

An Interim Bat Activity Survey Report
on behalf of

Treharris Phoenix RFC
for
Treharris Phoenix RFC
1 Forest Road
Treharris
Merthyr Tydfil
CF46 5HF



Produced by: **Little Wing Ecology CYF** (A Not-for-profit Company Limited by Guarantee)
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Version: 01

Executive Summary

Summary	Little Wing Ecology (CYF) was commissioned to undertake a Bat Assessment and Activity survey on a site known as 'Treharris Phoenix RFC, 1 Forest Road, Treharris, CF46 5HF.' The survey was undertaken to inform the client of any constraints, and associated planning requirements with regards to habitat and species, and to inform a planning application.
About the Site	The Site comprises an area of approximately 2.7 hectares, the majority of which is a level area of amenity grassland, covering approximately 1.95 hectares. The Site is currently used as playing fields and is maintained at a short sward height. The northern margin of the Site contains a young broadleaved woodland, containing immature trees and young mature shrubs. Habitat in the immediate vicinity of the Site is mixed. To the west the habitat comprises mainly of buildings and made surfaces, such as roads and pavements. A steep embankment slopes away from the Site to the east. This is characterised by young broadleaved saplings and has a path that connects the Site to playing fields (amenity grasslands) on the valley floor, below. The Tâf Bargoed river is located approximately 135m to the east and the Nant Cothi river approximately 200m to the north. A mixture of broadleaved woodlands is found beyond the boundaries to the north of the south of the Site. A club house and car park, marks the southern boundary of the Site. The Site is situated on the north-eastern boundary of the village of Treharris. Access is available via an adjacent road (Forest Road). Treharris is a small ex-mining settlement with a population of approximately 7,700, situated at the southern portion of the Bargoed Valley. The settlement lies approximately 1.5km north-east of the A470 (at Abercynon).
Proposed Development	Planning permission is sought to erect six floodlights around the perimeter of a rugby pitch to support the delivery of training events and matches during the winter months (October – March). This lighting will be used between approximately 18.00hrs - 19.30hrs once or twice a week, usually mid-week for winter training sessions. In addition, the lighting is intended to only be used for evening matches during December, January, and February to make up for missed Saturday day-time games cancelled due to bad weather. This would be for approximately for two hours in the early evening and no more than once a week, mid-week.
Results	A Preliminary Roost Assessment (PRA) confirmed several gaps in the external fabric of Buildings A. The resultant assessment based on best practice guidance categorised this structure as having a moderate risk, requiring a dusk survey on two occasions, no less than 14 days apart. Features of bat interest locally are limited to young trees and shrubs. A young woodland borders the north of the Site, and a similar woodland borders the south of the Site, beyond the car park. West of the Site is composed of made surfaces and continuous street lighting, while the steeply sloping ground to the east of the Site is characterised by young/planted trees. The resultant categorisation based on best practice guidance was a low-risk habitat requiring a single transect survey during the summer, autumn, and winter months, to establish bat interest at the Site (Collins, J. [Ed.] (2016). Best practice would also recommend a 5-night static survey to coincide with the proposed transects surveys, but due to the small size of the Site, and considering the surrounding habitat features, it is considered that transect surveys would provide the necessary evidence in this instance. No evidence of bat roosting activity was observed. Recorded bat activity was restricted to commuting across the Site and foraging, predominantly within the car park at the south of the Site, with limited foraging over the playing fields and against the on-site woodland. When the nature conservation significance of the Site is considered against recognised criteria (Bat Mitigation Guidelines 2004 and Good Practice Guide: NRW Approach to Bats and Planning October 2015 and IUCN Red List of Threatened Species), the nature conservation status of the Site is assessed to be low, due to the presence of common species – Common pipistrelle - <i>Pipistrellus pipistrellus</i> (Least Concern – IUCN Red List), Soprano pipistrelle - <i>Pipistrellus pygmaeus</i> (Least Concern – IUCN Red List), Noctule (Least Concern – IUCN Red List) and Brandt's bat (Data deficient – IUCN Red List), which was recorded during only one visit, foraging against the on-site woodland. The scale of the impact of the development will affect a small number of animals, with a low risk of detrimental impacts to the conservation status at a local level.
Other Ecological Considerations	During the spot-count transect-survey on 19.07.22, a hedgehog was recorded on the amenity grassland close to location 5 (Grid reference - ST 09973 97476). During the spot-count transect-survey on 19.07.22, A wood pigeon (<i>Columba palumbus</i>) was recorded using the woodland.
Recommendations	If the development is to be conducted between March and September (inclusive), effort should be made to avoid any adverse impacts on the potential/historic roost identified in the small extension to the south of Building A, and to the commuting and foraging of bats on-site. External lighting should be restricted during the development period to that which is necessary for safety and security. This should be kept to a minimum. It is recommended that precautions are incorporated during the construction phase. This will be to create provisions for hedgehogs to escape, in the form of creating slopes or the inclusion of ramps at the end of each working day - from all trenches dug into the ground. Additionally, any pipework left on-site that is greater than 150mm in diameter will need to be planked off. Should this information be strictly adhered to, then the development works will not negatively impact this local mammal population. As a purely precautionary measure, it is recommended that a fingertip search is undertaken on the morning works are proposed to commence by a suitably qualified ecologist. If at any point during works a protected species is encountered on-site, it is essential that all work is to cease and that a suitably experienced ecologist is contacted for advice.

Enhancement	The incorporation of nesting boxes for birds and roosting boxes for bats in the development (see Appendix). Two 2F Schwegler Bat Box* (General Purpose) roosting boxes to be fitted within the on-site woodland with a southerly orientation at a height >3m. One 1B Schwegler Nest Box* and one 2H Schwegler Robin Box* to be fitted within the on-site woodland with an easterly to northerly orientation at a height >3m. The incorporation of hedgehog box* within the woodland edge.
This Executive Summary is intended to provide an overview of the assessment of the site based on information received by Little Wing Ecology (CYF) at the time of production. This Executive Summary should be read in conjunction with the full report.	

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SECTION ONE: INTRODUCTION

Little Wing Ecology (CYF) was commissioned to undertake a Bat Assessment and Activity survey on a site known as 'Treharris Phoenix RFC, 1 Forest Road, Treharris, CF46 5HF.' The survey was undertaken to inform the client of any constraints, and associated planning requirements with regards to habitat and species, and to inform a planning application. For the purposes of this report, the proposed development area will be referred to as, 'the Site.'

This report contains the results from two dusk activity surveys and a single night transect survey, conducted during the summer months. These surveys and an assessment of the likely impact that the proposed works will have on bat interest at the Site was carried out. This report has been prepared with recommendations for enhancement features to improve opportunities for local species post-development.

The Site is positioned at grid reference ST 09991 97457 (see Figure 1).

1.1 Proposed Works:

Planning permission is sought to erect six floodlights around the perimeter of a rugby pitch to support the delivery of training events and matches during the winter months (October – March).

This lighting will be used between approximately 18.00hrs - 19.30hrs once or twice a week, usually mid-week for winter training sessions.

In addition, the lighting is intended to only be used for evening matches during December, January, and February to make up for missed Saturday day-time games cancelled due to bad weather. This would be for approximately for two hours in the early evening and no more than once a week, mid-week.

1.2 Site Description:

The Site comprises an area of approximately 2.7 hectares, the majority of which is a level area of amenity grassland, covering approximately 1.95 hectares. The Site is currently used as playing fields and is maintained at a short sward height. The northern margin of the Site contains a young broadleaved woodland, containing immature trees and young mature shrubs. Habitat in the immediate vicinity of the Site is mixed. To the west the habitat comprises mainly of buildings and made surfaces, such as roads and pavements. A steep embankment slopes away from the Site to the east. This is characterised by young broadleaved saplings and has a path that connects the Site to playing fields (amenity grasslands) on the valley floor, below. The Tâf Bargoed river is located approximately 135m to the east and the Nant Cothi river approximately 200m to the north. A mixture of broadleaved woodlands is found beyond the boundaries to the north and south of the Site. A club house and car park, marks the southern boundary of the Site. The Site is situated on the north-eastern boundary of the village of Treharris. Access is available via an adjacent road (Forest Road). Treharris is a small ex-mining settlement with a population of approximately 7,700, situated at the southern portion of the Bargoed Valley. The settlement lies approximately 1.5km north-east of the A470 (at Abercynon).

The planning application is confined to the level ground, but light spillage will impact surrounding habitat, during the limited time that the lights are in use.

1.3 Policy and Legislation

In Britain, all bat species and their roosts are legally protected, by both domestic and international legislation. This means you may be committing a criminal offence if you:

- Deliberately take, injure, or kill a wild bat.
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats.
- Damage or destroy a place used by bats for breeding or resting (roosts) (even if bats are not occupying the roost at the time).

- Possess, advertise, sell, exchange a bat of a species found in the wild in the EU (dead or alive) or any part of a bat.
- Intentionally or recklessly obstruct access to a bat roost.

The framework for this protection is provided within three pieces of legislation from the Government of Wales and the UK Government.

These are:

- The Conservation of Habitats and Species Regulations (2017) - as amended.
- The Environment (Wales) Act 2016.
- The Wildlife and Countryside Act (1981) - as amended.

