

Former Dowlais Depot
New Road
Dowlais
Merthyr Tudful
CF48 3DA

A Preliminary Roost
Assessment and Preliminary
Ecological Appraisal
(Including a Green Infrastructure
Statement)

For

Puja Rajani

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Morgan Ecology

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1 Summary

An ecological assessment has been undertaken of a site on the north side of New Road, Dowlais, where it is proposed to convert/refurbish an existing workshop/garage for use in the provision of six holiday let units. The work will involve a modest raising of the roof, to provide the insulation needed for the proposed bedroom areas, as well as the reinstatement of access off New Road. Other changes include separate access to each of the holiday let units, provision of a private parking area, services, an area for sitting out, and landscaping to conceal the site from the surrounding properties.

A survey was conducted in late-February 2024 which involved the Preliminary Ecological Appraisal of the land and a Preliminary Roost Assessment of the building by two experienced, independent ecologists, using high quality survey equipment. The surveyors were given complete freedom of access, and it was possible to get a good understanding of the site, and its likely value for wildlife.

Overall, the site, which extends to some 0.13ha, was judged to be of low ecological value, with the species recorded being generally widespread and common. With the exception of buddleja, no invasive non-native plant species were found at the property. No evidence of bats or nesting birds was found in the building, which is the only structure on site, but it was considered to offer low potential to be used by both groups, and additional survey is therefore recommended during the spring/summer period.

Development of this brown-field site, offers the opportunity to make enhancements to benefit wildlife and recommendations are therefore made within this report for Net Benefits for Biodiversity. Additionally, this document includes a Green Infrastructure Statement, required under Planning Policy Wales 12, for environmental enhancements, appropriate to the location, and planned future use of the site.

2 Background

The owner of the former Dowlais Depot on New Road, is seeking planning consent from Merthyr Tudful County Borough Council to convert an old machine shed, now used as a workshop/garage to provide six self-contained holiday lets. To inform the planning process, Utopia Design Architectural Services, commissioned Morgan Ecology, on behalf of the owner, to carry out a Preliminary Roost Assessment (PRA) of the building, and a Preliminary Ecological Appraisal (PEA) of the grounds of the property. Assessment was undertaken in late February 2024 by two experienced, independent ecologists. The appraisal covered bats, nesting birds, other protected species, and a general evaluation of the site, and its surroundings. This report sets out the findings.

Situated on the north side of New Road, Dowlais, the site under consideration extends to some 0.13ha, and is located at National Grid Reference (NGR) SO 0619 0754, at 261m Above Ordnance Datum (AOD). The proposals involve an extensive refurbishment of the existing garage building at the site, including raising the height of the structure to allow for upper floor accommodation, set within private landscaped ground, with parking.

Principal objectives of the survey effort were to:

- determine if bats, nesting birds, or other protected species were present in, or had the potential to roost in the existing structure;
- consider if there will be impacts on bats and birds from the proposed works;
- assess the site for the presence or potential presence of other protected species;
- assess the site for ecological constraints relevant to the proposed development and gather sufficient information to be able to make appropriate recommendations;
- to make recommendations with respect to Net Benefits for Biodiversity; and,
- make recommendations to contribute to a Green Infrastructure Statement.

3 Survey team experience

The lead surveyor, and author of this report is Phil Morgan, who has over 40 years' experience of undertaking building, tree, and cave surveys for all bat species. In addition, he has undertaken foraging and flight line surveys using heterodyne and other echo-location equipment, and in 1991 made a significant contribution to a Bristol University run project, which established the methodology used in the National Bat Monitoring Programme. Phil has also undertaken numerous radio tracking exercises on both lesser horseshoe and Daubenton's bats. He holds a Natural Resources Wales (NRW) licence for bats (S091084/1), as well as other species including dormice. Phil was previously the Ecologist with Dŵr Cymru Welsh Water, and responsible for nature conservation activities over 37,000ha of land, before becoming Principal Ecologist with the Just Mammals Consultancy LLP, a business which he established in 2001. He is now the Principal with Morgan Ecology. He is a Chartered Environmentalist, with the Society for the Environment (CEnv), and a full Member of the Chartered Institute for Ecology and Environmental Management (MCIEEM). Phil has, for the past 27 years, been the County Mammal Recorder for Vice County 42: Sir Frycheiniog/Brecknockshire, and is responsible for verifying bat and terrestrial mammal records in that area.

Assisting with the survey was Diane Morgan, an Associate Member of the Chartered Institute of Ecology and Environmental Management (ACIEEM). Diane has considerable experience (30 years), surveying-built structures for bats, and has carried out ringing of Daubenton's and greater horseshoe bats as part of multi-year projects on these species. She has undertaken monitoring work on several important lesser horseshoe maternity sites and assisted in radio tracking projects on the same species. Prior to her current role, she was the Director of Brecknock Wildlife Trust and involved in a wide range of nature conservation work including species and habitat protection, and conservation land management. Diane holds an NRW licence to disturb bats (S093558/1 expiry February 2026). Other areas of interest include otters, dormice, water voles, reptiles, amphibians, fungi and crayfish. Diane is a Senior Ecologist with Morgan Ecology.

4 Assessment methodology

A Preliminary Roost Assessment (PRA), was undertaken of the only building on site, with the aim of detecting any signs of bat or bird presence. It was possible to undertake an assessment of the interior, which is open to the roof line. All parts of the interior were inspected, including blocked up windows, and other openings in outer walls. The surveyors were seeking signs which might indicate the presence of bats, or nesting birds. In the case of bats, evidence was considered to include actual bats, or signs of bats, in the form of bat droppings (faeces), discarded feeding remains (e.g. butterfly wings, crane-fly legs), and fur oil staining (on roof timbers).

