



Biodiversity Enhancement Scheme



Lantern House, 15, Shilton Road, Burford

On behalf of Red Living

July 2023

Ecology by Design Ltd,

Hampden House, Monument Park, Chalgrove, Oxon OX44 7RW.

Tel 01865 893346 www.ecologybydesign.co.uk

Registered in England and Wales No. 9318075.

Project Code	Title	Date of Issue
EBD01091	15, Shilton Road	14 July 2023

	Name	Date
Prepared by	Kate Philpot MSc, BSc, ACIEEM	13 July 2023
Checked by	Laura Grant BSc (Hons), MCIEEM	14 July 2023

Copyright Ecology by Design Ltd. All rights reserved.

No part of this report may be copied or reproduced by any means without prior written consent from Ecology by Design Ltd. If you have received this report in error please destroy all copies in your possession or control and notify Ecology by Design Ltd.

This report has been commissioned for the exclusive use of the commissioning party unless otherwise agreed in writing by Ecology by Design Ltd; no other party may use, make use of or rely on the contents of the report. No liability is accepted by Ecology by Design Ltd for any of this report, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in this report are on basis of Ecology by Design Ltd using due skill, care and diligence in the preparation of this report and no explicit warranty is provided as to its accuracy. It should be noted that no independent verification of any of the documents or information supplied to Ecology by Design Ltd has been made.

Under the Construction (Design & Management) Regulations (CDM, 2015) Ecology by Design employees may have designer duties. Ecology by Design staff do not take on the roles of Client, Principal Designer, Principal Contractor, Contractor or Worker. Our staff are appropriately experienced and briefed on health and safety matters. As far as is 'reasonably practical' we seek to eliminate risks and reduce hazards. This applies to all aspects of a development that we have control or influence over. It is the responsibility of the client, principal designer, principal contractor and/or contractor to ensure the specific design and implementation of ecological recommendations satisfy the CDM Regulations.

Contents

1	Introduction.....	4
1.2	Site Description	6
1.3	Proposed Development.....	6
2	Site Enhancement	7
2.2	Refugia Creation	7
2.3	Invertebrate Hotels	7
2.4	Bat Box Installation.....	8
2.5	Bird Box Installation	8
2.6	Planting.....	8
3	10 Year Management Strategy.....	11
4	Conclusion	12
5	Legislation	13
5.1	Birds.....	13
5.2	Reptiles.....	13
5.3	Bats.....	13
Appendix 1 - Enhancement Plan.....		15
Appendix 2 - Enhancements.....		16

1 Introduction

1.1.1 Full planning permission has been granted by West Oxfordshire District Council for two custom build housing plots to the rear of Lantern House with new driveway following demolition of existing garage (ref: 20/01210/FUL) at Lantern House, 15, Shilton Road, Burford.

1.1.2 Condition 4 of the approved permission states:

The development shall be completed in accordance with the recommendations in Section 5 of the Preliminary Ecological Appraisal report, dated January 2020 prepared by Ecology by Design, as submitted with the planning application. This includes a pre-demolition endoscopic survey of the hole/crack in the external wall of the north-eastern elevation, completed by a competent ecologist. All the recommendations shall be implemented in full according to the specified timescales, unless otherwise agreed in writing by the local planning authority.

1.1.3 Condition 6 of the approved permission states:

A Biodiversity Enhancement Scheme, detailing the biodiversity enhancement features (such as bat and bird box provision and landscaping measures) shall be submitted to the local planning authority as part of the reserved matters application. Once agreed by the local planning authority, the measures will thereafter be implemented, retained and maintained for their purpose in accordance with the approved scheme.

The scheme shall include the incorporation of permanent bat roosting features (e.g. bat bricks/boxes/tubes integrated into the southern or eastern elevations), bird nesting boxes (e.g. house sparrow terrace, starling box, swift brick, house martin nest cup integrated into the north or east- facing elevations), hedgehog holes/gaps within any walls/fences and insect boxes. The details of habitat features to be enhanced and created are also required within this scheme, including the creation of a 1-2m buffer strip between the new access road and eastern hedgerow boundary planted with a native wildflower seed mix and the infilling of hedgerows with native, locally characteristic species. Other biodiversity enhancement measures that can be considered within the scheme are suggested within the relevant informative.

