Former Water Treatment Works in Longwood

Preliminary Roost Assessment

12th December 2023



Prepared by:

Middleton Bell Ecology, School House, Green Moor, Sheffield, S35 7DQ

Document ref: MBE/BAT/2023/119/01				
Purpose and Description	Originated	Checked	Reviewed	Date
For Planning	R Bell MCIEEM	P Middleton MCIEEM	R Bell MCIEEM	12/12/2023

Disclaimer

This report is issued to the client for the sole use and for the intended purpose as stated in the agreement between the client and Middleton Bell Ecology (MBE) under which this work was completed, or else as set out within the report. This report may not be relied upon by any other party without the express written agreement of MBE. The use of this report by unauthorised third parties is at their own risk and MBE accepts no duty of care to any such party.

MBE has exercised due care in preparing this report, it has not, unless specifically stated, independently verified information provided by others. No other warranty, express or implied, is made in relation to the content of this report and MBE assumes no liability for any loss resulting from errors, omissions or misrepresentation made by others.

Any recommendations, opinion or finding stated in this report is based on circumstances and facts as they existed at the time that MBE performed the work. Nothing in this report constitutes legal opinion. If legal opinion is required, the advice of a legal professional should be secured.

Contents

1. Summary 3
2. Introduction 4
3. Habitat Assessment 4
4. Methodology 5
5. Results 7
6. Assessment 12
7. References 15
Appendix 1. West Yorkshire Ecology Bat Records 16

1. Summary

1.1.1 Middleton Bell Ecology Ltd were commissioned to produce a Preliminary Roost Assessment of a former water treatment works in Longwood, by the client Jodean Carter-Brown on 14th November 2023.

1.1.2 The survey was undertaken to inform proposals to re-develop the former water treatment works building. A now lapsed planning consent (2015/62/93689/W) was issued for the same development in 2015.

1.1.3 The site was subject to an Ecological Appraisal by Ecus in 2015. As part of the 2015 works, the building was subject to a visual inspection, with a single dawn return survey undertaken on 20th August 2015. No signs of roosting bats were recorded during the 2015 survey works.

1.1.4 Bat survey works detailed in this report include a desk-based study and an internal and external visual inspection, undertaken on 7th December 2023.

1.1.5 No historic records, other than a common pipistrelle foraging record, collected during the 2015 survey, were provided in relation to the site.

1.1.6 Although the surveyed building was located in good bat foraging habitat it was found to be in a fairly derelict condition, especially internally, with bat roost potential mainly associated with the roof, which itself was extensively damp. Consequently, the surveyed building was considered to display a low level of bat roost suitability.

1.1.7 Nesting feral pigeon were recorded from the building and other bird species may nest in association with both the buildings and trees on site.

1.1.8 To confidently determine bat presence/absence it would be necessary to undertake a single dusk emergence survey during the bat activity survey season (peak-period: mid-May to August). An alternative approach is also suggested which comprises strict accordance with a method statement detailed in this document. This method statement includes measures to prevent the killing or injuring of bats and a commitment to the re-creation of potential roost features through use of bat friendly Type 1F felt, the fitting of four bat access slates and the fitting of two integrated bat boxes. External lighting would need to be restricted to only passive infra-red sensor activated units on a short timer (with no switch override).

1.1.9 It is recommended that building redevelopment works and any required tree/shrub removal either commence outside the main bird nesting period (taken to be March to August inclusive), or that a nesting bird check should be undertaken by an ecologist immediately prior to works commencing.

1.1.10 It is recommended that one integrated bird box is included in the scheme.

2. Introduction

2.1.1 Middleton Bell Ecology Ltd were commissioned to produce a Preliminary Roost Assessment of a former water treatment works in Longwood by the client Jodean Carter-Brown on 14th November 2023.

2.1.2 The survey was undertaken to inform proposals to re-develop the former water treatment works building. A now lapsed planning consent (2015/62/93689/W) was issued for the same development in 2015.

