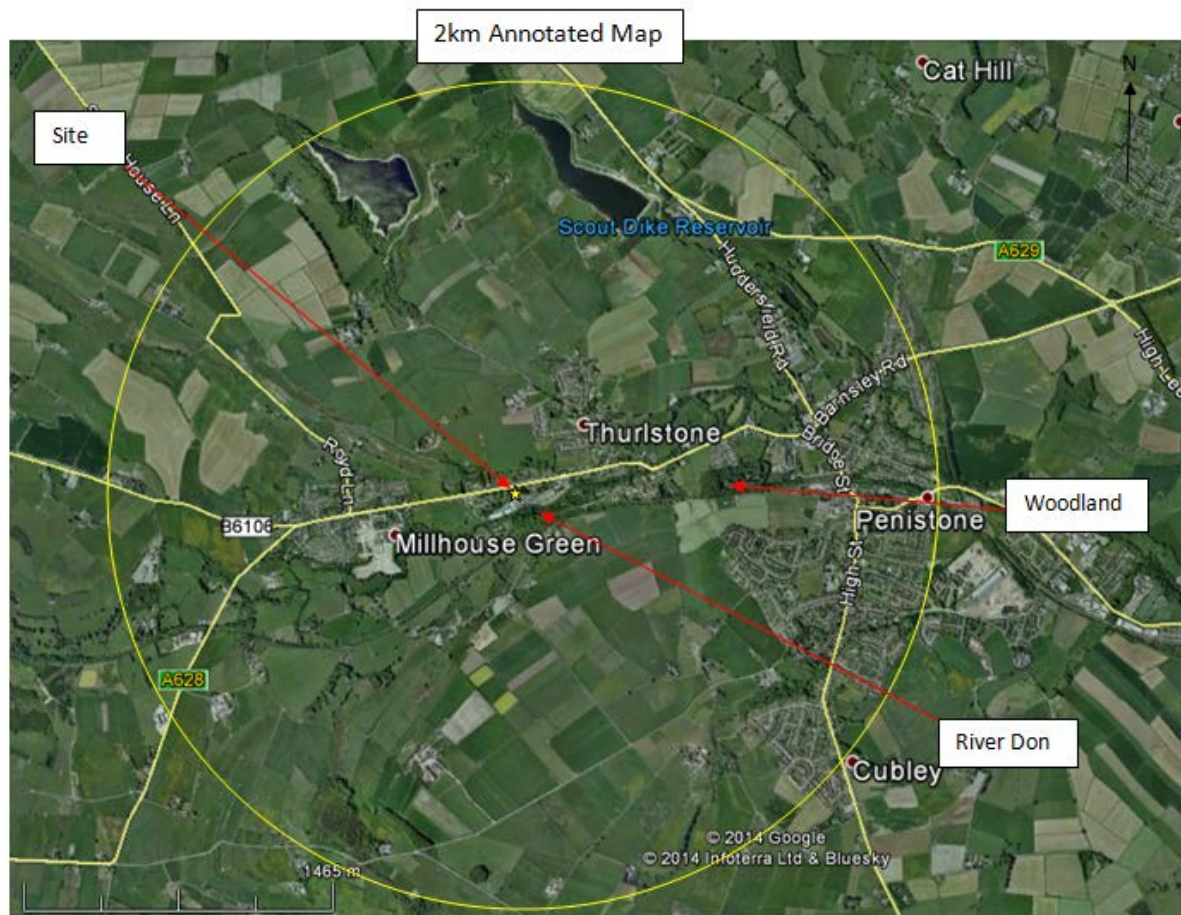
Prior to the ecological survey of the site, a desktop data gathering exercise was undertaken. The Nature On The Map website was accessed in order to assess the suitability of the surrounding landscape for foraging, commuting and roosting bats. The South Yorkshire Bat Group was also contacted for bat records within a 1km radius of the site.

Habitat Assessment and Connectivity

The site was located within the village of Thurlstone in South Yorkshire. Some more sensitive species of bats may have been deterred by the increased human influences within the residential and commercial areas to the north, east and west of the site. However some 60m to the south of the site lay the River Don; such habitats as those associated with watercourses may provide good forage grounds as well as good connectivity for bats commuting between roosts and forage grounds as well as through the wider countryside. A number of small pockets of woodland, waterbodies and traditional orchard were scattered through the 2km search radius; such habitats may have provided good forage and roosting habitat for many bat species.

A search of designated sites within 2km of the site's boundaries was undertaken via Nature On The Map as such habitats are likely to provide suitable foraging habitats for bats, typically being rich in invertebrates (bats prey species). The results of the search revealed the nearest SSSI to fall just outside the 2km search radius, with Sprint Meadows SSSI some 2.1km to the south-west of the site. In addition to this, the data search to the Local Biological Records Centre revealed Small Shaw and High Banks LNR within 1km of the site.

Overall, the local foraging opportunities for bats within the limits of this assessment were considered average, with suitable habitat such as waterbodies, traditional orchards and woodland provided within 2km of the site.



Data Search

A search to South Yorkshire Bat Group produced evidence of 16 indeterminate bat (*Chiroptera*) between 1987 and 2011 with three recorded as roosts, 42 indeterminate pipistrelle (*Pipistrellus spp.*) between 1987 and 2011 with one recorded as a roost, two records of indeterminate *Myotis* (*Myotis spp.*) in 2004, five records of common pipistrelle (*Pipistrellus pipistrellus*) between 2002 and 2011, seven records of noctule (*Nyctalus noctula*) between 1988 and 2011, two records of whiskered bat (*Myotis mystacinus*) in 1987, two records of Brandt's bat (*Myotis brandti*) in 1990 and one record for possible Leisler's bat (*Nyctalus leisleri*) in 2011.

