Dene Bottom Works, Kirkburton

Bat Roost Assessment

January 2014

QUANTS environmental Ltd

Tel: 01765 600799

Email: info@quantsenvironmental.com

Web: www.quantsenvironmental.com

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1 Introduction

This report presents the results of a bat roost assessment undertaken on 9th January 2014 by Quants Environmental at Dene Bottom Works, Storthes Hall Lane, Kirkburton, Huddersfield, HD8 0PW. The survey was commissioned in relation to the proposed demolition of industrial units in order to construct dwellings at the site.

The site is located adjacent to Penistone Road (A629) on the western edge of Highburton and Kirkburton at grid reference SE1890113272. The site comprises three industrials units referred to as Buildings 1 to 3. Figures 1 and 2 provide an illustration of the building and site location. The surrounding landscape comprises pasture land, extensive tracts of woodland and urban areas. This report was completed to inform planning decisions pertaining to the development plans.

Figure 1: Aerial image of the location of the buildings (1 to 3) on the site

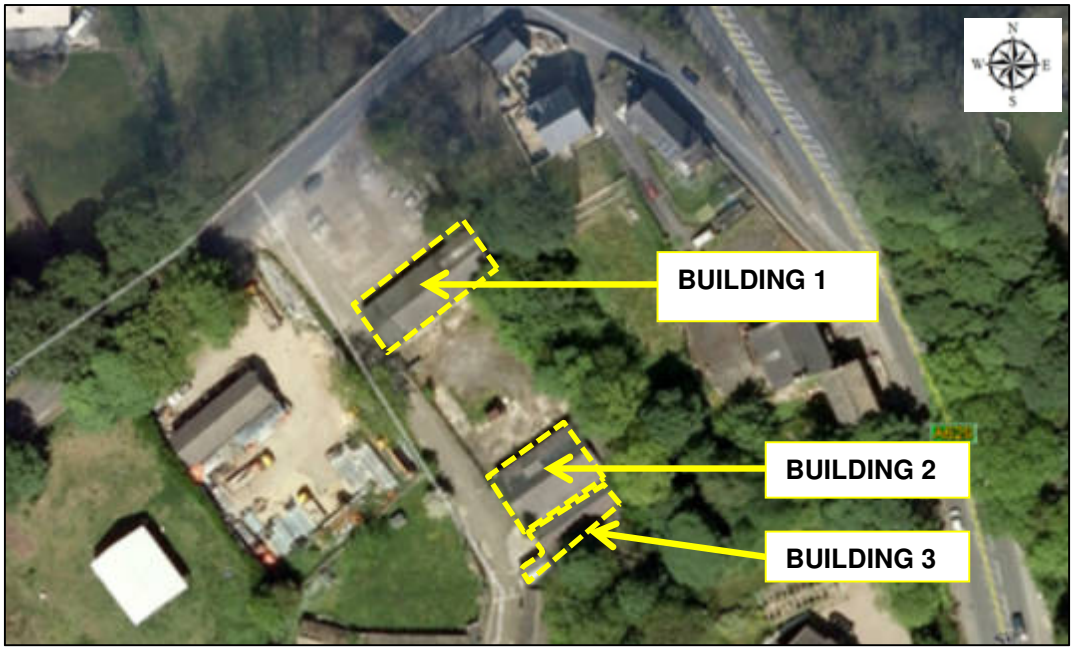
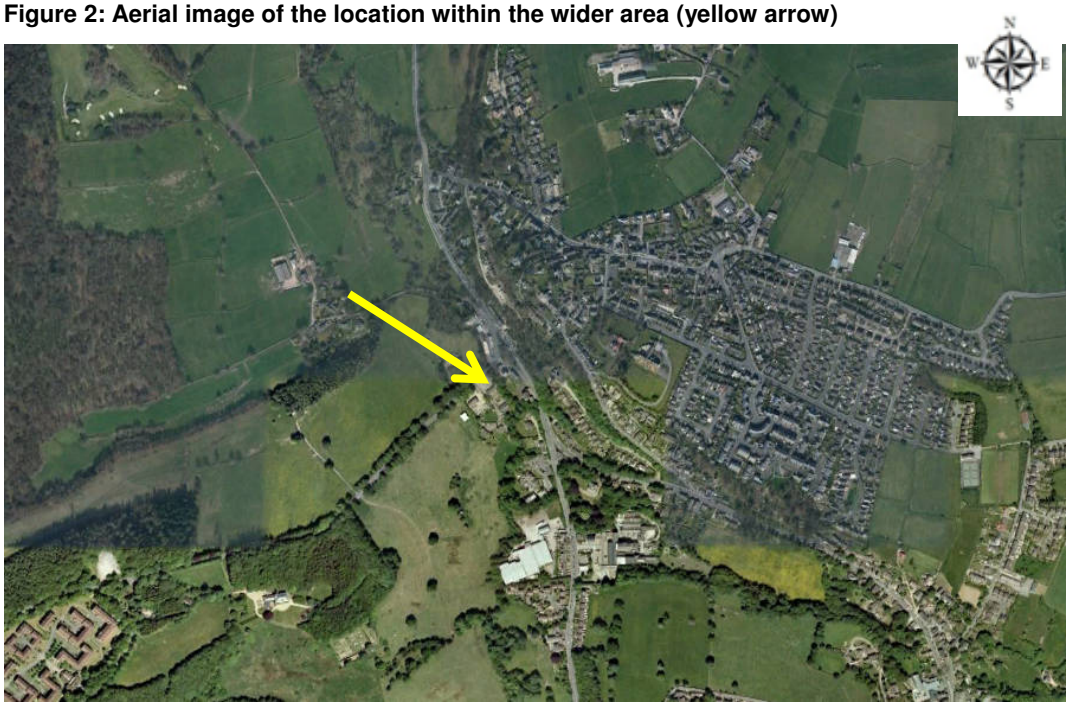


