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Preliminary Ecological Appraisal

Barn at Foxley Corner

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SUMMARY

ITEM	DESCRIPTION
Site Address:	Barn at Foxley Corner, Lydeway, Devizes, SN10 3PY
Type of structure:	Agricultural Barn
Survey effort:	- Preliminary Ecological Appraisal (PEA) survey - Bat Potential Roosting Assessment (PRA) survey
Survey date:	- Initial PEA & PRA Survey – 29/04/2024
Surveyors:	Daniel Howgego (GCN Licence: 2022-10345-CL08-GCN, Bat Licence: 2024-11950-CL17-BAT, Accredited under Hazel Robson Bat Licence: 2015-10504-CLS-CLS)
Evidence of protected species found?	- Bird nests recorded (small passerine & swallow) internally. - Rabbit warren surrounding and within the barn.
Further survey required?	- No further surveys are required prior to work. - A Precautionary Working Method Statement (PWMS) is required and must be adhered to during the development to mitigate any impacts. This includes pre-work checks for bats (as per section 5.2.44 of the BCT guidelines), nesting birds and rabbits.
National Planning Policy Framework (NPPF) 2023, Paragraph 186	- No significant harm to biodiversity will occur because of the development. - No impacts to an SSSI will occur because of the development. - No irreplaceable habitats will be lost or damaged because of the development. - Biodiversity will be enhanced on the site (see below).
Impacts on roost?	- No roost present
Licence from Natural England required?	No (Toolbox talk required for contractors to ensure they understand and adhere to the extent of works permissible without a licence for other EPS)
Opportunities for ecological enhancement: (See section 4.6)	- 2x Integrated/external bat boxes - 2x Open-fronted bird boxes/enclosed bird boxes - 2x Swallow cups - Insect bricks - Native species planting

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1 INTRODUCTION

1.1 Background

Aware Ecology Ltd was commissioned by Mark Doodes Planning. From a discussion with the client, it is understood that planning approval is being sought for a Class Q conversion of the current barn.

The brief for this project was to undertake a Preliminary Ecological Appraisal (PEA) survey focusing on roosting bats and nesting birds. This aims to assess the likelihood of any Protected Species being affected by the proposed works so that the Local Planning Authority can consider any potential impacts as part of their decision-making process.

1.2 Site Description

The plot is at national grid reference SU 05222 57358 in Lydeaway, Wiltshire. It is set within a rural landscape, surrounded by a small, wooded area with native mature coppices and regenerative growth. The broader landscape comprises arable fields lacking mature native hedgerows or woodlands. The barn is single-storey and approximately 12m by 10m. There are no significant watercourses or woodlands within 1km of the site.

Figure 1. Location of the proposed development



Figure 2. Redline boundary of the proposed development



Figure 3. External overview of the site



1.3 Legislative / Planning Context

The legislation (outlined in Section 5), combined with the *National Planning Policy Framework (NPPF) 2023* and local councils' planning policies (including their BAP), places a further obligation on Local Planning Authorities (LPA) to consider impacts on biodiversity when assessing any development proposals. Specifically, they need to ensure that impacts on any protected species are adequately evaluated and, where necessary, addressed with suitable avoidance, mitigation, or compensatory measures to maintain the favourable conservation status of the species. So, to avoid an offence under the *Conservation of Habitats and Species Regulations 2010*. This means sufficient data is required to categorise the type and size of any roost, sett, breeding, or resting area (etc.) affected by the development proposal before seeking planning consent so that the LPA can consider this part of their decision-making process.

Biodiversity Net Gain (BNG) is a strategy which requires developers to deliver a 'net gain' of 10%; this is principally set out under Section 90A and Schedule 7A (Biodiversity Gain in England) of the *Town and Country Planning Act 1990*. It was inserted into the act by Schedule 14 of the *Environment Act 2021* and became mandatory on the 12th of February 2024.

Core Policy 50 of Wiltshire Core Strategy 2015 also outlines that development should look first to protect any biodiversity features; if they can't be protected, the development should enhance biodiversity on the site.

1.4 Biodiversity Net Gain (BNG)

This application is exempt from current BNG legislation because it is a Class Q application. However, in line with **CP50 of Wiltshire Core Strategy**, the development will deliver a gain in biodiversity.

The good practice principles for biodiversity net gain are set out in Table 1.1 of Biodiversity Net Gain: Good Practice Principles for Development (Baker et al. 2019). The fundamental principles include:

- Apply the 'Mitigation Hierarchy' (in line with CIEEM Guidelines for Ecological Impact Assessment (EcIA)) (CIEEM, 2018) and be 'additional' by achieving outcomes that exceed existing obligations.
- Avoid losing biodiversity which cannot be off-set elsewhere (e.g. irreplaceable habitats)
- Address risk (e.g. difficulty of achieving habitat creation/enhancement for net gain)
- Make a 'measurable' net gain contribution (e.g. calculated using an appropriate metric) and ensure that calculations are consistent and transparent (i.e. limitations and assumptions are identified)
- Ensure that net gain design achieves the best outcome for biodiversity (this may require quantitative and qualitative assessment) and create a net gain legacy for long-term benefits.

1.5 Scope of Use

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The findings in this report are based on conditions observed during the survey, and updated advice should be sought if more than two years have elapsed. The survey and report follow the CIEEM Guidelines for Preliminary Ecological Appraisal, Second Edition, December 2017, and BS42020.

2 METHODS

2.1 Desk Study

A data request through the local environmental records centre was not undertaken as the works occur on a small, localised site. Few other habitats are being impacted, and it is doubtful that the records obtained would affect the site assessment and mitigation proposed.

The MAGIC website was reviewed to obtain records of any statutory and non-statutory designated sites for bats within 10km of the development. As well as any other statutory and non-statutory designated sites within 2km of the development. A local planning portal search was undertaken, which involved looking for other sites within the same postcode area with bat surveys submitted as a part of their planning applications. A search of local species record databases was used to identify protected species records within 1-2km of the site.

2.2 Site Inspection

A daytime site visit was carried out on 29/04/2024. This visit included undertaking a thorough external and internal assessment of the barn to determine its potential to support bats and nesting birds. It will also assess the surrounding habitat and any other protected species likely to be encountered due to the geographical region and habitats within/adjacent to the site, including nesting birds, badgers, and reptiles.

2.2.1 Bats

2.2.1.1 Daytime Survey

The building was visually inspected using binoculars and a high-powered torch where necessary to facilitate a more detailed inspection of individual features. The site was fully accessible externally and internally, enabling a thorough inspection of external and internal features and access points.

Details of any potential roost features (PRFs), such as holes, crevices or internal voids that roosting bats could use, were recorded and photographed. A search was also made for any evidence of bat presence, such as droppings or feeding remains, and any such field signs were noted.

The assessment of suitability for bats was based on the professional judgement and experience of the ecologist in recognising evidence of bats and features that provide suitable roosting conditions but followed the framework set out in current good practice guidelines published by the Bat Conservation Trust (Collins (ed), 2023). This framework is based on the number, location and type of any potential roost features found and the surrounding habitat. The categories for structures include **none**, **negligible**, **low**, **moderate** or **high potential**, whilst for trees, the categories are **none**, **PRF-I**, **PRF-M** or **confirmed roost** where direct evidence of bats is found (Table 1).