The scheme shall include, but not limited to, the following details:

- i. Description, design or specification of the type of features or measures to be undertaken;*
- ii. Materials and construction to ensure long lifespan of the feature/measure;*
- iii. A drawing(s) showing the location and, where appropriate, the elevation of the features or measures to be installed or undertaken;*

iv. Confirmation of when the features or measures will be installed within the construction or operational phases of the development permitted; and

v. A 10-year biodiversity management plan.

1.1.4 Ecology by Design have therefore been commissioned by Red Living to produce a Biodiversity Enhancement Scheme to discharge condition 4 and 6.

1.1.5 The objective of this document is to satisfy planning condition 4 and 6 and provide details on:

- Proposed enhancements;
- Siting of enhancements (see Figure 1 in Appendix 1);
- Details of their creation; and
- Management of enhancements

1.1.6 A preliminary ecological appraisal was undertaken in 2020. This was updated in 2023 with the intension of endoscopng the hole at the back of the garage to discharge condition 4. The back of the garage has now become covered in dense ivy growth obscuring the hole and making it no longer a suitable roosting feature as it was not accessible. Ecology by Design is confident there are no other suitable bat roosting features on the garage and no evidence within the garage of bats and therefore demolition should be able to take place without further constraint with regard to bats and condition 4 discharged.

Image below showing back of garage now completely obscured by dense vegetation



1.2 Site Description

- 1.2.1 The site covers approximately 0.5 hectares and is dominated by a large house and garden with a paddock to the north east. The main house did not form part of the survey as it will not be affected by the works. The majority of the garden will also not be affected by the works, it comprised areas of amenity lawn, scattered trees and introduced shrub (flower bed) planting. The main area to be affected is the paddock to the north east and a strip along the south east boundary of the site which will create a new access driveway. The garage will also be demolished to facilitate access. The paddock is thought to have been used to graze sheep before the 1930's (anecdotal record) and has since been managed as a lawn which is almost entirely dominated by springy turf moss (*Rhytidiadelphus squarrosus*), red fescue (*Festuca rubra*) and ladies bedstraw (*Galium verum*).
- 1.2.2 The site is located on the south-eastern edge of the town of Burford in an area wedged between the A40 and Shilton road. To the west of the site there are residential houses with large gardens and a golf course beyond Shilton Road. To the north and beyond the A40 lies the centre of Burford with arable fields and pasture to the north-east. The Burford Garden Centre and other residential dwellings with large gardens and arable fields are to the east.

1.3 Proposed Development

- 1.3.1 Planning has been approved with conditions for the demolition of the garage (which is adjoined to the main house), provision of an extended access drive along the south-eastern boundary to serve two new custom build residential dwellings constructed within the paddock in the north-eastern section of the site.

2 Site Enhancement

2.1.1 The enhancement recommendations below provide habitat creation and management information to ensure the development contributes to enhancing local biodiversity in order to comply with the National Policy Framework and policy EH3 of the West Oxfordshire District Council Local Plan 2011-2031 which states:

Policy EH3 – Biodiversity and Geodiversity

The biodiversity of West Oxfordshire shall be protected and enhanced to achieve an overall net gain in biodiversity and minimise impacts on geodiversity, including by:

...taking all opportunities to enhance the biodiversity of the site or the locality, especially where this will help deliver networks of biodiversity and green infrastructure and UK priority habitats and species targets and meet the aims of CTAs;

- *ensuring that all applications that might adversely affect biodiversity are accompanied by adequate ecological survey information in accordance with BS 42020:2013 unless alternative approaches are agreed as being appropriate with the District Council's ecologist;*
- *all development incorporating biodiversity enhancement features.*

All developments will be expected to provide towards the provision of necessary enhancements in areas of biodiversity importance...

