

**P J Ecological Solutions
6 Pen Y Graig, Denbigh, LL16 3YY
07545 681586
pjeecologicalsolutions@outlook.com**



Nantyr Kennels

Bat and Nesting Bird Assessment

**Nantyr Kennels
Nantyr
Llangollen
Denbighshire
LL20 7DD**

Produced by P J Ecological Solutions

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Version 1

**Report by Matthew Whitehead
Reviewed by Paul Roberts**

Executive Summary

P J Ecological Solutions were commissioned by Ms Portia Kennaway to undertake a protected species survey of the former kennels at Nantyr, Llangollen, to ascertain whether the proposed works thereto have the potential to affect protected species, particularly bats and nesting birds, and to make recommendations as appropriate. The proposals are for the conversion of the former kennels to workers accommodation.

The survey results indicate that the former kennels building to be converted is not being utilised by roosting bats, but that the adjacent subterranean boiler room is being used as a night roost by brown long-eared bats. Additionally, it was determined that the roadside hedgerow to the front of the building is being used as a commuting route by a number of bat species, and evidence was found that the kennels building is being used or has been used as a nesting site by both barn swallow and wren.

To make safe the area around the building to be converted, works will need to be undertaken to secure the roof of the boiler room from collapse, and to prevent people from accidentally or intentionally accessing the interior of the room for any purposes other than licensed monitoring activities. These works will constitute a 'roost modification'. Further, in the unlikely situation that any day roosting bats are present at the time of the works (to the boiler room or to the kennels building), they are likely to be disturbed by the noise, vibrations and dust caused thereby. ***A bat development licence from Natural Resources Wales will therefore be required before site works can commence.***

Advice will be taken from a suitably qualified structural engineer as to what will be the best way to secure the long-term future of the building and roost. Informed by the structural engineer's recommendations, a bat conservation scheme, bespoke to the site and to the project, will be developed by a suitably qualified ecologist and submitted to the local planning authority for approval. The development will then proceed in strict accordance the approved scheme.

To avoid any post-development impacts upon the bats utilising the site and/or its surrounds for roosting, foraging and/or commuting purposes, a suitably qualified ecologist will be instructed to develop a sensitive lighting scheme bespoke to the project, which will adhere to the guidance set out in *Guidance Note 08/18 Bats and artificial lighting in the UK* (Bat conservation Trust & The Institute for Lighting Professionals, 2018). The scheme will be submitted to the local planning authority for approval and the development will proceed in strict accordance the approved scheme. Furthermore, willow/hazel hurdles planted with native climbers will provide screening between the accommodation and the boiler room.

Subject to adherence to the approved bat conservation scheme and sensitive lighting schemes, no long-term impact on the favourable conservation status of the species involved or continued ecological functionality of the site is anticipated.

Compensatory nesting opportunities for the swallows and wrens will be provided in the form of four Vivara Pro WoodStone Swallow Cups, and two Vivara Pro WoodStone Alicante Nest Boxes, which will be installed in suitable places within the site boundaries. The exact position of these boxes will be shown of the finalised architect's drawings subject to which the development will proceed.

To comply with Section 6 of the Environment (Wales) Act 2016, local planning authorities are required to look for biodiversity gain within the planning system. Accordingly, as biodiversity enhancement provisions, both a Vivara Pro Harlech WoodStone Bat Box and a Vivara Pro Seville (32mm) WoodStone Nest Box will be erected upon suitable trees on-site, to provide

further bat roosting and bird nesting opportunities, and a total of six native species fruiting trees – one crab apple, one wild pear, one wild cherry, one bird cherry, one wild plum, and one rowan – will be planted within the garden area of the proposed dwelling.

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1 Introduction

P J Ecological Solutions were commissioned by Ms Portia Kennaway to undertake a protected species survey of the former kennels at Nantyr, Llangollen, Denbighshire, LL20 7DD (Grid Reference: SJ15433736; hereafter referred to as 'the site').

The survey was commissioned to ascertain whether the proposed works thereto have the potential to affect protected species, particularly bats and nesting birds, and to make recommendations as appropriate. The proposals are for the conversion of the former kennels to provide workers accomadation.

The site is set in a rural location within the Plas Nantyr estate, ~4.7km west of the village of Glyn Ceiriog and ~7.2km southwest of the town of Llangollen (see Figure 1.1). The site is situated within a parcel of grazed pasture and managed grounds, bounded by the Ochr-y-fron Wood ~200m to the northeast, through which the Afon Teirw flows southeast, and the Lower Blaen-y-cwm Wood ~130m to the south, through which a small tributary thereto flows east. The surrounding area is characterised by further grazed pasture, small mixed woodlands and small waterways; the Ceiriog Forest lies ~1km to the north of the site and managed heather moorland lies ~600m to the south.

A detailed desk study of the surrounding area and a preliminary roost assessment and nesting bird assessment of the two-week period of passive monitoring. The aim of these efforts/this appraisal is to:

- Identify potential and actual habitat and species constraints pertinent to the development proposals.
- Detail further survey requirements and/or reasonable avoidance measures which should be adhered to during the proposed works, as appropriate.
- Identify opportunities for the proposed development to provide enhancements and add to the biodiversity resource within the site.



