
**LAND SOUTH OF CLIFTON ROAD,
DEDDINGTON, OXFORDSHIRE**

ECOLOGICAL APPRAISAL

On behalf of

BLUE CEDAR HOMES LTD

Final Report

23rd November 2020

Prepared by



MALFORD
Environmental Consulting

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Contents

1	Introduction	1
2	Methodology	2
2.1	Phase 1 field survey.....	2
2.2	Phase 2 field survey.....	3
2.3	Desk-based study.....	3
2.4	Impact appraisal.....	3
3	Planning Policy	5
3.1	National.....	5
3.2	Cherwell District.....	5
4	Baseline Conditions	7
4.1	Designations.....	7
4.2	Landscape review.....	7
4.3	Habitats and botany.....	7
4.4	Bats.....	9
4.5	Other mammals.....	10
4.6	Birds.....	10
4.7	Reptiles.....	11
4.8	Amphibians.....	11
4.9	Invertebrates.....	11
5	Important Ecological Receptors	12
6	Predicted Impacts and Significance	13
6.1	Species-poor and defunct hedgerow and trees.....	13
6.2	Beech tree with PRF.....	13
6.3	Foraging/commuting bats.....	13
6.4	Hedgehog.....	13
6.5	Nesting birds.....	13
7	Mitigation, Compensation and Enhancement	14
7.1	Maintaining current condition of grassland.....	14
7.2	Protecting foraging/commuting bats.....	14
7.3	Protecting hedgehog (and other common mammals).....	14
7.4	Protecting nesting birds.....	15
7.5	New bat roosting features.....	15
7.6	New bird nesting features.....	16
7.7	New planting.....	16
7.8	Garden fencing.....	17
8	Residual Effects	18
9	References	19
Appendix A	Aerial Image with Ecology Target Notes	20
Appendix B	Site Photographs	21

1 Introduction

Blue Cedar Homes Ltd is working towards submitting a planning application to Cherwell District Council in relation to a proposed residential housing scheme, comprising nine dwellings, on part of a field located to the south of Clifton Road, Deddington, Oxfordshire, OX15 0TH (see Appendix A).

As part of the planning process an up-to-date ecological survey and appraisal of the site and proposed development has been undertaken. This report contains appropriate ecological baseline information, and an appraisal of predicted, potential impacts on protected sites, protected/notable species and biodiversity in general associated with new housing on this site. Any potential adverse impacts are addressed with proposals for mitigation/compensation, while opportunities for enhancement are also identified.

As part of a previous 2014 planning application for development on the site (Planning Ref. 14/00412/FUL) ecological baseline surveys and an appraisal were undertaken. This report takes into account, and cross-references where appropriate, the following previous survey reports of the site including:

- ❖ Ecolocation (2013a). *Ecological Appraisal of Land off Clifton Road, Deddington, OX15 0TH.*
- ❖ Ecolocation (2013b). *Reptile Survey Report on Land off Clifton Road, Deddington, OX15 0TH.*

Malford Environmental Consulting was commissioned to undertake this latest ecological survey and appraisal of the site and proposed development, and to provide a report to fulfil the requirements of nature conservation legislation and planning guidance.

The ecological work was undertaken by Dr Stephen Dangerfield and Jonathan Adey, who have a combined 60 years' experience, are both Chartered Environmentalists, are full members of the Chartered Institute of Ecology and Environmental Management (CIEEM), and hold relevant Natural England protected species survey licences including bats and great crested newt.

The study area encompasses a single grassland field, which is bounded by a combination of stone walls, fencing, hedge/scrub and trees. Residential housing is located adjacent to the western and partial eastern boundaries, while farmland, grassland and Clifton Road abut the remainder of the site. The development will include the construction of nine dwellings with associated gardens, green open space, garages/parking, access road and other associated infrastructure.

2 Methodology

2.1 Phase 1 field survey

The original Phase 1 habitat and ecological survey was undertaken by Ecolocation on 8th May 2013. The results of this survey are integrated into the relevant sections where appropriate.

The latest Phase 1 habitat and ecological survey was undertaken on the 6th March 2019, which was based upon the Phase 1 habitat survey methodology (JNCC, 2003) with standard habitat-type nomenclature used. The survey focused on:

- ❖ A habitat survey to determine type, quality and extent of habitats present. Botanical lists of each habitat type were recorded as far as possible. Rare/scarce and invasive plants were highlighted if found.
- ❖ A survey to determine the presence of, or the potential for the study area to support, protected and rare/scarce animals, which included looking for the following:
 - Potential/actual badger (*Meles meles*) setts, as well as latrines, tracks and other signs (foraging holes, hairs, etc);
 - Potential reptile habitat and terrestrial habitat for amphibians, particularly great crested newt (*Triturus cristatus*);
 - Waterbodies that had the potential to support great crested newt or water vole (*Arvicola amphibius*);
 - Potential habitat to support or signs of dormouse (*Muscardinus avellanarius*); and
 - Potential for breeding birds to use the site.

