

Preliminary Ecological Appraisal (PEA) & Bat Survey Report

Project: Oak Tree Inn, Ruabon Road, Acton, Wrexham, LL13 7PL

Client: FCFM Group

Date: July 2019

Reference: 270319.PEA



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REPORT DETAILS

Reference no.	270319.PEA
Version	003
Status	FINAL

QUALITY ASSURANCE

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Date of review	3 rd July 2019

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CONTENTS

EXECUTIVE SUMMARY.....	1
Section 1 Introduction.....	2
1.1 Commission and Proposals.....	2
1.2 Aims.....	2
1.3 Background.....	2
Section 2 Methodology.....	3
2.1 Desk Study	3
2.2 Preliminary Ecological Appraisal (PEA).....	3
2.3 Species Surveys	4
2.4 Phase 2 Surveys.....	6
2.5 Limitations.....	7
Section 3 Results and Recommendations	8
3.1 Site Description.....	8
3.2 Broad Habitats	10
3.3 Other Observations.....	15
3.4 Desk Study Results.....	16
3.5 Species Records.....	19
3.6 Preliminary Roost Assessment (PRA)	20
3.7 Phase 2 Bat Activity Survey	31
3.8 Nesting Birds	34
3.9 Species Constraints	36
Section 4 Conclusions	45
4.1 Summary of the Site's Ecological Significance	45
Section 5 Bibliography.....	47

Appendices

Appendix 1	Site Location Plan
Appendix 2	Tables 4.1 and 7.3 from <i>Bat Surveys for Professional Ecologist: Good Practice Guidelines</i>
Appendix 3	COFNOD 1km Non-Designated Sites Map (2019)
Appendix 4	COFNOD 1km Protected/ Notable Species Map (2019)
Appendix 5	Detailed Bat Activity Survey Findings
Appendix 6	Example Sonograms

Plans

Plan 1	Phase 1 Habitat Plan
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EXECUTIVE SUMMARY

The contents of this report detail the findings of a Preliminary Ecological Appraisal (PEA) and Phase 2 bat activity surveys undertaken during Between March and June of 2019 at the Oak Tree Inn, Ruabon Road, Acton, Wrexham, LL13 7PL (hereafter referred to as 'the site'). The site is centred on approximate Ordnance Survey Grid Reference (OSGR) SJ 33127 49674. The findings of this report have been used to inform the proposed conversion of a public house and erection of residential dwellings.

The application site, set in a suburban environment, is composed of built structures (**B1 – B4**), hardstanding, amenity grassland and fencing/ walls (**Plan 1**).

B3 (large outbuilding) is confirmed to harbour transitional bat roost(s) supporting low number of common bat species: one (1) brown long-eared bat (*Plecotus auritus*) and one (1) common pipistrelle (*Pipistrellus pipistrellus*; **Plan 1; TN3**). **B1** (Oak Tree Inn), **B2** (small outbuilding) and **B4** (timber sheds) are all considered to provide 'negligible' bat roosting potential (**Plan 1; TN1; TN2; TN4**). The site itself offers average commuting and foraging habitat for common bat species, supported by observations made during Phase 2 bat activity surveys. Bat species records were returned within 1km of the site. A European Protected Species Licence (EPSL) from Natural Resources Wales (NRW) is required in order for the proposed development to proceed. Bat box provision is recommended as mitigation, along with a sensitive working methodology (including soft demolition of sensitive areas of **B3**). A sensitive lighting scheme is also recommended.

B3 (large outbuilding) is considered to provide 'moderate' bird nesting potential, with a single disused passerine bird nest found during the nesting bird inspection (**Plan 1; TN3**). **B2** (small outbuilding) is considered to provide 'low' bird nesting potential (**Plan 1; TN2**). **B1** (Oak Tree Inn) and **B4** (timber sheds) are both considered to provide 'negligible' bird nesting potential (**Plan 1; TN1; TN4**). Several common bird species were observed flying over and around the site during the PEA and during Phase 2 bat activity surveys. A large array of bird species records was returned within 1km of the site. A sensitive building demolition works scheme must be adhered to (works outside of bird nesting season or check for nests immediately prior to works) and bird box provision is recommended as an enhancement.

No significant standing waterbodies were identified during the desktop study, within a 250m zone of influence. The site is deemed to provide poor-quality terrestrial habitat for great crested newts (*Triturus cristatus*; GCN). Records for GCN, in addition to common amphibian species, were returned within 1km of the site. No further survey(s) with regard to GCN is required and this species is not considered a constraint to the proposals.

The site provides poor-quality reptile habitat, is highly-disturbed and displays poor connectivity to the wider landscape. Records for all four (4) common species of reptiles were returned within 1km of the site. No further survey(s) with regard to reptile species is required and reptiles are not considered a constraint to the proposals.

No evidence of other protected/ notable species was noted during the survey and no adverse impacts upon species or habitats of ecological importance are envisaged, provided the provisions detailed within this report are adhered to.

1. INTRODUCTION

1.1 COMMISSION AND PROPOSALS

- Pearce Environment Ltd were commissioned by FCFM Group to undertake a Preliminary Ecological Appraisal (PEA) at the Oak Tree Inn, Ruabon Road, Acton, Wrexham, LL13 7PL (hereafter referred to as 'the site'). The site is centred on approximate Ordnance Survey Grid Reference (OSGR) SJ 33127 49674.
- Phase 2 presence/ likely absence bat activity surveys were commissioned and undertaken on a large outbuilding on the site (referred to as **B3** within this report) during May and June of 2019.
- The findings of this report have been used to inform a planning application for the proposed conversion of public house to 2 no. 2 bed dwellings, demolition of existing rear outbuilding and construction of 3 no. 2 bed houses with associated parking and landscaping (**Appendix 1**).

1.2 AIMS

- This report sets out the findings of a desk-based study, site-based study, Preliminary Roost Assessment (PRA) and Phase 2 bat activity surveys undertaken by Pearce Environment Ltd between March and June of 2019.
- The aims of this report are to:
 - i. Determine the habitat types within and immediately adjacent to the boundary of the site in relation to the proposed works footprint;
 - ii. Identify habitats and species constraints pertinent to the proposals, in accordance with statutory legislation and guidance given in the NPPF¹;
 - iii. Detail the results of any additional Phase 2 species surveys, where necessary;
 - iv. Detail any mitigation and compensation schemes, Reasonable Avoidance Measures (RAM's) and/ or licensing requirements, where necessary; and
 - v. Identify opportunities for the proposed development to provide enhancements and add to the biodiversity resource within the site, in accordance with Section 6 under Part 1 of the Environment (Wales) Act 2016.

1.3 BACKGROUND

- There are no known previous/ historical ecological reports relating to the application site itself.

¹ Department for communities and Local Government (2019). National Planning Policy Framework.

2. METHODOLOGY

- This section summarises the methodologies used during the ecological studies undertaken to inform the proposed development, in line with the aims set out in **Section 1** of this report.

2.1 DESK STUDY

- The desk study is an important part of the ecological assessment as it provides contextual information, such as the sites' proximity to designated areas and known records of protected/ notable species (**Table 2.1**).
- This information is used to supplement the findings of a Preliminary Ecological Appraisal (PEA) and Phase 2 species surveys, to assess the potential for the proposals to affect protected/ notable species and designations of conservation concern, and supports the recommendations and conclusions set out in this report.

Table 2.1 Summary of resources used and information requested during the desk study (2019)

Organisation/ Resource	Information Assessed (search distance from site boundary)
MAGIC website ²	• International statutory designations (1km) • National statutory designations (1km) • Significant standing water bodies (250m)
North Wales Environmental Information Service (COFNOD)	• Protected/ UK BAP species records (1km) • Non-statutory designations (1km) • International statutory designations (1km) • National statutory designations (1km)
Freely-available online data sets (LERC Wales Aderyn ³)	• Protected/ UK BAP species records (1km)

- All pertinent information obtained during the desk study is referenced within **Section 3**, **Section 4**, **Appendix 3** and **Appendix 4** of this report.

2.2 PRELIMINARY ECOLOGICAL APPRAISAL (PEA)

- This level of survey does not aim to provide a complete floral and faunal inventory present on site but to identify field signs of, or habitats with the potential to support, protected species, thereby determining the need for further species survey(s).
- The main habitat types and plant species present were identified and mapped in **Plan 1**, summarised in **Section 3** and illustrated using photographs included within this report, according to the guidelines set out by the Chartered Institute of Ecology and Environmental Management (CIEEM)⁴.
- The survey was performed by Jonathan Molesworth BSc (Hons) Grad CIEEM, an ecologist with 4 years' experience and holder of Natural England (NE) and Natural

² Multi-Agency Geographic Information for the Countryside website (www.magic.gov.uk/)

³ Aderyn. LERC Wales' Biodiversity Information & Reporting Database (<http://aderyn.lercwales.org.uk/public/search>)

⁴ CIEEM (2013). Guidelines for Preliminary Ecological Appraisal. Technical Guidance Series, 1-8.

Resources Wales (NRW) licenses for great crested newts (licence numbers: 2017-31597-CLS-CLS and 77860:OTH:SA:2017), NE licence for white-clawed crayfish (licence number: 2018-38384-CLS-CLS), a first class degree in Biology from the University of Liverpool, and membership with the Chartered Institute of Ecology and Environmental Management (CIEEM membership number: 15105). Jonathan is also a qualified tree climber, and is a member of the Shropshire Mammal Group and Shropshire Bat Group.

- The survey was undertaken during a daytime visit on 27th March 2019. This visit was carried out at a temperature of 12°C and in dry and fine conditions.

2.3 SPECIES SURVEYS

Bats

Preliminary Bat Roost Assessment: Built Structures

- A daytime assessment of all built structure(s) on the site was undertaken to determine their potential to support roosting bats. All external features considered potentially suitable for bats were identified and assessed. An internal assessment of all accessible areas (including loft spaces and basements/ cellars, where appropriate) was undertaken. Signs of bat activity including droppings, feeding remains, scratch marks, staining and urine spots were searched for around all accessible areas. The potential suitability of the structures investigated was assigned a rating of low-to-high in accordance with section 5.2 of the Bat Conservation Trust's *Good Practice Guidelines*⁵ (Appendix 3).

Recommendations for further survey requirements are based on guidelines summarised in Table 7.3 of the Bat Conservation Trust's *Good Practice Guidelines*.

Foraging/ Commuting Assessment

- The suitability of the site for foraging and commuting bats was assessed, based on the presence/ absence of potential foraging/ commuting habitats such as trees/ woodland, hedgerow(s), grassland and watercourses/ waterbodies. Connectivity to the wider landscape was evaluated.

Great Crested Newts

- A desk-based study was undertaken using OS maps and online mapping resources to identify any waterbodies within 250m of the site boundaries.
- *No standing waterbodies were found within 250m of the site, therefore no further survey or Habitat Suitability Index (HSI) assessment with regard to great crested newts was undertaken.*

⁵ Collins J. (Ed.) (2016) Bat Surveys for Professional Ecologist: Good Practice Guidelines (3rd Ed.) The Bat Conservation Trust, London.

Nesting Birds

- An internal and external assessment of any built structure(s) on the site was undertaken by an experienced ecologist, to identify the presence of habitat/ features suitable for nesting birds.
- A search for active/ disused bird nests was undertaken, where appropriate. Observations of birds flying on or around the site were also noted.

Reptiles

- A thorough site walkover was undertaken to assess the habitat suitability for common reptile species. A terrestrial hand search was carried out during the PEA for reptiles basking or seeking refuge beneath debris. An assessment of the quality of reptile habitat present upon the site was carried out, providing a classification of very poor-to-high.

Badgers

- A thorough site walkover was undertaken to determine the status of badgers (*Meles meles*) and their setts on the site. Where present, an assessment of any sett entrances was made, taking into account the shape of the entrance, the quantity of spoil and freshness of its excavation, the presence of fresh bedding, the presence of badger hair and the presence of badger claw marks. Additional badger field signs such as badger paths, scrapings produced during foraging behaviour, latrines/ dung pits, scratching trees and diurnal resting places were also searched for.

Invasive Weeds

- A search for signs of invasive species of plant including Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*), rhododendron (*Rhododendron ponticum*) and giant hogweed (*Heracleum mantegazzianum*), was undertaken during the PEA.
- Appropriate biosecurity measures were undertaken, where appropriate.