Figure 1.1: An aerial view of the site (in red) and the surrounding habitats.

2 Method

2.1 Desk Study

2.1.1 Statutory and Non-Statutory Designated Sites

A desk-based study was undertaken to identify nearby habitats of importance and features providing local habitat connectivity, and to identify the presence of statutory designations within the vicinity of the site. These include:

- ***International recognised statutory designations:*** Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar Sites.
- ***National recognised statutory designations:*** Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs)
- ***Local level statutory designations:*** Local Nature Reserves (LNRs)

The search (1km radius) was carried out using the Multi-Agency Geographic Information for the Countryside (MAGIC) website's interactive mapping application, and the Natural Resources Wales (NRW) website's Designated Site Search function.

2.1.2 Species Records Pertinent to the Assessment

At this stage of the project, due to the scale of the proposed development, it is considered that a full records search from COFNOD is not required, however a records search (1km radius) was undertaken using the interactive mapping applications available on the MAGIC and National Biodiversity Network (NBN) websites. This approach is consistent with the Guidelines for Accessing and Using Biodiversity Data in the UK (CIEEM, 2020).

2.2 Preliminary Roost Assessment

A preliminary roost assessment of the building was undertaken on the 24th of April 2023 by Matthew Whitehead BSc (Hons) AMRSB, an experienced bat surveyor and accredited agent upon the license of Paul Roberts UCert (license number: S088763/1). Potential roosting features were accessed using a suitably tall ladder and inspected using a Clulite CB2-L2 high-powered torch and a Eazyview Tradesman fiberscope. A detailed inspection of the building's exterior and interior was carried out in accordance with the methodology prescribed within the Bat Conservation Trust's (BCT) Good Practice Guidelines (2016). The building was then categorised in accordance with Table 4.1 of that document.

During the inspection, note was made of the number and nature of any potential roosting features, and/or of any points of entry/exit, such as:

- Cracks or crevices within walls; lifted paintwork, render, plaster, felt, or lead flashing; loose or lifted roof tiles or ridge tiles; loose windowsills and window frames, gaps behind fascias, soffits, bargeboards, weatherboard or hanging tiles; exposed eaves or wall plates; aged or badly fitted wooden roof supports; or thick vegetation cover.
- Holes within the walls or roof; broken/missing doors or windows; gaps between the walls and fascias, soffits or bargeboards; exposed eaves or wall plates; basement grills; broken ventilation outlets; or points of vegetation penetration.

A search for bats or evidence thereof (such as droppings, claw marks, or oil or urine staining) was undertaken, paying especial attention to:

- Gaps behind furnishings, such as curtains, pictures, and posters; accessible cupboards; peeling paintwork; chimneys accessible from fireplaces; loose wooden panelling; lintels above doors; roof timbers and beams (especially within mortise and tenon joints and where ridge and hip beams meet); at the top of gable end walls, connecting walls, and chimney breasts; and behind roofing felt.

During the inspection of the building, notes were made of any evidence of current or historic use by nesting birds.

The inspection was undertaken in accordance with the advice provided in the document *Guidance on Ecological Survey and Assessment in the UK During the COVID-19 Outbreak (Version 4)*, produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2021).

2.1 Bat Activity Surveys

Three bat activity (emergence) surveys were carried out in accordance with the methodology prescribed within *Bat Surveys for Professional Ecologists* (Bat Conservation Trust, 2016) and *Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys* (Bat Conservation Trust, 2022). The first and third surveys were undertaken by Matthew Whitehead BSc (Hons) AMRSB, an accredited agent upon the license of Paul Roberts UCert (license number: S091932/1), using a Pettersson M500-384 bat detector as well as Canon XA50 and Panasonic HC-VX980EB-K infrared cameras, each of which was connected to a PeerSonic RPA3 bat detector (see Figures 2.1 and 2.2). The second survey was undertaken by Paul Roberts UCert (license number: S091932/1), using a Pettersson M500-384 bat detector as well as Sony FDR-AX100 and Sony FDR-AX53 infrared cameras, each of which was paired with an Anabat SD1 or Anabat SD2 bat detector. The surveys were undertaken on the dates and under the conditions detailed in Table 2.1.

Table 2.1: The details of the activity surveys undertaken.

Type of Survey	Date and Time	Weather Conditions at Sunset/Sunrise
Emergence Survey	18 th May 2023 20.35 – 22.38	Sunset Time: 21.08; 13°C, Dry, Negligible Wind, 100% Cloud Cover
Emergence Survey	02nd June 2023 20.50 – 22.50	Sunset Time: 21.29; 14°C, Dry, Negligible Wind, 00% Cloud Cover
Emergence Survey	16 th June 2023 21.10 – 23.10	Sunset Time: 21.40; 23°C, Dry, Negligible Wind, 90% Cloud Cover

The emergence surveys were undertaken in May and June, in dry and calm conditions, when the temperature at sunset was above 10°C, all of which is in accordance with the good practice guidelines provided in Tables 7.1 and 7.3 of the BCT's *Bat Surveys for Professional Ecologists* (2016). The surveys commenced at least 30 minutes before sunset and continued until at least 90 minutes after sunset. As such there are no limitations associated with the timing and weather conditions of the surveys.