An Ecological Assessment of some other buildings within the wider site (not including the subject buildings) was undertaken by Brooks Ecological in May 2012. The results of this assessment found no evidence of bats but did note officer workers comments that bats had been seen roosting in the gap between a chimney and a three-storey building at the site, in previous years, but had not been seen for some years. In addition to this, four bats had previously been recorded inside the three-storey building. The bat species is unknown, although pipistrelle sp.. are considered most likely as they are typically found in such crevices.

it is therefore most likely that bat activity around the site would focus around the mature trees with the possibility of roosting in the buildings by crevice-dwelling species.

5. Walkover Survey and Analysis

An initial walkover of the site indicated a reasonable number of access points that were available to bats on the buildings. Such access points are illustrated by the photographs on the following pages.

Old Printing Store

Bats could easily gain access into the roof void through holes in the roof where tiles were missing, especially around the chimney. There were also potential gaps noted at eaves level, although no noticeable light ingress was noted at eaves level during the survey. Mortar was missing beneath ridge tiles in three locations, which could also provide access into the roof space or potentially roost spaces for crevice-dwelling species. A gap was also noted beneath lifted lead flashing at the base of the chimney on the northern elevation, which could also be utilised by crevice-dwelling species.

Internally, the roof void had light and water ingress due to missing tiles in the roof. The void was draughty and wholly uninsulated. Roosting opportunities were noted along the ridge lines and in crevices between the brick gable ends and the roof. However, all these areas were heavily cobwebbed. The floor and walls were covered in a thick layer of graphite based black dust, created by the graphite industry located adjacent to the building. There was sufficient headroom for social flight (by species such as long-eared bats) within the void, although the void was quite cluttered with stored items.

The main building beneath the roof void was also accessible by bats due to a broken window pane on the northern elevation and through holes in the roof at the eastern section of the building, which was open to the roof. The rooms were draughty, well-lit from numerous windows and had suffered water ingress due to the leaking roof. Roosting opportunities were noted in crevices between the ceiling and the walls.



Fig. 13. Old Printing Store - slipped tiles.



Fig. 14. Old Printing Store – gaps below ridge tiles.



Fig. 15. Old Printing Store – lifted lead flashing.

Sales Purchasing Building

The roof of this building was well-sealed apart from one gap beneath a lifted tile on the south elevation, which was cobweb-free. This gap could potentially provide access for bats into the roof void. There were also potential gaps noted at eaves level, although no noticeable light ingress was noted at eaves level within either of the void sections during the survey. Internally, the roof voids were dark and well-insulated. Roosting opportunities were noted in both voids along the ridge lines, in crevices between the brick gable ends and the roof and between the roof lining and tiles in places where the lining was hanging down. However, most of these areas were heavily cobwebbed. There was not sufficient headroom for social flight within either of the voids, particularly the westernmost void, which was very low and cluttered with timber beams.

No potential bat access was noted into the main building.



Fig. 16. Sales Purchasing – lifted roof tile.

Old Top Office

The southern roof elevation of this building was not visible from below. The northern roof elevation was well-sealed apart from a small number of gaps beneath lifted tiles and where mortar was missing below ridge tiles. These gaps could potentially provide access for bats into the roof void or could provide roosting opportunities for crevice-dwelling bats. Potential bat access was noted into the main roof void through vented window slits on the southern elevation. There were also gaps noted at eaves level on the northern elevation. Internally, the roof voids were both dark and well-insulated. However, the main void had previously been in regular use for file storage and had been frequently illuminated by strip-lighting. No roosting opportunities were noted within the main void as all internal walls had been plastered and painted. The inaccessible void to the east of the building appeared to be well-sealed internally by the modern breathable membrane, although full access into the void was not possible to fully assess roosting opportunities.

This building was adjoined to a large warehouse building to its west, which had three large Schwegler bat boxes attached to its southern elevation wall. No obvious evidence of bat use was noted on any of these bat-boxes through use of binoculars. However, it was not possible to fully inspect these bat boxes during the survey due to their height above ground.



Fig. 17. Old Top Office – gaps beneath ridge tiles.



Fig. 18. Old Top Office – lifted roof tiles.



Fig. 19. Old Top Office – gaps at eaves level.

The locations of all notable potential access points in the buildings are shown in Drawing 6.1.

Long-eared species are often recorded in large open roof spaces, generally with gable ends, providing sufficient unobstructed space for social flight and light sampling activity at dusk and dawn. The only roof voids with sufficient headroom and roosting opportunities were the westernmost void in the Old Printing Store building and possibly the easternmost void of the Old Top Office building. However, the Old Printing Store building was considered to be too draughty, damp and cluttered to support more than an occasional roost for long-eared species and a full assessment of the Old Top Office easternmost void was not possible. All three buildings provided potential roosting opportunities for crevice-dwelling bats, such as beneath lifted roof tiles, beneath ridge tiles where mortar was missing, beneath lead flashing around the chimney and within crevices in the roof voids.

Overall, at this stage, the likelihood of bat presence or use of the Old Printing Store was considered to be low, and of the Purchasing Sales and Old Top Office buildings to be medium, when taking account of construction, access opportunities and nearby foraging potential.

6. Intrusive Survey and Results

An intrusive investigation of the buildings was undertaken by Becky May (Natural England Bat Class Licence C17) using Petzl Tikka Plus 2 headtorch and Clulite 'CB2' 0.5 and 1 million candle power lamp.

