
Ecology Report

PROPOSED BARN CONVERSION
Chestnut House, Stradbroke

July 2020



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Contents

EXECUTIVE SUMMARY

1	INTRODUCTION	1
1.1	BRIEF	1
1.2	SITE LOCATION AND DESCRIPTION	1
2	PLANNING POLICY AND LEGISLATION	2
2.1	INTRODUCTION	2
2.2	PLANNING POLICY	2
2.3	LEGISLATION	3
3	METHODOLOGY	5
3.1	INTRODUCTION	5
3.2	DESK SURVEY	5
3.3	FIELD SURVEY	5
3.4	SURVEY CONSTRAINTS	7
3.5	SURVEYORS	7
3.6	ASSESSMENT	7
4	RESULTS	8
4.1	INTRODUCTION	8
4.2	BASELINE ECOLOGICAL CONDITIONS - DESK STUDY	8
4.3	BASELINE ECOLOGICAL CONDITIONS – FIELD SURVEY	9
4.4	GEOGRAPHIC CONTEXT	11
5	ASSESSMENT AND RECOMMENDATIONS	12
5.1	INTRODUCTION	12
5.2	DESCRIPTION OF PROPOSED DEVELOPMENT	12
5.3	FURTHER SURVEYS REQUIRED	12
5.4	ASSESSMENT OF IMPACTS	12
5.5	HABITATS AND VASCULAR PLANTS	13
5.6	AMPHIBIANS AND REPTILES	13
5.7	BATS	14
5.8	NESTING BIRDS	15
5.9	OTHER S. 41 LIST HABITATS AND SPECIES	15
5.10	COMPENSATION	16
5.11	CUMULATIVE EFFECTS	16
5.12	ENHANCEMENT OPPORTUNITIES	16
5.13	CONCLUSIONS	17
6	REFERENCES	18

Figures

Figure 1 Location plan

Appendices

Appendix A1	Photos
Appendix A2	EclA Criteria
Appendix A3	Bird boxes
Appendix A4	Bat boxes

Executive Summary

MHE Consulting Ltd were instructed to undertake an ecological survey at land at Chestnut House, Wilby Road, Stradbroke where a planning application will be submitted to Mid Suffolk District Council for a proposed barn conversion of a former office building, the demolition of some garages, and a new access off Neaves Lane.

The application site comprises a former office building, some garages, hard standing, lawn, scattered trees, roadside hedgerow and dry ditch, and boundary hedgerow. Two ponds exist within 20m of the application site.

No evidence of roosting bats were found within the barn or the garages which supported limited potential roosting niches.

No evidence of nesting birds was present in the barn or garages, but the barn did contain some bird droppings from probable roosting small passerines such as wren (*Troglodytes troglodytes*). The boundary hedgerows and scattered trees provide potential nesting, foraging and song perch habitat for a range of bird species.

The site supports limited habitat for amphibians and reptiles with the lawn providing foraging habitat at night when it rains. Hedgehog (*Erinaceus europaeus*) may forage over the lawn, whilst hedgerows and provide potential hedgehog refuge habitat. The hedgerows support a number of native shrub and tree species and may support notable invertebrates such as the white-letter hairstreak butterfly (*Satyrrium w-album*) butterfly the caterpillars of which feed on elm (*Ulmus procera*).

Recommendation are made to avoid and mitigate potential ecological impacts including timing of work and implementation of good working practice. Ecological enhancements are recommended to deliver a Biodiversity Net Gain. Standard planning conditions are recommended to secure the measures proposed.

1 Introduction

1.1 BRIEF

MHE Consulting Ltd were instructed to undertake an ecological survey at land at Chestnut House, Wilby Road, Stradbroke (Figure 1, TM 23470 72975), where a planning application will be submitted to Mid Suffolk District Council for a proposed barn conversion of a former office building, the demolition of some garages, and a new access off Neaves Lane.