N.B: Any bat emergence/re-entry surveys can only give a snapshot of bat behaviour at the time of the survey. As the potential of the site for roosting bats may change over time, it is recommended that bat surveys are updated after two years if development has not yet commenced.



Figure 2.1: The positions of the surveyors/equipment during the activity survey. The building to be converted is shown in red. The entrances to the subterranean boiler room are shown in blue.



Figure 2.2: The field of view of each of the cameras used at the darkest part of the survey (Left: Camera 1 – the Canon XA50; Right: Camera 2 – the Panasonic HC-VX980EB-K. All footage was reviewed in real-time using the open-source PotPlayer software. All sonograms were manually reviewed using the SonoBat 30 UK bat call analysis software.

2.1 Passive Monitoring

A SongMeter Mini Bat (full spectrum) static detector was deployed within the subterranean boiler room from the evening of the 02nd of June to the morning of the 16th of June 2023. The detector was strategically placed away from any clutter and directed to best be able to record any calls originating from within any part of the void. The detector was programmed to record all sounds between 16kHz and 128kHz, from half an hour before sunset until half an hour after sunrise, for each night of its deployment. Calls were then manually reviewed using the SonoBat 30 UK bat call analysis software.

3 Results

3.1 Desk Study

3.1.1 Statutory and Non-Statutory Designated Sites

A review of the information retrieved during the desk study identified no statutory or non-statutory designated sites within or immediate to the site area. The Berwyn SSSI/Berwyn SPA/Berwyn a Mynyddoedd De Clwyd SAC, an area of national and international importance for its moorland breeding birds and vegetation, particularly *Calluna* dominated heath and blanket mire, which is also notified to conserve a colony of the rare Welsh clearwing moth (*Synanthedon scoliaeformis*), is situated ~545km south of the site (see figure 3.1); however, due to the nature of the proposals and the size of the project, no adverse impacts on the these sites are anticipated because of the proposed development.