The surveyors also considered the exterior of the building. To assist in the external assessment, binoculars were used to identify, and examine Potential Roosting Features (PRFs). Any gaps or crevices in the structure were inspected as closely as possible. The context of the property within the surrounding landscape was also assessed at this time. Potential for hibernation by bats was also considered, so any features low down on the walls, particularly on the north or west side of the building, were also assessed.

Presence of nesting birds was considered, particularly those which might nest in roof areas. The surveyors recorded any signs of historic and current bird activity including nest-building, feeding at nest sites, and any indirect evidence such as nest remains, bird droppings, and feathers. Possible presence of barn owl (*Tyto alba*), was particularly considered, as these protected birds can be found in urban habitats, where there is nearby grassland to forage over.

General consideration was made of the property for the presence of other protected species (e.g. amphibians, mammals, reptiles etc), during the Preliminary Ecological Appraisal (PEA), so boundaries, as well discarded items in the grounds were also considered, to confirm or dismiss

their presence, which might have to be taken into consideration in the development. Possible presence of terrestrial mammal species, such as badger (*Meles meles*), hazel dormouse (*Muscardinus avellanarius*), and west European hedgehog (*Erinaceus europaeus*), was undertaken, as well as reptiles such as slow-worm (*Anguis fragilis*), and common lizard (*Zootoca vivipara*). Presence of amphibians, such as common frog (*Rana temporaria*), and common toad (*Bufo bufo*), was also undertaken.

Possible presence of invasive non-native species (INNS), such as Japanese knotweed (*Reynoutria japonica*), Himalayan balsam (*Impatiens glandulifera*), giant hogweed (*Heracleum mantegazzianum*), and other introduced plants or animals was also appraised during the survey.

Table 1 below details the equipment used by the surveyors when carrying out the PRA.

Table 1: Equipment used in the assessment

Equipment items	Purpose used
Bushnell binoculars (1)	Inspecting roof slates, barge boards
Canon IXUS 100IS digital camera (1)	Taking photographs
Cluson RE1T red eye torch (1)	Illuminating internal roof areas
Greencat 8x30 8.5° close focussing monocular (1)	Inspecting roof timbers of bat presence
Ledlenser MH8 head lamp (1)	Inspecting cavities, roof timbers
Ridgid SeeSnake Inspection Camera Micro CA-150 (1)	Inspecting cavities

Additionally, and in compliance with the latest guidance in Planning Policy Wales 12 (PPW12) – the surveyors considered the property with respect to enhancements, to contribute to Net Benefits for Biodiversity (NBB), and a Green Infrastructure Statement (GIS).

5 Site description

The former Dowlais Depot is a former machine shop, now used as a workshop/garage. It is situated on the north side of New Road, and comprises a single rectangular building and adjacent yard area. The building appears to be relatively old, likely dating back to the early 20th Century. Inspection of the Ordnance Survey 25-inch map (1892 – 1914), reveals that the area was adjacent to a gas works, apparently accessed off New Road, and that the building was not in existence at that time. Currently the site of the former gas works is a Recycling Centre. Details of the existing building are summarised below in Table 2.

Table 2: Dowlais Depot building description

Building type	Construction materials	Remarkable features	Condition at time of PRA
A detached, single storey, rectangular, former machine shed/garage, built close to a west/east alignment, with conventional pitched roof, with rear, southern wall facing onto New Road, standing within a modest sized yard area, probably dating from the early 20 th Century	Conventional brick and stone built building; corrugated asbestos/cement fibre and cement ridge, timber and metal framed roof, with no lining membrane, or insulation; timber barge boards, no rainwater goods, remnant timber windows filled in with concrete blockwork, metal framed entrance door at west end with corrugated metal sheet covering	Single skin walls with no cavity; exterior brackets; former exterior doorways and windows blocked with cement blocks and sheet metal; southern elevation fronting onto pavement along north side of New Road	Interior lit by electric light, with only natural light from main entrance door on western end; dry interior, containing vehicles and stored items

The building sits on the south side of a small plot of relatively level ground, covering an area of some 0.13ha. The ground falls gently to the west overall, but drops off steeply on its northern side, to the Recycling Centre below. Access is currently from the adjacent bus depot, to the east, and the site comprises a mixture of hard surfaces (e.g. tarmac), disturbed ground, earth bank, and the aforementioned building.

Natural features on site are very limited, but the surrounding area comprises a mosaic of smaller green spaces (mostly embankments), domestic dwellings, small commercial businesses,

ecclesiastical buildings, educational establishments, interspersed with a myriad of small roads and other thoroughfares, feeding into New Road, which is a relatively busy highway through this part of Dowlais. Generally, however, the surroundings are typical of an urban environment.

6 Constraints or limitations

The surveyors were given complete freedom of access to the property, and there were no limitations in assessing the surrounding land. However, numerous stored items, and parked vehicles (including caravans and busses), both on the general site, and within the building, limited, to a degree, a wider appreciation of the property. These were not considered to be significant constraints, and the surveyors were able to assess the building and the wider site.

