Grand Pavilion,

Porthcawl

Preliminary Roost Assessment

February 2023

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Grand Pavilion, Porthcawl Preliminary Bat Roost and Nesting Bird Assessment				
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Summary

Brief and Site Location	This report presents the findings of a preliminary bat roost assessment and nesting bird survey of the Grand Pavilion, located at Esplanade, Porthcawl, CF36 3YW (Ordnance Survey Grid Reference: SS 8162 7668). The building is within the boundary of the Bridgend County Borough Council.
Proposed Works	The proposed new facilities include new function spaces at the esplanade level; new rooftop function and café spaces offering panoramic sea views across the Bristol Channel; new studio theatre and ancillary facilities; increased and improved accessibility including new toilet facilities; and new business incubation, workshop and office spaces at street level.
Survey Methodology	The preliminary bat roost assessment comprised a daytime internal and external inspection of the building and detached porch, searching for signs of bats and nesting birds. The inspection provides a preliminary assessment of the potential of the site to support roosting bats.
Results of Preliminary Bat Roost Inspection	No signs of bats were found during the internal and external inspection of the building or the detached porch. The site is within a low-quality area for foraging and commuting bats.
Suitability of the Building to Support Roosting Bats	The building has low suitability to support roosting bats. Details of the features that led to this assessment are set out in Section 3.2 of this report and are shown in the corresponding photographs. Justification for this assessment is provided within Section 4.2.
Evidence of Nesting Birds	No evidence of past or current nesting by birds was noted either within or on the building's exterior.
Requirements for Additional Survey	A further survey is required to determine if any bats are roosting within the building. As the Grand Pavilion has low roost suitability and current best practice guidelines (Collins, 2016) suggest that is should be subject to one additional dusk emergence or dawn re-entry survey, undertaken between May and September. Six surveyors will be required for the survey (see Plan 3: Proposed Surveyor Positions).
Predicted Impacts of Development on Bats and Nesting Birds	Full impacts on bats and birds will be considered after the further survey has been undertaken.
Mitigation and Compensation of Proposed Impacts	Mitigation and compensation measures for bats and birds will be determined after the further survey has been undertaken.
Licensing Requirements for Bats	It has not been possible to determine if a bat development licence will be required from Natural Resources Wales prior to works to the building. This will be established after the dusk emergence and/or dawn re-entry survey has been completed.
Required Actions	A further survey is required. Detailed recommendations are given in Section 6 of this report. These include precautionary methods and guidance for action to take if bats are found during the works.

1. Introduction

1.1. Brief and Site Location

This report presents the findings of a preliminary bat roost assessment and nesting bird survey of the Grand Pavilion, located at Esplanade, Porthcawl, CF36 3YW (Ordnance Survey Grid Reference: SS 8162 7668)[1]. The building is within the boundary of the Bridgend County Borough Council.

1.2. Site Description

The site proposed for development is a Grade II listed building[2]. The site measures approximately 0.32ha and mainly comprises areas of hardstanding, introduced shrubs and semi-improved grassland. It is situated on the south-western border of the town of Porthcawl, approximately 0.2km to the north-west of the Porthcawl Sea Front. The Pavilion is bordered on all sides by residential dwellings and commercial buildings with Esplanade Road situated to the south.

The site's location is shown on Plan 1: Location Plan.

1.3. Proposed Works

The proposed new facilities include new function spaces at the esplanade level; new rooftop function and café spaces offering panoramic sea views across the Bristol Channel; new studio theatre and ancillary facilities; increased and improved accessibility including new toilet facilities; and new business incubation, workshop and office spaces at street level.

1.4. Legislation and Planning Policy

1.4.1. Bats

All UK bats are protected species. Their breeding sites or resting places[3] (roosts) are fully protected under the Wildlife and Countryside Act 1981[4] (as amended) and the Conservation of Habitats and Species Regulations 2017[5] which continues to apply in UK law through the Conservation of Habitats and Species (Amendment) (EU Exit) ['CHSAEU'] Regulations 2019[6]. Works affecting bats are subject to licensing procedures by Natural Resources Wales (NRW). The legal protection and licensing procedures are summarised in Appendix 1.

[1] Latitude and Longitude: 51.47666117, -3.70593616
[2] https://coflein.gov.uk/en/site/310078?term=Grand%20Pavilion
[3] Resting places are defined as '*areas that are essential to sustain an animal or group of animals when they are not active*' (European Commission, Directorate-General for Environment, 2022). Resting places that are used regularly, either within or between years, must be protected even when not occupied.
[4] https://www.legislation.gov.uk/ukpga/1981/69
[5] https://www.legislation.gov.uk/uksi/2017/1012/contents/made
[6] https://www.legislation.gov.uk/ukdsi/2019/9780111179512

1.4.2. Nesting Birds

All wild British birds (whilst building nests, nesting and sitting on eggs) and their nests and eggs, (with certain limited exceptions[7]) are protected by law under Section 1 of the Wildlife and Countryside Act 1981[8] (as amended) and the Countryside and Rights of Way Act 2000[9]. Some species, such as barn owls (*Tyto alba*), are listed in Schedule 1 and have additional protection from disturbance during the breeding season, as do their nests, eggs and dependent young.

1.5. Survey Scope

The preliminary roost assessment (PRA) comprised a daytime internal and external inspection of the building, searching for signs of bats and nesting birds, and assessing the potential for bats to roost on site.