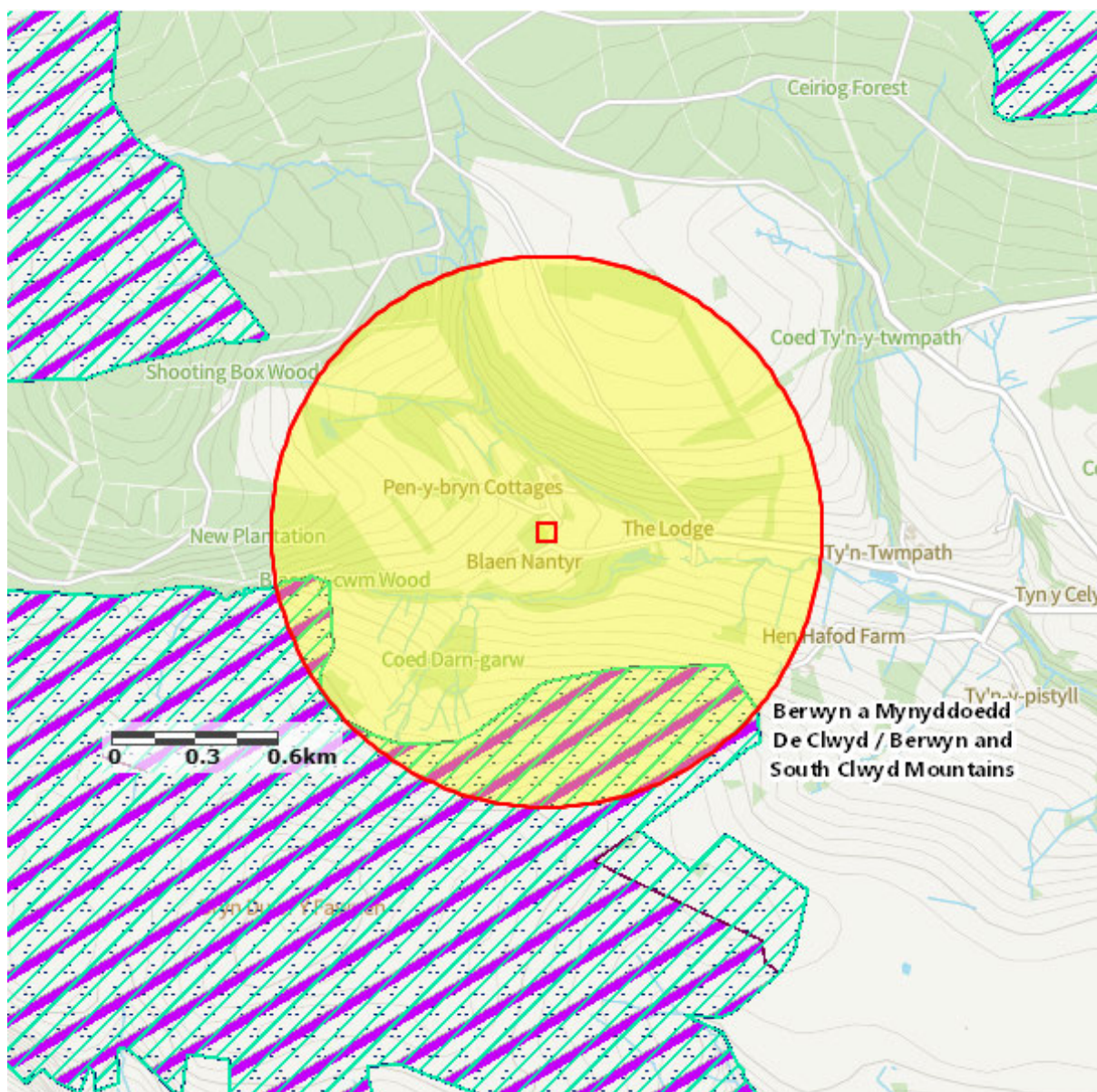


Figure 3.1: A 1:25,000 map view of the site relative to local designated sites.

3.1.2 Species Records Pertinent to the Assessment

A review of the information retrieved during the desk study identified no records of any bat species within the search area. 1 record of polecat (*Mustela putorius*) was retrieved, ~950m west of the site; 2 records of curlew (*Numenius arquata*) were retrieved, ~550m southwest of the site; 1 record of kestrel (*Falco tinnunculus*) was retrieved, ~550m southwest of the site; 1 record of lesser redpoll (*Acanthis cabaret*) was retrieved, ~550m southwest of the site; 7 records of skylark (*Alauda arvensis*) were retrieved, ~550m southwest of the site; and 1 record of song thrush (*Turdus philomelos*) was retrieved, ~550m southwest of the site. No other protected or priority mammal or bird species records were retrieved. No protected or priority reptile, amphibian, invertebrate or plant species were retrieved. No records were retrieved for any species listed upon Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended).

Given the ecology of the above species and the position of the site, and given the nature of the proposals and the modest size of the project, no adverse impacts are anticipated upon the favourable local status any of the above species, or upon any other protected or priority species because of the proposed development, so long as all bat roosts and bird nests present upon or within the building to be affected have been identified, and compensatory roosting/nesting opportunities have been provided as necessary.

3.2 Preliminary Roost Assessment

A description of the outbuilding to be converted is provided in Table 3.1, below.

Table 3.1: The outbuilding to be converted.

Exterior Fabric and Features	
Structure	• The building is a detached single-storey rectangular structure featuring a symmetrically pitched gabled roof, the apex of which runs from northwest to southeast. Steel cage dog runs extend around each side elevation of the building. • There is also a subterranean boiler room belonging to and situated immediately to the northeast of the kennels building.
Walls	• The walls of the kennels building are constructed of rendered brick and are in a fair state of repair. There are no obvious areas of lifted render and few gaps or crevices within the brickwork. • There is ~2.5m high stone wall which adjoins the rear of the building and extends to the northeast. This is in a poor state of repair and features numerous gaps and crevices within the stonework. • The boiler room is buried within the ground and so does not have any exterior wall surfaces.
Roof	• The roof of the kennels building is constructed of corrugated cement-bonded asbestos sheeting and features rounded ridge tiles. It is in a good state of repair but largely covered in moss. • The roof of the boiler room is constructed of concrete slab and is largely covered in moss and pioneer grass species.
Soffits, fascias and bargeboards	• The kennels building features wooden fascias, soffits and bargeboards, all of which are in a poor state of repair, featuring sizeable rot holes in places and having fallen away completely in others. • The boiler room is buried within the ground and so does not have any exterior roofline features.

Windows, doors, and other points of access	- The doors of the kennels building are made of wood and are in a poor state of repair, with significant gaps present between the doors and their frames and large holes present in places where parts of the doors have rotted away completely. The windows are boarded and in a similar state of repair, with noticeable gaps present. - The boiler room is accessible from an open top hatch within its roof and via an open side hatch facing onto the road.
External lighting	There is no artificial light spill onto any section of the building or the boiler room or their immediate surrounds.
Vegetation upon or immediate to the building	There is dense ephemeral/short perennial growth surrounding the building, growing to a height of ~1.5m (not shown in Figures, as these were taken during April, at the start of the annual growing season). Additionally, there is a goat willow tree (<i>Salix caprea</i>) growing immediately to the northeast-facing elevation of the kennels building.
Interior Fabric and Features	
Structure	- The interior of the kennels building comprises a single large space which is separated into a central corridor and several individual kennels to each side by brick walls ~2.5m in height. The space is open to the roof of the building, with no separate roof void present. - The subterranean boiler room comprises a single open rectangular space.
Walls and Furnishings	- The interior walls of the kennels building are constructed of exposed brick and are in a fair state of repair, although some damage is clearly visible around the gable wall tops, with some obvious gaps and crevices present within the brickwork where bricks have come away. - The interior walls of the boiler room are constructed of exposed random stone, within which gaps and crevices are abundantly present throughout. Towards the front (southeast) end of the room, the walls are noticeably damper, with significant moss and fern growth upon one side, whereas they are noticeably drier towards the rear (northwest) end of the room.
Roof Structure, Roof Lining and Roof Void	- The roof of the kennels building is visible from the interior main of the building. It is supported by a wooden frame, which has rotted or warped in places, and is unlined. - The roof of the boiler room is constructed of smooth concrete slab.
Light Penetration and Weather proofing	- There are obvious points of natural light penetration into the kennels building around the wall tops, around the doorways, and at the apex of the rear gable wall where the brickwork has been damaged. However, the interior of the building is otherwise a generally dark and sheltered environment. - While there is significant natural light penetration via the two hatches, the interior of the boiler room is generally quite dark and sheltered from prevailing weather conditions, especially towards its rear (northwest) end.
Evidence of Roosting Bats or Nesting Birds	
Evidence of bats or bat roosts	- No bats or evidence thereof were found during the internal or external inspection of the kennels building. - Several scattered droppings, characteristic of <i>Plecotus</i> species of bat, were found within the interior of the boiler room.
Evidence of nesting birds	- Two nests characteristic of barn swallow (<i>Hirundo rustica</i>) and two nests characteristic of wren (<i>Troglodytes troglodytes</i>) were found within the interior of the kennels building. - No nesting birds or evidence thereof were found within the boiler room.

