



Land off Hugmore Lane, Wrexham

App Chem Ltd.

Bat Survey - Preliminary Roost Assessment

16 November 2015

Status	Issue	Name of Author/Reviewer	Date
Draft		Amy Campion BSc (Hons)	11/11/2015
Reviewed		Julie Powell	16/11/2015
Final	1	Amy Campion BSc (Hons)	17/11/2015

Limitations

Arbtech Consulting Limited has prepared this report for the sole use of the above named Client or his agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this Report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The assessments made assume that the sites and facilities will continue to be used for their current purpose without significant change. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

Copyright

© This report is the copyright of Arbtech Consulting Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

Contents Page

Executive Summary.....	5
1.0 Introduction and Context.....	6
1.1 Background	6
1.2 Scope of the Report	6
1.3 Site Context.....	7
1.4 Project Description.....	7
2.0 Methodology.....	8
2.1 Desk Study.....	8
2.2 Site Survey.....	8
2.3 Suitability Assessment	8
2.3 Limitations.....	9
3.0 Results and Evaluation.....	10
3.1 Desk Study Results	10
3.1.1 Designated sites	Error! Bookmark not defined.
3.1.2 Landscape.....	10
3.1.3 Historical records	10
3.2 Survey Results	10
3.3 Evaluation – Likelihood of bats being present.....	11
4.0 Conclusions and Recommendations	13
4.1 Conclusions and Impact Assessment	13
4.2 Recommendations	13
4.2.1 Survey and assessment.....	13
5.0 Bibliography	14
Appendix 1: Survey Plan	16

Appendix 2: Proposed Site Plan	Error! Bookmark not defined.
Appendix 3: Photographs.....	17
Appendix 4: Legislation and Planning Policy related to bats	19
LEGAL PROTECTION	19
Effect on development works:	19
NATIONAL PLANNING POLICY (ENGLAND).....	20
National Planning Policy Framework	20
The Natural Environment and Rural Communities Act 2006 and The Biodiversity Duty	20
Appendix 5: Desk Study Information	21

Executive Summary

Arbtech Consulting Ltd. undertook a Preliminary Roost Assessment at Land off Hugmore Lane, Wrexham on 5th November 2015. The aim of the assessment was to consider the value and suitability of the structures for roosting bats. The development proposals briefly comprise demolishing the factory to build new houses on.

Building reference	Value of building for roosting bats	Recommendations for further survey and assessment
B1	Moderate Habitat Value	Two emergence/re-entrance surveys
B2	Negligible habitat value	No further surveys necessary
Trees	Negligible habitat value	No further surveys necessary

The survey concluded that building B1 has moderate potential suitability for roosting bats. As such, two emergence/re-entrance surveys are recommended to confirm presence or likely absence of roosting bats. Building B2 and the trees within the survey area have negligible potential suitability for roosting bats and so no further surveys are necessary on these features.

1.0 Introduction and Context

1.1 Background

Arbtech were commissioned by App Chem Ltd. to undertake a Preliminary Roost Assessment (PRA) at Land off Hugmore, Wrexham. The assessment is informed by the Bat Conservation Trust publication *Bat Surveys – Good Practice Guidelines* (Hundt, 2012). The PRA was carried out because the site was assessed as having a reasonable likelihood of supporting bats during a Preliminary Ecological Appraisal completed by Cheshire Ecological Services (CES) in September 2015. A preliminary badger check was also completed on the same day. No previous reports have been produced for this site by Arbtech Consulting Ltd.

1.2 Scope of the Report

This report provides a description of all structural features suitable for roosting bats, and evaluates those features in the context of the site and wider environment. It further documents any physical evidence collected or recorded during the site survey that establishes the presence of roosting bats. It provides information on constraints to the proposals as a result of roosting bats, and summarises the requirements for any further surveys, to inform subsequent mitigation proposals, achieve Planning or other statutory consent, and to comply with wildlife legislation.

The aim of the assessment was to determine the presence or evaluate the likelihood of presence of roosting bats, and to gain an understanding of how they could use the building or structure. To achieve this, the following steps have been taken:

- A desk study has been carried out, including a request for information from COFNOD.
- A field survey has been undertaken, including an external and internal inspection of the building
- An outline of likely impacts on any known roosts has been provided, based on current development proposals
- Recommendations for further survey and assessment have been made, along with advice on European Protected Species Mitigation Licensing if appropriate

A survey plan is presented in Appendix 1, photographs taken during the site survey are included in Appendix 2, and a summary of relevant legislation can be found in Appendix 3. Full desk study records can be provided on request, please contact CES.

