

Ascerta

Landscape, Arboricultural & Ecological Solutions
for the Built Environment

Bat Survey and Assessment

Mold Road
Gwersyllt
Wrexham

08 September 2017

Rev	Date	Details

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P.883.17

Bat Survey and Assessment

Of

**Mold Road
Gwersyllt
Wrexham
LL11 4AF**

For

ASC Healthcare

08 September 2017

Field Work by	Dr Rosalind King MCIEEM, John Harrison-Bryant (Natural Resources Wales bat licence 75752; OTH: CSAB:2017:) Neil Everett Grad CIEEM, Jeff Clarke, Liam Fahey, Chris Williams Liam Smith and Ayeisha Threadgill.
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EXECUTIVE SUMMARY

Ascerta has been instructed by ASC Healthcare to carry out surveys to determine if bats are using buildings as a roost at Mold Road, Gwersyllt, Wrexham, LL11 4AF.

The site was visited on 19th July, 2017 (daytime inspection), the 16th August (dusk emergence survey) and the 31st August (dawn re-entry survey) by at least two of the following surveyors: Dr Rosalind King, John Harrison-Bryant (Natural Resources Wales Bat Licence holder) Neil Everett, Jeff Clarke, Liam Fahey, Liam Smith, Ayeisha Threadgill and Chris Williams. All surveys and inspection followed revised guidelines set out by the Bat Conservation Trust.

All the buildings on site were subject to a preliminary search internally and externally by a licenced bat worker using torches and close focusing binoculars for signs of bats i.e. staining on barge boards, soffits and more commonly droppings on flat surfaces i.e. window bottoms, that would indicate potential roosting sites. No signs of bat use of the buildings were found. Full details of the daytime inspection results are presented in report *P.883.17 Ascerta Preliminary Bat Roost Assessment and Badger Scoping Survey, Mold Road, August 2017*.

During the night time surveys bats were noted foraging along the hedgerows that border the site to the north and west. The majority of bats recorded were common pipistrelle, with one pass of soprano pipistrelle, one pass of noctule and two passes of brown long-eared bat also detected.

Bats rarely used the area of the site occupied by the buildings and bats were not recorded emerging or re-entering the buildings during the nocturnal surveys. It is considered the buildings on the site are not currently being used by bats for roosting. However, the buildings do provide roost features and bats are active in the area so update surveys are recommended if the buildings are not demolished by August 2018.

The following recommendations are made such as to satisfy current wildlife guidance and legislation including the Wrexham Unitary Development Plan.

1. If works are not begun by August 2018, a further daytime assessment or nocturnal survey may be required to confirm bats are not using the site as a roost;
2. Works to the building should occur outside the period 1 March to 31 August to protect breeding birds, unless an ecologist has confirmed that the actions proposed will not disturb bird breeding on the site;
3. Installation of two Schwegler 1FE bat boxes, affixed to new buildings and one Schwegler 2F bat box on a mature tree to enhance the site for bats; and
4. In order to retain the value of the site for bats it is recommended that lighting levels do not exceed current levels and avoid being directed onto the hedgerows along the north and west borders of the site.

1.0 Introduction

Ascerta has been instructed by ASC Healthcare to carry out a bat surveys at Mold Road, Gwersyllt, Wrexham, LL11 4AF (hereafter referred to as the site). The OS grid reference for the site is SJ 315 537.

A daytime inspection of trees and an external and internal inspection of buildings on site was carried out on 19th July, 2017 by suitably qualified ecologists Neil Everett Grad CIEEM and John Harrison-Bryant (Natural Resources Wales bat licence number: 75752: OTH: CSAB:2017). An emergence survey for bats carried out on the 17th August, 2017 and a re-entry survey for bats on the 31st August, 2017.

Surveyors include Dr Rosalind King (10 years' experience surveying for bats), John Harrison-Bryant (Natural Resources Wales Bat Licence holder) Neil Everett (3 years' experience surveying for bats), Jeff Clarke (more than 10 years' experience surveying for bats), Liam Fahey (9 years' experience surveying for bats), Liam Smith (training in bat surveying), Ayeisha Threadgill (training in bat surveying) and Chris Williams (training in bat surveying).

The inspection, emergence and re-entry surveys followed guidelines within the Bat Conservation Trust Guidelines '*Bat Surveys for Professional Ecologists Good Practice Guidelines – 3rd Edition (2016)*'.

These surveys have been completed to meet the requirements of planning conditions prior to obtaining planning permission. A full ecological Appraisal was completed by JW ecology LTD in September 2014 based on a site visit undertaken in July 2014. In addition, a bat activity survey was undertaken by Rachel Hacking Ecology in September 2014.

This report presents the results of the surveys and includes recommendations for further actions where applicable in order to satisfy current wildlife legislation and in order to achieve our client's objectives.

2.0 Objectives

Our client's objective is to ascertain the potential constraints within the site with a view to developing the site at a later date.

Our objectives are as follows:

- Carry out emergence and re-entry surveys for bats;
- Provide recommendations for mitigation measures where current legislation requires;
- Provide recommendations that seek to enhance the ecological value of the site where possible; and
- Provide recommendations to assist our clients in achieving their objectives whilst satisfying current wildlife legislation.

3.0 Relevant Legislation

3.1 UK Legislation

The key UK legislation is the Wildlife and Countryside Act 1981 (as amended by the Countryside Rights of Way Act 2000) which consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive) in Great Britain. It is complemented by the Conservation of Habitats and Species Regulations 2010, which implements Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive). The Regulations provide for the designation and protection of 'European sites', and the protection of 'European protected species'.

In Wales, all bats and their roosts are protected under the Conservation of Habitats and Species Regulations 2010 and the Wildlife & Countryside Act 1981 (as amended). Several species of bat are also highlighted as Priority Species under the UK Biodiversity Action Plan and within the Denbighshire Local Biodiversity Action Plan.