The ecological survey and this report are necessary to:

- Identify the existing ecological value of the site;
- Identify the need for further (e.g. protected species) surveys;
- Assess any potential adverse impacts of the proposed development on ecological features of the site or nearby designated sites;
- Make recommendations for mitigation (if required); and
- Identify opportunities for biodiversity enhancements and, consistent with national and local planning policy, net gains.

This report will be used to develop the proposals as necessary, and to form the basis for the submission of biodiversity information with any planning application. It reflects the site at the time of the survey and should be reviewed and revised as appropriate.

1.2 SITE LOCATION AND DESCRIPTION

The application site (Figure 1) comprises a former office building, some garages, hard standing, lawn, scattered trees, roadside hedgerow and dry ditch, and boundary hedgerow. Two ponds (P1 and P2) exist within 20m of the application site (Figure 1).

2 Planning policy and legislation

2.1 INTRODUCTION

This chapter summarises the key legislation and policies relevant to assessing the biodiversity impacts of the scheme upon habitats and species.

2.2 PLANNING POLICY

2.2.1 *National Planning Policy Framework (NPPF)*

The National Planning Policy Framework was originally published in 2012 and recently revised in February 2019. The document sets out the Government's planning policies for England and provides guidance on how these policies are expected to be applied. It provides a framework for, and must be taken account of within, locally prepared plans for housing and other development, and is a material consideration in planning decisions.

An overarching objective of the NPPF, which aims to secure net gains, is to contribute to protecting and enhancing the natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

The full NPPF is available to view online using the gov.uk website: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/779764/NPPF_Feb_2019_web.pdf Policies of particular relevance to development and biodiversity include 170, 175, 176 and 177.

170. Planning policies and decisions should contribute to and enhance the natural and local environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

175. When determining planning applications, local planning authorities should apply the following principles:

- a) 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;
- b) development on land within or outside a Site of Special Scientific Interest (SSSI), and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and d) 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.

176. The following should be given the same protection as habitats sites:

- a) potential Special Protection Areas (SPA) and possible Special Areas of Conservation (SAC);
- b) listed or proposed Ramsar sites; and
- c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

177. The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

2.2.2

Local Plan

Adopted local plans provide the framework for development across England, and include policies related to conserving and enhancing the natural environment. Planning policies and supporting documents that are used to plan, deliver and monitor development across the Mid Suffolk District Council area can be found at <https://www.midsuffolk.gov.uk/planning/planning-policy/>.

2.3

LEGISLATION

2.3.1

Natural Environment and Rural Communities (NERC) Act 2006

Section 40 places a duty on every public body in exercising its functions, to have regard to the purpose of conserving biodiversity; this includes restoring or enhancing populations or habitats. A key purpose of this duty is to embed consideration of biodiversity as an integral part of policy and public-sector decision making. *Species and habitats of principal importance* in this respect are those published under Section 41 (“S. 41”) of the NERC Act 2006.

2.3.2 *Wildlife and Countryside Act 1981 (as amended)*

Rare and scarce habitats and species are afforded varying levels of protection under the Wildlife and Countryside Act 1981 (as amended) (hereafter “WCA 1981”). Some species and groups are afforded full protection (e.g. Schedule 1 bird species, bats), whilst others receive partial protection (e.g. widespread reptiles). Section 3.1 provides further detail relevant to this scheme. Species afforded legal protection are referred to by their relevant schedule (“Sch.”) within the act, i.e. “Sch. 1” (birds), “Sch. 5” (other animals), or “Sch. 8” (plants).

Invasive plant species such as Japanese knotweed (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzianum*) are listed on Schedule 9 of the WCA 1981. It is an offence to plant or otherwise cause these species to grow in the wild and this includes the development of sites such that the plant colonises land owned by a third party.

2.3.3 *The Countryside and Rights of Way (CROW) Act 2000*

The CROW Act 2000 strengthened and updated elements of the WCA 1981, and gave a statutory basis to biodiversity conservation, requiring government departments to have regard for biodiversity in carrying out its functions and to take positive steps to further the conservation of listed habitats and species. It strengthened the protection of SSSI and threatened species. Many of its provisions have been incorporated as amendments into the WCA 1981 and some have been superseded by the NERC Act 2006.