In terms of carrying out the PEA, the winter is a poor time of year to undertake such an assessment. Many plants are dormant, have died back, or are limited to odd blades of grass, or leaves. Nonetheless, a basic assessment of the plant types/habitats was possible, partly due to the early emergence of some plant species following mild winter weather.

7 Record search

Following normal practice, a record search was commissioned from the South East Wales Biodiversity Record Centre (SEWBRc), and this search (unique reference 0234-894), revealed that there were no previous records of protected species at the site, nor had any sensitive habitats been recorded there. The search was conducted to Package B level, covering priority species and habitats within 1km of the site.

In all, the search returned records for 504 species, and 16 different habitats. This comprised of the presence of 49 historic records of bats within 3km. The records straddle the boundary between Vice County 41 (Glamorganshire), and Vice County 42 (Brecknockshire). The Vice County 42 records have largely been verified/validated. Sadly however, very few of the Vice County 41 records have been assessed, and many of them will never be verified, because they have been supplied by large ecological consultancies which did not retain the data (i.e. sonograms), for the County Recorder to be able to verify them. In many cases, the validity of these records is therefore questionable.

The nearest bat record (dating from 2020), was 401m to the north-west, where a bat was observed flying over a garden. Of the identified bat species, within a 1km radius, a common pipistrelle (*Pipistrellus pipistrellus*), was observed flying 452m to the south-west in 2014, a pipistrelle (in 2019), some 695m to the west, and a verified record of a serotine bat (*Eptesicus serotinus*), in 2015, 898m to the north-west.

All of the other bat records were in excess of the 1km radius and included a single record of brown long-eared bat (*Plecotus auritus*); 33 records of lesser horseshoe bat (*Rhinolophus hipposideros*); six of greater horseshoe bat (*Rhinolophus ferrumequinum*); one of soprano pipistrelle bat (*Pipistrellus pygmaeus*); and two unidentified pipistrelle species (*Pipistrellus sp.*). No roosts were noted within 1km, and all of the records related to foraging or commuting activity.

Of the terrestrial mammals recorded, the nearest was of a hedgehog, just over 300m away, and there are numerous records for this species within the search area. The only other mammal species recorded within 2.5km was a single record of a badger, nearly 700m distant to the east.

Reptiles appear to be absent from the record search, although this is likely in part to be a result of lack of recorder effort. Similarly records of amphibians are few in number, with common toad and common frog being the most frequently reported species within the search area. Great crested newt (*Triturus cristatus*), has been recorded, with the nearest dating from 1985, some 694m away. Other amphibians recorded are limited to palmate newt (*Lissotriton helveticus*), with the closest being nearly 400m to the south.

There were numerous bird records within the dataset, reflecting the presence of well-respected ornithologists in the area. Notable protected species within 1km included barn owl, dating between 1961 and 1991, over 300m away; bullfinch (*Pyrrhula pyrrhula*); pied flycatcher (*Ficedula hypoleuca*); starling (*Sturnus vulgaris*); house sparrow (*Passer domesticus*); lapwing (*Vanellus vanellus*); peregrine (*Falco peregrinus*); and herring gull (*Larus argentatus*).

The property is not designated for nature conservation reasons. By consulting the Magic Map Application, no Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, or National Nature Reserves (NNR) were noted within the search area.

All of Dowlais lies within a B-line route. These are routes originally proposed by Buglife, as locations where efforts must be made to provide food plants for bees, and other insect species. The presence of the property within such a route was therefore taken into account when considering the recommendations made in this report. The SEWBRc search included significant insect species in the area, including red-tailed bumble-bee (*Bombus lapidarius*), and common carder bee (*Bombus pascuorum*), as well as butterflies, dragonflies, and damselflies. However, in common with the situation nationally, insects are very under-recorded in the area.

The only Site of Interest for Nature Conservation (SINC), within the 2km search radius, was Cyfarthfa Castle/Park, at just over 1.8km to the west. It is not considered that this site will be impacted by the development.

8 Survey findings

As noted above, the site currently provides storage and workshop space on an area of land approximately 0.13 ha in size, set within an urban context. The features of the site are dominated by a single rectangular building, and hard surfaces. The PRA and PEA were conducted on Thursday the 22nd of February 2024, in dry and overcast weather conditions. Details of the timing, and conditions under which survey was conducted are given in Table 3 below. Wind speeds employ the Beaufort scale.

Table 3: Survey and conditions

Date	Survey type	Timing	Weather conditions
22/02/2024	Preliminary Roost Assessment (PM/DM); Preliminary Ecological Appraisal (PM/DM)	10.30 – 11.45 hours Greenwich Mean Time (GMT)	Air temperature: 6°C Cloud cover: 8/8 oktas Conditions: Dry and overcast Wind speed: F1, light air
Surveyors	Diane Morgan (DM), Phil Morgan (PM)		

The surveyors assessed the features of the building first, with an internal and external inspection. No evidence was found for the presence of bats – no live animals were found or bat droppings noted on the ground or on the upper surface of stored items. Potential roost features (PRFs) and bat access points were noted in several places on the building, which are described as:

- slots behind timber fascias on the northern and southern elevations, and also at the east and west gable end walls;
- gaps above windows and doors in the brickwork and stonework on the north and east elevations;
- potential gaps beneath ridge capping;
- large space above garage door at western end, where bats or birds can simply fly inside.

Despite the identified PRF's the building was considered to be of low potential for roosting bats, and this partly reflects the fact that it is surrounded by strong street, and security lights. Bat fauna in the area is therefore likely to be limited to light tolerant species – such as crevice roosting pipistrelle bats.