A search for the following was undertaken both internally and externally of the buildings:

- **Live or dead bats** - live bats could be freely hanging from the roof or tucked away in a crevice (depending on the bat species)
- **Droppings** - bat droppings will crumble when rubbed between your fingers (unlike those of small rodents such as mice and voles, which are typically hard and solid). Also bat droppings are often found in places where rodent droppings are not, such as stuck to walls or caught in cobwebs
- **Feeding remains** - these typically include the discarded wings of butterflies (such as peacock and tortoiseshell) and moth (such as noctuid species). An accumulation of such wings may be present under a well-used feeding perch and would often indicate the presence of brown long-eared or horseshoe bats, which typically leave such remains
- **Absence of cobwebs** - a roof void that is free of cobwebs could indicate animals, such as bats or even birds flying around in this space
- **Oil staining** - the fur of bats may leave an oily residue on areas around a well-used access point to a roost
- **Urine staining** - bat urine can leave a white residue on areas beneath well-used roost locations or access points
- **Daytime vocalisations** - these are often heard at bat maternity roosts, especially during periods of warm weather
- **Smell** - some bat species, such as soprano pipistrelle or Noctule have an identifiable smell
- **Tracks in dust** - some bats have been known to take off from their perch in a roof void then land on the ceiling and crawl to the eaves or a similar area where their access point is located. If the ceiling of the roof void is dusty then bat tracks may be visible although this evidence would need to be corroborated by an additional positive sign from one of those listed above
- **Scratching** - scratch marks produced by the claws of many bats may be apparent close to the access point for a well-used roost, although these are often more readily identifiable on trees rather than in buildings. Again, this evidence would need to be corroborated by an additional positive sign from one of those listed above.

Old Printing Store

No evidence of bats was recorded externally or internally of the building. The roosting opportunities noted within the interior were covered in thick cobwebs, suggesting no recent use by bats or other species. The internal conditions of the roof void and main building were considered sub-optimal for bats due to high levels of draughtiness, light and water ingress. In addition, the cluttered nature of the void was considered likely to deter bats from regularly roosting within the building.

Purchasing Sales Building

No evidence of bats was recorded externally or internally of the building. However, it should be noted that the gap beneath the lifted tile on the southern roof elevation was cobweb free, suggesting possible recent use. The roof voids within this building were considered to offer reasonable potential for crevice-dwelling bats, but not long-eared species due to the low ridge line and numerous timber trusses reducing flight space.

The Old Top Office

No evidence of bats was recorded externally or internally of the building, although it was not possible to view the southern roof elevation from ground level. The westernmost roof void was considered to offer negligible roosting opportunities for bats and a full assessment of the easternmost void was not possible, although there appeared to be sufficient headroom for long-eared species.

An old swallow's nest was found within the upper storey room of the Old Printing Store building. It was not in current use and was considered to probably be from last year. Potential for nesting birds was also noted in both other buildings, mostly at eaves level.



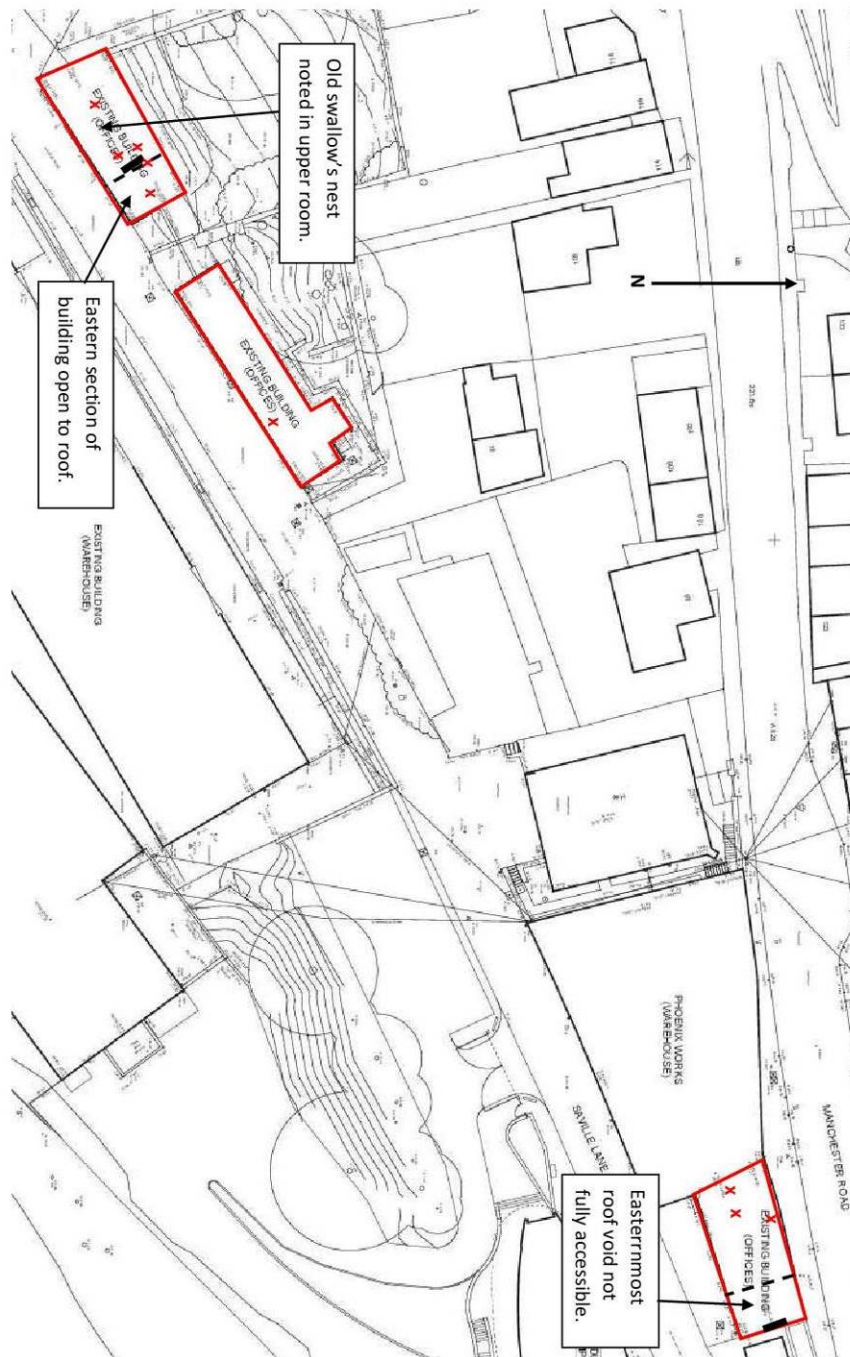
Fig. 20 Old swallow nest in Old Printing Store building.