2.3.4 *The Conservation of Habitats and Species Regulations 2017*

The Conservation of Habitat and Species Regulations 2017 (hereafter referred to as the Habitat Regulations 2017) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), and elements of the EU Wild Birds Directive, into national law. The 2017 Regulations provide for the designation and protection of ‘European sites’ (Special Protection Areas, SPAs, and Special Areas of Conservation, SACs), the protection of ‘European Protected Species’ (“EPS”), and the adaptation of planning and other controls for the protection of European Sites. They have been amended by the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019, which continue the same provision for European protected species, licensing requirements, and protected areas after Brexit.

Under the Regulations, competent authorities i.e. any Minister, government department, public body, or person holding public office, have a general duty, in the exercise of any of their functions, to have regard to the relevant EC Directives.

2.3.5 *Protection of Badgers Act 1992*

The Protection of Badgers Act 1992 (hereafter “PBA 1992”) consolidates and improves upon the previous Badgers Act 1973, Badgers Act 1991, and Badgers (Further Protection) Act 1991. Under the PBA 1992 (except when holding a licence to do so) it is illegal for a person to wilfully; kill, injure, take, possess, sell, or otherwise cruelly treat a badger. It is also illegal to dig out, damage, destroy, or obstruct entry to setts (including by use of dog(s)). Further information on offences, exceptions, and penalties are listed on the PBA 1992 on legislation.gov.uk.

3 Methodology

3.1 INTRODUCTION

This report has been produced with reference to relevant guidance, most notably:

- Guidelines for Ecological Report Writing (CIEEM, 2017);
- Biodiversity – Code of Practice for Planning and Development (BS 42020:2013¹);
- Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018); and
- Biodiversity Net Gain: good practise principles for development (CIRIA, CIEEM and IEMA, 2016).

The following sections summarise the approaches used to review existing data, and to undertake appropriate field surveys to scope and inform an Ecological Impact Assessment (EclA) for the scheme. Where further surveys are considered necessary, this is identified in section 5.

3.2 DESK SURVEY

The following data sources were consulted to assess the potential for the application site to support protected or notable habitats/species:

- Aerial photos, Ordnance Survey maps, Natural England open source data, and the MAGIC website (<http://magic.defra.gov.uk/>): These were used to identify habitat types including priority habitats, suitability for particular species/groups, and the locality of nationally and internationally designated sites;
- A Previous ecological survey of the site (Applied Ecology, 2017); and
- Historical SBIS biological records: species and locally designated site records within 2km of the sites.

From this exercise, it was concluded that the following legally protected species/groups may be present on the sites and/or land immediately adjacent:

- Amphibians including great crested newt (GCN) (*Triturus cristatus*)² and reptiles such as grass snake (*Natrix helvetica*)³;
- Mammals including badgers (*Meles meles*)⁴ and bats²;
- Breeding birds⁵ including Red and Amber status⁶ species; and
- S. 41⁷ list habitats such as hedgerows, and species such as hedgehog (*Erinaceus europaeus*).

In the context of the setting and nature of the developments, the small 'zone of influence' of the scheme is considered restricted to habitats on the site and species within 100m of the site boundaries.

3.3 FIELD SURVEY

An initial site walkover was undertaken on the 22nd May 2020 to 1) record habitats present, and 2) assess the value of the habitats present for protected and notable

¹ BSI Standards publication BS 42020:2013 Biodiversity – Code of practice for planning and development.

² GCNs and all species of bats receive full protection under the WCA 1981 and Habitats Regulations 2017.

³ Widespread amphibians and reptiles receive partial protection under the WCA 1981.

⁴ Badgers and their setts are afforded protection by the PBA 1992.

⁵ All wild birds, their nests and eggs are protected under the WCA 1981 (as amended), level of protection varies per species.