Botanical Survey

- An assessment of the species present within any grassland habitats on the site was undertaken. This utilised the DAFOR scale (Dominant, Abundant, Frequent, Occasional, Rare) to record the approximate abundance(s) of each species, where appropriate.

Other Species

- Observations of any other notable flora and fauna were noted during the PEA.

2.4 PHASE 2 SURVEYS

Bats

- Following the results of the initial PRA, two (2) dusk emergence surveys and one (1) dawn re-entry survey were undertaken between May – August 2019. The survey was undertaken in suitable conditions, as detailed in **Table 2.2**.

Table 2.2 Climatic conditions and timings of detailed bat activity survey(s)

Date	Start/ Finish Time	Sunset/ Sunrise	Cloud coverage (%)	Wind (mph)	Temperature (°C) Start/ Finish
02/05/2019	20:25 / 21:50	20:42	50	0	12/ 10
23/05/2019	21:00 / 22:35	21:12	15	1	16/ 14
02/07/2019	03:15 / 05:05	04:51	15	1	12/ 12

- A minimum of two (2) experienced bat surveyors were present during each survey to ensure complete visual coverage of the building(s), as illustrated in **Appendix 6**:
 - Jonathan Molesworth BSc (Hons) Grad CIEEM.
 - Ben Jones BSc (hons) MSc, who has 4 years' experience conducting environmental appraisals and holds a degree in Marine and Freshwater Biology, a Master's degree in 'Managing the Environment' and NE/ NRW licenses for bats (licence numbers: 2017-29112-CLS-CLS and 76324:OTH:CSAB:2017) and great crested newt (licence numbers: 2016-25209-CLS-CLS and 78716:OTH:SA:2018).
 - Charlotte Pearce, an experienced surveyor with over 5 years' experience, and holder of a NE class licence for great crested newt.
 - Phil Playford BSc (Hons) Grad CIEEM, a conservation worker with over 7 years' experience in undertaking surveys for protected species, who holds a first class degree in Physical Geography and Applied Environmental Science from Keele University and volunteer for the Cheshire and Warwickshire Wildlife Trusts.
- A canon XA20 video camera with infrared capability was utilised, as required, to aid surveyors in identifying bat roost location(s).
- Surveyors were equipped with Echo Meter Touch 2 bat detectors and recorded observations of the time, location and activity of all bats seen or heard. A static bat detector (Anabat Express) was deployed, as appropriate, to provide digital recordings to further record and aid with species identification using AnalookW (version 4.2n).
- Bats were identified on the basis of their characteristic echolocation calls using the relevant computer sonogram analysis software with reference to published bat call parameter data⁶. Species of *Myotis* (*Myotis spp.*) and long-eared bats (*Plecotus spp.*), where recorded, were identified to the genus level on the basis of the inherent difficulty in distinguishing between species solely from their echolocation calls.

⁶ Russ, J. (2012). *British Bat Calls: A Guide to Species Identification*. Pelagic Publishing, Exeter.

- The identification of calls and species using computer sonogram analysis software is dependent upon the clarity of the songogram/ recording. The quality is subject to weather conditions, distance of bats from the detector, the presence of physical obstructions and level of background noise.
- Bats were identified on the basis of their characteristic echolocation calls using the relevant computer sonogram analysis software with reference to published bat call parameter data⁷. Species of *Myotis* (*Myotis spp.*) and long-eared bats (*Plecotus spp.*), where recorded, were identified to the genus level on the basis of the inherent difficulty in distinguishing between species solely from their echolocation calls.
- The identification of calls and species using computer sonogram analysis software is dependent upon the clarity of the songogram/ recording. The quality is subject to weather conditions, distance of bats from the detector, the presence of physical obstructions and level of background noise.

2.5 LIMITATIONS

- March is considered to be just outside of the optimal period for undertaking a PEA, therefore it was taken into consideration that roosting bats are likely absent at this time, and vegetation may have died back and/ or be less diverse. It does, however, coincide with the bird nesting season and amphibian/ newt breeding seasons.
- Phase 2 bat activity survey(s) were undertaken during the bat active season (May – August inclusive). No significant change in the conditions/ habitats on the site were noted during bat activity surveys during, therefore the survey(s) are not considered to have been limited by seasonal or climatic factors.
- A basement/ cellar within the Oak Tree Inn (referred to as **B1** within this report) and timber-built sheds (referred to as **B4** within this report) were not accessible during the PRA. The ground floor of the large outbuilding on the site (referred to as **B3** for the purposes of this report) was inaccessible, and **B3** was visible only from the northern, western and part of the eastern elevations (the southern elevation is visible only from 3rd party land – for which there was no consent). All remaining aspects of the site were fully accessible during the survey(s).
- Whilst we make every effort to meet the client brief, no site visit can ensure prediction of the natural environment such as movement of species in response to variables such as weather and seasonality.
- As with any survey, it is a documentation of what the surveyor observes on the specific survey day and their interpretation of those observations.

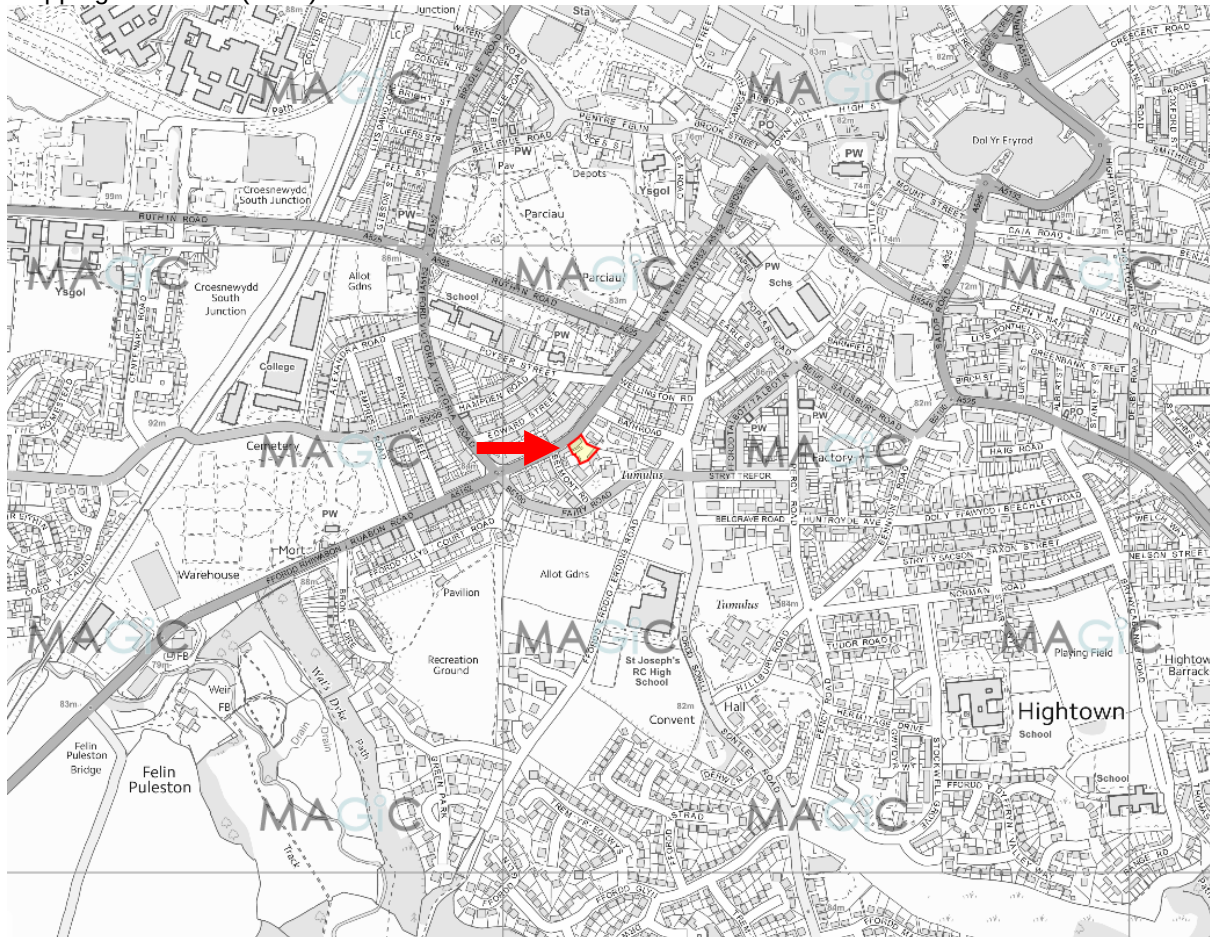
⁷ Russ, J. (2012). *British Bat Calls: A Guide to Species Identification*. Pelagic Publishing, Exeter.

3. RESULTS AND RECOMMENDATIONS

3.1 SITE DESCRIPTION

- The application site is set in a suburban environment, located in the southwest area of Wrexham (**Figure 3.1**).

Figure 3.1 Site location and survey area (outlined in red), reproduced using freely-available online mapping resources (2019)



- The site is directly surrounded by dense residential housing and major/ minor roads in all directions (**Figure 3.2**). A series of allotments and recreational/ sport field lie a short distance south.
- Existing vehicular access is gained directly off Ruabon Road (**Image 3.3**).
- The site itself (~0.3 acres) consists of the Oak Tree Inn – a public house – and associated land. The following range of broad habitats are present on the site (**Plan 1**):
 - Built Structure(s);
 - Hardstanding;
 - Amenity Grassland; and
 - Fencing/ Walls.

Figure 3.2 Aerial view of the site (outlined) and near surrounds, reproduced using freely-available online mapping resources (2019)



Image 3.3 Existing vehicular access leading off Ruabon Road, also showing B1



3.2 BROAD HABITATS

Built Structure(s)

- The site contains four (4) built structures, summarised below:
 - **B1** – The Oak Tree Inn – a public house (currently in use) adjoined to a dwelling, set upon hardstanding and constituting the northern portion of the site, at SJ 33116 49686 (**Image 3.3** – **Image 3.5**).
 - **B2** – A small outbuilding associated with **B1**, set upon hardstanding within the central portion of the site, at SJ 33128 49680 (**Image 3.6**);
 - **B3** – A large outbuilding located to the rear of the existing carpark, set upon hardstanding in the southeast portion of the site, at SJ 33143 49670 (**Image 3.7**);
 - **B4** – A block of timber-built sheds set upon hardstanding along the western site boundary, at SJ 33121 49659 (**Image 3.8**);
- *All built structures on the site were subject to a full PRA and nesting bird inspection, detailed later within this report.*

Hardstanding

- The access driveway, carpark and parts of the beer garden are formed from neglected hardstanding (asphalt and paving slabs), considered to be of low ecological value (**Image 3.9** – **Image 3.11**). Occasional ivy-leaved toadflax (*Cymbalaria muralis*) and pennywort (*Umbilicus rupestris*) exist within the areas of neglected hardstanding, especially along the southwest site margin.

Amenity Grassland

- A small beer garden within the western portion of the site contains a plot of amenity grassland (**Image 3.11**; **Image 3.12**). A number of weeds/ herbs were present throughout the amenity grassland margins, with species including spurge (*Euphorbia* spp.), ragwort (*Jacobaea vulgaris*), common dandelion (*Taraxacum officinale*), common cat's-ear (*Hypochaeris radicata*), broad-leaved dock (*Rumex obtusifolius*), green alkanet (*Pentaglottis sempervirens*), cinquefoil (*Potentilla* spp.), speedwell (*Veronica* spp.), wavy bittercress (*Cardamine flexuosa*), creeping buttercup (*Ranunculus repens*), lesser trefoil (*Trifolium dubium*), common nettle (*Urtica dioica*), cleaver (*Galium aparine*), willowherb (*Epilobium* spp.) and clover (*Trifolium* spp.), with Yorkshire fog (*Holcus lanatus*) and soft brome (*Bromus hordeaceus*) the dominant grasses.

Fencing/ Walls

- The beer garden is contained by timber post and rail fencing (**Image 3.11**).
- The majority of the site is bounded either by high brick walls or close-boarded timber fencing (**Image 3.10**; **Image 3.12**).