2.1.3 Bat survey works detailed in this report included a desk-based study and an internal and external visual inspection, undertaken on 7th December 2023.

2.1.4 The site was subject to an Ecological Appraisal by Ecus in 2015. As part of the 2015 works the building was subject to a visual inspection, with a single dawn return survey was undertaken on 20th August 2015 (Ecus, 2015). No signs of roosting bats were recorded during the 2015 survey works.

2.1.5 The site is located off Holmefield Road, adjacent to Longwood Reservoir on the edge of the village of Golcar, approximately 4.8 km west of Huddersfield town centre.

3. Habitat Assessment

3.1.1 The site comprised a former water treatment works building with quite extensive scattered trees encroaching on all sides of the building. Longwood Reservoir was located 45 m from the building, with the wider area mainly comprising a mixture of reservoirs and associated buildings, pasture, woodland and residential housing.

3.1.2 The abundance and diversity of bat species present in the local area was expected to be quite high. Table 1 summarises habitats present, adjacent to and further afield of the surveyed building.

Table 1. Location and habitat table

Name and address: Former Water Treatment Works, Holmefield Road, Longwood, HD3 4TT			
OS Grid Ref. SE 09807 16934		Altitude. 202 m	
Local Planning Authority: Kirklees Council			
Features on site and adjacent to site			
Feature	On site	Adjacent	Comments
Buildings	✔	✔	Located adjacent to current Yorkshire Water buildings
River bordered by trees			
Standing water		✔	Within 45 m of Longwood Reservoir
Bridges tunnels and culverts			
Trees	✔	✔	Building surrounded by trees
Woodland			Woodland 280 m northwest of site
Grassland	✔	✔	Grassland on embankment around reservoir

Figure 1. Site location, as indicated by red circle



3.2 Aims

3.2.1 The survey was conducted to help determine the following:

- The presence/likely absence of roosting bats.
- Suitable bat roosting areas and access/egress points into the building.
- The level of bat roost potential associated with the building.
- The number and species of bat roosting within the building.
- Identify further bat survey work or mitigation requirements.
- Record evidence of bird nesting from site building.

4. Methodology

4.1 Data Consultation

4.1.1 A desk study was undertaken with West Yorkshire Ecology Service and West Yorkshire Bat Group to request bat records for locations within 2 km of the site.

4.1.2 A search of the Multi-Agency Geographical Information for the Countryside (MAGIC) website was undertaken to identify historic European Protected Species (EPS) licences obtained for locations within 2 km of the site.

4.2 Field Survey

Preliminary Roost Assessment

4.2.1 The following personnel conducted the preliminary roost assessment on 7th December 2023:

- Robert Bell (MCIEEM; Class license WML-A34-Level 4, 2016-25236-CLS-CLS)

4.2.2 The following activities were carried out during the surveys in compliance with relevant Bat Survey Guidelines (Collins 2016):

- A brief inspection and assessment of the site and adjacent vegetative habitats.
- An extensive examination of all parts of the building both inside and out to record structural features and condition and to record features that may be suitable for roosting bats. Particular attention was paid to any crevices or gaps in walls, lintels, gaps between beams and joists and to the possibility of finding droppings stuck to walls, floors or other surfaces, or insect remains below beams, among a number of other factors. All signs indicative of the presence of a bat roost, including live or dead bats, droppings, feeding remains, scratch marks and staining were recorded.
- An assessment of the building's bat roost potential (negligible, low, moderate, high or confirmed roost).

4.2.3 In addition:

- Recording of any signs of nesting bird usage of the building.

4.2.4 The following equipment was used or at hand during the survey:

- Clulight
- Binoculars
- Endoscope
- Ladders
- Camera

4.3 Survey Limitations

4.3.1 Signs of bat presence deposited on the exterior of the building during the bat activity survey season would be likely have been removed by weather action prior to the survey being undertaken. It is nevertheless an acceptable time to undertaken preliminary roost assessments (Collins, 2023) and it is considered that an effective assessment of the building's bat roost potential was possible.