Under the current legislation as summarised on pages 8 and 9 of the Bat Surveys for Professional Ecologists Good Practice Guidelines – 3rd Edition (2016) it is a criminal offence to:

“To kill, capture, injure or take a wild bat;

- To damage or destroy a place used by a bat for breeding or resting. All offences of this nature are identified within the Habitats Regulations. This offence is unique in that it can be committed accidentally. No element of intentional, reckless or deliberate action needs to be evidenced;*
- To disturb bats anywhere (roosts, flight lines or foraging areas) if levels of disturbance can be shown to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate or to affect significantly local distribution or abundance;*
- To intentionally or recklessly disturb a bat, whilst it is occupying a place of shelter or protection;*
- To intentionally or recklessly obstruct access to any place used by a bat for shelter or protection; and*
- To be in possession or control of a bat alive or dead (or any part of a bat or anything derived from a bat, although bat droppings are generally considered to be acceptable), or to transport a bat, to sell or exchange a bat or to offer to sell or exchange a bat taken from the wild.”*

3.2 Local Legislation

The site lies within Wrexham County Borough Council and is covered by Wrexham Unitary Development Plan (adopted February 2005). Environment and Conservation Policies EC4 and EC6 are the policies of relevance here and have been taken into account when preparing this report.

4.0 Survey Method

4.1 Bat Survey

The survey methods followed the guidelines set out by the Bat Conservation Trust (Collins 3rd Edition 2016). All buildings are numbered according to drawing P.883.17.05 Bat Survey Location Plan (see Appendix 1).

Table 4.1: Guidelines for assessing Potential Roost Features (PRFs), commuting and foraging habitat within a proposed development site. Guidelines taken from table 4.1 page 35 of the Bat Conservation Trust Bat Surveys for Professional Ecologists Good Practice Guidelines – 3rd Edition (2016).

Suitability	Roosting Habitats	Commuting and Foraging Habitats
Negligible	<i>Negligible habitat features on site likely to be used by roosting bats.</i>	<i>Negligible habitat features on site likely to be used by commuting or foraging bats.</i>
Low	<i>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^a and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation ^b). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential. ^c</i>	<i>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.</i>
Moderate	<i>A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions^a and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).</i>	<i>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</i>
High	<i>A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ^a and surrounding habitat.</i>	<i>Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.</i>

^a For example, in terms of temperature, humidity, height above ground level, light levels of disturbance.

^b Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al., 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

^c This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI,2015).

4.0 Survey Method (continued)

Record Search

The local biological records centre Cofnod was consulted for records of bats within 1km of the site. Due to the nature of the proposals and the site no other records were considered necessary on this occasion.

Internal/External Inspection of the Buildings

A daytime internal and external inspection of the building was carried out on 19th July, 2017. The buildings were searched externally looking for signs of bats, including staining on barge boards, soffits and more commonly droppings on flat surfaces i.e. window ledges that would indicate potential roosting sites. Possible bat access points such as loose tiles, cracks and crevices or crawl spaces beneath and/or behind roofing materials such as roofing felt, panelling, soffits and tiles were identified and checked for signs of use by bats, for example droppings, scratch marks and staining. A Clulite Smartlite torch was used to aid the inspection of crevices.

Internally, all areas of the buildings, including the cellar (where present), were accessed and inspected for signs of use by bats. The lofts were accessed where possible and fully inspected for potential use by bats. Features noted included light gaps (indicating potential access points), loft dimensions, presence of roofing felt and loft conditions such as ventilation, temperature and cobweb coverage. Signs of use by bats were searched for including droppings, scratching, staining, dead bats (particularly in uncovered water tanks) and actual bats.

Bat Emergence / Re-entry surveys

Following the findings of the daytime inspection, an emergence survey was carried out on the 16th August, 2017 and a re-entry survey was carried on 31st August, 2017. Two surveys were considered sufficient in this case due to the nature of the site, the results of the record search and as the majority of the buildings could be assessed adequately during the daytime inspection. The nocturnal surveys commenced 23 minutes before sunset and continued until 2 hours after sunset and 2 hours before dawn and continued until dawn.

During the surveys, the surveyors were strategically positioned around the buildings, focusing on areas where potential access points had been identified during the building inspection so as to be able to observe any bats leaving or entering a roost. Surveyor locations are marked on drawing P.883.17.05.

Observed bat passes are recorded on drawing P.883.17.05 The time, the location and where possible, the direction of flight, species and behaviour of bats (i.e. commuting, foraging, social calling) are detailed within the report.

4.0 Survey Method (Continued)

The equipment used during the surveys on the 17th and 31st August consisted of a Wildlife Acoustics Echo Meter Touch 1 connected to an iPad mini2, two Anabat Walkabout, Anabat SD2, Anabat Express, two Batbox Duet connected to a digital recording device (H2n Zoom Recorder/Roland R-05), Magenta Bat4 and a further Batbox Duet.

Temperature, wind speed/direction and cloud cover were recorded at the beginning and end of the survey, along with any significant weather changes during the survey (e.g. heavy showers).

During the survey, the following details were noted:

- Weather and temperature;
- Time bat detected/seen;
- Frequency at which the bat was detected;
- Location within the survey area;
- Whether bats emerged from the building or re-entered it;
- Direction of flight;
- Number of bats present;
- Whether the bats appeared to be foraging or commuting.

Limitations

Small gaps under roof slates and between brickwork could not be fully examined for the presence of bats during the daytime survey but were covered during the nocturnal surveys.

The loft void within the bungalow (Building 7) could not be fully accessed due to health and safety risks associated with the weak floor. The survey of the loft was therefore conducted from the loft hatch using a high-powered torch and a thermal imaging camera. Potential bat entry points were covered during the nocturnal surveys.

These survey limitations are not considered a limit to the conclusions of the report as the nocturnal surveys were undertaken to ascertain bat use of the site. The nocturnal surveys were undertaken at an appropriate time of year and during suitable weather conditions and is considered to have no limitations to the report conclusions.

5.0 Survey Results and Evaluation

5.1 Site Description

The site comprises an industrial estate with three yards. The site is predominantly comprised of bare ground with some encroaching short perennial and tall ruderal vegetation. Areas of scrub are also present on site. The site contains seven buildings including six commercial buildings and a single residential dwelling.

The site lies within the village of Gwersyllt located within the county borough of Wrexham. The site is surrounded by areas of commercial buildings and residential dwellings. The site is bordered by playing fields to the north and west. Habitats within the wider landscape include woodland, urban settlements and agricultural fields.

5.2 Record Search

The biological record search returned records for Daubenton's bat, noctule bat, pipistrelle bat species, common pipistrelle, soprano pipistrelle and pipistrelle agg. within 1km of the site. The most recent records date from 2016 and are for noctule bat, soprano pipistrelle and common pipistrelle 703m north west of the site. The closest record to the site dates from 1982 for common pipistrelle 400m north of the site. (*Appendix 3, Cofnod Environmental Information Search*).