1.3 Site Context

The site is located at National Grid Reference SJ 37992 51203 and comprises an area of approximately 0.6ha. There are 2 buildings and 2 large trees within the site boundaries. The site is situated 200m south of the Wrexham Industrial Estate. The surrounding habitat is largely mixed use farmland, residential and industrial units.

1.4 Project Description

This report is prepared in support of a planning application for demolishing the factory; App Chem Ltd. Are seeking planning permission to demolish the factory and then will sell the land on to be demolished in order for houses to be built. As such there are no plans currently available to highlight the planned works.

All works areas, storage and haul routes will be included within the site boundaries; access will be provided by existing roads and as such, no additional working footprints are anticipated.

2.0 Methodology

2.1 Desk Study

Existing bat records relating to the site and a surrounding 1km radius (the study area) were requested from COFNOD. The data search is confidential information that is not suitable for public release.

A review of the following information sources has also been undertaken to inform the assessment:

- Landscape structure using aerial images from Google Earth
- Designated sites, habitat and species data held on Magic.gov.uk.
- Designated sites information found on Natureonthemap.naturalengland.org.uk
- Information on the surrounding area using OS Opendata 2010

2.2 Site Survey

The survey was undertaken by Amy Campion BSc (Hons) on 5th November 2015.

All buildings that will be impacted by the project proposals (the survey area) were assessed for their potential to support roosting bats. The surveyor systematically searched for features suitable for roosting bats and signs of bat activity, by conducting a non-intrusive visual appraisal from the ground using binoculars, inspecting the external features of the buildings for potential access/egress points, and for signs of bat use. An internal inspection of the building was also made, the roof spaces of all buildings, using an endoscope, torch and ladders. The surveyor paid particular attention to the floor and flat surfaces, window shutters and frames, lintels above doors and windows, and carried out a detailed search of numerous features within the roof space.

2.3 Suitability Assessment

The buildings were categorised according to the likelihood of bats being present, in line with best practice guidelines (Hundt, L., 2012); the features of the building that dictate the likelihood of roosting bats are summarised in Table 1. Roost suitability is classified as high, moderate, low and negligible and dictates any further surveys required before works can proceed.

Table 1: Features of a building that are correlated with use by bats during the summer

Likelihood of bats being present	Feature of building and its context
Higher	Buildings/structures with features of particular significance for roosting bats e.g. mines, caves, tunnels, icehouses and cellars. Habitat on site and surrounding landscape of high quality for foraging bats e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting bats e.g. river and or stream valleys and hedgerows. Site is proximate to known or likely roosts (based on historical data).
Lower	A small number of possible roost sites/features, used sporadically by more widespread species. Habitat suitable for foraging in close proximity, but isolated in the landscape. Or an isolated site not connected by prominent linear features. Few features suitable for roosting, minor foraging or commuting.

2.3 Limitations

It should be noted that whilst every effort has been made to describe the features on site in the context of their suitability for roosting bats, this does not provide a complete characterisation of the site.

Where only four figure grid references are provided for bat records, it is not possible to determine their precise location as they could be present anywhere within the given 1km x 1km National Grid square.

This survey provides a preliminary view of the likelihood of bats being present. This is based on suitability of the habitats on the site and in the local area, the ecology and biology of bats as currently understood, and the known distribution of bats as recovered during the desk study.

Due to the small height of the loft spaces in B1, the majority of each of the four loft spaces was observed but unfortunately as the roof narrowed to the eaves it was not possible to examine these in close detail. The end space was only accessibly by one hatch, it was not possible to crawl through the entire space. This was due to the limited room and as such this area could not be closely checked for droppings.

3.0 Results and Evaluation

3.1 Desk Study Results

3.1.2 Landscape

The Magic database shows there is an ancient woodland ~800m from the site. This habitat is likely to be classified as Priority habitat of principle importance, and of particular value to bats.

A review of aerial photographs (Figure 1) and OS maps shows there is a planted woodland to the wider hedgerow network, the hedgerows provide a suitable habitat corridor for bats. There is also suitable foraging habitat on the surrounding farms.