5. Results

5.1 Data Consultation

5.1.1 No evidence of bat roosting was recorded from the site during the 2015 survey works, however, common pipistrelle *Pipistrellus pipistrellus* were recorded feeding on site on 20th August 2015 (Ecus, 2015).

5.1.2 A total of 48 bat records were received from West Yorkshire Ecology. No historic bat records related to the site itself. The closest bat records to the site comprised field records of whiskered bat *Myotis mystacinus*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and brown long-eared bat *Plecotus auritus* collected in 2008 from a location 349 m west of the site. Additional bat species positively identified in the data consultation comprised noctule *Nyctalus noctule* and Nathusius' pipistrelle *Pipistrellus nathusii*. Other records were attributed to either an unidentified *Pipistrellus* species, an unidentified *Nyctalus* species, or an unidentified bat species.

5.1.3 West Yorkshire Bat Group supplied 12 bat records. The closest record related to a roost used by an unidentified bat species, excluded from a building in a location 630 m from the site in 2007. Species positively identified in the records included common pipistrelle and Natterer's bat *Myotis nattereri*. Other records were attributed to either an unidentified *Pipistrellus* species or an unidentified bat species.

5.1.4 A search of MAGIC revealed one bat EPS mitigation licence having historically been issued for a location within 2 km of the site. This licence was issued in 2020 to permit destruction of a common pipistrelle resting place/s located 1.8 km northeast of the site.

5.2 Field Survey

Preliminary Roost Assessment

5.2.1 No evidence of bat roosting was recorded from the surveyed building; however, the building was considered to display a low level of bat roosting suitability.

Description

5.2.2 The surveyed building comprised a c.1920s single-storey brick-built former water treatment works with a dual-pitched roof covered with Welsh slates, clay ridge tiles and stone copings. Wooden double doors were present in both the north and south gable, with the south gable having a range of single-pane windows above the doors. Single pane windows were also present along both the east and west elevations, although the former tall window openings had been filled with concrete blockwork to approximately ¾ of their previous height. Window lintels and sills were in stone, with guttering in cast iron.

5.2.3 Approximately half the roof slates on the building's west pitch with had been stripped with damage also having occurred to sections of the east pitch. Lead soakers on the east pitch, adjacent to the south gable were exposed and had been raised. The building's windows lacked glazing in places, with metal mesh covering only some of these areas.

5.2.4 A metal shipping container, metal oil tank and the walls of a small lean-to were present on the building's east elevation. Young self-set trees (largely willow *Salix*) were encroaching up to the edge of the building on all elevations.

Plate 1. Southwest corner of surveyed building



Plate 2. East elevation of surveyed building, with trees in foreground



Plate 3. North gable



External bat roost suitability

5.2.5 A range of potential bat roosting opportunities were recorded from the exterior of the building. The main features comprised missing roof tiles, raised roof slates and occasional gaps in the ridge tile bedding mortar (Plate 4). Lifted lead soakers were also present in the east pitch, potentially providing a crevice space between these soakers and wood sarking. In a limited number of locations on the building's walls there was potential bat access to the wall top, notably in the location of a missing downpipe on the east elevation. A crack was also noted between the wooden frame of the doors in the south gable and adjacent brickwork (Plate 5). This crack, up to 3 cm in width could be fully inspected using a torch. A further gap between a stone lintel and brickwork on the east elevation was found to be largely superficial.

Plate 4. Missing and lifted slates on southwest corner of roof



Plate 5. Gap between wooden frame and brickwork at top of double door frame in south gable



Internal inspection

5.2.6 The buildings roof was lined with wood sarking and suspended on a ridge beam, purlins, rafters and metal trusses (Plates 6 & 7). The interior of the building was in a derelict condition with numerous roof holes resulting in major water ingress across almost all areas and with extensive feral pigeon *Columba livia* droppings on the floor. The interior was light and breezy as a result of numerous missing windowpanes, many of which were not mesh covered and which, consequently, provided potential bat access points. The internal side of the windows were lined with wooden boards up to ¾ of their height and in two locations the board had rotted in the corner allowing potential bat access between the boards and panes. These areas were however comprehensively inspected. Similarly, a gap of c. 1.5 cm between end rafters and the gables could be fully inspected, with light coming through at the roof edges in several places.