An assessment of mature trees or structures within the site, and potentially affected, for the potential to support roosting bats. The bat roost potential survey was undertaken by licensed bat surveyors in accordance with Bat Conservation Trust guidelines (Collins, J (ed.), 2016) and Bat Roosts in Trees – A Guide to Identification and Assessment for Tree-Care and Ecology Professionals (Andrews, 2018). The potential of buildings and trees to support roosting bats was established using the following scale:

1. *Negligible potential/not a roost*: no suitable features
2. *Low potential*: one or more suitable features that could be used by individual bats opportunistically
3. *Moderate potential*: one or more suitable features that could be used by bats, but unlikely to support a roost of high conservation status
4. *High potential*: one or more suitable features that are suitable for use by larger numbers of bats on a regular basis
5. *Confirmed roost*: evidence of current/recent bat occupation

The aim of an extended Phase 1 habitat and ecological survey is to identify the habitat types present and their relevance to nature conservation, based on species assemblage and structural diversity. It is also to identify the actual or likelihood of protected species inhabiting or frequenting the study area based on field signs or habitat quality/structure. The identification of protected, sensitive, threatened or scarce habitat or species within the development site or potentially affected by the proposed development could trigger the need for, and subsequent recommendation, for further Phase 2 surveys at an appropriate time of year.

2.2 Phase 2 field survey

The following Phase 2 survey was undertaken by Ecolocation (2013b), with findings integrated into this ecology report:

- ❖ **Reptiles:** a presence/absence was undertaken following standard methodology. The survey was undertaken by placing 40 (0.5m x 0.5m) refugia tiles in appropriate locations around the study area. Refugia tiles were inspected on 7 separate occasions in suitable weather conditions between 9th July and 28th August 2013.

2.3 Desk-based study

A review of OS maps and satellite imagery was undertaken to establish the local context within which the study area sits and to identify whether any natural features of interest, particularly standing open water / ponds, were located within 500m of the site.

As part of the previous 2013 Ecological Appraisal a desk-based study was undertaken, which included a review of the National Biodiversity Network and MAGIC websites, and a review of Thames Valley Environmental Records Centre data. The desk study included a search for designated sites and protected/notable species within a 1km radius of the site. This latest appraisal has extended the search for European sites to a 10km search radius and UK statutory sites to a 2km search radius. Key information is integrated into relevant sections in this report.

2.4 Impact appraisal

2.4.1 Assessment process

The ecological appraisal of the proposed development is undertaken in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018), which are in full accordance with the mandatory requirements of the UK EIA Regulations. The ecological assessment will seek to obtain the best possible biodiversity outcomes by integrating the following key principles:

- ❖ **Avoidance:** seek options that avoid harm to ecological features (for example, by locating on an alternative site).
- ❖ **Mitigation:** Adverse effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed (for example, through a condition or planning obligation).
- ❖ **Compensation:** Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.
- ❖ **Enhancements:** Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

2.4.2 Defining important ecological receptors and value

The CIEEM EclA guidelines state that one of the key challenges in EclA is to decide which ecological features (habitats, species, ecosystems and their functions/processes) are important and should be subject to detailed assessment. Such ecological features will be those that are considered to be important and potentially affected by the project. It is not

necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable.

However, effort should be made to safeguard biodiversity in its entirety, as emphasised by the Convention on Biological Diversity and developed in the EU Biodiversity Strategy 2020. The EU Strategy and national policy documents emphasise the need to achieve no net loss of biodiversity and enhancement of biodiversity.

The importance of an ecological feature will be considered within a defined geographical context. The following frame of reference will be used:

- ❖ International and European
- ❖ National
- ❖ Regional
- ❖ Metropolitan, County, vice-county or other local authority-wide area
- ❖ River Basin District
- ❖ Estuarine system / Coastal cell
- ❖ Local

Various approaches can be adopted for defining local importance, including assessment within a district, borough or parish context or within another locally defined area.

2.4.3 Characterising ecological effects

When describing ecological impacts and effects, reference should be made to the following characteristics as required:

- ❖ Positive or negative
- ❖ Extent
- ❖ Magnitude
- ❖ Duration
- ❖ Frequency and timing
- ❖ Reversibility

The assessment only needs to describe those characteristics relevant to understanding the ecological effect of the impacts and determining its significance.