Table 1. Bat Roost Suitability Assessment Criteria (Collins (ed), 2023)

Suitability for Bats	Description	Habitat Description
None	No features on-site likely to be used by a roosting bat at any time of the year.	No habitat features on-site likely to be used by foraging/commuting bats at any time of the year.
Negligible	A structure/tree with no obvious features suitable for use by roosting bats. However, a small uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on-site are likely to be used as flight paths by foraging bats. However, some uncertainty remains to account for the non-standard behaviour of bats.
Low (PRF-I)	A structure/tree with one or more potential roost features that could be used by individual bats opportunistically, but without sufficient shelter or connectivity to foraging habitats to be used regularly by large numbers of bats. <i>(Not suitable for maternity or hibernation use.)</i>	Isolated habitat that could be used by a small number of bats as flight paths (gappy hedgerows/unvegetated stream). Suitable but isolated habitat that could be used by foraging bats (lone tree/scrub patch).
Moderate	A structure/tree with one or more potential roost features that could be used by bats but is unlikely to support a roost of high conservation status. <i>(Unlikely to support maternity or hibernation use.)</i>	Continuous habitat connected to the wider landscape providing suitable flight paths or foraging (lines of trees/scrub, back gardens, water course, grassland)
High (PRF-M)	A structure/tree with one or more potential roost features that provide conditions that are obviously suitable for use by larger numbers of bats and potentially for long periods. <i>(i.e. suitable for maternity or hibernation)</i>	Continuous high-quality habitat that is well connected to the wider landscape, which is used regularly by foraging/commuting bats (river valleys, streams, hedgerows, lines of trees, woodland edges, grazed parkland). The site is close to/connected to known roosts.
Confirmed Roost	A structure/tree with direct evidence of bat presence, or an existing record of a roost	

2.2.2 Birds

We identified features within the surrounding habitat and barn that nesting birds might use and noted any signs of nesting activity.

Bird species use buildings, trees and shrubs, undergrowth, or open fields for nesting. Therefore, all these features were considered. Along with these nesting features, any features that may provide shelter for overwintering birds and/or foraging for Schedule 1 birds were also considered.

2.2.3 Great Crested Newts

Any ponds located on the site or within 250m of the property were subjected to a Habitat Suitability Assessment (HSI) to identify if they have the potential to support Great Crested Newts (GCN).

2.2.4 Reptiles

During the site visit, any features that may be used by reptiles for basking (e.g., south-facing slopes), hibernation (e.g., walls, piles of hardcore/wood), and foraging (e.g., rough grassland/scrub) were assessed. Many common reptiles have similar requirements for all the above features; however, certain reptiles also have some more specific requirements (Table 2).

Table 2. List of reptiles with specific habitat requirements (*Beebee and Griffiths, 2000*)

Species	Habitat Requirement
Common Lizard (<i>Zootoca vivipara</i>)	Can be found from woodland opening to pastures and walls to brownfield sites
Slow Worm (<i>Anguis fragilis</i>)	Like common lizards, as well as rank grassland, gardens, and derelict land
Grass Snake (<i>Natrix helvetica</i>)	Like common lizards, but also require wetland habitats for foraging
Adder (<i>Vipera berus</i>)	Require open habitats with some cover, usually associated with dry heathland

2.2.5 Badgers

Checks were undertaken to identify any areas that may be used by Badgers (*Meles meles*) for foraging and sett digging within the surrounding pasture, garden and hedgerows. These signs may include setts, foraging pits, pathways and latrines.

2.2.6 Dormouse

Surrounding habitats were assessed for their general suitability by Dormouse (*Muscardinus avellanarius*). Dormice generally use areas of dense woody vegetation. They are most likely to be found where there is a wide diversity of woody species contributing to three-dimensional habitat complexity, several food sources, plants suitable for nest-building material and that have good connectivity to other areas of suitable habitat. Records for dormice within 2km of the site were also checked on the NBN atlas.

Records for Harvest Mice (*Micromys minutus*) have also been checked due to the population decline. They are now a Biodiversity Action Plan (BAP) listed species. Harvest Mice are active climbers and feed in the stalk zone of long grasses and reeds, where they weave nests 30cm above the ground in dense vegetation (such as grasses, rushes, grassy hedgerows and brambles).

2.2.7 Barn Owl

The site was surveyed to assess the foraging potential for barn owls and any potential roosting and/or breeding sites they may use.

2.2.8 Other Protected Species

Any other protected species (e.g. otter, water vole) were not surveyed due to the nature of the works not having an impact on suitable habitats for them, as there are no ponds/waterbodies on the site or within 200m of the red line boundary.

2.2.9 Invasive Non-Native Species (INNS)

The site was checked for signs of INNS, including flora and fauna. The main species being checked include Japanese Knotweed (*Fallopia japonica*), Himalayan Balsam (*Impatiens glandulifera*), Giant Hogweed (*Heracleum mantegazzianum*), New Zealand Pygmyweed (*Crassula helmsii*), Rhododendron (*Rhododendron ponticum*) and Cotoneaster (*Cotoneaster horizontalis*).

2.3 Survey Team

Daniel Howgego ACIEEM, an ecologist with six years of experience in the ecological consultancy industry, led the survey and assessment. He has a Class 1 GCN and Bat licence, is accredited under the Natural England Class 2 survey licence for bats and is an experienced ecologist.

As a member of the Chartered Institute of Ecology and Environmental Management (CIEEM), he is bound by their professional standards and code of conduct; he is also appropriately experienced for the assigned tasks based on the CIEEM competency framework (CIEEM, 2013).

3 RESULTS

3.1 Desk Study

No background data search was undertaken as part of this survey and report for reasons mentioned in section 2.1.

Within 5 km of the site, the MAGIC website had four records of EPS-licensed projects (all for bats), although it is unclear how up-to-date this database is. The EPS licences are shown in Table 3 below.

Table 3. Granted EPS licences within 5km of the site.

Distance from Site	Orientation from Site	Date	Species Impacted	Roost Types Impacted
2.1km	Northeast	2016	BLE;C-PIP;SER;S-PIP	Resting Place (Damage)
3.0km	West	2019	BLE;C-PIP;SER;S-PIP	Resting Place (Destruction)
3.8km	Southwest	2015	NATT	Breeding Site (Destruction & Damage), Resting Place (Destruction & Damage)
4.5km	Southwest	2018	BLE	Resting Place (Damage)

The planning portal search returned no bat roost record from a search of sites with the same postcode area as the proposed development shown in Table 4 below.

Table 4. Bat roost records within the same postcode area of the site

Planning Number	Date	Species	Roost Type
None	N/A	N/A	N/A

There are two statutory designated sites, no non-statutory designated sites within 2km of the proposed development site, and one statutory designated site for bats within 10km of the proposed development site. These designated sites are as follows:

Table 5. Summary of statutory and non-statutory designated sites up to 10km from the site

Designated Site	Distance from Site (km)	Reason(s) for Designation
Statutory Designated Site		
North Wessex Downs AONB	0.5km NE	The most important habitats for nature conservation in the North Wessex Downs are the remnant areas of chalk grasslands, seminatural broadleaf woodlands and wood pasture, chalk rivers, streams and associated wetlands, and arable farmland managed for conservation. These woodlands provide roosting and/or feeding sites for bat species, including Bechstein's, barbastelle, greater horseshoe and noctule; long rotation hazel coppice that provides important habitat for mammals such as dormice; concentrations of calcareous bluebell woods; and several nationally scarce moss species.
Salisbury Plain SSSI & SAC	1.8km S	Salisbury Plain supports the largest known expanse of unimproved chalk downland in northwest Europe and represents 41% of Britain's remaining area of this rich wildlife habitat. It supports seven species listed on Annex 1 of the EC Directive on the Conservation of Wild Birds, populations of six species of Red Data bird and several species of candidate Red Data bird. Amongst the breeding birds three species are particularly noteworthy. Up to 20 pairs of Stone Curlew representing 12% of the British population breed on the Plain. The area accounts for approximately 20% of breeding records for Quail in Britain each year, and numbers of breeding Hobby are thought to exceed 1% of the British population on a regular basis. Other species of interest on Salisbury Plain include the Great Crested Newt <i>Triturus cristatus</i> . Grass snake <i>Natrix natrix</i> are also often seen near pools, and common lizard <i>Lacerta vivipara</i> , slow worm <i>Anguis fragilis</i> and adder <i>Vipera berus</i> are present.
Drews Pond Wood LNR	4.9km NW	There are 29 Ancient Woodland indicator species on site, including field rose, wood sorrel, Solomon's seal etc. As well as a host of bird and mammal species, such as bats (four species), badgers, buzzards and long-eared owls.
Non-Statutory Designated Site		
None	None	None

3.2 Daytime Site Inspection

3.2.1 Habitat

The barn is situated within a small area of managed woodland, with coppiced hazel (*Corylus avellana*), ash (*Fraxinus excelsior*), elder (*Sambucus nigra*), sycamore (*Acer pseudoplatanus*), and willow (*Salix sp.*) species. There are also areas of thicker bramble (*Rubus fruticosus*) scrub and grassland that appear to be seasonally inundated.