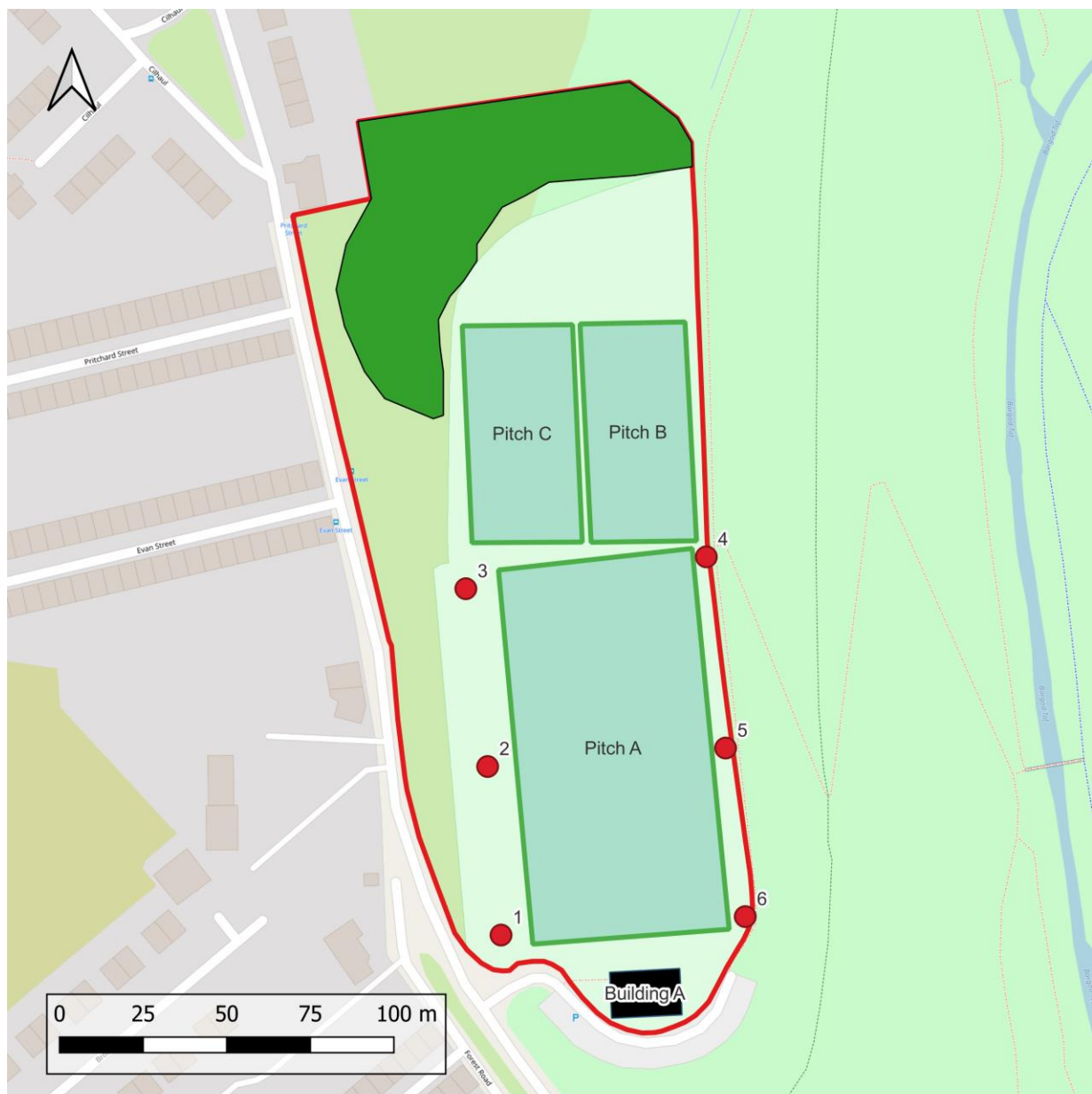
Additional information on the legal scope of these acts can be found in Table 1.2 (below) and a link to the full documentation can be found in, 'References and Bibliography.'

1.4 Survey Aims & Objectives:

Considering this legal framework and local planning requirements, the objectives of this survey were to:

- Determine if bat roosts are present on-site.
- Determine the species of bat present.
- Determine the type of roost present (maternity, day roost etc).
- Identify any bat foraging or commuting behaviour in relation to the Site.
- Consider if there will be impacts on bats from the proposed works.
- Consider if nesting birds are present which might be affected by the development proposals.
- Gather sufficient information to be able to make appropriate recommendations, inform mitigation and licencing.

Figure 2: A Site Plan



Key

- Young broadleaved woodland (planted)
- Building A (club house)
- Playing Fields
- Site Boundary
- Proposed New Lights

Survey Date: Friday 10th June 2022

Produced by: Little Wing Ecology

Job Reference: LT028-PRA

Author: N S Aldridge

QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project.
<http://qgis.osgeo.org>.

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Photographs	Description
	Photograph 1: Northern Elevation: Club House (Building A).
	Photograph 2: Southern Elevation: Club House (Building A).
	Photograph 3: Eastern Elevation: Club House (Building A).
	Photograph 4: Western Elevation: Club House (Building A).
	Photograph 5: Habitat Overview: Image taken centrally over the Site from the southern section, near Building A, looking north. At the northern edge of the Site you can see the on-site woodland.

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Photograph 6:

Habitat Overview: Northern Boundary

The north of the Site is marked by by a young woodland. Between the practice pitches (pitch 2 and 3) there is an area of medium sward grassland.



Photograph 7:

Habitat Overview: Interior of the woodland

An image taken inside the woodland show a variety of semi-mature trees and shrubs.



Photograph 8:

Off-site: Adjacent to the Eastern Boundary

To the east of the Site the land drops away steeply. The area is characterised by medium sward grassland and young (planted) trees. A path runs down this banking providing access to additional amenity grassland on the valley floor.



Photograph 9:

Eastern Boundary: Steel fencing.

Image taken from the south, looking north.



Photograph 10:

Western Boundary: Steel fencing.

Image taken from the south, looking north-west.

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	Photograph 11: Northern Boundary: A Young Planted Woodland. Image taken from the east, looking west.
	Photograph 12: Southern Boundary: A Young Planted Woodland to the south of the on-site car park. Image taken from the west looking east.

Table 1.1: Site Photographs

Policy	Description
Conservation of Habitats and Species Regulations 2017 (as amended)	Bats are specifically protected by the Conservation of Habitats and Species Regulations 2017 (as amended) (The Habitat Regulations). The Habitat Regulations are the way in which EU legislation is transposed into UK law. All species protected via this legislation are defined as 'European Protected Species.' The Habitat Regulations make it an offence to deliberately capture, kill, disturb, or trade in European Protected Species (i.e. those listed on Schedule 2), of which all UK bats are included. However, these actions can be made lawful through the granting of a license by Natural Resources Wales (NRW). Licenses may be granted for a number of purposes but only after the LPA and NRW is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on the wild populations of bats.
The Environment (Wales) Act 2016	Section 7 of the Environment (Wales) Act 2016 requires all statutory authorities including Local Planning Authorities (LPA) to have due regard for living organisms and types of habitat that are of key significance to sustain and improve biodiversity in relation to Wales. Furthermore, the LPA have a duty under the Act to take all reasonable steps to maintain and enhance the living organisms and types of habitat included on any list published under Section 7 and to encourage others to take such steps.
Wildlife and Countryside Act 1981 (as amended)	The Wildlife and Countryside Act 1981 (as amended) (The WCA 1981) is the principal legislation by which most species are protected in Wales. Bats are protected under Schedule 5 of the WCA 1981, which makes it an offence to damage or destroy a bat roost; intentionally or recklessly disturb a bat or a roost, or intentionally or recklessly obstruct access to a roost. The interpretation of a bat roost is "any structure or place which any wild [bat]...uses for shelter or protection". Because bats tend to reuse the same roosts, the legal opinion is that the roost is protected whether or not the bats are present at the time. In relation to birds, the WCA 1981 makes it an offence to intentionally kill, injure or take any wild bird; take, damage or destroy the nest of any wild bird while that nest is in use or being built. Schedule 1 of the WCA Act 1981 includes bird species for which addition the additional offence of disturbing these species at their nests or their dependent young.

Table 1.2: Bats and The Law: Legislation in Wales and the UK

SECTION TWO: THE SURVEY METHOD

2.1: Desktop Survey

A review of aerial photography was undertaken to assess the provision of suitable foraging and commuting habitat within proximity to the Site (Figure 3). This information was used in combination with a review of statutory designated sites, via the MAGIC website, including Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSI) to help in confirming the presence of bat species locally.

Bats are considered cryptic species and it can be difficult to confirm whether they are present or not. Although the provision of a Local Environmental Records Centre data search would provide a range of information, such records can only be relied upon as relative where they are reasonably recent and when supplied by an experienced bat surveyor. It was therefore considered necessary to undertake a detailed survey regardless of the data search results, as this is most likely to be beyond the acceptability of current data as defined in BS 42020:2013 Biodiversity: Code of practice for planning and development and will not be as effective as spending time monitoring the buildings for the presence of bats.

2.2: Preliminary Roost Assessment

The focus of the assessment was Buildings A and an on-site woodland. A potential nest and roost assessment survey was carried out on the exterior of these structures on 10/06/2022 and an internal survey on 01/08/22 by Nic Aldridge, a Natural Resources Wales (NRW) licenced bat worker. Nic has over 5 years of experience in surveying bats throughout Wales, specialising in surveying buildings for residential extensions and barn conversions.

The external fabric of the structure was methodically inspected using close-focusing binoculars and a high-powered torch for potential access points such as gaps in the fabric of the building, beneath lifted roof materials or other gaps in the roof. Loose flashing, smudge marks and droppings on walls directly below eaves and gables etc were also searched for. A description of the building, including construction material and current condition was recorded.

Internally, the building was searched using a high-powered torch to identify possible links to exterior roost entrances and clear signs of presence via urine staining, feeding remains, odour, piles of droppings, live bats and bat carcasses. The space was also examined in the dark to identify areas where the presence of light would identify potential entry points for birds and bats. The aim of this survey was to determine the actual or potential presence of bats and the need for further survey and/or mitigation.

2.3: Activity Surveys

Following guidelines set out on Bat Conservation Trusts Good Practice Guidelines (Collins, J. (Ed.) (2016), two dusk activity surveys were completed at Buildings A on 18.07.22 and 05/08/22.

These surveys represented the minimum recommended number of surveys visits for presence absence surveys to give confidence in a negative result for structures.

Full details of the survey team can be found in Table 2.2 (below). The survey was conducted using Pettersson D240x time expansion bat detectors and Tascam DR-05X Portable Digital Recorders. In addition, an Anabat SD frequency division bat detector was used by one surveyor in conjunction with a MELCAM Video Camera Camcorder 1080P IR Night Vision Digital Camera (Table 2.1).

This equipment provides high quality recordings of bat calls which were analysed using BatSound, Batsound Touch and Analook software. Recordings were annotated by the surveyors to provide contextual information on bat behaviour and flight patterns, at the Site. Details of the date, time, sunset time and weather information was noted on all survey visits.

2.4: A Single-night Spot-count Transect Survey

Following guidelines set out on Bat Conservation Trusts Good Practice Guidelines (Collins, J. (Ed.) (2016), a single dusk transect survey was carried out on 19.07.22 to collect evidence of bat interest at the Site.