Figure 2: Aerial image of the location within the wider area (yellow arrow)



2 Survey Methodology

2.1 Desk Study

West Yorkshire Bat Group (WYBG) was contacted for records of bats within a 2km radius of the site.

2.2 Bat Roost Assessment

The buildings were subject to a detailed internal and external inspection for signs of bats on 9th January 2014 by Toby Fisher CEnv MCIEEM (Natural England Class Licence CLS0529) and Ryan Knight ACIEEM (Natural England Class Licence CLS00633) of Quants Environmental. The survey was undertaken in accordance with the standard methodology as far as is practical during the winter period[1].

The exterior of the buildings were searched for signs of bats such as droppings and for potential bat access points and roost features. The buildings were inspected for evidence of bats including droppings, scratches, staining, urine marking, corpses and feeding remains i.e., insect wings.

The structural features of the buildings that were suitable to support bats in terms of bat egress points and roost locations were examined and recorded in order to determine the likelihood of bats being present within the building during the bats main active season (May to September). This would in turn allow the assignment of a classification (negligible to high) of the potential of the buildings to support bat roosts.

The survey included the use of a high powered torch, ladders and close-focusing binoculars. A digital endoscope was available for use if required.

2.3 Limitations

All sections of the buildings were accessed for survey. The survey was undertaken outside the main bat survey season (May to September inclusive); therefore, no dusk emergence survey was undertaken.

External evidence of bat activity outside the main survey season can be more difficult to detect because bats are less active and evidence such as droppings are more readily removed by wind and rain etc. However, internal evidence of bats is often prevalent long after bats have left a roost particularly at the roost emergence points and bat droppings can also be found under roof eaves and other external sheltered locations outside of the main active period.

It is considered that aside from the above constraints, a comprehensive internal and external survey of the buildings was completed, with no significant survey limitations.

[1] Hundt L (2012) Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust. ISBN-13: 9781872745985.

3 Survey Results

3.1 Desk Study

Records of bats within a 2km radius of the site are presented in Appendix 2. West Yorkshire Bat Group provided 12 records of bats including *Vesper* species (likely to be pipistrelle species), pipistrelle species (*Pipistrellus sp*), Leisler's bat (*Nyctalus leisleri*) and brown long-eared bat (*Plecotus auritus*).

The most notable records include a maternity roost of 21-50 common pipistrelle (dated 1999) located ~795 metres north and a roost of Vesper species (dated 2005) located ~400 metres south. There are no historic or existing roost records from the site itself.

3.2 Building Descriptions

For ease of reference, the industrial units on the site are referred to as Buildings 1 to 3 as per Figure 1. Also refer to photographs in Section 3.7.

Building 1

Building 1 is a red brick built, industrial unit used for the production and storage of firewood. This process includes the use of heavy machinery and log splitting equipment which is likely to produce high impact noise. Frequent disturbance is likely which will reduce the suitability of the building for use as a bat roost, particularly inside the building.