Figure 7. Overview of habitat on-site



3.2.2 Bats

3.2.2.1 Daytime Survey

The pictures below provide a visual overview of the structure found on site, and further detailed pictures are provided at the end of this report.

Figure 8. Visual overview of the structure (left – north, centre – west, right – south)



3.2.2.1.1 B1

The barn is a single-storey corrugated metal structure. It is rectangular and approximately 12m by 10m. It is detached within the plot and has a broken gable roof construction.

The external walls of the barn are corrugated metal, the majority of which are generally in poor condition. Most of the sheets are rusting, with sections lifted from the others. All doors are wooden framed and are in poor condition. A pane of glass in a window on the southern aspect is missing, which provides easy access into the barn. The roof consists of corrugated metal sheets, most of which are in a poor state of repair gaps within the sheets and ridge. The western mono-pitched roof has been redone recently, so it is in a better state of repair. There is no soffit or bargeboard present.

Internally, the barn is split into three sections: two sections on the eastern and western sides, each side of the main barn section. No roof voids are present internally; the corrugated metal sheets are attached straight to the wooden rafters with no membrane present. However, there are access points to the barn. Therefore, the barn can be classified as having a low potential for roosting bats due to the limited external crevices that individual bats may use opportunistically and the access to the internal areas of the barn.

3.2.2.2 Evidence of Bats

Due to a few small crevices externally and access internally, the barn may have limited potential as a day roost¹. No evidence of bats was seen during the survey. It is unlikely to be used as a maternity roost² because no larger quantities of droppings were present. The open nature of the northern aspect would also allow bats to use the barn as a feeding roost, although no evidence of this was found during the survey. All suitable crevices were fully assessed during the survey.

Bats are known to roost near the site, so they may use the features opportunistically (it must be noted that bats are transitional animals and may be inquisitive should conditions change on the site).

The site collectively provides a low-quality roosting habitat for bats, while the surrounding landscape offers a low-quality foraging and commuting habitat. The site would provide a moderate-quality foraging habitat but is isolated from the surrounding landscape. No bat species were recorded within 2km of the site.

Table 7. Summary of the daytime assessment and nocturnal survey results

Structure	Survey Findings	Assessed Bat Roost Potential
B1	Limited external crevices and access internally may support opportunistic day roosting individuals. No bats or evidence of bats was seen during the daytime survey.	Low

¹ A place where individual or small numbers of bats rest during the day but are usually absent at night.

² A place where female bats give birth and raise their young to independence.

Surrounding Habitat	The site has isolated habitat linking it to the wider landscape.	Low

3.2.3 Birds

The barn provides a suitable nesting habitat for a mix of species, with Swallow (*Hirundo rustica*) nests seen inside, along with small passerines (likely Wren). The surrounding habitat also offers suitable nesting for ground-nesting, scrub-nesting, and tree-nesting species. A likely Corvid nest was seen within one of the trees close to the barn.

3.2.4 Great Crested Newts

One newly created pond (70m W) is located within 250m of the property; it has no marginal vegetation and is used within the adjacent dog exercise area for allowing dogs to swim. Therefore, it has a low potential to support amphibians. The surrounding landscape offers limited suitable terrestrial habitat for transitional and/or hibernating individuals. There are 26 records for GCN within 2km of the site. Therefore, they are known to be in the vicinity of the site.

3.2.5 Reptiles

The surrounding hedgerows and vegetation would provide a limited habitat for dispersion and foraging in the broader landscape. The habitat on-site provides suitable areas for foraging and refuge, with multiple woodpiles and a mix of bare ground and ranker grassland. Clearance of the vegetation on site may result in reptiles' accidental killing or injury.

3.2.6 Badgers

During the survey visit, no evidence of badgers was recorded close to the barn (e.g., setts, latrines, hair and footprints). However, badger hair was caught on the barbed wire fence along the site's southern boundary with the B3098. This suggests that badgers in the broader landscape will pass through the site and may use the area for foraging. There are five records of badgers within 2km of the site. The barn development would create minimal damage or disturbance to any areas used by badgers unless more habitat areas are removed.

3.2.7 Dormouse

There are no records of dormice within 2 km of the plot (reference NBN atlas). However, four records of harvest mice (BAP species) suggest that individuals will likely be near the site. There are limited connecting features (e.g. hedgerows) that would provide suitable cover for the mice to disperse to a more extensive habitat in the broader landscape. However, the habitat onsite with multiple fruiting hazel coppices would provide a suitable habitat for a small population of hazel dormice. No signs of activity (e.g. nibbled nuts) were found, and all hazel nuts checked were nibbled by woodmice.

3.2.8 Barn Owl

The surrounding landscape offers a low-suitability foraging habitat for barn owls. However, there was no suitable potential for breeding barn owls on-site, and the grassland within the site only provides a low-quality habitat for foraging due to its low sward height. There are six records of barn owls within 2km of the site.

3.2.9 Other Species

No other notable species were recorded as present on-site during the survey visit. The development would also create no damage or disturbance to any areas used by otters or water voles.

There is evidence of rabbit activity around and within the barn, with multiple holes being dug, which suggests it is an actively used rabbit warren.

3.2.10 INNS

There was no evidence of invasive non-native flora or fauna on the site.

4 EVALUATION AND RECOMMENDATIONS

4.1 Limitations to this Evaluation

The surveys were undertaken by an experienced ecologist following industry-standard good practice methodology. The barn was accessible externally and internally, enabling a thorough assessment.

The survey timings were within the suitable period to identify actively nesting birds and summer roosting bats, which enabled an optimal survey to be carried out.

Based on the conditions encountered during the fieldwork and the results achieved, the survey presents a robust assessment of the likelihood of use by roosting bats. It is sufficient to inform mitigation requirements for the current proposals (Class Q barn conversion). No data search was undertaken as current proposals suggest no land will be lost or linear features severed. The overall impact on biodiversity will likely be localised and of low significance. It is doubtful that the development will have any effect outside the footprint of the works.

However, it should be noted that whilst every effort has been made to provide a comprehensive description and survey of the site, no investigation could ensure the complete characterisation and prediction of the natural environment during a 'snapshot' study.

4.2 Likelihood of Use by Protected Species

Based on the survey results following best practice, the barn has no confirmed bat roost; however, due to having a low roosting potential, bats may use the barn opportunistically (especially if conditions change on the barn or the surrounding landscape).

Multiple old bird nests were located within the barn and surrounding habitat, which could be reused again this year. During the daytime survey, no other field signs were identified to indicate the presence of any other protected species within the close vicinity of the barn. However, the woodland block would offer suitable habitat for badgers (hair found in barbed wire fence along the B3098), dormice and reptiles.

