*Ecology Technical Note*

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# *Ecology Technical Note- Lower Rackery Farm Barns, Rossett, Net Biodiversity Benefit and Green Infrastructure Statement*

## *Introduction*

Chapter 6 of the updated planning policy Wales (PPW) Version 12 includes key changes to planning policy in Wales including green infrastructure and net benefit for biodiversity.

The updated PPW requires planning authorities to firstly ensure that development avoids and then minimises impact on biodiversity and ecosystems and secondly that it provides opportunities for enhancement within areas identified as important for the ability of species to adapt and/or to move to more suitable habitats (Para 6.2.8).

The quality of the built environment should be enhanced by integrating green infrastructure into development through appropriate site selection and use of creative design. With careful planning and design, informed by an appropriate level of assessment, green infrastructure can embed the benefits of biodiversity and ecosystem services into new development and places, help to overcome the potential for conflicting objectives, and contribute to health and well-being outcomes (PPW, Para 6.2.11).

A green infrastructure statement should be submitted with all planning applications. This must be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal (PPW, Para 6.2.12).

### *Net Benefit and the Step-Wise Approach*

The updated PPW states that Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must work alongside nature and it must provide a net benefit for biodiversity and improve, or enable the improvement, of the resilience of ecosystems (PPW, Para 6.4.5)

Planning authorities must follow a step-wise approach to maintain and enhance biodiversity, build resilient ecological networks and deliver net benefits for biodiversity by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for. Enhancement must be secured by delivering a biodiversity benefit primarily on site or immediately adjacent to the site, over and above that required to mitigate or compensate for any negative impact (PPW, Para 6.4.11).

As part of the development proposals at Lower Rackery Farm Barns, the application has considered recent changes within PPW 12 including adoption of the 'step-wise' approach to retention and incorporation of green infrastructure within the development and to ensure that the development delivers a net benefit for biodiversity.

The stepwise approach requires the design of a development to follow the mitigation hierarchy whereby the proposals should initially avoid damage to biodiversity; where this is not possible proposals should minimise the impacts on biodiversity through appropriate locational, siting and design options; where measures to minimise impact on biodiversity and ecosystems could still result in damage or loss, the proposed development should mitigate that damage. Where like for like mitigation measures are not possible, it may be necessary to consider on site compensation measures in the first instance. As a last resort, off-site compensation for unavoidable damage must be provided. Figure 1 below is taken from the updated PPW and shows a summary of the 'Step-Wise Approach'.

### *Site Overview*

The Proposal is to convert a set of redundant farm buildings at Lower Rackery Farm, to provide new dwellings with associated landscaping.

In order to enhance habitats at the site, it is proposed that new lengths of species-rich hedgerow are planted around the site boundaries. A total of four sections of species-rich hedgerow would be provided which would extend to approximately 120 m in total. In addition, it is also proposed that a 10 m wide band of wildflower grassland habitat is created along the north west boundary of the site and is managed to promote its biodiversity value.

