



**Min Yr Afon, 2 London Row, Cwmafan,
Port Talbot, Neath Port Talbot, SA12 9AN**
Bat Survey Report for Mr A. Rees, SWS Property Ltd



***A European Protected Species Licence will be required
for works to be undertaken at the property***

Report type	Bat Survey Report
Report reference	IG2023MinYrAfon
Site	Min Yr Afon, 2 London Row, Cwmafan, Port Talbot, Neath Port Talbot, SA12 9AN
Grid reference	SS 77964 91833 (centre of building)
Client	Mr A. Rees, SWS Property Ltd
Date(s)/time(s)/type(s) of survey(s)	Scoping survey: 5 th July 2022 Dusk emergence survey: 8 th July 2022 between 21:20 and 23:35 Dawn re-entry survey: 24 th July 2022 between 03:25 and 05:30
Surveyor details	Scoping survey: Mr Glyn Lloyd-Jones, Natural Resources Wales Licence number S091520/1 and Mr Iestyn Evans, Natural Resources Wales Licence number S090746/1; Activity surveys: as above, with assistance from Mr Pete Watts, Mr Greg Evans, Ms Sharon Doherty, Ms Bonnie Illingworth, Mr Lewis Jones, and Mr Mike Jones
Architect	Mr R. Bowen, Robert Bowen Planning & Development Ltd

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Reviewed by	Ceri Daugherty	Author	04/01/2023
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I&G Ecological Consulting Ltd, Awelfryn, Llannon, Llanelli, Carmarthenshire, SA14 6BY.
www.I&Gecology.com email: Office.igecol@gmail.com, lestyn.igecol@gmail.com, and
Glyn.igecol@gmail.com or call Office on 07733 214829 and Glyn on 07973 685423

Executive summary

- ✦ Min Yr Afon (the property) is a former residential care home subject to proposed plans for conversion to mixed commercial units. It is a single storey brick built with a felted flat roof with an additional structure present on the roof of the building, towards the eastern edge, that is covered with uPVC cladding, with several areas of damage noted. The main building is of brick construction with cladding on the top c.1m of the external walls. This is uPVC to the front (north) – and for a short section to the west and east – with wooden boarding to the rear (south) and much of the sides (west and east). The windows are uPVC framed and are nearly all well-sealed and boarded up; however, one or two to the rear have missing/damaged glass. The uPVC cladding is in reasonable condition, although in a number of areas there are gaps around the tops of this, particularly above windows, and gaps underneath. The wooden cladding is in poor condition and there are numerous areas where this is rotten, damaged, lifted away from the walls or just missing completely, exposing the brickwork below – which in many areas to the rear is also damaged. A single suspected bat dropping was noted on one window to the front, directly below a gap in the roof verge above. A narrow crack in brickwork, where two sections of wall are poorly joined together, is present on the western elevation. No other signs of bats were noted during the external visual inspection. A storeroom on the south-eastern corner of the building is open externally, and there is a crack to the rear at the top of the wall with potential access for bats.
- ✦ On 5th July 2022, I&G Ecological Consulting Ltd undertook a daytime bat scoping survey of the property. As a result of the findings a dusk emergence survey was undertaken on 8th July 2022, and a dawn re-entry survey was undertaken on 24th July 2022. The weather conditions present at the property were conducive to bat activity and access was available to all parts of the property.
- ✦ This report confirms the findings of these surveys, completed in accordance with current best practice (Collins, J. (Ed.) 2016) and conducted by experienced, licensed ecologists and assistants. It is to be read in conjunction with the 2022 PRA report produced by Koru Associates.
- ✦ The property is located on the south-eastern edge of the village of Cwmafan and approximately 2.3km north-east of the town of Port Talbot. **It is within close proximity to moderately favourable bat habitat but is not within 10km of any site which is designated for its bat interest.**
- ✦ As part of the scoping surveys no live or dead bats, feeding remain, urine stains or smells were found but a single **Common pipistrelle** dropping (confirmed by DNA analysis was found externally. During the activity surveys up to **four Common pipistrelles** were seen to leave and enter a wall top gap on the north-west corner and this species as well as **Soprano pipistrelle** and **Myotis species** were using the surroundings for foraging and commuting.
- ✦ In relation to **Roost Characterisation Assessment**, from the evidence gathered it is considered that a small area of the roof at the property is being used as a daytime roost by a **small number of Common pipistrelle (four confirmed)**.
- ✦ **Mitigation measures will need to be implemented for bats.** In addition, biodiversity enhancement measures are also required for bats and birds to ensure the development complies with the Environment (Wales) Act 2016, Future Wales 2040, and PPW (Edition 11, February 2021). Recommendations are as follows (all nests are to be confirmed vacant before works commence). See appendix 5 for plans and appendix 10 for examples and siting advice. **The final plans to be submitted are to show all bat and bird mitigation/enhancement measures as well as exterior lighting.**
 - ✦ **Recommendation 1 (Enhancement):** Prior to works commencing, x 2 Harlech Woodstone (or similar) bat boxes and x 1 Improved Maternity (or similar) bat box to be affixed to mature trees within the curtilage of the property (along the southern boundary) . See [Putting up your box - Bat Boxes - Bat Conservation Trust \(bats.org.uk\)](https://bats.org.uk/putting-up-your-box-bat-boxes-bat-conservation-trust/) for siting advice.
 - ✦ **Recommendation 2 (Mitigation):** 2 x Intra-soffit bat boxes to be installed on each elevation of the property (8 x in total). The final plans to be submitted must include their locations as well as the position and type of any proposed exterior lighting (no lights to shine on any access points).
 - ✦ **Recommendation 3 (Broadscale Enhancement):** As far as possible, all mature hedgerows and trees on site are to be retained – *Buddleia* to be removed (and any lost are to be replaced with native species) to maintain wider ecological benefit and connectivity to the surrounding hedgerows, woodland and rivers. In addition, all new planting is to be of native species that offer benefit to wildlife. See [17 bats & hedges leaflet.pdf \(hedgelink.org.uk\)](https://hedgelink.org.uk/17-bats-hedges-leaflet.pdf) and [developers-1.pdf \(britishhedgehogs.org.uk\)](https://britishhedgehogs.org.uk/developers-1.pdf).
 - ✦ **Recommendation 4 (Enhancement):** Prior to works commencing, x 2 open-fronted and x 2 small-holed bird boxes to be affixed to mature trees within the curtilage of the property. See [Where To Put A Bird Box | Nestboxes - The RSPB](https://www.rspb.org.uk/where-to-put-a-bird-box/)

Contents

Executive summary.....	ii
1. Introduction.....	1
1.1 Scope and purpose of survey	1
1.2 Site characteristics and proposed works.....	1
2. Desk study methods and results	3
2.1 Methods.....	3
2.2 Results.....	3
3. Field survey methods and results	5
3.1 Methods.....	5
3.2 Survey results.....	5
4. Interpretation, conclusions and recommendations	7
4.1 Interpretation and conclusions	7
4.2 Recommendations.....	9
5. Outline method statement for planning and mitigation/compensation measures	10
5.1 Outline method statement for planning and mitigation/compensation measures	10
LIST OF FIGURES	
Figure 1: Aerial view of the property.....	1
Figure 2: Map showing the wider environment.....	2
Figure 3: Proposed site plan	2
Figure 4: Potential access points and features with target notes.....	4
Figure 5: Surveyor positions during the activity surveys.....	5
Figure 6: Aerial map showing the flight lines of bats detected.....	6
LIST OF TABLES	
Table 1: Provisional timetable of works	11
LIST OF APPENDICES	
Appendix 1: An introduction to bat surveys.....	13
Appendix 2: Overview of the legislation	15
Appendix 3: Types of bat roost and survey timings	18
Appendix 4: List of surveyors.....	20
Appendix 5: Site plans	21
Appendix 6: DNA certificate	22
Appendix 7: I&G Ecological Consulting Ltd site survey images.....	23
Appendix 8: Roost status and mitigation	25
Appendix 9: Roost compensation & enhancement measures	26
Appendix 10: I&G Ecological Consulting Ltd legal disclaimer	29
Appendix 11: References, bibliography, and sources of information	30

1. Introduction

1.1 Scope and purpose of survey

1.1.1 Any sign of use of a site by bats is enough to confirm that the space has 'bat interest' and is enough to confirm the importance of the location to bat species. All species, as well as their resting places, are protected by law and the site is protected even when bats are not present. See appendix 1 for an introduction to bat surveys, including the aims of the scoping survey, appendix 2 for an overview of the legislation, and appendix 3 for information on roost types and survey timings. Appendix 4 lists all surveyors who undertake work for I&G Ecological Consulting Ltd and includes their experience.

1.1.2 This report confirms the results of, and conclusions and recommendations from, the surveys undertaken. It aims to provide the local planning authority with sufficient information to enable a full assessment of the potential ecological impacts of the proposed development. The CIEEM Guidelines for Ecological Report Writing (2017) state that it is important that the structure and content of a report should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. This report has therefore been written in line with these guidelines.

1.1.3 For the purposes of this survey report, the site boundary is defined as the buildings and surfaces within the overall site footprint.

1.2 Site characteristics and proposed works

1.2.1 Min Yr Afon (the property) is located on the south-eastern edge of the village of Cwmafan and approximately 2.3km north-east of the town of Port Talbot. It is bordered to the north-west by the residential street known as London Row, beyond which is the wider Cwmafan settlement. It is within close proximity to moderately favourable bat habitat with the Afon Afan being located approximately 20m to the south-east of the boundary, along which a narrow strip of woodland is present. In addition, 170m to the east is Nant Ynys-garw, 670m to the east is a disused reservoir, and 850m to the north is Nant Cwm-mawr. Beyond the river to the south is the A4107 and open countryside with pockets of forestry – including ancient woodland while to the west, east and north are the more upland grasslands and forestry (mainly plantations) of Mynydd Dinas, Foel Fynyddau, and Mynydd Bychan.



1.2.2 The property is subject to proposed plans for conversion of a former residential care home to mixed commercial units. Figure 1 shows an aerial view of the property, figure 2 on the following page shows the wider environment and figure 3 is a proposed site plan. Additional plan drawings are included in appendix 5.