⁶ The conservation statuses of UK bird species are listed within the Birds of Conservation Concern 4 (Eaton *et al.*, 2015).

⁷ S. 41 of the NERC Act 2006 lists 'habitats and species which are of principal importance for the conservation of biodiversity in England'.

species. A list of vascular plants and a description of the vegetation was made, including the location and extent of any Schedule 9 (WCA 1981) plants. Photos of the habitats present, and any field signs are provided in Appendix A1.

3.3.1 *Habitats and vascular plants*

The sites were walked with all distinct vegetation and habitat types, and any features of interest identified. Care was taken to record as many species as possible.

3.3.2 *Amphibians and reptiles*

a) Amphibians

Two ponds P1 and P2 (Figure 1) are located within 100m of the application site. Their suitability for supporting GCNs was assessed using the Habitat Suitability Index (HSI) methodology as developed by Oldham *et al.* (2000) and modified by Lee Brady.

The terrestrial habitat suitability of the sites was assessed with respect to refugia and foraging habitat based on the known habitat preferences of GCNs and widespread amphibians such as common frog (*Rana temporaria*), smooth newt (*Lissotriton vulgaris*) and common toad (*Bufo bufo*).

Recommendations are provided in chapter 5 to avoid impacts on GCNs and common amphibians.

b) Reptiles

Habitats on and around the application sites were assessed with respect to the known foraging and refuge habitat preferences of widespread reptile species.

3.3.3 *Bats*

a) Preliminary Roost Assessment

The existing buildings on site were assessed for Bat Roosting Potential (BRP) with reference to the Natural England's (NE) Bat Mitigation Guidelines (Mitchell-Jones, 2004) and the Bat Conservation Trust (BCT) "Bat Surveys: Good Practice Guidelines, 3rd edition" (Collins, 2016). Evidence of roosting bats was recorded if observed.

b) Tree roost potential

Any trees present on the site were assessed with regards to their suitability for supporting roosting bats as per the Bat Conservation Trust (BCT) "Bat Surveys: Good Practice Guidelines, 3rd edition" (Collins, 2016). Evidence of roosting bats was recorded if observed.

c) Foraging and commuting habitat

Consideration was given to the value of any potential foraging and commuting habitats (i.e. hedgerows, trees, ponds) on the application site (Collins, 2016).

3.3.5 *Nesting birds*

The value of the sites was assessed in relation to nesting birds. This was supplemented with field records of birds seen or heard within the site, or nests observed.

3.3.6 *Badger*

The application site was surveyed for evidence of badger activity including setts, day beds, latrines, diggings/snuffle holes, paths/runs, scratching posts, hair, and footprints. Any setts were classified as per current guidance (Scottish Badgers, 2018).

3.3.7 *S. 41 list habitats and species*
The site was surveyed to determine the presence of any S. 41 habitats such as native species-rich hedgerows. The site's suitability for S. 41 list species such as hedgehog and invertebrates were assessed based on their habitat preferences.

3.3.8 *Non-native invasive plant species*
The site was inspected for Schedule 9 species such as Japanese knotweed and giant hogweed.

3.4 **SURVEY CONSTRAINTS**
All of the site was accessible for inspection and there were no constraints to the survey.

3.5 **Surveyors**
The initial site walkover, building inspection and pond assessments were undertaken by Christian Whiting BSc (Hons) MSc MCIEEM MEECW who has over 20 years' experience working as an ecologist and holds Natural England (NE) survey licences for bats (2015-14745-CLS-CLS - Bat Survey Level 2, and great crested newts (Class A licence 2015-17633-CLS-CLS).

He is a Registered Consultant (Registration RC089) on NE's Bat Mitigation Class Licence. He is registered on the NE water vole (*Arvicola amphibius*) Developers Class Licence CL31 (Intentional disturbance of water voles and damage/destruction of water vole burrows by means of 'Displacement') and the Environment Agency's and IDB water vole organisational and class licences respectively. His main areas of expertise are bats, vascular plants, amphibians and reptiles, otter (*Lutra lutra*) and water vole.