Image 3.4 Northern elevation of B1



Image 3.5 Southern elevation of B1



Image 3.6 Southern/ eastern elevations of B2



Image 3.7 Northern elevation of B3



Image 3.8 Northern/ eastern elevations of B4



Image 3.9 Main carpark area, showing hardstanding



Image 3.10 Existing driveway leading into carpark area, also showing boundary wall



Image 3.11 Patio area and amenity grassland constituting the beer garden



Image 3.12 Amenity grassland constituting part of the beer garden, also showing boundary walls/ fencing



3.3 OTHER OBSERVATIONS

- Wood pigeon (*Columba palumbus*) were observed flying over and around the site during the PEA.
- It was noted that no trees/ hedgerows exist on the site itself.
- No further observations pertinent to this study were made during the PEA.

3.4 DESK STUDY RESULTS

Statutory Designations

- A desk-based study was undertaken to identify the presence of statutory designations, which include:

International Recognised Statutory Designations

- Special Protection Areas (SPA's)
- Special Areas of Conservation (SAC's)
- RAMSAR Sites

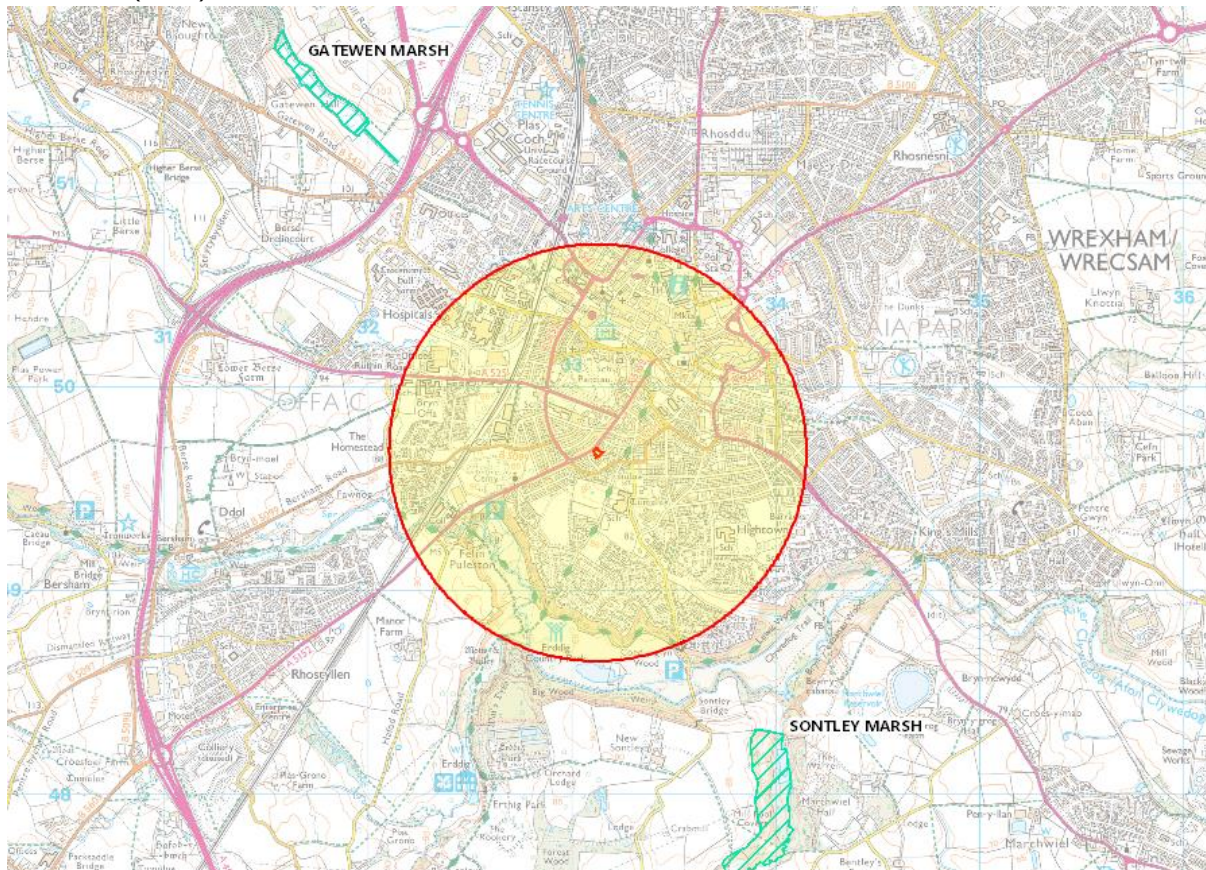
National Recognised Statutory Designations

- Sites of Special Scientific Interest (SSSI's)
- National Nature Reserves (NNR's)

Local Level Statutory Designations

- Local Nature Reserves (LNR's)
- A review of information available from freely-available online resources did not identify the presence of any statutory designations of conservation concern within 1km of the application site (**Figure 3.13**).

Figure 3.13 Proximity of statutory designations to the site, reproduced using freely-available online resources (2019)



- Given the absence of statutory designations within 1km of the application site and considering the sites' suburban location, no negative impacts upon such designations are anticipated as a result of the proposed development.

Non-Statutory Designations

- A COFNOD search identified the presence of one (1) Local Wildlife Site (LWS) within 1km of the site (**Table 3.14**; **Appendix 4**). A further

Table 3.14 Local Wildlife Sites (LWS) within 1km of the site

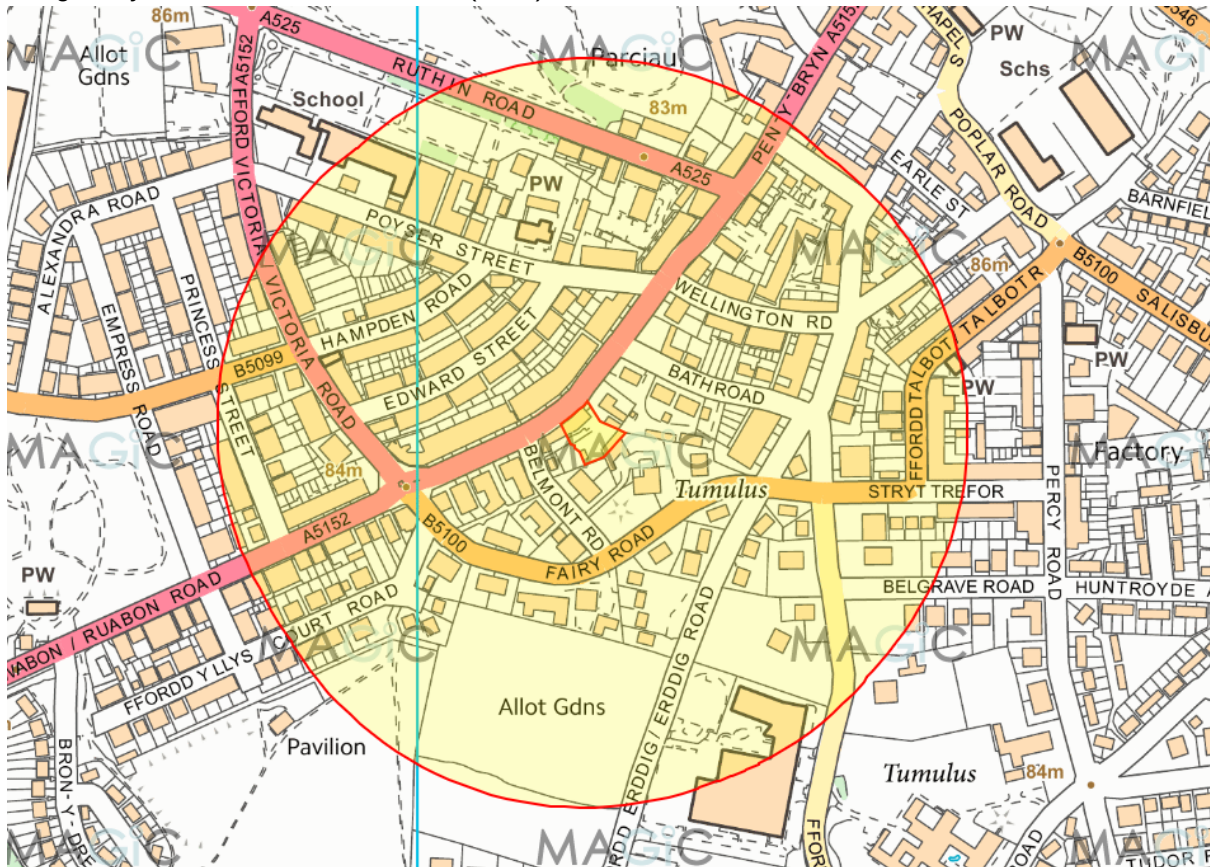
Site Name	Distance from site (km)	Grid Reference	Description
W317: Erddig Estate	0.50 (southwest)	SJ 330 483	National Trust estate with woodlands, grasslands and marshes. The woodlands support a variety of ground flora and the various grassland communities are diverse. A great number of mature trees in the park have excellent insect communities including 12 notable species and 1 red data species.

- Given the nature of the habitats present upon the application site, and owing to the presence of dense residential housing intervening non-statutory designations from the site, no negative impacts upon such designations are anticipated as a result of the proposed development.

Habitats of Importance

- An assessment of the surrounding habitats using OS maps and online mapping resources, in combination with a walkover during the site visit, did not identify any potential significant bodies of standing water within a 250m zone of influence (**Figure 3.15**).
- No further habitats of importance were identified during the desk study.

Figure 3.15 Proximity of standing waterbodies within 250m of the proposed application site, reproduced using freely-available online resources (2019)



3.5 SPECIES RECORDS

- A COFNOD database search of a 1km radius surrounding the site returned a total of 1475 individual species records (**Appendix 4**).
- Protected species previously recorded within 1km of the site (excluding bird species) include soprano pipistrelle (*Pipistrellus pygmaeus*), common pipistrelle (*Pipistrellus pipistrellus*), noctule (*Nyctalus noctula*), brown long-eared bat (*Plecotus auritus*), Myotis bat species (*Myotis spp.*), Eurasian badger (*Meles meles*), European otter (*Lutra lutra*), great crested newt (*Triturus cristatus*), grass snake (*Natrix helvetica*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and common lizard (*Zootoca vivipara*).
- A large array of bird species (including those listed under Schedule 1 and Schedule 2) have been recorded in the local area. These include barn owl (*Tyto alba*), peregrine falcon (*Falco peregrinus*), red kite (*Milvus milvus*), hobby (*Falco subbuteo*), kestrel (*Falco tinnunculus*), kingfisher (*Alcedo atthis*), lesser redpoll (*Acanthis cabaret*), long-tailed tit (*Aegithalos caudatus*), meadow pipit (*Anthus pratensis*), swift (*Apus apus*), dipper (*Cinclus cinclus*), sand martin (*Riparia riparia*), pied flycatcher (*Ficedula hypoleuca*), brambling (*Fringilla montifringilla*), song thrush (*Turdus philomelos*), fieldfare (*Turdus pilaris*), whitethroat (*Sylvia communis*), green woodpecker (*Picus viridis*), great spotted woodpecker (*Dendrocopos major*), bullfinch (*Pyrrhula pyrrhula*), house sparrow (*Passer domesticus*), coal tit (*Periparus ater*) and marsh tit (*Poecile palustris*).
- Invasive (Schedule 9) species recorded within 1km of the site include Japanese knotweed (*Fallopia japonica*), montbretia (*Crocasmia x crocosmiiflora*), wall cotoneaster (*Cotoneaster horizontalis*), New Zealand pigmyweed (*Crassula helmsii*) and Himalayan balsam (*Impatiens glandulifera*).
- Additional notable species include European hedgehog (*Erinaceus europaeus*), brown hare (*Lepus europaeus*), European eel (*Anguilla anguilla*), smooth newt (*Lissotriton vulgaris*) and common toad (*Bufo bufo*), in addition to a small array of invertebrate species.

Detailed species records lists can be supplied upon request

3.6 PRELIMINARY ROOST ASSESSMENT (PRA)

- A daytime inspection was undertaken on the 27th March 2019 to assess the potential of any building(s) on the site to support roosting bats. A full description of those features considered suitable for roosting bats are described and illustrated using site photographs provided below.