The building is a single-skinned brickwork construction; therefore, there are no wall cavities. To the north-west of the ridge, the roof has a bitumen roof felt over timber; to the south-east of the ridge, the roof is of slate tiles with no lining. The south-eastern elevation of the building comprises a rendered block wall. External suitable roost opportunities for bats are largely absent; limited to one or two suboptimal places in which the felt lining was slightly raised on the south-western gable end.

Internally, the building is an open structure with no roof void. In the majority, the roof is unlined; on the south-western part there are several areas where bitumen felt has been lain directly over timbers slats. Based on the absence of external access features, the timber lining is considered unlikely to provide suitable crevices for use by roosting bats.

Building 2

Building 2 is a disused, stone-built industrial unit which is attached to a brick-built industrial unit used for storage (Building 3). The unit has two pitched roofs with a slate tile roof covering. Externally, most features of suitability to bats were observed: a) within the stonework on the north elevation; and b) on the east elevations adjacent to the watercourse. There are several gaps within the stonework, particularly towards the midsection of the north elevation (Photo 7). These gaps lead to extensive cavities within the stonework. There are also several suitable gaps / crevices underneath the eaves board on the north elevation and to a lesser extent, the east elevations. It should be noted that no bat droppings were observed within these cavities.

The roof structure is in very poor repair; extensive water ingress was observed in numerous places including walls & flooring throughout the building. This wetness will reduce the suitability of these parts of the building for use by bats. The ceiling of the building is largely collapsed. The roof is unlined and there are no true-roof voids. There is also extensive light ingress due to a number of skylights throughout the roof.

Building 3

Building 3 is a brick-built, single industrial unit attached to Building 2 and currently used for storage. The building has a corrugated sheet roof which is unlined. Internally, the building is an open structure with no roof void. Externally, roost opportunities for bats are limited to crevices underneath the roof covering where it overlaps the wall on the east elevation adjacent to a watercourse.

3.3 Habitat Description

The site and immediate surroundings are largely hard standing and bat activity within the site is likely to be low. However, all units are located directly adjacent to the watercourse of Thunder Bridge Dike which provides a suitable foraging and connective flyway for bats. Bat activity within the site is expected to be largely associated with this watercourse and bat activity is expected to decline at increasing distances from the watercourse.

The site is located on the eastern edge of a landscape dominated by tree-lined pasture land and extensive tracts of broadleaf and conifer woodland. These habitats provide optimal foraging opportunities for bats and moderate to high levels of bat activity are expected in those areas.

3.4 Evidence of Bats and Bat Roost Potential

No bats or evidence of bats were recorded during the internal or external inspections. A comprehensive visual inspection was undertaken throughout each building. All potential roost features observed were limited to the external elevations of the buildings.

Building 1: With consideration of the limited number of bat roost features (e.g., lifted bitumen roof lining) and high disturbance factors, Building 1 is considered to have ***negligible to low*** potential for use as a bat roost.

Building 2: Suitable features for bats are located within the stonework and eaves boards on the north elevations and to a lesser extent, the eastern elevations. Therefore, Building 2 is considered to have ***moderate*** potential for use as a roost by bats.

Building 3: With consideration of the limited number of bat roost features (e.g., crevices beneath roof sheet overlap), Building 3 is considered to have ***negligible to low*** potential for use as a bat roost.

3.5 Birds

Bird nesting material was observed in two locations within the wall cavities of Building 2 (northern elevation). The wall cavities are therefore likely to provide a suitable nest site for birds during the breeding season (March to August).

3.6 Other Ecological Considerations

All buildings are directly adjacent to the bankside of a watercourse to the east. Dependent upon its prevalence within the area, this watercourse may be within the foraging range of otter. No suitable lying up sites or holts were noted along the watercourse, although full inspections were not completed due to health and safety considerations with the water levels being high at the time. Due to the absence of suitable bankside and emergent food sources and frequent high velocity of water flow, this watercourse is also unlikely to be suitable for use by water vole. White clawed crayfish are also unlikely to be present due to the water quality, high sedimentation and absence of local records.

3.7 Photographs

Photo 1: View of Buildings 1 to 3 taken from the south.