1.6. Reporting

This report aims to:

- Outline the survey methodology used;
- Present the results of the survey;
- Provide an interpretation of the survey results;
- Determine the need for further targeted surveys; and
- Provide suitable recommendations in line with planning policy and wildlife law, including potential licencing requirements, mitigation, compensation and enhancement measures.

[7] Details of the exceptions are available at https://naturalresources.wales/permits-and-permissions/species-licensing/list-of-protected-species/bird-licensing/bird-licences/?lang=en
[8] https://www.legislation.gov.uk/ukpga/1981/69
[9] https://www.legislation.gov.uk/ukpga/2000/37

2. Methods

2.1. Desk Study

Maps and aerial photographs of the site and surrounding area, including existing habitats, were assessed. A search for statutory and non-statutory conservation designated sites for bats within 10km was undertaken using NRW Geographic Information System (GIS) data. A 2km search was undertaken for all other statutory and non-statutory conservation designated sites.

A local planning portal search was undertaken. This involved looking for other sites, within the same postcode area, which have previously had bat surveys submitted as a part of their planning applications.

2.2. Field Study

2.2.1. Daytime Internal and External Inspection

A systematic search of the exterior and interior of the building was undertaken, looking for features that bats could use for entering/exiting and roosting[10]. In addition, a search was made for the presence of bats or evidence of bat use, such as droppings, feeding remains, urine staining, scratch marks and the remains of dead bats. The survey was undertaken on 19th January 2023 by Paul Hudson[11] MCIEEM (NRW Licence Number: S088190/8) and Charley Kennedy[12].

A high-powered torch (Clulite), binoculars and a ladder were available for use, as appropriate during the survey.

2.2.2. Assessment of Bat Roost Suitability

The value of the site for bats (and any potential roost sites therein) was assessed, in accordance with Table 4.1 of the Bat Surveys for Professional Ecologists (Collins, 2016) (see Appendix 2). The assessment was based on the relative abundance and quality of potential roost sites, and the habitat features within both the site and the surrounding landscape suitable for roosting, foraging and commuting bats.

2.2.3.Survey for Nesting Birds

Searches were carried out for old nests, as well as any signs which might indicate previous nesting activities, such as piles of discarded nesting materials or large aggregations of guano.

[10] Bats can utilise gaps approximately 8mmx17mm in size (The Bat Conservation Trust, Cluster-flies leaflet mentions 8mm by 20mm whilst the Bats and Buildings leaflet states 9mm by 17mm).

[11] Paul graduated with a degree in Environmental Biology from Reading University and a Postgraduate Diploma in Conservation Management from the University of East Anglia. He has worked within ecological consultancy since 2000 and has undertaken bat work since 2001. He holds licences to disturb bats in both Wales (S088190/1 valid until June 2022) and England (2018-36707-CLS-CLS valid until 2028). Further details of his qualifications and experience can be found at http://linkd.in/19aGTf4.

[12] Charley graduated with an upper second-class Bachelor of Sciences in Natural History and Media, from the University of South Wales, in July 2022. She is currently working for Acer Ecology as an Assistant Ecologist and completing her training in basic bat ecology and bat survey techniques, including dusk emergence/ dawn re-entry surveys and preliminary roost assessments. Further details of her qualifications and experience can be found at: https://www.linkedin.com/mwlite/in/charley-kennedy-1bab3a193

2.3. Constraints

Temporal Constraints

An ecological survey can only identify what is present on site at the time the survey is conducted. However, habitat usage by species can change over time.

Timing

The time of year when the preliminary roost assessment was carried out (January) coincides with the period when most bats have retreated to winter hibernation sites and are most difficult to detect.

However, signs of roosting activity from previous summers may still be identified inside loft spaces and the potential of a building can be assessed outside the active season. Therefore, the timing of the inspection is unlikely to have significantly constrained the survey.

Restricted Access

Not all parts of the detached porch could be inspected during the preliminary roost assessment. The roof void was sealed shut and therefore couldn't be inspected. The survey is only slightly constrained, and this is not considered to have significantly affected the accuracy of the assessment.

Evidence of Bats

Often bats leave no visible signs of their presence even on the inside of a building, particularly where there are hidden cracks, crevices and voids.

Data Search

A Local Records Centre (LRC) data search was not undertaken due to the low impact and small-scale nature of the development. The overall impact on biodiversity is likely to be localised and of low significance. It is very unlikely that the development will have any impact outside the footprint of the works. The data search results are considered unlikely to impact the decision-making process, and there is limited potential for key information to have been missed. This approach is consistent with CIEEM's Guidelines for Accessing and Using Biodiversity Data (2020), which states that in low impact/small-scale scenarios, such as an extension to a property, a LRC search may not be required.

3. Baseline Ecological Conditions

3.1. Desk Study

3.1.1. Bat Roosts Reported in Planning Applications Within the Same Postcode

The planning portal search[13] returned no bat roost records from a search of sites with the same postcode area as the proposed development.

3.1.2. Protected Sites

The location of protected sites is shown in Plan 2: Protected Sites.

Statutory Sites Notified for Bats (Special Areas of Conservation (SACs)) or Sites of Special Scientific Interest (SSSIs) Within 10km

No SACs that have been specially designated for bats lie within 10km of the building.