3.6 **ASSESSMENT**
Impacts and effects upon habitats and species are assessed with reference to the CIEEM Guidelines for Ecological Impact Assessment (2018) and are reported in Section 5, based on the baseline conditions reported in Section 4.

The assessment includes potential impacts upon habitats and species during the construction and operational phases of the scheme. It considers positive and negative impacts, their extent, magnitude and duration, frequency and timing, and reversibility.

4 Results

4.1 INTRODUCTION

This chapter summarises the results of the desk and field surveys.

4.2 BASELINE ECOLOGICAL CONDITIONS - DESK STUDY

4.2.1 Designated sites

Any locally designated sites, e.g. Local Nature Reserves (LNR) within 2km, nationally designated sites within 5km, and Internationally designated sites within 13km of the application site are listed in Table 4.1.

Table 4.1 Relevant designated sites

Site name	Site designation
Stradbroke Meadow	CWS
Stradbroke Cemetery	CWS

No SSSIs or Natura 2000 sites are located within 5km and 13km of the site respectively.

No impacts upon the features of the CWSs are predicted.

4.2.2 Species

1. Relevant biological records

No protected or notable species records exist for the property site boundary, with species located 100m of the site highlighted in bold. Table 4.2 identifies species records for within 2km the application site boundary.

Table 4.2 Protected/notable species within 2km of the application site

Scientific Name	Common name	Legal/conservation status
<i>Lissotriton vulgaris</i>	Smooth newt	Sch. 5
<i>Triturus cristatus</i>	Great crested newt	EPS; Sch. 5; S. 41
<i>Natrix helvetica</i>	Grass snake	Sch. 5; S. 41
<i>Apus apus</i>	Swift	Amber Status
<i>Emberiza citrinella</i>	Yellowhammer	Red Status; S. 41
<i>Passer domesticus</i>	House sparrow	Red Status; S. 41
<i>Passer montanus</i>	Tree sparrow	Red Status; S. 41
<i>Perdix perdix</i>	Grey partridge	Red Status; S. 41
<i>Streptopelia turtur</i>	Turtle dove	Red Status; S. 41
<i>Sturnus vulgaris</i>	Starling	Red Status; S. 41
<i>Turdus philomelos</i>	Song thrush	Red Status
<i>Tyto alba</i>	Barn owl	Sch. 1
<i>Barbastella barbastellus</i>	Barbastelle	EPS; Sch. 5; S. 41
<i>Eptesicus serotinus</i>	Serotine	EPS; Sch. 5
<i>Myotis nattereri</i>	Natterer's	EPS; Sch. 5
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	EPS; Sch. 5
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	EPS; Sch. 5; S. 41
<i>Plecotus auritus</i>	Brown long-eared	EPS; Sch. 5; S. 41
<i>Erinaceus europaeus</i>	Hedgehog	S. 41

b) Applied Ecology survey (2016)

A site walkover was undertaken on the 20th December 2016 and no evidence of bats roosting were found in any of the buildings, whilst the 2 ponds were assessed as unsuitable for supporting breeding populations of GCNs.

c) Natural England Class Licence and eDNA records

The nearest recent GCN record is c. 4.5km to the north-west of the application site.

4.3

BASELINE ECOLOGICAL CONDITIONS – FIELD SURVEY

4.3.1

Habitats and vascular plants

The application site (Figure 1) comprises a former office building (Photos 1 and 2), some garages (Photos 3 and 4), hard standing (Photo 5), lawn (Photo 6), scattered trees (Photo 6), some hedgerows and a dry ditch (Photo 7 and 8). Two ponds P1 and P2 (Photos 9 and 10) exist within 20m of the application site.

Hedgerow H1 (Photo 7, Figure 2) along the northern site boundary is overgrown and comprises blackthorn (*Prunus spinosa*), elm (*Ulmus sp*), plum (*Prunus sp*), field maple (*Acer campestre*) and hawthorn (*Crataegus monogyna*) along with scattered trees of sycamore (*A. pseudoplatanus*), ash (*Fraxinus excelsior*) and pedunculate oak (*Quercus robur*).