As this is a small site, it was decided that a spot-count transect survey would provide the necessary evidence to document bat interest at the Site. The surveyor remained stationary for a short amount of time (3-5 minutes) at six predetermined locations around the Site. Records of bats encountered were systematically recorded in addition to contextual information, such as behaviour and flight patterns.

Full details of the survey team can be found in Table 2.2 (below). The survey was conducted using Pettersson D240x time expansion bat detectors and Tascam DR-05X Portable Digital Recorders.

This equipment provides high quality recordings of bat calls which were analysed using BatSound, Batsound Touch and Analook software. Recordings were annotated by the surveyor to provide contextual information on bat behaviour and flight patterns, at the Site. Details of the date, time, sunset time, and weather information was noted on all survey visit (Table 3.7).

Device Name	Detector Type	Conducted By	Location Grid Reference	Date	Analysis Software
Pettersson D240x time expansion bat detector and Tascam DR-05X Portable Digital Recorder	Full spectrum	Nic Aldridge	1. ST 10033 97392 2. ST 10028 97480 3. ST 10023 97541 4. ST 09965 97544 5. ST 09973 97476 6. ST 09982 97386	19/07/22	Batsound

Table 2.1: Spot-count Transect Survey Equipment

2.5: Additional Ecological Considerations

Nesting birds were also considered at the time of the survey, with the surveyors looking for signs of bird activity, nests, nest building, feeding at nest sites, and evidence of collections of bird droppings, feathers, or any other indications of use by birds.

2.6: Limitations of the Survey Method

The activity survey was conducted in suitable weather conditions and within the appropriate season for detecting roosting bat activity.

A heat wave during July may have impacted bats roosts locally, and resulted on bats moving to cooler locations.

No additional limitations were experienced during the surveys.

2.7: Meet Our Survey Team

Name / Licence	Equipment	Experience
Nicholas Aldridge (BSc (Hons), MSc., & PGCE) Lead Ecologist NRW Bat Licence: S089980/1 (22nd July 2021 - 21st July 2022). NRW Bat Licence: S091427/1 (22nd July 2022 - 21st July 2024).	Pettersson D240x Time expansion bat detector. Tascam DR-05X Portable Digital Recorder. Batsound Analysis Software.	Nic Aldridge is the lead ecologist with Little Wing Ecology and the author of this report. He is a licensed bat worker with over 20 years' experience in education and conservation and over five years' experience surveying built-structures, open habitats, and woodlands for bats. Following a degree in Botany and Zoology, Nic completed an MSc in Wildlife Management, Conservation and Control, at the University of Reading. He has practical experience in field-based research with a focus on invertebrate and vegetation diversity and producing phase 1 habitat surveys and habitat management plans. He has carried out the ringing of Daubenton's bats as part of a multi-year project on the species and has undertaken monitoring work on several important lesser horseshoe bat roosts. He has attended courses with the Bat Conservation Trust to improve his knowledge and skills and has led voluntary projects to develop habitats and collect species data. Nic founded Little Wing Ecology in 2021 as a social enterprise, to use the skills and expertise of an ecological consultancy to work with the local community, support local conservation projects and provide training and education for the next generation of ecologists.
Sam Paterson (BSc..) Wildlife Surveyor	D240x Time expansion bat detector Tascam DR-05X Portable Digital Recorder	Sam is a science educator, working with home-school communities across Wales and a wildlife surveyor with Little Wing Ecology. She holds degrees in science, public engagement, and renewable technologies. Previously Sam worked as a lecturer and researcher at the University of South Wales, Pontypridd, developing and delivering a master's degree in Renewable Technologies. Her research into renewable technology, environmental impact and public understanding and acceptance of emerging renewable technologies has been published in two co-authored books and several academic papers. Sam has always had a love of the environment and nature and is dedicated to lifelong learning. Most recently she has developed an interest in soil regeneration and has attended several training sessions to develop her knowledge, understanding and practical skills in bat monitoring and bat ecology. Her current roles allow her to put her love of nature into practice.

Table 2.2: The Survey Team

Treharris Phoenix RFC, 1 Forest Road, Treharris, CF46 5HF |August 2022

Figure 3: Satellite Image Showing the Site Location in Relation to the Local Environment



Key

● Site Location Marker

Survey Date: Friday 10th June 2022

Produced by: Little Wing Ecology

Job Reference: LT028-PRA

Author: N S Aldridge

QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project.
<http://qgis.osgeo.org>.

Assessment	Roosting	Commuting and Foraging
Negligible	An inspected structure or tree which is considered to have no features of importance for roosting bats. No further constraints apply to the method or timing of proposed works.	Negligible habitat features on-site to support commuting or foraging bats
Low	A structure with at least one or more features suitable to support opportunistic individual bats. However, inadequate space, shelter, protection and conditions, and the low suitability of surrounding habitats means that it is unlikely to be used as a maternity or hibernation roost site. A tree of adequate age and stature to support potential roosting features, however, either no features, or only features of limited potential recorded from the ground.	Habitat with potential to support low numbers of commuting bats due to its quality and connectivity. For example, a gappy hedgerow or unvegetated stream that is isolated from the surrounding landscape. Alternatively, suitable but isolated habitats suitable to support low numbers of foraging bats such as a lone tree or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that are of adequate size, shelter and protection, with suitable conditions and surrounding habitat to support a bat roost not of high conservation status (with respect to roost type not individual species conservation status).	Linear habitat continuity connecting to the wider landscape offering potential to support commuting bats, such as rows of trees and scrub or linked back gardens. Habitat such as trees, scrub, grassland or a waterbody with connectivity to the wider landscape offering foraging opportunities for bats.
High	A structure or tree with one or more potential roost sites that are suitable for use by large numbers of bats on a regular basis and for long periods of time due to their size, shelter, protection, conditions and the surrounding habitat.	Continuous high-quality habitat with strong connectivity to the wider landscape that is likely to be used by commuting bats on a regular basis, such as flowing waterbodies, hedgerows, rows of trees and woodland edges. High quality habitat with strong connectivity to the wider landscape that is likely to be regularly used by foraging bats, such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to, and connected to, known roost sites

Figure 2.3: National Guidance on Preliminary Roost Assessment

© Adapted from Collins, J (ed) (2016).

Survey Type	Low suitability habitat	Moderate suitability habitat	High suitability habitat
Transect, spot-counts, timed search surveys	One visit for each season. Spring – April, May. Summer – June, July, August. Autumn – September, October. Additional surveys may be required if higher than expected levels of bat activity than predicted.	One visit for each month between April – October in suitable weather conditions. At least one visit should comprise a dusk and pre-dawn (or dusk to dawn) within one 24-hour period.	Two visits for each month between April – October in suitable weather conditions. At least one visit should comprise a dusk and pre-dawn (or dusk to dawn) within one 24-hour period.
and			
Passive/static surveys	One location per transect, over five consecutive nights per season. Spring – April, May. Summer – June, July, August. Autumn – September, October. During suitable weather conditions for bats.	Two locations per transect, over five consecutive nights per month (April-October). During suitable weather conditions for bats.	Three locations per transect, over five consecutive nights per month (April-October). During suitable weather conditions for bats.

Figure 2.4: National Guidance on Transect Surveys

© Adapted from Collins, J (ed) (2016).

SECTION THREE: RESULTS**3.1: Desktop Survey Results**

During the Preliminary Roost Assessment (PRA) a request was placed with the South East Wales Biodiversity Records Centre (SEWBRc) for any records of bat and bird species within the local vicinity of the development site along with records of statutory and non-statutory sites (within 1km). In addition, the survey location was examined by consulting Magic Map. No part of the Site contains, or is within, any statutory sites of nature conservation interest, such as a Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs) etc.

LERC Reference: 0223-178

N.B. Due to the nature and proximity of this site to local habitat features, care was taken to identify foraging and commuting potential and identify connectivity with the surrounding habitat.

There are no Sites of Species Scientific Interest (SSSIs) on or adjacent to the site. The nearest SSSI is 'Nelson Bog,' which is located approximately 2km south-east the Site and, 'Waun Goch, Penrhiw-Caradog,' which is located approximately 5km west of the Site. Within a 1km radius, there are no non-statutory Sites of Importance for Nature Conservation (SINCs), the nearest is Aberbargod Grasslands,' which is located approximately 6.4km east of the Site.

A summary of statutory, non-statutory sites and local habitat features are presented below.

Name	Designation	Distance (metres)	Direction from site
Nil	Nil	Nil	Nil

Table 3.1: Statutory Sites within 1km (measured from the centre of the Site)

Name	Designation	Distance (metres)	Direction from site
Nil	Nil	Nil	Nil

Table 3.2: Non-Statutory Sites within 1km (measured from the centre of the Site)

Name	Designation	Distance (metres)	Direction from site
Woodland	Shrub (National Forestry Inventory [GB])	80	NE
Tâf Bargoed river	Flowing Water	135	E
Woodland	Shrub (National Forestry Inventory [GB])	175	S
Nant Cothi river	Flowing Water	200	N
Woodland	Young Trees (National Forestry Inventory [GB])	265	NE
Woodland	Shrub (National Forestry Inventory [GB])	270	S
Woodland	Broadleaved Woodland (National Forestry Inventory [GB])	270	N
Woodland	Broadleaved Woodland (National Forestry Inventory [GB])	280	NE
Woodland	Young Trees (National Forestry Inventory [GB])	344	NE

Table 3.3: Local Habitat Features within 1km (measured from the centre of the Site)

There are several small broadleaved woodlands locally. These are located in close proximity to the river Tâf Bargoed. Collectively these form a linear feature in the landscape running north and south.

3.2: Species Records

The local biodiversity records provided by SEWBRc returned 160 species records including 123 records for bat species and 37 records for bird species locally. Some of these were too old to be considered viable. The closest (<500m) and most significant records are summarised below.