Figure 1: Aerial view of the property which is outlined in red (from Apple® Maps)

[illegible]

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2. Desk study methods and results

2.1 Methods

2.1.1 A 2km search area is used which covers the predicted zone of influence of the proposed development. Where bats are found to be present, any sites within 10km which are designated for their bat interest will also be noted. The reasons for the site designations have also been considered when discussing potential impacts on the biodiversity of these sites. Multi-Agency Geographic Information for the Countryside (MAGIC) and Lle are both used to establish the proximity of National and International Statutory Designations, particularly in relation to designations for bat interest. Species searches are also conducted through the Local Records Centre (LRC) where appropriate. An online search of planning applications at the property is undertaken to understand its planning history, especially relating to bats.

2.2 Results

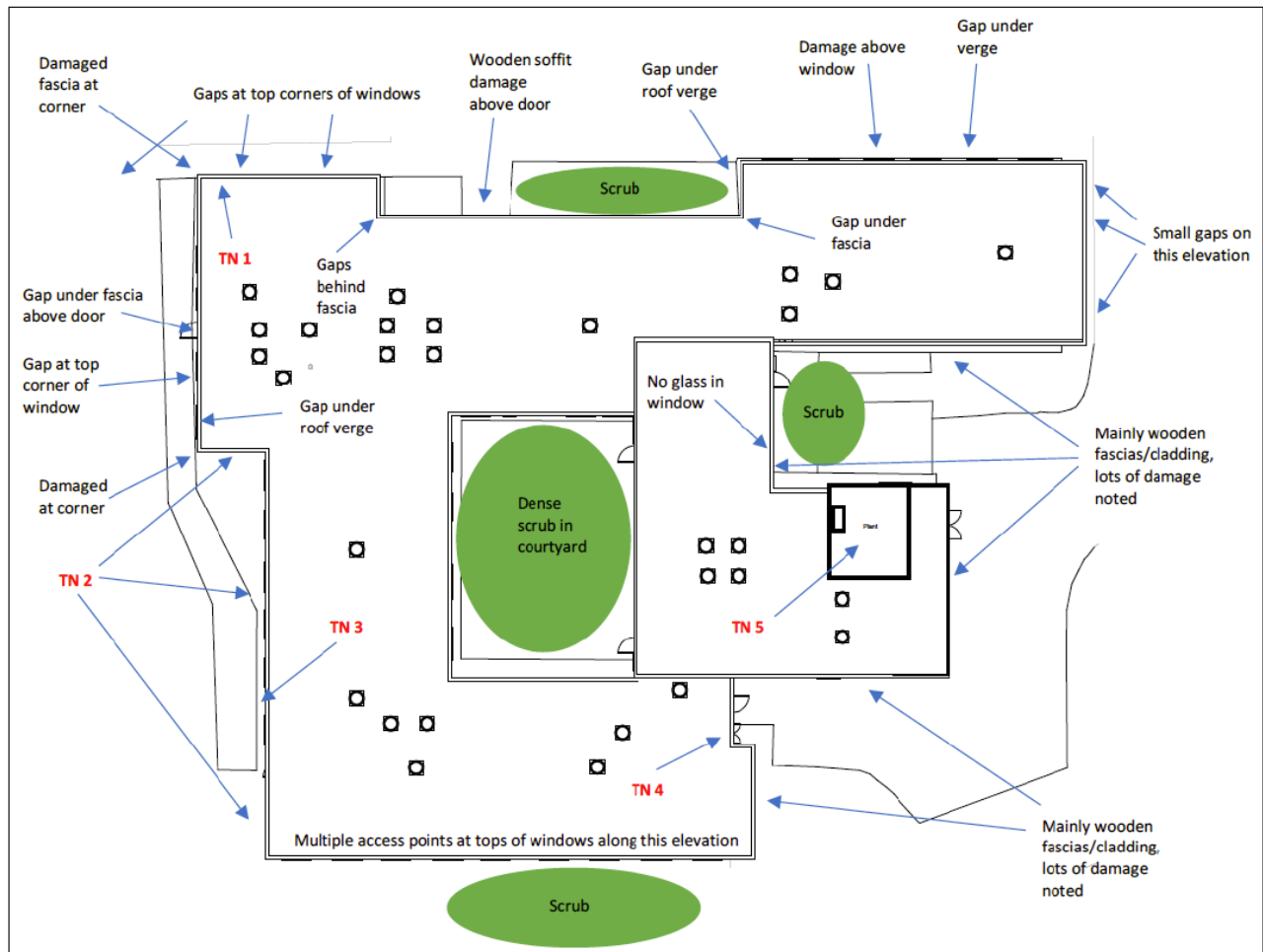
2.2.1 The property is not within, adjacent to, nor within 2km of any sites which are designated for their ecological significance. In addition, it is not within 10km of any sites that are designated for their bat interest. Within 2km, there are 19 areas of Ancient Semi-Natural Woodland (ASNW) and seven Plantations on Ancient Woodland Sites; the closest being an ASNW 40m to the south. There are no Wildlife Trust Sites, Local or National Nature Reserves within 2km of the property while details of Sites of Importance for Nature Conservation (SINC) within Neath Port Talbot can only be obtained through an LRC search (see 2.2.2).

2.2.2 The data search conducted by Koru Associates as part of the PRA returned 19 records of bats within 2km of the site, the majority of which are foraging/commuting/acoustic records and located at least 600m from the Site. An unidentified bat roost was recorded approximately 700m from the site in 2004, with no further details provided. Two bat rescue records were also noted, although no details with regards to a possible roost were mentioned. **Species recorded include Common pipistrelle (*Pipistrellus pipistrellus*), Soprano pipistrelle (*P. pygmaeus*), Noctule (*Nyctalus noctula*), Whiskered (*Myotis mystacinus*) and Daubenton's (*M. daubentonii*). The raw data on species and any sites (e.g., SINC) were not available but will be required if an EPS licence submission is to be made.**

2.2.3 An online search found no previous planning applications for the property nor any applications within the postcode for which a Bat Survey Report is known to have been produced.

2.2.4 A Preliminary Roost Assessment was completed by Diana Clark (Koru Associates) on 21st June 2022. This reported that the building is single storey brick built and has a felted flat roof with an additional structure present on the roof of the building, towards the eastern edge, that is covered with uPVC cladding, with several areas of damage noted. The main building is of brick construction with cladding on the top c.1m of the external walls. This is uPVC to the front (north) – and for a short section to the west and east – with wooden boarding to the rear (south) and much of the sides (west and east). The windows are uPVC framed and are nearly all well-sealed and boarded up; however, one or two to the rear have missing/damaged glass. The uPVC cladding is in reasonable condition, although in a number of areas there are gaps around the tops of this, particularly above windows, and gaps underneath. The wooden cladding is in poor condition and there are numerous areas where this is rotten, damaged, lifted away from the walls or just missing completely, exposing the brickwork below – which in many areas to the rear is also damaged. A single suspected bat dropping was noted on one window to the front, directly below a gap in the roof verge above and DNA analysis confirmed that this was from *P. pipistrellus* (see appendix 6). A narrow crack in brickwork, where two sections of wall are poorly joined together, is present on the western elevation. No other signs of bats were noted during the external visual inspection. A storeroom on the south-eastern corner of the building is open externally, and there is a crack to the rear at the

top of the wall with potential access for bats. Figure 4 shows the location of a number of the features mentioned above, alongside detailed target notes describing several in more detail.



Target Notes

TN1. Gap in wood under roof, single dropping on window directly below. Suspect pipistrelle roost.

TN2. Wooden cladding/fascias, multiple gaps between wall and cladding along this whole elevation. Rot damage at top in the corner area too. Some areas of roof damaged repaired with black plastic.

TN3. Wall crack. Potential for roost, including summer/hibernation roost, although west facing. No signs of bats noted during survey.

TN4. Store cupboard, open on the external wall. Gaps along top of wall to the rear.

TN5. Additional structure on roof with uPVC cladding, damaged sections on most sides.

Figure 4: Potential access points and features with target notes as found during the 2022 PRA by Koru Associates (reproduction of Figure 14 in that report)

Internally, the building contains multiple rooms laid out on both sides of a circular corridor, and includes bedrooms, communal areas, kitchens, bathrooms, store cupboards etc. These are all in poor condition, having been subject to theft and vandalism. All windows and doors that face onto the central courtyard were either boarded or bricked up at the time of the survey. Many of the rooms are also very dark, due to the external boarding. No loft void is present, due to flat roof construction, and the internal ceilings comprise suspended ceiling tiles in corridors, and plasterboard in individual rooms. In the corridors, significant damage is present, with pipe work and wiring having been removed by vandals. In some places it was possible to confirm the underside of the roof covering is of OSB construction. No evidence of bats was noted in any of the rooms, cupboards or corridors internally, although it should be noted that due to missing glass in two windows to the rear, it is possible that bats may be able to access the internal areas of the building.

3. Field survey methods and results

3.1 Methods

3.1.1 A Preliminary Roost Assessment (PRA) was undertaken on 5th July 2022 to identify Potential Roost Features (PRF). Details of the equipment used by I&G Ecological Consulting Ltd can be found in appendix 1. The surveys were undertaken by Glyn Lloyd-Jones and Iestyn Evans.

3.1.2 In relation to survey limitations, many of the UK species of bat are crevice dwelling, and bats or signs of bats can be difficult to find within a building. In addition, there may be areas that are inaccessible to the surveyor. Externally, sufficient access was available to enable a thorough survey from ground level while internally access was available to all areas. In addition, two activity surveys were undertaken in good weather conditions to understand how bats may be using the surrounding area. Using the equipment available, all accessible areas were thoroughly surveyed to maximise effectiveness.

3.1.3 As a result of the findings of the PRA, one dusk emergence and one dawn re-entry survey were undertaken. The dusk survey was undertaken on 8th July 2022 and the surveyors were Glyn Lloyd-Jones, Iestyn Evans, Pete Watts, Greg Evans, Sharon Doherty, Bonnie Illingworth, and Mike Jones. Sunset was at 21:32, the survey started at 21:20 and ended at 23:35. The weather was dry throughout the survey with 25% cloud and sunny spells at the start, humidity was around 60%, there was a light northerly wind of 4mph, and the temperature started at 21.7°C and ended at 16.5°C.

3.1.4 The dawn survey was undertaken on 24th July 2022 and the surveyors remained as for the dusk survey. Sunrise was at 05:26, the survey started at 03:25 and ended at 05:30. The weather remained dry throughout the survey but was overcast at the end, humidity was 100%, there was a light southerly wind of 6mph, and the temperature started at 18.4°C and ended at 18.6°C.