Limitations

Full access was possible into all of the buildings except to inside the easternmost roof void of the Old Top Office building, the floor of which was considered too unstable to enter. It is therefore possible that some evidence of bat use could have been missed in this area. It should also be noted that the road immediately adjacent to all three buildings is regularly swept by road-sweeping machinery as part of ongoing site maintenance, therefore some evidence of bats at ground level may have been missed.

Drawing 6.1. Location of Potential Bat Access Points, Inaccessible Roof Void and Nesting Bird Evidence

Red crosses show the indicative location of potential bat access points or roosting opportunities, notably: missing tiles, missing mortar below ridge tiles, gaps between tiles and lifted lead flashing on the Old Printing Store building; a cobweb-free lifted tile on the Sales Purchasing building; and lifted tiles and missing mortar below ridge tiles on the Old Top Office building.



7. Bat Activity Surveys

As a consequence of the above findings and the potential for bats, two bat activity surveys were undertaken at the site. These surveys focused on the three buildings subject to the initial survey carried out on 30th May 2014.

1st Bat Emergence Survey

A post-dusk emergence survey was undertaken on 8th September 2014 by three suitably experienced surveyors, Ben Wood, Catherine Coton and Helen Pears, stationed as indicated on the following aerial image. Timings of surveys and weather conditions are recorded in the table below.

Surveyor 1

Using Magenta 5 heterodyne bat detector channelled to headphones.

Surveyor 2

Using Magenta 5 heterodyne bat detector channelled to headphones.

Surveyor 3

Using Magenta 5 heterodyne bat detector channelled to headphones.

Camera

Two Sony Handycams were used during this survey, one placed to focus on the southern elevation of the Old Top Office building and the second was placed to focus on the southern elevation of the Old Printing Store building. Both these elevations were not covered by the surveyors and at sunset the cameras were set to record in night vision mode for 60 minutes.

Static bat detector

Two static bat detectors (Wildlife Acoustics SM2 - records all frequencies and is triggered in 1 sec intervals each time it detects a sound emitted above 16kHz) in frequency division mode was placed adjacent to the camcorders to coincide with the start of the survey at 19:20 hrs, recording all bat activity within the vicinity. The results of the static bat detector were used to confirm and consolidate the corresponding bat activity results of the camera and surveyors, as well as detecting any additional bat species in the vicinity, as the microphone of a SM2 is omnidirectional and has a good range of detection at large distances, sometimes up to 30m.

	Dusk Bat Emergence Survey – 08/09/2014			
	Sunset : 19:39hrs			
	Survey Start Time: 19:20hrs		Survey End Time: 21:10hrs	
	Temperature	Wind (Beaufort scale)	Cloud cover	Precipitation
Start	13.8 °C	1 – Light air	40 %	None
End	10.4 °C	1 – Light air	40%	None

2nd Dusk Emergence Survey

A second dusk emergence survey was undertaken on 10th September 2014 by three suitably experienced surveyors, Rebecca Golder, Carl Busby and Casey Griffin, stationed as indicated on the following aerial image. Timings of surveys and weather conditions are recorded in the table below.

Surveyor 1

Using Petterson 240 heterodyne bat detector channelled to headphones

Surveyor 2

Using BatBox Duet heterodyne bat detector channelled to headphones

Surveyor 3

Using Magenta 5 heterodyne bat detector channelled to headphones

Camera

Two Sony Handycams were used during this survey, one placed to focus on the southern elevation of the Old Top Office building and the second was placed to focus on the northern elevation of the Old Printing Store building. Both these elevations were not covered by the surveyors and at sunset the cameras were set to record in night vision mode for 60 minutes.