2.4.4 Defining significance of ecological effects

The CIEEM guidelines define an ‘ecologically significant effect’ as an effect that either supports or undermines biodiversity conservation objectives for ‘important ecological features’ or for biodiversity in general. Significant effects should be qualified with reference to an appropriate geographic scale. However, the scale of significance of an effect may not be the same as the geographic context in which the feature is considered important.

Significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution). A significant effect is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project.

3 Planning Policy

3.1 National

Section 40 of the Natural Environment and Rural Communities Act 2006 (NERC Act) requires all public bodies to have regard to biodiversity conservation when carrying out their functions.

The National Planning Policy Framework (NPPF), revised February 2019, requires the planning system should conserve and enhance the natural environment (Section 15) by, *inter alia*, 'protecting and enhancing sites of biodiversity value' and 'minimising impacts and providing net gains for biodiversity' (para 170).

Scheme plans should 'promote the conservation, restoration and enhancement of priority habitat, ecological networks and the protection and recovery of priority species' and 'identify and pursue opportunities for securing measurable net gains for biodiversity' (para 174).

Local planning authorities should aim to protect and enhance biodiversity by applying the following principles: 'if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused', 'development resulting in the loss or deterioration of irreplaceable habitats should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists' and 'development whose primary objective is to conserve or enhance biodiversity should be supported, while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity' (para 175).

3.2 Cherwell District

The Cherwell Local Plan 2011 - 2031 (Part 1 adopted 20 July 2015) sets out the relevant policy relevant to biodiversity, as follows:

Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment

Protection and enhancement of biodiversity and the natural environment will be achieved by the following:

- ❖ In considering proposals for development, a net gain in biodiversity will be sought by protecting, managing, enhancing and extending existing resources, and by creating new resources.
- ❖ The protection of trees will be encouraged, with an aim to increase the number of trees in the District.
- ❖ The reuse of soils will be sought.
- ❖ If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or as a last resort, compensated for, then development will not be permitted.
- ❖ Development which would result in damage to or loss of a site of international value will be subject to the Habitats Regulations Assessment process and will not be permitted unless it can be demonstrated that there will be no likely significant effects on the international site or that effects can be mitigated.
- ❖ Development which would result in damage to or loss of a site of biodiversity or geological value of national importance will not be permitted unless the benefits of the

development clearly outweigh the harm it would cause to the site and the wider national network of SSSIs, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity.

- ❖ Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance including habitats of species of principal importance for biodiversity will not be permitted unless the benefits of the development clearly outweigh the harm it would cause to the site, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity.
- ❖ Development proposals will be expected to incorporate features to encourage biodiversity, and retain and where possible enhance existing features of nature conservation value within the site.
- ❖ Existing ecological networks should be identified and maintained to avoid habitat fragmentation, and ecological corridors should form an essential component of green infrastructure provision in association with new development to ensure habitat connectivity
- ❖ Relevant habitat and species surveys and associated reports will be required to accompany planning applications which may affect a site, habitat or species of known or potential ecological value.
- ❖ Air quality assessments will also be required for development proposals that would be likely to have a significantly adverse impact on biodiversity by generating an increase in air pollution.
- ❖ Planning conditions/obligations will be used to secure net gains in biodiversity by helping to deliver Biodiversity Action Plan targets and/or meeting the aims of Conservation Target Areas. Developments for which these are the principal aims will be viewed favourably.
- ❖ A monitoring and management plan will be required for biodiversity features on site to ensure their long term suitable management.

Policy ESD 11: Conservation Target Areas

Where development is proposed within or adjacent to a Conservation Target Area biodiversity surveys and a report will be required to identify constraints and opportunities for biodiversity enhancement. Development which would prevent the aims of a Conservation Target Area being achieved will not be permitted. Where there is potential for development, the design and layout of the development, planning conditions or obligations will be used to secure biodiversity enhancement to help achieve the aims of the Conservation Target Area.

4 Baseline Conditions

4.1 Designations

There is no European nature conservation designation covering the study area or located within 10km of the study area.

There is no national nature conservation designation covering the study area or located within 2km of the study area. The nearest Site of Special Scientific Interest is Bestmoor SSSI located 2.5km to the southeast of the study area, which is designated as semi-improved floodplain meadow adjacent to the River Cherwell that contains one of the largest known British populations of narrow-leaved water-dropwort (*Oenanthe silaifolia*) and is a feeding ground for wintering wildfowl. Due to the distance and lack of connectivity, this designated site will not be impacted and is not discussed further in this report

There is no local nature conservation designation covering the study area or located within 1km of the study area.