Other Protected Sites Within 2km

There are no statutory designated sites such as SACs, SSSIs, or National Nature Reserves (NNRs) either within the proposed development site or within 2km of the site.

Local Nature Reserve (LNR)

There is one LNR within 2km of the site. The Lock's Common LNR is situated 0.7km to the west of the development site. Locks Common is a Regionally Important Geological Site (RIGS) designated for its limestone pavements and supports a huge variety of birds, butterflies, and wildflowers[14].

Non-statutory Protected Sites

Ancient Woodland Sites

The following table shows the ancient woodland sites within 2km of the site:

Table 1: Ancient Woodland Sites Within 2km

Ancient Woodland Site	Number within 2km of Site
Ancient Semi-Natural Woodland (ASNW)[15]	Four
Restored Ancient Woodland Sites (RAWS)[16]	One
Nearest Area of Ancient Woodland	An unnamed area of RAWS 0.7km to the north of the site.

[13] http://planning.bridgend.gov.uk/Search/Results CF36 3YW
[14] https://www.bridgend.gov.uk/visit-us/nature-reserves/locks-common/
[15] Ancient Semi-Natural Woodland (ASNW) – broadleaf woodlands comprising mainly native tree and shrub species which are believed to have been in existence for over 400 years.
[16] Restored Ancient Woodland Sites (RAWS) – woodlands which are predominately broadleaved now and are believed to have been continually wooded for over 400 years. These woodlands will have gone through a phase when canopy cover was more than 50% non-native conifer tree species and now have a canopy cover of more than 50 percent broadleaf.

Protected Sites Summary

Given the small scale and localised nature of the proposed development, no adverse impacts to the LNR or ancient woodland sites are likely to occur. These sites are not mentioned further in this report.

3.2. Field Study

3.2.1. Lighting and Ecological Context

Lighting

The site is within an E3: Suburban lighting zone, with medium district brightness zone (Institute of Lighting Professionals, 2012). Several streetlights are present on Esplanade Road, which generate extensive artificial lighting, decreasing the quality of foraging and commuting bat habitat[17].

Ecological Context

The habitats surrounding the site are largely urban in nature. There are large areas of rocks and cliffs bordering the Porthcawl sea front, which lie 0.07km to the south of the site, and an area of grassland 0.1km to the west of the site. These habitats are not continuous and do not provide a suitable habitat corridor between these habitats and the Grand Pavilion, therefore the commuting and foraging habitat is considered to be of low suitability for bats.

3.2.2. Assessment of Ecological Value of On-Site Habitats

Scattered Trees

The scattered trees present on site are situated on the eastern and western boundaries, within the areas of scattered shrubs and semi-improved grasslands. A single conifer is present to the east of the detached porch. Species such as buddleia (*Buddleja davidii*) and palm (*Arecaceae sp.*) were recorded on the western elevation, and bay willow (*Salix pentandra*) was recorded on the eastern elevation. These trees were assessed as having:

- Negligible potential to support roosting bats;
- Low potential to support nesting birds; and
- Negligible potential to support reptiles.

Semi-improved Grassland

An area of semi-improved grassland is situated on the western border of the site. This comprises species such as common cats ear (*Hypochaeris radicata*), daisy (*Bellis sp.*), rose (*Rosa sp.*), perennial rye grass (*Lolium perenne*), speedwell (*Veronica sp.*), fern grass (*Catapodium rigidum*), sow thistle (*Sonchus oleraceus*) and Yorkshire fog (*Holcus lanatus*).

[17] Lighting can impact on bats' roosting sites, commuting routes and foraging areas.

The semi-improved grassland habitat is assessed as having:

- Negligible potential to support roosting bats;
- Negligible potential to support nesting birds; and
- Low potential to support reptiles.

Introduced Shrubs

An area of introduced shrubs is situated on the eastern border of the site. This comprises salad burnet (*Sanguisorba minor*), ribwort plantain (*Plantago lanceolata*), oxeye daisy (*Leucanthemum vulgare*), red valerian (*Centranthus ruber*), tree mallow (*Lavatera arborea*), bamboo (*Bambusa sp.*), pampas grass (*Cortaderia selloana*), yarrow (*Achillea millefolium*), knapweed (*Centaurea sp.*), and Yorkshire fog. The introduced shrubs are assessed as having:

- Negligible potential to support roosting bats;
- Low potential to support nesting birds; and
- Negligible potential to support reptiles.

Stone Wall

A stone wall borders the introduced shrub habitat on the eastern elevation. There are numerous small gaps in the stonework, which may be suitable for roosting bats. The species observed consisted of common ivy (*Hedera helix*), maidenhair spleenwort (*Asplenium trichomanes*), ivy-leaved toadflax (*Cymbalaria muralis*) and dandelion (*Taraxacum sp.*). The wall is assessed as having:

- Low potential to support roosting bats;
- Negligible potential to support nesting birds; and
- Negligible potential to support reptiles.

3.2.3. Building Description from the Perspective of Bat Habitat

The table overleaf summarises the key features of the building.