4.3 Predicted Impacts of the Proposed Development

The current proposal is to convert the barn under a Class Q application. This would result in significant structural differences, including a different internal structure and changes to the roof and soffit within the new barn. Removing access to the barn would also cause the loss of bird nesting habitats.

The survey evidence suggests that no bat roosts would be lost. However, nesting birds may be impacted. An experienced ecologist would check this before work commences should it occur within the nesting period (March to August inclusive). The erection of bird boxes nearby could also limit birds' chances of nesting within the impacted areas.

Any additional development or vegetation removal in the broader site could impact other protected species passing through the site or using the wooded area for foraging and refuge.

The works would not impact the designated sites for bats that fall within 10km of the site. Still, installing new external lighting on possible bat flight lines around the site could have indirect effects, which are discussed further in the following mitigation section. The enhancements included in this report aim to meet the requirements set out in Core Policy 50 of Wiltshire Core Strategy 2015 to deliver a net gain for biodiversity so, minimising the effects of development within the local and wider landscape.

4.4 Further Surveys and EPS Licensing

4.4.1 Bats

During the survey, there was no evidence of bats recorded. Therefore, no licence is required to allow the work to commence. In many cases, the work should be started during the same season/year, or at the latest, before the following bat survey season begins, which in this instance would be May 2025.

As stated in section 5.2.44 of the new BCT guidelines, further surveys are not required as the building has low potential; the features were checked on the PRA, and no evidence of bats was found. The work should, therefore, be carried out under a **Precautionary Working Method Statement (PWMS)**, which includes a pre-work check by an experienced ecologist.

Outline mitigation and compensation enhancements recommended are as follows:

- Two bat boxes should be fitted to an appropriate location before work commences. This will provide provisional roosting space for any bats encountered during the works. These boxes will be installed at c. 5 metres above the ground facing south-westerly or south-easterly directions to receive full sunlight for at least part of the day, have open flight access and be protected from night-time illumination. The above-given bat box usually lasts c. 25 years and must be left in situ after completion of the development.
- It is advisable that works are undertaken within spring or autumn to avoid the full maternity or hibernation season following Mitchell-Jones (2004) Bat Mitigation Guidelines
- All contractors working on the proposed development must be briefed by the bat ecologist named in the PWMS on the legal protection afforded to bats and their places of shelter and on how to proceed if a bat is discovered during the work (*if a bat is found at unsupervised times, work will stop immediately, and the licensed ecologist will be called for advice*)

4.5 Mitigation / Avoidance Measures

4.5.1 Habitats

The mitigation hierarchy is to be used for a priority habitat, emphasising the prioritisation of avoidance first, followed by mitigation measures, and lastly, compensation. As such, the fruit trees must be retained and managed as part of the development to achieve the avoidance target of the hierarchy. This results in no net loss of past traditional orchard habitat and improves the trees to favourable conditions. To restore this habitat further, a 'gapping up' planting regime within the blue line boundary (in an area of previously recorded traditional orchard habitat).

4.5.2 Protected Species

4.5.2.1 Bats

As no confirmed roost exists, works may commence without a seasonal restriction as outlined in the Bat Mitigation Guidelines (2004). However, it is recommended that work should be undertaken from 1st October to 31st March when there is the least likelihood of bats being present, therefore minimising the potential for disturbance. This timeframe would also eliminate the risk of causing harm to nesting birds. It is also recommended that before works

commence, a minimum of one bat box is erected in a secluded area of the site to provide compensation during and after the work period.

There is a likelihood that bats roosting on the broader landscape will forage and/or commute over and around the site. The surrounding hedgerows/trees should be maintained/enhanced to ensure flyways are available for the bats, and a lighting plan should be implemented that reflects the guidance of the Bat Conservation Trust Bats and Lighting in the UK (2018). This includes ensuring the new dwelling is not directly lit, particularly at the eaves/roof level. If new lighting is required, it would be good practice to use low-level lamps, hooded/cowled, to avoid unnecessary light spillage and with motion sensors or timers to limit illumination to essential periods only, especially as Brown long-eared bats are susceptible to impacts from artificial lighting. As long as artificial lighting is not inappropriately used during or after development, the proposals are considered small-scale and will not impact habitats (or the dark sky sites) beyond the site boundaries.

Breathable roofing membrane must not be used in any part of the roof accessible to roosting bats due to the significant risk of bat entanglement in the material's fibres and associated mortality from entrapment.

Bats will likely be flying around the buildings at night during the late spring, summer, and early autumn months, and they could investigate any new crevices or cavities that are exposed on the walls/roof during the building works. Any such holes or gaps must be securely covered/blocked at the end of each day's work to prevent bats from having the opportunity to use them for shelter.

In the unlikely event that a bat is encountered, work in that area must cease immediately, and advice must be sought from a licenced bat ecologist before resuming.

4.5.2.2 *Birds*

Any de-vegetation works to the hedgerow/scrub on-site or work to the barn should be completed outside of the breeding bird season (March to August inclusive) or after a pre-works survey/search by a suitably experienced ecologist. However, as the broader landscape contains other examples of hedgerows/dense scrub, any negative impacts on ground-nesting and scrub-nesting birds are unlikely to extend beyond the site. The presence of nesting birds on site is considered likely.

If any active nests are found, these will be protected, along with an appropriate buffer zone of 10m, until the nesting is complete and the young have fledged.

4.5.2.3 *Great Crested Newts*

During the construction phase, it is unlikely that any GCN will be discovered due to the works' limited footprint, which only extends into low-potential terrestrial habitats. However, any building materials will be stored clear of the ground (on pallets or similar) to avoid crushing any animals that might seek refuge under them when the materials are lifted.

If any potential refuges are encountered and need to be moved, care will be taken. This will be done by hand and under the supervision of the consultant or agent. It will not be done during hibernation (November – March inclusive).

Excavations for footings will be done between mid-November and February and filled before the end of February. If any trenches are not filled by the end of February, then earth ramps will be made in each trench, in consultation with the consultant, so that newts can escape. Trenches will then be inspected before filling.

If a great crested newt is discovered around the work site, work will stop in that area, and a licensed great crested newt worker will be contacted immediately for advice.

4.5.2.4 *Reptiles*

The presence of reptiles within the proposed works areas is considered unlikely, but safe working methods should be implemented to discourage reptiles from occurring on-site. These methods should include maintaining the grassland at a low level (approx. 300mm during the winter) to decrease the suitability of reptile habitats onsite.

Removing the possible refugia around the site should be completed outside of reptile hibernation (October - March) to avoid disturbing hibernating individuals. It must also be subject to a fingertip search by a suitably qualified ecologist.

During construction, any storage of piles of materials and excavated earth on the site should be kept to a minimum and away from the boundaries to deter reptiles from using them for temporary cover. Suppose a reptile is found during work when an ecologist is absent. In that case, an ecologist should be contacted, and an appropriate course of action should be agreed upon before work continues.

4.5.2.5 *Badgers*

No direct impact on badgers is predicted during the works. To ensure any foraging Badgers do not become trapped within any excavation works, the excavations should either not be left uncovered overnight or ways of escape for Badgers should be provided (wooden planks over 60cm wide at no greater angle than 30° or graded earth banks). This methodology is also beneficial to hedgehogs. Before construction, any exposed pipes and trenches must be checked for trapped wildlife each morning.

4.5.2.6 Harvest Mouse

Due to the limited vegetation clearance planned, no direct impact on harvest mice has been predicted during the works. However, any de-vegetation work should be subjected to a pre-clearance check. It is recommended that this is completed outside of the winter period to avoid the hibernation period of the mice (and other species). All hedgerows should be left intact to minimise the likelihood of encountering individuals and maintain habitat connectivity, or hedgerows should be replanted to ensure connectivity remains post-development.