During the survey undertaken by Rachel Hacking Ecology in September 2014 (*Rachel Hacking Ecology Bat Activity Survey at Westminster Industrial Estate Gwersyllt Wrexham 2014 Appendix 4*), common pipistrelle bats were recorded foraging along the site boundaries.

5.3 Internal/External Inspection

The weather during the daytime building survey was warm (23°C), dry and 7/8 cloud cover. There was a force 3 (Beaufort scale) breeze during the survey. These weather conditions were considered suitable for this type of survey. Weather conditions during the nocturnal surveys are presented in Table 1.

5.0 Survey Results and Evaluation (Continued)

Buildings six and seven have been assessed as having **moderate** bat roost potential. Full details are presented within *Ascerta Preliminary Bat Roost Assessment and Badger Scoping Survey August 2017*.

5.4 Bat Emergence Surveys

Table 2: Survey metadata for 16th August, 2017 and 31st August, 2017 including weather conditions, survey start, end times and sunset time.

Date	17 th August, 2017	31 st August, 2017
Sunset /Sunrise	20:38	06:21
Start time	20:15	04:20
End Time	22:38	06:21
Temp at start (°C)	16	9
Temp at end (°C)	15	10
Cloud Cover at start (8 th)	6/8	6/8
Cloud Cover at end (8 th)	7/8	7/8
Wind speed start (Beaufort Scale)	1 to 3	1
Wind speed end (Beaufort Scale)	2 to 3	2
Precipitation start	Light rain	Dry
Precipitation end	Dry	Dry

On the 16th August, 2017, bat activity commenced at 20:48 (18 minutes after sunset) and finished at 22:33. On the 31st August bat activity commenced at 04:28 and finished at 05:47 (34 minutes before sunrise).

The majority of bats recorded were common pipistrelle, however, one pass of a soprano pipistrelle, one pass of a noctule and two passes of brown long-eared bats were also recorded during the surveys.

The bats were mainly active along the hedgerows that border the site to the north and west with common pipistrelle recorded feeding along the hedgerows throughout the dusk and the dawn surveys at regular intervals. There were very low levels of bat activity across the rest of the site. Bats did not emerge from any of the buildings on the site. There was no re-entry by bats into any of the buildings on the site.

Although there is anecdotal evidence of barn owl in the area, none were noted to be using the buildings during the surveys.

The survey results are presented in, Appendix 2. Flight Line numbers refer to figures in Appendix 1.

5.0 Survey Results and Evaluation (Continued)

5.5 Evaluation

Based on the results of the survey the buildings on the site are considered to be of **negligible** value for bats as they did not use the site for foraging and as low numbers of bats were recorded around the buildings during survey. However, the hedgerows bordering the site to the north and west are of higher value to bats as they are used regularly as foraging and commuting areas.

The buildings provide roost potential for crevice and loft dwelling bat species but this is limited as the majority of buildings are unheated, dry and in a deteriorating state of repair. The bungalow is heated and provides better roosting habitat although there are few features that would provide access to bats. It is unlikely that bats will use the buildings as a maternity roost or hibernation roost in the near future.

However, potential exists for use of the buildings as a transient roost for a single bat once the maternity colonies break up in the autumn. Again, this potential is very low based on the level of bat activity recorded during the survey and the records of bats in the vicinity of the site. The buildings are considered to have **low to moderate** bat roost potential and no further nocturnal surveys are considered necessary for the current planning application. However, bats can move roosts often and as the building has potential roost features it is advised that the building be demolished by August 2018. If this is not possible update surveys may be required to determine if bats are not roosting within the buildings.

6.0 Recommendations and Conclusions

The buildings are considered to provide **low** bat roost potential and the site is considered to be of **negligible** value to bats. As such works to the building can proceed without being detrimental to maintenance of the local bat population at a favourable conservation status (i.e. the proposals meet the third test of the 'three test assessment' as outlined in the Habitats Regulations).

The hedgerows provide bats with foraging and commuting habitat. To ensure continued use of the hedgerows by bats these should be retained and should not be lit. Lighting used during and post development works should be sensitive to the needs of bats and should avoid overspill onto the hedgerows and mature trees present along the site boundaries. Lighting should follow Bat Conservation Trust (2009) *Bats and lighting in the UK- bats and the built environment series*.

Features on the buildings within the site still have a potential for supporting bat roosts. If works are not begun by August 2018, a further daytime assessment or nocturnal survey may be required to confirm bats are not using the site as a roost. If a bat roost is identified on site and is likely to be affected by the development, an application to Natural England will need to be made with regards to acquiring a European Protected Species licence in order that the bat roost can be destroyed in the appropriate manner.

6.0 Recommendations and Conclusions (continued)

As there are bats active in the area it is recommended that bat roosts be provided within any new buildings created on the site to enhance the site for bats. Two Schwegler 1FE bat boxes, affixed to new buildings at a height of at least 4m above ground and in a dark area of the site adjacent to the hedgerows, would be appropriate. In addition, a Schwegler 2F bat box could be affixed to a mature tree within the hedgerows to the north or west of the site. These features would be consisted suitable to enhance the site for bats in accordance with legislation and guidelines.

Habitat exists for nesting birds on the site. In order to avoid harm to nesting birds, vegetation clearance and building works should not be undertaken during the bird breeding season (between 1 March and 31 August). If vegetation needs to be cleared during this period a nesting bird survey will be required, conducted by a suitably qualified ecologist, before works begin. If any active nests are observed during the survey, exclusion zones will be set up and works will not occur in these areas until nesting is complete.

Recommendations

The following recommendations are made such as to satisfy current wildlife guidance and legislation including the Wrexham Unitary Development Plan.

1. If works are not begun by August 2018, a further daytime assessment or nocturnal survey may be required to confirm bats are not using the site as a roost;
2. Works to the building should occur outside the period 1 March to 31 August to protect breeding birds, unless an ecologist has confirmed that the actions proposed will not disturb bird breeding on the site;
3. Installation of two Schwegler 1FE bat boxes, affixed to new buildings and one Schwegler 2F bat box on a mature tree to enhance the site for bats; and
4. In order to retain the value of the site for bats it is recommended that lighting levels do not exceed current levels and avoid being directed onto the hedgerows along the north and west borders of the site.