B1 (Oak Tree Inn)

- **B1** (SJ 33116 49686; **Image 3.3 – Image 3.5**) is a large public house adjoined to a residential dwelling, currently in use, consisting of a main two-storey section and with a flat-roofed single-storey extension adjoined to the northern elevation. **B1** is constructed from brick with a combination of mostly pitched/ hipped roofs and slate tiles (**Image 3.16; Image 3.17**).
- Externally, **B1** is in good condition throughout. The brickwork and roof tiles are generally tight throughout. A limited number of potential bat roost features were noted on the exterior roof of **B1** during the PRA and are evaluated below:
 - A small section of missing mortar on an eastern gable wall of **B1**; however, this was considered superficial and exposed upon closer inspection and did not appear to lead a significant distance into the roof (**Image 3.18**);
 - A number of partially-broken slates were noted throughout the roof of **B1**; however, these are not considered to offer any degree of roosting potential upon closer inspection (**Image 3.18**).
- Internally, **B1** is in good condition throughout. Three (3) loft hatches facilitate access into the two (2) main loft voids within **B1** – in the eastern and western portions of the building. An inspection of these loft voids revealed a treated timber truss, in good condition, and an un-lined roof (**Image 3.19; Image 3.20**). It was noted that the loft voids were very dusty. No significant, potential bat roost features were noted within the interior of **B1** during the PRA. However, a limited number of potential ingress/ egress points were noted during the interior inspection of **B1** and are evaluated below:
 - Partially-open eaves on the southern and northern aspects of the western portion of **B1** (residential dwelling section).
- A basement/ cellar is present below **B1**; inaccessible during the PRA. However, a brief inspection with a torch through a gap above the door revealed a painted and tight interior which did not appear to be of a construction/ nature deemed suitable for roosting bats.
- No evidence of bat ingress was found anywhere within the loft voids or any other areas of **B1** during the PRA.
- **B1** is considered to provide overall 'negligible' bat roosting potential and is not considered to provide suitable features/ conditions for hibernating bats.

Image 3.16 Southeast corner of B1, showing general construction



Image 3.17 A typical view of the roof of B1



Image 3.18 Mortar gap on an eastern gable wall of B1 (indicated) – considered superficial – also showing slightly broken slates – also considered insignificant



Image 3.19 A typical view within a loft void inside B1



Image 3.20 A typical view within a loft void inside B1, showing unlined roof



Image 3.21 Basement/ cellar below B1 – inaccessible during the PRA



B2 (small outbuilding)

- **B2** (SJ 33128 49680; **Image 3.6**; **Image 3.22**) is a small, single-storey outbuilding associated with **B1**. **B2** is constructed from brick throughout, with a timber truss and pitched roof with slate tiles.
- Externally, **B2** is in good condition overall. The brickwork is tight throughout. A limited number of potential bat roost features were noted on the exterior of **B2** during the PRA and are evaluated below:
 - A small crevice is present along the ridge (5th tile along) on the northern elevation of the roof of **B2** (**Image 3.23**).
- Internally, **B2** is in average condition overall. An internal revealed an open roof, unlined and with a truss incorporating well-conditioned timbers (**Image 3.24**). No significant, potential bat roost features were noted within the interior of **B2** during the PRA. However, a limited number of potential ingress/ egress points were noted during the interior inspection of **B2** and are evaluated below:
 - A broken window on the western elevation of **B2** may provide a potential ingress/ egress point but it is unclear how long the window has been broken (**Image 3.24**).
- No evidence of bat ingress was found anywhere within of **B2** during the PRA.
- **B2** is considered to provide overall 'negligible' bat roosting potential and is not considered to provide suitable features/ conditions for hibernating bats.

Image 3.22 Western elevation of B2, also showing broken window



Image 3.23 Ridge tile gap on the northern elevation of B2



Image 3.24 A typical view inside B2, showing open/ unlined roof



B3 (large outbuilding)

- **B3** (SJ 33143 49670; **Image 3.7**; **Image 3.25**; **Image 3.26**) is a large, two-storey outbuilding – possibly a former coach house. **B3** is constructed from brick throughout, with a timber truss and a combined of a pitched/ hipped roof with slate tiles. A corrugated lean-to appears to adjoin to the southern aspect (off-site).
- Externally, **B3** is in good condition overall. The brickwork and roof are tight throughout. No potential bat roost features were noted on the exterior of **B3** during the PRA.
- Internally, **B3** is in good condition overall. The first-floor level is split into four approximate sections via internal partition walls – open door/ window frames within two (2) of the partition walls potentially allows free movement between the two (2) eastern-most sections and between the two (2) western-most sections (**Image 3.27**; **Image 3.28**). The timber truss is in good condition and the roof is lined with bitumastic felt (**Image 3.29**). A small number of potential bat roost features and ingress/ egress points were noted within the interior of **B1** during the PRA, and are evaluated below:
 - Several sags within the bitumastic felt lining within the roof of **B3**;
 - Three (3) open window frames on the northern and southern elevations of **B3** allow potential access into all sections of this building, along with a significant gap above a shutter (**Image 3.30**).

Image 3.25 Western elevation of B3



Image 3.26 Northern elevation of B3



Image 3.27 A typical view within the first-floor level of B3



Image 3.28 A typical view within the first-floor level of B3 – showing partition wall with open gap



Image 3.29 Bitumastic felt roof lining within B3, with occasional sags noted



Image 3.30 Gap above a shutter on the first-floor level of B3 presenting a potential access opportunity



- Limited evidence of bat ingress was found within **B1** during the PRA, summarised below:
 - Approximately twelve (~12) scattered bat droppings around the western half of the first floor of B3, mostly 2+ seasons old, and commensurate with those of brown long-eared and pipistrelle species – given the open nature of this building, these could be attributed to foraging behaviour (**Image 3.31**).
- **B1** is considered to offer overall ‘low’ bat roosting potential for roof-void dwelling bat species, but is not deemed to offer hibernation opportunities.

B4 (timber sheds)

- **B4** (SJ 33121 49659; **Image 3.8**) is a single-skinned block of timber-built sheds, with a flat corrugated roof.
- Externally, **B4** is in good condition. No potential bat roost features were noted on the exterior/ interior of **B4** during the PRA and it was generally noted that this building is of a nature and construction considered unsuitable for harbouring roosting bats.
- An inspection of the interior of **B4** was not possible during the PRA; however, given the structure and nature of this building, this is not considered to be a significant limitation.
- **B1** is considered to provide over ‘negligible’ bat roosting potential.

Image 3.31 One of several old bat droppings found scattered throughout the western half of B3



Foraging/ Commuting

- The site itself offers average potential foraging and commuting habitat for a common assemblage of bat species, given the presence of grassland and potential indoor foraging areas, but owing to the lack of trees and/ or significant vegetative features.
- It was mentioned by the pub landlord during the survey that he has seen bats flying around the site (*verb. comms.*, 27/03/2019).

3.7 PHASE 2 BAT ACTIVITY SURVEY

- Three (3) Phase 2 bat activity surveys were undertaken on **B3** (large outbuilding) – deemed to offer ‘low’ bat roosting potential during the PRA.
- A summary of the findings of detailed Phase 2 bat activity survey(s) are detailed below. Full findings, example recordings and bat activity plan(s), also depicting the positions of surveyors around the site, are detailed in **Appendix 5** and **Appendix 6**.
- Bat survey timings and weather conditions are detailed in **Table 2.2** of this report.

2nd May 2019 – Emergence Survey

- The first bat pass was observed at 21:06 hrs (24 minutes after sunset); a common pipistrelle which flew from south of the site and briefly foraged around an adjacent walled garden.
- One (1) common pipistrelle emerged from underneath a tile on the hipped roof on the western elevation of **B3**, where the hip joins the ridge, at 21:18 (**Image 3.32**). No further bat emergences were recorded.

Image 3.32 Pipistrelle roosting location (indicated in red)



- Occasional foraging and commuting bat activity ensued throughout the survey – all from common pipistrelles – mostly foraging to the south/ west of the site (over adjacent gardens) and commuting across the car park, along the northern aspect of **B3**.
- Brown long-eared bat(s) were recorded briefly echolocating at 21:04, 21:16, 21:18 and 21:28; however, none were visualised.

23rd May 2019 – Emergence Survey

- The first bat pass was observed at 21:27 hrs (15 minutes after sunset); a common pipistrelle which emerged from underneath a tile on the hipped roof on the western elevation of **B3** (**Image 3.32**).
- A single brown long-eared bat (BLE) emerged from **B3** at 21:42, which flew out of the eastern-most open window on the northern elevation – this individual flew back inside and then immediately flew out again before commuting to the west (**Image 3.33**).

Image 3.33 Open window on the northern elevation of B3, from which a BLE emerged (indicated)



- Regular foraging and commuting bat activity ensued throughout the remainder of the survey:
 - Regular common and soprano pipistrelle foraging/ commuting activity around the site and to/ from adjoining gardens/ properties (particularly to the east and west);
 - Noctule commuting and foraging activity high over the site.

2nd July 2019 – Emergence Survey

- The first bat pass was observed at 03:20 hrs (1 hr 31 minutes before sunrise); a common pipistrelle which was foraging along the northern elevation of **B3**.
- No further bat activity of any kind was observed throughout the remainder of the survey and no bats were observed re-entering **B3**.

Other Observations

- A number of birds were observed flying over and around the site during Phase 2 bat activity surveys, with species including swift, blackbird (*Turdus merula*), jackdaw (*Corvus monedula*), rock dove (*Columba livia*) and herring gull (*Larus argentatus*).

3.8 NESTING BIRDS

B1 (Oak Tree Inn)

- No bird nests were identified anywhere upon/ within **B1** during the nesting bird inspection and it was generally noted that bird nesting opportunities are scarce.
- **B1** is therefore considered to provide 'negligible' bird nesting potential.

B2 (small outbuilding)

- No bird nests were identified anywhere upon/ within **B2** during the nesting bird inspection, although a small number of nesting opportunities for small passerine bird species are present given the potential for ingress into this building via the broken window.
- **B2** is therefore considered to provide 'low' bird nesting potential.

B3 (Large outbuilding)

- One (1) disused passerine bird nest was identified within **B3**, on the first-floor level (**Image 3.34**), during the nesting bird inspection and a moderate number of bird nesting opportunities were noted within this building.

Image 3.34 Disused passerine bird nest found inside B3



- **B3** is therefore considered to provide 'moderate' bird nesting potential.

B4 (timber sheds)

- No bird nests were identified anywhere upon/ within **B4** during the nesting bird inspection and it was generally noted that bird nesting opportunities are scarce.
- **B4** is therefore considered to provide 'negligible' bird nesting potential.

3.9 SPECIES CONSTRAINTS

- Potential species constraints are detailed below, informed by the findings of the desk study combined with observed field signs or actual presence of protected species identified during the Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA).

Bats

- The presence of low numbers of common species of bat is confirmed roosting within **B3** (large outbuilding) following Phase 2 bat activity surveys:
 - A transitional roost with one (1) common pipistrelle under a tile on the western elevation of **B3**;
 - A transitional roost with one (1) BLE in the eastern half of **B3**;
- **B1** (Oak Tree Inn), **B2** (small outbuilding) and **B4** (timber sheds) are all considered to provide 'negligible' bat roosting potential.
- The site itself offers average commuting and foraging habitat for common bat species – supported by observations made during Phase 2 bat activity surveys.
- Eleven (11) records for five (5) bat species were returned within 1km of the site, the nearest of which originate ~0.33km northwest of the site and records date from as recently as 2016.

Legislation

- All species of British bat are listed as a European Protected Species (EPS) on Schedule 2 of the Conservation Regulations (Annex IV (a) to the Habitats Directive) and are afforded full protection under both Regulation 43 of the Conservation of Habitats and Species Regulations (2017) and the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:
 - i. Deliberately capture, injure or kill a bat;
 - ii. Deliberately disturb in a way that would significantly affect their local distribution or abundance, or affect their ability to survive, breed or rear young;
 - iii. Deliberately damage or destroy a bat roost;
 - iv. Possess, control, transport, sell, exchange or offer for sale/ exchange any live or dead bat or part thereof; and
 - v. Intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place.
- Furthermore, several UK bat species are listed as Priority Species on the UK BAP, highlighting them as species of conservation concern.