3.1.5 Figure 5 shows the position of surveyors during the activity surveys. Each surveyor had a Magenta 5 or an Elekon Batscanner bat detector to assist in identification and detection of bats and their behaviour.



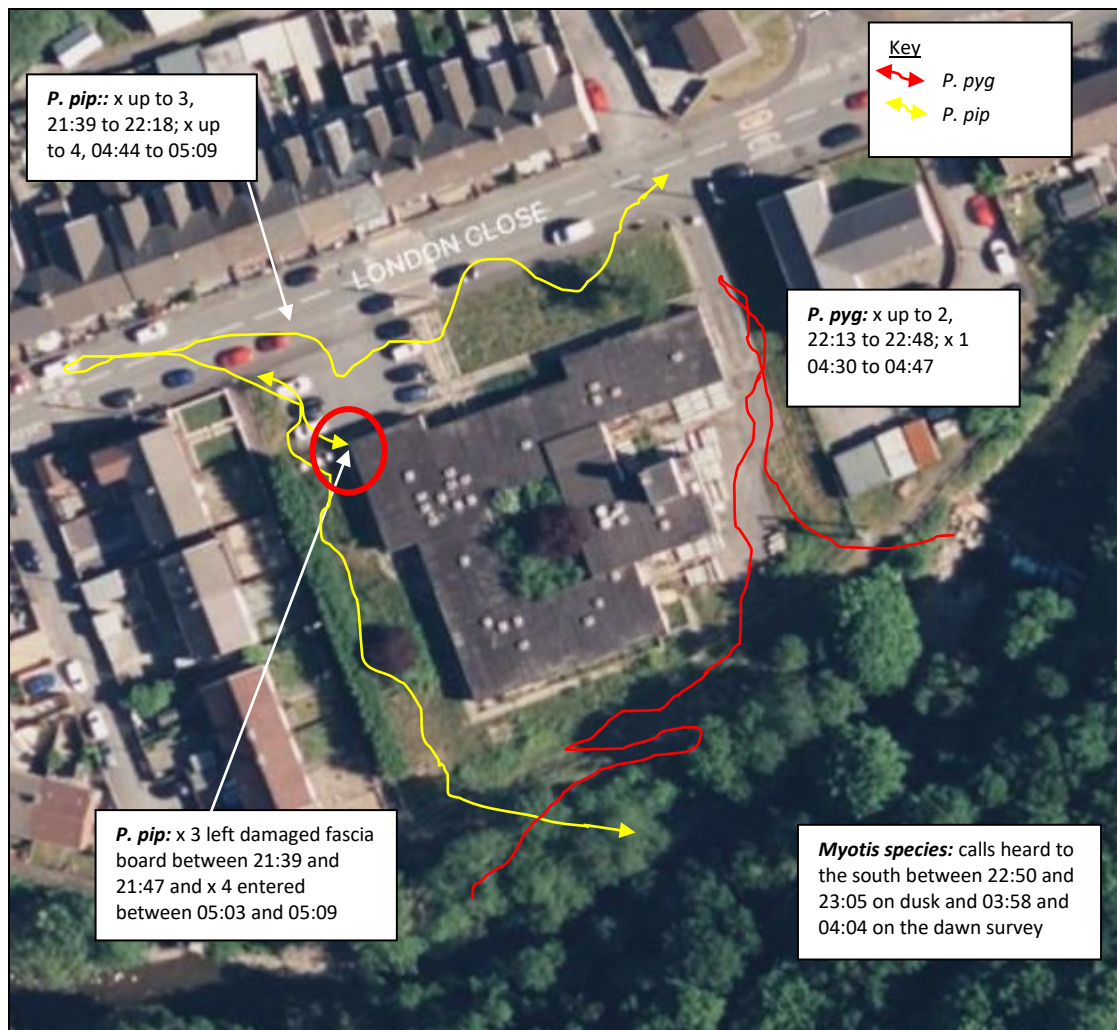
Figure 5: Surveyor positions during the activity surveys.
From Apple© maps

3.2 Survey results

3.2.1 The PRA undertaken by I&G Ecological Consulting Ltd found that the only changes since the previous PRA (only two weeks earlier) were that continued vandalism had led to the sealing off/boarding up of additional areas, but this did not affect the bat potential of the site. As a result of all the findings the property has **confirmed** potential to support roosting bats and bats are **confirmed** as using the features present. Site survey images taken by I&G Ecological Consulting Ltd are included in appendix 7.

3.2.2 Figure 6 shows the flight lines of bats detected and the times they were detected. The species of bats detected during the surveys, and the nature of their activity follows. *The red circle shows where bat use is confirmed.*

Figure 6: Aerial map showing the flight lines of bats detected (from Apple© Maps)



08/07/2022: Sunset was at 21:32, the survey started at 21:20 and ended at 23:35

24/07/2022: Sunrise was at 05:26, the survey started at 03:25 and ended at 05:30

- ***P. pipistrellus*:** On the dusk survey three bats were seen to leave a wall top gap created by a damaged fascia board on the north-western corner of the property, with the earliest emergence being at seven minutes after sunset and the latest at 15 minutes after sunset. Following emergence bats were seen/detected foraging and commuting on site for just under 40 minutes before flying off along the western side towards the river corridor to the south. On the dawn survey bats were detected in the same areas from 40 minutes before sunset with the first bat re-entering the same gap at 23 minutes before sunrise, and the last bat re-entering at 17 minutes before sunrise.
- ***P. pygmaeus*:** No bats were seen to either leave or enter the property but they were detected foraging and commuting on the eastern and southern sides during both surveys. The earliest activity on the dusk survey was 41 minutes after sunset while the latest activity on the dawn survey was 39 minutes before sunrise.
- ***Myotis species*:** No bats were detected on site during either survey but the surveyors positioned along the southern side of the property recorded sporadic calls between 78 and 93 minutes after sunset and 88 and 82 minutes before sunrise.

3.2.3 Flight activity summary: During the activity surveys up to four *P. pipistrellus* were seen to either leave or enter a wall top gap on the north-western corner of the corner, and this species as well as *P. pygmaeus* and *Myotis* species were detected foraging and commuting within the surroundings.

3.2.4 No evidence of nesting birds or owl activity were discovered.

4. Interpretation, conclusions and recommendations

4.1 Interpretation and conclusions

4.1.1 Using the findings of the desk study and field surveys, it is **concluded that the property is located within close proximity to favourable bat habitat but is not within 10km of any site designated for its bat interest.**

4.1.2 Roost Characterisation Assessment: from the evidence gathered it is considered that the damaged soffit on the NW corner of the property is being used as a **summer daytime roost** by *P. pipistrellus* (four confirmed) bats. A summary of the evidence that led to these conclusions follows:

- ***P. pipistrellus*:** There are no sites within 10km that are designated for this species, but there are publicly accessible records within 2km. No live or dead bats were seen during the scoping survey but a single dropping was found on the exterior of the north-west corner which DNA confirmed were from this species. **On the dusk survey three bats were seen to leave a wall top gap created by a damaged fascia board on the north-western corner of the property**, with the earliest emergence being at seven minutes after sunset and the latest at 15 minutes after sunset. Following emergence bats were seen/detected foraging and commuting on site for just under 40 minutes before flying off along the western side towards the river corridor to the south. On the dawn survey bats were detected in the same areas from 40 minutes before sunset with the first bat re-entering the same gap at 23 minutes before sunrise, and the last bat re-entering at 17 minutes before sunrise. The presence of droppings along with the presence of bats during the activity surveys confirm that bats of this species are using the property. Due to the small number of droppings, lack of feeding signs, and low numbers of bats seen to leave/enter it is considered unlikely that it is a maternity roost (with both surveys being within the main maternity season), and it is concluded that the property is being used as a **day roost for a small number (four confirmed) of bats of this species.**
- ***P. pygmaeus*:** There is one site within 10km that is designated for this species, and there are publicly accessible records within 2km. No bats or their signs were found and no bats were seen to either leave or enter the property, but they were detected foraging and commuting on the eastern and southern sides during both surveys. The earliest activity on the dusk survey was 41 minutes after sunset while the latest activity on the dawn survey was 39 minutes before sunrise. The evidence as a whole therefore suggests that this species is using the surroundings for foraging and commuting, with the focus of activity being the river corridor to the south.
- ***Myotis* species:** There are no sites within 10km designated for this species, but there are publicly accessible records for *M. mystacinus* and *M. daubentonii* within 2km. No bats or their signs were found either externally or internally and no bats were seen to either leave or enter any part of the property. In addition, while no bats were detected on site during either survey, the surveyors positioned along the southern side of the property recorded sporadic calls between 78 and 93 minutes after sunset and 88 and 82 minutes before sunrise. The evidence as a whole therefore suggests that this species is using the surroundings for foraging and commuting, with the focus of activity being the river corridor to the south.

4.1.3 Roost significance: In relation to roost status and significance, the data included in the figure on p. 39 of the Bat Mitigation guidelines (Mitchell-Jones, A.J., 2004a) was used, and focus was placed upon the need for appropriate – but proportionate – mitigation.

- ***P. pipistrellus*** are considered to be a common bat species and are a species of Least Concern on the IUCN Red List of Threatened species but they are a UK priority bat species. Nationally (Wales only), they are a priority species and have been the subject of a Species Action Plan under the UK Biodiversity Action Plan, the populations are considered to be stable and their conservation status is favourable. As a result, the roost at the site is considered to be of low conservation significance.

See appendix 8 which shows roost status and resulting mitigation/compensation requirements. Using this it can be considered that the proposed mitigation is considered suitable as it creates wall top roost spaces at the property.

4.1.4 In relation to use of the property at other times of the year by those species considered to be roosting:

- In relation to ***P. pipistrellus***, they will use small cracks and crevices within cavity walls in a church roof or bell tower, a quiet place in a large house, a hollow tree, or rock crevice where small groups will form clusters. The species has a relatively flexible winter hibernation strategy and will fly when the weather is mild. They will also use bat boxes to hibernate. It is therefore considered that there is **very low** potential for this bat species to be hibernating at the **property**.

In addition, the measures to be put in place (e.g., inspection prior to works commencing and timing to avoid sub-optimal weather conditions such as when bats may be in deep torpor) will ensure that any risk is minimised.