7.0 References

Ascerta (2017), P.883.17 *Ascerta Preliminary Bat Roost Assessment and Badger Scoping Survey, Mold Road, August 2017*

Bat Conservation Trust (2000). *Distribution atlas of bats in Britain and Ireland 1980-1999*: Bat Conservation Trust, London.

Bat Conservation Trust (2009) *Bats and lighting in the UK- bats and the built environment series* [online] Available at: http://www.bats.org.uk/pages/bats_and_lighting.html

Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

Mitchell-Jones, A.J. (2004). *Bat Mitigation Guidelines*. English Nature

Appendix 1



DO NOT SCALE

ALL COORDINATES RELATED TO LOCAL GRID LOCATED TO OS NG BY BEST FIT TO DETAIL, EXTRACTED FROM OS DIGITAL DATA.

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KEY

1

Buildings

2

Demolished buildings

Japanese Knotweed

Rabbit burrow

Surveyor location
16/08/2017

Bat flight lines
16/08/2017

CP - Common pipistrelle

Surveyor location
31/08/2017

Bat flight lines
31/08/2017

CP - Common pipistrelle

Ascerta

Landscape | Trees | Ecology

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CLIENT:
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PROJECT:
Mold Road, Gwersyllt, Wrexham

DRAWING TITLE:
Bat Survey Location Plan

SCALE: 1:500 @A1	DRAWN BY: CP	DRAWING No: P.883.17.05	REV: -
DATE: 31/08/2017	CHKD BY: RK		

Appendix 2

Date:	16 th August, 2017	Equipment and Special Notes:	Batbox duet and Zoom recorder		
Site:	P883.17 Mold Road, Wrexham				
Surveyor:	Ayeisha	Sunset/Sunrise:	20:38		
Start:	20:20	Finish:	22:38		
	Start	Finish:	Notes:		
Temp ° C	16°C	15°C			
Cloud (eighths)	8/8	8/8			
Wind (Beaufort Scale)	F3-F4	F2-F3			
Precipitation	Light rain	Dry			
SITE	P.883.17	SURVEYOR / DATE	Ayeisha/16th August 2017		
Flight line	Time	Species and Number	Activity	Location, Direction, other notes inc recording file No if unidentified bat	Method of ID
-	20:48	1 x common pipistrelle	Flight	00:26:35	Detector
2	20:52	1 x common pipistrelle	Feeding	00:31:00	Detector and visual
2	20:56	1 x common pipistrelle	Feeding	00:34:20	Detector and visual
-	21:18	1 x common pipistrelle	Feeding	00:54:05	Detector
-	22:01	1 x common pipistrelle	Flight	01:39:00 Brief flight	Detector

Date:	16 th August, 2017	Equipment and Special Notes:	Walkabout 423426 Anabat SD2, Anabat Express		
Site:	P883.17 Mold Road, Wrexham				
Surveyor:	John HB	Sunset/Sunrise:	20:38		
Start:	20:20	Finish:	22:38		
	Start	Finish:	Notes:		
Temp ° C	16°C	15°C	Shower until 20:30, then 20:37 to 20:45, 20:57 Clear weather ahead.		
Cloud (eighths)	8/8	8/8			
Wind (Beaufort Scale)	F3-F4	F2-F3			
Precipitation	Light rain	Dry			
SITE	P.883.17	SURVEYOR / DATE	John HB, 16th August 2017		
Flight line	Time	Species and Number	Activity	Location, Direction, other notes inc recording file No if unidentified bat	Method of ID
-	21:11	1 x common pipistrelle	Foraging	Single pass. Not seen	Detector
1	21:17	1 x common pipistrelle	Commute	Route A Very high.	Detector and Visual
-	21:24	1 x soprano pipistrelle		Very faint, just a few pulses	Detector
-	21:43	1 x Brown Long-eared	Pass	Heard not seen	Detector
Perambulation around site. No bats recorded					
-	22:08	-	-	Back in position	-
-	22:20	-	-	Express unit recovered	-
-	22:38	-	-	End of survey No bats seen emerging.	-

Date:	16 th August, 2017	Equipment and Special Notes:	Echometer Touch 1 and iPad mini 2		
Site:	P883.17 Mold Road, Wrexham				
Surveyor:	N. Everett	Sunset/Sunrise:	20:38		
Start:	20:20	Finish:	22:38		
	Start	Finish:	Notes:		
Temp ° C	16°C	15°C	Security light on the buildings 4 and 5 throughout the survey.		
Cloud (eighths)	8/8	8/8			
Wind (Beaufort Scale)	F3-F4	F2-F3			
Precipitation	Light rain	Dry			
SITE	P.883.17	SURVEYOR / DATE	N. Everett/16th August 2017		
Flight line	Time	Species and Number	Activity	Location, Direction, other notes inc recording file No if unidentified bat	Method of ID
3	20:50	1 x common pipistrelle	Constant Activity	Feeding around trees. Constant Activity until 21:08	Detector and visual
-	21:16	1 x common pipistrelle	Pass	-	Detector
-	21:19	1 x common pipistrelle	Distant Pass	-	Detector
-	21:23	50kHz	Pass	50kHz Pip, possibly soprano	Detector
-	21:26	1 x common pipistrelle	Constant Activity	Until 21:27	Detector
-	21:32	1 x common pipistrelle	Pass	-	Detector
-	21:54	1 x Noctule	Pass	-	Detector
-	22:16	1 x common pipistrelle	Pass	-	Detector
-	22:22	1 x common pipistrelle	Distant Pass	Very distant pass	Detector
-	22:23	1 x common pipistrelle	Pass	-	Detector
-	22:31	1 x common pipistrelle	Pass	-	Detector

Date:	16 th August, 2017	Equipment and Special Notes:	Walkabout (Anabat)		
Site:	P883.17 Mold Road, Wrexham				
Surveyor:	L. Smith	Sunset/Sunrise:	20:38		
Start:	20:20	Finish:	22:38		
	Start	Finish:	Notes:		
Temp ° C	16°C	15°C			
Cloud (eighths)	8/8	8/8			
Wind (Beaufort Scale)	F3-F4	F2-F3			
Precipitation	Light rain	Dry			
SITE	P.883.17	SURVEYOR / DATE	L. Smith/16th August 2017		
Flight line	Time	Species and Number	Activity	Location, Direction, other notes inc recording file No if unidentified bat	Method of ID