Impacts

- **B3** and **B2** are to be demolished and residential dwellings erected in its footprint. **B1** is to be converted into residential accommodation. Given the presence of transitional bat roost(s) within/ upon **B3**, the demolition of this building considered likely to contravene one or more offence under the Habitats and Species Regulations (2017) and the Wildlife and Countryside Act 1981 (as amended), namely:
 - Deliberately capture, injure or kill a bat;
 - Deliberately disturb in a way that would significantly affect their local distribution or abundance, or affect their ability to survive, breed or rear young;
 - Deliberately damage or destroy a bat roost;
 - Intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place.
- Given the type of roost(s), a 'low' scale of impact is anticipated, based on the 'low' conservation significance of the roost and in accordance with the *Bat Mitigation Guidelines* (2004)⁸.
- It is considered that there will be no loss/ fragmentation/ isolation of significant bat foraging and/ or commuting habitat as a result of the proposed development; therefore, no long-term negative impacts on bat species locally are anticipated.

Recommendations

- A European Protected Species Licence (EPSL) from NRW must be obtained in order for the works upon **B3** to commence. Licence applications are processed within a minimum of 30 days of receipt.
- The following sensitive working methodologies for all works upon **B3** are recommended to ensure impacts upon bats are avoided during the period of the proposed works:
 - An EPSL will be sought once planning permission has been granted – an Ecological Clerk of Works (ECW) will be appointed and shall liaise with the client prior to the application (the ECW must either be the named ecologist on the licence or an accredited agent);
 - A walkover of the site should be undertaken by the ECW to determine any change in status of the habitats/ structures/ species on the site prior to the initiation of any works or attaining of an EPSL;
 - A site meeting and toolbox talk by the appointed ECW will be given to the site manager and all contractors working on site with respect to bats and to confirm the

⁸ Mitchell-Jones A.J. (2004). Bat mitigation guidelines. English Nature.

arrangement of the sensitive working methodologies, mitigation measures and reporting procedures;

- A copy of a safe working practice document for works on site, where there is the potential to find bats, will be provided and must remain on site at all times (this will be included within a method statement to support an application for an EPSL);
- Soft demolition techniques will be used as appropriate – sensitive areas of **B3**, such as the roof, are to be dismantled by hand under the direct supervision of the ECW;
- A suitable bat box (such as a Schwegler 1FF bat box; **Image 3.45**) will be installed upon an appropriate structure – a permanent building on the site (such as **B1**) or a suitably-mature tree on or adjacent to the site – prior to the commencement of works, installed at a height of no less than 4m and orientated in a southerly/westerly direction. This will ensure refuge opportunities for roosting bats are present throughout the works period (or in the event that roosting bats are disturbed during works);

Image 3.45 An example of a Schwegler 1FF bat box



- If bat(s) are found at any time, works will immediately halt and the ECW will be informed – the bat(s) will either be allowed to disperse naturally or the ECW will carefully lift the bat in gloved hands and carefully place it into a bat box or suitably dark place on the site;
- Contractors are advised not to handle bats at any time unless instructed to do so by the ECW;
- Given the 'low' conservation significance of the bat roost(s) within/ upon **B3**, it is considered that conditions regarding the timing of works are not required in this instance, in accordance with the *Bat Mitigation Guidelines*⁹.

⁹ Mitchell-Jones A.J. (2004). Bat mitigation guidelines. English Nature.

Proposed Mitigation

- Mitigation must be provided to ensure roosting opportunities exist on the site following the proposals. Based on the anticipated 'low' impact scale of the development, the recommended mitigation approach would be:
- The provision of a minimum of three (3) bat boxes suitable for pipistrelle species and BLE is required, to compensate for the loss of bat roost features on **B3** and to secure future roosting opportunities on the site. We recommend a selection from the following bat boxes (although suitable alternatives are acceptable and can be discussed with an ecologist) – Schwegler 1FFH bat box, Schwegler 1FR bat tube, Schwegler 1FQ Bat Roost, Beaumaris Woodstone Bat Box and/ or 'Habibat' Triple Chambered Access Bat Box (**Image 3.46**; **Image 3.47**). These must be installed (or integrated into, where appropriate) **B1** or any new dwellings on the site, provided they are installed at a height of no less than 4m and orientated in a southerly/ westerly direction.

Image 3.46 Examples of a Schwegler 1FQ Bat Roost (left), a Schwegler 1FFH bat box (middle) and a Schwegler 1FR bat tube (right)



Image 3.47 A Beaumaris Woodstone Bat Box (left) and Habibat Triple Chambered Access Box (right)



- All bat mitigation boxes/ structures must be maintained for the lifetime of the development.
- All mitigation activities must occur under direct supervision of the appointed ECW and in tandem with an EPSL and those sensitive working measures detailed above.

Monitoring & Additional Provisions

- Any monitoring visits during and post-development are to be undertaken in accordance with EPSL conditions.
- Any new artificial lighting during and post-development is to be directed away from the site boundaries and any bat newly-installed bat boxes, and all future external lighting will be of the Passive Infra-Red type, set on a short timer and orientated towards the ground. This is based on guidance from the BCT¹⁰.
- Providing the strategy prescribed in this report is strictly adhered to, no significant long terms impacts are envisaged upon common species bats roosting upon/ within **B3**, thereby ensuring the long-term favourable conservation status of these species.
- It must be noted that the above mitigation measures/ recommendations are subject to change at the discretion of the consultant undertaking the EPSL.

Great Crested Newt

- A desk-based assessment using OS maps and online mapping resources, in combination with a walkover during the site visit, did not identify any potential significant bodies of standing water within 250m of the site, as illustrated in **Figure 3.15**.
- The suitability of the terrestrial habitat for GCN on the application site is considered to be poor, given domination by hardstanding/ built structure(s).
- One (1) record of GCN was returned within 1km of the site, originating ~0.63km southwest and recorded in circa 1988.

Legislation

- The great crested newt (*Triturus cristatus*) is listed as a European Protected Species (EPS) on Schedule 2 of the Conservation Regulations (Annex IV (a) to the Habitats Directive) and is afforded full protection under both Regulation 43 of the Conservation of Habitats and Species Regulations (2017) and the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:
 - i. Deliberately or recklessly capture, kill, injure or disturb great crested newt(s);
 - ii. Deliberately or recklessly damage or destroy a breeding or resting place of GCN(s);
 - iii. Deliberately or recklessly obstruct access to a breeding or resting place of GCN(s);
 - iv. Deliberately take or destroy the eggs of a GCN(s);
- Furthermore, GCN(s) are listed as Priority Species on the UK BAP, highlighting them as species of conservation concern.

¹⁰ Bats and Lighting in the UK (2009). Bat Conservation Trust.

Impacts

- **B3** is to be demolished and residential dwellings erected in its footprint. **B1** is to be converted into residential accommodation. These works are considered highly unlikely to negatively impact upon GCN/ amphibians.

Recommendations

- No further survey(s) with regard to GCN is considered necessary and this species is not considered a constraint to the proposals.

Nesting Birds

- **B3** (large outbuilding) is considered to provide 'moderate' bird nesting potential, with one (1) disused passerine bird nest found during the nesting bird inspection.
- **B2** (small outbuilding) is considered to provide 'low' bird nesting potential.
- **B1** (Oak Tree Inn) and **B4** (timber sheds) are both considered to provide 'negligible' bird nesting potential.
- Only pigeons were observed flying over and around the site during the survey.
- A large array of bird species records was retrieved within 1km of the site.

Legislation

- All wild birds, their nests and eggs are protected under Part 1 (Section 1) of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:
 - i. Intentionally kill, injure or take any wild bird;
 - ii. Take, damage or destroy the nest of any wild bird while it is in use or being built;
 - iii. Take, damage or destroy the egg of any wild bird; and
 - iv. To have in one's possession, or control, any wild bird (dead or alive) or egg or any part of a wild bird or egg.
- In addition, further legal protection is afforded to those wild bird species listed on Schedule 1, which prohibits the intentional or reckless disturbance to a bird while it is nest building, or at a nest containing eggs or young, or to recklessly disturb the dependent young of such a bird.

Impacts

- **B3** is to be demolished and residential dwellings erected in its footprint. **B1** is to be converted into residential accommodation. These proposals carry a moderate risk of disturbing birds during the nesting season.

Recommendations

- No further survey(s) with regard to nesting birds is considered necessary.
- Any demolition works to **B3** are to be timed to occur outside the bird breeding season (this is February – August inclusive). In the event that works are required within this time period then inspections for nests should be undertaken immediately prior to the start of any works. Should any active nest be found, works shall cease and a 5m buffer is to be formed until subsequent checks by a suitably-qualified ecologist prove the absence of nesting birds.
- The provision of a minimum of two (2) bird nesting box suitable for common passerine bird species is recommended as a general enhancement for the site. We recommend Schwegler Bird House nest boxes as a reliable option; however, a suitable equivalent is acceptable (**Image 3.38**). These are to be installed upon any new or existing building on the application site, provided it is installed at a height of no less than 2m and orientated in a southerly or westerly direction.

Image 3.38 Examples of Schwegler Bird House boxes



- Any bird boxes must be retained in perpetuity and their exact location(s)/ specification(s) may be discussed with a suitably-qualified ecologist and alternative options can be considered.

Reptiles

- The site is considered to offer poor reptile habitat, given domination by hardstanding/ built structure(s).
- The site is also poorly-connected to other areas of potentially favourable reptile habitat (enclosed on all sides by dense residential housing) and receives current high levels of disturbance (and likely has done in the past).
- 27 records for all four (4) common species of reptile were returned within 1km of the site, the nearest of which originate ~0.49km west of the site and with records dating from as recently as 2018.

Legislation

- All species of native UK reptile, including common lizard (*Zootoca vivipara*), slow-worm (*Anguis fragilis*), grass snake (*Natrix helvetica*) and adder (*Vipera berus*), receive some degree of protection under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:
 - i. Intentionally kill or injure any UK native reptile; and
 - ii. Sell, barter, exchange, transport for sale or advertise to sell or to buy any UK native reptile.

It is not an offence under the Wildlife and Countryside Act 1981 to possess these animals.

- Full protection under both the Conservation of Habitats and Species Regulations (2017) and Wildlife and Countryside Act, 1981 (as amended) is afforded to sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*). This makes it an offence to:
 - i. Intentionally kill, injure or take either of these species;
 - ii. Possess either of these species or any part thereof;
 - iii. Intentionally damage or destroy the breeding or places of shelter/ protection of either of these species;
 - iv. Intentionally disturb either of these species whilst occupying a place used for shelter or protection; and
 - v. Sell, barter, exchange, transport for sale or advertise to sell or to buy either of these species.
- In addition, all species of reptile native to the UK are also listed as Priority Species on the UK BAP, highlighting them as species of conservation concern.

Impacts

- **B3** is to be demolished and residential dwellings erected in its footprint. **B1** is to be converted into residential accommodation. These works are considered highly unlikely to negatively impact upon reptiles.

Recommendations

- No further survey(s) with regard to reptile species is considered necessary and reptiles are not considered a constraint to the proposals.

Badger

- During the detailed PEA no badger setts or field signs indicating use of the site by foraging/ commuting badger(s) were noted.

- Six (6) badger records were returned within 1km of the site, although none have been recorded within 500m of the site. Records date from as recently as 2010.

Legislation

- Badgers and their setts are specifically protected under the Protection of Badgers Act (1992). This makes it an offence to:
 - i. Wilfully kill, injure or take, or attempt to kill, injure or take, a badger;
 - ii. Possess a dead badger or any part or derivative of a badger;
 - iii. Cruelly ill-treat a badger;
 - iv. Dig for a badger;
 - v. Damage a badger sett or any part of it;
 - vi. Destroy a badger sett;
 - vii. Obstruct access to, or any entrance of, a badger sett;
 - viii. Cause a dog to enter a badger sett; or
 - ix. Disturb a badger when it is occupying a badger sett.

Impacts

- **B3** is to be demolished and residential dwellings erected in its footprint. **B1** is to be converted into residential accommodation. These works are considered highly unlikely to negatively impact upon badgers.

Recommendations

- No further survey(s) with regard to badgers is considered necessary and this species is not considered a constraint to the proposals.

Other Species/ Habitats

- No further species pertinent to this study were found and no field signs of other protected or notable species were observed during the PEA.

Further Enhancements

- An appropriate landscaping scheme is recommended as further enhancement of the site post-development. This might include new tree/ fruit tree planting around the site, where appropriate, utilising native species of local provenance.