Species Group	Species / Notes	Number of Records	Date	Nearest Distance from Site	Direction From Site
Bats	Pipistrellus pygmaeus (Soprano pipistrelle) [priority species] [Cat1]	2	2012	183	E
	Nyctalus noctula (Noctule Bat) [priority species] [Cat1]	1	2012	183	E
	Plecotus auritus (Brown Long-eared Bat) [priority species] [Cat1]	1	2012	183	E
	Pipistrellus pipistrellus (Common pipistrelle) [priority species] [Cat1]	2	2012	183	E
	Myotis (Unidentified Bat) [priority species] [Cat1]	1	2012	183	E
	Myotis daubentonii (Daubenton's Bat) [priority species] [Cat1]	1	2012	183	E
	Chiroptera (Bats) [priority species] [Cat1]	1	2007	238	NW
	Pipistrellus pipistrellus (Common pipistrelle) [priority species] [Cat1]	2	2002	332	SE
	Chiroptera (Bats) [priority species] [Cat1]	1	2002	375	SE
	Pipistrellus pygmaeus (Soprano pipistrelle) [priority species] [Cat1]	2	2012	390	NE
	Plecotus auritus (Brown Long-eared Bat) [priority species] [Cat1]	1	2012	390	NE
	Nyctalus noctula (Noctule Bat) [priority species] [Cat1]	1	2012	390	NE
	Myotis daubentonii (Daubenton's Bat) [priority species] [Cat1]	1	2012	390	NE
	Myotis (Unidentified Bat) [priority species] [Cat1]	1	2012	390	NE
	Pipistrellus pipistrellus (Common pipistrelle) [priority species] [Cat1]	1	2012	390	NE
	Pipistrellus pipistrellus (Common pipistrelle) [priority species] [Cat1]	2	2010	392	SW
	Pipistrellus pygmaeus (Soprano pipistrelle) [priority species] [Cat1]	1	2013	433	E
	Pipistrellus (Pipistrelle species) [priority species] [Cat1]	1	2006	442	W
	Pipistrellus pipistrellus (Common pipistrelle) [priority species] [Cat1]	1	2014	473	NE
	Nyctalus noctula (Noctule Bat) [priority species] [Cat1]	1	2016	483	S
	Chiroptera (Bats) [priority species] [Cat1]	2	1994-2008	493	W
Birds	Parus major (Great Tit) [CAT3]	14	2007-2020	493	W
	Cyanistes caeruleus (Eurasian Blue Tit) CAT3	13	2008-2020	493	W
	Hirundo rustica (Swallow) [CAT2]	2	2020	493	W
	Apus apus (Swift) [CAT2]	2	2020	493	W
	Delichon urbicum (Common House Martin) [CAT3]	3	2008-2020	493	W
	Motacilla alba (Pied Wagtail) [CAT3]	1	2008	493	W
	Larus argentatus (European Herring Gull) [CAT1]	1	2021	493	W
	Sturnus vulgaris (Starling) [CAT1]	1	2007	493	W

Table 3.4: Local Records for Bat and Bird Species within 500m of the Site

3.3 Preliminary Roost Assessment

The preliminary roost assessment (PRA)[below] confirmed a number of gaps in the external fabric at Buildings A and some old droppings in a small extension. The resultant categorisation based on best practice guidance was a moderate-risk building requiring two dusk surveys to establish bat interest at the Site including roost type and population size (Collins, J. [Ed.] (2016).

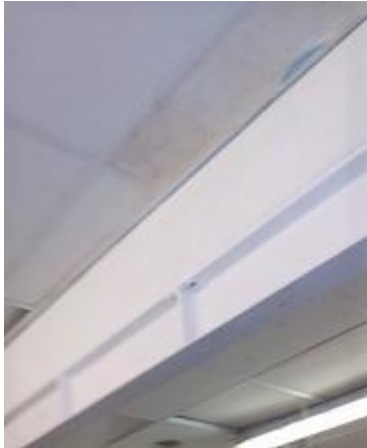
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Description	Potential Nest and Roost Assessment	Evidence	Assessment	
<u>Building A: Southern Elevation</u> A large, block and cement-built building with uPVC fascias, soffits and a sheet metal roof. There is a small block and cement-built built, single storey extension with a sheet metal roof, used as accommodation for water pumps.	There are gaps between the uPVC fixtures on the main building and below the timber fascias of the extension, which provide access to interior spaces of unknown proportions (see below).	Approximately 20 small bat droppings were recorded inside the small extension.	Main building - Moderate (bats) Small extension - This is or has been a bat roost at some point.	
<u>Building A: Southern Elevation: Pump-house</u> A small, block and cement-built built, single storey extension with a sheet metal roof, used as accommodation for water pumps.	There is a gap between a timber fascia and the wall plate, providing access to an internal void of unknown proportions (see below).	No evidence of nesting birds or bats but the openings provide access to an interior space.	Moderate (bats)	
<u>Building A: Southern Elevation: Pump-house</u> A small, block and cement-built built, single storey extension with a sheet metal roof, used as accommodation for water pumps.	A plywood ceiling separates the interior space from the corrugated roofing material above providing a small cavity in the roof space. There are several small gaps between the edges of the plywood ceiling and the interior walls.	Approximately 20 small bat droppings were recorded internally at the north-west corner of the structure (below). No evidence of nesting birds.	This is or has been a bat roost at some point.	

<u>Building A: Southern Elevation: Pump-house</u> A small, block and cement-built built, single storey extension with a sheet metal roof, used as accommodation for water pumps.	A plywood ceiling separates the interior space from the corrugated roofing material above providing a small cavity in the roof space. There are several small gaps between the edges of the plywood ceiling and the interior walls.	Approximately 20 small bat droppings were recorded internally at the north-west corner of the structure. No evidence of nesting birds.	This is or has been a bat roost at some point.	
<u>Building A: Southern Elevation: Pump-house</u> A small, block and cement-built built, single storey extension with a sheet metal roof, used as accommodation for water pumps.	There is access between the top of the wall plate and the underside of the corrugated roofing material that provides access to an internal cavity.	No evidence of nesting birds or bats but the openings provide access to an interior space.	Moderate (bats)	

<u>Building A: Southern Elevation</u> A large, block and cement-built building with uPVC facias, soffits and a sheet metal roof.	A gap between the uPVC fixtures and the sheet metal roofing provides access to an internal void of unknown proportions and possible to the internal roof space.	uPVC is generally unsuitable for bats but there are smudge marks below the gap which may indicate that this has been used by bats. No evidence of nesting birds.	Moderate (bats)	
<u>Building A: Eastern Elevation</u> A large, block and cement-built building with uPVC facias, soffits and a sheet metal roof.	This elevation is well-maintained but there is a gap in the uPVC fittings which provides limited potential for bats (below).	No evidence of nesting birds or bats but the openings provide access to a large interior space.	Low (bats)	
<u>Building A: Eastern Elevation</u> A large, block and cement-built building with uPVC facias, soffits and a sheet metal roof.	There are gaps between the uPVC fixtures which provide access to a interior space of unknow proportions and possibly to the interior roof space. This access provided by this feature is on the lower limits of what would be acceptable by bats.	No evidence of nesting birds or bats but the openings provide access to a large interior space.	Low (bats)	

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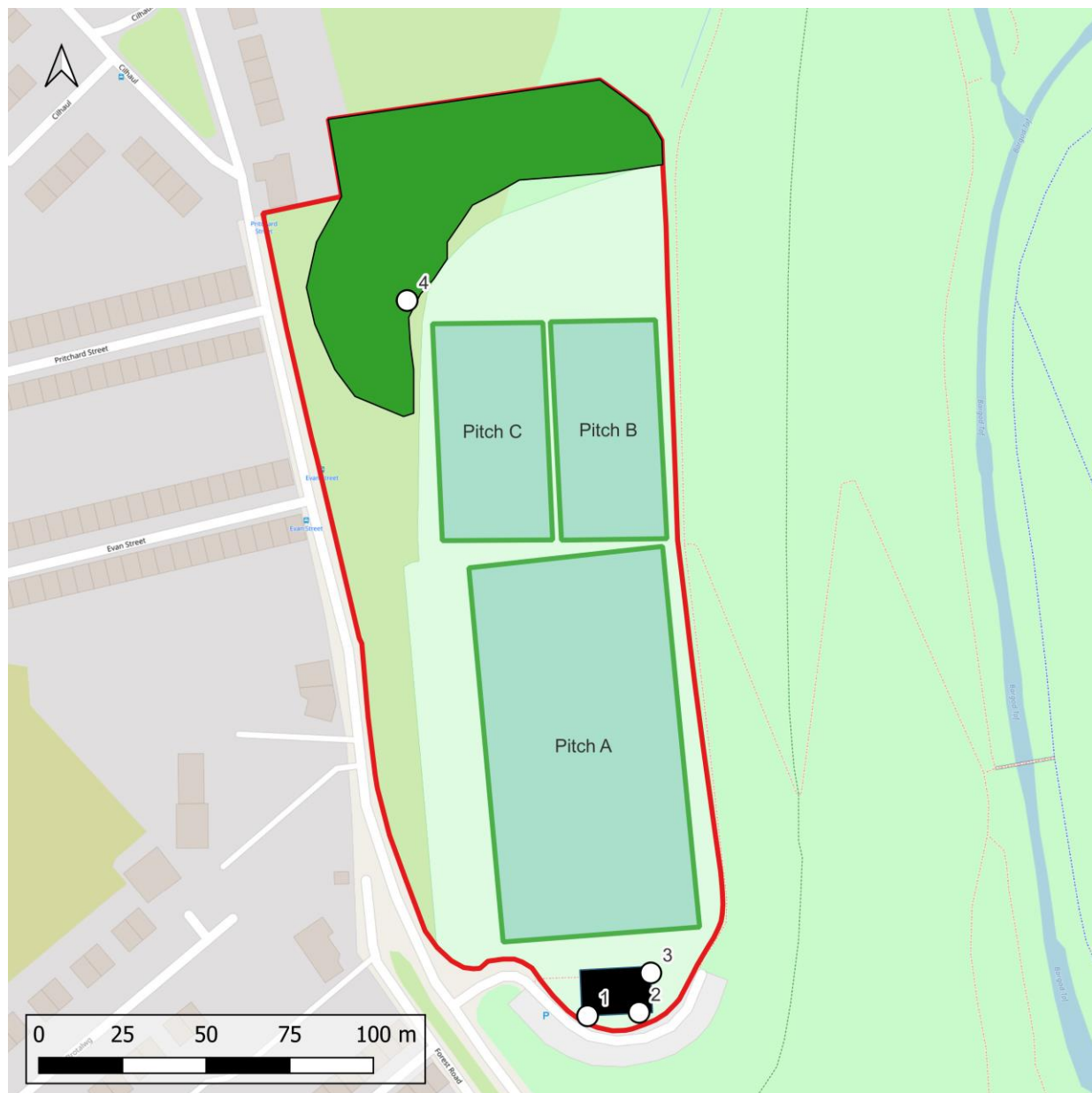
<u>Building A: Northern Elevation</u> A large, block and cement-built building with uPVC facias, soffits and a sheet metal roof.	Building in good order with no visible gaps or damage.	No evidence of nesting birds or bats.	Negligible	
<u>Building A: Western Elevation</u> A large, block and cement-built building with uPVC facias, soffits, and a sheet metal roof.	Building in good order with no visible gaps or damage.	No evidence of nesting birds or bats.	Negligible	
<u>Building A: Internal</u> A Suspended ceiling gives access to a roof void.	Suspended ceiling tiles are well maintained.	No evidence of nesting birds or bats.	Negligible	