No basement or below ground features were noted. No hibernation potential for bats was identified on the site. No old or historic evidence of bird nesting activity was noted. Crevices in the brick and stone walls of the building were too small, or shallow, to be exploited by small bird species, but a gap in the fascia at the north-east corner of the building offers modest potential for nesting opportunities for species such as house sparrow.

Assessment of the building was followed by a PEA of the remaining parts of the site. For recording purposes, the site was divided into three different habitat types and mapped following the codes and conventions described in the Phase 1 Habitat Survey Handbook (JNCC 2010). Table 4 below describes the on-site habitats in order of surface area indicating dominant species, with the most extensive habitats listed first. A complete species list can be found in Table 7 (see Appendix III).

Table 4: Summary of Phase 1 habitat notes

Habitat	Phase 1 classification	Description of area and typical species
Type 1	J5 Other habitat; hardstanding	Areas of hardstanding extend around the west end and northern side of the building. A mound of hard core and large stone blocks are present at the east end of the building. Around the fringes of the hardstanding are narrow zones of ground vegetation of grasses and fast colonising weed species of dandelion (<i>Taraxacum spp.</i>), nettle (<i>Urtica dioica</i>), bramble (<i>Rubus fruticosus</i>), rosebay willowherb (<i>Chamaenerion angustifolium</i>) and creeping buttercup (<i>Ranunculus repens</i>). Scattered small shrubs are present including elder (<i>Sambucus nigra</i>) and buddleja (<i>Buddleja davidii</i>). A narrow line of shrubs forms the northern boundary line at the top of a steep bank of scrub vegetation which descends to the adjacent Recycling Centre. A single silver birch tree (<i>Betula pendula</i>) stands beside the north wall of the building.
Type 2	J3.6 Building	A rectangular single storey building built in stone and brick stands against the southern boundary of the site.
Type 3	J1.2 Wall	A stone wall forms the southern and western boundaries of the site. An unused entrance to the site set into the wall on the south boundary is formed by a secure gate with spiked metal uprights and corrugated tin panels.

Characteristics of the site contain few features of natural habitat suitable to support wildlife. Shrubs provide limited features to support and shelter small bird species. When considering the site in relation to protected species, there was no evidence of reptile and amphibian species, with no suitable habitat likely to sustain them with food and shelter.

Within a 500m radius, no water bodies, considered suitable for breeding amphibians were found: small watercourses to the south of the survey site are separated by hostile habitats. Similarly, the presence of badger, dormouse and otter was dismissed, with no suitable habitat at the site or within the immediate urban area. A north facing slope of grassland and trees to the south of the survey site was considered to offer potential to support wildlife such as hedgehog, but the busy route of New Road, carrying a regular flow of traffic, stands between the site and this natural area, which poses a major hazard for terrestrial species. During the survey visit two bird species were observed on or over the site: blackbird (*Turdus merula*), and wood pigeon (*Columba palumbus*). A 7-spot ladybird (*Coccinella septempunctata*), was noted on ground level vegetation.

No invasive non-native species (INNS) plant species were found during the site survey. Presence of buddleja was noted, and this is an invasive species often present on disturbed ground with little or no management. It does however offer some attractions to insects, which enjoy the food potential of the flowers.

A single silver birch tree on the site is small and slender. It was examined for its potential to support protected species (bats and birds), and no features of interest were found.

Finally, the surveyors considered the context of the site in its surroundings. The immediate area is urban with a mixture of industrial, residential and recreational activity identified. A Recycling Centre and bus depot are to the north and east respectively, whilst factory units are present to the south. Narrow bands of green vegetation thread between these man-made zones with larger green spaces over 500m distant to the south. Streetlighting is present, particularly around the Recycling Centre and bus depot. The area is expected to be well illuminated at night.

9 Discussion

The historic use of a site, and its surroundings, leaves its mark on the land, in more ways than one. Such is the case at the former Dowlais Depot site, which for decades has been an area woven into an industrial landscape. Previous use of the wider area for a gas works, and on-going use as a Recycling Centre, bus depot, and former municipal depot site, are evident when visiting for the first time, and the site is characteristic of many 'brown-field' areas. Such sites can be a wildlife oasis, rich in species, particularly when surrounded by improved fields, used for sheep farming. This is not the case at this small site, which lies at the other end of the spectrum for nature conservation – being limited in species and of low ecological value.

Results of the record search indicate that no species have been recorded at the site previously, and that it is not a location of significant habitats, nor has it been designated in any respect for nature conservation. However, a perennial issue with urban landscapes is the under recording of the species they contain, and lack of recorder effort must always be taken into account when commissioning searches. The current site assessment has not added materially to the species list for the area, with those species recorded being largely common and widespread.

The workshop/garage has been identified as having low potential to be exploited by roosting bats in spring and summer, with a number of PFR's around the exterior. Whilst hibernation use is discounted, the use by crevice using species, which will tolerate high levels of artificial light, needs to be assessed.

Bats are protected under the provisions of Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), whilst their roosting places are also protected under the provisions of the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019. All bats, and their places of rest, are fully protected under British legislation, and as such, where there is evidence for the presence of bats, or where there is potential for them to be present, detailed assessment is appropriate.

When the nature conservation significance of the building is considered against recognised criteria (*Bat Mitigation Guidelines 2004* and *Good Practice Guide: NRW Approach to Bats and Planning October 2015*), the nature conservation status of the structure is assessed to be low. More information is needed to confirm if bats are actually present in the building, and how it might be being used (e.g. day roost). Recommendations are therefore made below for additional survey to be undertaken.