Summary: Despite the lack of any evidence of roosting bats, given the building's dark and well-connected position within habitat well-suited to bats, given the number and quality of potential roosting features present within the roofline and within the interior of the building, and given the availability of fly-through access to the building's dark and sheltered interior, the kennels building was categorised as having high potential to support roosting bats.

Likewise, due to its dark and well-connected position within habitat well-suited to bats, due to the number of crevices within the interior wall faces, and due to the availability of fly-through access to its dark and sheltered interior, the boiler room would have been categorised as having high potential to support roosting bats even in the absence of any evidence of roosting bats.

Evidence was found that the kennels building is being used or has been used as a nesting site by both barn swallow and wren.

Photographs showing the above features and findings are included below (see Figures 3.2 to 3.14).



Figure 3.2: The front (southeast-facing) and northeast-facing side elevations of the kennels building. The roadside access to the boiler room can be seen in the foreground.



Figure 3.3: The front (southeast-facing) and southwest-facing side elevations of the kennels building.



Figure 3.4: The rear (northwest-facing) elevation of the kennels building. The stone wall which adjoins the rear of the building can be seen on the left of the image.



Figure 3.5: The roof of the kennels building.



Figure 3.6: The damaged roofline of the kennels building.



Figure 3.7: The points of access around the damaged doorways and windows.



Figure 3.8: The damage to the rear gable wall of the kennels building.



Figure 3.9: The stone wall which adjoins the rear of the kennels building.



Figure 3.10: The interior of the kennels building.



Figure 3.11: The subterranean boiler room.



Figure 3.12: The roadside access to the boiler room.



Figure 3.13: The top access to the boiler room.



Figure 3.14: One of the swallow nests identified within the kennels building.

3.1 Bat Activity Surveys

10th of May 2023: During the first emergence survey, no bats were recorded or observed emerging from the kennels building to be converted. At 22.42, a lesser horseshoe bat (*Rhinolophus hipposideros*) was seen entering the boiler room, via the top hatch; however, it re-emerged therefrom ~36 seconds later and did not re-enter again thereafter.

Additionally, during the survey, common pipistrelle bats (*Pipistrellus pipistrellus*) were recorded regularly in the vicinity of the site, from 21.20 until 22.38, with most observed commuting southwest along the roadside hedgerow to the front of the site (see Figure 15). Several soprano pipistrelle bats (*Pipistrellus pygmaeus*) were also recorded in the vicinity of the site, between 21.23 and 22.22; a whiskered/Brandt's bat (*Myotis mystacinus/Brandtii*) was recorded in the vicinity of the site at 22.01, a brown long-eared bat (*Plecotus auritus*) was recorded in the vicinity of the site at 22.04, and a Daubenton's bat (*Myotis daubentonii*) was recorded in the vicinity of the site at 22.24.

02nd of June 2023: During the second survey, common pipistrelle bats were recorded and observed at 21.36, 21.38, 21.39, 21.41, 21.43 commuting alongside the road. Soprano pipistrelle bats were also recorded in the vicinity of the site, between 21.37 and 22.05. A brown long-eared bat (*Plecotus auritus*) was recorded in the vicinity of the site at 22.17. A whiskered/Brandt's bat (*Myotis mystacinus/Brandtii*) was recorded at 22.33. No bats were recorded or observed emerging from the kennels building to be converted or from the boiler room.

10th of May 2023: During the final emergence survey, no bats were recorded or observed emerging from the kennels building to be converted or from the boiler room.

During the survey, common pipistrelle bats were recorded regularly in the vicinity of the site, from 22.08 until 23.04, with most observed commuting southwest along the roadside hedgerow to the front of the site. Several soprano pipistrelle bats were also recorded in the vicinity of the site, between 22.05 and 22.41; Natterer's bats (*Myotis nattereri*) were recorded in the vicinity of the site at 22.27 and at 22.42, and a brown long-eared bat was recorded in the vicinity of the site at 22.34.



