



BRYN LANE, WREXHAM.

**BAT SURVEY AND MITIGATION
STRATEGY.**

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1. INTRODUCTION.

1.1. A planning application is to be submitted for the development of a site off Bryn Lane, Wrexham. A bat survey is required in support of that application.

1.2. Derek A Whitcher Ltd has been commissioned to carry out that bat survey.

1.3. Two surveys were carried out, one on 7th and 8th August and one on 13th and 14th August 2008. This report outlines the findings of those surveys and makes appropriate recommendations.

1.4. Appendix I of this report provides background information with respect to bats and the legal protection afforded to them.

2. SURVEY METHODOLOGY.

The site was checked for potential bat roosting sites by looking for the following signs:-

- * Holes, cracks or crevices.
- * Bat droppings.
- * Prey remains.

This was followed on each occasion by a dusk emergence survey using Batbox Duet detectors and by overnight recording of bat activity using static Anabat detectors.

Two surveys were carried out, one on 7th and 8th August and one on 13th and 14th August 2008

3. SURVEY RESULTS.

3.1. Site Description.

3.1.1. The site comprises a series of open grazing fields separated by hedgerows. There are mature trees in many of the hedgerows, the majority being oak trees.

3.1.2. Running from east to west across the site there is a small stream with a belt of mature woodland alongside. In addition there is an existing track that runs from north west to south east across the site, bordered by overgrown hedgerows and mature trees.

3.1.3. There are a number of ponds scattered across the site, all as shown on the aerial photograph in Appendix II of this report.

3.1.4. There are no buildings on the site.

3.2. Desk Top Data Search Results.

The CCW ecological records database includes a record of whiskered bat in grid square SJ3749 from 1998 and one in grid square SK3849 from 1999.

3.3. Day Time Survey Results.

3.3.1. Two surveyors walked the site and inspected the trees on the site for potential bat roosting sites. Individual trees within the belt of woodland alongside the stream were not individually assessed as these are numerous and are to be retained as part of the development proposals.

3.3.2. Throughout the site but particularly along either side of the track running north west to south east across the site and around the perimeter of the northern section of the site there are a number of mature oak trees. Almost all of these are covered with ivy to some extent and almost all have some broken limbs, dead wood and therefore potential for roosting bats. No roosts were identified during the survey.

3.3.3. An arboricultural assessment has been undertaken as part of the application, which identified trees on site. Therefore a description of each mature oak tree that has the potential for roosting bats is not contained within this report. A description of each would be repetitive and so individual trees are not listed here.

3.4. First Dusk Emergence Survey Results – 7th and 8th August 2008.

3.4.1. Two surveyors carried out a dusk emergence survey. Each was equipped with a Batbox Duet detector.

3.4.2. The evening was warm, dry and partially overcast with a temperature of 14°C at 10-00pm.

3.4.3. Each surveyor patrolled part of the site looking and listening for signs of bat activity.

3.4.4. The following are the results of the first dusk emergence survey.

- 21-23. Distant pipistrelle 45 heard over northern section of site.
- 21-35. Distant pipistrelle heard close to Pond L.
- 21-40. Pipistrelle 55 feeding by Pond L.
- 21-42. Two pipistrelle 45s feeding over Pond K.
- 21-46. Myotis, thought to be a Noctule bat, flying over Pond K.
- 21-50. Myotis, thought to be a Noctule bat and a Pipistrelle 45 feeding over the track to the north of Pond L.
- 21-58. Myotis, thought to be noctule, flying high over Pond L.
- 22-02. Distant pipistrelle heard over northern section of the site.
- 22-05. Large bat flew up the hedgerow beside Pond K to the west. No echolocation call detected.
- 22-06. Pipistrelle 55 foraging around Pond L.
- 22-07. Pipistrelle 45 foraging around Pond L.
- 22-08. Pipistrelle 45 foraging around Pond L.
- 22-10. Pipistrelle 55 foraging around Pond L.