4. CONCLUSIONS

4.1 SUMMARY OF THE SITE'S ECOLOGICAL SIGNIFICANCE

- The application site, set in a suburban environment, is composed of built structures (**B1 – B4**), hardstanding, amenity grassland and fencing/ walls.
- B3** (large outbuilding) is confirmed to support transition roost(s) of low numbers of common bat species. **B1** (Oak Tree Inn), **B2** (small outbuilding) and **B4** (timber sheds) are all considered to provide 'negligible' bat roosting potential. The site itself offers average commuting and foraging habitat for common bat species.
- B3** (large outbuilding) is considered to provide 'moderate' bird nesting potential, with a single disused passerine bird nest found during the nesting bird inspection. **B2** (small outbuilding) is considered to provide 'low' bird nesting potential. **B1** (Oak Tree Inn) and **B4** (timber sheds) are both considered to provide 'negligible' bird nesting potential. Only pigeons were observed flying over and around the site during the PEA.
- No significant standing waterbodies were identified during the desktop study, within a 250m zone of influence. The site is deemed to provide poor-quality terrestrial habitat for GCN.
- The site provides poor-quality reptile habitat, is highly-disturbed and displays poor connectivity to the wider landscape.
- No other habitat features or evidence of pertinent protected species were identified during the PEA and PRA (**Table 4.1**).

Table 4.1 Summary of the status of protected/ notable species and sites on and near to the site

Species/ Group	Local Records	Suitable Habitat on Site	Field Signs	Recommendations
Habitats/ Designations	Yes: 1X LWS + 6X stands of ancient woodland within 1km	No: site located within a built-up area	N/A	Appropriate landscaping scheme for the site is recommended
Invasive Plants	Yes: 5X species within 1km	N/A	No	No further action required
Bats	Yes: 5X species within 1km	Yes: 'low' roosting potential in B3 + average potential foraging/ commuting habitat on the site (‘negligible’ roosting potential in B1/ B2/ B4)	Yes: transitional roost(s) with 1X com. pip. & 1X BLE confirmed within B3	European Protected Species Licence (EPSL) required from Natural Resources Wales (NRW), sensitive working methodology(s), bat box provision as mitigation + sensitive lighting scheme

Species/ Group	Local Records	Suitable Habitat on Site	Field Signs	Recommendations
Nesting Birds	Yes: large assemblage within 1km	Yes: 'moderate' nesting potential in B3, 'low' nesting potential in B2 + 'negligible' nesting potential in B1/ B4	Yes: 1X disused passerine nest inside B3	Sensitive demolition works scheme + bird box provision as an enhancement
Barn Owl	Yes: within 1km	No	No	<i>No further action required</i>
Badgers	Yes: within 1km	No	No	<i>No further action required</i>
Amphibians (including GCN)	Yes: GCN, smooth newt + com. frog within 1km	No: no waterbodies within 250m + poor terrestrial habitat on the site	No	<i>No further action required</i>
Reptiles	Yes: all 4X common species within 1km	No: poor habitat on the site, disturbed + poor connectivity to wider landscape	No	<i>No further action required</i>
Otter	Yes: within 1km	No	No	<i>No further action required</i>
Water Vole	No: none within 1km	No	No	<i>No further action required</i>
Dormice	No: none within 1km	No	No	<i>No further action required</i>
White-clawed Crayfish	No: none within 1km	No	No	<i>No further action required</i>
Other Notable Specie	Yes: brown hare + hedgehog within 1km	No	No	<i>No further action required</i>

- Subject to the implementation of those provisions, further survey recommendations and working methodologies given in this report, it is considered that any detrimental effects regarding protected/ notable species can be avoided and/ or mitigated for.
- Should the development proposals be altered significantly, such that changes to the working area and/ or duration of the works arise, then a re-assessment of the likely impacts arising by a suitably experienced ecologist will be required.

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Appendix 1 Site Location Plan

DO NOT SCALE FROM DRAWING
WORK TO FIGURED DIMENSIONS ONLY
ALL EXISTING DIMENSIONS TO BE CHECKED ON SITE
DRAWN ON AUTOCAD LT
LAYERS ON THIS DRAWING COMPLY WITH BS 1192



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Date: Jan 19 ■ Detail: Oak Tree Inn, Wresham - Site Location Plan ■ Drawn: P.M. ■ Checked by: SJE ■ Paper: A4 ■ Scale: 1:1250 ■ Dwg No: 2224/100

Appendix 2 Tables 4.1 and 7.3 from *Bat Surveys for Professional Ecologist: Good Practice Guidelines*¹¹

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	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	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated 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.
Moderate	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).	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.
High	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.	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.

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

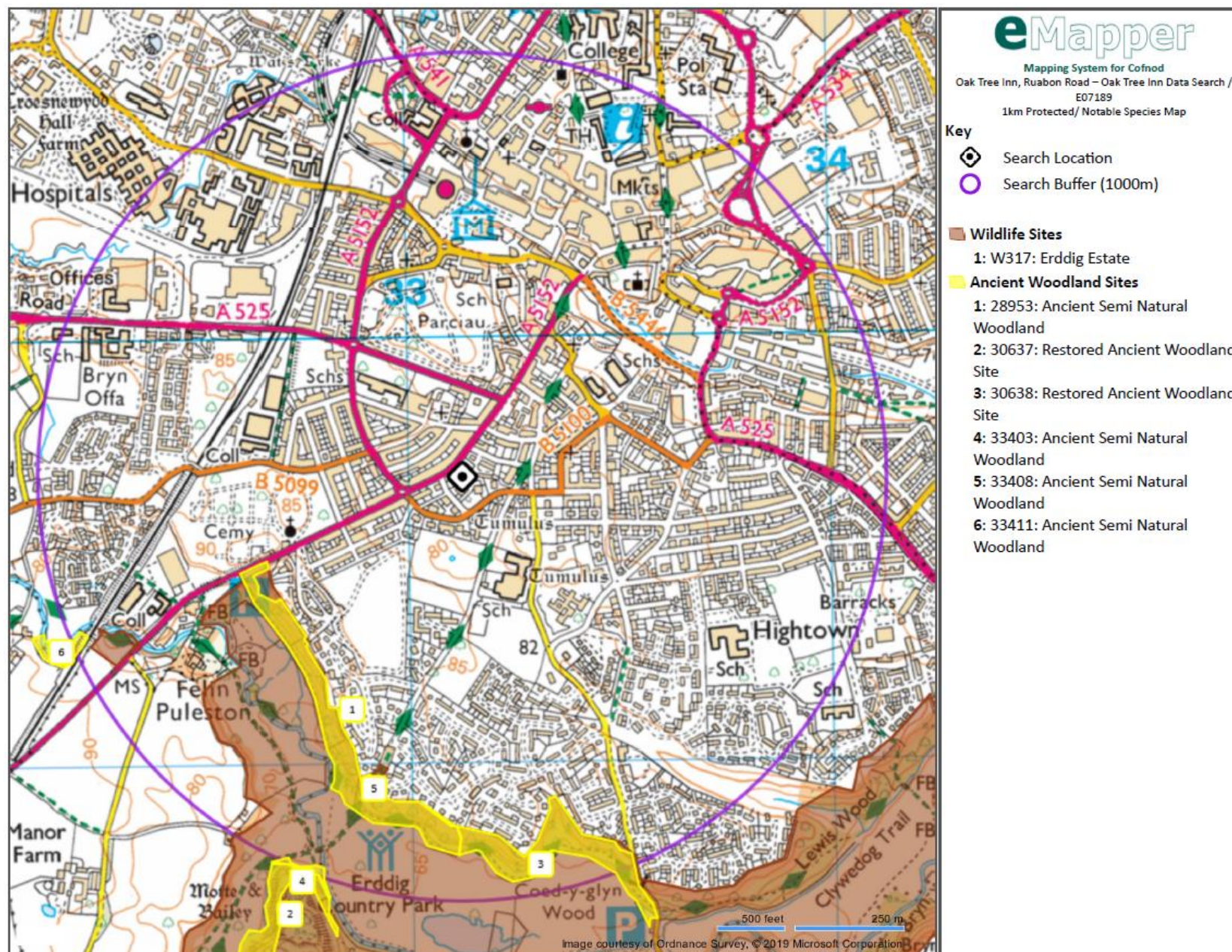
^c This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

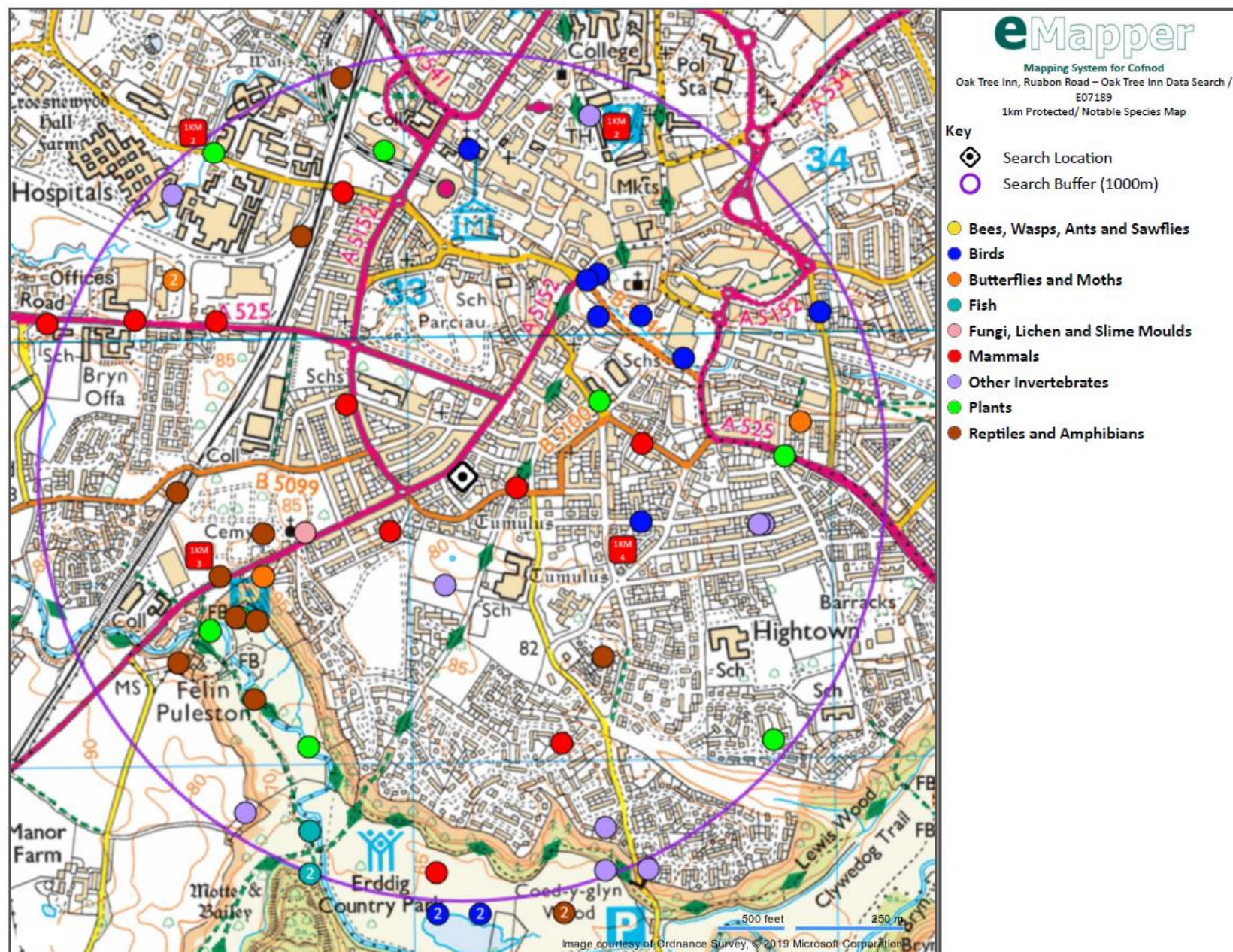
Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey^a (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.^b

¹¹ Collins J. (Ed.) (2016) *Bat Surveys for Professional Ecologist: Good Practice Guidelines* (3rd Ed.) The Bat Conservation Trust, London.