4.1.5 *Crevice-dwelling bats* such as ***P. pipistrellus*** can crawl into roosts via small gaps in the range of 15–20mm high by 20–50mm wide. The roost area should maintain a crevice of this approximate size gap that the bats can roost between. The area this roost provision covers can be small but about 1m² would be useful for summer nursery roosts. The height of entry can be from 2–7m. All bats and their roosts, irrespective of the number of bats, species, and whether bats are present or not, receive protection from the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended). As a result, in the absence of mitigation, the proposed works could result in the damage/destruction of a bat roost for one species of bat as well as the potential disturbance, killing and/or injury of bats. Destruction of a roost is an absolute offence under the above legislation and **therefore, an EPS derogation licence must be obtained from Natural Resources Wales for the works to be legally undertaken at the property.**

4.1.6 Enforceable conditions of the EPS licence will require the maintenance of mitigation measures already incorporated to minimise the risk of disturbance, killing or injury of bats (i.e. timing and methods of demolition works), and compensation measures to ensure there is continued bat roosting provision at the site and that the site is enhanced for protected species. These are outlined in section 4.2 and detailed in 5.1.

4.1.7 There are not considered to be any survey limitations which would impact upon the findings and recommendations of this report.

4.2 Recommendations

4.2.1 As noted in section 4.1 above, all bats and their roosts are protected under the Conservation of Habitats and Species Regulations 2017, and the Wildlife and Countryside Act 1981 (as amended). An EPS licence must be obtained for the works to legally proceed.

4.2.2 *P. pipistrellus* are species of principal importance in Wales. With regards to such species (Biodiversity Action Plan (BAP) species) in Wales, under section 42 of the Natural Environment and Rural Communities Act 2006, and sections 6 and 7 of The Environment (Wales) Act 2016 – the LPA must ‘have regard’ to the conservation of their biodiversity in considering the planning application. In the Environment (Wales) Act 2016 Section 6 *places a duty upon Local Authorities to enhance biodiversity and the resilience of ecosystems* and 7 to *Creating local biodiversity lists and a duty to take steps to maintain and enhance biodiversity*.

4.2.3 Measures will be required to help meet obligations within The Environment (Wales) Act 2016, Future Wales 2040, and Planning Policy Wales 11th Edition (February 2021); as well as compensate for the loss of roosting opportunity. Excellent long-term enhancement can be delivered, see appendix 9 for proposals and examples. Mitigation measures (against the risk of disturbing, killing, or injuring bats during the works), and compensation measures (to provide continued bat roosting provision at the site) will need to be implemented as conditions of the licence. The recommendations are as follows:

- ✦ **Recommendation 1 (Enhancement):** Prior to works commencing, x 2 Harlech Woodstone (or similar) bat boxes and x 1 Improved Maternity (or similar) bat box to be affixed to mature trees within the curtilage of the property (along the southern boundary) . See [Putting up your box - Bat Boxes - Bat Conservation Trust \(bats.org.uk\)](#) for siting advice.
- ✦ **Recommendation 2 (Mitigation):** 2 x Intra-soffit bat boxes to be installed on each elevation of the property (8 x in total). The final plans to be submitted must include their locations as well as the position and type of any proposed exterior lighting (no lights to shine on any access points).
- ✦ **Recommendation 3 (Broadscale Enhancement):** As far as possible, all mature hedgerows and trees on site are to be retained, Buddleia eradicated (and any lost hedgerows etc are to be replaced with native species) to maintain wider ecological benefit and connectivity to the surrounding hedgerows, woodland and rivers. In addition, all new planting is to be of native species that offer benefit to wildlife. See [17 bats & hedges leaflet.pdf \(hedgelink.org.uk\)](#) and [developers-1.pdf \(britishhedgehogs.org.uk\)](#).

Plans for the bat and bird box provision within the site curtilage as well as the provision on the property itself 3 are to be submitted.

4.2.4 An outline Method Statement has been included (see 5.1) to enable the LPA to have ‘*regard to the requirements of the Habitats Directive... in the exercise of their functions in considering the planning application*’. A full Method Statement will be prepared as part of an EPS licence application to be submitted to Natural Resources Wales.

4.2.5 All wild birds and their nests (when in use), eggs and dependent young are afforded protection under the Wildlife and Countryside Act 1981 (as amended), nesting season is generally from 1st March until 31st July and works cannot be conducted whilst birds are nesting. No evidence of nesting birds or Barn owl was found but any nests subsequently found must be confirmed vacant before work commences. Recommendations are as follows:

- ✦ **Recommendation 4 (Enhancement):** Prior to works commencing, x 2 open-fronted and x 2 small-holed bird boxes to be affixed to mature trees within the curtilage of the property. See [Where To Put A Bird Box | Nestboxes - The RSPB](#)

4.2.6 This ecological **report will remain valid** for a period of 18–24 months from the date of the last survey **i.e. until the period 24/01/2024 to 24/07/2024 (CIEEM, 2019)**. A further scoping survey may be required to update the site information if planning is not obtained or works do not commence within that period, especially if the property to be developed has fallen into disrepair.

5. Outline method statement for planning and mitigation/ compensation measures

5.1 Outline method statement for planning and mitigation/compensation measures

5.1.1 As there are bats present at the property, an outline method statement for both the LPA and the licence application is required; this will inform the ecologist undertaking the licensing work. If bats are discovered during any stage then work must stop and NRW called for advice/guidance.

5.1.2 This Outline Mitigation Strategy will form the basis of the EPS Method Statement to be submitted to Natural Resources Wales following the receipt of planning permission. It aims to address the timing and methods of activities; provision of new bat roosts and site enhancement; impact on, and maintenance of, existing roosts; lighting and habitat provisions; and monitoring.

Timing and methods of activity

5.1.3 All contractors will receive a toolbox talk prior to the commencement of works to outline the status of the building, conditions of the licence and Method Statement. High risk works will be directly supervised by a licensed bat ecologist.

5.1.4 All roof/roofware works will be undertaken carefully by hand and in the presence of a licensed bat ecologist as will the blocking up of any gaps not to be retained. Whilst bats were only seen to leave a wall top gap to the north-west corner of the property, it is always possible that they may be using other areas of either building.

5.1.5 It is not anticipated that any bats will need to be excluded or captured during the works. However, measures will be included in the Method Statement to be produced for the EPS licence and mitigation and enhancement will be in place prior to any works commencing. See table 1 on the following page for a provisional timetable of works.

Maintaining bat roost provision

5.1.6 As per **Recommendation 1 (Enhancement)**, Prior to works commencing, x 2 Harlech Woodstone (or similar) bat boxes and x 1 Improved Maternity (or similar) bat box to be affixed to mature trees within the curtilage of the property (along the southern boundary). See [Putting up your box - Bat Boxes - Bat Conservation Trust \(bats.org.uk\)](https://bats.org.uk/putting-up-your-box-bat-boxes-bat-conservation-trust) for siting advice. In addition, as per **Recommendation 2 (Mitigation)**, 2 x Intra-soffit bat boxes to be installed on each elevation of the property (8 x in total). The final plans to be submitted must include their locations as well as the position and type of any proposed exterior lighting (no lights to shine on any access points). The final plans to be submitted must include the location of all bat and bird measures as well as the position and type of any proposed exterior lighting (no lights to shine on any access points).

5.1.7 Any new timbers/timber products must be checked to ensure that chemicals toxic to bats are not used (TIN 092) and the only lining membrane for areas that bats may encounter is 1F traditional bitumen membrane. Research has demonstrated that **none** of the modern breathable membranes currently on the market are safe to use where bat roost mitigation is provided.

Lighting and Habitat provisions

5.1.8 **Lighting plans** for the property are not currently known but will be included on the final plans to be submitted. However, there will be no lighting shining on any of the bat access points. Should

any lighting be proposed, it must be ensured that exterior lighting is kept to a minimum to prevent any adverse impacts on bats. In particular, external lighting around the recommended mitigation/enhancement must be carefully designed to avoid any impact upon bats (Institution of Lighting Professionals, 2018). ***Any external lighting scheme proposed for this application will need to demonstrate compliance with the lighting principles outlined within the guidance referenced above.***

Table 1: Provisional timetable of works

Stage	Dates	Works
0	From receipt of planning permission to receipt of EPS licence	• NO works to the property near the NW side. This includes works to the site subject to development which may impact on these areas. • <i>Recommendation 1 (Enhancement):</i> Prior to works commencing, x 2 Harlech Woodstone (or similar) bat boxes and x 1 Improved Maternity (or similar) bat box to be affixed to mature trees within the curtilage of the property (along the southern boundary) . See Putting up your box - Bat Boxes - Bat Conservation Trust (bats.org.uk) for siting advice. • <i>Recommendation 3 (Broadscale Enhancement):</i> As far as possible, all mature hedgerows and trees on site are to be retained (and any lost are to be replaced with native species) to maintain wider ecological benefit and connectivity to the surrounding hedgerows, woodland and rivers. In addition, all new planting is to be of native species that offer benefit to wildlife. See 17 bats & hedges leaflet.pdf (hedgelink.org.uk) and developers-1.pdf (britishhedgehogs.org.uk). • <i>Recommendation 4 (Enhancement):</i> Prior to works commencing, x 2 open-fronted and x 2 small-holed bird boxes to be affixed to mature trees within the curtilage of the property. See Where To Put A Bird Box Nestboxes - The RSPB <i>The above are all to be inspected by the named ecologist on the EPS (Bats) Licence prior to any licensable works commencing.</i>
1	From receipt of EPS licence	• Toolbox talks. • If works are to commence within the active bat season then a dawn activity/updated scoping survey will be undertaken immediately prior to works commencing. • Ecologist to be on site to check when all works that will impact upon the roosts is taking place i.e., works to the roof and roofware as well as the blocking up of any access points. • <i>Recommendation 2 (Mitigation):</i> 2 x Intra-soffit bat boxes to be installed on each elevation of the property (8 x in total). The final plans to be submitted must include their locations as well as the position and type of any proposed exterior lighting (<i>no light to spill upon any access points</i>).
2	Completion of all works	• Monitoring check within 4 weeks of completion of all works to confirm bat mitigation and enhancement implemented correctly (roost and bat box inspection). • Reporting to NRW/Welsh Government within 4 weeks of completion of works by the named ecologist.