If any harvest mice are discovered around the work site, work will stop in that area, and an experienced ecologist will be contacted immediately for advice.

4.5.2.7 Other Species

Under the *Wild Mammals (Protection) Act 1996*, it is an offence to intentionally inflict unnecessary suffering on any wild mammal, as specified by the Act. This legislation may need to be considered where the destruction of occupied rabbit warrens and burrow systems will occur. As rabbit activity was seen within the barn, it is recommended to hand dig the holes until you get to a level where the whole burrow system can be inspected and confirmed empty.

4.5.3 Toolbox Talk for Contractors

A toolbox talk should be given to contractors to inform them of the protected species/nesting birds on-site or that may pass through the site. This will ensure they know what signs to look for during work and what process to follow should any species be encountered.

4.5.4 Precautionary Measures

The proposed groundwork areas must be confined to areas that will not impact the root systems of the existing and retained trees within the grassland and boundary hedgerows. An appropriate buffer (as detailed in BS5837:2012) must be established and maintained throughout the works.

Construction work should be limited to daylight hours. Prohibiting night-time work will protect the site from the potential adverse effects of noise, activity, and lighting.

4.6 Ecological Enhancement

The enhancements included in this report aim to meet the requirements set out in Core Policy 50 of Wiltshire Core Strategy 2015 to deliver a net gain for biodiversity so, minimising the effects of development within the local and wider landscape.

4.6.1 Other Enhancements

The site will be enhanced for nesting birds and roosting bats by the erection of two artificial bird boxes, two swallow cups, and two bat boxes on suitable features at the perimeter of the site or on the buildings themselves. Various durable, woodcrete bat and bird boxes will also be installed, including maintenance-free boxes suitable for trees (see Appendices 7.3 and 7.4).

The bat boxes will be placed on the south-east to south-west aspects ideally, with linear features nearby, to allow bats undisrupted dispersal to local foraging habitat and in positions where the entrance is not artificially illuminated at night (enabled by the provision of the 'dark corridor'). Boxes will be positioned a minimum of 3m from the ground.

The bird boxes will also be in secluded positions, ideally within dense cover and at a minimum height of 3 metres from ground level. Other nest boxes, such as house sparrow and house martin-specific boxes, should be placed following their guidelines, ideally around the eaves of the new dwelling. An artificial swallow cup could also be erected high up and inside a building, such as a garage or outbuilding, which allows constant easy access.

Depending on the final building design, other bat compensations could consist of ridge tiles, integrated/external bat boxes, and bat bricks suitable for crevice-dwelling species. If bats can access the internal elements of the roof, only traditional Type 1F felt must be used to line the roof.

It is also recommended that insect bricks (or similar) be incorporated into the design or placed within the site, along with hedgehog highways along any closed-boarded fencing sections.

Table 8. Compensation enhancement measures

Species	Enhancement Type
Bats	- 2x Integrated/external bat boxes¹ - Bat bricks/ridge tiles
Birds	- 2x Open fronted & enclosed boxes - 2x House martin (& Swift/Swallow boxes)²
Other Species	- Invertebrate habitat features (e.g. bug hotel, solitary bee boxes) - Hedgehog boxes - Wildlife friendly planting (i.e. wildflowers good for nighttime flying insects)

Habitat	- Native Hedgerow planting³ - Native fruit tree planting⁴
Lighting	- Keep it to essential lighting only that is directional rather than floodlights - Use motion sensors/timers and hoods to limit unnecessary illumination

¹ To be placed following guidance from Bat Conservation Trust Bat Box Information Pack (2018) e.g. at least 4m high facing south, southeast or southwest. Summer maternity roosts in the northern hemisphere often have a southerly or westerly aspect for maximum solar heating. Male roosts and hibernation sites typically have a northerly aspect (BCT 2020)

² House Martin cups should be placed at the gable apex or under the eaves/soffit where there is a deep overhang, this should be facing north, east or west at a minimum height of 2m. Integral swift nest boxes to follow BS 42021:2022. Swallow nest cups should be sited high up and inside a building such as a garage or outbuilding which allows constant easy access.

³ Hedgerows should be double planted with six plants per metre. Mulching or weed-suppressing mats should be used to aid good establishment of woody species. Plants should be 80 – 100 cm bare root whips (1 + 1), planted between November and March and staked and protected with bio-degradable tree guards to prevent pest damage. also be incorporated into the proposals as part of landscaping. Hedgerow and tree planting should involve a mix of native broadleaved species and include Hawthorn, Blackthorn (*Prunus spinosa*), Hazel (*Corylus avellana*), Hornbeam (*Carpinus betulus*), Beech, Holly (*Ulex aquifolium*), Honeysuckle (*Lonicera periclymenum*), Elder, Dog Rose, Crab Apple (*Malus sylvestris*) and Field Maple (*Acer campestre*). Hedgerows are to be monitored for 5 years to check establishment, once established (7-10yrs) hedge is to be laid and tree guards removed

⁴ When choosing your fruit tree, you may want to consider: the amount of shade the tree will provide, what wildlife it may bring to your garden, how fast-growing it is, the type of fruit you want, what you want to do with the fruit, whether it gives year-round interest (Woodland Trust 2020)

5 Legislation

5.1 Bats

All species of British bat are protected by The ‘*Wildlife and Countryside Act 1981*’ (as amended) extended by the ‘*Countryside and Rights of Way Act 2000*’ (*CRoW Act*). This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat whilst it occupies a bat roost.

Bats are also European Protected Species listed on *Schedule 2* of the ‘*Conservation of Habitats and Species Regulations 2017*’ under *Regulation 41*. This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats in such a way as to be likely to (a) impair their ability to: (i) survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or b), to affect significantly the local distribution or abundance of the species to which they belong; and
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present.

Where it is necessary to carry out an action that could result in an offence under the ‘*Conservation of Habitats and Species Regulations 2017*’ it is possible to apply for a European Protected Species (EPS) licence from Natural England (NE). Three tests must be satisfied before this licence (to permit otherwise prohibited acts) can be issued:

- *Regulation 53(2)(e)* states that licences may be granted to “preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.”
- *Regulation 53(9)(a)* states that a licence may not be granted unless “there is no satisfactory alternative”.
- *Regulation 53(9) (b)* states that a licence cannot be issued unless the action proposed “will not be detrimental to the maintenance of the population of the species concerned at a favorable conservation status in their natural range”.

5.2 Birds

All species of bird are protected under *Section J* of the ‘*Wildlife and Countryside Act 1981*’ (as amended). The protection was extended by the ‘*CRoW Act*’.

The legislation makes it an offence to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

Certain species of bird are listed on *Schedule 1* of the '*Wildlife and Countryside Act 1981*' (as amended) and receive protection under *Sections 1(4) and 1(5)* of the Act. The protection was extended by the '*CRoW Act*'. The legislation confers special penalties where the above-mentioned offences are committed for any such bird and makes it an offence to intentionally or recklessly:

- disturb any such bird, whilst building its nest or it is in or near a nest containing dependent young; or
- disturb the dependent young of such a bird.

5.3 Great Crested Newt

Great Crested Newt is listed on *Schedule 5* of the '*Wildlife and Countryside Act 1981*' (as amended) and receives full protection under *Section 9*. These species are also listed as European Protected Species on *Schedule 2* of the '*Conservation of Habitats and Species Regulations 2017*' which gives them full protection under *Regulation 41*. Protection was extended by the '*CRoW Act*'.

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

The Great Crested Newt is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the '*CRoW Act*'.

5.4 Reptiles

Common Lizards, Grass Snake, Slow-worm and Adders are listed under *Schedule 5* of the '*Wildlife and Countryside Act 1981*' (as amended), in respect of *Section 9(5)* and part of *Section 9(1)*. This protection was extended by the '*CRoW Act*'.