2.2 Refugia Creation

2.2.1 Two log and brash piles will be created using cut vegetation to create small (approx. 1m long x 1m wide X 0.7m high), stacked piles of wood along the north western boundary in close proximity to the hedgerow. To increase their suitability and uptake by common reptiles they will be positioned amongst vegetation and not in full sun.

2.3 Invertebrate Hotels

2.3.1 An invertebrate box such as Schwegler clay and reed insect nest box or similar (Appendix 2) will be installed on the southern wall of both new dwellings. In order to increase the uptake by invertebrates, pollinator loving species such as vipers bugloss (*Echium vulgare*), wild marjoram (*Origanum vulgare*), catmint (*Nepeta* sp.) and field scabious (*Knautia arvensis*) will be incorporated into the gardens.

2.4 Bat Box Installation

2.4.1 To enhance opportunities for bats within the site, a bat box will be integrated into the walls of each new dwelling. A suitable type would be a habitat box (Appendix 2) which can be brought unfinished (blockwork) and either covered in brick, cladding or render to blend in with the walls of the house leaving only a small letter box opening visible. The bat boxes will be positioned away from any light sources and not be located directly above any windows and/or doorways. The bat boxes will be built into the south western elevation at a height of approximately 3-5m. This elevation has been chosen so that the box receives adequate sunlight and warmth but is protected from prevailing weather and so therefore bats will be more likely to take up residence.

2.4.2 A suitably qualified ecologist must direct and/or approve the installation of the bat boxes to ensure their suitable placement; this can be achieved by:

- Signing off on evidence of installation such as photos; or attending site to direct installation during construction.

2.5 Bird Box Installation

2.5.1 Two bird nesting boxes (Schwegler 1B or similar) will be installed on suitable mature trees within the ownership boundary facing either north-west or north-east. In addition, two house sparrow (*Passer domesticus*) terrace boxes or similar will be installed within the walls on the north eastern aspect of each new building. The terrace will be positioned as high as possible above the ground with a clear flight path to the entrance and built into the north eastern elevation to avoid direct sunlight, prevailing wind and rain.

2.5.2 The boxes can be installed at any time of the year, but it is best to install them in autumn and winter as birds may investigate the boxes during this period and return to the same box to nest in the spring.

2.5.3 A suitably qualified ecologist must direct and/or approve the installation of the bird boxes to ensure their suitable placement; this can be achieved by:

- Signing off on evidence of installation such as photos; or
- Attending site to direct installation during construction.

2.6 Planting

2.6.1 The northern end of the paddock will be seeded with a diverse turf mix; such as Emorsgate basic general purpose meadow mixture EM1. This mixture contains the following species:

- *Achillea millefolium* – Yarrow

- *Centaurea nigra* – Common Knapweed
- *Leucanthemum vulgare* – Oxeye Daisy
- *Malva moschata* – Musk Mallow
- *Plantago lanceolata* – Ribwort Plantain
- *Poterium sanguisorba ssp sanguisorba* – Salad Burnet
- *Ranunculus acris* – Meadow Buttercup
- *Daucus carota* – Wild Carrot

- *Agrostis capillaris* – Common Bent
- *Cynosurus cristatus* – Crested Dogstail
- *Festuca rubra* – Red Fescue
- *Phleum bertolonii* – Smaller Cat’s-tail
- *Poa pratensis* – Smooth-stalked Meadow-grass

2.6.2 The best time of year to sow is in the autumn. First the ground must be prepared by ploughing or digging to bury the surface vegetation, harrow or rake to produce a medium tilth, and roll, or tread, to produce a firm surface. The seed can then be broadcast by hand and rolled into the ground.

2.6.3 As per the advice provided by Emorsgate the first year of establishment will likely generate a flush of weeds although these will protect the establishing meadow mix and so no mowing should be undertaken until August. Once established a traditional meadow regime should be established whereby a hay-cut is taken in August with a scythe, petrol strimmer or tractor mower to 50mm - this can be repeated in the late autumn and spring is required. The arisings should be left on the ground for 7 days and then be removed.