5.1.9 Where **external lighting** is necessary, this should utilise a number of key design points to limit any impact, as follows: Low level lighting pointed towards the ground; LED bulbs to be used of 2700 Kelvin (*p.18 of the lighting guidelines referenced above*) and below (warm white light and not daylight); use of light shields and hoods to direct the light downwards and prevent vertical and

horizontal light spill; and use of passive infrared (PIR) motion sensors on timers to ensure lights only come on when necessary.

5.1.10 Habitat. There are no known plans to significantly alter the habitat at the property. Measures to support House sparrow and House martin could also be provided as they are a UK BAP species. Suitable designs and measurements may be found within the publication '*Biodiversity for low and zero carbon buildings – a technical guide for new build*' (Williams, 2010). **Recommendation 3 (Broadscale Enhancement)** states that as far as possible all mature hedgerows and trees on site are to be retained (and any lost are to be replaced with native species) to maintain wider ecological benefit and connectivity to the surrounding hedgerows, woodland and rivers. In addition, all new planting is to be of native species that offer benefit to wildlife. See [17 bats & hedges leaflet.pdf \(hedgelink.org.uk\)](#) and [developers-1.pdf \(britishhedgehogs.org.uk\)](#).

5.1.11 Monitoring. In line with mitigation guidelines for medium-low conservation significance roosts, there are minimal timing constraints or monitoring requirements. Therefore, in addition to inspection of the bat roost, bat boxes, and the property prior to works commencing, a monitoring check will be undertaken within four weeks of completion of all works to confirm bat mitigation and enhancement have been implemented correctly (roost and bat box inspection). Reporting to NRW will be completed within 4 weeks of works by the named ecologist.

5.1.12 Maintenance. The installation of bat mitigation and enhancement measures are to be completed prior to/during the development, and the patency and viability of the roosts will be examined and reported on as required. These will all be checked by the licensed ecologist as part of the agreed monitoring scheme within the EPS (Bats) Method Statement to be prepared as part of the licence application. Post development and monitoring, the bat measures will be retained and maintained by the owner, along with the surrounding vegetation. If ownership changes then the requirement to maintain any mitigation/enhancement measures is to be included in the relevant legal documents. The bat boxes are self-maintaining and do not require any management but are to be replaced if damaged, after discussion with a licensed bat ecologist/NRW.

Appendix 1: An introduction to bat surveys

A note on bat surveys

- ✦ All bats and their roosts, irrespective of the number of bats, species, and whether bats are present or not, are fully protected by the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended). Bats are the only mammal capable of true flight. They are notoriously difficult to survey for as they cannot be heard unaided and are difficult to see due to their nocturnal behaviour. They are also small and can live in the smallest of crevices, so may often be overlooked because of their size.
- ✦ Wales has relatively high numbers of most of the species that occur in Britain; the rural landscape with its abundance of wooded areas, river valleys and hedgerows means that buildings are commonly used as roosting sites by bats. This is particularly the case for older buildings (typically with stone walls and slate roofs) that are located close to good feeding areas, on the edge of settlements, or that are rarely disturbed.
- ✦ Bats may also change their resting and feeding places regularly throughout the year, depending on the time of year and weather conditions. Thus, other signs of use are also looked for such as their droppings or signs of feeding.
- ✦ To gain an understanding as to how bats are using a building, a survey may also involve dusk and/or dawn observations which may need to be repeated at different times throughout the year.
- ✦ The search buffers implemented as part of the survey are considered to more than adequately cover the predicted zone of influence of the proposed development. The reasons for the site designations have also been considered when discussing potential impacts on the biodiversity of these sites. If the sites are designated for their bat or bird interest, this will be mentioned.
- ✦ Survey methodologies are implemented as appropriate, based on the surveyors' assessment of the site features and with particular reference to the advice in Bat Surveys for Professional Ecologists: Good practice guidelines, 3rd edition (Collins, J. (Ed.), 2016) & The Bat Workers' Manual, 3rd edition. (Mitchell-Jones, A.J., & McLeish, A.P. (Ed.), 2004). Reports are written with reference to the CIEEM (2015) Guidelines as well as BS42020.
- ✦ A PRA visit (scoping survey) is used to identify all potential access and egress points for bats in the building, and to identify crevices and possible dwelling places. Internal and external inspections are aided using powerful binoculars and close-focussing monoculars, as well as ladders, high powered Cree flashlights and head-torches. We also have thermal imaging cameras and night vision devices at our disposal as well as full spectrum photographic cameras which can photograph a bat in complete darkness with an infrared flash. Exploitable crevices are also endoscoped with either a hand-held digital scope or a smart phone compatible scope. Digital thermometers and hygrometers are also at our disposal.
- ✦ The survey consists of a visual inspection of the interior and exterior of the building for evidence of bat use, including droppings, smells, feeding remains, staining, and scratching around roost exit and entry points. Potential features conducive (but not necessarily predictive) to bat presence include voids in the stonework, wooden beams, any associated rot holes, gaps behind soffits or within walls and fascia boards, raised tiles, any raised render, and any sufficiently large crevices. The general condition of the building is examined, including the structure of the roof, condition of walls, the potential for disturbance, and the position of the building in relation to connectivity to good bat habitat.
- ✦ If positive bat signs are discovered, or the construction style suggests cryptic bats *may* be present, a passive recorder is deployed within the space of the building surveyed. These commonly

record all bats from within and to the exterior of a building as they have extremely sensitive microphones so clusters of calls or high frequency of calls over short periods that are repeated (not just a vocal (Chatty) bat passing the microphone once on a foraging /socialising expedition) may indicate a presence within the building. Supporting evidence is then needed to make a decision, such as bats seen during surveys, droppings and feeding signs as well as building suitability for a given species. For example, we have had clear sonograms for Serotine bats (*Eptesicus serotinus*) from a loft space deployed recorder where no gaps existed anywhere and no droppings from serotines were present. These large bats must have been present elsewhere on site or use the site for foraging.

✦ The outcomes have been used to specify whether further surveys are required, or to establish the need for, and extent of, any mitigation or compensation measures required as part of the proposed works.

✦ If positive signs of bat activity are found then it will be necessary to assess whether a licence is needed at all (damage and disturbance to the roost and harm to bats can be avoided through thoughtful and planned working practices), or whether a licence is recommended as damage, disturbance or harm are unlikely to be avoided.

Appendix 2: Overview of the legislation

- ✧ All bats and their roosts, irrespective of the number of bats, species, and whether bats are present or not, are fully protected by the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).
- ✧ There is a risk that works could result in the damage or destruction of a bat roost or roosts, the disturbance of bats, and the potential killing or injury of bats, sufficient survey effort (where indicated) helps to minimise this risk.
- ✧ All wild birds, their nests, eggs, and dependent young are afforded protection under the Wildlife and Countryside Act 1981 (as amended), with the bird nesting season generally from 1st March until 31st August.
- ✧ Technical Advice Note (TAN) 5 (Welsh Government, 2009) specifically provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. The TAN provides advice for local planning authorities on the key principles of positive planning for nature conservation; nature conservation and Local Development Plans; nature conservation in development management procedures; development affecting protected internationally and nationally designated sites and habitats; and development affecting protected and priority habitats and species. Under Section 2.4 within the TAN 5, 'when deciding planning applications that may affect nature conservation local planning authorities should':
 - Pay particular attention to the principles of sustainable development, including respect for environmental limits, applying the precautionary principle, using scientific knowledge to aid decision making and taking account of the full range of costs and benefits in a long-term perspective;
 - Contribute to the protection and improvement of the environment, so as to improve the quality of life and protect local and global ecosystems, seeking to avoid irreversible harmful effects on the natural environment;
 - Promote the conservation and enhancement of statutorily designated areas and undeveloped coast;
 - Ensure that appropriate weight is attached to designated sites of international, national and local importance;
 - Protect wildlife and natural features in the wider environment, with appropriate weight attached to priority habitats and species in Biodiversity Action Plans;
 - Ensure that all material considerations are taken into account, and decisions are informed by adequate information about the potential effects of development on nature conservation;
 - Ensure that the range and population of protected species is sustained; and
 - Adopt a step-wise approach to avoid harm to nature conservation, minimise unavoidable harm by mitigation measures, offset residual harm by compensation measures and look for new opportunities to enhance nature conservation; where there may be significant harmful effects local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered.

- ✧ Bats are listed under Schedule 5 and 6 of the Wildlife and Countryside Act 1981 and protected under sections 9 and 11 (as amended by the Countryside and Rights of Way (CROW) Act 2000).
- ✧ The Environmental Damage (Prevention & Remediation) Regulations 2009 – A protected species and its habitat are protected under this legislation as well as others.
- ✧ The Conservation of Habitats and Species Regulations 2017 – (regulation 43) fully protects all bats and their roosts, making it **an offence to deliberately kill, injure or capture** (take) bats; *to deliberately disturb bats; damage or destroy bat roosts* or resting places (this is considered an ‘Absolute Offence’ as damage and destruction may detrimentally effect the Continuous Ecological Functionality of that roost/resting place); possess or transport a bat or any part of a bat; sell (or offer for sale) or exchange bats or parts of bats.
- ✧ Bats are also protected by: Appendix III of the Bern Convention; Appendix II of the Bonn Convention (including the Convention's Agreement on the conservation of Bats in Europe); Natural Environment and Rural Communities Act 2006 (in England); and The Environment (Wales) Act 2016: specifically, Sections 6 (*places a duty upon Local Authorities to enhance biodiversity and the **resilience of ecosystems***) and 7 (*Creating local biodiversity lists and a duty to take steps to **maintain and enhance biodiversity***).
- ✧ For any offence to occur a derogation or **European Protected Species (EPS) licence** must be gained from Natural Resources Wales. To gain an EPS Licence, they must be satisfied that;
 - i. granting the licence would not be detrimental to the Favourable Conservation Status (FCS) of the populations of species concerned within its natural range;
 - ii. the derogation (licence) is in the public interest of Health and Safety or for other reasons of over-riding public interest, including those of a socio-economic nature or will have a benefit of primary importance to the environment; and
 - iii. there is no satisfactory alternative to the derogation which would allow the described development to proceed but which would avoid or reduce, the need for any adverse impact to the species.
- ✧ All bats are listed in Annex IV of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and are therefore designated as *European Protected Species*. These *protected* species are afforded enhanced protection and more stringent licensing provisions than those protected by the Wildlife and Countryside Act (WACA) alone. There are also biodiversity obligations to be met within the Well-being of Future Generations (Wales) Act 2015 [WFG] and the seven well-being goals which include an emphasis on socio-economic resilience as well as protecting culture, heritage and the Welsh language. One Act does not take precedence over the other.
- ✧ Planning Policy Wales (11th Ed.) also emphasises the importance of ensuring – wherever possible – a net gain to biodiversity from any development. Future Wales (The National Plan 2040) highlights in the 10th of 11 outcomes that the aim is for a “Wales where people live...in places with biodiverse, resilient and connected ecosystems”. Highlighting the importance for creating and enhancing resilient and diverse eco-systems.
- ✧ Future Wales – the National Plan 2040 states the following:
 - Outcome 10 focuses on places with biodiverse, resilient and connected ecosystems. As such, the variety of flora and fauna found across Wales make Wales a special place. Biodiversity underpins the functioning of healthy, resilient ecosystems and the multiple benefits they provide. While biodiversity has declined in recent decades, we will reverse these losses and enhance the resilience of ecosystems. The planning system will ensure

wildlife is able to thrive in healthy, diverse habitats, both in urban and rural areas, recognising and valuing the multiple benefits to people and nature.