Table 2: Key Features of the Main Building

Building Type	The building is a large concrete pavilion, varying between single and multiple storeys (Photo 1). It was constructed in 1932 and is a Grade II listed building (Photo 2).
Roof	The roof varies in structure, with sections of flat and mono-pitched roofing and a concrete dome centrepiece (Photos 3-5). The roof is generally in good condition and well-sealed.. A large clock tower is present in the centre, which is well-sealed to the roof (Photos 6 & 7).
Lead Flashing	The lead flashing is generally well sealed across all elevations (Photo 8). A small gap is present in the lead flashing on the mono-pitched roof on the western elevation (Photo 9). This gap provides potential access for roosting bats. The monopitched roof on the western elevation has had all lead flashing removed; however, this has been covered with a timber frame and plastic sheeting, with no access points available for bats (Photo 10).
Soffits, Fascias and Bargeboards	The fascias are all constructed of concrete (Photo 3). They are generally well-sealed, with minimal gaps present. A small gap is present between the fascia and the roof on the western elevation (Photo 11). This is a potential roosting feature for bats, as it is large enough to be considered an access point. However, the conditions of the potential roosting location have been considered sub-optimal for roosting.
Vents	Vents are present on all elevations of the buildings, at various heights on the walls (Photo 12). They are mostly grated, minimising their potential as access points for bats. However, some of the vents are uncovered with no grating present, particularly in the metal doors on the eastern and western elevations (Photo 13). These provide potential access points for roosting bats.
External Walls	The external walls are constructed using concrete and are covered with white render (Photo 14). The walls are generally in good condition; however some cracks are present on the southern elevation (Photo 15). These gaps are too shallow to be used as access or roosting features for bats.
Windows and Doors	The windows have timber frames and are all well-sealed to the external wall (Photo 16). The doors vary in construction; most are timber doors in timber frames, however some are constructed of metal (Photos 17-20). The doors are all generally fitted well into their frames. One door leading to a basement on the western elevation had a gap beneath, providing a potential access point for bats (Photo 21). All basements were searched for evidence of bats, and no evidence was recorded during the survey.
Roof Void	The void is located within a monopitched roof on the western elevation (Photos 23 and 24). The void in the monopitched roof measured approximately 1m in height and 3m in length (Photo 23). No evidence of bats was recorded within the void.
Roof Construction	The monopitched roofs are constructed using modern timbers and are generally in good condition (Photo 23). The flat roof present beneath the dome is constructed using concrete and is generally in good condition. The large silver dome roof structure is also constructed using concrete.
Underground areas/basement	Multiple basements are present on site, and each weres surveyed for their potential to support roosting bats. They, are made from brick walls and concrete floors (Photo 22).

Photos Showing the Building and its Features

Photo 1: Southern Elevation

Photo 2: Side of Clock Tower

Photo 3: Flat Section of Roof

Photo 4: Monopitched Roof on Western Elevation

Photo 5: Concrete Dome Roof

Photo 6: Clock Tower in Centre of Building

Photo 7: Internal View of Clock Tower

Photo 8: Lead Flashing on Monopitched Roof, Eastern Elevation

Photo 9: Gap Present Beneath Lead Flashing, Western Elevation

Photo 10: Lead Flashing Removed from Monopitched Roof, Western Elevation

Photo 11: Broken Tile Present on Roof, Western Elevation

Photo 12: Vent Present on Wall (Grated)

Photo 13: Vent Present on Metal Door (Non-Grated)

Photo 14: White Render Present on Walls, All Elevations

Photo 15: Cracks Present in Wall, Southern Elevation

Photo 16: Windows in Timber Frames, Southern Elevation

Photo 17: Wooden Door in Timber Frame, Good Condition, Eastern Elevation

Photo 18: Wooden Door in Timber Frame, Poor Condition, Eastern Elevation

Photo 19: Metal Door in Timber Frame, Well-Sealed, Western Elevation

Photo 20: Metal Door with Open Vent, Western Elevation

Photo 21: Large Gap Beneath Door, Western Elevation

Photo 22: Basement Construction

Photo 23: Internal Void Structure, Monopitched Roof

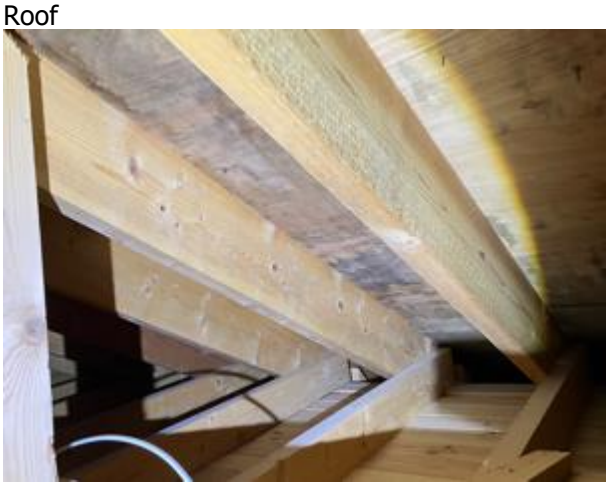

Photo 24: Void Inside Monopitched Roof

Table 3: Key Features of the Detached Porch

Building Type	The detached porch is present on the eastern elevation of the site. It comprises four red-brick pillars, with a domed timber roof (Photo 25). There are gaps present in the stonework, which provide suitable roosting locations for bats (Photo 27).
Roof	The roof is domed, constructed using timber.
Soffits, Fascias and Bargeboards	The fascias are all constructed of timber (Photo 25). Multiple gaps are present in the timber fascia on the western elevation, providing access for roosting bats (Photo 26).
Roof Void	The void in the detached porch was inaccessible due to the permanently sealed hatches (Photo 26).
Roof Construction	The roof comprises timber, with a bitumen felt lining. Some gaps are present in the roof on the western elevation, which provides an optimal access point for bats wishing to roost in the void (Photo 28). It is otherwise in good condition.