3.4.5. No bats were seen to emerge from any of the trees and there were no concentrations of bat activity except for the predictable bat feeding activity over the ponds, particularly K and L.

3.5. Second Dusk Emergence Survey Results – 13th and 14th August 2008.

3.5.1. Two surveyors carried out a dusk emergence survey. Each was equipped with a Batbox Duet detector.

3.5.2. The evening was fairly warm, damp from previous rain and partially overcast with a temperature of 13°C at 10-00pm.

3.5.3. Each surveyor patrolled part of the site looking and listening for signs of bat activity.

3.5.4. The following are the results of the second dusk emergence survey.

- 21-03. Pipistrelle 45 foraging along the fence line from Pond K to Pond L.
- 21-23. Pipistrelle 45 foraging over the stream at the eastern side of the site.
- 21-35. Pipistrelle 55 foraging over Pond L.
- 21-37. Noctule flying high over Pond L.
- 22-01. Pipistrelle 45 foraging over Pond K.

3.6. Anabat Data Analysis Results.

Seven static Anabat detectors were positioned around the site and left overnight to record bat activity during both dusk emergence surveys. Each was positioned at a key point of the site as shown on the map in Appendix II of this report. The following are the results of the analysis.

3.6.1. Anabat 1.

3.6.1.1. This was positioned on a mound of rubble overlooking the hedgerow at the south eastern corner of the site between Ponds I and J.

3.6.1.2. The following bat echolocation calls were recorded by the Anabat.

	Pipistrelle 45	Pipistrelle 55	Myotis
1 st Survey	12	74	6
2 nd Survey	25	18	1

3.6.2. Anabat 2.

3.6.2.1. This was positioned on the southern boundary of the woodland alongside the stream.

3.6.2.2. The following bat echolocation calls were recorded by the Anabat.

	Pipistrelle 45	Pipistrelle 55	Myotis
1 st Survey	41	77	3
2 nd Survey	11	5	0

3.6.3. Anabat 3.

3.6.3.1. This was positioned on the northern boundary of the woodland alongside the stream.

3.6.3.2. The following bat echolocation calls were recorded by the Anabat.

	Pipistrelle 45	Pipistrelle 55	Myotis
1 st Survey	6	12	4
2 nd Survey	13	52	5

3.6.4. Anabat 4.

3.6.4.1. This was positioned on the track at the north western corner of the site, close to Bryn Lane.

3.6.4.2. The following bat echolocation calls were recorded by the Anabat.

	Pipistrelle 45	Pipistrelle 55	Myotis
1 st Survey	23	31	8
2 nd Survey	47	24	2

3.6.5. Anabat 5.

3.6.5.1. This was positioned on the southern end of the above track, towards Pond L but not close enough to record feeding activity over the pond.

3.6.5.2. The following bat echolocation calls were recorded by the Anabat.

	Pipistrelle 45	Pipistrelle 55	Myotis
1 st Survey	49	24	1
2 nd Survey	71	23	2

3.6.6. Anabat 6.

3.6.6.1. This was positioned on a hedgerow running north west to south east across the middle of the site to the west of Pond P.

3.6.6.2. The following bat echolocation calls were recorded by the Anabat. There are no recordings for the second survey as the batteries ran flat on this Anabat.

	Pipistrelle 45	Pipistrelle 55	Myotis
1 st Survey	34	8	1
2 nd Survey	-	-	-

3.6.7. Anabat 7.

3.6.7.1. During the first survey this was positioned on the eastern boundary of the site to the south of the stream.

3.6.7.2. The following bat echolocation calls were recorded by the Anabat.

	Pipistrelle 45	Pipistrelle 55	Myotis
1 st Survey	9	8	0
2 nd Survey	-	-	-

3.6.7.3. During the second survey this was positioned on the southern boundary of the site close to Pond K.

3.6.7.4. The following bat echolocation calls were recorded by the Anabat.

	Pipistrelle 45	Pipistrelle 55	Myotis
1 st Survey	-	-	-
2 nd Survey	18	71	6

4. EVALUATION OF FINDINGS.

4.1. Three species of bat were seen and recorded over the site. These were pipistrelle 45, pipistrelle 55 and noctules.

4.2. The pattern of activity over the site did not identify any concentration of any one species that would indicate the presence of a roost.