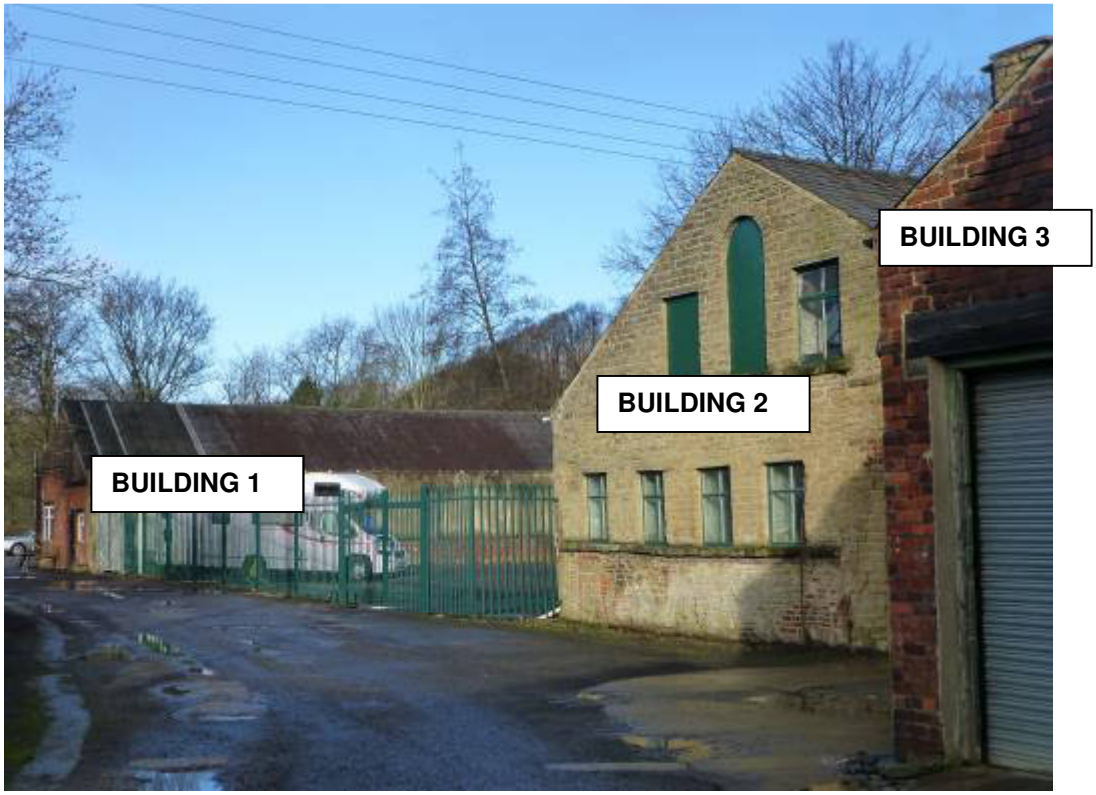


Photo 2: North-east elevation of Building 1

Photo 3: Building 1 viewed from the south

Photo 4: Internal of Building 1

Photo 5: Building 2 viewed from the north-west

Photo 6: Building 2 viewed from the south-east (watercourse visible on right)

Photo 7: Gaps within stonework (& behind eaves board) on north elevation of Building 2

Photo 7: Internal roof structure of Building 2

Photo 8: Building 3 (left of picture) viewed from the north

Photo 9: East elevations of Building 3 (left of picture) and Building 2 (right of picture)

4 Conclusions and Recommendations

4.1 Conclusions

No bats or evidence of bats was recorded during the external and internal inspection of each building. The main conclusions from the bat roost assessment of each building are as follows:

Building 1: With consideration of the limited number of bat roost features (e.g., lifted bitumen roof lining) and high disturbance factors, Building 1 is considered to have negligible to low potential for use as a bat roost.

Building 2: Suitable features for bats are located within the stonework and eaves boards on the north elevations and to a lesser extent, the eastern elevations. Therefore, Building 2 is considered to have moderate potential for use as a roost by bats.

Building 3: With consideration of the limited number of bat roost features (e.g., crevices beneath roof sheet overlap), Building 3 is considered to have negligible to low potential for use as a bat roost.

4.2 Recommendations

Buildings 1 & 3

It is extremely difficult to provide conclusive evidence of absence of bats outside of the emergence survey season (May to September), particularly with regards to smaller roosts (1-2 bats) of crevice dwelling species. However, based on the evidence, the use of Building 1 and Building 3 as a bat roost is considered unlikely and further survey works to confirm presence / absence of bats are not considered necessary.

Building 2

Building 2 contains several features of suitability of use by bats (e.g., cavities within stonework) and consequently there is a sufficient element of risk of impacts to bats to trigger further survey effort. Therefore, it is recommended that dusk emergence and / or dawn re-entry surveys are undertaken during the bats main activity period (May to September) to provide more comprehensive information on the presence / absence of bats from this building.