4.2 Landscape review

A review of the OWLS identifies that the study area is located in the Cherwell District within the Parish of Deddington. The study area is covered by a single Landscape Type designated as 'Upstanding Village Farmlands'. The landscape in the Parish of Deddington is dominated by large arable fields with some semi-improved grassland. Fields are generally enclosed with low hawthorn hedges, being taller/thicker when enclosing grassland. Bioscores are low-medium. Locally important habitats include deciduous woodland, plantation, semi-improved grassland, scrub and species-poor hedges with trees.

The key recommendations of the Biodiversity Strategy for this Landscape Type are:

- ❖ Safeguard and enhance the landscape character of the hedgerow network; and
- ❖ Ensure that the few surviving priority habitats are in favourable condition and management.

The study area is not located within or adjacent to a Conservation Target Area.

There are no ponds within the study area and no ponds within 500m (taken from the 1:25,000; 1:5,000; and 1:2,500 OS maps).

4.3 Habitats and botany

An aerial image of the study area with ecological target notes is provided in Appendix A and photographs of the study area are presented in Appendix B.

4.3.1 Field

The field comprises very poor semi-improved grassland with marginal stands of tall ruderal vegetation, which appears to be regularly topped. The grassland supports a botanical assemblage of common grasses and flowering plants of very restricted diversity.

Common grasses are dominated by false oat grass (*Arrhenatherum elatius*) and cock's-foot (*Dactylus glomerata*) with meadow foxtail (*Alepocuris pratensis*), red fescue (*Festuca rubra*) and creeping bent (*Agrostis stolonifera*).

Flowering plants are restricted to very common herbs and ruderal species typical of improved lowland grassland including nettle (*Urtica dioica*), cleavers (*Galium aparine*), creeping buttercup (*Ranunculus repens*), cow parsley (*Anthriscus sylvestris*), hogweed (*Heracleum sphondylium*), white and red dead nettle (*Lamium album*, *L. purpureum*), broad-leaved dock (*Rumex obtusifolius*), ground ivy (*Glechoma hederacea*), lesser celandine (*Ranunculus ficaria*), dissected-leaved crane's-bill (*Geranium dissectum*) and broad-leaved willowherb (*Epilobium montanum*).

In shadier areas associated with the field margins species such as ivy (*Hedera helix*), cuckoo pint (*Arum maculatum*), dog violet (*Viola riviniana*) and stinking iris (*Iris foetidissima*) occur.

The northern, western and much of the southern edges of the field support tall ruderal vegetation consisting of mainly nettle with cow parsley and bramble.

Bramble (*Rubus fruticosus* agg) and young, self-set elder (*Sambucus nigra*), ash (*Fraxinus excelsior*), grey willow (*Salix cinerea*) and elm (*Ulmus* sp) also occur in the field. A single common lime (*Tilia x europaea*), which has completely split open and hollow, is located within the northern part of the field. There are a debris piles comprising logs and rubble along the western and northern parts of the field.

4.3.2 Boundaries

Northern boundary

The northern boundary comprises an overgrown and defunct (very gappy) hedge (H1) associated with a post and rail fence. Shrubs and trees include elder (*Sambucus nigra*), ash (*Fraxinus excelsior*), elm (*Ulmus* sp), oak (*Quercus robur*), sycamore (*Acer pseudoplatanus*) and beech (*Fagus sylvatica*) including mature specimens of beech, sycamore and oak. In the northeast corner is a fallen mature beech, which had rot/woodpecker holes and would therefore have supported bat roosting features when standing. Immediately north of this boundary is an ephemeral roadside drainage ditch and roadside verge supporting improved grassland dominated by false oat grass, rye grass (*Lolium perenne*) and red fescue with forb species such as ivy, cow parsley, nettle, cleavers, dandelion (*Taraxacum officinale* agg), cuckoo pint, white dead nettle, daisy (*Bellis perennis*) and garden escapes including daffodil (*Narcissus* sp) and snowdrop (*Galanthus* sp).

Eastern boundary

The eastern (north) boundary comprises close-boarded timber fencing, while the southern part comprises an overgrown and defunct hedge (H2) located behind a post and wire fence. Woody species include blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), ash, elder and sycamore with bramble.

Southern boundary

The majority of the southern boundary comprises a low dry stone wall, while the western end comprises a chain-link fence supporting ivy growth. Immediately south of the site boundary is a track with an embankment supporting a narrow band of open broad-leaved woodland dominated by sycamore and ash, with a very sparse ground flora. The eastern end includes parkland planting supporting beech, non-native alder (*Alnus* sp), poplar (*Populus* sp) and Scot's pine (*Pinus sylvestris*).