A bolted hawthorn and blackthorn hedgerow H2 (Photo 8, Figure 2) exists along the roadside where a new site access and ditch crossing is proposed. Some ash and sycamore trees exist within the hedgerow.

The lawn areas are species poor, whilst some scattered trees exist.

4.3.2

Amphibians and reptiles

The former office building, garages and areas of hard standing are of negligible value as foraging and refuge habitat, whilst the lawn may be used by foraging amphibians at night during rainfall. The boundary hedgerows provide potential foraging and refuge habitat.

Ponds P1 and P2 are located adjacent to the application site. P1 supports dense populations of fish and was assessed as supporting poor habitat suitability (HSI = 0.48), whilst pond P2 also supports poor habitat suitability (HSI = 0.44). These scores were consistent with a previous assessment (Applied Ecology, 2017). Therefore, the breeding presence of this species in either waterbody is considered very unlikely.

On the basis of the site's poor suitability for amphibians coupled with the low HSI scores for the two adjoining ponds, further survey and assessment work for reptiles and amphibians is considered unnecessary.

Grass snake could potentially pass through the site when hunting in pond P1 as they will eat fish, but the lack of cover over much of the site means that any resident populations of common reptiles are unlikely.

4.3.3

Bats

a) Preliminary Roost Assessment

The garages and former offices are constructed from timber frames with corrugated metal clad walls and roofs. They support negligible roosting opportunities.

A couple of pipistrelle droppings were scattered over the floor of the former offices where an end wall was missing and due to the lack of suitable roosting niches above the droppings they are likely to be as a result of a bat briefly flying in the building possibly to light sample or forage. No evidence of roosting bats (e.g. accumulations below small cavities typically used by pipistrelles) was found in the garages or the former offices. The previous survey (Applied Ecology, 2017) in 2016 found no evidence of roosting bats.

b) Trees

No trees exist on site which require felling that have the potential to support roosting bats. A mature ash exists adjacent to the proposed site access which is of an age and size such that potential roosting niches could exist high up in the canopy, but this tree will be retained.

c) Foraging and Commuting Habitat

The application site offers moderate commuting and foraging habitat (Collins, 2016) along the hedgerows and over the adjacent ponds.

4.3.4

Nesting birds

No evidence of nesting birds was recorded in the former offices or the garages, though a light scatter of droppings in the former offices indicates occasional roosting activity by small passerines such as wren (*Troglodytes troglodytes*). Hedgerows, trees and shrubs provide suitable habitat for a range of nesting bird species including blackbird (*Turdus merula*), song thrush (*Turdus philomelos*) (Red Status; S. 41 list), wood pigeon (*Columba palumbus*), goldcrest (*Regulus regulus*) and dunnock (*Prunella modularis*) (Amber Status; S. 41 list).

4.3.5

Badger

No evidence of badger (e.g. snuffle holes, runs, latrines, setts) was observed.

4.3.6

S. 41 list habitats and species

a) Habitats

The hedgerows H1 and H2 both support native species and meet the criteria for S. 41 hedgerow habitats.

b) Species

The lawn habitat provides foraging habitat for hedgehog which may also nest/seek refuge in the base of the hedgerows. The various trees, shrubs and hedgerows may support S. 41 list invertebrates. The elm in the hedgerows provide valuable habitat for the white-letter hairstreak (*Satyrrium w-album*) butterfly.

4.3.7

Non-native invasive plants

No non-native invasive species were recorded within the application site boundary.

4.4

GEOGRAPHIC CONTEXT

The geographic context of a feature is a useful consideration within an assessment of impacts. For this report, the geographic frames of reference for the habitats and species present on sites are provided in Table 4.3; values are based upon the criteria in Table A3.1 and expert best judgements.