Under the above legislation it is an offence to:

- intentionally or deliberately kill or injure any individual of such a species; or
- sell or attempt to sell any part of the species alive or dead.

5.5 Badger

Badger is protected in Britain under the '*Protection of Badgers Act 1992*' and *Schedule 6* of the '*Wildlife and Countryside Act 1981*' (as amended).

The legislation affords protection to Badgers and Badger setts and makes it a criminal offence to:

- willfully kill, injure, take, possess or cruelly ill-treat a Badger, or to attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

5.6 Dormouse

The dormouse is on *Schedule 5* of the '*Wildlife and Countryside Act 1981*' (as amended) and receives full protection under *Section 9*. This species is also listed as European Protected Species on *Schedule 2* of the '*Conservation of Habitats and Species Regulations 2017*', which gives them full protection under *Regulation 41*. Protection was extended by the '*CRoW Act*'.

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species,
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

Dormouse is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the '*CRoW Act*'.

5.7 Barn Owl

Barn Owls are included in *Schedule 1* of the '*Wildlife & Countryside Act 1981*' which affords them protection against disturbance whilst nesting in addition to the basic level of protection of Barn Owls afforded to most wild birds. Specifically, under Part 1, Section 1 (5), it is an offence punishable with imprisonment for a period of up to 6 months to intentionally or recklessly:

- Disturb a Barn Owl while it is building a nest or is in, on or near a nest containing eggs or young.
- Disturb a Barn Owl's dependent young.

5.8 Other Species

Rabbits are protected under the '*Wild Mammals (Protection) Act 1996*'. This provides protection under section 1 of the act, which makes it an offence for any person, with intent to inflict unnecessary suffering, to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag, or asphyxiate any wild mammal.

5.9 INNS

INNS are on *Schedule 9* of the '*Wildlife and Countryside Act 1981*' (as amended)

Under this legislation, it is illegal:

- to plant, or otherwise cause to grow in the wild, any plant listed in Schedule 9 to the Act;
- to release, or allow to escape into the wild, any animal not ordinarily resident in Great Britain and not a regular visitor to Great Britain in a wild state or is listed in Schedule 9.

Plant INNS are also listed under the '*Environmental Protection Act 1990*' which requires soil or other waste containing Schedule 9 plant species material (live biomass, seeds, fruits, flowers) to be classified as Controlled Waste and must be disposed of at a landfill site that is authorised to accept it.

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7 APPENDIX

7.1 Site Map



7.2 Site Photos

Picture 1. Signs of protected/notable species around the site (left – swallow nest, used by wren, middle – rabbit hole outside barn, right – rabbit warren within the barn)



Picture 2. Internal views of the barn (left – eastern section, middle – central (main) section, right – western section)



7.3 Recommended Bat Boxes

The provision of bat boxes is a recommendation as they enhance biodiversity on the site and replace any lost roosts during the construction phase.

- **Ecostyrocrite Crevice and Hollow Bat Boxes** (this would be the preferred option). These should be installed where they are sheltered from the wind but unshaded for most of the day at a mix of heights from 3m-5m. Summer maternity roosts should be on a south-easterly to south-westerly aspect. There should be a clear flight line into the box, so ensure nothing is impeding the entrance to the box. Different bat species prefer different boxes, so a mix would provide more chances for use.
- **Schwegler Bat Boxes**. These should be installed as above.
- **Bat Block**. These should be positioned within the wall during construction. Aim to position South or West facing for a summer maternity roost or north-facing for a winter hibernation roost.
- **Kent Bat Box**. Boxes are best fixed as high as possible in sheltered/shaded locations with a clear flight to the box entrance. Exposure to the sun for part of the day is acceptable. Several boxes may be placed together.
- **Soffit Bat Box**. Boxes are placed within the soffit, and access is created via a 20mm slot in the back of the soffit board against the external wall.

7.4 Recommended Bird Boxes

The provision of bird boxes is a recommendation as they enhance biodiversity on the site and replace any lost nests during the construction phase. Ideally, these should be either swift boxes, house martin nests or sparrow terrace nest boxes due to the declining populations of these species, but other nest boxes can be used, as discussed below.

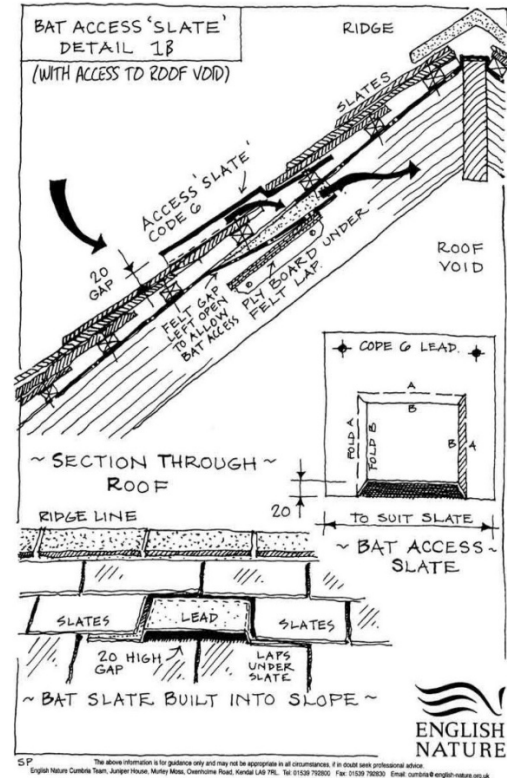
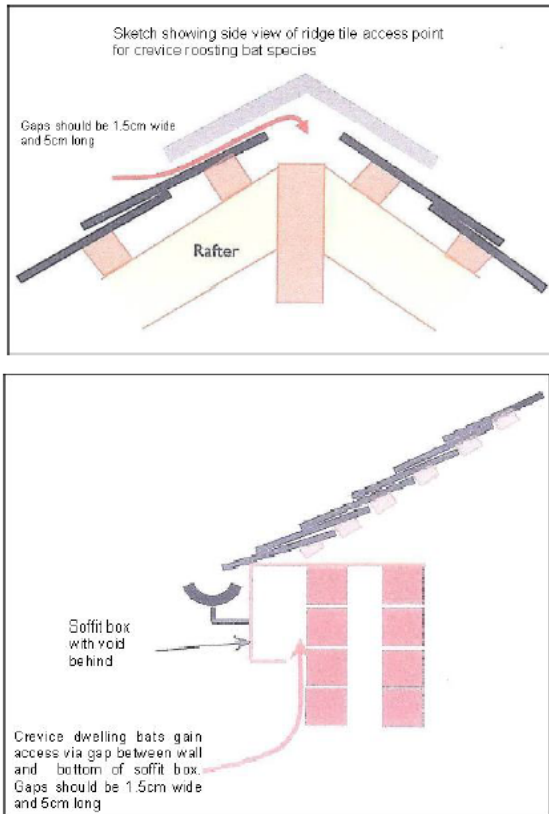
- **Schwegler and Manthorpe Swift bricks** (this would be the preferred option). These should be installed in sheltered locations (such as under the eaves of a suitable building), installed at a minimum height of 2m and orientated in a southerly/ westerly direction.
- **WoodStone Swift nest boxes**. These should be installed in sheltered locations (such as under the eaves of a suitable building), installed at a minimum height of 2m and orientated in a southerly/ westerly direction.
- **Schwegler Single & Double House Martin Nests**. These should be installed in sheltered locations (such as under the eaves of a suitable building), installed at a minimum height of 2m and orientated in a southerly/ westerly direction (ensuring they have enough shade).
- **Schwegler 1SP Sparrow Terrace nest boxes**. These should be installed in a sheltered location upon a suitable building, at a height no less than 2m and orientated in a southerly or westerly direction.
- **Schwegler Woodcrete 1B nest boxes (for trees) and/ or Schwegler Bird House nest boxes (for buildings)**. These should be installed upon a suitably mature tree and/ or upon a suitable building, installed at a height no less than 2m and orientated in a southerly or westerly direction.
- **Wooden Barn Owl box**. These can be installed on trees or buildings more than 1km from motorways. They should be 3m above ground level with minimal obstructions leading to the opening. Trees should be mature with thick trunks and located within a hedgerow or woodland edge.
- **Little Owl box**. The Little Owl nestbox should be erected horizontally at least 3 metres (10 feet) above the ground on a wall top, beam or tree branch so that Little Owl owlets can walk in and out before fledging. Little Owls prefer nest boxes situated in open-sided or open-fronted buildings rather than enclosed places. A thin layer of untreated wood shavings or bark can be provided as a floor covering.