Regular records of hedgehog in the community surrounding the site suggest that they may visit the property on occasions. However, visits would be hazardous, given the surrounding road network, and likely high traffic densities. It is most unlikely to be used by other mammal species, although red foxes (*Vulpes vulpes*) are now almost ubiquitous in urban environments, despite the lack of historic records.

No evidence was found for the presence of bird nests, or roof nesting birds, but it is likely that species such as wren (*Troglodytes troglodytes*), and house sparrow, will be able to access the walls of the building, as they can squeeze into the gaps at fascias and in brickwork. No evidence was noted for the presence of barn owl at the property, but they have been recorded historically in the wider area.

All breeding birds are protected under the provisions of the Wildlife and Countryside Act 1981 (as amended), and active bird nests cannot legally be disturbed or destroyed. Birds are highly mobile, and can use or abandon sites readily. Whilst no evidence for nesting was found, it is appropriate to give advice in this respect, in the event that birds are found during any future work.

Vegetation on site is typical of disturbed ground, and although there are discarded items and parked vehicles around the area, the opportunities for nesting birds on the wider site are likely to be limited. However, wider bird nesting cannot be totally discounted.

Presence of amphibians such as frogs and toads are also possible during their terrestrial phases; there is no standing water on the site or in close proximity. The site is not suitable to support other amphibians or reptiles, there being no basking areas for species such as slow-worm or common lizard and insufficient vegetation to shelter and support these animals.

No evidence was found for the presence of invasive non-native plant species (INNS), such as Japanese knotweed, giant hogweed, or Himalayan balsam. Buddleja is however present, and whilst this is an INNS, it is considered to be beneficial for many of our flying insects (e.g. bees, butterflies, moths).

The Environment (Wales) Act 2016 requires the local planning authority to seek to maintain and enhance biodiversity. The Welsh Government has clarified this to mean that developments must include biodiversity enhancement measures prior to the determination of the application. There are opportunities to accommodate biodiversity enhancement measures within this development, and accordingly recommendations are made below to deliver Net Benefits for Biodiversity (NBB).

Similarly, the current PPW 12, requires that Green Infrastructure is considered with any development. Increasingly opportunities for biodiversity are more and more isolated, and this is very much the case around New Road. Green spaces are limited to ribbons of woodland/parkland surrounding roads and new developments in the area. The opportunity therefore presents itself to contribute to a mosaic of green areas, and to comply with the requirements of PPW12. Green Infrastructure provided by gardens is therefore becoming ever more important, and it is appropriate to make recommendations in this respect below.

10 Recommendations

Bats are protected under the provisions of Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), whilst their roosting places are also protected under the provisions of the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019. All bats, and their places of rest, are fully protected under British legislation, and as such, where there is evidence for the presence of bats, or where there is potential for them to be present, detailed assessment is appropriate. The PRA at Dowlais Depot has identified that the garage has low potential to be used by bats. A single observation of the building must therefore be carried out in the active summer period between mid-May and the middle of September, to establish if bats are actually entering or emerging from the building. This will be allied to the use of night vision aids.

Additionally, a period of passive monitoring for bats is appropriate within the building during the summer months. A suitable bat detector (e.g. Song Meter Mini Bat 2 or similar), must be left operating within the roof space of the garage for a minimum period of two weeks in the period mid-May to mid-September. Whilst it is acknowledged that bats will likely be detected in the vicinity of the building, the timing of any recording data can be used in assessing if bat activity occurs at a time when it could be associated with roosting activity.

The owner must be aware that bats can be encountered unexpectedly during any development, and if this occurs, it is important to immediately stop activity in the vicinity of the bat(s). It is possible that a bat will be in a torpid state and unable to fly off for several minutes or even up to 20 minutes. Advice must be sought from Natural Resources Wales, or if this is not possible, then from an ecologist who holds a licence to disturb bats. To proceed without taking advice would be an offence under the provisions of the Wildlife and Countryside Act 1981 (as amended) (see Appendix VI).

In the event that a bat is found, then further appraisal of the building cannot be avoided. It may be necessary for the owner to obtain a European Protected Species (EPS) licence from Natural Resources Wales (NRW) before undertaking or completing works. However, before it is possible to apply for an EPS licence, confirmation of the species present would be needed, and how they are using the structure (e.g. day roosting).

Breeding birds are also protected under the provisions of the Wildlife and Countryside Act 1981 (as amended). An active bird nest cannot legally be disturbed or destroyed. Once a nest is established, the birds must be able to have access at all times until the young have fledged, and the nest is no longer active. The bird breeding season commences as early as March and continues into August for species which rear a second or third brood. If an active nest is found elsewhere, it must also be retained and protected. A cordon must be established for a safe working zone a suitable distance from the nest, and not until the chicks have fledged can the nest be destroyed.

Change of use, at this time, and of itself, is not considered to bring about any damaging effects with respect to biodiversity. Despite the fact that the site is likely to be well lit at night, recommendations are still appropriate with respect to any artificial lighting provision to be made as part of the development proposals.