Photos Showing the Detached Porch and its Features

Photo 25: Detached Porch with Inaccessible Void

Photo 26: Sealed Void Hatch in Detatched Porch

Photo 27: Gaps Present in Stonework, Detached Porch

Photo 28: Gap Present in Roof, Detached Porch, Cricled

3.2.4. Potential Bat Access Points and Bat Roosting Locations

Potential Access Points for Bats

There are potential access points for bats to enter the interior of the main building. Bats could gain entry through the non-grated vents (Photo 13), beneath the broken tile on the western elevation (Photo 11), and the gaps beneath the timber doors on the western elevation (Photo 21).
The detached porch features one potential access point for bats, via the gaps between the timber fascia and the external wall of the porch (Photo 28).

Potential Roosting Features for Bats

The following potential roost features were recorded:

- PRF 1 – Gap beneath lead flashing on the western elevation (see Photo 9);
- PRF 2 – Gap beneath the broken roof tiles on the western elevation (see Photo 11).

The following potential roost feature was recorded on the detached porch:

- PRF 1 – Gaps in stonework created by eroded mortar on the detached porch (see Photo 27).

3.2.5. Nesting Bird Survey

No signs of recent nests were found within or on the exterior of the main building or detached porch. Further surveys for nesting birds will be undertaken at the same time as the dusk emergence and dawn re-entry surveys.

4. Evaluation

4.1. Summary of Preliminary Roost Assessment

The preliminary roost assessment found no evidence of bats roosting within or on the external parts of the building.

4.2. Suitability of Summer Roosts

From the assessment made during the survey, the main building is assessed as having:

- Low potential for use by crevice-dwelling bats (Pipistrellus species and smaller Myotis species such as Brandt's (*Myotis brandtii*) and whiskered bats (*Myotis mystacinus*)). The building has some possible access points and features which could feasibly be used by crevice-dwelling bats, including the beneath the roof tiles on the western elevation and the gap beneath the lead flashing on the western elevation. However, due to their size, shelter, protection, conditions and surrounding habitat, these features are unlikely to supper a roost of high conservation concern.
- Negligible potential for use by roof-dwelling bats (long-eared species and large *Myotis* bats, such as Natterer's bat and serotine bats (*Eptesicus serotinus*)). The voids in the main building proposed for development are all well sealed, with no potential access for roof-dwelling species.
- Negligible potential for use by direct-access species requiring a large access point and large roost space (lesser horseshoe and greater horseshoe bats) due to a lack of suitable access points for these species to gain entry.

The detached porch is assessed as having:

- Low potential for use by crevice-dwelling bats (Pipistrellus species and smaller Myotis species such as Brandt's (*Myotis brandtii*) and whiskered bats (*Myotis mystacinus*)). The building has some possible access points and features which could feasibly be used by crevice-dwelling bats, including multiple gaps in the stonework of the detached porch area. However, due to their size, shelter, protection, conditions and surrounding habitat, these features are unlikely to supper a roost of high conservation concern.
- Low potential for use by roof-dwelling bats (long-eared species and large *Myotis* bats, such as Natterer's bat and serotine bats (*Eptesicus serotinus*)). The detached porch has access features on the western elevation via gaps in the timber fascia, which could provide suitable access points for roof-dwelling bats.
- Negligible potential for use by direct-access species requiring a large access point and large roost space (lesser horseshoe and greater horseshoe bats) due to a lack of suitable access points for these species to gain entry.

Both buildings have an overall low bat roosting suitability due to the reasons stated above. This assessment will be used to determine the level of further survey effort required (see Appendix 2).

4.3. Potential Winter Roosts

The crevices between the stonework of the detached porch provide potential hibernation sites for bats. However, a full assessment of the potential for winter use (i.e. hibernation) will be undertaken after the completion of further dusk emergence and dawn re-entry surveys.

4.4. Birds – Interpretation of Nesting Bird Survey

No evidence of past or current nesting by birds was observed during the survey. Further surveys for nesting birds will be undertaken at the same time as the dusk emergence and dawn re-entry surveys, and the assessment of its importance subsequently updated.

5. Required Actions

5.1. Further Work

Works should not commence until a further survey has been carried out. This will enable the likely impacts of the proposals on bats to be assessed, determine if a NRW European Protected Species development licence will be required, inform the avoidance measures (timing of works), and determine the requirement for mitigation (retention of roosts and access points) and/or compensation measures (creation of new replacement/additional bat roosts). Current best practice guidelines (Collins, 2016) state that one dusk emergence or dawn re-entry survey should be undertaken on a building with low roost suitability. The survey should be undertaken from May to August.

To ensure that all potential access/roosting features are covered, the survey will require six surveyors to observe the building and the detached porch, positioned at each elevation (see Plan 3: Proposed Surveyor Positions). If bats are confirmed to be roosting, a second survey will be required to characterise the roost and support a NRW bat development licence application.

5.2. Licensing Requirements for Bats

It has not been possible to determine whether a Natural Resources Wales bat development licence will be required. This will be determined after the emergence/re-entry surveys have been completed.

5.3. Avoidance, Mitigation, Compensation and Enhancement Measures for Bats

These measures will be formulated after the completion of dawn re-entry and dusk emergence surveys.