Figure 3.15: A plan of the site showing the bat activity recorded. No bats were recorded or observed emerging from or entering the kennels building. However, a single lesser horseshoe bat was briefly observed entering and then re-emerging from the subterranean boiler room (as shown in blue). Additionally, significant commuting activity was recorded and observed along the roadway to the front of the building (as shown in yellow).

3.1 Passive Monitoring

02nd of June 2023 – 16th of June 2023: A two-week period of passive monitoring was undertaken within the subterranean boiler room, using a SongMeter Mini Bat (full spectrum) static detector. A lesser horseshoe bat was recorded within the room on one occasion, at 23.27 on the 4th of June, for a total period of <60 seconds. Brown long-eared bats were recorded within the room for ~2 minutes, at 00.51 on the 5th of June; for ~2 minutes, at 00.34 on the 12th of June; for ~1 minute, at 01.01 on the 13th of June; for ~1 minute, at 01.57, on the 13th of June; for ~1 minute, at 22.39, on the 13^h of June; for ~20 minutes, at 23.42 on the 13th of June; for ~1 minute, at 03.13 on the 14th of June; for ~2 minutes, at 23.57 on the 14th of June; for ~2 minutes, at 03.01 on the 15th of June; and for ~5 minutes, at 01.39 on the 16^h of June. *Pipistrellus* and *Nyctalus* species of bat were also recorded during the monitoring,

however the calls from these species – which utilise louder echolocation calls than *Rhinolophus* or *Plecotus* bats and which are not known to use night roosts – are considered likely to have originated from outside the boiler room. Heavy rain was recorded throughout the night of the 11th of June and until around midnight on the night of the 12^h of June; however, given the length of time for which the detector was deployed, this is not considered a significant limiting factor.

4 Evaluation

The survey results indicate that the former kennels building to be converted is not being utilised by roosting bats, but that the adjacent subterranean boiler room is being used as a night roost by brown long-eared bats and that the roadside hedgerow to the front of the building is being used as a commuting route by a number of bat species.

All species of British bat are afforded full protection under Schedule 5, Section 9 of the Wildlife and Countryside Act 1981 (as amended), and under Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended). Under these acts, it is an offence to deliberately or recklessly disturb, capture, injure or kill bats; impair their ability to survive, breed, reproduce, hibernate or migrate; affect significantly the local distribution or abundance of the species to which they belong; or damage or destroy a breeding site or resting place of that species.

Modifications to this identified roost will be required, as to make safe the area around the building to be converted, the roof of the boiler room will need to be reinforced to prevent collapse, and the access to the boiler room will need to be secured to prevent people from accidentally or intentionally accessing its interior. Additionally, even if undertaken in adherence with appropriate reasonable avoidance measures, it can never be assumed with absolute confidence that bats will not be present at the time of the works, with any bats which are present likely to be disturbed thereby. Therefore, while these works are expected to be of net-benefit to the bats utilising the roost, as they will secure the roost space from disturbance or collapse, ***a bat development licence from Natural Resources Wales will be required before site works can commence.***

Additionally, evidence was found that the kennels building is being used or has been used as a nesting site by both barn swallow and wren.

All wild birds, their nests and eggs are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended), this makes it an offence to intentionally kill, injure or take any wild bird; take, damage or destroy the nest of any wild bird while it is in use or being built; take, damage or destroy the egg of any wild bird; or 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.

The proposed conversion works will result in the loss of these nests and nesting sites and, if undertaken during the nesting bird period, could cause disturbance or harm to nesting birds or their nests. Suitable compensatory nesting opportunities will therefore need to be provided and the works will need to be undertaken in accordance with suitable reasonable avoidance measures.

The surveys were not affected by any material limitations.

5 Impact Assessment

5.1 Short-Term Impacts: Disturbance

In the absence of mitigation (i.e., in the absence of timing restraints and if undertaken in a reckless manner), the proposed works to secure and make safe the boiler room or the works in proximity thereto have the potential to disturb or cause harm to any bats or nesting birds which are present at the time.

5.2 Long-Term Impacts: Roost Modification

Modifications will need to be made to secure the roof of the boiler room from collapse, and to prevent people from accidentally or intentionally accessing the interior of the room for any purposes other than licensed monitoring activities. If undertaken in a manner unsympathetic to the bats which are currently utilising the space as a night roost, these works could result in the destruction of the roost. However, if undertaken in accordance with the conservation scheme detailed in Section 6, these works are expected to be of net-benefit to the bats utilising the roost, as they will also secure the roost space from disturbance or collapse.

5.3 Long-Term Impacts: Roost Loss

If undertaken in a manner unsympathetic to the bats, the works to the boiler room could result in the destruction of the roost therein. However, if the works are undertaken in accordance with the conservation scheme detailed in Section 6, then no roost loss is anticipated.