A Bat Conservation Trust study of the impacts of lighting on bats has considered the increased risk of the bats being preyed on in well illuminated areas. Lighting was also found to be harmful when present near woodland edges and hedgerows (not an issue with this property), as well as causing isolation of colonies, and altering insect prey behaviour. If external security lights are to be fitted as part of the proposals, these must be installed no higher than 2.3m above ground level, and use low wattage bulbs. There must be no upward light spill and shrouds or deflector fittings are a simple way of avoiding this. Lights must be on timers to ensure that lights are extinguished within 30 seconds of movement ceasing. It is also desirable that internal lighting is sunk into ceilings, rather than pendant lights, as this appears to reduce external lighting impacts if curtains or blinds are not used.

Net benefits for biodiversity

New development provides the opportunity to enhance the biodiversity of the site, and to comply with Planning Policy Wales 12 (PPW12), and encourage further recovery for nature, a number of enhancements are recommended as suitable for a site of this size. As starlings have been recorded in the area, it is recommended that a suitable nest box (see Plate 15), is provided. A suitable location would be on an upper wall at the eastern gable end of the structure, if subsequently permitted. It must be positioned so that it is not above, or near to, any window or doorway. A second small nest box can also be provided (see Plate 16), but care will have to be undertaken with any installation to avoid direct sunlight, and rainwater incursion. Positioning so that it cannot be accessed by domestic cats will also be essential. Most manufacturers/suppliers provide instructions on suitable locations but a sheltered position is best.

The record search revealed that hedgehogs are often recorded in the area, despite the perils presented by the local road network. Given their presence, there is no reason why they would not visit the site in future, and it is therefore recommended that a hedgehog nest box is provided, to offer a refuge and potential hibernation location in winter. There are many suitable designs available, and a suitable example is shown in Appendix IV (see Plate 17).

The site lies within a 'B-line', route, and as many of our insects, including pollinating bees, are struggling to cope with modern development and likely climate change, the development offers an opportunity to benefit bees and other insects. Ideally some of the proposed garden/parking area can be used to provide suitable flowering plants, either in borders, or, in pots/planters.

Even small corners can be utilised, to provide enhancements for insects, and a dense planting of species such as phlox (*Phlox paniculata*), sweet william (*Dianthus barbatus*) and/or snapdragon (*Antirrhinum majus*) will benefit bee species in particular. Other plants which can be included, and which will benefit insects at different time of year are listed in Table 5 below.

Table 5: Plants for insects

Plant	Planting locations	Benefitting insects
Borage	Garden edges, walled borders, pots	Flying insects including bees
Honeysuckle	Garden edges	Bees, moths, other flying insects
Lavender	Garden edges, walled borders, pots	Bees, moths, other flying insects
Michaelmas daisy	Pots, walled borders	Butterflies
Poached-egg plant	Garden edges, walled borders	Bees, moths, other flying insects
Sweet William	Garden edges, walled borders	Flying insects including bees
Wallflowers	Garden edges, walled borders	Butterflies

Green infrastructure statement

It is necessary to submit a Green Infrastructure Statement (GIS), to the planning authority for compliance with PPW12. As well as stating the provision of enhancements for biodiversity, as described above, there is scope for some tree and shrub planting, as well as other measures, taking into account the effects of climate change, which is projected to result in higher rainfall levels in Wales.

Table 6 below lists suitable small garden tree species which would be suitable to plant on the boundary between the property and the Recycling Centre. In addition to creating a buffer between the two sites, reducing both light and noise, the presence of trees will help provide links to other natural habitats in the vicinity.

It is important that trees are purchased from local suppliers to avoid plant diseases, which can be introduced with imported stock. It is expected that the owner will plant examples of as many as possible of the trees and shrubs listed as they will make a contribution to local biodiversity, reducing the water table, and carbon sequestration. A suitable list of species is set out below in Table 6.

Table 6: Small garden tree and shrub species

Plant	Biodiversity benefits
Alder	Nectar for bees, and seeds for birds
Blackthorn	Nectar for bees, and seeds for birds
Bird cherry*	Nectar for insects, and seeds for birds
Crab apple*	Nectar for insects, seeds for birds and small mammals
Dog rose	Nectar for insects, seeds for birds
Dogwood*	Good for moths and caterpillars, birds
Elder	Nectar for insects, food for birds and small mammals
Field maple*	Food for insects, birds and mammals
Goat willow	Good for insects
Hawthorn	Food for insects, birds and mammals
Hazel	Food plant for small mammals
Holly*	Food plant for insects and birds
Rowan (Mountain ash)*	Food plant for insects and birds
Silver birch*	Seeds and invertebrates for birds

* Tree species which would be appropriate at the Dowlais Depot site

As a lawn area is proposed for the development, which will likely involve sowing an amenity grassland seed mix, there is an opportunity to sow wildflower seeds into this mixture. It is recommended that a suitable seed selection in the Germinal AB1 nectar flower mix is added. This mix includes longer-lived flowering species, with shorter-lived legumes for pollinators such as bees, butterflies, hoverflies and moths. A suitable alternative is the Emorsgate LWBM seed mixture.

The proposals involve the provision of a private parking area, and an area has already been identified this. This area currently comprises tarmac and compacted earth surfaces. A porous

parking area will therefore be provided, which will allow any rainwater to drain to the tree lined earth bank between the property and the Recycling Centre.

11 Conclusions

This development is on a small brown-field site, which is adjudged overall to be of low ecological value. Whilst additional survey is required on the existing workshop/garage, which of itself may in due course require additional recommendations, there is the potential to carry out enhancements on the site overall as Net Benefits for Biodiversity must be incorporated into the proposals.