2.6.4 In line with the councils request it is recommended that a hedgerow mixture such as Emorsgate EH1 is used to buffer the existing eastern hedgerow from the new driveway by 1-2m. This mixture is shade tolerant and chosen specially to grow along side established hedges. This can be sown similar to the grassland above although care will be taken to carefully expose soil at the base of the hedgerow but not damage any roots. The grass should then not be cut until August. The buffer strip will then be permitted to grow long to provide shelter and food for wildlife.

2.6.5 Any gaps in the existing hedgerows on site will be filled with whips of native species to include field maple (*Acer campestre*), holly (*Ilex aquifolium*), hawthorn (*Crataegus monogyna*),

blackthorn (*Prunus spinosa*) and beech (*Fagus sylvatica*). A new hedgerow will also be created separating the new houses from the northern end of the paddock which will also include the above species. Hedges should be trimmed every 2/3 years on alternative sides and once the birds have eaten the berries; ideally in January or February.

- 2.6.6 In September of each year the new planting will be inspected for failures; any failed or diseased plants will be replaced with a similar species.

3 10 Year Management Strategy

3.1.1 Very little management is required for the enhancements, although the bird boxes will benefit from being cleaned each year during the Autumn, as this will reduce the risk of parasite infestation and increase the likelihood of successful nesting each year.

Table 1: *Timetable for installation and management of enhancement features.*

Enhancement	Installation	Management
Log piles	During construction	No management necessary. Replenish logs from landscaping actions as required.
Insect reed box	During construction	No management necessary
Bat box	During construction	No management necessary
Bird boxes	During construction	Cleaned once a year during the late autumn
Planting	After construction	Detailed management prescriptions detailed above

4 Conclusion

- 4.1.1 The provision of all the above enhancements within the development will create additional habitats for various species. Additional planting of native grasslands and hedgerows will further enhance the site.

5 Legislation

5.1 Birds

5.1.1 All nesting birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to disturb them whilst they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

5.2 Reptiles

5.2.1 All native reptile species receive legal protection in Great Britain under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Viviparous lizard, slow-worm, grass snake and adder are protected against killing, injuring and unlicensed trade only. All native species of reptile are also included as 'species of principal importance' for the purpose of conserving biodiversity under Section 41 (England) of the NERC Act 2006 and Section 7 of the Environment (Wales) Act 2016.

5.2.2 Current Natural England Guidelines for Developers states that 'where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.' Further the guidance states: 'Normally prohibited activities may not be illegal if 'the act was the incidental result of a lawful operation and could not reasonably have been avoided'. Natural England 'would expect reasonable avoidance to include measures such as altering development layouts to avoid key areas, as well as capture and exclusion of reptiles.'

5.3 Bats

5.3.1 Bats and their roost sites are protected by UK legislation.

5.3.2 The Wildlife and Countryside Act (1981) (as amended) makes it an offence to:

- Intentionally kill, injure or take a bat;
- Possess or control any live or dead specimen or anything derived from a bat;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat; and
- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for that purpose.

5.3.3 Additionally, The Conservation of Habitats and Species Regulations 2017 (as amended) make it an offence to:

- Deliberately capture or kill a bat;
- Deliberately disturb a bat;
- Damage or destroy a breeding site or a resting place of a bat; and
- Keep, transport, sell or exchange or offer for sale or exchange a live or dead bat or any part of a bat.

5.3.4 Although the law provides strict protection to these species, it also allows this protection to be set aside (derogated) through the issuing of licences. The licences in England are currently determined by Natural England (NE) for development works. In accordance with the requirements of The Conservation of Habitats and Species Regulations 2017 (as amended), a licence can only be issued where the following requirements, known as the “Three Tests”, are satisfied:

- the proposal is necessary ‘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’;
- ‘there is no satisfactory alternative’; and
- the proposals ‘will not be detrimental to the maintenance of the population of the species

Appendix 1 - Enhancement Plan

Next Page



- Log piles
- Invertebrate hotel
- Bat boxes
- Bird boxes

As no elevational drawings exist this gives a rough indication of the aspect of the boxes. Bird and bat boxes are to be integrated into the walls (the gable ends have been chosen here) and the invertebrate hotels affixed to the walls. The log piles should be placed at the base of the hedge.