4.3. The pattern of activity indicates predicted foraging activity along hedgerows and over ponds on the site where a concentration of insects would be expected.

4.4. Nevertheless there is a high potential for roosting bats in the mature oak trees on the site.

5. RECOMMENDATIONS.

5.1. The results of the two surveys identified a predictable level of bat activity over the site but identified no bat roosts. There is therefore no requirement for a European Protected Species Licence in connection with the works.

5.2. Nevertheless, there is a high potential for roosting bats within the mature oak trees on the site and individual bats will seek temporary shelter almost anywhere. It will therefore be necessary to plan the felling of all mature trees carefully to minimise the risk of finding individual bats.

5.3. All mature trees to be felled will be felled in March or October, at a time of year when the bats will be active but not breeding and at a time when there are no nesting birds.

5.4. Each tree will be visually inspected by the ecologist before felling and a licensed bat worker will be present during felling. Any trees where there are holes or broken timber where bats may be able to roost will be felled carefully and left overnight to allow any bats to escape before further cutting up and/or chipping.

5.5. If a bat is found in any of the trees before it is felled, this will be left in place and a European Protected Species Licence Application will be submitted.

5.6. There are abundant mature trees present on the site that will provide bats with alternative roost sites. A bat box scheme is therefore considered inappropriate. Instead more trees will be planted to provide future roost opportunities.

5.7. Trees will be planted along the Bryn Lane frontage of the site to provide a replacement bat foraging route to replace the part of the route that will be lost as a result of the development.

5.8. Lighting schemes will be designed to minimise the potential impact on bat flight corridors with bollard and down lighting to be used instead of flood lighting.

Derek A Whitcher.

Natural England Bat Survey Licence Number. 20073013
24.08.2008

Appendix I. BAT INFORMATION.

It is necessary to understand a little about bats, their basic nature, ecology and legal protection in order to evaluate the findings of this report.

Over 15 species of bat have been recorded in Britain. These fall into two families, the horseshoe bats and the 'ordinary bats'. They are extremely difficult to identify in the hand and even more so in flight.

All appear to be diminishing in numbers, probably due to shortage of food, caused by pesticides, as insects are their sole diet, and habitat change.

As their diet consists solely of insects, bats hibernate during the winter when their food source is at its most scarce. They will spend the winter in hollow trees, caves, mines and the roofs of buildings.

Certain species, particularly the pipistrelle (the commonest and most widespread British bat) can quickly adapt to man made structures and will readily use these to roost and to rear their young.

Bats are protected under the Wildlife and Countryside Act 1981, The Habitats Regulations 1994 and the Countryside & Rights of Way Act 2000.

It is an offence to intentionally or recklessly kill, injure or capture or disturb bats or to damage, destroy or obstruct access to any place used by bats for shelter or protection.

A breeding or resting site of any bat is known as a bat roost. A bat roost is therefore any structure a bat uses for shelter or protection. Because bats tend to use the same roosts each year, legal opinion is that the roost site is protected whether or not the bats are present at that time.