<u>Building A: South-west Elevation</u> A large roof space above a suspended ceiling with a plywood roof, topped with sheet metal roofing material.	The space is well maintained and can be accessed by features identified during the external examination.	No evidence of nesting birds or bats.	Moderate (bats)	
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<u>Woodland: Alder (<i>Alnus glutinosa</i>)</u> A semi-mature Alder tree (<i>Alnus glutinosa</i>) near the eastern boundary of the woodland.	A split is present between two trunks provided access to an internal void of unknown proportions	No evidence of nesting birds or bats.	Low (Bats)	
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Table 3.5: Preliminary Roost Assessment

Figure 4: Location of Features of Interest



Key

- Features of interest
 - 1. Access to roof of out-building
 - 2. Access to main roof
 - 3. Gap in uPVC soffit
 - 4. Damaged Alder tree (*Alnus glutinosa*)
- Young broadleaved woodland (planted)
- Building A
- Playing Fields
- Site Boundary

Survey Date: Friday 10th June 2022

Produced by: Little Wing Ecology

Job Reference: LT028-PRA

Author: N S Aldridge

3.4 Suitability for Commuting and Foraging Bats

Features of bat interest locally are limited to young trees and shrubs. A young woodland borders the north of the Site, and a similar woodland borders the south of the Site, beyond the car park. West of the Site is composed of made surfaces and continuous street lighting, while the steeply sloping ground to the east of the Site is characterised by young/planted trees. The resultant categorisation based on best practice guidance was a low-risk habitat requiring a single transect survey during the summer, autumn, and winter months, to establish bat interest at the Site (Collins, J. [Ed.] (2016). Best practice would also recommend a 5-night static survey to coincide with the proposed transects surveys, but due to the small size of the Site, and considering the surrounding habitat features, it is considered that transect surveys would provide the necessary evidence in this instance.

3.5 Suitability for Hibernating Bats

The features identified within the PRA are not considered to be suitable at offering the hibernating conditions that bats prefer.

3.6 Nesting Birds

No nesting birds were recorded during the surveys.

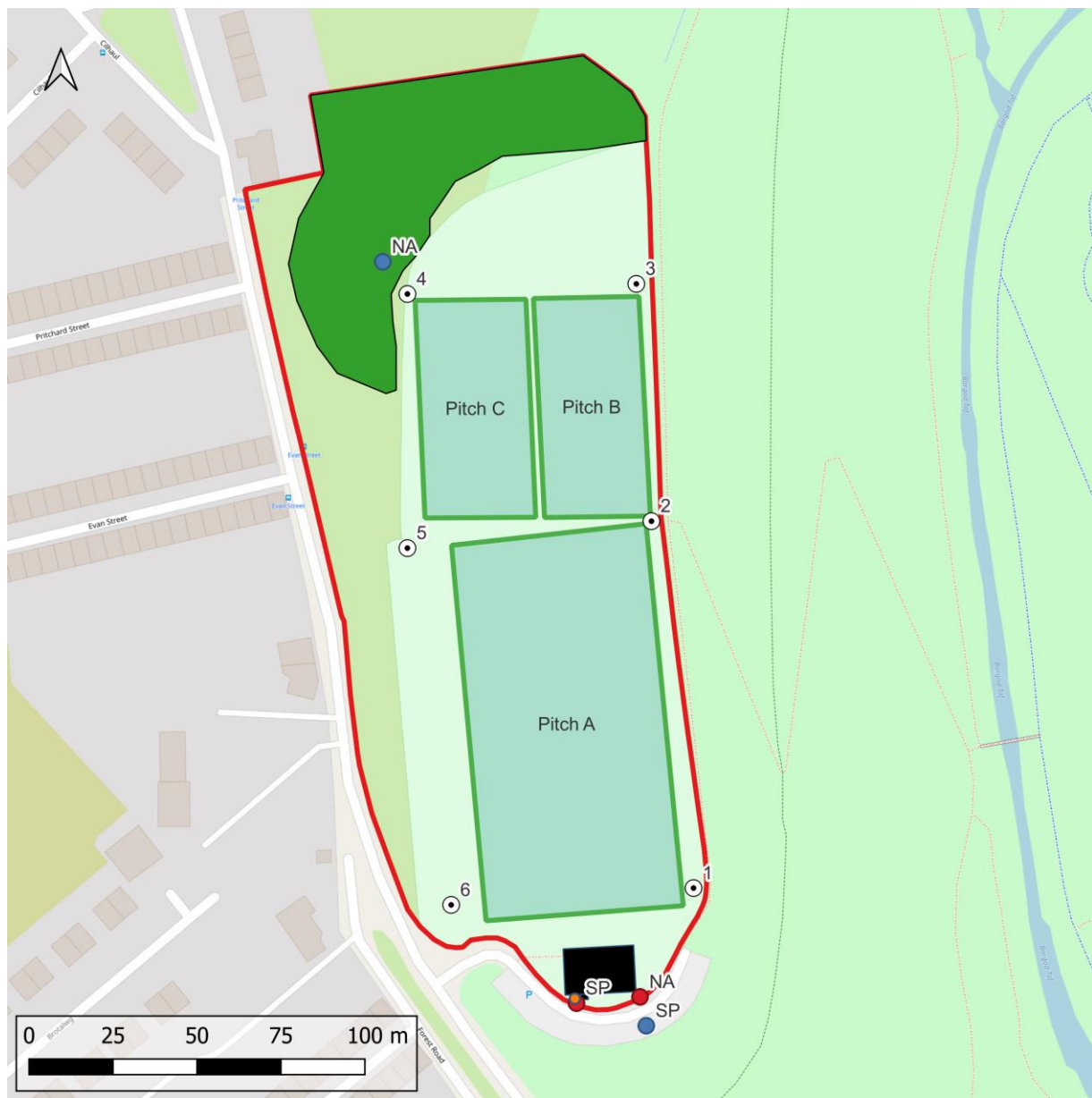
3.7 Results of Activity Surveys

Following guidelines set out on Bat Conservation Trusts Good Practice Guidelines (Collins, J. (Ed.) (2016) the following surveys were completed at the Site. These surveys represented the minimum recommended number of surveys visits for presence absence surveys to give confidence in a negative result for structures.

Location	Date	Survey Type	Surveyors
Exterior Building A	18/07/2022	Dusk Activity Survey	Nic Aldridge & Sam Paterson + Infra-red camera
The whole site	19/07/2022	Single-night Spot-transect Survey	Nic Aldridge
Exterior Building A	01.08.2022 Called-off due to rain	Dusk Activity Survey	Nic Aldridge & Sam Paterson + Infra-red camera
Target Tree (woodland)	05.08.22 Called-off due to rain	Dusk Activity Survey	Nic Aldridge
Exterior Building A	05.08.22	Dusk Activity Survey	Sam Paterson + Infra-red camera
Target Tree (woodland)	05.08.22	Dusk Activity Survey	Nic Aldridge

Table 3.6: A Summary of Survey Effort

Figure 5: Location of Surveyors



Key

- Surveyors (18.07.22)
- ⊙ Spot-count transect positions (19.07.22)
- Surveyors (05.08.22)
- Infa-red Camera (18.07.22 & 05.08.22)
- Building A
- Young broadleaved woodland (planted)
- Playing Fields
- Site Boundary

Surveyors

NA - Nic Aldridge
SP - Sam Paterson

Date: July/August 2022

Produced by: Little Wing Ecology

Job Reference: LT035-TRA

Author: N S Aldridge

QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project.
<http://qgis.osgeo.org>.

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3.7.1 Field Survey Details & Weather Conditions

Dusk emergence surveys were conducted during weather conditions considered to be appropriate for bat surveys, with temperatures exceeding 10°C with low wind speeds.

Date	Timings (BST)		Sunset Times & Surveyors	Weather Conditions		
	Start	End		Variable	Start	End
10.06.2022 PRA - Exterior	10.30	12.00	External inspection of the Site Nic Aldridge (NA)	Temp (°C) Cloud Cover (Oktas) Precipitation Humidity (%) Beaufort Scale	18.2 1 Nil 56 1	18.8 1 Nil 63 1
18.07.2022 Buildings A Emergence Survey	21.05	22.25	Sunset: 21:22 Bat activity survey Nic Aldridge (NA) Sam Paterson (SP)	Temp (°C) Cloud Cover (Oktas) Precipitation Humidity (%) Beaufort Scale	24.1 1 Nil 60 1	19.7 1 Nil 71 0
19.07.2022 Spot-count Transect Survey	21.00	23.45	Sunset: 21:21 Spot-count Transect survey Nic Aldridge (NA) Angharad Aldridge (AA)	Temp (°C) Cloud Cover (Oktas) Precipitation Humidity (%) Beaufort Scale	27.6 1 Nil 45 1	24.9 3 Nil 52 1
01.08.2022 PRA – Interior Emergence Survey – Survey rained off	20.15	21.15	Sunset: 21:03 External inspection followed by Bat activity survey (cancelled) Nic Aldridge (NA) Sam Paterson (SP)	Temp (°C) Cloud Cover (Oktas) Precipitation Humidity (%) Beaufort Scale	21.0 1 Drizzle 75 0	19.5 1 Drizzle 75 0
05.08.2022 Buildings A Emergence Survey	20.35	21.58	Sunset: 20:56 External inspection followed by Bat activity survey Nic Aldridge (NA) Sam Paterson (SP)	Temp (°C) Cloud Cover (Oktas) Precipitation Humidity (%) Beaufort Scale	18.5 3 Nil 53 1	15.1 3 Nil 55 1

Table 3.7: Field Survey Details & Weather Conditions

3.7.2 First Dusk Emergence Survey: (18th July 2022)

The first bat seen was a soprano pipistrelle, which was foraging along the treeline in the carpark at 22.11hrs. All activity was associated with commuting and foraging activity by common and soprano pipistrelle along the treeline in the adjacent car park. Activity continued to be recorded until 22.21hrs when a common pipistrelle was recorded foraging between the treeline and Pitch A. conclusion of the survey. No emergences were recorded (Flight Patterns - Figure 5).