5.2.7 No evidence of bat presence was recorded from any location within the interior or exterior of the building. Feral pigeon nests were however located within the building (Plate 8).

5.2.8 Although the surveyed building was located in good bat foraging habitat it was found to be in a fairly derelict condition, especially internally, with bat roost potential mainly associated with the roof, which itself was damp in many places. Consequently, the former water treatment works building was considered to display a low level of bat roost suitability.

Plate 6. Southern half of interior



Plate 7. Northern half of interior

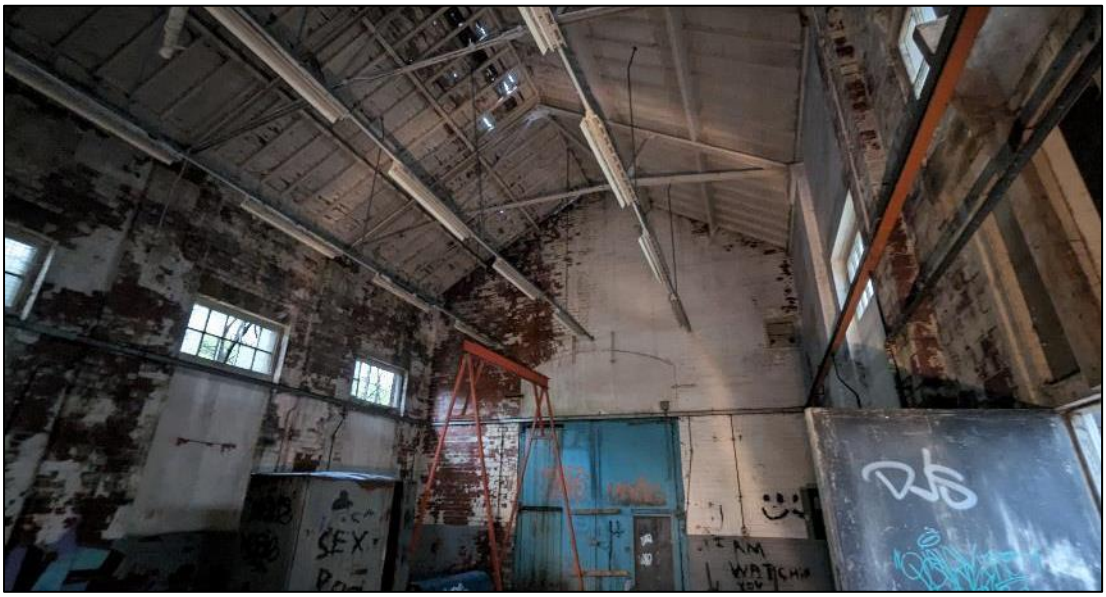


Plate 8. Nesting feral pigeon inside building



Trees

5.2.9 No site trees were considered to display greater than a negligible level of bat roost suitability.

6. Assessment

6.1 Summary and Evaluation of Findings

6.1.1 The surveyed building was considered to display a low level of bat roost suitability during the active season. The building, which was largely damp and provided little temperature buffering, was considered to offer little hibernation suitability. The only sections of the building displaying bat roost potential that could not be comprehensively checked during the visual inspection comprised gaps below roof tiles and beneath flashing on the roof.

6.1.2 Nesting feral pigeon were recorded from the building and other bird species may also nest in association with the buildings and trees on site.

6.2 Legislation and Policy Guidance

Bats

6.2.1 Bats receive protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the Wildlife and Countryside Act 1981 (as amended).