The building is assessed to offer low potential to be used by bats, but further survey is essential to establish if bats are using the structure. A single dusk bat emergence/activity observation is proposed to be carried out during the summer period (mid-May to mid-September) to establish if bat use is occurring. This will be allied to the use of night vision aids and additionally a minimum period of two weeks of passive monitoring. If no use is found to occur then development may proceed following suitable consent by the local planning authority. However, if bats are present, then a suitable Scheme of Mitigation will be required, in addition to further survey to confirm type of use and species present. In such circumstances, the owner may need to obtain a European Protected Species (EPS) licence from NRW.

A Green Infrastructure Statement is also included within this document in compliance with current planning requirements, which will make a contribution to the local community, as well as helping to reduce the impacts of climate change in the area. If all the recommendations in this report are delivered, with respect to environmental/biodiversity enhancements, any negative impacts will be nullified and positive actions can be undertaken to benefit wildlife and the local area.

12 References

- Aebischer, N.J., Balmer, B., Brown, A.F., Eaton, M.A., Douse, A., Lindley, P., McCulloch, N., Noble, D.G., Stanbury, A., and Win, I. (2021). *'Birds of Conservation Concern 5: The Population Status of Birds in the United Kingdom, Channel Islands, and the Isle of Man'*. British Trust for Ornithology, Thetford
- Anon. (2023). *'Bats and Artificial Lighting at Night: Guidance Note 08/23'*. The Institution of Lighting Professionals and Bat Conservation Trust, Rugby
- Anon. (2017). *'Guidelines for Preliminary Ecological Appraisal – 2nd Edition'*. Chartered Institute of Ecology and Environmental Management, Winchester
- BS42020:2013 (2013). *'Biodiversity – Code of Practice for Planning and Development'*. British Standards Institution, London
- Collins, J. (Ed.) (2023). *'Bat Surveys for Professional Ecologists – Good Practice Guidelines – 4th Edition'*. Bat Conservation Trust, London
- Mitchell-Jones A.J. and McLeish A.P. (2004). *'The Bat Workers Manual – 3rd Edition'*. English Nature, Peterborough
- Ninnes, R. (2015). *'NRW Approach to Bats and Planning'*. Natural Resources Wales, Bangor
- Reason, P.F. and Wray, S. (2023). *'UK Bat Mitigation Guidelines – A Guide to Impact Assessment, Mitigation and Compensation for Developments Affecting Bats'*. Chartered Institute of Ecology and Environmental Management, Winchester
- Spoelstra, K., van Grunsven, R., Ramakers, J., Ferguson, K., Raap, T., Donners, M., Veenendaal, E., and Visser, M. (2017). *Response of Bats to Light with Different Spectra: Light-shy and Agile Bat Presence is Affected by White and Green, but not Red Light*. Proceedings of the Royal Society Biological Sciences, 283 (18550, p.20170075)

Appendix I: Site location/layout plans

Figure 1: Site location plan



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Figure 2: Phase 1 map



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Legend

-  J5 Other habitat; hardstanding
-  J3.6 Building
-  J1.2.Wall

Appendix II: Site photographs

Plate 1: Western end of machine shed/garage, showing entrance



Plate 2: North-western corner of building



Plate 3: North-eastern elevation of building



Plate 4: South-western elevation of building from New Road



Plate 5: South-eastern elevation from New Road



Plate 6: Typical view of part of northern elevation, showing numerous gaps in exterior, where bat access is possible



Plate 7: Western gable end, showing missing barge board



Plate 8: North side of building, showing vehicles parked close to wall



Plate 9: View across site to the west



Plate 10: View across site to the west



Plate 11: Discarded items at western end of site



Plate 12: Site viewed from adjacent Recycling Centre



Plate 13: Bank bordering the Recycling Centre



Plate 14: Discarded items on site



Appendix III: Recorded site species

Table 7: Site species list

Species (common name)	Species (scientific name)	Nature of observation
Barren strawberry	<i>Potentilla sterilis</i>	Present
Bramble	<i>Rubus fruticosus</i>	Present
Broad-leaved dock	<i>Rumex obtusifolius</i>	Present
Buddleja	<i>Buddleja davidii</i>	Present
Clover (white)	<i>Trifolium repens</i>	Present
Colt's-foot	<i>Tussilago farfara</i>	Present
Common chickweed	<i>Stellaria media</i>	Present
Creeping buttercup	<i>Ranunculus repens</i>	Present
Dandelion	<i>Taraxacum spp.</i>	Present
Elder	<i>Sambucus nigra</i>	Present
Herb-Robert	<i>Geranium robertianum</i>	Present
Ivy	<i>Hedera helix</i>	Present
Nettle	<i>Urtica dioica</i>	Present
Ribwort plantain	<i>Plantago lanceolata</i>	Present
Rosebay willowherb	<i>Chamaenerion angustifolium</i>	Present
Silver birch	<i>Betula pendula</i>	Present
Tansy	<i>Chrysanthemum vulgare</i>	Present
Thistle	<i>Cirsium sp.</i>	Present
7 spot ladybird	<i>Coccinella septempunctata</i>	Present
Blackbird	<i>Turdus merula</i>	Flew over, briefly perching on vegetation
Woodpigeon	<i>Columba palumbus</i>	Flew over

Appendix IV: Biodiversity enhancements for birds and hedgehogs

Plate 15: Starling nest box



Plate 16: Small bird nest box



Plate 17: Hedgehog nest box



Appendix V: Ecology of bats

During the evolution of life on Earth, as far as is known, only four groups of animals have achieved the ability to fly by their own means/physical powers. These groups include the long extinct Pterosaurs – flying dinosaurs; insects (e.g. bees, butterflies, flies); birds; and bats. This makes bats, as the only flying mammals, particularly special, and due to this ability, they are widespread, with roughly 1400 different species found across the globe.