Time 24hr	Species (Common Name)	Recording No.	Observed Activity
21.48	Soprano pipistrelle	LT3-NA 119	Heard not seen – A single pass, most likely commuting along the treeline to my rear.
22.05	Common pipistrelle	LT1-SP 113	Heard not seen
22.07	Soprano pipistrelle	LT1-SP 114	Heard not seen
22.07	Common pipistrelle	LT3-NA 120	Heard not seen – A single pass, most likely commuting along the treeline to my rear.
22.09	Soprano pipistrelle	LT1-SP 115	Heard not seen
22.09	Soprano pipistrelle	LT3-NA 121	Heard not seen – A single pass, most likely commuting along the treeline to my rear.
22.11	Soprano pipistrelle	LT3-NA 122	Foraging – along treeline in car park.
22.14	Soprano pipistrelle	LT3-NA 123	Foraging –in car park.
22.21	Common pipistrelle	LT3-NA 124	Foraging – between the treeline and Pitch A

Table 3.8: Results of Dusk Observation 18.07.2022 – Club House

3.7.3 Second Dusk Emergence Survey: Buildings A - F (Friday 5th August 2022)

The first bat seen was a soprano pipistrelle, which was commuting over the Site at 21.12hrs. Additional commuting and foraging activity from common and soprano pipistrelle continued to be recorded around the car park until 21.53hrs. No emergence was recorded from the target tree in the woodland area. A Brandt's bat was recorded foraging against the treeline, near to the target tree between 21.25 – 21.35hrs. as this remained in the same location for 10 minutes, several high-quality recordings were able to be made in addition to a note of behaviour. A single recording was made of a noctule passing over the Site at 21.37hrs (near the woodland).

No bats were recorded emerging from Building A (club House) and the majority of activity was recorded between the club house and the adjacent woodland to the south of the Site (Flight Patterns - Figure 5).

Time 24hr	Species (Common Name)	Recording No.	Observed Activity
21.07	Common pipistrelle	LT3-NA 159	Heard not seen, distant, single pass.
21.12	Soprano pipistrelle	LT2-SP 160	Commuting.
21.13	Pipistrelle spp.,	LT2-SP 161	Commuting.
21.15	Common pipistrelle	LT3-NA 160	Heard not seen, distant, single pass – presumed commuting along treeline.
21.16	Soprano pipistrelle	LT3-NA 161	Heard not seen, distant, single pass – presumed commuting along treeline.
21.16	Soprano pipistrelle	LT2-SP 162	Foraging.
21.17	Soprano pipistrelle	LT2-SP 163	Foraging.
21.18	Soprano pipistrelle	LT2-SP 164	Foraging (2x animals).
21.20	Soprano pipistrelle	LT2-SP 165	Foraging.
21.22	Soprano pipistrelle	LT3-NA 162	Heard not seen, distant, single pass – presumed commuting along treeline.
21.22	Soprano pipistrelle	LT2-SP 166	Foraging.
21.23	Soprano pipistrelle	LT3-NA 163	Heard not seen, distant, single pass – presumed commuting along treeline.
21.24	Soprano pipistrelle	LT2-SP 167	Foraging.
21.25	Myotis (Brandt's bat)	LT3-NA 164	Heard not seen, distant, single pass – presumed commuting along treeline.
21.26	Myotis (Brandt's bat)	LT3-NA 165	Heard not seen, distant, single pass – presumed commuting along treeline.
21.27	Myotis (Brandt's bat)	LT3-NA 166	Foraging against treeline – several passes.
21.26	Soprano pipistrelle	LT2-SP 168	Foraging.
21.27	Soprano pipistrelle	LT2-SP 169	Foraging.
21.27	Common pipistrelle	LT2-SP 170	Commuting.
21.29	Myotis (Brandt's bat)	LT3-NA 167	Foraging against treeline – several passes.
21.29	Soprano pipistrelle	LT2-SP 171	Foraging (2x animals).
21.30	Soprano pipistrelle	LT2-SP 172	Foraging (2x animals).
21.31	Myotis (Brandt's bat)	LT3-NA 168	Foraging against treeline – several passes.
21.35	Myotis (Brandt's bat)	LT3-NA 169	Foraging against treeline – several passes.
21.35	Soprano pipistrelle	LT2-SP 173	Foraging.
21.26	Pipistrelle spp.,	LT2-SP 174	Foraging.
21.37	Noctule	LT3-NA 170	Heard not seen, distant, single pass.
21.37	Soprano pipistrelle	LT2-SP 175	Commuting.
21.38	Soprano pipistrelle	LT2-SP 176	Foraging.
21.41	Common pipistrelle	LT3-NA 171	Heard not seen.
21.52	Soprano pipistrelle	LT3-NA 172	Foraging.
21.53	Common pipistrelle	LT3-NA 173	Foraging.

Table 3.9: Results of Dusk Observation 05.08.2022 – Club House and Woodland

3.7.4 Single-night Spot-count Transect Survey (19th July 2022)

The first recording made was a common pipistrelle (heard but not seen) at 22.09hrs. The first bat seen was a common pipistrelle, which was foraging against the treeline in the car park at 22.18hrs. Additional commuting and foraging activity from common and soprano pipistrelle continued to be recorded around the car park until 23.26hrs. Several recordings were made of noctules over the Site. Following analysis of the recordings made some of these were foraging calls and due to the volume of the recordings are considered to have been close to the surveyor and foraging over the north of the Site, near the woodland.

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Time 24hr	Species (Common Name)	Recording No.	Location	Grid Reference	Observed Activity
22.09	Common pipistrelle	LT3-NA 125	4	ST 09965 97544	Heard not seen, several passes – presumed foraging. Distant/very quiet recording.
22.15	Soprano pipistrelle	LT3-NA 126	1	ST 10033 97392	Heard not seen, several passes – presumed foraging.
22.18	Common pipistrelle	LT3-NA 127	1	ST 10033 97392	Foraging along treeline in car park.
22.19	Common pipistrelle	LT3-NA 128	1	ST 10033 97392	Heard not seen, very loud. Presumed foraging behind surveyor (treeline).
22.23	Pipistrelle spp.,	LT3-NA 129	2	ST 10028 97480	Heard not seen, single pass – presumed commuting below the Site to the east (very weak recording).
22.26	Noctule and Soprano pipistrelle	LT3-NA 130	3	ST 10023 97541	Commuting.
22.27	Noctule, Common pipistrelle and Soprano pipistrelle	LT3-NA 131	3	ST 10023 97541	Commuting.
22.29	Noctule	LT3-NA 132	4	ST 09965 97544	Heard not seen, single pass – presumed commuting - very close to surveyor (loud recording).
22.30	Common pipistrelle	LT3-NA 133	4	ST 09965 97544	Heard not seen, single pass – presumed against treeline.
22.40	Common pipistrelle	LT3-NA 134	6	ST 09982 97386	Commuting.
22.42	Soprano pipistrelle	LT3-NA 135	6	ST 09982 97386	Heard not seen, distant (very weak recording).
22.44	Pipistrelle spp.,	LT3-NA 136	1	ST 10033 97392	Heard not seen, distant (very weak recording). Recorded at the car park.
22.50	Pipistrelle spp.,	LT3-NA 137	2	ST 10028 97480	Heard not seen, single pass – presumed commuting below the Site to the east (very weak recording).
22.53	Soprano pipistrelle	LT3-NA 138	2	ST 10028 97480	Heard not seen, single pass.
22.54	Soprano pipistrelle	LT3-NA 139	3	ST 10023 97541	Heard not seen.
22.55	Noctule and Soprano pipistrelle	LT3-NA 140	3	ST 10023 97541	Heard not seen, noctule.
22.56	Soprano pipistrelle	LT3-NA 141	3	ST 10023 97541	Heard not seen, single pass.
23.07	Noctule	LT3-NA 142	6	ST 09982 97386	Heard not seen, noctule – single pass.
23.12	Soprano pipistrelle	LT3-NA 143	6	ST 09982 97386	Heard not seen.
23.13	Soprano pipistrelle	LT3-NA 144	1	ST 10033 97392	Heard not seen – several passes (car park). Presumed foraging.
23.26	Common pipistrelle	LT3-NA 145	6	ST 09982 97386	Heard not seen, single pass (car park).

Table 3.10: Results of Single-night Spot-transect

3.7.7 Infrared Video Survey

In addition to active monitoring using bat detectors, an infrared camera was deployed on each of the dusk activity surveys. On both occasions this was set up southeast of Building A and B and recorded the South-east elevations of both buildings.

Time 24hr	Start Date (Evening of)	Species (Common Name)	Notes
21.05 – 22.25	18.07.2022	Nil	Continuous recording made. No emergence recorded.
20.35 – 21.58	05.08.2022	Nil	Continuous recording made. No emergence recorded.

Table 3.11: Summary of Infrared Monitoring

3.7.8 Results of Infrared Video Survey (18th July 2022)

Time 24hr	Species (Common Name)	Recording No.	Notes
22.05	Common pipistrelle	1 (Anabat)	Not captured on video (off screen)
22.05	Common pipistrelle	2 (Anabat)	Not captured on video (off screen)
22.05	Soprano pipistrelle	3 (Anabat)	Not captured on video (off screen)
22.07	Common pipistrelle	4 (Anabat)	Not captured on video (off screen)

Table 3.12: Results of Infrared Monitoring (18.07.22)

3.7.9 Results of Infrared Video Survey (5th August 2022)

Time 24hr	Species (Common Name)	Recording No.	Notes
21.29	Soprano pipistrelle	3 (Anabat)	Not captured on video (off screen)

Table 3.13: Results of Infrared Monitoring (01.08.22)

3.8 Additional Ecological Constraints (Results)

During the spot-count transect-survey on 19.07.22, a hedgehog was recorded on the amenity grassland close to location 5 (Grid reference - ST 09973 97476).