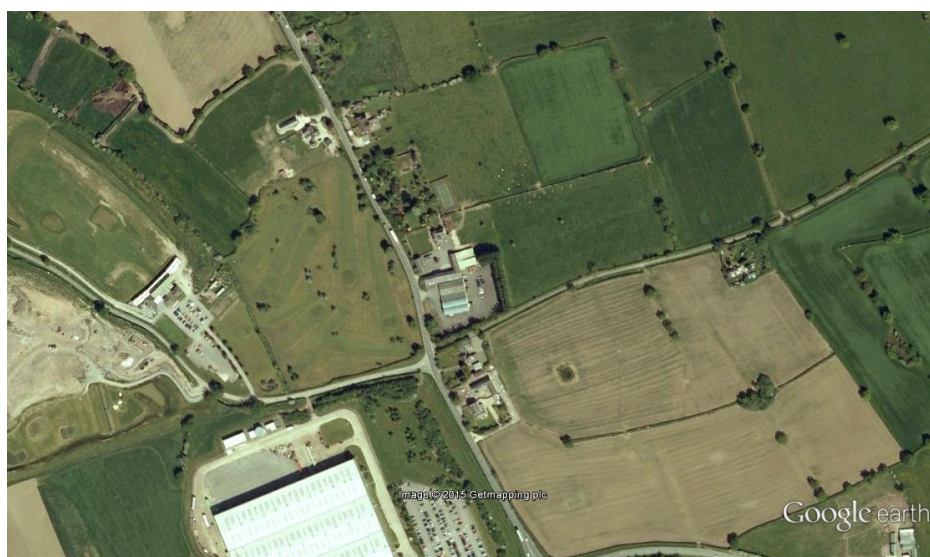


Figure 1: Aerial photo of site, showing landscape structure

3.1.3 Historical records

COFNOD has provided bat records for within 1km of the site. These were obtained at the Preliminary Ecological Appraisal stage and can be provided on request from CES. The data confirms there are bats recorded within 1km of the site.

3.2 Survey Results

The buildings within the survey area comprised of a long brick built building with a slate pitched roof and adjoining this was a factory unit. This was constructed of a sheeted metal with an asbestos mixed roof on the south elevation. The adjoining building is referred to as B2 and the slate tiled office area is referred to as B1. There are a row of silver birch trees on site which are unsuitable for roosting bats but two larger oak trees that were examined for their potential. Further habitat information is available in the Preliminary Ecological Appraisal produced by CES.

B1 – Brick built, pitched slate roof office area*Building description*

The building is long and a simple rectangle shape. The slate roof has raised tiles throughout the roof line and a few missing tiles that could provide access or egress points for bats. Internally there are four loft spaces, three of the loft spaces are of the same construction and the fourth one is taller (~9m) and in better condition.

There are hundreds of large rat droppings throughout the loft space and the client advised of the rodent issues they have had at the property. Daylight is visible internally, highlighting where the potential access and egress points for bats are. The loft is small in height and has to be crawled through, the space less than 4 feet tall and is more suited to crevice dwelling bat species. The joists and beams are wooden. The majority of the loft is unlined, the remnants of old bitumen felt can be found in places. The majority of the eaves/edges are too small to access/check and so these areas could not be thoroughly checked for droppings.

Evidence

No droppings or other signs were observed during the loft inspection.

B2 – Factory with mixed sheet roof and asbestos sheet roof*Building description*

The factory is large and is split into two sections. This is largely constructed of metal sheeted walls and metal sheeted roof on the north elevation, and mixed asbestos sheeting on the south elevation. The factory is used for storage. They suffer from a fly issue in the asbestos mixed section. There are no suitable gaps that could provide access or egress points for bats or suitable roosting features inside or outside the building.

Trees – Large oak trees on site

There are two large mature trees in good condition, no cracks or crevices were observed that had potential for roosting bats. The trees have small patches of ivy but these are not substantial enough to provide roosting opportunities.

3.3 Evaluation – Likelihood of bats being present

Taking the desk based assessment and site survey results into account, the following value for roosting bats has been placed on each building.