Appendix 3 COFNOD 1km Non-Statutory Designated Sites Map (2019) – public version



Appendix 4 COFNOD 1km Protected/ Notable Species Map (2019) – public version

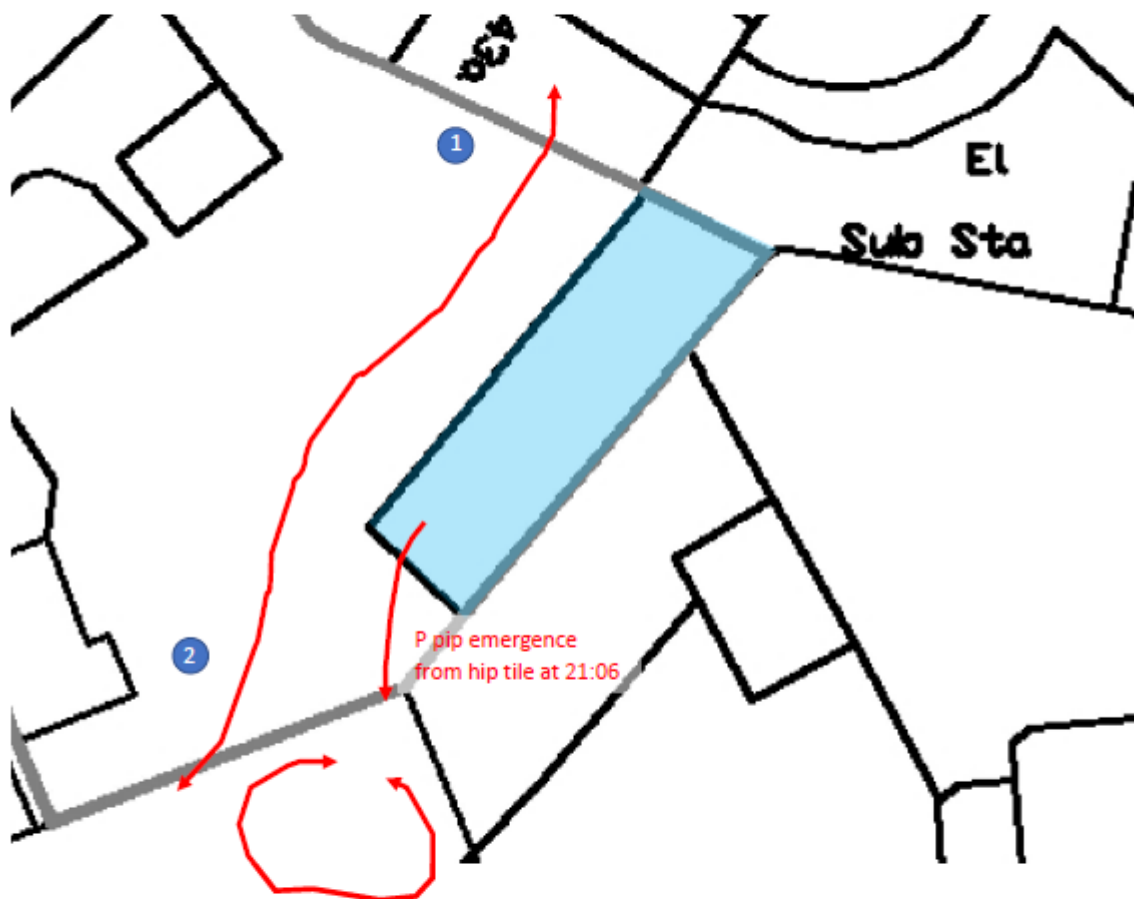


Appendix 5 Detailed Bat Activity Survey Findings

Emergency Survey – 2nd May 2019

Position/ surveyor	Total no. bat passes	Species recorded	Activity observed
1/ JM	13	<i>Ppip</i> , <i>Paur</i>	Foraging/ commuting
2/ CP	33	<i>Ppip</i> , <i>Paur</i>	Foraging/ commuting/ emergence

Bat Activity Plan



Key:

Surveyor positions – ●

Bat flight route (*Pip spp.*) – →

Emergency Survey – 23rd May 2019

Position/ surveyor	Total no. bat passes	Species recorded	Activity observed
1/ JM	24	<i>Ppip</i> , <i>Ppyg</i> , <i>Nn</i> , <i>Paur</i>	Foraging/ commuting/ emergence
2/ PP	31	<i>Ppip</i> , <i>Ppyg</i> , <i>Nn</i> , <i>Paur</i>	Foraging/ commuting/ emergence

Bat Activity Plan



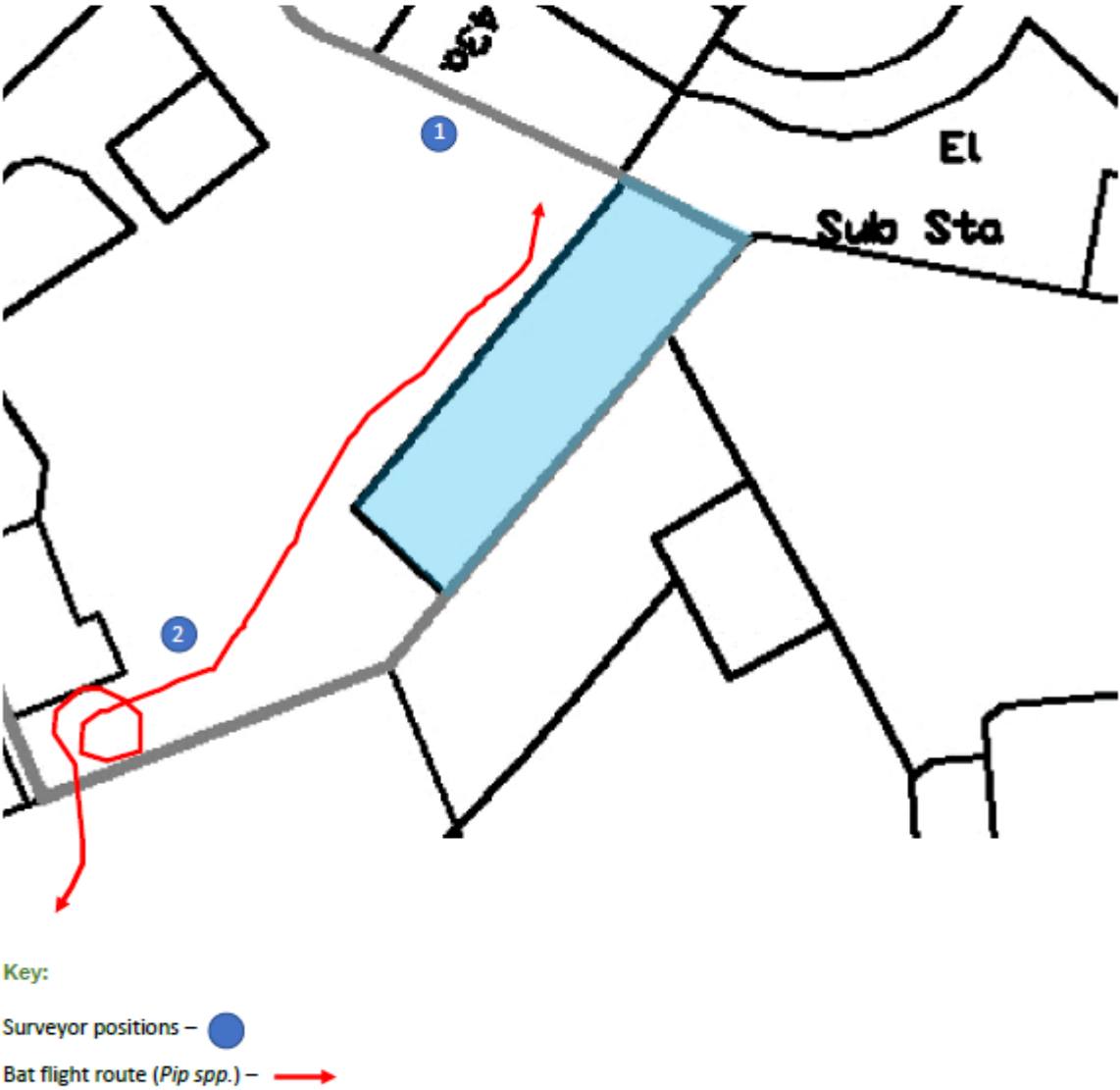
Key:

- Surveyor positions – ●
- Infrared video camera position – ★
- Bat flight route (*Pip spp.*) – —→
- Bat flight route (*P auritus*) –→
- Bat flight route (*N noctula*) – - - ->

Re-entry Survey – 2nd July 2019

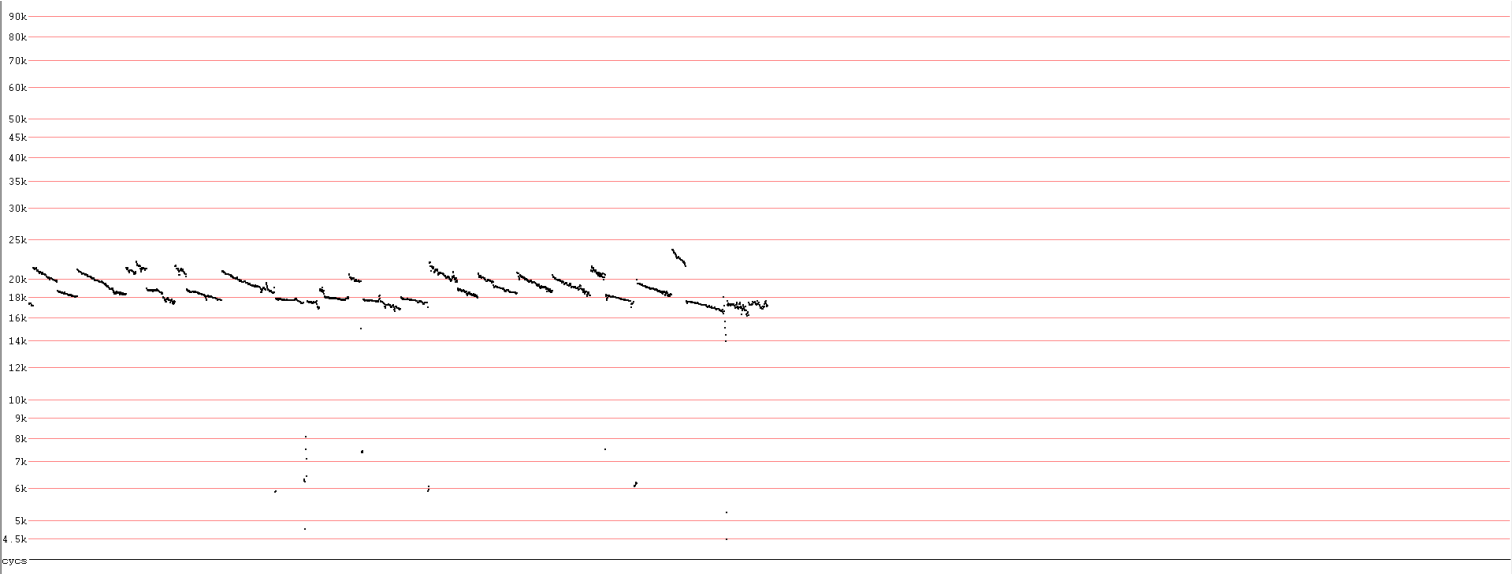
Position/ surveyor	Total no. bat passes	Species recorded	Activity observed
1/ BJ	1	<i>Ppip</i>	Foraging/ commuting
2/ JM	1	<i>Ppip</i>	Foraging/ commuting