This diversity means that they have evolved to exploit many habitats and opportunities, from deserts to forests, and lakes, and cities. Only the open seas and oceans, and ice caps are devoid of bats, although crossings of seas by bats have been recorded on numerous occasions. Bats fall into two groups, the mega-chiroptera – the old-world fruit bats – and the micro-chiroptera – mostly smaller, mainly insect eating bats. Both groups evolved separately: the fruit bats from a lemur like ancestor, whilst the micro-chiroptera evolved from a shrew like ancestor, probably just before the dinosaurs became extinct – they are therefore a very ancient group of animals.

In Britain, there are some 18 species currently present and most of these are considered to be breeding in the country. They are all micro-chiroptera and eat only insects. Whilst there are many ‘old wives’ tales’ about bats, many of them are false, and bats are highly social animals with excellent eyesight, particularly in poor light. They are mammals, being warm blooded and giving birth to live young – usually only one baby at most – although twins are sometimes found in Scotland, where insect populations allow female bats to occasionally support more than one pup. They can also be long living, although typically smaller bats live for around five years. However, some species, such as Daubenton’s bat, have been recaptured over 21 years since they were originally encountered!

Whilst not unique, bats have evolved to see with sound – known as echo-location – something whales and dolphins can also do, as well as some birds, insects, and terrestrial mammals like shrews. In bats it is particularly refined, allowing them to detect moving objects and determine if an insect, such as a moth or gnat is good to eat.

British bats live in a variety of places, and following the last ice age, most lived in caves or rot holes on trees since bats have no means to gnaw or chew at wood, or make modifications to a structure. Today, with very little woodland left in Britain, bats have had to learn to exploit modern structures, and although some still rely on caves in order to hibernate, bats are good at finding access points around the roof features of buildings. Some like to roost within loft spaces, these loft dwelling species include the lesser horseshoe, and greater horseshoe bats, as well as the brown long-eared bats, although all bats are capable of exploiting roof spaces if necessary.

However, most bats exploit the verges or edges of the roof space and sometimes the walls of a building, and these animals are known as crevice roosters – including our most common species – the pipistrelle bats.

In the past 70 years agricultural practices, resulting in habitat fragmentation, and the use of pesticides have resulted in a massive reduction in bat numbers, driving some to the edge of extinction, and for this reason all bats in Britain are legally protected.

Appendix VI: Legislation

All British bats, and their roosts (whether occupied or not) are legally protected. The main legislation is the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000). Protection is also afforded under the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019. Under the provisions of these legal protections, anyone found guilty of harming bats or damaging, destroying or denying access to a bat roost, can be subject to fines or custodial sentences.

In an effort to start to address the decline in bat populations, the Natural Environment and Rural Communities Act 2006, and the Environment (Wales) Act 2016 require all public authorities/bodies to have regard for the conservation of biodiversity – e.g. when considering planning applications. With regard to Wales, species and habitats of principal importance are listed in Section 7 of the Environment (Wales) Act 2016 which includes 8 bat species: common and soprano pipistrelles, noctule, brown long-eared, greater and lesser horseshoes, barbastelle, and Bechstein's bats.

A legal ruling (Woolley v. Cheshire East Borough Council) has set a precedent stating that it is necessary for a planning authority to be appropriately informed or aware of the presence (or absence) of legally protected species prior to considering the issues of a planning proposal. Good practice is to assess as soon as possible if bats are present at potential sites for development and possibly even before land is purchased. In some cases, the period required for adequate survey work may span more than one calendar year. If a development, including demolition or change of use, is likely to impact on bats and their roosts then a derogation licence will usually be required. Adequate survey results are a necessary input to any licence application. If bats are not found until late in the development stage this may result in expensive delays while a derogation licence is sought and even in offences being committed.

The law with respect to dwellings and other structures is applied equally. Where disturbance is deemed likely to have a significant effect on bats to survive, breed and rear their young or will affect the local distribution and abundance of the species, a European Protected Species licence issued by Natural Resources Wales. A licence application must demonstrate that the development will not be detrimental to the maintenance and favourable conservation status of the species concerned.

All wild birds, their eggs and nests are protected by The Wildlife and Countryside Act 1981 (as amended). It is an offence, with certain exceptions, to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- intentionally take or destroy the egg of any wild bird;
- sell wild birds or put them on display for sale;
- use traps or similar items to kill, injure or take wild birds; and
- intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Penalties that can be imposed for criminal offences in respect of a single bird, nest or egg contrary to the Wildlife and Countryside Act 1981 (as amended) is an unlimited fine, up to six months imprisonment or both. In exceptional cases NRW can issue a licence for a specific purpose, so that legitimate work may be undertaken without breaking the law. However, this is exceptional, and not something that is normally expected or done.

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This document is valid for a defined period of one year from the front cover date, in compliance with National Guidelines.

Details of the species recorded during this survey have been passed to the South East Wales Biodiversity Record Centre.

Morgan Ecology provides ecological services mainly with respect to bats and terrestrial mammals, and is based in Mid-Wales. It specialises in providing affordable, and expert services on protected species, for a wide range of clients.

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