7.5 Other Biodiversity Enhancements

- **Hedgehog Highways**. Minimum 150mm x 150mm gaps to be left in fencing/ boundaries between adjoining plots where suitable habitat exists or is created.

- **Insect boxes/Bee Banks/Bee Bricks.** Good for a wide range of invertebrates. Can be prefabricated/off-the-shelf units or constructed using available materials. Bee banks can be constructed from a layer of turf, soils and sands to create low mounds / vertical faces with a sunny aspect—ideally 1 per property.
- **Habitat Pile.** Create a log pile by loosely arranging together old branches or pieces of log, leaving the bark on and using a variety of species if possible. Place the pile in a shady place, such as under a tree, at the foot of a hedge, at the back of the border or behind the shed.

7.6 Bat Access Point Designs



7.7 Bat Mitigation – Fascia, Soffit and Bargeboard Roosts

The below information is from Acer Ecology (2015) and is accessible at <https://www.acerecology.co.uk/mitigation-crevice-dwelling-bats/>

Fascia, Soffit and Bargeboard Roosts

Crevice dwelling bat species often exploit gaps in or under fascias, soffits and bargeboards, to gain entry into buildings. If these features are being removed, replaced or made inaccessible to bats during the development work and bats are known to be using these features, then compensation within the new fascia, soffit or bargeboard should be implemented. This can be as simple as cutting holes in the new soffit box or bargeboard. The holes must be located next to the wall of the building as bats often require a surface (often a wall) to land on before crawling through the access. Examples of this are shown below:



Alternatively, gaps can be left between the wall and the fascia, soffit or bargeboard, by raising parts of the feature off the wall by approximately 20mm.

7.8 Recommended Native Planting

7.8.1 Native Hedgerow/Shrub Composition

Hedgerow

Field maple *Acer campestre*
Hazel *Corylus avellana*
Hawthorn *Crataegus monogyna*
Elder *Sambucus nigra*
Holly *Ilex aquifolium*
Blackthorn *Prunus spinosa*
Dog rose *Rosa canina*
Spindle *Euonymus europaeus*
Dogwood *Cornus sanguinea*

Shrubs (<https://www.wildlifetrusts.org/actions/how-make-shrub-garden-wildlife>)

Barberry *Berberis spp.*
Bell Heather *Erica cinerea*
Box *Buxus sempervirens*
Cotoneaster spp.
Currant *Ribes spp.*
Elder *Sambucus nigra*
English Lavender *Lavandula angustifolia*
Firethorn *Pyracantha spp.*
Forsythia spp.
Guelder Rose *Viburnum opulus*
Hazel *Corylus avellana*
Heather (Ling) *Calluna vulgaris*
Hebe spp.
Holly *Ilex aquifolium*
Honeysuckle *Lonicera periclymenum*
Ivy *Hedera helix*
Privet *Ligustrum vulgare*
Skimmia *Skimmia japonica*
St John's Wort *Hypericum spp.*
Sweet box *Sarcococca confusa*
Witch hazel *Hamamelis spp.*

7.8.2 Native Tree Composition

Field Maple *Acer campestre*
Alder *Alnus glutinosa*
Silver Birch *Betula pendula*
Hazel *Corylus avellana*
Hawthorn *Crataegus monogyna*
Beech *Fagus sylvatica*
Holly *Illex aquifolium*
Crab Apple *Malus sylvestris*
Cherry *Prunus avium*
Bird Cherry *Prunus padus*
Oak *Quercus robur*
White Willow *Salix alba*
Whitebeam *Sorbus aria*
Rowan *Sorbus aucuparia*
Small-leaved Lime *Tilia cordata*
Goat Willow *Salix caprea*

7.8.3 Native grassland & Wildflower Composition

EH1 is a complete mix of 20% native wildflowers and 80% slow-growing grasses (by weight). The flower and grass components are also available to order separately, such as EH1F for the flower component and EG9 for the grass component. The suggested sowing rates are 40kg/ha, 16kg/acre or 4g/m². The information below is from <https://wildseed.co.uk/product/mixtures/complete-mixtures/special-habitat-mixtures/hedgerow-mixture/>.

Wild Flowers

0.10% *Achillea millefolium* – Yarrow
1.00% *Alliaria petiolata* – Garlic Mustard
0.50% *Anthriscus sylvestris* – Cow Parsley
1.50% *Carex divulsa ssp divulsa* – Grey Sedge
2.00% *Centaurea nigra* – Common Knapweed
3.00% *Chaerophyllum temulum* – Rough Chervil
2.00% *Cruciata laevipes* – Crosswort
0.20% *Dipsacus fullonum* – Wild Teasel
0.50% *Galium album* – Hedge Bedstraw
0.10% *Geranium pratense* – Meadow Crane’s-bill
1.00% *Geranium pyreniacum* – Hedge Crane’s-bill
0.30% *Geum urbanum* – Wood Avenas
0.20% *Knautia arvensis* – Field Scabious
1.00% *Leucanthemum vulgare* – Moon Daisy
1.00% *Malva moschata* – Musk Mallow
2.00% *Plantago lanceolata* – Ribwort Plantain
3.00% *Silene dioica* – Red Campion
0.50% *Silene flos-cuculi* – Ragged Robin
0.10% *Torilis japonica* – Upright Hedge-parsley

