

2a Crud yr Awel
Heolgerrig
Merthyr Tudful
CF48 1SA

A Green Infrastructure Assessment

(including a Green Infrastructure Statement)

For



February 2024

Morgan Ecology

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1 Summary

Raynes Scaffolding and Groundworks Ltd are constructing several new dwellings on a site at Crud yr Awel, Heolgerrig, Merthyr Tudful. The developer is wishing to maximise the use of the site, and a small dwelling is proposed to be built on a plot of land outside the original permissions, granted by the local planning authority, Merthyr Tudful County Borough Council. The plot in question, is known as 2a, and is subject to a current planning application under the reference P/23/0256.

Consideration of the application by the Council led to the issuing of a memorandum requesting additional information. In particular, the Council Ecologist required that 'a (proportionate) Green Infrastructure Statement (plus signposting to Building with Nature Standards)' be provided, and, that additionally the development of the new dwelling include 'a demonstration of a Net Benefit for Biodiversity', and, given that the site appeared to have been subject to clearance, in line with Chapter 6 of Planning Policy Wales 12, *"the site biodiversity value should be deemed to have been as if was before any site investigation or clearance took place"*.

Put simply, any ecological proposals for the site, should take account of what was there before any construction/clearance work took place. Whilst no specific ground survey was requested in the memorandum, in order to meet the requirements called for above, a site assessment was considered essential by the appointed ecologist, as insufficient information could be obtained from maps and current aerial photographs. Site assessment took place in January 2024, by an experienced and independent ecologist.

This document provides details of the site assessment, the historic search conducted to understand the previous use of the site, proposals for Net Benefit for Biodiversity, and a Green Infrastructure Statement.

2 Background

Construction is proposed for a small domestic dwelling at 2a Crud yr Awel, Heolgerrig, Merthyr Tudful. A planning application to Merthyr Tudful County Borough Council (reference P/23/0256), resulted in a request for more information including proposals of Net Benefits for Biodiversity and a Green Infrastructure Statement. The site lies on the north side of Heolgerrig at National Grid Reference SO 0281 0587, at an altitude of 302m Above Ordnance Datum.

Utopia Design Architectural Services on behalf of Raynes Scaffolding and Groundworks Ltd, commissioned Morgan Ecology to undertake the necessary work to meet the request from the Council. To help assess the current value of the site, and to establish if any evidence existed of previous site use, an ecological appraisal was undertaken in mid-January 2024, by an experienced ecologist.

This document includes:

- the findings of the Green Infrastructure Assessment site visit;
- the results of a detailed search of historic maps and aerial photographs;
- proposals for Net Benefits for Biodiversity;
- a Green Infrastructure Statement

3 Surveyor experience

The surveyor and author of this report is Phil Morgan, who has 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 advising on ecological issues for 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.

4 Assessment methodology

Site assessment was limited to a visit on Monday 22 January 2024. No historic species record search was conducted, but historic maps and aerial photographs were referred to in order to establish use of the site prior to clearance.

Appropriate photographs were taken during the site visit, and notes were made in a note book for future reference.

5 Site description

The site is sandwiched between Heolgerrig and the dwelling at 3 Crud yr Awel, on a plot of land which lies on a roughly north-west/south-east alignment. The site is fairly level: the most significant feature is the mature species rich hedge, along the south-western boundary. This hedge appears on many of the Ordnance Survey maps stretching back to the 18th Century. The hedge has been protected by the installation of a gabion wall.

6 Constraints or limitations

There were no constraints, or limitations to the on site assessment. The owners provided access. Appraisal of any site provides a snapshot of its value, and botanical assessment in winter is always constrained because most plants are in a dormant condition, making identification difficult and a limited species list. Nonetheless, it was possible to confirm the habitats present, and the likely biodiversity value of the site in its current condition.

7 Survey findings

Appraisal of the site was carried out on the morning of Monday 22 January 2024, by an experienced independent ecologist. Conditions under which survey was undertaken are given in Table 1 below. The site visit was relatively brief, given the modest size of the plot, and lack of botanical interest.

Table 1: Survey and conditions

Date	Survey type	Timing	Weather conditions
22/01/2024	Preliminary Ecological Appraisal (PM)	10.30 – 10.45 hours Greenwich Mean Time (GMT)	Air temperature: 11°C Cloud cover: 8/8 oktas Conditions: Rain showers Wind speed: F0, calm
Surveyor	Phil Morgan (PM)		

Free access to the site was provided by the developer. The site was found to comprise of two habitats, a mature intact species rich hedgerow, and a small area of disturbed or bare ground, approximately 106m² in size. A short list of plant species present was compiled (see Table 2 below), and photographs taken (see Appendix II).

Table 2: Species list

Species (common name)	Species (scientific name)	JNCC habitat code – J.1.1 – intact hedge	JNCC habitat code – J.4 – bare ground
Box	<i>Buxus sempervirens</i>	X	
Bramble	<i>Rubus fruticosus</i>	X	
Buddleja	<i>Buddleja davidii</i>	X	
Cherry, wild	<i>Prunus avium</i>	X	
Dandelion	<i>Taraxacum officinale</i>		X
Grasses, various		X	X
Hawthorn	<i>Crataegus monogyna</i>	X	
Herb-Robert	<i>Geranium robertianum</i>	X	X
Holly	<i>Ilex aquifolium</i>	X	
Honeysuckle	<i>Lonicera periclymenum</i>	X	
Ivy	<i>Hedera helix</i>	X	
Ivy-leaved toadflax	<i>Cymbalaria muralis</i>	X	
Willowherb	<i>Epilobium spp</i>		X

Thirteen plant species were identified on site, but the short hedgerow on the south-west boundary was clearly the richest natural habitat on the site. The full length of this feature could not be assessed (with much of it on third party land), but it was considered that the hedge is likely to be of value for a variety of creatures, providing habitats to live and feed in, and providing shelter and a route to commute along. The remaining surface of the plot is effectively bare ground with some hardy weed type plants, which could be found on any piece of ground.