During the spot-count transect-survey on 19.07.22, A wood pigeon (*Columba palumbus*) was recorded using the woodland.

Photographs	Description
	Photograph 1: European hedgehog (<i>Erinaceus europaeus</i>) Location: 5 (Grid reference - ST 09973 97476) Habitat: Amenity grassland, near the on-site woodland.

Table 3.14: Additional Ecological Constraints

3.9 Summary of field Results

- Four species were identified using the Site for foraging and commuting: common pipistrelle, soprano pipistrelle, noctule and Brandt's bat.
- Common pipistrelle and soprano pipistrelle are the most numerous species recorded at the Site and were very active at the south of the Site, predominantly in the car park between Building A and the woodland that borders the south of the Site. There was limited foraging and commuting of these species over the playing fields.
- Noctules were recorded commuting and foraging over the playing fields during the transect survey. The first recording of noctules was made just over an hour after sunset and it is therefore considered that this species travelled to this location from a roost further afield.
- A Brandt's bat was recorded foraging against the eastern perimeter of the on-site woodland at the north west of the playing fields. The first recording of this species was recorded at 27 minutes after sunset so potential this species could roost nearby.

3.10 Impact Assessment

No evidence of bat roosting activity was observed. Recorded bat activity was restricted to commuting across the Site and foraging, predominantly within the car park at the south of the Site, with limited foraging over the playing fields and against the on-site woodland. When the nature conservation significance of the Site is considered against recognised criteria (Bat Mitigation Guidelines 2004 and Good Practice Guide: NRW Approach to Bats and Planning October 2015 and IUCN Red List of Threatened Species), the nature conservation status of the Site is assessed to be low, due to the presence of common species – Common pipistrelle - *Pipistrellus pipistrellus* (Least Concern – IUCN Red

Treharris Phoenix RFC, 1 Forest Road, Treharris, CF46 5HF |August 2022

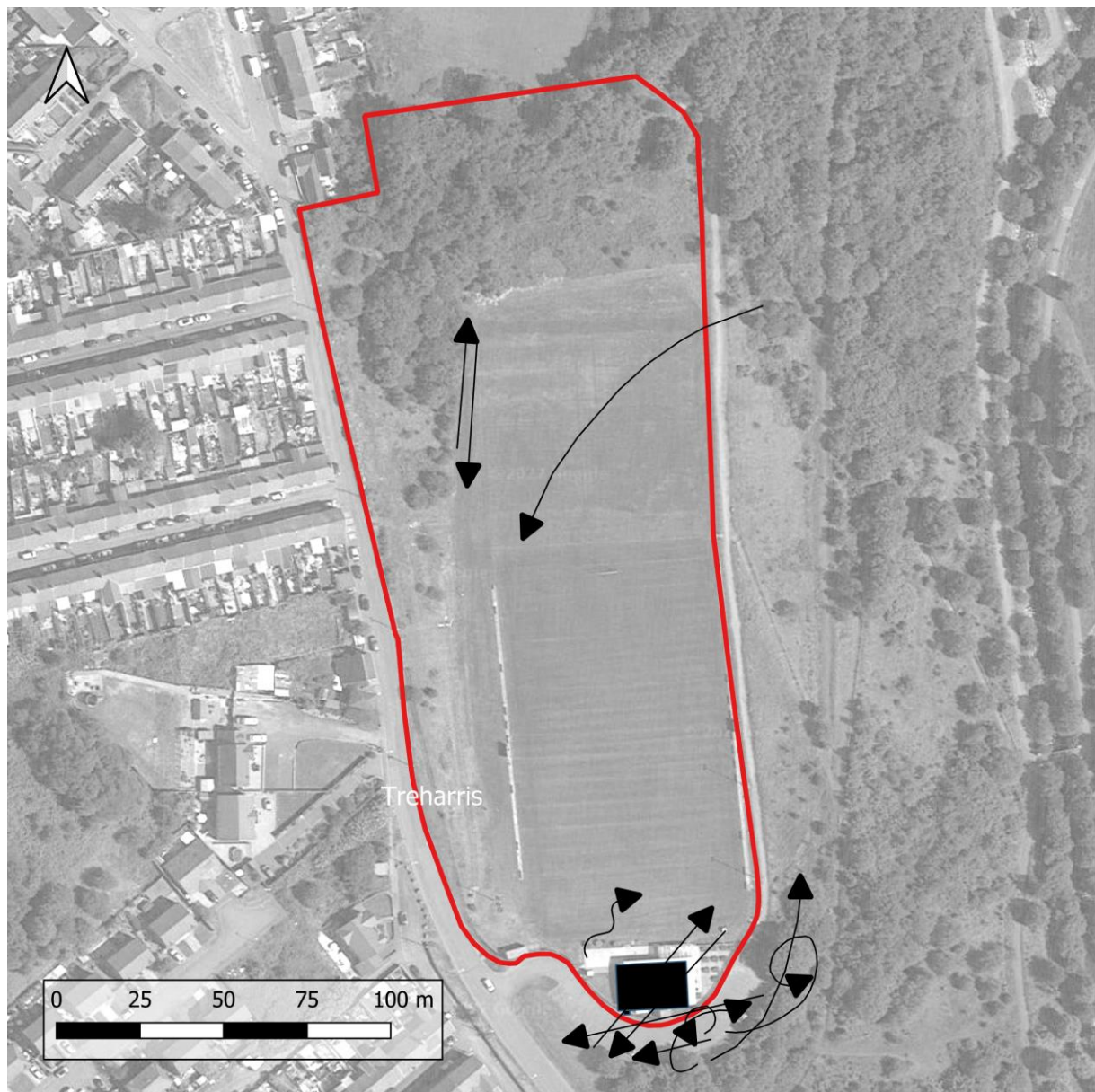
List), Soprano pipistrelle - *Pipistrellus pygmaeus* (Least Concern – IUCN Red List), Noctule (Least Concern – IUCN Red List, which is considered to have passed over the Site at height) and Brandt's bat (Data deficient – IUCN Red List), which was recorded during only one visit, foraging against the on-site woodland. The scale of the impact of the development will affect a small number of animals, with a low risk of detrimental impacts to the conservation status at a local level.

Based on current known plans for the Site and considering survey results and other available data the following will likely apply:

Impact	Conclusions
Short-Term Impacts (during development)	The disturbance of hedgehogs and foraging/commuting bats during development is deemed to be low. Direct disturbance to foraging bats is unlikely unless lighting is used at night during the development. Due to this, further precautionary measures are necessary (please refer to Section 5 for more information). The Site supports a population of hedgehogs. Due to this, further precautionary measures are necessary (please refer to Section 5 for more information).
Long-Term Impacts (post-development)	The proposed development will introduce a lighting scheme which will have restricted use between October and April and should have no impact on summer roosting bats. Any impacts will be restricted to bat interest during autumn and spring when bats are less active (and then for limited periods approximately 2 hours, three evenings a week). Post-development impacts are considered low, and the development has the potential to increase the biodiversity of the Site and enhance nesting/roosting opportunities for native species if enhancement features are adopted. The development improves the Site for the local community and does not remove habitat for those species that do occur. Habitat/connectivity impacts will be considered negligible as the lights will impact bat behaviour for such limited periods of time. Furthermore, the inclusion of artificial bat roosts and nesting boxes within the on-site woodland could introduce a further enhancement in terms of increasing opportunities for the species identified in this report (and in particular the local population of Brandt's bats). The development will not impact on the local hedgehog population but the inclusion of an artificial hedgehog house at the north of the Site would introduce a further enhancement in terms of increasing opportunities for the species
Wider Impact	It is not expected that the planned development will have an impact on the wider landscape or that this impact will be negligible.

Table 3.15: Impact Assessment

Figure 6: Record of Bat Activity and Flight Behaviour



Key

-  Building A
-  Site Boundary
-  Bat Flight Patterns

Survey Date: July/August 2022

Produced by: Little Wing Ecology

Job Reference: LT035-TRA

Author: N S Aldridge

QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project.
<http://qgis.osgeo.org>.

SECTION FOUR: CONCLUSIONS

A Preliminary Roost Assessment (PRA) confirmed several gaps in the external fabric of Buildings A and a damaged tree within the on-site woodland. The resultant assessment based on best practice guidance categorised Building A as having a moderate risk, requiring a dusk survey on two occasions, no less than 14 days apart and the target tree as having a low risk requiring a dusk survey on one occasion.

Due to the nature of the proposed development, the structure of local habitat, and based on best practice guidance, a spot-transect survey was conducted in July to assess the impact on commuting and foraging in the summer months. Additional information may be provided by carrying out additional transect surveys between September-October (autumn) and April-May (Spring).

No emergence activity was recorded during the dusk surveys on Building A or the target tree. No evidence of bat roosting activity was observed. Recorded bat activity was restricted to commuting across the Site and foraging, predominantly within the cark park at the south of the Site, with limited foraging over the playing fields and against the on-site woodland.

Taking these results into consideration, bats are currently considered likely absent from Building A and the target tree. The approximately 20 droppings recorded within the small extension are inconclusive. It is possible that these represent an historic and transitory occupation, i.e., at some point in the past a small number of bats may have occupied this space, but equally, the abnormally hot summer may have rendered this south-facing sheet metal roof unsuitable during July and August. Taking all of the evidence into account and considering the nature of the proposed works, this structure will remain unaffected by the proposed development. The proposed floodlights are to be located at the north of Building A and there will be no direct light spill on this structure or its surrounds during the limited time the lights are in use – which is itself, restricted to the winter months.