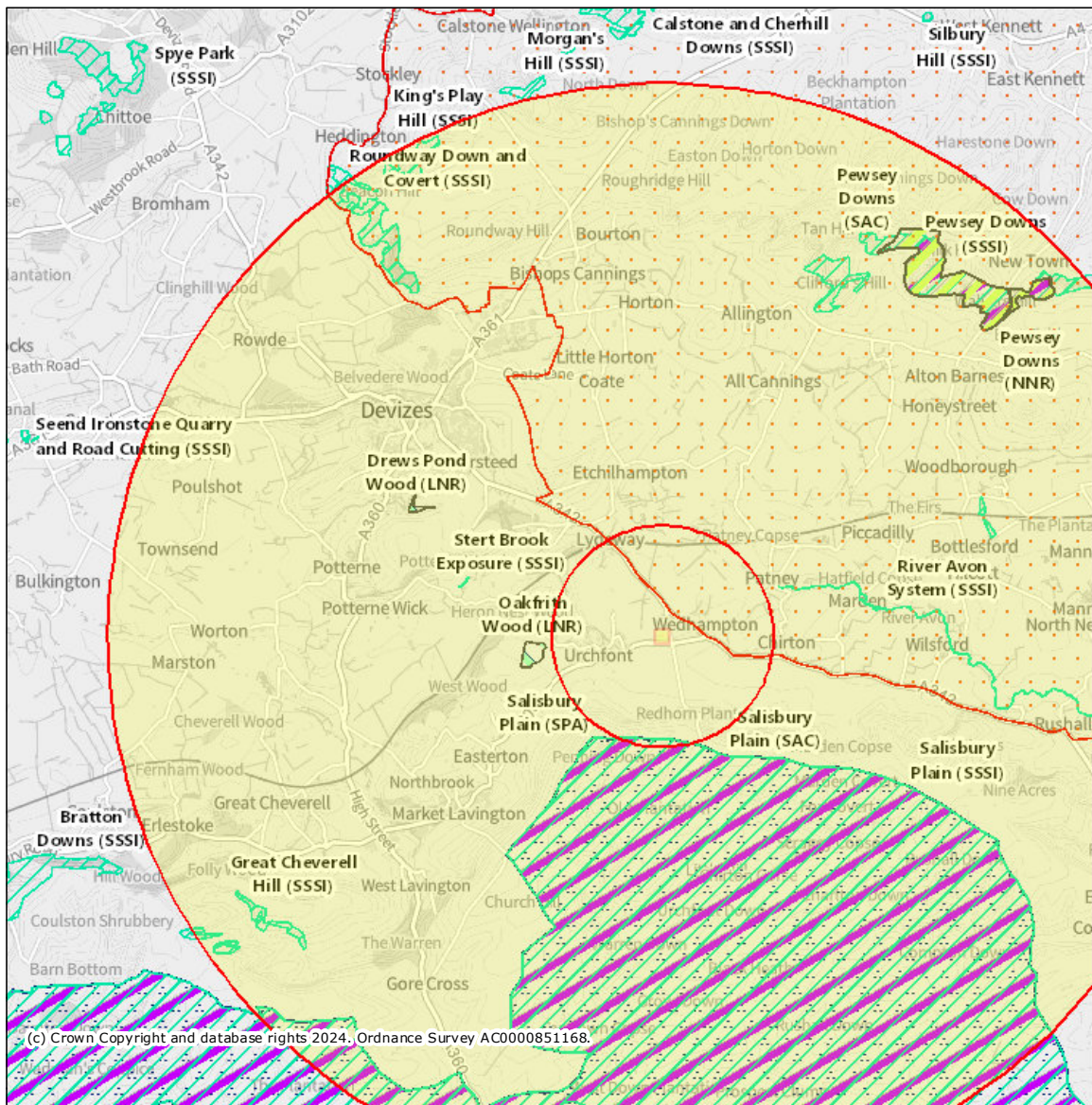
Grasses

1.00% *Agrostis capillaris* – Common Bent (w)
2.00% *Anthoxanthum odoratum* – Sweet Vernal-grass (w)
1.00% *Brachypodium sylvaticum* – False Brome (w)
50.00% *Cynosurus cristatus* – Crested Dogstail
2.00% *Deschampsia cespitosa* – Tufted Hair-grass (w)
20.00% *Festuca rubra* – Red Fescue (w)
4.00% *Poa nemoralis* – Wood Meadow-grass

7.9 Designated Sites

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Designated Sites 10km



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Legend

- Areas of Outstanding Natural Beauty (England)
- Local Nature Reserves (England)
- National Nature Reserves (England)
- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)



Projection = OSGB36

xmin = 377800

ymin = 147200

xmax = 428600

ymax = 170300

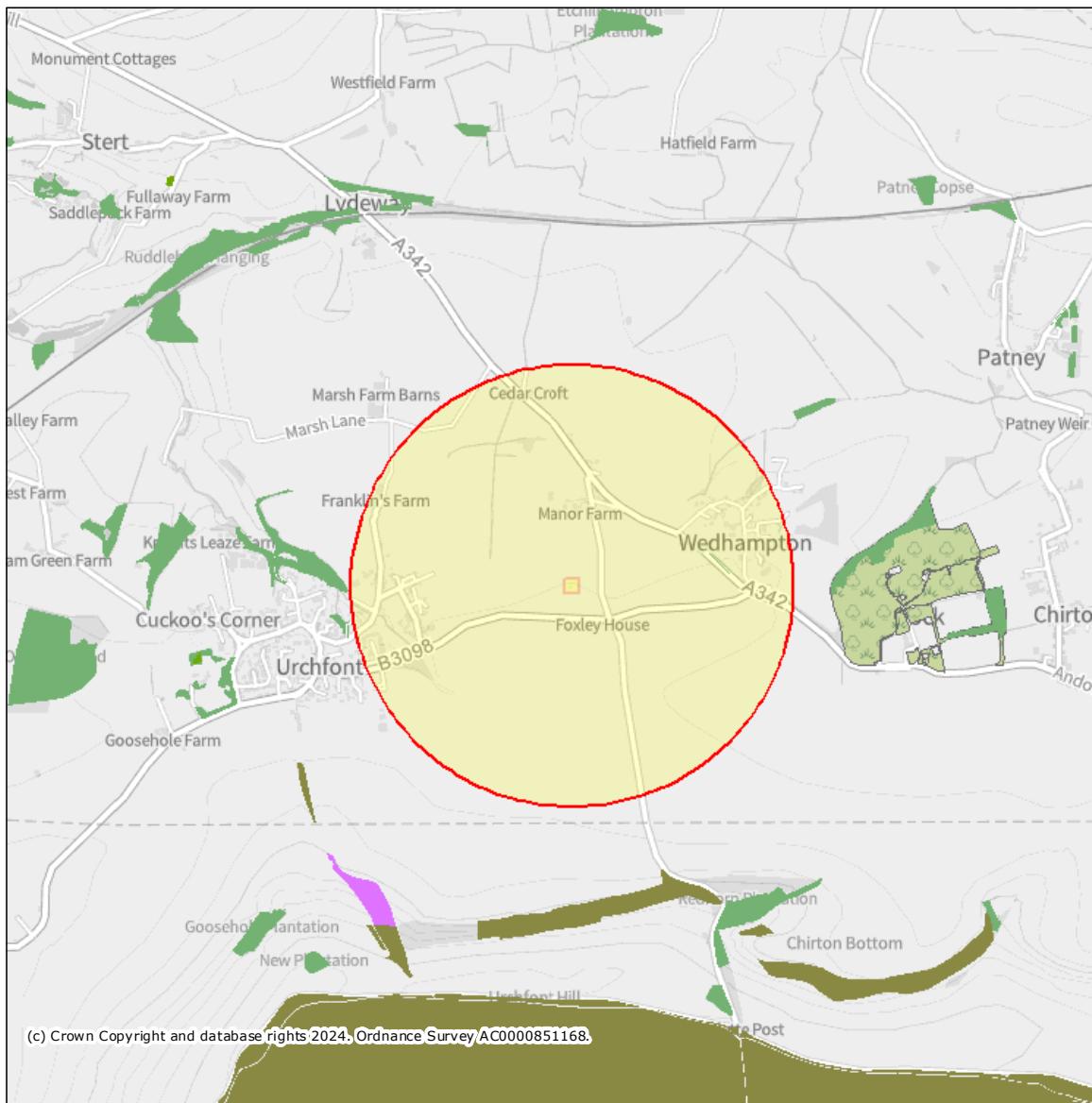
Map produced by MAGIC on 2 June, 2024.

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7.10 Priority Habitats

MAGiC

Priority Habitats 1km



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Legend

- Priority Habitat Inventory - Good quality semi-improved grassland (Non Priority) (England)
- Priority Habitat Inventory - Lowland Calcareous Grassland (England)
- Priority Habitat Inventory - Deciduous Woodland (England)
- Priority Habitat Inventory - Traditional Orchards (England)
- Woodpasture and Parkland BAP Priority Habitat (England)

0 0.75 1.5
km

Projection = OSGB36

xmin = 398800

ymin = 154600

xmax = 411500

ymax = 160400

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