5.4. Avoidance, Mitigation, Compensation and Enhancement Measures for Birds

These measures will be formulated after the completion of dawn re-entry and dusk emergence surveys.

5.5. Longevity of Report

Survey data should ideally be from the last survey season before a planning or licence application is submitted, although the length of time that survey data remains valid should be decided on a case-by-case basis and is dependent upon several factors[18] (Collins, 2016). If development works do not begin within eighteen months to two years of the date of this report, an updated survey may be required in accordance with guidance in BS 42020:2013[19] and CIEEM (2019), to determine if conditions and bat usage has changed since described in the current report.

[18] The factors identified are as follows: Were the original surveys carried out according to good practice guidelines?; Were the original surveys constrained in any way?; Do the results of the original surveys support the original conclusions and are these still relevant?; Has the nature of the site or the surrounding area changed since the original surveys were undertaken; and are additional surveys likely to provide information that is material to a decision, the design of mitigation measures, or specific advice relating to a proposed activity.

[19] As set out in Section 6.2.1, Point 7 which states that ecological information should not normally be more than two/three years old, or as stipulated in good practice guidance.

6. References

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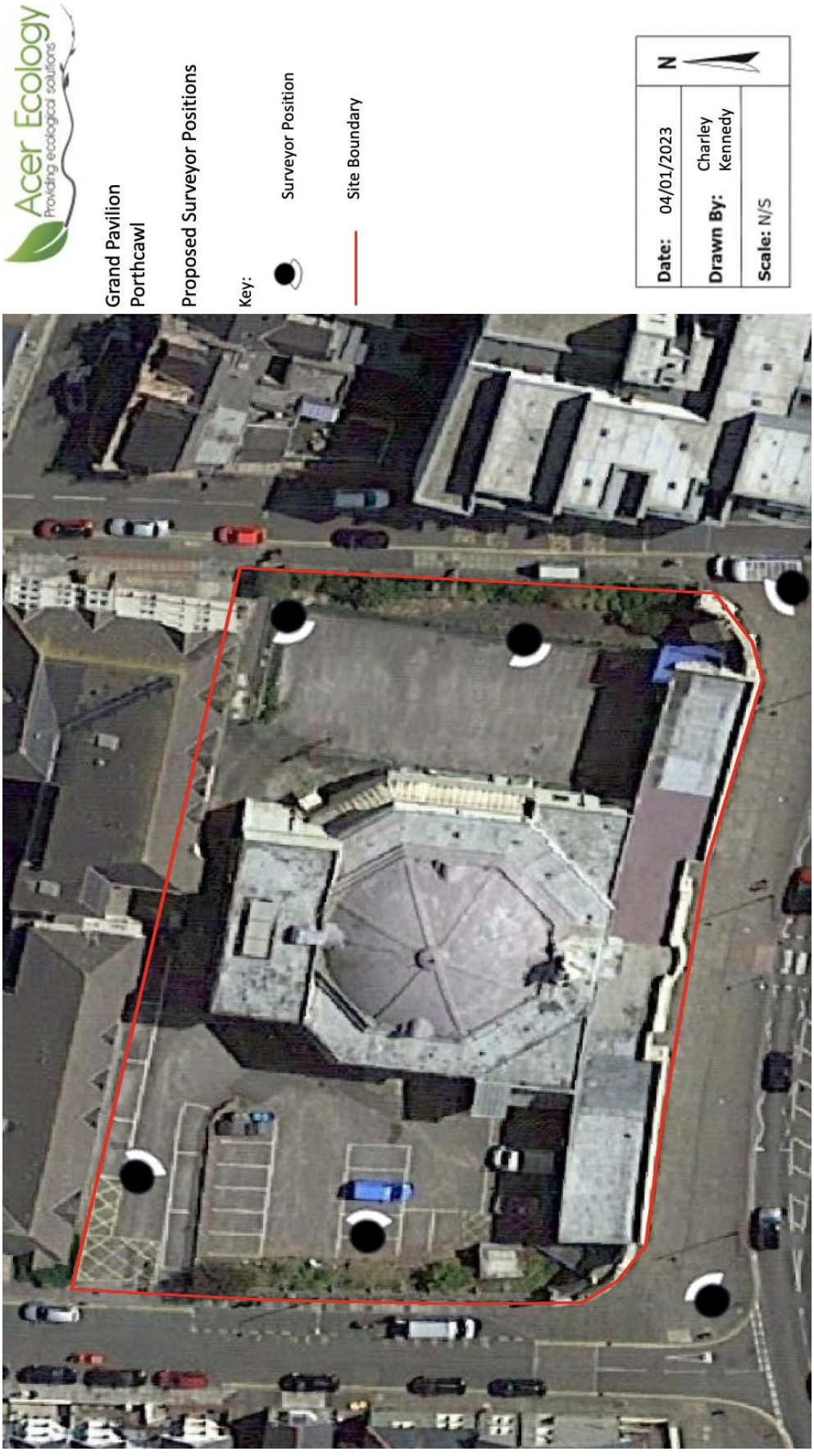
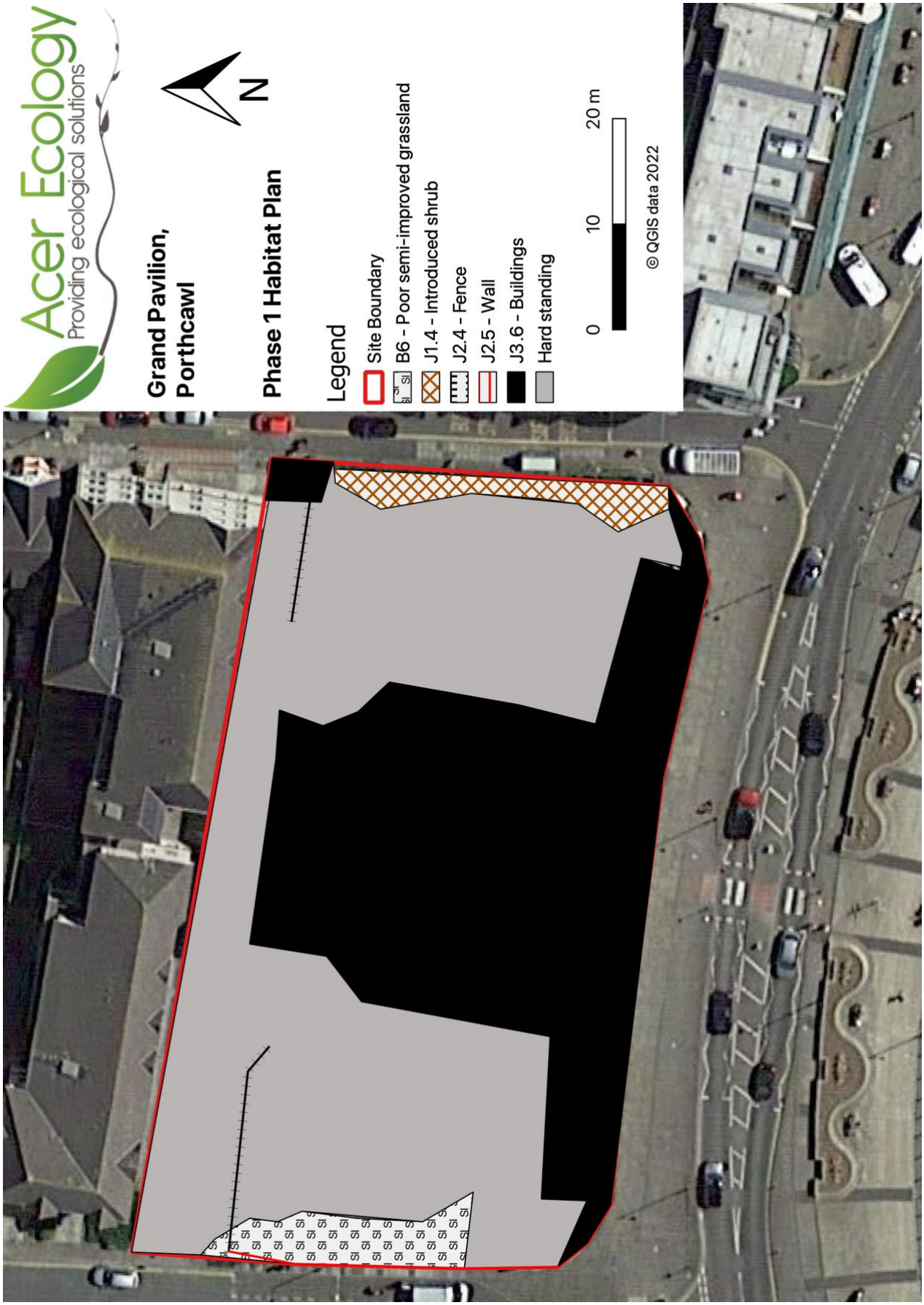
Plan 1: Location Plan