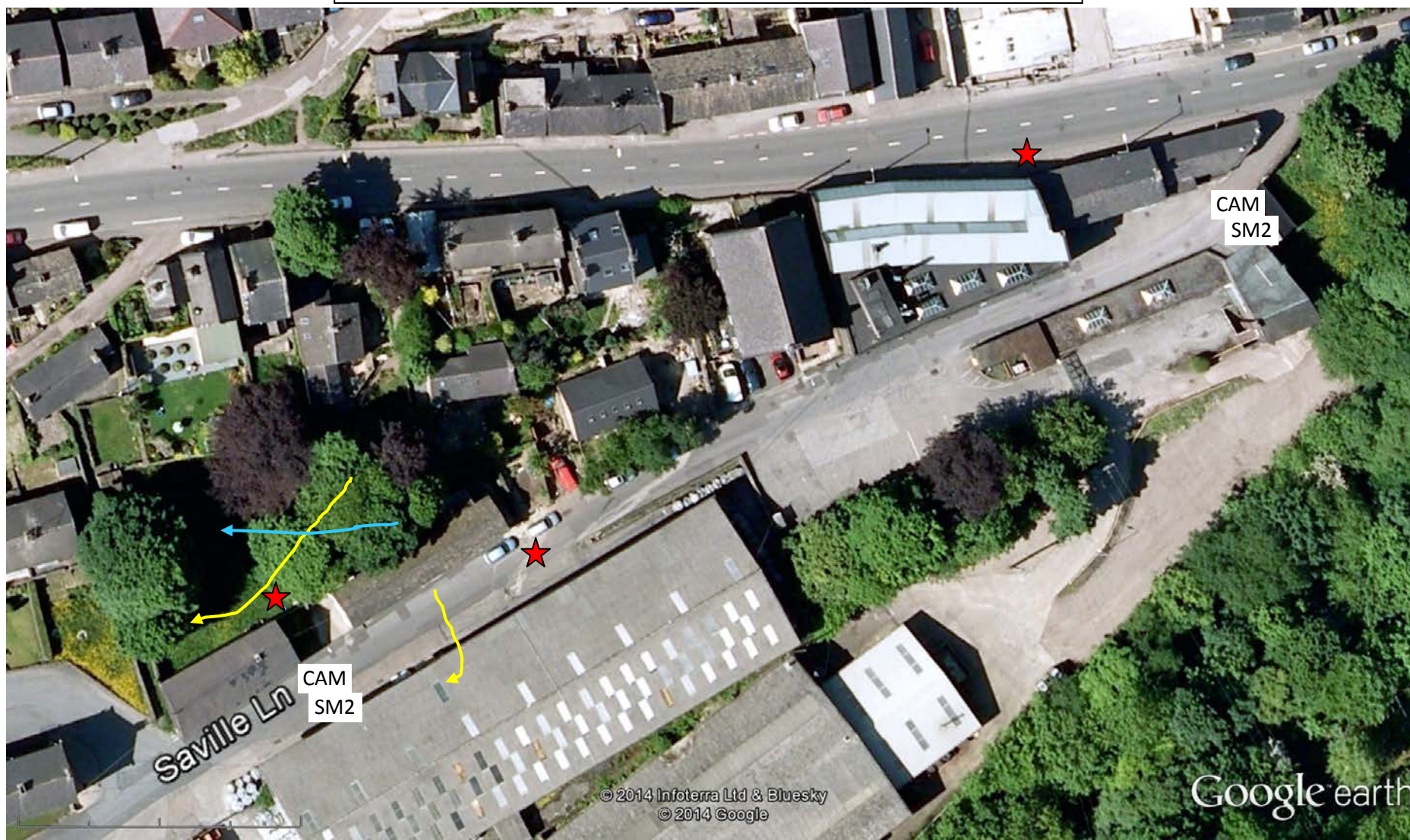
Static bat detector

A static bat detector (Wildlife Acoustics SM2 - records all frequencies and is triggered in 1 sec intervals each time it detects a sound emitted above 16kHz) in frequency division mode was placed adjacent to each of the camcorders to coincide with the start of the survey at 19:15 hrs, recording all bat activity within the vicinity. The results of the static bat detector were used to confirm and consolidate the corresponding bat activity results of the camera and surveyors, as well as detecting any additional bat species in the vicinity, as the microphone of a SM2 is omnidirectional and has a good range of detection at large distances, sometimes up to 30m.

	Dusk Bat Emergence Survey – 10/09/2014			
	Sunset : 19:40hrs Survey Start Time: 19:15hrs Survey End Time: 20:50hrs			
	Temperature	Wind (Beaufort scale)	Cloud cover	Precipitation
Start	14.1 °C	0 – Calm	20 %	None
End	13.8 °C	1 – Light air	80%	None

The results of the surveys are presented in the maps and tables in the following pages.

DUSK Bat Activity Survey Results 08/09/14 – Saville Lane, Thurlstone



KEY

★ Surveyor
CAM Camera
SM2 SM2

— Indeterminate Pipistrelle
— Common Pipistrelle

Timestamp	Surveyor ID	Bat species	Activity	Comments/additional info	If you have drawn on the map please select the next sequential (alphabetic) reference	Identification method	Sound recording number
08/09/2014 20:00:03	Surveyor 3 HP	Indet. pipistrelle, Indeterminate bat	Flying	Into open storage unit opposite	A	Visual observation	
08/09/2014 20:13:41	Surveyor 2 CC	Indeterminate bat	Commute/pass		A	Visual observation	
08/09/2014 20:18:50	Surveyor 2 CC	Indet. pipistrelle	Commute/pass	faint		Bat detector	
08/09/2014 20:23:32	Surveyor 2 CC	Common pipistrelle	Foraging, Commute/pass		B	Bat detector, Visual observation	
08/09/2014 20:33:42	Surveyor 3 HP	Indet. pipistrelle	Heard	Heard on bat detector not seen		Bat detector	
08/09/2014 20:55:25	Surveyor 2 CC	Indeterminate bat	Commute/pass	faint		Bat detector	
08/09/2014 21:00:55	Surveyor 2 CC	Common pipistrelle	Commute/pass			Bat detector	
08/09/2014 21:18:07	Surveyor 3 HP	Soprano pipistrelle	Foraging	Flying round in circles in open storage unit. Heard and seen between 8.15 and 8.45.	B	Bat detector, Visual observation	