Bat Activity Plan

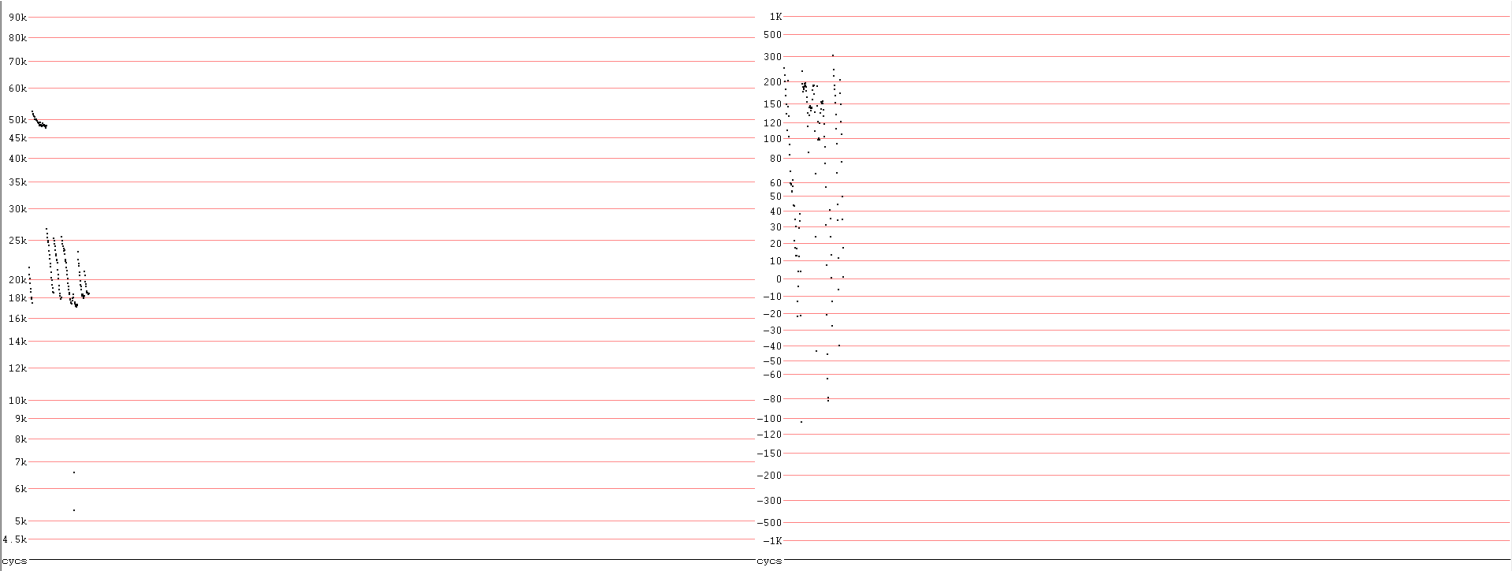


Appendix 6 Example Sonograms

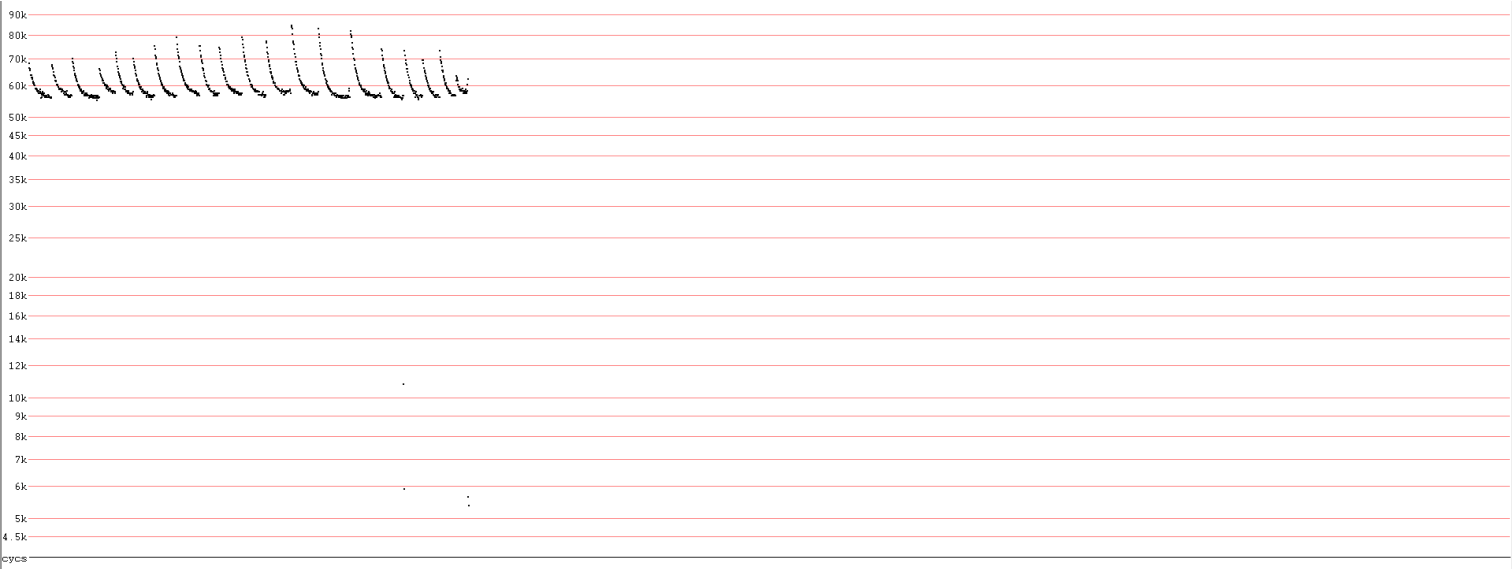
Noctule (23rd May 2019 – EMT2)



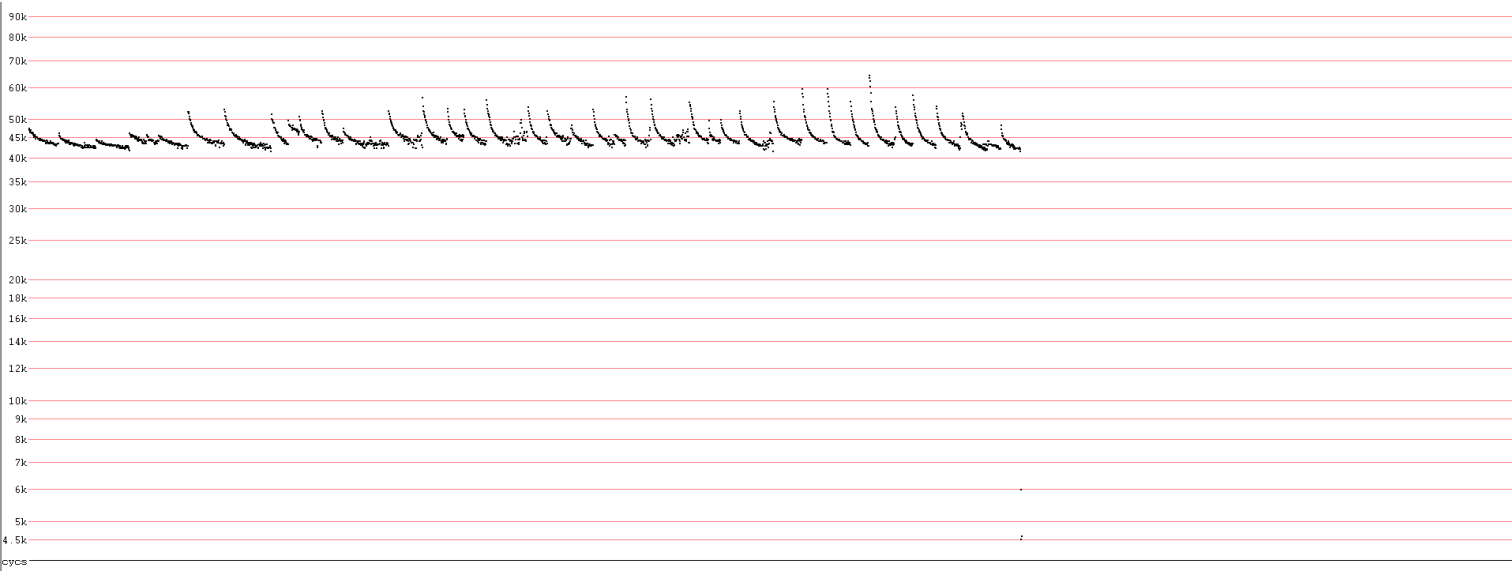
Brown long-eared bat (2nd May 2019 – EMT2)



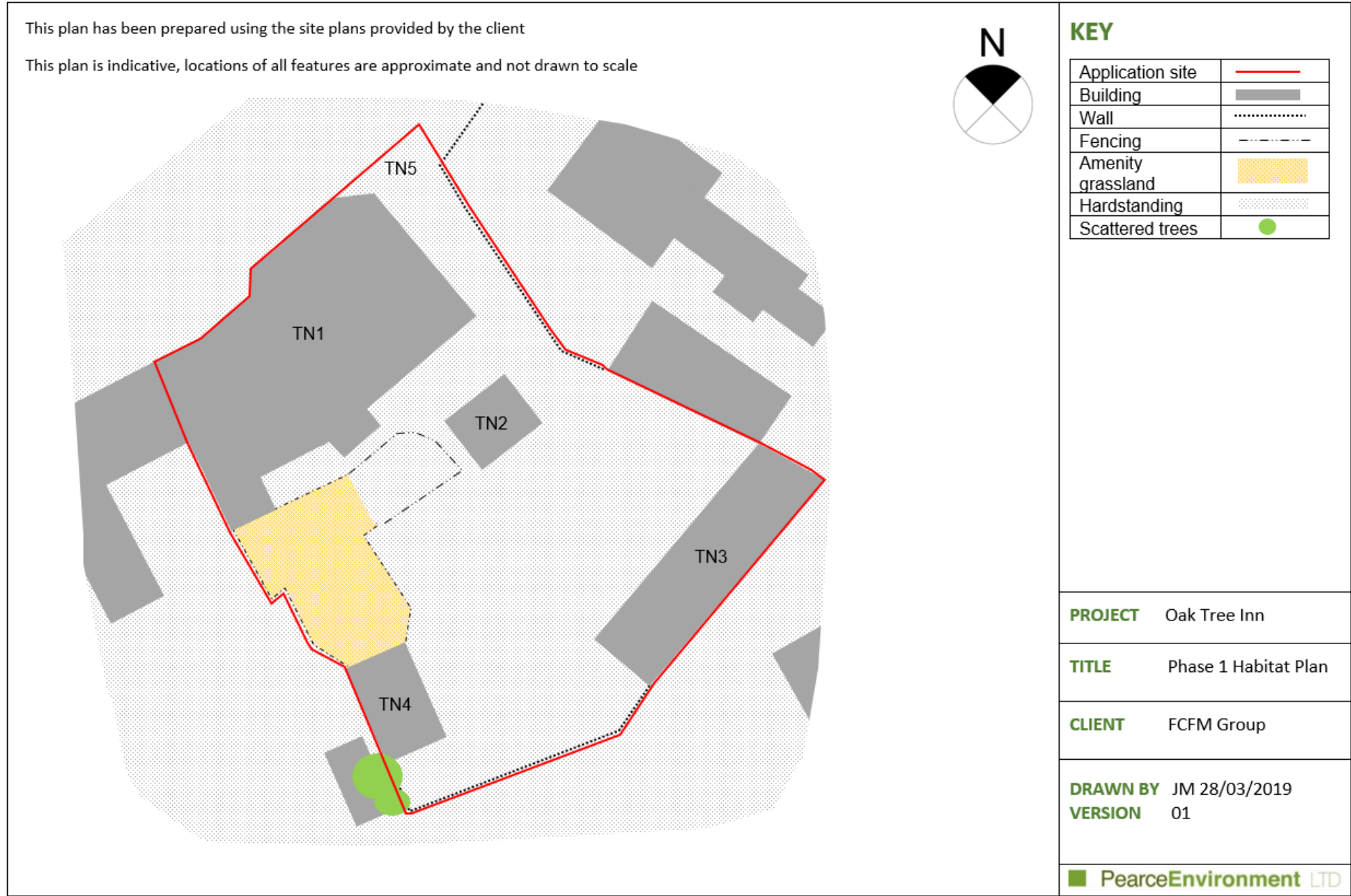
Soprano pipistrelle (23rd May 2019 – EMT2)



Common pipistrelle (2nd May 2019 – EMT2)



Plan 1 Phase 1 Habitat Plan



TARGET NOTES

TN1 – B1 (Oak Tree Inn) with 'negligible' bat roosting potential and 'negligible' bird nesting potential

TN2 – B2 (small outbuilding) with 'negligible' bat roosting potential and 'low' bird nesting potential

TN3 – B3 (large outbuilding) with transition roost(s) of 1X common pipistrelle and 1X brown long-eared bat confirmed following Phase 2 bat activity survey(s), and with 'moderate' bird nesting potential (1X disused passerine bird nest found)

TN4 – B4 (timber sheds) with 'negligible' bat roosting potential and 'negligible' bird nesting potential

TN5 – Existing vehicular access off Ruabon Road