Date:	16 th August, 2017	Equipment and Special Notes:	Batbox duet and Roland recorder		
Site:	P883.17 Mold Road, Wrexham				
Surveyor:	R King	Sunset/Sunrise:	20:38		
Start:	20:20	Finish:	22:38		
	Start	Finish:	Notes:		
Temp ° C	16°C	15°C	Thunderstorm passed to the East during survey start with some light rain.		
Cloud (eighths)	8/8	8/8			
Wind (Beaufort Scale)	F3-F4	F2-F3			
Precipitation	Light rain	Dry			
SITE	P.883.17	SURVEYOR / DATE	R. King/16th August 2017		
Flight line	Time	Species and Number	Activity	Location, Direction, other notes inc recording file No if unidentified bat	Method of ID
-	20:57	1 x common pipistrelle	Pass	From E to W	Detector
-	21:01 to 11	1 x common pipistrelle	Foraging	Constant passed along hedgerow to the W of site	Detector
-	21:13-15	1 x common pipistrelle	Foraging	Constant foraging	Detector
-	21:19	1 x common pipistrelle	Pass	From E to W	Detector
-	21:20	1 x common pipistrelle	Distant Foraging	Very faint, occasional louder passes along offsite hedgerow to W	Detector
-	21:51	1 x common pipistrelle	Pass	With social calls	Detector
Stop1	22:11-14	-	-	No Bats	-
Stop 2	22:15-18	1 x common pipistrelle	Foraging	Constant Activity- Distant	Detector
Stop 3	22:19-21	1 x common pipistrelle	Foraging	Constant Activity - Close	Detector
Stop 4	22:21-24	1 x common pipistrelle	Foraging	For 1 minute	Detector
Stop 5	22:24-27	-	-	No Bats	-
Stop 6	22:27-30	-	-	No Bats	-
Stop 7	22:32-33	1 x common pipistrelle	Pass	One pass	Detector

ASCERTA

Date:	31/8/2017	Equipment and Special Notes:	Batbox Duet and Zoom recorder		
Site:	P.883.17 Mold Road, Wrexham				
Surveyor:	Ayeisha	Sunrise:	06:21		
Start:	04:20	Finish:	06:21		
	Start	Finish:	Notes:		
Temp ° C	9°C	10°C			
Cloud (eighths)	6/8	7/8			
Wind (Beaufort Scale)	F1	F2			
Precipitation	Nil	Nil			
SITE	P.883.17 Mold Road, Wrexham		SURVEYOR / DATE	Ayeisha/31st August, 2017	
Flight line	Time	Species and Number	Activity	Location, Direction, other notes inc recording file No if unidentified bat	Method of ID
1	05:38	1 x common pipistrelle	Foraging		Detector and Visual

Date:	31/8/2017	Equipment and Special Notes:	Anabat Walkabout		
Site:	P.883.17 Mold Road, Wrexham				
Surveyor:	Jeff Clarke	Sunrise:	06:21		
Start:	04:20	Finish:	06:21		
	Start	Finish:	Notes:		
Temp ° C	9°C	10°C	Heavy Dew Occasional Showers		
Cloud (eighths)	6/8	7/8			
Wind (Beaufort Scale)	F1	F2			
Precipitation	Nil	Nil			
SITE	P.883.17 Mold Road, Wrexham		SURVEYOR / DATE	Jeff Clarke/31st August, 2017	
Flight line	Time	Species and Number	Activity	Location, Direction, other notes inc recording file No if unidentified bat	Method of ID
Nil Return. No re-entry.					

Date:	31/8/2017	Equipment and Special Notes:	Duet		
Site:	P.883.17 Mold Road, Wrexham				
Surveyor:	Liam Fahey	Sunrise:	06:21		
Start:	04:20	Finish:	06:21		
	Start	Finish:	Notes:		
Temp ° C	9°C	10°C			
Cloud (eighths)	6/8	7/8			
Wind (Beaufort Scale)	F1	F2			
Precipitation	Nil	Nil			
SITE	P.883.17 Mold Road, Wrexham		SURVEYOR / DATE	Liam Fahey/31st August, 2017	
Flight line	Time	Species and Number	Activity	Location, Direction, other notes inc recording file No if unidentified bat	Method of ID
2	05:31	1 x common pipistrelle	Foraging	Along fence line. Several passes.	Detector
2	05:34	1 x common pipistrelle	Foraging	As previous.	Detector
	05:47	1 x common pipistrelle	Foraging	Not seen. Assumed to be activity over field/vegetation behind.	Detector

Date:	31/8/2017	Equipment and Special Notes:	Echometer touch – iPad mini 2		
Site:	P.883.17 Mold Road, Wrexham				
Surveyor:	N Everett	Sunrise:	06:21		
Start:	04:20	Finish:	06:21		
	Start	Finish:	Notes:		
Temp ° C	9°C	10°C	Light rain 04:46 to 05:13		
Cloud (eighths)	6/8	7/8			
Wind (Beaufort Scale)	F1	F2			
Precipitation	Nil	Nil			
SITE	P.883.17 Mold Road, Wrexham		SURVEYOR / DATE	Neil Everett/31st August, 2017	
Flight line	Time	Species and Number	Activity	Location, Direction, other notes inc recording file No if unidentified bat	Method of ID
-	04:28	Brown Long Eared	Pass	-	Detector
-	05:19	1 x common pipistrelle	Constant Activity	-	Detector
-	05:21	1 x common pipistrelle	Constant Activity	-	Detector
-	05:23	1 x common pipistrelle	Forage	-	Detector
-	05:24	1 x common pipistrelle	Forage	-	Detector
-	05:26	1 x common pipistrelle	Pass	-	Detector
-	05:27	1 x common pipistrelle	Pass	-	Detector
-	05:28-30	1 x common pipistrelle	Constant Activity	Constant Activity/Forage 05:28 to 05:30	Detector
-	05:35	1 x common pipistrelle	Pass	-	Detector
-	05:36	1 x common pipistrelle	Pass	-	Detector

Appendix 3

Cofnod Environmental Information Search

Our Reference	E05919
Your Reference	P.883.17
Requested By	Ascerta
Data Users	Neil Everett, Ecologist, Ascerta ASC Healthcare Client
Search Date	01/09/2017
Expiry Date	01/09/2018
Search Type	Chargeable

Important Issues

- Use of the data is governed by Cofnod's [Terms & Conditions](#).
- Data marked as confidential or sensitive must not be released into the public domain, with the exception of the Public Version of the PDF report, which has had sensitive information removed or restricted.
- You should not amend any part of the downloaded records.
- Unless otherwise agreed, use of the data is valid until the Expiry Date (01/09/2018).
- The data was generated on the Search Date (01/09/2017) and is not live.
- The Dataset ID associated with each record can be used to find information about the provenance of the data. See the [Data We Hold](#) page on our website for more information.
- Quality Assurance (QA) levels are given for each record. For further information see our Data Quality Policy, available from our [website](#).
- Please [contact us](#) if you have any questions about using the data or wish to add further Data Users.