Plan 2: Protected Sites within 2km

Plan 3: Proposed Surveyor Positions



Plan 4: Phase 1 Habitat Map



Appendix 1: Bat Ecology and Legislation Protecting Bats and Their Roosts

Bat Ecology

There are 17 known breeding species of bat found in the UK, with additional species recorded as migrants or vagrants. They are all small, nocturnal, flying, insectivorous mammals that are under conservation threat with many having undergone massive population declines over the last century. Some species, such as common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) are relatively common and widespread in the UK, while others, such as greater horseshoe (*Rhinolophus ferrumequinum*) bats, have an extremely restricted distribution.

Most bats will use a variety of roosts of different types throughout the year. The winter hibernation sites typically have cool, humid conditions with a stable microclimate and low levels of disturbance. Most British bats hibernate in caves or artificial structures that fulfil these requirements, such as mines, tunnels and cellars. Bats emerge from hibernation around late March or early April and move into transition or intermediary roosts. Around early May, female bats gather in colonies to form summer or maternity roosts, and it is here where they will give birth between late May and early July. A colony may consist of many individuals (sometimes hundreds of bats) of mixed age and sex. Roosts occur in a variety of habitat types, including tree-holes, caves, buildings and other secure crevices or internal spaces with appropriate stable temperatures and humidity. Bats may change roost locations many times during a year, and colonies may split up and reform during this period. Males occupy solitary roosts in autumn, to which they attract females for mating.