Western boundary

The southern part of the boundary comprises a sealed stone wall fronted by scattered hazel (*Corylus avellana*), elder and sycamore. The northern section comprises a length of

managed garden hedge (H3) set behind a chain-link fence supporting cypress (*Cupressus* sp) and garden privet (*Ligustrum ovalifolium*).

4.3.3 Structures

Along the western boundary is a small dilapidated shed comprising a timber frame with one wall clad in corrugated metal sheets. The other walls and roof are missing.

4.3.4 Notable habitats or plants

No habitats or plants occurring within the proposed development site are legally protected or nationally/locally notable. The grassland is very poor (very restricted botanical diversity) semi-improved grassland that is regularly topped. The boundaries support species-poor overgrown/defunct or managed garden hedges with mature trees, but there are lengths of stone wall. The grassland, boundary vegetation or any individual plant is not a constraint for the proposed development. No invasive plant species were recorded.

4.4 Bats

There are no records of bats within 1km of the site.

There is one small dilapidated shed on the western boundary; this is totally unsuitable for roosting bats to occupy (Category 1).

All trees within or bordering the field were visually inspected for the potential to support roosting bats. Virtually all trees are classed as having 'no potential' for roosting bats (Category 1) given their age, size, structure and the fact that they do not support any of the potential roosting features (PRF) that bats are known to use in association with the tree species found within the proposed development site. The mature trees along the northern boundary are ivy-clad. However, ivy is very rarely used by bats and has never been recorded associated with boundary/edge trees (Andrews, 2018), and furthermore all trees are clad in thin-stemmed ivy providing no opportunities for bats to potentially exploit.

The BCT guidelines state that Category 1 trees can be felled without any mitigation for bats or the need for a Natural England licence under the provisions of the Conservation of Habitats and Species Regulations 2010.

There is a mature beech tree in the middle of the northern boundary that does support PRF in the form of dead wood with cracks/fissures. However, this beech will be retained and protected.

No other properties or trees outside the proposed development site will be adversely affected by the development proposals. As such any other roost that may be present will not be damaged, disturbed or adversely affected to prevent bats from accessing or using it.

The species-poor grassland field supports a low botanical species diversity, which will have a correspondingly low invertebrate faunal diversity. The proposed development site is considered to provide sub-optimal foraging habitat for bats. Based on experience of surveying similar habitats it is considered very likely that any bat activity is restricted to common species (e.g. pipistrelle bats) using boundary habitat or attracted to adjacent residential gardens/street lighting etc. Given the presence of low quality grassland habitat within a small site, specific bat transect surveys are not considered appropriate or necessary, which is in accordance with BCT guidelines.

4.5 Other mammals

There was no evidence of protected or notable mammal species found during the survey. No badger setts were present within or on the boundary of the study area, and no other evidence of badger (i.e. latrines, dung pits, foraging or commuting tracks) found on-site. A mammal run was observed along the southern boundary, but this is made by fox (*Vulpes vulpes*) being a very narrow path and smelling strongly of fox, while fox scats have also been found on-site.

The habitat bounding the study area will not support dormice being isolated and not connected to prime woodland habitat, having an open/gappy structure with a very sparse ground flora. The boundary ditch are not suitable for supporting water vole.

Rabbit (*Oryctolagus cuniculus*) is on site, with numerous holes and burrows located around the edge of the field.

In relation to the species identified in the TVERC records hedgehog could potentially be using some of the boundary vegetation.

4.6 Birds

A number of nationally notable farmland birds have been recorded within 1km of the site, including skylark (*Alauda arvensis*), starling (*Sturnus vulgaris*), tree sparrow (*Passer montanus*), linnets (*Carduelis cannabina*), yellowhammer (*Emberiza citrinella*) and corn bunting (*Emberiza calandra*). In addition, the summer migrant swift (*Apus apus*) has been recorded.

A few common woodland/hedge/garden birds were heard or observed during the Phase 1 surveys including wood pigeon (*Columba palumbus*), robin (*Erithacus rubecula*), great tit (*Parus major*), blue tit (*Cyanistes caeruleus*), goldfinch (*Carduelis carduelis*), chaffinch (*Fringilla coelebs*), blackbird (*Turdus merula*), dunnoek (*Prunella modularis*), wren (*Troglodytes troglodytes*), blackcap (*Sylvia atricapilla*) and mistle thrush (*Turdus viscivorus*), all of which were associated with the boundary and adjacent woodland and hedgerow/scrub. Red kite (*Malvus malvus*) was observed flying over the site.

It is likely that small numbers of winter visiting birds, such as fieldfare (*Turdus pilaris*) and redwing (*Turdus iliacus*), could forage on-site, while summer visitors including house martin (*Delichon urbica*), swallow (*Hirundo rustica*) and swift are likely to forage over the grassland, especially if nesting nearby.