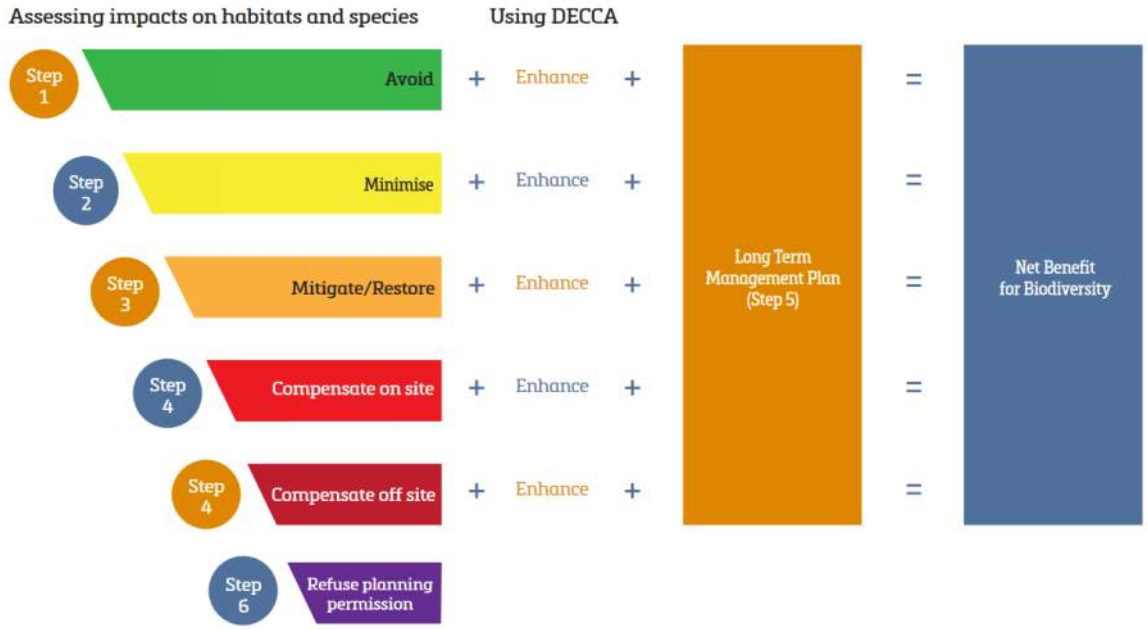
The proposed wildflower grassland should be suitably prepared and sown with an appropriate wildflower seed mix (e.g. Emorsgate EM2 General Purpose Seed Mix).

The grassland should then be managed to promote floral diversity with a hay cut taken in late summer and all clippings should be removed to avoid putting nutrients back into the soil. A further cut can be taken again in late Autumn/Winter.

An appropriate habitat management plan should be produced for all proposed areas of wildflower grassland to ensure that the grassland is appropriately created and managed going forward. The habitat management plan would need to be enacted for a 30-year period.

In addition, 11 native trees would be provided at the site including hawthorn, rowan, apple and downy birch. Full details of proposed planting are shown on the landscaping plan provided in the Appendix.

*Figure 1- Step-Wise Approach Summary*



*Baseline Habitats and Species*

The ecological surveys have aimed to establish the baseline biodiversity conditions of the site as far as possible. The findings of the surveys have been used to inform the design and layout of the site; to identify requirements for further survey; to identify areas of key biodiversity interest which would be retained; to inform habitat creation within retained areas of open space and to inform the design and layout of green infrastructure running through the site to provide site enhancements.

Full details of the ecological assessment of the site can be found within the Mulberry TMC report '*Lower Rackery Farm Barns, Dark Lane, Rossett- Bat Scoping Assessment'* dated 23 February 2024. The initial walkover survey was completed on 15th January 2024. A summary of survey findings follows below.

The site comprises of three traditional brick barns located at Lower Rackery Farm, Dark Lane, Rossett. Each building is two-storey and is likely to be of 19th/early 20th century origin. The buildings are all disused and have had all of the roofs and upper floors removed along with all hayloft windows and doors.

Historic aerial imagery of the site shows the farm to have last been in active use around 2011. After this date, the land around the farm buildings appears to be unmanaged and largely disused.

Historically, there were an additional two farm buildings present at the site along with areas of hardstanding farmyard. There is a previous ecology report for the site (dating from 2011). This previous report recorded the two removed farm buildings as comprising of a modern cattle shed and a modern Dutch barn.

The 2024 survey identified that the additional two farm buildings and the areas of hardstanding farmyard have been removed. Habitats around the remaining buildings currently comprise of areas of bare ground with some short, pioneer vegetation. None of these habitats are considered to be of any significant biodiversity value.

There are scattered mature oak trees located along the site's north-western boundary. The trees will be retained as part of future development proposals.

The field survey included an assessment of the suitability of the farm buildings to support bats, breeding birds and barn owl.

Taken as a whole, the buildings offer suitable bat roosting habitat within multiple crevice features within internal and external masonry associated with areas of missing mortar, post holes where roof and floor trusses have been removed and where there are cracks in the masonry.

The identified crevice features are suitable for individual or low numbers of non-breeding bats. The buildings do not support any suitable features for a significant bats roost with the interior of each building being bright and draughty. No confirmed evidence of roosting bats was identified with no bat droppings found internally or externally.

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Taking account of the potential bat roosting features identified and the site location, the outbuildings were assessed as offering '**moderate**' bat roosting suitability.