DUSK Bat Survey Results 10/09/14 – Saville Lane, Thurlstone



KEY

- ★ Surveyor Position
- CAM Camera
- SM2 SM2
- Common Pipistrelle

E? Possible emergence

DUSK Bat Survey 10/09/14 Saville Lane

Timestamp	Surveyor ID	Bat species	Activity	Comments/additional info	If you have drawn on the map please select the next sequential (alphabetic) reference	Identification method	Sound recording number
10/09/2014 19:49:06	Surveyor 2 CB	Common pipistrelle	Commute/pass	Didn't see where flew from	A	Bat detector, Visual observation	
10/09/2014 19:50:06	Surveyor 2 CB	Noctule	Commute/pass			Bat detector	
10/09/2014 19:55:23	Surveyor 2 CB	Common pipistrelle	Commute/pass			Bat detector	
10/09/2014 19:57:08	Surveyor 3 CG	Common pipistrelle	Possible emergence	Could have come over not sure (species confirmed by SM2)	A	Bat detector, Visual observation	
10/09/2014 20:03:53	Surveyor 3 CG	Common pipistrelle	Commute/pass			Bat detector	
10/09/2014 20:05:22	Surveyor 3 CG	Common pipistrelle	Commute/pass	Very distance		Bat detector	
10/09/2014 20:17:12	Surveyor 3 CG	Common pipistrelle	Commute/pass		B	Bat detector, Visual observation	
10/09/2014 20:17:00	Surveyor 1 BG	Common pipistrelle	Commute/pass			Bat detector	
10/09/2014 20:19:12	Surveyor 3 CG	Common pipistrelle	Commute/pass			Bat detector	
10/09/2014 20:20:32	Surveyor 3 CG	Common pipistrelle	Commute/pass			Bat detector	
10/09/2014 20:20:00	Surveyor 1 BG	Myotis	commute/pass			Bat detector	
10/09/2014 20:23:06	Surveyor 3 CG	Common pipistrelle	Commute/pass			Bat detector	
10/09/2014 20:28:00	Surveyor 1 BG	Noctule	commute/pass			Bat detector	
10/09/2014 20:35:25	Surveyor 3 CG	Common pipistrelle	commute/pass			Bat detector	
10/09/2014 20:42:00	Surveyor 1 BG	Noctule	Commute/pass			Bat detector	
10/09/2014 20:44:04	Surveyor 3 CG	Noctule	Commute/pass			Bat detector	

First dusk emergence survey summary - During the dusk emergence survey on 8th September 2014, a limited number of common pipistrelle and indeterminate pipistrelle passes were recorded. Most of these bats were noted as commuting across the site however on one occasion a common pipistrelle was noted foraging to the north of the Sales Purchasing building near the mature tree. No bats were noted, by either the surveyors or the cameras, to have emerged from any of the buildings surveyed during this visit.

Second dusk emergence survey summary - During the dusk emergence survey on 10th September 2014, a single common pipistrelle was noted as possibly emerging from the Sales Purchasing building some 17 minutes after sunset. This was the only possible emergence noted on any of the buildings covered. However, further investigation into this revealed that a bat pass had been recorded by the nearby camera just 14 minutes after sunset, with no bat activity detected around the time the possible emergence was noted. In addition to this, the bat noted as possibly emerging was seen to fly over the ridge, so did not emerge from the ridge on its south-side and had it emerged from the northern elevation of the Sales Purchasing building, it would likely have been detected by the nearby camera as bats need to drop out of their roost upon emergence. Consequently, whilst this bat was not considered likely to have emerged from one of the subject buildings, the timing is within the typical emergence time for this species and it is considered that this is most likely that the bat is roosting in a nearby building just north of the site. Overall bat activity was limited with only common and indeterminate pipistrelle passes recorded. Most of these bats were noted as commuting across the site.

Summary - In summary, no bats were seen to emerge from any of the buildings, with a reasonable level of common pipistrelle and indeterminate pipistrelle commuting activity noted across the site. It is possible that the timing of the surveys, in early September, may have missed the main period for nursery roosts of bats. However, one would have expected that had such a roost been present, that some such evidence would have been noted during the initial bat inspection of the building at the end of May 2014 and no such evidence was found.

Walkover of open green space

Further to comments received by Trevor Mayne, Biodiversity Officer at Barnsley Metropolitan Borough Council, the open green spaces north of the buildings 1 and 2 were surveyed by suitably experienced ecologist, Rebecca Golder, on the 10th September 2014.

Parameter	Recorded Figure
Temperature	14.6°C
Cloud cover	20%
Precipitation	None
Wind speed (Beaufort Scale)	0



The open green space comprised two areas; Area 1 and Area 2, separated by a stone wall, as indicated on the previous plan.

Area 1 was species-poor, semi-improved grassland with a sward length of around 5-10 cm. The parcel of land sloped southwards, toward The Old Printing Store and was encompassed on the north, east and west boundaries by stone walling. No evidence of protected species was recorded, however, there was potential for nesting birds within two semi-mature beech trees present on the western boundary. The age of the trees also indicated that they could have bat roosting potential, however, no rot holes, cracks or peeling bark were visible from ground level (category 2, BCT Bat Survey Guidelines).



Species-poor, semi-improved grassland



Two semi-mature beech on western boundary

Area 2 appeared to have been recently cleared of vegetation and trees, with scattered areas of tall ruderal and ephemeral vegetation. Sycamore saplings and conifer were present around the periphery of the site and some saplings appeared to be shooting from cut sycamore tree stumps. A semi-mature, purple beech was also present on the northern boundary; however, it was unclear whether this tree was within the site boundary. The area was encompassed to the west and north by stone walling. No evidence of protected species was recorded, however, there was potential for nesting birds within the purple beech. The age of the purple beech indicated it could have bat roosting potential, however, no rot holes, cracks or peeling bark were visible from ground level (category 2, BCT).



Sycamore saplings, conifer and stone wall



Tall ruderal vegetation and semi-mature purple beech

7. Survey Conclusions

The results of the initial bat assessment of the buildings found no evidence of bats using any of the three surveyed buildings for roosting, although a number of potential bat access points into the buildings and potential roosting opportunities for crevice-dwelling bats were noted on the exterior of all three buildings. Therefore, there remains some potential for a low number of crevice-dwelling bats to use all three buildings during the summer and roost in areas that are otherwise concealed to the surveyor. However, it is considered less likely that bats would roost in the Old Printing Store building due to its unstable temperature and issues with damp and the bat activity surveys revealed no roosting bats. Also, the easternmost void of the Old Top Office was not able to be fully assessed for bat use, and at the time of the initial inspection was considered that it could potentially be used by long-eared species as well as crevice-dwelling species, however the bat activity surveys revealed only pipistrelle activity and no bats to be roosting in the building. The bat activity surveys revealed a possible emerging bat from the Sales Purchasing building but discussions above indicate this was unlikely. The presence of bat boxes on an adjacent building as well as the anecdotal information of bats roosting in the gap between the chimney wall and a three-storey building within the wider site, may increase the likelihood that these buildings are used on an occasional basis by bats for roosting, but no evidence of this was present during the surveys in 2014. Consequently, sensitive working practices are advised and are described in further detail in section 8.