The site is unsuitable for ground nesting species, such as skylark, being small and enclosed, and no ground nesting species were observed during the 2013 and 2019 surveys.

Some common birds are very likely to nest within the boundary vegetation. All wild birds, their nests and eggs are protected under the Wildlife and Countryside Act, 1981 as amended. This act makes it an offence to:

- ❖ Intentionally, or recklessly, kill, injure or take any wild bird
- ❖ Take, damage or destroy the nest of any wild bird while it is in use or being built
- ❖ Take or destroy the egg of any wild bird

4.7 Reptiles

There are no records of reptiles within 1km of the site.

The combination of boundary vegetation, stone walls, habitat piles and grassland does have some potential to support common reptiles, including slow worm (*Anguis fragilis*). However, the grassland appears to be regularly topped and maintained short and the site is somewhat isolated being surrounded by development, roads and farmland. These factors lower the potential for reptiles to be present.

A reptile presence/absence survey was undertaken in 2013 and no reptiles (or amphibians) were found due probably to the isolated nature of the site. The habitats on-site have not changed since 2013, and as such there is no reason to assume reptiles have colonised the site in the intervening 5 years. Reptiles are not a constraint for the proposed development.

4.8 Amphibians

There are no records of great crested newt or other amphibians within 1km of the site. The proposed development site does not contain any ponds, there are no ponds within 500m of the study area, and no amphibians were found during the reptile refugia survey (see above). Great crested newt is not a constraint for the proposed development.

4.9 Invertebrates

The field and boundary vegetation is a habitat type that will not support a notable invertebrate community. Given the habitats on-site it is expected that generally only common, wider countryside species that are resilient and use a broad range of widely distributed habitats will frequent the site (Peterken, 2013). There is one record of wall (*Lasiommata megara*) butterfly within 1km, but the site does not provide suitable habitat for this species. Invertebrates are not a constraint for the proposed development

5 Important Ecological Receptors

Based on the ecological surveys and desk-based review of ecological data the following are considered to be important ecological receptors that require an assessment of potential impacts:

- ❖ Species-poor and defunct hedgerow and trees. Important is a Local (Site) context.
- ❖ Beech tree with PRF. Important in a Local (Site) context;
- ❖ Foraging/commuting bats. Very likely low numbers of common bats. Important in a Local context;
- ❖ Hedgehog. A notable species that may be present in boundary vegetation. Important in a Local context; and
- ❖ Nesting birds. Low numbers of common birds using boundary vegetation. Important in a Local (Site) context.

6 Predicted Impacts and Significance

Adverse ecological impacts are significantly reduced or removed given the current low quality habitat and absence of legally protected, rare, scarce or notable wildlife within the development footprint, which only encompasses a small part of the species-poor grass field. The proposed development further avoids/minimises adverse impacts by maximising the retention of boundary hedgerow and associated mature trees. The following impacts on importance ecological receptors are predicted. In addition, actions is recommended to maintain the grassland in its current condition (see Section 7.1), which ensures habitats do not develop that could potentially support wildlife.

6.1 Species-poor and defunct hedgerow and trees

All boundary hedgerow and mature trees will be retained and protected using appropriate best practice tree protection measures to prevent physical damage or compaction of root zones from compaction. The mitigation will be agreed with the local planning authority. This is a neutral impact.

6.2 Beech tree with PRF

There is a single mature beech tree in the northern boundary hedgerow. This tree will be retained and will remain unaffected by the proposed development being protected with an appropriate buffer. Appropriate scheme design will ensure no increase in ambient light levels associated with this tree. This is a neutral impact.

6.3 Foraging/commuting bats

Most vegetation and all mature trees on the site boundaries will be retained and protected, while only a small proportion of the grassland field will be developed. New habitats will include new boundary vegetation and gardens/green open space that bats can use for foraging/commuting. Appropriate scheme design will also be implemented to ensure no significant adverse effects on foraging/commuting bats are manifest (see Section 7.2 and 7.7). This is a neutral impact.

6.4 Hedgehog

Hedgehog could be present within the boundary vegetation / habitat piles within the study area. Hedgehog is recognised as a priority species due to declining populations. The development has the potential to damage or destroy hedgehog if undertaken without appropriate safeguards. If this were to happen this is a negative impact at the local (site) scale. This potential adverse impact will be removed through implementing appropriate mitigation (see Section 7.3).

6.5 Nesting birds

Some common birds could nest within shrub and tree vegetation, especially on the site boundaries. Some vegetation may be removed to facilitate the construction of the development. If vegetation is removed without appropriate safeguards then there is the potential to damage, destroy or disturb nesting birds. This is a potential negative impact at the local (site) scale. This potential adverse impact will be removed through implementing appropriate mitigation (see Section 7.4).