5.4 Long-Term Impacts: Fragmentation and Isolation

No linear features (hedgerows, treelines, etc.) will be affected by the works, so no fragmentation or isolation is anticipated. However, if additional artificial lighting is allowed to spill onto the retained roosting provision or flightlines thereto/therefrom, or upon the commuting route along the hedgerow/roadway to the front of the site, the utility of the site and/or its surrounds for roosting, foraging and/or commuting bats could be adversely impacted.

5.5 Post-Development Interference Impacts

The site is set away from any busy areas and the compensatory roosting/nesting provision will be isolated from any habitable areas. Further, human access to the interior of the boiler room will be sealed for reasons of health and safety. As such, no disturbance issues are expected.

5.6 Predicted Scale of Impact

Across Wales, brown long-eared bat populations are believed to be stable (NBMP, 2022). As such, and due to the relative local abundance of the species and the roost's status as a night roost only, the loss of the identified roost would have only low local significance (see Bat Mitigation Guidelines, Table 6.1; English Nature, 2004).

Barn swallow populations have experienced significant decline on a national level since 1970, although there is some evidence that they have been more stable on a local/regional level in recent years (BTO, 2021). However, even in the absence of mitigation, due to the local abundance of the species and the low numbers of birds concerned, the loss of the identified nests/nesting sites would have only low local significance. Wren populations are known to be stable on a national and increasing on a regional level (BTO, 2020).

6 Required Actions

6.1 Further Surveys

As the potential of the site for roosting bats/nesting birds may change over time, it is recommended that these surveys are updated after two years if development has not yet commenced. Should the proposals change significantly or change to affect areas outside those surveyed, further advice should be sought from a licensed ecologist.

6.2 Actions Requiring Licensing

The survey results indicate that the subterranean boiler room adjacent to the building to be converted is being used as a night roost by brown long-eared bats.

To make safe the area around the building to be converted, works will need to be undertaken to secure the roof of the boiler room from collapse, and to prevent people from accidentally or intentionally accessing the interior of the room for any purposes other than licensed monitoring activities. These works will constitute a 'roost modification'. Further, in the unlikely situation that any day roosting bats are present at the time of the works (to the boiler room or to the kennels building), they are likely to be disturbed by the noise, vibrations and dust caused thereby.

A European Protected Species Mitigation License (EPSML) from Natural Resources Wales will therefore be required before site works can commence.

As a requirement of the license, a suitably qualified ecologist must be appointed by the licensee as the licensed site ecologist for the duration of the project.

6.3 Works to be Undertaken

6.3.1 Bat Roosts and Habitat

The existing brown long-eared bat night roost, within the subterranean boiler room, is to be retained in situ, albeit modified. No roost loss is anticipated because of the proposed development.

To prevent the collapse of the boiler room's roof, either during the adjacent conversion works or at any other future time, remedial works to secure the structure will need to be undertaken. This will likely involve the fitting of internal braces to support the centre of the roof, although it is yet unclear whether alternative or additional measures may be required instead or as well.

Advice will be taken from a suitably qualified structural engineer as to what will be the best way to secure the long-term future of the building and roost. Informed by the structural engineer's recommendations, a bat conservation scheme, bespoke to the site and to the project, will be developed by a suitably qualified ecologist and submitted to the local planning authority for approval. The development will then proceed in strict accordance the approved scheme.

Additionally, to prevent accidental or intentional human access to the boiler room, which would pose a health and safety risk to the individuals involved and would risk causing disturbance or harm to any bats present or to the roosting environment, works will need to be undertaken to

secure the existing points of access. This will likely involve the fitting of a locked grill or solid plate over the existing access points, with suitable gaps left between the bars or a suitably sized entrance fitted into the plate to allow bat ingress/egress through it.

To avoid causing unnecessary disturbance of harm to roosting bats or their roosting environment, the secured access points will be kept locked and the boiler room will not be used for any purposes other than as a bat roost. Only suitably licensed ecologists engaged in necessary monitoring works will access the room. Full details of these works and the design of the grill(s)/plate(s)/other will be included within the bat conservation scheme.

Details of any timing restrictions, ecological supervision, mitigation contingencies, and/or capture and exclusion works to be undertaken will be detailed in-full within the bat conservation scheme once the scope and design of the roost modification works to be undertaken have been finalised.

6.3.1 Bird Nests and Habitat

The existing swallow and wren nests and nesting sites will be lost as a consequence of the proposed conversion works.

Compensatory nesting opportunities for the swallows will be provided in the form of four Vivara Pro WoodStone Swallow Cups, which will be installed in suitable places within the site boundaries. Compensatory nesting opportunities for the wrens will be provided in the form of two Vivara Pro WoodStone Alicante Nest Boxes, which will be installed in suitable places within the site boundaries. The exact position of these boxes will be shown on the finalised architect's drawings subject to which the development will proceed.

6.3.2 Maintenance of and/or Modification of New and Existing Habitat

The hedgerows and trees which border and surround the site will be left in-situ and unmodified.

To avoid any post-development impacts upon the bats utilising the site and/or its surrounds for roosting, foraging and/or commuting purposes, a suitably qualified ecologist will be instructed to develop a sensitive lighting scheme bespoke to the project, which will adhere to the guidance set out in *Guidance Note 08/18 Bats and artificial lighting in the UK* (Bat conservation Trust & The Institute for Lighting Professionals, 2018). The scheme will be submitted to the local planning authority for approval and the development will proceed in strict accordance with the approved scheme.