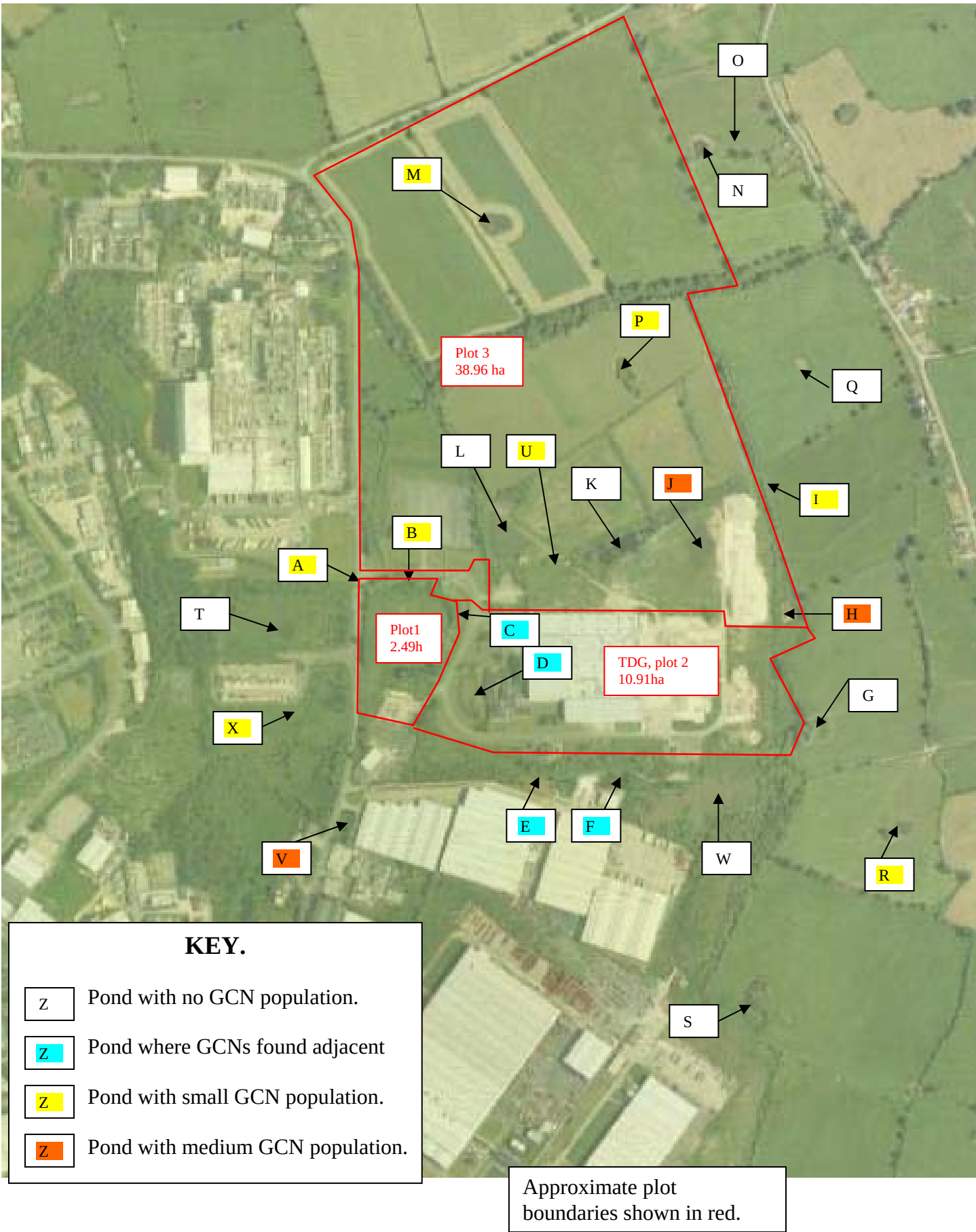
Bat roosts can be identified by looking for:-

- Suitable holes, cracks and crevices.
- Bat droppings.
- Prey remains.
- By carrying out night observations using a bat detector.

Where development proposals are likely to affect a bat roost site, a licence is required from Natural England.

The person applying for that licence has to be suitably qualified and experienced in bat matters. That person is then responsible for ensuring that the measures contained in the licence are carried out.

Appendix II. POND PLAN.



Appendix III. ANABAT LOCATIONS SHOWN ON THE TREE SURVEY MAP.