Legislation

All British bat species and any place used for shelter or protection, or as a breeding site or resting place (their roosts) are fully protected under the amended Wildlife and Countryside Act 1981 through inclusion in Schedule 5. The roosts are protected irrespective of whether bats are present at the time. All bats fully protected under the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species (Amendment) (EU Exit) ['CHSAEU'] Regulations 2019. The aforementioned legislation make it illegal to deliberately or recklessly:

- kill, injure or capture bats;
- disturb bats;
- damage, destroy, or obstruct access to bat roosts (including sites that are currently unoccupied);
- possess or transport a bat or any part of a bat unless acquired legally; or
- sell, barter or exchange bats or parts of bats.

Disturbance is defined as that which is likely to impair bats ability:

- to survive, to breed or reproduce, or to rear or nurture their young;
- to hibernate or migrate; or
- to significantly affect the local distribution or abundance of the species to which they belong.

Habitats Regulations Licensing

If a European Protected Species will be affected by a development, Natural Resources Wales (NRW) can issue licences under the Habitats Regulations to permit otherwise prohibited acts. Licences for certain activities can be granted providing "three tests" are satisfied, that is:

1. the purposes of "preserving public health or safety, or for reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment";
2. there must be "no satisfactory alternative"; and,
3. the derogation is "not detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range".

Where Planning regulations apply, NRW will only issue a licence after planning consent has been granted. The licence application will require the production of a detailed method statement, which sets out the activities to be carried out under the licence to minimise the risk of bats being harmed during construction works and ensure that bats will be conserved during the development of the site. This will need to detail the mitigation proposed (such as the replacement or compensation roost); the timescale and schedule of works, the number, size and locations of bat access points to be provided; the type of materials to be used (roofing material, roof lining, fascias, soffits, and bargeboards etc.); lighting proposals; action to be taken in the event bats are found during works; and a post-development monitoring programme. The method statement will need to be accompanied by scaled plans and maps detailing the bat mitigation features. A cross-section of the access points and roost space is often required. The method statement must ensure that provision is made for new or continued roosting opportunities after the completion of development works. In some instances, a method statement is requested by the Local Planning Authority or Natural Resources Wales before the planning application is determined.

Planning Policy Wales

Section 6.4 Paragraph 6.4.5 of Planning Policy Wales Edition 11 (2021) that focuses on Biodiversity and Ecological Networks, Section 6 of The Environment (Wales) Act 2016[20] that details the requirement for enhanced biodiversity and resilience of ecosystems, TAN 5 and Section 40(1) of the Natural Environment and Rural Communities Act (NERC) 2006 all encourage developments in Wales to provide a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally.

Part 1, Section 7 of the Environment (Wales) Act 2016 provides a list of the '*living organisms of principal importance for maintaining and enhancing biodiversity in relation to Wales*'. This includes seven bat species (soprano pipistrelle, barbastelle (*Barbastella barbastellus*), Bechstein's (*Myotis bechsteinii*), noctule (*Nyctalus noctula*), brown long-eared (*Plecotus auritus*), lesser horseshoe (*Rhinolophus hipposideros*) and greater horseshoe bats (*Rhinolophus ferrumequinum*)).

[20] http://www.legislation.gov.uk/anaw/2016/3/contents

Appendix 2: Guidelines for Assessing Potential Bat Roosting Suitability and Determining Required Number of Dusk/Dawn Surveys

Suitability	Description of Roosting Habitat	Minimum Number of Dusk/Dawn Surveys Required[21]
Negligible	Negligible habitat features on site likely to be used by roosting bats.	None.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection appropriate conditions[22] and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity) or hibernation[23].	One survey visit. One dusk emergence or dawn re-entry survey (Survey period from May to August) (Collins 2016).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status[24] (with respect to roost type only) the assessments in this table are made irrespective of conservation status, which is established after presence is confirmed.	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey[25]. Surveys should be undertaken from May to September, with at least one of the survey between May and August (Collins 2016).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for long periods of time due to their size, shelter, protection, conditions and surrounding habitat.	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. Surveys should be undertaken from May to September, with at least two of the surveys from May to August (Collins 2016).
Confirmed Roost	Evidence of bats or use of bats found.	Three separate surveys recommended to characterise the roost and support an NE licence application. If no evidence of bat roosting is detected during the dusk and dawn surveys, DNA analysis of the droppings may be required.

[21] Adapted from Tables 4.1 and 7.3 of the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).

[22] For example, in terms of temperature, humidity, height above ground levels, light levels or levels of disturbance.

[23] Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for large numbers of this species to be present during the autumn and winter in large buildings in highly urbanized environments.

[24] 'High roost status' is not defined within Collins, 2016. Acer Ecology Ltd. interpret maternity, hibernation, swarming sites, mating sites, and satellite roosts as being of 'high roost status' and exclude day roosts, night roosts, feeding roosts, transitional/occasional roosts from this definition. Pre-maternity/collecting roosts are not included within Collins, 2016 and will be assessed on an individual basis.

[25] Multiple surveys should be spread out to sample as much of the survey period as possible. It is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk survey is considered only one visit.

Appendix 3: Guidelines for Assessing Bat Habitat Suitability

Suitability	Commuting and Foraging Habitat
Negligible	Negligible habitat features on-site likely to be used by commuting and foraging bats.
Low	Commuting Habitat Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape. Foraging Habitat Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Commuting Habitat Continuous habitat connected to the wider landscape that could be used by bats for commuting, such as lines of trees and scrub or linked back gardens. Foraging Habitat Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Commuting Habitat Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Foraging Habitat High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Proximity to Known Bat Roosts The site is close to and connected to known roosts.