Biodiversity enhancements for bats are recommended to be provided on the completion of the bat emergence survey and upon finalisation of the design layout for the new development.

Watercourse

It is recommended that impacts to the watercourse which flows south-north adjacent to the east of the site are avoided as far as possible. If impacts such as lighting or bankside disturbance are unavoidable, further surveys for bats and otters may be required and measures may be required to mitigate any impacts.

4.3 Birds

All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Bird nesting material was identified within Building 2. Any works to the building are therefore recommended to be undertaken outside the main breeding bird season (March to August). Any work which could affect active bird nests should be supervised by a suitably experienced ecologist and any active nests must be retained in situ undisturbed until the nests are no longer active.

Appendix 1: Legislation and Conservation Context

Bats

All British bat species are fully protected through The Conservation of Habitats and Species Regulations 2010 as European Protected Species (EPS). They also receive some protection through inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

It is an offence to deliberately capture, injure or kill a bat. It is an offence to damage or destroy a breeding site or resting place of a bat. It is an offence to deliberately disturb a bat; in particular any disturbance which is likely (a) to impair their ability - (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or (b) to affect significantly the local distribution or abundance of the species to which they belong.

Under the Wildlife and Countryside Act 1981 (as amended), it is also an offence to intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection; or obstruct access to any structure or place which any such animal uses for shelter or protection.

The 'appropriate authority' (Natural England in England) has powers to issue licences for various purposes including - (a) scientific or educational purposes… and (e) preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment. The appropriate authority shall not grant a licence under this regulation unless they are satisfied - (a) that there is no satisfactory alternative, and (b) that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range. It is an offence for any person authorised by virtue of a licence to which this paragraph applies to contravene or fail to comply with any condition which the licence requires him to comply with.

Several species of bat including brown long-eared and soprano pipistrelle *Pipistrellus pygmaeus* are identified as UK Biodiversity Action Plan (BAP) priority species.

Nesting birds

All wild birds in the UK are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy the nest (whilst being built or in use) or its eggs. Bird species listed in Schedule 1 of the 1981 Act, such as barn owl, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird.

Appendix 2: WYBG Records

Table 1: West Yorkshire Bat Group Records of bats within a 2km radius of the site

Grid Ref	Location Name	Date	Common Name	Recommended Name	Abundance	Record Type
SE177126	Storthes Hall Lane	18/08/1997	Lesser Noctule Bat	Nyctalus leisleri	uknown Count of Adult	Roost (possible)
SE177126	Storthes Hall Lane	18/08/1997	Pipistrelle Bat species	Pipistrellus		Roost (possible)
SE202122	Fair Field Rise	26/05/1999	Common Pipistrelle	Pipistrellus pipistrellus	1 Count of Adult	Roost (possible)
SE1868814020	Schofield and Sims, Dogley Mill, Fenay Bridge	06/07/1999	Common Pipistrelle	Pipistrellus pipistrellus	21-50 Count of Adult	Roost (maternity)
SE203122	Folly Hall House, Cross Lane	17/02/2000	Common Pipistrelle	Pipistrellus pipistrellus	1 Count of Adult	Roost (possible)
SE177126	Storthes Hall Road, Kirkburton	17/12/2001	Common Pipistrelle	Pipistrellus pipistrellus	1 Count of Adult	Roost (possible)
SE1930813316	5 Mead Way, High Burton,	06/02/2007	Pipistrelle Bat species	Pipistrellus	2 Count of Adult	Roost (hibernacula)
SE197126	Kirkburton locality	11/10/1919	Brown Long-eared Bat	Plecotus auritus	Abundance not record Count	Roost (possible)
SE1920514752	Kirklees, 18 Hermitage Park, Fenaybridge, Huddersfield HD8	31/08/2000	Vesper Bat species	Vespertilionidae	1 Count of Adult	Roost
SE1906312880	241 Penistone Road, Kirkburton, Huddersfield, Kirklees	21/06/2005	Vesper Bat species	Vespertilionidae		Roost
SE1981712976	47 Hallas Road, Kirkburton,	05/01/2006	Vesper Bat species	Vespertilionidae	1 Count of Adult	in building
SE180127	The Old Barn, Woodside Lodge, Storthes Hall Lane, Kirkburton	05/04/2006	Vesper Bat species	Vespertilionidae		field record