Table 2: Evaluation of buildings/structures on site

Reference	Value for / Likelihood of bats using the building for roosting	Brief summary of justification
B1	Moderate	Potentially suitable for small numbers of more widespread crevice dwelling species only. Access into the building possible via raised slate tiles. Accompanied by eaves/crawl spaces that were too small to inspect for droppings. Landscape connectivity through hedgerows on site and across neighbouring fields and suitable foraging habitat within 200m.
B2	Negligible/none	Constructed of building materials that are not ideal for roosting bats due to poor thermoregulation (fluctuating temperatures). No evidence of bats observed and no suitable access or egress points.
Trees	Negligible/none	No evidence of bats observed and no suitable roosting places within the trees.

4.0 Conclusions and Recommendations

4.1 Conclusions and Impact Assessment

The PRA concludes that B1 has moderate habitat value, and B2 and all trees on site have negligible to no value.

As the proposals include the demolition of this building, if bats are roosting within B1 the building then the roost would be destroyed. As a result, two further surveys are required. Bats are very unlikely to be roosting within B2 and the trees and as such, there are not anticipated to be any impacts on these features as a result of the proposed works. Bats are protected under the Wildlife and Countryside Act and Conservation Regulations; see Appendix 3 for a summary of legislation protecting bats in the UK.

4.2 Recommendations

4.2.1 Survey and assessment

Best practice survey guidelines (Hundt, 2012) recommends additional surveys for all buildings assessed as having low to high suitability for roosting bats. The survey effort recommended at this stage is iterative and if bats are recorded emerging from the buildings, the survey effort should be adjusted to provide sufficient information to inform European Protected Species Mitigation licensing (EPSML). Buildings assessed as comprising negligible suitability for roosting bats do not normally require further surveys. Appropriate justification for this assessment is provided in Section 3.0 and Table 4 of this report. Those known to support roosting bats may require further survey to inform a EPSML application, depending on the proposed works and assessment of impacts, and the species present/likely to be present.

Recommendations for further survey or assessment associated with each building are provided in Table 5.

Table 3: Survey recommendations

Building Ref	Value for / Likelihood of supporting roosting bats	Recommendations
B1	Moderate	Two dusk emergence/dawn re-entrance surveys during May to September.
B2	Negligible	No further surveys necessary.
Trees	Negligible	No further surveys necessary.

5.0 Bibliography

- Hundt, L. (2012). Bat Surveys—Good Practice Guidelines, 2nd edition, Bat Conservation Trust, London.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
- Garland & Markham (2008) Is important bat foraging and commuting

Appendices

Appendix 1: Survey Plan



Appendix 2: Photographs

Photo 1: B1 & B2	 A photograph showing the exterior of a large industrial building with a green corrugated metal roof and a red brick base. A white car is parked in the foreground on the left. A sign on the building reads: 'The leading supplier & manufacturer of water proofing, tanking and waterproofing'. The building is adjacent to a residential house with a grey roof.
Photo 2: Rear of B2	 A photograph showing the rear of the industrial building. Several cars are parked in front, including a white hatchback, a black car, and a blue SUV with a spare tire mounted on the back. The building has a green roof and a white section.
Photo 3: Interior of loft space in B1	 A photograph showing the interior of a damaged loft space. The wooden floor joists are exposed and broken, with debris and insulation visible. The structure appears to be in poor condition.

Photo 4:
Interior of loft
space B2



Photo 5: Trees



Appendix 3: Legislation and Planning Policy related to bats

LEGAL PROTECTION

All species of bat are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2.

Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. all bats)
- Deliberate disturbance of bat species as:
 - a) to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young
 - (ii) to hibernate or migrate
 - b) to affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Bats are also protected under the Wildlife and Countryside Act 1981 (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale

Effect on development works:

A European Protected Species Mitigation (EPSM) Licence issued by the relevant statutory authority (e.g. Natural England) will be required for works likely to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficiency/success to be monitored.

The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost (Garland & Markham, 2008)

NATIONAL PLANNING POLICY (ENGLAND)

National Planning Policy Framework

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as UK Biodiversity Action Plan priority species) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and The Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act, 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

Appendix 5: Desk Study Information

Full historical records can be provided by CES on request.

BACK PAGE

Arbtech Consultant's Contact details:

Amy Champion BSc (Hons)
07711591699
ac@arbtech.co.uk

Arbtech Consulting Ltd
<https://arbtech.co.uk>