○ Policy 9 concerns Resilient Ecological Networks and Green Infrastructure. To ensure the enhancement of biodiversity, the resilience of ecosystems and the provision of green infrastructure, the Welsh Government will work with key partners to:

- identify areas which should be safeguarded and created as ecological networks for their importance for adaptation to climate change, for habitat protection, restoration or creation, to protect species, or which provide key ecosystems services, to ensure they are not unduly compromised by future development; and
- identify opportunities where existing and potential green infrastructure could be maximised as part of placemaking, requiring the use of nature-based solutions as a key mechanism for securing sustainable growth, ecological connectivity, social equality and well-being.

Planning authorities should include these areas and/or opportunities in their development plan strategies and policies in order to promote and safeguard the functions and opportunities they provide. In all cases, action towards securing the maintenance and enhancement of biodiversity (to provide a net benefit), the resilience of ecosystems and green infrastructure assets must be demonstrated as part of development proposals through innovative, nature-based approaches to site planning and the design of the built environment.

Appendix 3: Types of bat roost and survey timings

As the mitigation guidelines state: The presence of a significant (important) bat roost... can normally be determined on a single visit at any time of year; providing that the entire structure is accessible and that any signs of bat activity have not been removed by others. The table below shows the applicability of survey methods. The table has been reproduced from Bat Mitigation Guidelines (table 5.2) (2004).

Season	Roost type	Inspection	Bat detectors and emergence counts
Spring (Mar – May)	Building	Suitable (signs, perhaps bats)	Limited, weather dependent
	Trees	Difficult (best for signs before leaves appear)	Very limited, weather dependent
	Underground	Suitable (signs only)	Static detectors may be useful
Summer (June – August)	Building	Suitable (signs and bats)	Suitable
	Trees	Difficult	Limited: use sunrise survey
	Underground	Suitable (signs only)	Rarely useful
Autumn (September – November)	Building	Suitable (signs and bats)	Limited, weather dependent
	Trees	Difficult	Rather limited, weather dependent; use sunrise survey?
	Underground	Suitable (signs, perhaps bats)	Static detectors may be useful
Winter (December – February)	Building	Suitable (signs, perhaps bats)	Rarely useful
	Trees	Difficult (best for signs after leaves have gone)	Rarely useful
	Underground	Suitable (signs and bats)	Static detectors may be useful

The table below shows the recommended survey timings and is reproduced from the Good Practice Guidelines (table 7.1) (3rd Edition, 2016). This is for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September ^a with at least one of the surveys between May and August ^b	May to September ^a with at least two of the surveys between May and August ^b

^a September surveys are both weather and location dependent. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on 31 August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.

The table below shows the recommended minimum number of surveys to be carried out according to roost potential. It is reproduced from the Good Practice Guidelines (table 7.3) (3rd Edition, 2016).

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

^aStructures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (as noted in section 5.2.9 of the guidelines). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see table 7.1 above) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Roosts required by bats

Hibernation sites (hibernacula). Sheltered areas with relatively stable winter temperatures.

Underground cavities, caves, mines, cellars, hollow trees and cavities and crevices in buildings or similar structures are examples.

Nursery roosts (maternity roosts). Places usually warm, where adult females of a colony gather to give birth and rear their young. These are often traditional sites with a history of such use and include roof voids, walls, soffit boxes, hollows and cracks/splits in trees and cavities in bridges and similar structures.

Night roosts/feeding perches. Places where bats may gather at night away from the day roost after initial feeding. These places are often quite exposed and may not be suitable for day roosting. They are often recognisable by deposits of droppings and insect remains.

Intermediate/dispersal roosts. Sites where small numbers of bats may gather after hibernation before taking up residence in the nursery roost. Bats may return to these sites after dispersal from the nursery roost and before entering hibernation.

Mating/male roosts. Places that an individual male may defend from other males and to which he will attempt to lure females. These will include small holes/cavities in trees, stonework, caves, mines and buildings.

Access, size of roost space and structure

- *Crevise-dwelling bats* (such as Soprano pipistrelles) can crawl into roosts via small gaps in the range of 15–20mm high by 20–50mm wide. The roost area should maintain a crevice of this approximate size gap that the bats can roost between. The area this roost provision covers can be small but about 1m² would be useful for summer nursery roosts. The height of entry can be from 2–7m.

- *Roof-void dwelling bats* require similar dimensions to access the roost but typically need timber joists or beams on which to roost. The height of entry can be from 2–7m.

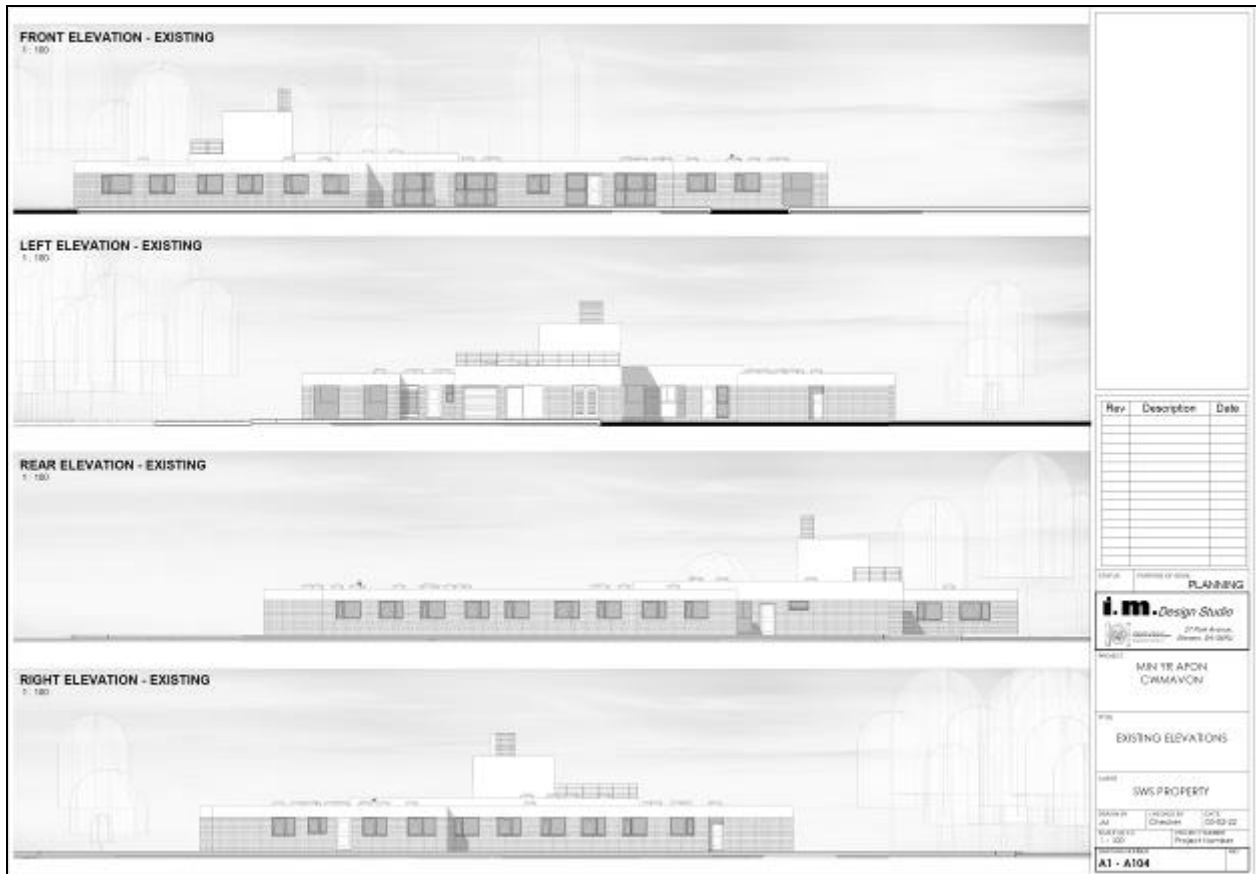
- *Bats needing a flying area* require the same access dimension as mentioned above, 15–20mm (h) x 20–50mm (w) situated over 2m in height. The roosting area should not be trussed, to allow flight, and should ideally (wherever possible) be of similar dimensions to the roost being replaced.

- *Horseshoe bats* need a larger access so that they can fly (instead of crawl) directly into the roost. Lesser horseshoe bats need an access of 300mm (w) x 200mm (h), while greater horseshoe bats need 400mm (w) x 300mm (h). As above, the roosting area should not be trussed, to allow flight, and should again (where possible) be of similar dimensions to the roost being replaced.