An old swallow nest was also found in the upper room of the Old Printing Store during the survey, and potential for nesting birds was found in all of the buildings surveyed.

A walkover survey of the open green space was carried out on the 10th September 2014. The most valuable habitats within these two areas were the semi-mature beech trees, which offered habitat to nesting birds and possibly roosting bats, as well as the dry stone walls which offered sheltering habitat to invertebrates and to a lesser extent, amphibians. The grassland also offered foraging habitat to bats,

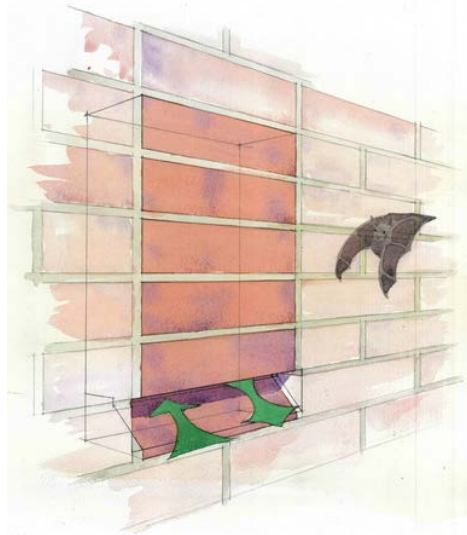
however, the surrounding habitat of gardens and river were far more valuable as foraging habitat to bat species.

8. Obligations and Recommendations

The National Planning Policy Framework paragraph 117 states that "To minimise impacts on biodiversity and geodiversity, planning policies should...promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations". In order to ensure no net loss of biodiversity in accordance with NPPF & Circular 06/2005 recommendations are made below:

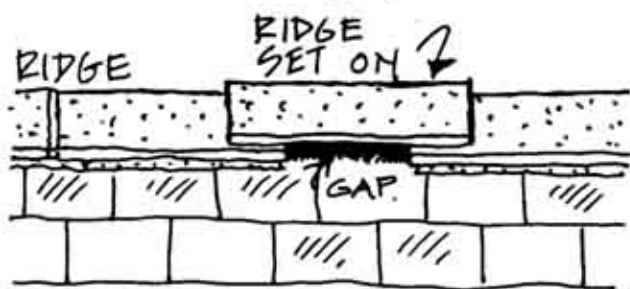
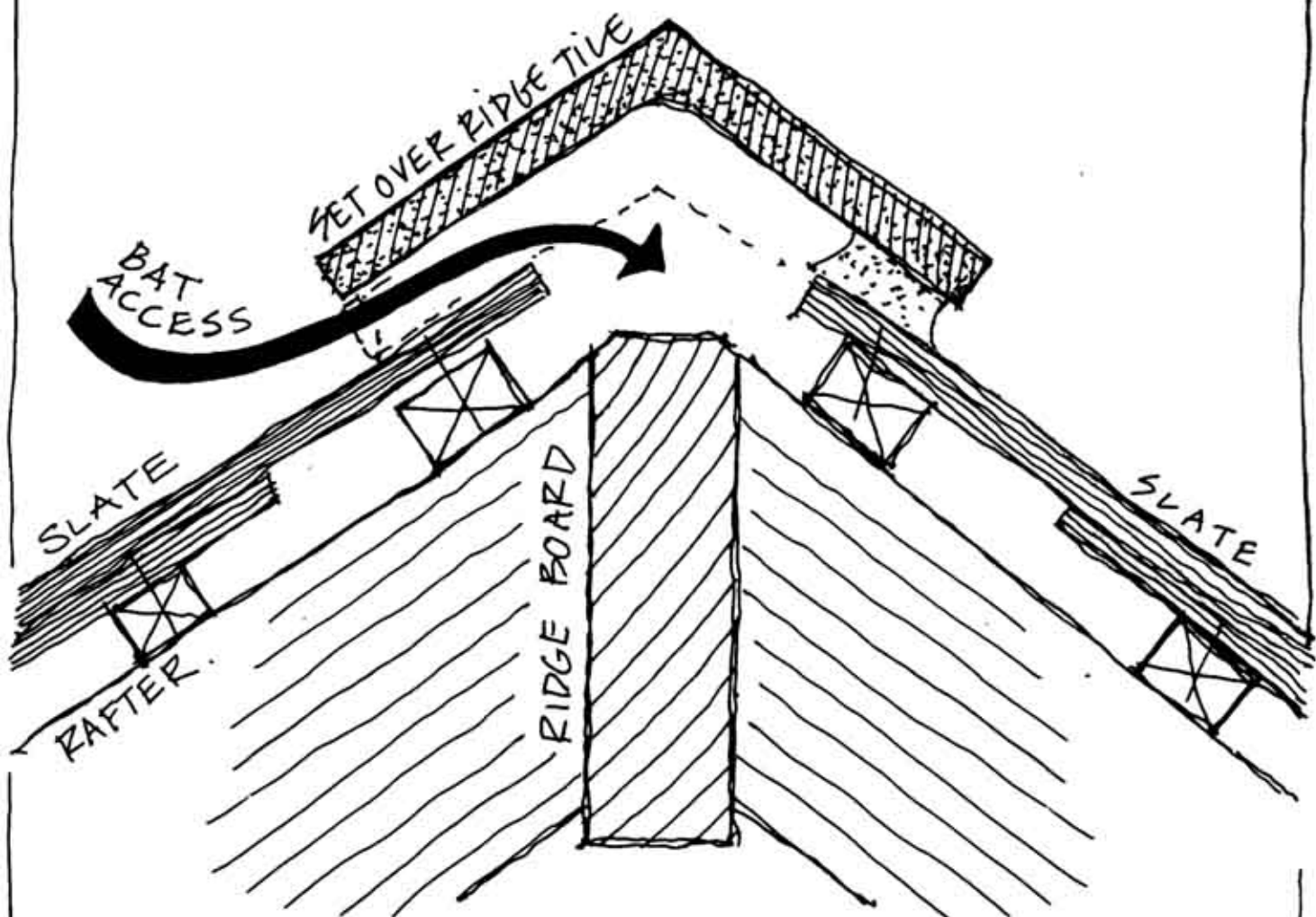
Bats