In order to establish how the site had historically been used, access was made of old Ordnance Survey maps of the location, which are available digitally, from several sources. Using the present-day map co-ordinates of the site, it was confirmed that around the period 1900 some form of structure occupied the site. It is not known if this structure was a dwelling or some other sort of building, but use in the period suggests that it was one of several domestic properties along Heolgerrig, and that the surrounding land use may have been a garden or possibly a small holding. The existing hedge, which forms the south-western boundary, was present at that time.

Study of more recent maps was not productive, and it was not possible to establish when the building, which previously occupied the site was removed. It is possible that local residents might be able to provide more insight on this, but it was not within the remit of the ecological commission.

Few historic aerial photographs exist of Merthyr Tudful. Prior to the outbreak of hostilities in 1939, the German Luftwaffe undertook aerial surveillance of many parts of Britain, and Merthyr, with its important steel and coal facilities, was one of the towns subject to much aerial assessment, and photography. Unfortunately, or perhaps fortunately, Heolgerrig seems to have held little strategic importance for the Luftwaffe, and consequently it does not appear to have been photographed at that time. No evidence was found for more recent aerial assessment, and all current aerial photographs show the site in its current state.

8 Discussion

It is likely that the small plot of land that is the subject of this report was included in the original development appraisal, and but for the fact that the site is subject to a new planning application, no further survey would have been carried out. The latest assessment found the hedgerow, which forms the south-western boundary of the property is of greatest ecological value, and the development proposals included the retention of this important feature.

The hedge is likely to be very old, and is shown on Ordnance Survey maps dating back over 150 years. It seems to have formed the south-western boundary of a property at the site during that time. It has not been possible to verify what was on this plot in the past, but it appears that it was some sort of built structure, and what surrounded it was either a garden or managed ground. In this respect, when considering the history of the site, it seems likely that the proposals are basically a continuation of what was previously present. A gabion has clearly been installed to

protect this hedge, and probably replaced a hedge bank. There was evidence of plants already growing in this gabion wall during the site appraisal.

The memorandum issued by the Council required that a scheme be provided for Net Benefits for Biodiversity and a Green Infrastructure Statement, taking into account PPW12, and Building with Nature standards. In considering the proposals hereafter, these requirements have formed the primary drivers in formulating the recommendations made.

9 Recommendations

Net benefits for biodiversity

Standards set out by Building with Nature focus on six 'Wildlife Standards', and of these Wild 1 and Wild 2 appear to already be in place. The site is a continuation of what was previously there (Wild 1), and the key green infrastructure (i.e. the hedge), is being retained, and therefore meeting the requirements of Wild 2. Wild 3 requires the provision of measures to contribute to the conservation of key species, and in this respect, it is recommended that a Schwegler 1FR bat tube (or similar agreed) is built into the upper south-west gable end wall of the dwelling, close to the apex of the gable. In this location it will look out onto the hedgerow, and therefore have good links to surrounding habitats for any bats using the bat tube. This provision will also contribute to Wild 4.

The property lies within a B-line zone, designated by Buglife. This designation acknowledges the pressures that many of our insects, including pollinating bees, are facing when trying to cope with modern development, and likely climate change. This development offers an opportunity to benefit bees and other insects. Ideally the southern boundary of the property, facing onto Heolgerrig, can be planted with a dense growth of lavender (*Lavandula spp.*), to in effect provide a low hedge. This plant benefits bees, butterflies, and moths, as well as a myriad of other insects such as hoverflies. Again, such a provision will contribute the Wild 4.

Green infrastructure statement

Given the small area of land involved, making a contribution to green infrastructure will be a challenge. It needs to be stated clearly however, that the existing hedge must be retained and protected during development, and in perpetuity. This is in compliance with Wild 5, and Wild 6.

The proposed drive/car parking area must use a porous ground surface. A porous parking area will substantially reduce surface water run-off into Heolgerrig, and retain moisture of benefit to the retained hedgerow.

10 Conclusion

The development plot is very small, and whilst it is sufficient to provide a modest, and much needed dwelling, the potential for enhancement is limited. Nonetheless, retention of the existing hedge is essential, as it clearly has a high biodiversity value, and its age and extent make a valuable contribution for wildlife in the area. Beyond, this, opportunities have been identified to benefit bats, and insects likely to be present in the area, and able to take advantage of the recommended enhancement set out in this document.

11 References

Anon. (2023). *'Building with Nature: Standards Framework (BwN 2.0)'*. Build with Nature Limited, Gloucestershire

Anon. (2017). *'Guidelines for Preliminary Ecological Appraisal – 2nd Edition'*. Chartered Institute of Ecology and Environmental Management, Winchester

Anon. (2024). *'Planning Policy Wales: Edition 12'*. Welsh Government, Caerdydd

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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 plan

Figure 1: Site location plan



© Google satellite imaging 2024

Appendix II: Site Photographs

Plate 1: Existing south-western boundary hedge



Plate 2: View to the south, across Heolgerrig



Plate 3: View across site, towards 3 Crud yr Awel (on left)



Plate 4: Plants already beginning to colonise gabion wall



Plate 5: Schwegler 1FR bat tube



Plate 18: Example of integrated box being put in place



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

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

Morgan Ecology provides ecological services 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 of clients.

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