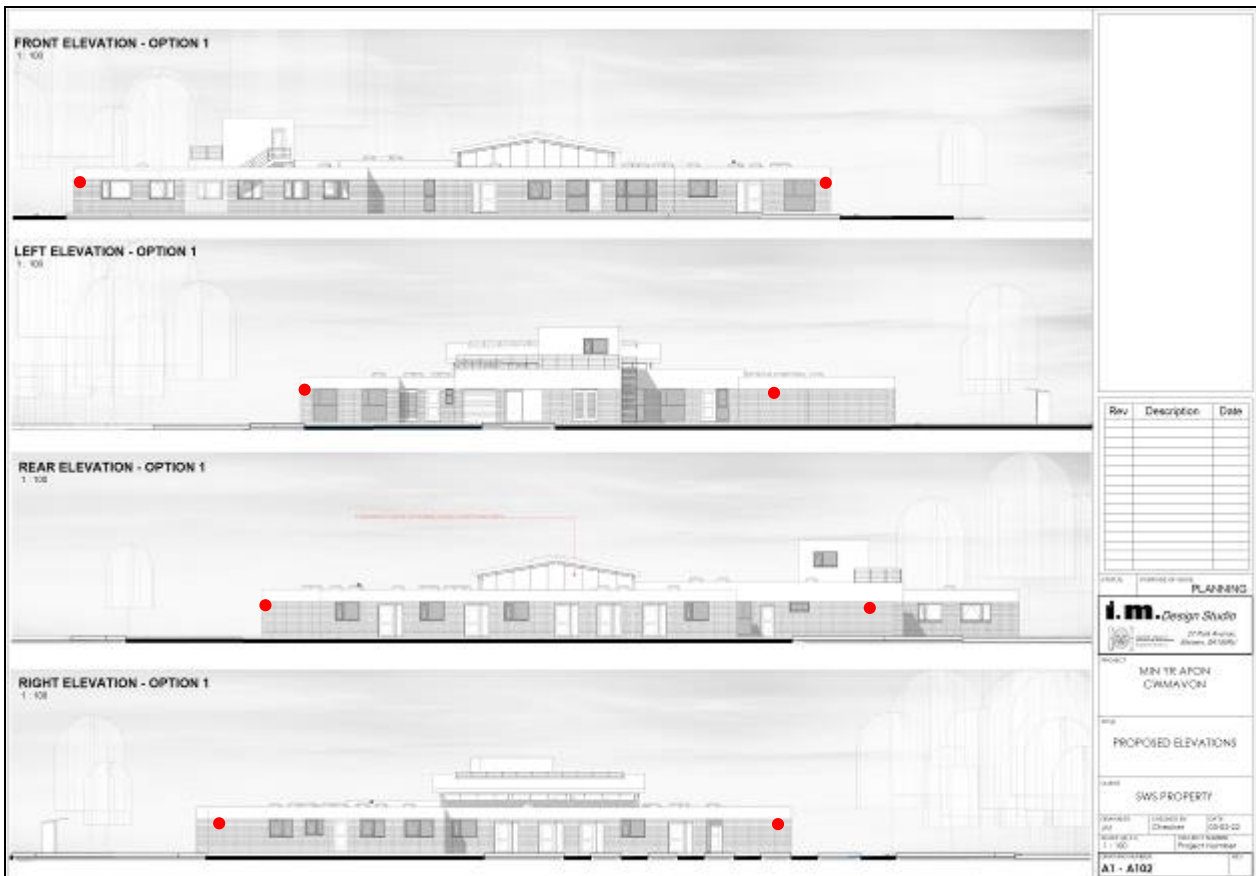
Appendix 4: List of surveyors

Surveyor	Licence	Experience/background
Mr Glyn Lloyd-Jones	Bats	<i>I&G have held bat licences and been operating for more than a decade</i> and in that time, Glyn has gained significant experience in many survey skills and has assisted/worked with many other licensed bat surveyors as well as local bat groups over the past 10 years. He possesses both a Bachelor's (with honours) and Master's degree in the biological sciences and is a Chartered Biologist & member of the Royal Society of Biology. He has worked for EAW, NRW and CCW for over a decade and has gained significant experience of working for regulators and conservation bodies. He also holds a Class 2 bat licence in England and has undertaken many badger, tree and herpetofaunal surveys. Natural Resources Wales Licence number S091520/1. I&G were proud to be shortlisted for a BCT roost award in 2021.
Mr Iestyn Evans	Bats	Iestyn has extensive experience in conservation, habitat improvement and management and has also worked with and assisted other licensed bat workers for many years. He has also helped with local bat group surveys and assisted in data gathering for the Beacon for Bats project undertaken by the Vincent Wildlife Trust. Iestyn has also assisted the Glamorgan Bat Group and will also help supervise and mentor (if needed) members of the newly incarnated Carmarthenshire Bat Group. Natural Resources Wales Licence number S090746/1.
Miss Ceri Daugherty	Bats	Ceri worked at Team Leader level within the SNCO for Wales for many years, dealing with customers and negotiating with landowners. She also has practical conservation management experience as both a Countryside Ranger and a conservation volunteer. She possesses a Master's degree in Environmental Impact Assessment and a Bachelor's degree (with honours) in the natural sciences. She is a member of the Carmarthenshire Bat Group. Natural Resources Wales Licence number S089483/1.
Mr Pete Watts	Trainee	Peter provides survey support with his keen eye for detail and vigilance. He has accompanied I&G Ecological Consulting Ltd on many surveys and is becoming a valuable and experienced surveyor.
Mr Greg Evans	Trainee	Greg attends dusk and dawn surveys to provide extra monitoring for possible entry and exit points for bats. He is currently building his experience in this area and is a keen amateur natural historian with an enthusiasm and affinity for bats.
Mr Mike Jones	Assistant	Whenever we need extra assistance in observing and recording bat activity on buildings, Mike provides an excellent and reliable service
Ms Sharon Doherty	Assistant	Whenever we need extra assistance in observing and recording bat activity on buildings, Sharon provides an excellent and reliable service.
Mr Lewis Jones	Assistant	A Graduate with a background in the biological sciences with an aptitude and passion for ecology. Lewis has undertaken courses in herpetology and phase 1 surveys and has a hunger to learn. With a fondness for bats and owls he's also keen to develop his survey skills in this area.
Ms Bonnie Illingworth	Assistant	Bonnie has been a member of the Kent Bat Group for a number of years and has undergone formal training in leading Bat Walks by Shirley Thompson, who set up The Young Batworkers group/magazine etc. She has led several educational sessions for the Scouts and local community groups. She has undertaken many bat activity surveys and has enjoyed conservation work with BCT.
Ms Wendy Larcombe	Assistant	Wendy has an Honours degree in Environmental Biology and over 17 years' experience working in conservation, including as a Planning Ecologist and a freelance Ecologist. She has a wide range of experience, which includes extended Phase 1 habitat surveys, building assessment for bats, bat/barn owl surveys, summer roost counts (Gower), and winter roost counts (Black Mountains.) She has undertaken a range of training including bat ecology and surveying and is a valued member of the team.

Appendix 5: Site plans



Above: Existing elevations. **Below:** Proposed elevations. The proposed location for the intra-soffit bat boxes are shown by red dots.



Appendix 6: DNA certificate

Order Number: 1327		koruecologyassociates@gmail.com					
Samples submitted							
Sample Code	Multi-species?	Sample Type	Date Sample Found	Species Group	Site postcode/ post town /grid ref	Site description / comments (Optional)	Suspected identity of species
SEL-1327-1	No	Faecal	21/06/2022	Bats	SS7796791870		Pipistrelle
Analysis Results							
Sample Code	DNA Extraction Code	Species Identified	ID Method	Ct value	% match		
SEL-1327-1	EG-2022-0564	Pipistrellus pipistrellus (Common pipistrelle bat)	qPCR	27			
Company No. 6233860. Registered in England and Wales. VAT Reg No. 901 5587 33							

The above is a reproduction of Figure 17 from the 2022 PRA produced by Koru Associates

Appendix 7: I&G Ecological Consulting Ltd site survey images



The PRA completed by Diana Clark on 21st June 2022 reported that the building is single storey brick built and has a felted flat roof with an additional structure present on the roof of the building, towards the eastern edge, that is covered with uPVC cladding, with several areas of damage noted. The main building is of brick construction with cladding on the top c.1m of the external walls. This is uPVC to the front (north) – and for a short section to the west and east – with wooden boarding to the rear (south) and much of the sides (west and east). The windows are uPVC framed and are nearly all well-sealed and boarded up; however, one or two to the rear have missing/damaged glass. The uPVC cladding is in reasonable condition, although in a number of areas there are gaps around the tops of this, particularly above windows, and gaps underneath. The wooden cladding is

in poor condition and there are numerous areas where this is rotten, damaged, lifted away from the walls or just missing completely, exposing the brickwork below – which in many areas to the rear is also damaged. A single suspected bat dropping was noted on one window to the front, directly below a gap in the roof verge above which DNA analysis confirmed was from *P. pipistrellus*. A narrow crack in brickwork, where two sections of wall are poorly joined together, is present on the western elevation. No other signs of bats were noted during the external visual inspection. A storeroom on the south-eastern corner of the building is open externally, and there is a crack to the rear at the top of the wall with potential access for bats.



Internally, the building contains multiple rooms laid out on both sides of a circular corridor, and includes bedrooms, communal areas, kitchens, bathrooms, store cupboards etc. These are all in poor condition, having been subject to theft and vandalism. All windows and doors that face onto the central courtyard were either boarded or bricked up at the time of the survey. Many of the rooms are also very dark, due to the external boarding. No loft void is present, due to flat roof construction, and the internal ceilings comprise suspended ceiling tiles in corridors, and plasterboard in individual rooms. In the corridors, significant damage is present, with pipe work and wiring having been removed by vandals. In some places it was possible to confirm the underside of the roof covering is of OSB construction. No evidence of bats was noted in any of the rooms, cupboards or corridors internally, although it should be noted that due to missing glass in two windows to the rear, it is possible that bats may be able to access the internal areas of the building.

The final 3 images were gained by endoscopy.

The figure below is taken from p. 39 of the Bat Mitigation guidelines (Mitchell-Jones, A.J., 2004a) and focus upon the need for appropriate, but proportionate, mitigation.

Conservation significance	Roost status	Mitigation/compensation requirement (depending on impact)
Low	Feeding perches of common/rarer species	Flexibility over provision of bat-boxes, access to new buildings etc. No conditions about timing or monitoring
	Individual bats of common species	
	Small numbers of common species. Not a maternity site	Provision of new roost facilities where possible. Need not be exactly like-for-like, but should be suitable, based on species' requirements. Minimal timing constraints or monitoring requirements
	Feeding perches of Annex II species	
	Small numbers of rarer species. Not a maternity site	
High	Hibernation sites for small numbers of common/rarer species	Timing constraints. More or less like-for-like replacement. Bats not to be left without a roost and must be given time to find the replacement. Monitoring for 2 years preferred.
	Maternity sites of common species	
	Maternity sites of rarer species	Timing constraints. Like-for-like replacement as a minimum. No destruction of former roost until replacement completed and usage demonstrated. Monitoring for at least 2 years.
	Significant hibernation sites for rarer/rarest species or all species assemblages	
	Sites meeting SSSI guidelines	
	Maternity sites of rarest species	Oppose interference with existing roosts or seek improved roost provision. Timing constraints. No destruction of former roost until replacement completed and significant usage demonstrated. Monitoring for as long as possible.