Project:
Lantern House, 15, Shilton Road

Client:
Red Living

Drawing Title:
Enhancements

Drawing No.:
EBD_1091_DR002

Scale (@A3):
1:1

Date Drawn:
17/07/2023

Drawn by:
KP

This drawing is the property of Ecology by Design Ltd and must not be reproduced without the written permission of Ecology by Design Ltd.

This drawing contains data reproduced from Ted Studio.

TED | Studio
Tom Easdown Design

Client:
Albright Dene Ltd
Project:
15 Shilton Road
2 Self Build Dwellings
Description:


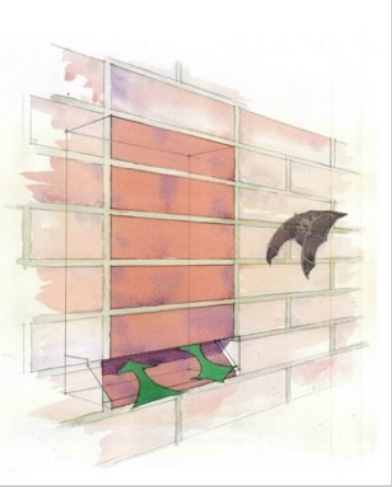



ecologybydesign

Hampden House, Monument Park,
Chalgrove, Oxon,
OX44 7RW

t: 01865 893346
e: hello@ecologybydesign.co.uk
w: www.ecologybydesign.co.uk

Appendix 2 - Enhancements

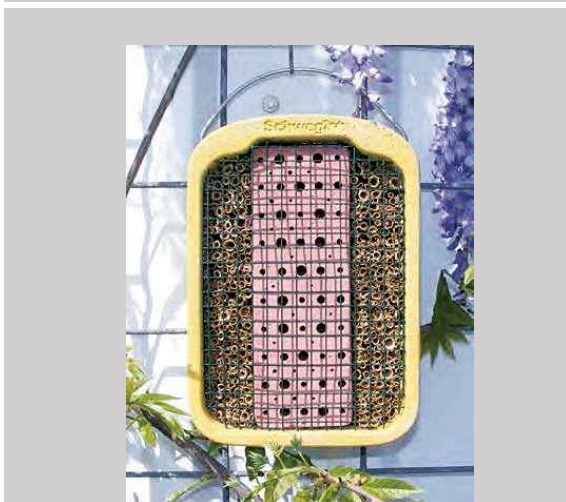
Products	Description
 	<p>Habibat Bat Box</p> <p>The Habibat Bat Box is a solid box made of insulating concrete with an internal roost space, which can be incorporated into the fabric of a building as it is built or renovated. A variety of facings can be fitted to suit any building. The box is suitable for Pipistrelle bats and other common UK species.</p> <p>https://www.nhbs.com/habibat-bat-box-plain-for-rendering</p>
	<p>Schwegler Bird Box 1B</p> <p>The 1B nest box will attract a wide range of species and is available with different entrance hole sizes to prevent birds from competing with each other for the boxes.</p> <p>https://www.nhbs.com/1b-schwegler-nest-box</p>



1SP Schwegler Sparrow Terrace (or similar)

Designed to support a colony of house sparrows the 1SP can be hung on or installed into a wall.

<http://www.nhbs.com/1sp-schwegler-sparrow-terrace>



Schwegler Clay and Reed Insect Nest

An insect nest suitable for sunny, sheltered locations. The different sections provide a range of habitats to suit varying types of invertebrates.

<http://www.nhbs.com/title/181090/schwegler-clay-and-reed-insect-nest>



Buried Log Piles

Partially buried log piles provide valuable shelter and foraging resources to a range of invertebrates and other wildlife, particularly saproxylic species (associated with dead wood). Buried log piles are particularly beneficial when constructed from pre-existing dead wood taken from the site.