7 Mitigation, Compensation and Enhancement

7.1 Maintaining current condition of grassland

Prior to the commencement of the development, including site clearance work, the grassland within the development footprint should be cut initially to a height of ca. 15cm and thereafter maintained as a very short/open sward (ca. 7cm) through continued regular cutting up until the commencement of the construction work. This will prevent the grassland developing a tussocky sward and potentially becoming more suitable for some wildlife to use.

This will protect wildlife in accordance with Cherwell District Council Policy ESD10.

7.2 Protecting foraging/commuting bats

In line with paragraph 125 of the National Planning Policy Framework, the development should aim to limit the impact of light pollution on bats through the careful use of lighting in critical areas only and at a low level with minimum spillage. Any lighting included within the development should be kept to a minimum and directed away from suitable foraging and commuting (and roosting) features to ensure there is no significant increase in ambient light levels.

Lighting should be designed in compliance with Bat Conservation Trust (BCT) and Institution of Lighting Professionals (ILP) guidelines on 'Bats and Lighting in the UK' (2018) to ensure adverse impacts on foraging/commuting/roosting bats are avoided or minimised. This would include:

- ❖ Use of correct lamps. Recommended use of LED lighting to minimise/avoid UV and Infrared emissions;
- ❖ Minimising light spill. Lighting directed to where needed and spillage (especially outward and upward) avoided. Achieved through light design and use of shields/baffles to direct light away from sensitive locations; and
- ❖ Minimising lighting column height. Lighting columns kept as short as possible to minimise outward and upward light spillage.

This will protect bats in accordance with Cherwell District Council Policy ESD10.

7.3 Protecting hedgehog (and other common mammals)

Mitigation to ensure protection of hedgehog includes:

- ❖ Vegetation removal will proceed with care so as to allow animals to disperse if they are present at the time of the work;
- ❖ All site clearance work undertaken during daylight hours avoiding issues associated with disturbance to these nocturnal animals;
- ❖ Any excavations that need to be left overnight should be covered or fitted with mammal ramps to ensure that any animals that enter can safely escape. Any open pipework with an outside diameter of greater than 120 mm must be covered at the end of each work day to prevent animals entering/becoming trapped; and
- ❖ If a hedgehog is found during site clearance work it will be carefully picked up (using gloves) and moved to the site boundary, which will not be affected by the proposed work.

This will protect hedgehog in accordance with Cherwell District Policy ESD10.

7.4 Protecting nesting birds

The proposed development may remove some shrubs and trees currently available for nesting birds to use. To ensure compliance with the Wildlife and Countryside Act, 1981 (as amended) the following action is required:

- ❖ Undertake any woody vegetation removal outside the bird breeding season, which is generally considered to be from 1st March to 31st August (to cover all bird species, particularly multiple brood species). This option will avoid the need for a pre-works inspection to determine the presence of nesting/breeding birds.

If this option is not feasible and some or all work has to go ahead within the bird breeding season, as defined above, then the following action will be taken:

- ❖ A nesting bird inspection immediately prior to the commencement of the specified work (maximum of 2 weeks prior to work starting) will be undertaken by a qualified ecologist, ornithologist, arboriculturalist or other suitably qualified individual. If nesting birds or birds constructing a nest are subsequently identified to be present, work in that area must cease until the nest is clear. This could involve avoiding individual trees/shrubs, whilst holding a watching brief on the area to establish when the nest is clear.

Regardless of time of year if nesting birds are found in the development site then work in the immediate vicinity should stop and an ecologist consulted.

This will protect nesting birds in accordance with Cherwell District Council Policy ESD10.

7.5 New bat roosting features

To provide an enhancement for bats, one bat roosting brick (integrated into the fabric of an external wall) will be installed if practicable onto five of the new properties to provide roosting habitat for crevice-dwelling bat species such as pipistrelle bats.

Each bat brick will be installed as high above the ground as possible (photo shows two bat bricks *in situ* on a new dwelling). The bat roosting features will be orientated on a south, west or east-facing aspect, and no external lighting will be used adjacent to or shine directly at the entrance slots. Clear lines of flight to the bat roost brick entrance will be maintained at all times.



This enhancement is in accordance with Cherwell District Council Policy ESD10.

Alternative bat bricks can be viewed on-line (e.g. www.nhbs.com or www.wildcareshop.co.uk), with one example shown below. This is a Habitat bat brick for installation into cavity wall, which can be faced with standard Staffordshire red or blue brick, custom brick, custom stone, render or timber.