6.2.2 It is an offence to:

- Deliberately capture (or take), injure or kill a bat.
- Intentionally or recklessly disturb bats whilst they are occupying a structure or place used for shelter or protection or obstruct access to any such place.
- Damage or destroy the breeding or resting place (roost) of a bat.
- Possess a bat (live or dead), or any part of a bat.
- Intentionally or recklessly obstruct access to a bat roost.
- Sell (or offer for sale) or exchange bats (dead or alive), or parts of parts.

6.2.3 The Convention on Biological Diversity, signed in Rio de Janeiro, Brazil in 1992, requires member states to develop national strategies and to undertake a range of actions aimed at maintaining or restoring biodiversity. The UK Biodiversity Strategy was produced in response to the Convention.

6.2.4 In England & Wales, the Natural Environment and Rural Communities (NERC) Act, 2006 imposes a duty on all public bodies, including local authorities and statutory bodies, in exercising their functions, “to have due regard, as far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity”. It notes that “conserving biodiversity includes restoring or enhancing a population or habitat”. Barbastelle *Barbastella barbastellus*, Bechstein’s bat *Myotis bechsteinii*, brown long-eared bat, greater horseshoe bat *Rhinolophus ferrumequinum*, lesser horseshoe bat *Rhinolophus hipposideros*, noctule and soprano pipistrelle are included as priority species within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. At a more local level there are Local Biodiversity Action Plans for smaller geographical areas which may cover a greater or lesser range of bat species.

6.2.5 Where it is proposed to carry out works which will have an adverse impact on roosting bats, the site must either be registered on the Bat Mitigation Class Licence (BMCL) or Earned Recognition (ER) licence, or a European Protected Species (EPS) license

must first be obtained from Natural England. This requirement applies even if no bats are expected to be present when the work is carried out.

6.2.6 The National Planning Policy Framework for England was revised in 2021. This document states that plans should 'promote the conservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity'.

Birds

6.2.1 All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to:

- Intentionally kill, injure or take any wild bird.
- Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.

6.3 Further Survey, Recommendations and Enhancements

Bats

6.3.1 The surveyed building was considered to display low bat roost suitability with the only previous nocturnal survey completed in 2015.

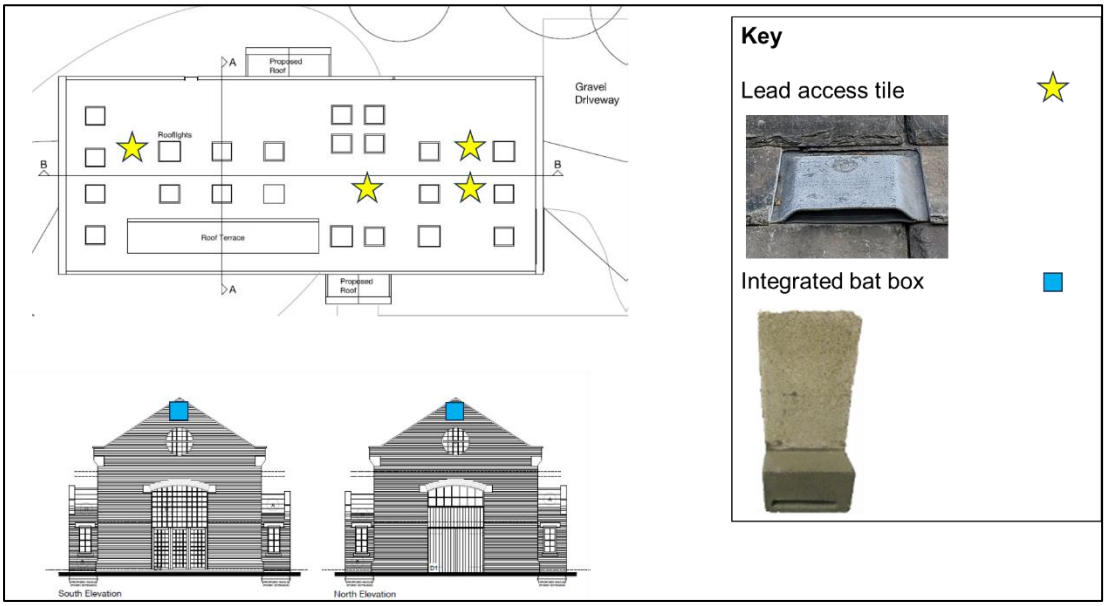
6.3.2 To conclusively determine bat presence/absence it would be necessary to undertake a single dusk emergence survey during the bat activity survey season (peak-period: mid-May to August). Two surveyor positions would be required to cover the building during the survey with night vision aids used to support surveyor observations (Collins, 2023).