Notes

- Cofnod uses a search system which optionally reports species (usually high priority or protected species) within a specified search radius or buffer. Where required a search will also include high priority 'Mobile Species', such as bats, otters, amphibians and certain invertebrates, which lie outside the specified search radius. These species are highlighted on the report with **(Mobile)** next to the distance. They have been selected as 'Mobile Species' as their territory (possibly due to foraging activity or life cycle) could intersect with the search radius.
- Records with 4 figure grid references are displayed as 1km squares on any relevant maps. They are highlighted with **(1km)** next to the distance.
- Records shown in **bold** typeface are sensitive species records, and **must not be released into the public domain**. A public version of this report is also available and this can be released into the public domain. In the public version the resolution of sensitive species grid references are reduced and site names and comments are removed.

Data Description

Distance	Indicates the distance, in metres, between the GRID REFERENCE of the record (using the central point of the grid square) and the search location. For any Sensitive Species Records, this cannot be released into the Public Domain.
Species Name	Name of the taxon (usually identified to species level) using the binomial system.
Grid Reference	Full grid reference based on the Ordnance Survey grid system. For any Sensitive Species Records, this cannot be released into the Public Domain.
Date	Date on which the record was made. In some cases this might be a date range, or a vague date such as 'Summer 2010'.
Recorder(s)	One or more people who made the original observation and recorded it in some way. It may have subsequently been included in a data collation by another person or it may have been submitted to Cofnod directly.
Abundance	Number of individuals recorded. Where not specified it is assumed that at least one was present.
Record Type	The recording methods used (only where specified).
Site Name	The site name (if one has been supplied). For any Sensitive Species Records, this cannot be released into the Public Domain.
Comments	Any additional notes about the sighting, including any information on habitat or substrate if this is available. For any Sensitive Species Records, this cannot be released into the Public Domain.
Dataset ID	ID of this dataset. See 'Important Issues' for more details.
Lists	Any local, national or international conservation statuses or legal protection which apply to this species and whether it is included in any Local Biodiversity Action Plans. See 'Abbreviations' for more details.
QA	Summarised record Verification Level. The following codes are used: 1 - Unassessed, 2 - Unconfirmed, 3 - Considered Correct by Cofnod, 4 - Considered Correct by Expert. See our Data Quality policy, available from the Cofnod website for more details.

Abbreviations

ANG - Anglesey County Council Local Biodiversity Action Plan, **AONB** - Area of Outstanding Natural Beauty, **AW** - Ancient Woodland, **BAP** - UK Biodiversity Action Plan, **BDir1** - EU Birds Directive Annexe 1, **BDir2.1** - EU Birds Directive Annexe 2.1, **BDir2.2** - EU Birds Directive Annexe 2.2, **Bern** - Bern Convention on the Conservation of European Wildlife and Natural Habitats, **Bonn** - Bonn Convention on the Conservation of Migratory Species of Wild Animals, **CITES** - Convention on International Trade in Endangered Species of Wild Fauna and Flora, **CON** - Conwy County Borough Council Local Biodiversity Action Plan, **DEN** - Denbighshire County Council Local Biodiversity Action Plan, **EPS** - European Protected Species, **FLI** - Flintshire County Council Local Biodiversity Action Plan, **GWY** - Gwynedd County Council Local Biodiversity Action Plan, **HDir** - EU Habitats Directive, **INNS** - Invasive Non-native Species, **LBAP** - Local Biodiversity Action Plan species for the listed area, **LI** - Locally Important within the listed area, **LNR** - Local Nature Reserve, **MNR** - Marine Nature Reserve, **NNR** - National Nature Reserve, **NRW** - Natural Resources Wales Priority Species, **NWWT** - North Wales Wildlife Trust Reserve, **PBA** - Protection of Badgers Act 1992, **RD1(UK)** - Red Data Book listing for the UK based on IUCN guidelines, **RD1(Wales)** - Red Data Book listing for Wales based on IUCN guidelines, **RD2(UK)** - Red Data Book listing for the UK not based on IUCN guidelines, **RIGS** - Regionally Important Geodiversity Site, **S42** - Natural Environment and Rural Communities Act 2006 (Section 42), **SAC** - Special Area of Conservation, **SNP** - Snowdonia National Park Local Biodiversity Action Plan, **SPA** - Special Protection Area, **SSSI** - Site of Special Scientific Interest, **UKBA** - RSPB UK Birds Amber List (not based on IUCN criteria), **UKBR** - RSPB UK Birds Red List (not based on IUCN criteria), **VC48** - Locally Important within Vice-County 48: Meirionethshire, **VC49** - Locally Important within Vice-County 49: Caernarfonshire, **VC50** - Locally Important within Vice-County 50: Denbighshire, **VC51** - Locally Important within Vice-County 51: Flintshire, **VC52** - Locally Important within Vice-County 52: Anglesey, **WBA** - RSPB Welsh Birds Amber List (not based on IUCN criteria), **WBR** - RSPB Welsh Birds Red List (not based on IUCN criteria), **WCA1.1** - Wildlife & Countryside Act 1981 Schedule 1.1 (Birds which are protected at all times), **WCA1.2** - Wildlife & Countryside Act 1981 Schedule 1.2 (Birds which are protected at certain times), **WCA5** - Wildlife & Countryside Act 1981 Schedule 5 (Animals which are protected from killing and taking, possession, disturbance and sale), **WCA8** - Wildlife & Countryside Act 1981 Schedule 8 (Plants which are protected), **WCA9** - Wildlife & Countryside Act 1981 Schedule 9 (Non-native animals and plants which are established in the wild), **WRE** - Wrexham County Council Local Biodiversity Action Plan, **WS** - Wildlife Site, **WVP** - IUCN Threat Listing of Welsh Vascular Plants