Furthermore, willow/hazel hurdles planted with native climbers will provide screening between the accommodation and the boiler room.

If excessive horizontal light spill is observed during the post-license monitoring work, or if bats fail to use the compensation roosts being provided, remedial work will be undertaken as appropriate, which may involve modifications to the lighting installed. Front and side hoods/shields or cowls may be installed to further prevent upwards and horizontal light spill or additional timing constraints may be implemented.

6.3.3 Mechanisms for Ensuring Delivery of Mitigation and Compensation Measures

Delivery will be implemented by the owners of the site through a Natural Resources Wales European Protected Species licence, which will be issued conditional to the recommendations outlined in this report and the approved bat conservation and lighting schemes to be

developed. To fulfil their reporting obligations under the Habitat Directive, the licensee will provide a report, no more than four weeks after the licence expires, detailing findings of any bats encountered during the works, together with the measures taken and outcomes in terms of recovery of and maintenance of the population.

Compliance monitoring will be undertaken by the ecologist as part of their responsibilities to the licensee. The ecologist will be responsible for (i) defining appropriate key performance indicators that will inform an inspection, (ii) defining what evidence will be required to inform inspections, (iii) determining the minimum number of assessment visits required to demonstrate compliance, and (iv) progressing required remedial or contingency actions identified during audit back to the developer and NRW. It will be the licensee's responsibility to ensure that suitable access to the site and suitable funds are made available for this work.

6.4 Post-Development Site Safeguard

6.4.1 Habitat/Site Management and Maintenance

The licensee will ensure monies are secured for the site monitoring for a period of up to 5 years, and for post-development mitigation contingencies, as necessary. The licensee agrees to maintain the bat roosting/bird nesting features to be retained/created. Management and maintenance (including remedial action) of the bat roosting/bird nesting features will be the responsibility of the licensee. Any requirements for repairs or modifications to those features will be identified (by the ecologist) as part of the scheduled monitoring work. Should the buildings be sold, the purchasers must be made aware of the purpose of the bat roosting/bird nesting features and the legislation pertaining thereto. All documentation relating to the presence of bats will be retained by the licensee and passed on to any new owner in the event of the site being sold.

6.4.2 Population Monitoring, Roost Usage, Etc.

Future monitoring of the use of the site will be carried out by the ecologist in Years 1, 2, 3 and 5 post-completion of works, or until it has been established that the compensatory/other roosting provisions are being used by all of the bat species which are to be displaced. Internal inspections of the boiler room will be undertaken to search for evidence of roosting bats. If necessary, further emergence surveys will be undertaken.

6.4.3 Post-Development Mitigation Contingencies

The subterranean boiler room adjacent to the building to be converted is being used as a night roost by brown long-eared bats. Therefore, this mitigation scheme will be judged to have been successful once night or day roosting of the species has been established.

If the above is not achieved, the design of the roosts will be re-examined and, following consultation with NRW, alterations made as necessary.

6.4.4 Mechanism for Ensuring Delivery of Post-Development Works

There is no Section 106 agreement. The applicant agrees to maintain the bat roosting/bird nesting features to be created as detailed. Should the buildings be sold, the purchasers must be made aware of the purpose of the bat roosting features and the legislation pertaining to the roosts. Monitoring and reporting will be undertaken by the ecologist, following instruction by the applicant, who will bear ultimate responsibility therefor.

7 Biodiversity Enhancement Provisions

To comply with Section 6 of the Environment (Wales) Act 2016, local planning authorities are required to look for biodiversity gain within the planning system. Accordingly, as biodiversity enhancement provisions, both a Vivara Pro Harlech WoodStone Bat Box and a Vivara Pro Seville (32mm) WoodStone Nest Box will be erected upon suitable trees on-site, to provide further bat roosting and bird nesting opportunities, and a total of six native species fruiting trees – one crab apple (*Malus sylvestris*), one wild pear (*Pyrus pyraster*), one bird cherry (*Prunus padus*), one wild cherry (*Prunus avium*), one wild plum (*Prunus domestica*), and one rowan (*Sorbus aucuparia*) – will be planted within the garden area of the proposed dwelling.

The bat box will be installed in a south-facing position, at least 4m from the ground, away from any immediate clutter and out of reach of domestic cats or other terrestrial predators. Care will be taken to ensure that no artificial lighting is allowed to spill upon the box or flightlines therefrom/thereto.

The nest box will be installed between 1.5m and 3m from the ground, away from any immediate clutter and out of reach of domestic cats or other terrestrial predators.

The trees will be planted within the first planting season post-completion of the development works (December to March, inclusive) and will be provided with appropriate care (i.e., watering, pruning) in accordance with the advice provided by the supplier. Whips and/or feathered trees may be used, but any specimens which fail will be replaced at the end of the given growing period. Once established, the trees may be pruned for aesthetic reasons, or to maintain their health and production, but will at least be allowed to blossom and fruit.