6.3.3 An alternative approach would be to proceed with the renovation according to a method statement approach. This method statement would included measures to prevent killing or injuring any bats that may be present and to re-create any bat roost opportunities that would be lost during the renovation.

6.3.4 Under the method statement approach, at the outset of development works the building would need to be subject to a direct inspection of all potential roost features, to be undertaken by a licensed bat ecologist. The direct inspection would require safe access to be provided to all parts of the building roof, in order that following inspection with a torch and endoscope, roof tiles and lead soakers could be carefully removed by the ecologist. Were bats recorded using the roof of the building at this stage then works would need to cease in order that a bat mitigation licence could be applied for.

6.3.5 Regardless of whether evidence of bat use is recorded, the developer would be required to comply with a strict bat roost mitigation and compensation plan to comprise the following measures. The new roof is to be lined with hessian backed Type 1F bituminous felt, with no breathable roofing felt to be used. In addition to re-create bat roosting opportunities lost during the development four new lead access slates would be fitted, to be spread across both east and west roof pitches (Figure 2), to allow bats into the space between roof slates and felt. In addition, single integrated bat boxes would be fitted in both the north and south gables.

Figure 2. Roost measures to be included in renovated building



6.3.6 Artificial lighting has been shown to restrict the range of bat species that may use an area, as well as disrupting the ecology of other nocturnal species (i.e. moths). Consequently, in this dark semi-rural location it would be required that new external lighting would be restricted to only passive infra-red sensor activated units on a short timer (with no switch override). Luminaires would also need to be low height, low output, directional and have a warm colour tone.

Birds

6.3.7 It is recommended that building redevelopment works and any required tree/shrub removal either commence outside the main bird nesting period (taken to be March to August inclusive), or that a nesting bird check should be undertaken by an ecologist immediately prior to works commencing.

6.3.8 In accordance with the aims of the National Planning Policy Framework, and to compensate for the loss of bird nesting habitat, it is recommended that one integrated swift *Apus apus* box (i.e. S Brick (Plate 9)) be installed within the dwelling. This box should be fitted at wall top height and may be installed across any elevation. Studies have shown that swift boxes are used by other bird species that utilise buildings and consequently this measure will provide potential nesting space for house sparrows and starlings *Sturnus vulgaris*, in addition to potentially providing future nest space for swift.

Plate 9. S Brick



6.4 Conclusions

6.4.1 No evidence of bat roosting was recorded during the visual inspection of the former water treatment works; however, it was considered to display a low level of bat roost suitability.

6.4.2 It is recommended that either one further nocturnal survey is undertaken to determine bat roost presence/absence, or works are undertaken strictly in accordance with method statement measures set out in this document.

6.4.3 It is recommended that building redevelopment works and any required tree/shrub removal either commence outside the main bird nesting period (taken to be March to August inclusive), or that a nesting bird check should be undertaken by an ecologist immediately prior to works commencing.

6.4.4 It is recommended that an enhancement one integrated bird box are fitted.

7. References

Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th Edition. The Bat Conservation Trust.

Ecus (2015) Longwood, Huddersfield - Ecological Appraisal and Bat Survey. Ecus Ltd.

Appendix 1. West Yorkshire Ecology Bat Records

West Yorkshire Ecology Service