Contact Us

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Filters Applied
Species included in the Bats list / Individually selected species

Search Location	Grid Reference
P.883.17 Mold Road Wrexham	SJ315538

Mammals											
Distance	Species Name	Grid Reference	Date	Recorder(s)	Abundance	Record Type	Site Name	Comments	Dataset ID	Lists	QA
400m	<i>Pipistrellus pipistrellus</i> (Common Pipistrelle / Ystlum Lleiaf Cyffredin)	SJ319538	30/07/1982	Anon			Queensway		D1486/001/01	Bern, Bonn, EPS, HDir, RD2(UK), RD2(UK), S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	3
703m	<i>Nyctalus noctula</i> (Noctule Bat / Ystlum Mawr)	SJ30975425	2 records, between May 2016 and June 2016	Anon - Delta-Simons	1		Bottom Road, Summerhill		D1672/002/01	Bern, EPS, HDir, RD2(UK), S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	1
703m	<i>Pipistrellus pipistrellus</i> (Common Pipistrelle / Ystlum Lleiaf Cyffredin)	SJ30975425	3 records, between May 2016 and 01/09/2016	Anon - Delta-Simons	1		Bottom Road, Summerhill		D1672/002/01	Bern, Bonn, EPS, HDir, RD2(UK), RD2(UK), S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	1
703m	<i>Pipistrellus pygmaeus</i> (Soprano Pipistrelle / Ystlum Lleiaf Uchelsain)	SJ30975425	01/09/2016	Anon - Delta-Simons	1		Bottom Road, Summerhill		D1672/002/01	Bern, EPS, HDir, RD2(UK), S7, WCA5, LBAP[ANG, DEN, FLI, GWY, SNP]	1
894m	<i>Myotis daubentonii</i> (Daubenton's Bat / Ystlum y Dwr)	SJ319546	15/09/2010	John Whittaker			Alyn Waters Country Park	Alyn Waters Friends Group walk with Emma Broad (Wrexham Biodiversity Officer)	D1117/001/01	Bern, EPS, HDir, RD2(UK), WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	2
894m	<i>Pipistrellus pipistrellus</i> agg. (Pipistrelle agg. / Ystlum Lleiaf)	SJ319546	15/09/2010	John Whittaker			Alyn Waters Country Park	Alyn Waters Friends Group walk with Emma Broad (Wrexham Biodiversity Officer)	D1117/001/01	Bern, EPS, HDir, RD2(UK), S7, WCA5, LBAP[ANG, CON, DEN, FLI, GWY, SNP]	2
894m	<i>Pipistrellus pygmaeus</i> (Soprano Pipistrelle / Ystlum Lleiaf Uchelsain)	SJ319546	15/09/2010	John Whittaker			Alyn Waters Country Park	Alyn Waters Friends Group walk with Emma Broad (Wrexham Biodiversity Officer)	D1117/001/01	Bern, EPS, HDir, RD2(UK), S7, WCA5, LBAP[ANG, DEN, FLI, GWY, SNP]	2
906m	<i>Pipistrellus</i> (Pipistrellus Bat Species)	SJ324537	16/07/2003	Anon	1		Briarley		D1486/001/01	EPS, WCA5, LBAP[ANG, DEN, FLI, SNP]	3

Statutory Sites intersecting 1000m buffer	None
Wildlife Sites intersecting 1000m buffer	W310: Woodlands and Fishpond Wood (623m), W306: Alyn Waters (629m), W311: Moss Valley (662m)
NWWT Reserves intersecting 1000m buffer	None
RSPB Reserves intersecting 1000m buffer	None
RIGS intersecting 1000m buffer	261: The Wauns Esker (609m)
Ancient Woodland intersecting 1000m buffer	30002: Ancient Semi Natural Woodland (611m), 32243: Ancient Semi Natural Woodland (612m), 32244: Ancient Semi Natural Woodland (674m), 36948: Restored Ancient Woodland Site (717m), 36947: Restored Ancient Woodland Site (753m), 32273: Ancient Semi Natural Woodland (869m), 36946: Restored Ancient Woodland Site (928m), 32275: Ancient Semi Natural Woodland (972m)
Phase I Habitats intersecting 1000m buffer (Habitat at central point shown in red, if found)	A.1.1.1: Semi-natural Broad-leaved Woodland (4.25% / 133,524 sq.m), A.1.1.2: Planted Broad-leaved Woodland (1.02% / 32,102 sq.m), A.1.2.2: Planted Coniferous Woodland (0.19% / 5,979 sq.m), A.1.3.2: Planted Mixed Woodland (1.25% / 39,328 sq.m), A.2.1: Dense Scrub (1.13% / 35,503 sq.m), B.1.1: Unimproved Acid Grassland (0.03% / 896 sq.m), B.2.2: Semi-improved Neutral Grassland (10.83% / 340,243 sq.m), B.4: Improved Grassland (21.59% / 678,063 sq.m), C.1.1: Bracken (0.29% / 8,956 sq.m), C.3.1: Tall Ruderal Herb (0.44% / 13,977 sq.m), F.1: Swamp (0.78% / 24,394 sq.m), G.1: Standing Water (0.01% / 347 sq.m), I.1.1.1: Acid/Neutral Inland Cliff (0.02% / 677 sq.m), I.2.1: Quarry (0% / 21 sq.m), J.1.2: Amenity Grassland (13.71% / 430,689 sq.m), J.1.3: Ephemeral/Short Perennial (0.09% / 2,674 sq.m), J.1.5: Gardens (0.41% / 12,993 sq.m), J.3.6: Buildings (30.98% / 973,071 sq.m) , J.4: Bare Ground (0.65% / 20,401 sq.m), NA: Not Accessed Land (1.37% / 42,924 sq.m)

Species List - A summary of species found in this search						
Species Group	Scientific Name	English Name	Welsh Name	Earliest Year	Latest Year	Total Records
Mammals	Myotis daubentonii	Daubenton's Bat	Ystlum y Dwr	2010	2010	1
Mammals	Nyctalus noctula	Noctule Bat	Ystlum Mawr	2016	2016	2
Mammals	Pipistrellus	Pipistrellus Bat Species		2003	2003	1
Mammals	Pipistrellus pipistrellus	Common Pipistrelle	Ystlum Lleiaf Cyffredin	1982	2016	4
Mammals	Pipistrellus pipistrellus agg.	Pipistrelle agg.	Ystlum Lleiaf	2010	2010	1
Mammals	Pipistrellus pygmaeus	Soprano Pipistrelle	Ystlum Lleiaf Uchelsain	2010	2016	2