- Bats are highly mobile and when not in hibernation can occupy a building overnight. It is essential therefore that due vigilance be maintained before and during any works to ensure their protection. The lack of evidence of roosting at this stage does not constitute confirmation that this is not taking place intermittently or may not take place in the future.
- Following completion of the survey, based on its results and the timing of the survey, there remains medium potential for crevice-dwelling bats to be roosting in concealed areas of all three buildings. It is therefore recommended that **a watching brief** by a licensed bat worker of targeted areas of the roofs to be soft stripped (such as ridge tiles, gable verges and eaves) be undertaken. Should evidence of bats be found during the watching brief, works must stop whilst Natural England are contacted on how best to proceed as it is possible that the tiles would need to be replaced and the bat roost left undisturbed until such times that a bat licence from Natural England is in place. A watching brief must be conducted during suitable weather conditions (i.e. not during temperatures at which bats may be hibernating and not during strong winds or heavy rain).
- Certain mitigation in respect of bats will be required if evidence of bats is found during the watching brief, although it should be noted that mitigation for pipistrelle bats is easily achievable within the scheme, if necessary.
- To ensure no net loss of roosting opportunities for crevice-dwelling bats post-development, it is advised that access under a ridge tile on one of the new dwellings is provided as per the diagram overleaf. This would provide an opportunity for small numbers of pipistrelle to roost in the small gap on top of the ridgeboard. Alternatively, an integrated bat box, such as that illustrated below, could be incorporated into the wall of a south elevation (just below a gable apex or just below the eaves) on one of the new dwellings to provide summer roosting opportunities for pipistrelle.



Habibat integrated bat box
- plain for rendering

RIDGE TILE ACCESS DETAIL 4A



~ OPTION A ~

ROOF RIDGE SET ON TOP
OF GENERAL RIDGE TILES
TO FORM BAT ACCESS GAP.



~ OPTION B ~

MAINTAIN 20MM MORTAR
GAP. & LEAVE A SECTION
OUT.

- **The beech trees should be retained, where practicable and protected during works in accordance with BS5837:2012** 'Trees in relation to construction' for the purposes of ensuring that potential bat roosting and foraging habitat as well as potential bird nesting habitat are maintained.
- **Any trees to be subject to felling or lopping works should be surveyed for bats by a suitably experienced ecologist. This may involve further inspection by a certified tree climber under the instruction of a licensed ecologist or may involve bat activity surveys at dusk and dawn during the active bat season of May-August.** The results of these surveys should form the basis for further recommendations and mitigation, where required.
- **Any works to trees should be conducted in order to avoid the bird nesting season, typically March-September inclusive, where possible. However, if timing of works in this way is not possible,** a suitably experienced ecologist could carry out a nesting bird check immediately prior to works commencing on Site.
- Should the proposals entail the removal of any trees, their loss should be compensated for by replacement planting of native trees within a carefully designed soft landscaping scheme.
- Any soft landscaping proposed within the site should use native trees and shrubs appropriate to the landscape character and of local provenance. Selecting species that bear seeds, nuts and berries will also benefit local birds.

Birds

- Evidence of an old swallow nest was found in the Old Printing Store during the survey of 30th May 2014, showing historic use of the site by nesting birds. There was also good potential for birds to nest at eaves level. The majority of species of nesting bird are protected under the Wildlife & Countryside Act 1981 and as amended by the Countryside & Rights of Way Act 2000. The site should therefore be surveyed for nesting birds prior to commencement of works by a person competent to do so and due vigilance also be maintained during construction to ensure that no breeding birds are disturbed during the construction process should nesting commence thereafter. Birds typically nest between March-September inclusive though some species will nest at any time of year. If evidence of nesting birds is found, no works should be undertaken that may cause disturbance until after all the chicks have fledged.

ECOLOGICAL can provide further advice in this respect if required. Due vigilance should also be maintained during construction to ensure that no breeding birds are disturbed should nesting commence thereafter.

Other

- Should any protected species be discovered before or during the works *ECOLOGICAL* or the local office of Natural England should be contacted for advice.

8. References

Bat Workers Manual (3rd Edition) JNCC, 2004
Bat Survey Guidelines, Bat Conservation Trust, 2012, 2nd ed
Bat Mitigation Guidelines, English Nature Jan 2004
Long-eared bats, Susan M Swift 1998
The Conservation of Habitats and Species Regulations, HMSO (2010, as amended)
NPPF - National Planning and Policy Framework
Circular 06/2005: Biodiversity and geological conservation: Statutory obligations and their impacts in the planning system
South Yorkshire Bat Group
www.natureonthemap.naturalengland.org.uk
Google Earth Pro
<http://www.nhbs.com/title/181486/habibat-bat-box-plain-for-rendering>
Brooks Ecological -Ecological Appraisal - Land off Saville Lane, Thurlstone - May, 2012