With a focus on the aims of this report as set out in Section 1, the following conclusions have been drawn:

- Protected species (bats) were recorded using the Site for foraging and commuting. Surrounding habitat provide a degree of foraging and connectivity to the nearby woodlands which mostly consist of young/semi-mature trees. The Site is impacted on by adjacent artificial street lighting on Forrest Road. Two dusk emergence surveys and a single night spot-count transect survey returned a positive result for four bat species using the Site for foraging and commuting. This included common pipistrelle - *Pipistrellus pipistrellus* (Least Concern – IUCN Red List), soprano pipistrelle - *Pipistrellus pygmaeus* (Least Concern – IUCN Red List), noctule (Least Concern – IUCN Red List) and Brandt's bat (Data deficient – IUCN Red List), which was recorded during only one visit, foraging against the on-site woodland.
- The Site is considered to offer suitable habitat for nesting birds, hedgehogs, and commuting/foraging bats.
- Evidence of bats (droppings) was found in the small extension to Building A (pump house) but no animals were recorded to be using this space during activity surveys. This structure sits outside the zone that will be impacted by the proposed lights.
- Existing plans could change the character of the Site by introducing additional artificial lighting and reduce its suitability to foraging and commuting bats, but the use of these lights will be strictly limited and will only be used during the winter months when bats are less active. It is therefore considered that the proposed development is unlikely to impact on bat interest at the Site.

SECTION FIVE: RECOMMENDATIONS & ENHANCEMENTS

Based on the results of this report the following recommendations have been made.

5.1: Recommendations

Interpreting the results confirms the likely absence of roosting bats from the parts of the Site to be impacted by the proposed development. In addition, due to the restricted and limited use of the proposed lighting, habitat/connectivity impacts are considered negligible as the lights will impact bat behaviour for such limited periods of time.

In lieu of the additional transect surveys in the autumn and spring, the results of this interim report suggest that there would be no specific restrictions or limitations, and works may continue as planned. Should works not start for two years after the survey (August 2024) then an updated survey would be required to confirm the continuing likely absence of bats.

1. If the development is to be conducted between March and September (inclusive), effort should be made to avoid any adverse impacts on the potential roost identified in the small extension to the south of Building A, and to the commuting and foraging of bats on-site. External lighting should be restricted during the development period to that which is necessary for safety and security. This should be kept to a minimum.
2. It is recommended that precautions are incorporated during the construction phase. This will be to create provisions for hedgehogs to escape, in the form of creating slopes or the inclusion of ramps at the end of each working day - from all trenches dug into the ground. Additionally, any pipework left on-site that is greater than 150mm in diameter will need to be planked off. Should this information be strictly adhered to, then the development works will not negatively impact this local mammal population. As a purely precautionary measure, it is recommended that a fingertip search is undertaken on the morning works are proposed to commence by a suitably qualified ecologist.
3. If at any point during works a protected species is encountered on-site, it is essential that all work is to cease and that a suitably experienced ecologist is contacted for advice.

5.2: Enhancement Features

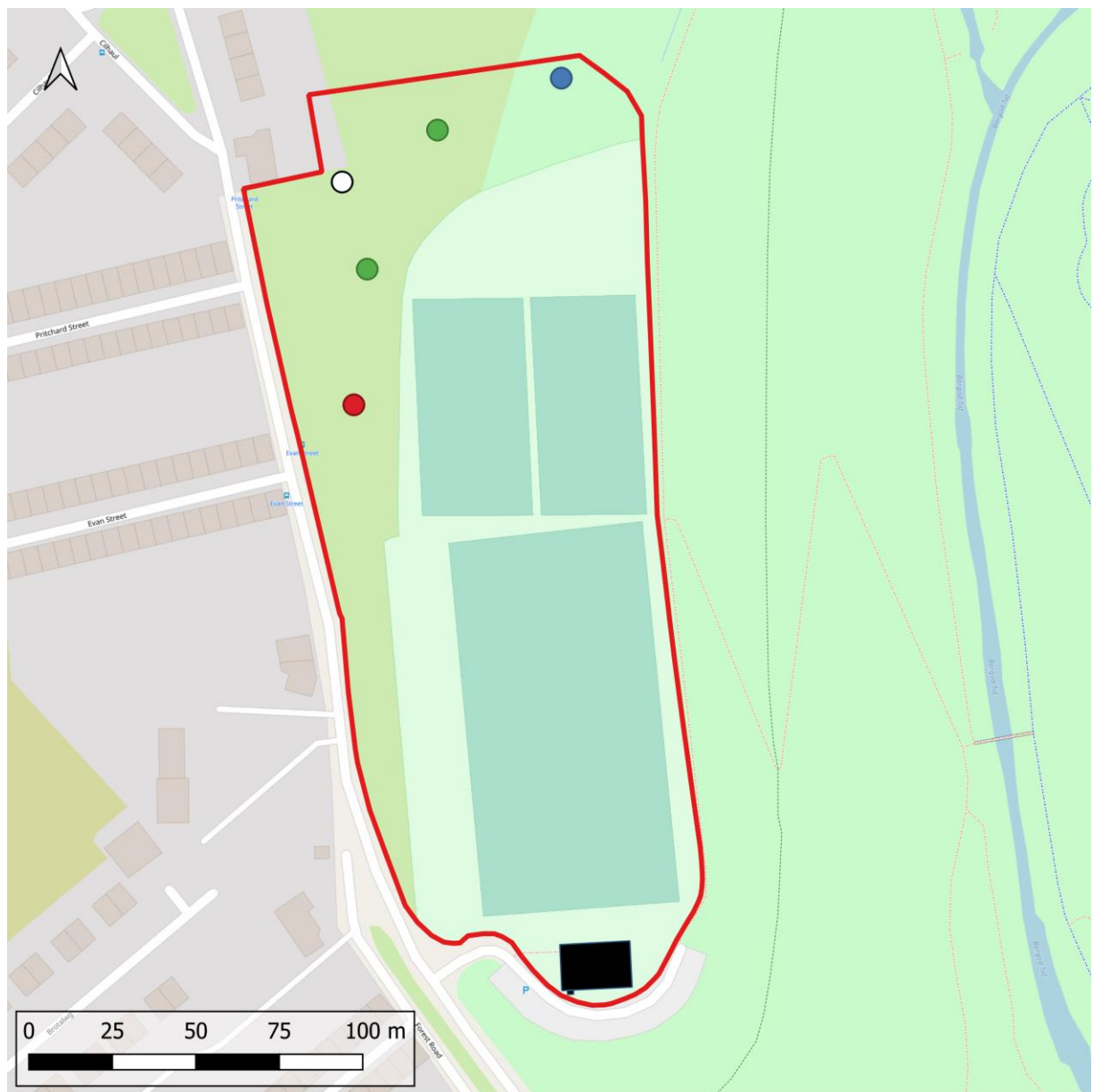
The following enhancement features are recommended to support the local bat, bird and hedgehog population for net-gain at the Site (post-development - Figure 7).

1. The incorporation of nesting boxes for birds and roosting boxes for bats in the development (see Appendix). Two 2F Schwegler Bat Box* (General Purpose) roosting boxes to be fitted within the on-site woodland with a southerly orientation at a height >3m. One 1B Schwegler Nest Box* and one 2H Schwegler Robin Box* to be fitted within the on-site woodland with an easterly to northerly orientation at a height >3m.
2. The incorporation of hedgehog box* within the woodland edge.

The most suitable location for these enhancement features to be provided by a suitably qualified ecologist.

*Examples of these produces can be found in the Appendix.

Figure 7: Proposed Habitat Enhancement



Key

- Hedgehog box
- 2H Schwegler Robin Box
- 1B Schwegler Nest Box
- 2F Schwegler Bat Box
- Building A
- Site Boundary

Date: July/August 2022

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QGIS Development Team, <2022>. QGIS Geographic Information System. Open-Source Geospatial Foundation Project. <http://qgis.osgeo.org>.

SECTION SIX: ADDITIONAL INFORMATION

6.1 ENCOUNTERING A PROTECTED SPECIES DURING WORKS

If at any point during works a protected species is encountered on-site, it is essential that all work is to cease and that a suitably experienced ecologist is contacted for advice.

6.2 EXPIRATION OF THIS REPORT

Should works not start within two years (i.e., August 2024) further survey and assessment will be necessary to qualify the results of this report and its recommendations.

This report is valid for two years (i.e., August 2024).

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APPENDIX I: Enhancement Features for Bats

N.B. Bat boxes should be fitted as high as possible (>3m) on a south or southwest facing elevation.



**2F Schwegler Bat Box
(General Purpose)**

Available from: nhbs*

Accessed on 26/06/2022.

Available at: <https://www.nhbs.com/>

*Many other makes and designs are available across the country.

APPENDIX II: Enhancement Features for Birds

N.B. Bird boxes should be fitted between 2m-4m high, on a north or east facing elevation to avoid direct sunlight.



1B Schwegler Nest Box



2H Schwegler Robin Box

Available from: nhbs*

Accessed on 26/06/2022.

Available at: <https://www.nhbs.com/>

*Many other makes and designs are available across the country.

APPENDIX III: Enhancement Features for Hedgehogs



Hedgehog Nest Box

Available from: The NestBox Company*

Accessed on 27/11/2021.

Available at: <https://www.nestbox.co.uk/>



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About Us

Little Wing Ecology is a not-for-profit ecological consultancy based in the South Wales Valleys. Specializing in bat surveys for housing developments, but providing a wide range of ecological services, it provides appropriate expertise on behalf of a range of clients.

We are a small ecological consultancy dedicated to providing an easy-to-use and jargon-free service. We produce the following products:

- Preliminary Ecological Appraisal
- Preliminary Roost Assessment
- Bat Surveys
- Mitigation Planning
- European Protected Species License Applications
- On-site Services to Support Planning Applications and Development

As a Consultancy, we use our experience, expertise, and love of wildlife to provide an easy to access and pragmatic service, that upholds the highest standards of conservation.

As a Not-for-Profit Social Enterprise, we reinvest our profits. We work with valleys communities, conservation groups, local authorities, and other groups to support these three key areas:

A. Helping Nature

Developing and supporting habitat gain in the valleys through:

- Habitat improvement.
- Developing the built environment for the benefit of wildlife.
- Long-term monitoring projects for wildlife populations in the valleys.

B. Working with People

- Providing employment, training and voluntary opportunities for the local community and young people to help them build their skills, develop a stronger relationship with nature and build confidence in themselves.

C. Supporting Communities

- Reinvesting in nature and people, locally.
- Supporting education within communities to promote a positive relationship between people and wildlife.
- Providing pro-bono surveys for worthwhile causes.

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