-CONFIDENTIAL-

Appendix 4

**BAT ACTIVITY SURVEY AT
WESTMINSTER INDUSTRIAL ESTATE,
GWERSYLLT, WREXHAM**

2014



RACHEL HACKING ECOLOGY

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1.0 INTRODUCTION

- 1.1 Rachel Hacking Ecology Limited was commissioned in 2014 by Whitley Brothers to undertake a bat activity survey of several commercial buildings at Westminster Industrial Estate, Gwersyllt, Wrexham (O.S grid reference: SJ315538). The site will be the subject of a planning application to demolish the existing commercial properties and provide a new residential development.
- 1.2 Prior to the appointment of Rachel Hacking Ecology Limited an Extended Phase 1 Habitat Survey was undertaken by J W Ecological Ltd which was based on a site survey undertaken on the 31st July 2014. The report stated that the commercial properties had low potential to support roosting bats and recommended that a single dusk or dawn survey should be undertaken of the site to confirm absence of bats roosting in the site buildings.
- 1.3 Westminster Industrial Estate is bound by a belt of woodland planting surrounding the site and in the immediate landscape residential developments to the east and west of the site, commercial properties to the south and green space to the north.
- 1.4 There are six existing commercial properties which will be subject to planning permission, the properties are described as follows (taken from descriptions in J W Ecological report and from RHE visit):
 - Building 1 is a commercial building constructed of breeze block and corrugated sheet.
 - Building 2 is a single-storey office/workshop building constructed of prefabricated panels and with a flat roof. The building has fascia boards around the edge of the roof.
 - Building 3 is a large single-storey industrial building constructed of corrugated steel sheet.
 - Building 4 is a small single-storey brick building with a dilapidated pitched steel sheet roof.
 - Building 5 is a large workshop building constructed of brick and corrugated sheet with a pitched corrugated sheet roof. The building is open to the roof on the interior.
 - Building 6 is a small single-storey brick office building with a flat felt roof. The building has timber fascia boards around the edge of the roof.
- 1.5 Following liaison with Wrexham Borough Council's Nature Conservation Officer, Emma Broad, it was agreed that a single dusk survey in September at the site would suffice to determine if the buildings were used by bats.

- 1.6 All bat species are European Protected Species under the Conservation of Habitats and Species Regulations 2010. They are also fully protected under the Wildlife and Countryside Act 1981 (as amended) and included on the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006. It is illegal to disturb or damage a bat roost whether or not there are bats present. The presence of a protected species is a material consideration in planning.

2.0 METHODOLOGY

- 2.1 A site walkover and further external inspection of the buildings was undertaken on the 25th September 2014 and it was considered that buildings one and five had features which were likely to be used by roosting bats, therefore the emergence survey concentrated on these buildings.
- 2.2 A single dusk emergence survey was undertaken on the 25th September 2014. Although this is a sub-optimal time of year to undertake activity surveys, the weather in September 2014 was particularly warm and dry and bats have been active throughout the month.
- 2.3 For the emergence survey two surveyors monitored Building 1 and three surveyors monitored Building 5 (see Photograph 1). The surveys began 30 minutes before dusk and continued for 90 minutes after dusk. Further to this, each surveyor used an Anabat bat detector or Batbox Griffin to record the echolocations of any emerging bats so that the calls could later be identified to species or genus level.



Photograph 1 showing buildings and approximate positions of surveyors (yellow stars) during emergence survey

Timing and Personnel

- 2.4 The emergence survey was undertaken on 25th September 2014, by Anthony Nickson, Andy Harmer, Joel Hacking, Ivor Edwards and Sam Harmer. All surveyors are experienced in undertaking emergence surveys.

3.0 RESULTS

3.1 The results of the emergence survey are as follows:

Sunset at 19:03

Time	Notes
19:31	First bat (Common Pipistrelle) recorded foraging along site boundary west of building five
19:42	Common Pipistrelle recorded foraging along site boundary north and east of building one

3.2 No bats were observed emerging from either of the buildings during the emergence survey. Common Pipistrelle *Pipistrellus pipistrellus* bats were frequently recorded foraging along the belt of woodland planting surrounding the site.

3.3 The weather during the survey was recorded and is presented in the following table:

Date	Weather
25 September 2014	Low of 11°C, dry and calm

4.0 SUMMARY AND RECOMMENDATIONS

- 4.1 No bats were observed emerging from either Building 1 or Building 5 during the emergence survey undertaken on the 25th September 2014. This suggests that the neither of the buildings are presently supporting roosting bats.
- 4.2 It is the author's opinion that the redevelopment of the site should proceed as the surveys suggests there should be no significant concerns or constraints in relation to roosting bats in the proposals and there is no requirement for an EPS licence in respect of bats.
- 4.3 It should be noted that bat absence is very difficult to prove definitively due to their mobility and size, and single or small numbers of bats are able to roost in extremely small spaces, such as gaps between corrugated asbestos cement roofing sheets.
- 4.4 **If during development works a bat (or an accumulation of bat droppings) is discovered at any time, work is to temporarily cease whilst an experienced bat ecologist is contacted for guidance and assistance.** This can be Rachel Hacking Ecology (0161 427 3548) who undertook the initial survey, any licensed bat worker, or the Bat Conservation Trust (BCT) helpline (0845 1300 228).
- 4.5 Due to the presence of foraging Common Pipistrelle bats along the boundary of the site it is recommended that any proposed lighting as part of the new development and especially along tree lines complies with the requirements of the principles and design considerations outlined in the Bat Conservation Trust's artificial lighting and wildlife interim guidance. This includes no direct lighting of tree belts or hedgerows or other linear landscape feature which bats may use to forage along.

REFERENCES

Hundt, L. 2012. *Bat Surveys: Good Practice Guidelines, 2nd Edition*. Bat Conservation Trust.

Mitchell-Jones, A. J. 2004. *Bat Mitigation Guidelines*. English Nature.

Westminster Industrial Estate, Gwersyllt Extended Phase 1 Habitat Survey,
J W Ecological Ltd, 25/08/2014