Figure 4. Guidelines for proportionate mitigation. The definition of common, rare and rarest species requires regional interpretation.

Appendix 9: Roost compensation & enhancement measures

Mitigation and enhancement recommendations:

- ✦ **Recommendation 1 (Enhancement):** Prior to works commencing, x 2 Harlech Woodstone (or similar) bat boxes and x 1 Improved Maternity (or similar) bat box to be affixed to mature trees within the curtilage of the property (along the southern boundary) . See [Putting up your box - Bat Boxes - Bat Conservation Trust \(bats.org.uk\)](http://Putting up your box - Bat Boxes - Bat Conservation Trust (bats.org.uk)) for siting advice.
- ✦ **Recommendation 2 (Mitigation):** 2 x Intra-soffit bat boxes to be installed on each elevation of the property (8 x in total). The final plans to be submitted must include their locations as well as the position and type of any proposed exterior lighting (no lights to shine on any access points).
- ✦ **Recommendation 3 (Broadscale Enhancement):** As far as possible, all mature hedgerows and trees on site are to be retained (and any lost are to be replaced with native species) to maintain wider ecological benefit and connectivity to the surrounding hedgerows, woodland and rivers. In addition, all new planting is to be of native species that offer benefit to wildlife. See [17 bats & hedges leaflet.pdf \(hedgelink.org.uk\)](http://17 bats & hedges leaflet.pdf (hedgelink.org.uk)) and [developers-1.pdf \(britishhedgehogs.org.uk\)](http://developers-1.pdf (britishhedgehogs.org.uk)).
- ✦ **Recommendation 4 (Enhancement):** Prior to works commencing, x 2 open-fronted and x 2 small-holed bird boxes to be affixed to mature trees within the curtilage of the property. See Where To Put A Bird Box | Nestboxes - The RSPB

Plans for the bat and bird box provision are to be submitted and must include all details of locations as well as position and type of any exterior lighting.



Left: The Harlech WoodStone bat box offers excellent insulation with a minimum of condensation for roosting bats. WoodStone® is a mixture of sawdust from FSC wood sources and concrete, and it is designed to last for years. It is breathable so there will be no problems with condensation and Woodstone maintains a consistent temperature inside, providing excellent insulation for roosting bats. Height 24cm x width 19cm x depth 18cm; Weight 4.4kg; Colour: Black with White front panel; Hook for hanging; Removable front panel for inspection/cleaning; and 10 Year Manufacturers Guarantee.

Right: The Beaumaris Bat Box is made from 100% WoodStone which is very

durable so this product has a lifetime warranty. The attractive design is suitable for crevice roosting bats and has a rough interior to provide lots of grip. Bats need to increase their body temperature before flight so prefer warm roosting spots, which is why many of our bat boxes have a black exterior to absorb heat from the sun. WoodStone isn't just strong, it also has good

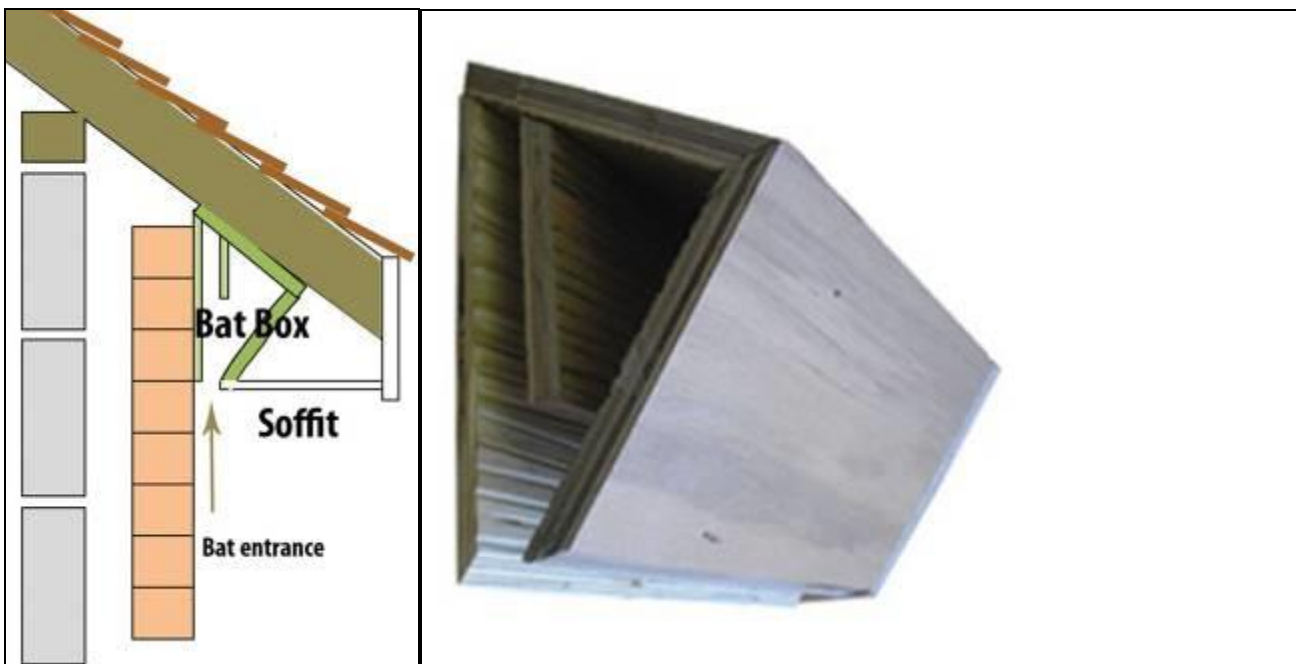
thermal insulation, reducing temperature fluctuations inside the box and helping to make this an ideal roost site.



Left: The Improved Roost-Maternity Bat box is a large 3 crevice box suitable for larger roosts or maternity groups of the small British crevice-dwelling bats such as Pipistrelles. All external panels precision cut from 12mm Exterior Grade FSC plywood, for improved heat insulation. Exterior surface stained with black water-based wood stain for improved thermal input, whilst avoiding any possibility of deterring use by bats due to vapour from the stain. Overhanging roof with additional internal

insulation for protection from UK weather, and to seal crevices from internal airflow. 3 separate crevices each with different temperature characteristics. Wide entrance with accurately sized opening. Ideal for Pipistrelles and deters unwelcome birds etc. Internal ceramic heat sinks ensure improved temperature stability in crevices. Improved "Bat Ladder" at base of box facilitates bats landing and climbing into box. Ladder continues inside box, while textured internal surfaces ensure bats find it easy to move around inside box and hang in crevices. Ladder acts as "convective heater" for box - when sun shines on ladder, warm air rises into the box, but does not come out when the outside cools. Easy and safe to erect box on walls or trees - relatively light weight for its size, with 2 screw holes for fixing. Easy (1 screw) to remove roof for cleaning or inspection where permitted. Improved draught-proofing enhances temperature stability inside box. Rectangular back plate facilitates fitting boxes side to side to increase colony size. Improved aesthetics - looks good to humans as well as bats. Suits any building or tree. See [Improved Roost-Maternity Bat Box | NHBS Practical Conservation Equipment](#).

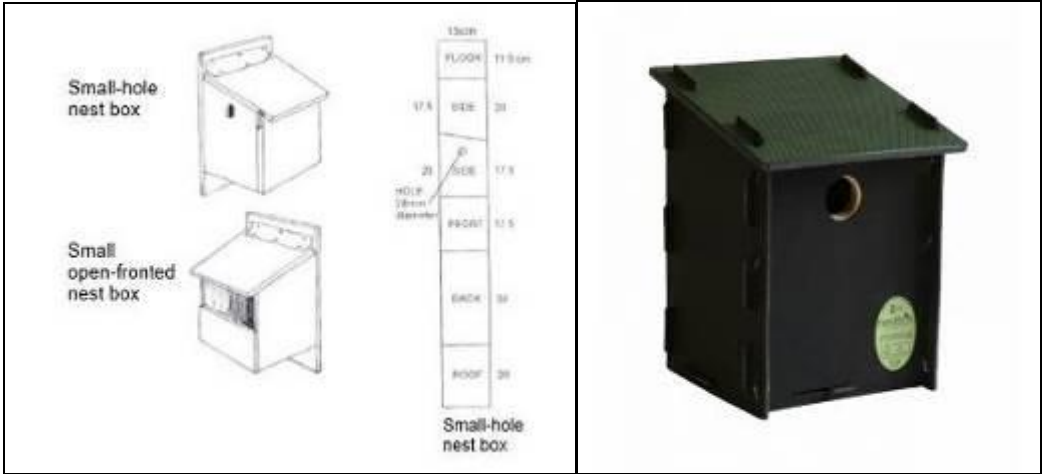
Lack of sunlight can cause bat box/house failure, and structures for summer roosting should be positioned where they are unshaded for most of the day. Summer maternity roosts (in the northern hemisphere) should have a southerly or westerly aspect.



Above: Intra-soffit bat box. See [Soffit Bat Box \(wildcare.co.uk\)](http://wildcare.co.uk)

Left: Soffit access examples

Examples of Sparrow terraces, House martin nest cups, Swallow nest cups, Open-fronted nest boxes, and Small-holed nest boxes. Siting advice can be found at [Where To Put A Bird Box | Nestboxes - The RSPB](#)



Appendix 10: I&G Ecological Consulting Ltd legal disclaimer

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We confirm that in preparing this report, we have exercised reasonable skill and care, taking into account the project objectives, the agreed scope of the work, and prevailing site conditions.

Advice in this report is based on the judgement of I&G Ecological Consulting Ltd and the interpretation of data gathered during the course of their survey on the property named in this document. ***Until payment has been received, this report remains the intellectual property of I&G Ecological Consulting Ltd and can be withdrawn from the planning process at our request. You are also not covered by any of our indemnity or liability insurance until the report has been paid for in full.***

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All work undertaken in this report is the sole responsibility of I&G Ecological Consulting Ltd.

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