Staff smooth red



Staffs smooth blue



Custom stone



Custom brick

7.6 New bird nesting features

To provide replacement habitat for nesting birds, features should be incorporated where possible and practicable into new building designs. Buildings should integrate nest-boxes, which can be included into the fabric or bolted onto a wall (see photo) at the gable apex or under eaves to target birds typical of residential environments especially house sparrow (*Passer domesticus*) and swift (*Apus apus*).



Boxes should be placed on external walls which provide shelter from direct sunlight (i.e. not south-facing), and preferably on a north or east-facing wall.

This enhancement is in accordance with Cherwell District Council Policy ESD10.

A range of bird boxes are available and can be incorporated depending on the proposed design and architecture. Alternatives can be viewed on-line (e.g. www.nhbs.com or www.wildcareshop.co.uk), with some example shown below.



Schwegler 1SP integrated sparrow terrace nest box (stone or brown)



Ibstock built-in swift nest box

7.7 New planting

The opportunity to integrate new hedgerow or tree/shrub planting within the landscaping scheme is encouraged. Species for any new hedgerow, tree and shrub planting should preferably be native specimen or cultivar and sourced from a reputable nursery. The use of species that are fruit or berry producing to maximise benefits for birds is also encouraged.

New boundary hedges should be mixed native hedges using a suite of species that could include hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), hazel (*Corylus avellana*), field maple (*Acer campestre*), spindle (*Euonymus europaeus*), holly (*Ilex aquifolium*), dogwood (*Cornus sanguineum*) and wayfaring-tree (*Viburnum lantana*).

These species could also be used to in-fill and under-plant existing gappy boundary hedgerows.

Trees that could be included in new hedgerow or boundary planting could include pedunculate oak (*Quercus robur*), field maple (*Acer campestre*), crab apple (*Malus sylvestris*) and wild cherry (*Prunus avium*).

Within gardens the planting of flower species that help to attract night flying insects is encouraged as this will be of value to foraging bats. For example, the inclusion of evening primrose (*Oenothera biennis*), goldenrod (*Solidago virgaurea*), honeysuckle (*Lonicera periclymenum*) and fleabane (*Pulicaria dysenterica*) is encouraged.

This enhancement is in accordance with Cherwell District Council Policy ESD10.

7.8 Garden fencing

The use of close-boarded garden fencing within any future development should be minimised if possible. However, where such fencing is used they should be fitted with small gaps at the base, approximately 10cm by 10cm, to allow small mammals (i.e. hedgehogs) to move between gardens. This is in accordance with Cherwell District Council Policy ESD10.

8 Residual Effects

There are a few predicted potential adverse impacts associated with the change in use of part of this low quality grassland field. The majority of the boundary habitat, including the mature trees and potential bat roost beech tree, will be retained and any potential predicted adverse impacts can be appropriately mitigated through appropriate scheme design and implementation. There are no predicted significant residual adverse impacts associated with the proposed development on protected/notable species, which is in accordance with national and local biodiversity planning policy.

The development can provide alternative and enhanced habitat for target species, particularly bats and birds, which includes more diverse planting and providing bat bricks and bird nesting boxes. These design features would enhance the site so that a variety of species can use it in the long-term.

The proposed scheme will not have adverse impacts on the ability of local wildlife to survive, breed or reproduce, to rear or nurture their young or to hibernate or migrate, and would actively improve the situation for target species such as bats and birds. The proposed scheme will not adversely affect the local distribution or abundance of local wildlife species.

The long-term ecological effects of the proposed scheme are considered to be neutral.

9 References

Andrews, H (2018). *Bat Roosts in Trees – A Guide to Identification and Assessment for Tree-Care and Ecology Professionals*. Pelagic Publishing

Bat Conservation Trust and Institution of Lighting Professionals (2018). *Bats and artificial lighting in the UK (Guidance Note 08/18)*. Bats and the built environment series.

CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester

Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London

Ecolocation (2013a). *Ecological Appraisal of Land off Clifton Road, Deddington, OX15 0TH*

Ecolocation (2013b). *Reptile Survey Report on Land off Clifton Road, Deddington, OX15 0TH*

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Appendix A Aerial Image with Ecology Target Notes



Appendix B Site Photographs



View across field looking south to north (left) and hedgerow H1 looking west to east (right)



Beech with PRF in H1 (left) and roadside verge and ephemeral drainage ditch (right)



Garden fencing along eastern boundary (left) and hedgerow H2 (right) looking south to north



Southern boundary stone wall (left) and chain-link fence (right) looking east to west



Western boundary stone wall with scrub (left) and dilapidated tin shed (right)



Cypress and privet hedgerow H3 looking south to north (left) and hollow lime with log piles on northern edge of field (right)