In order to further assess the identified potential bat roosting features, it is recommended that at least two dusk/dawn bat activity surveys are carried out during the active bat survey season (May-September inclusive with at least one survey completed between early June and the end of August). The findings of the additional surveys would inform the design of further bat mitigation measures for the site.

No evidence of barn owl activity was identified at the site and the buildings do not support suitable habitat for breeding barn owl.

The buildings are largely considered to be of limited suitability for nesting swallow as they do not support any significant roof structures.

*Step-wise Approach to the development - Avoid, Minimise, Mitigate*

Wherever possible, the proposed development has avoided impacts upon identified key habitat features (the retained oak trees). The development will not adversely affect any designated sites.

A public footpath runs along the north-western boundary of the site adjacent to the retained scattered oak trees. The oak trees will be retained and adverse impacts avoided through retention of appropriate root protection areas. The scattered oak trees are considered to be the features of greatest biodiversity value present at the site. The land adjoining the north-west boundary of the site and running adjacent to the scattered oak trees is considered to be the most appropriate location in which to provide habitat enhancements.

In order to enhance habitats in this location, it is proposed that a new band of wildflower grassland habitat is created running alongside the boundary and is managed to promote its biodiversity value. The wildflower grassland should run the full length of the site boundary. A public right of way runs alongside this area

therefore the habitat enhancements will be accessible to the general public. Details of the landscaping scheme are provided in the appendix.

Further connectivity through the site will be enhanced through the planting of new lengths of species-rich hedgerow along the site boundaries. A total of four sections of species-rich hedgerow would be provided which would extend to approximately 120 m in total.

Further native tree planting will be provided, with 11 native trees proposed for the site. The trees have been selected to be of benefit for wildlife by choosing species which can provide nectar sources for insects and berries/fruits for invertebrates and birds.

In recent years, the complex of farm buildings has gone unmanaged and disused. Some ruderal habitats are likely to have developed around the fringes of the site including areas of bramble, rank grassland and ruderal herb. Such habitats are of limited botanical value but can provide some refuge and foraging habitat for common wildlife. Consequently, such habitats are considered to be of minor biodiversity value.

Habitat at the site have been cleared in the recent past. This has included the removal of areas of hardstanding and the clearance of likely ruderal habitats from the site perimeters.

The loss of these habitats is considered to represent a relatively minor negative impact upon biodiversity. In line with the step-wise approach, the loss of these relatively low-value habitats, will be compensated through on-site habitat creation (i.e. through the proposed new hedgerow, trees and wildflower grassland habitat).

The loss of any potential bat roosting habitat associated with conversion of the outbuildings will be mitigated/compensated through the installation of bat and bird boxes at the site. These would be installed within the structure of the proposed converted barns and can be fitted to retained trees on the site's north-western boundary.

*Site Enhancements (Net Biodiversity Benefits)*

As previously described, landscaping proposals will include new lengths of species-renewed hedgerow around the site perimeters, a new band of wildflower grassland and new native tree planting.

The new lengths of hedgerow and wildflower grassland habitat will appreciably enhance the existing boundary features at the site by providing a high value green corridor. The corridor will take advantage of existing features of biodiversity value (specifically the retained mature oak trees).

The corridor of habitat will be managed for a minimum 30-year period in order to promote and enhance its biodiversity value.

The site landscaping proposals will more than compensate for the historic loss of areas of bramble and ruderal habitats which were likely to have been previously present at the site. The landscaping proposals will therefore deliver a net biodiversity benefit.

Habitats will be protected and managed through a long-term landscape and habitat management plan for the site. The detail of this can be finalised at the Reserved Matters stage.

As previously described, enhanced bat roosting and bird nesting opportunities will be provided through the delivery of a bat and bird box scheme to be incorporated into the converted barns and fitted to retained boundary trees. The detail of this can be finalised pending the findings of further bat surveys.

Taking the above into account, the proposed development provides a significant net benefit for biodiversity. The development will ensure that ecological resilience is maintained within the wider landscape, with the provision of new/enhanced corridor of green infrastructure running along the north-west boundary of the site.

This technical note has been produced by Richard Roe (BSc, MSc, MIEEM, CEnv). Richard is a professional ecological consultant with over twenty years' experience.