Table 4.3 Feature value based on geographic context

Feature	Value
Lawn, hedgerows and trees	Local
Amphibians and reptiles	Local
Bats	Local
Nesting birds	Local
S. 41 habitats and species	Local

5 Assessment and recommendations

5.1 INTRODUCTION

The following section provides a summary description of the proposed developments, with an assessment of associated impacts and likely significant effects upon biodiversity.

The assessment and recommendations are based on use of the mitigation hierarchy, which in the first instance aims to avoid impacts. Where impacts cannot be avoided, they should be minimised (through mitigation). Only where impacts cannot be avoided or minimised should there be compensation for biodiversity harm.

Ecological enhancements are suggested, and consideration is given to individual as well as overall net gains or losses of biodiversity.

5.2 DESCRIPTION OF PROPOSED DEVELOPMENT

Proposed works will include partial stripping and renovation of the existing office building, the demolition of the garage buildings, removal of a short section of hedge for site access, and landscaping of the new gardens.

Assessments and recommendations below are based on drawings provided by Roger Balmer Design as submitted with the planning application and available at the time of writing and should be updated accordingly as the scheme is subsequently amended.

5.3 FURTHER SURVEYS REQUIRED

None required. It is generally advised that subject to no significant change in site management regimes, and dependent on the species present, baseline survey results remain valid for approximately 12 – 18 months (CIEEM, 2019). Exceptions include where mobile species are/may be present, where site management practices cease or change, or where existing guidance indicates otherwise.

5.4 ASSESSMENT OF IMPACTS

The EclA assessment process (CIEEM, 2018) involves:

- Identifying and characterising impacts and their effects;
- Incorporating measures to avoid and mitigate negative impacts and effects;
- Assessing the significance of any residual effects after mitigation;
- Identifying appropriate compensation measures to offset significant residual effects;
- and
- Identifying opportunities for ecological enhancement.

The emphasis in EclA is on the assessment of 'significant effects' i.e. an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. In broad terms 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.

The ecological features to be subject to detailed assessment in this report are those judged to be important and potentially affected by the project; protected species are included where the development will result in a potential breach of legislation.

5.5

HABITATS AND VASCULAR PLANTS

a) Potential impacts

Vegetation clearance, ground-breaking and construction operations will result in the permanent loss of a very small area of species-poor lawn, a short section of roadside hedgerow H2, a small ornamental tree and some ruderal vegetation. Due to the very small scale of losses and nature of the habitats present, no significant effects will result.

b) Mitigation

Retained hedgerows, grassland, shrubs and trees should be protected from damage with Heras (or similar) fencing during the construction phase.

c) Residual effects

No significant residual effects are predicted.

5.6

AMPHIBIANS AND REPTILES

a) Potential impacts

The conversion of the barn and demolition of the garage has low potential to cause injury and/or the death of common amphibians and potentially grass snake. Animals dispersing to nearby ponds or foraging over the lawn could fall into open trenches resulting in entrapment and mortality considered a negative effect at the local scale. Loss of any shrubs and hedgerows could result in the loss of refuge habitat including potentially for overwintering. Together these impacts could cause a significant effect on animals at the local scale.

On completion of the development, the use of gully pots or similar as part of a surface water drainage system can result in the entrapment of amphibians (Muir, 2012) if the gully pots do not discharge straight into a ditch or pond without silt traps or another impediment. These impacts would potentially be a significant negative effect upon a small number of animals at the local scale.

b) Mitigation

The following good practise measures should also be implemented:

- During the construction phase, trenches will be filled on the same day as excavation where possible. Trenches left overnight will be covered with ply/OSB sheets and any gaps filled with damp sharp sand;
- Footings and concrete slabs will be poured during the morning to ensure they have hardened off prior to evening to reduce the risk of animals encountering wet concrete;
- Any hand mixing of mortar or concrete will be on ply boarding over a tarpaulin which is folded over the boarding at the end of each day to prevent animals coming into contact;
- Any excess cement/concrete will be poured into a concrete skip, so it can then set to prevent animals coming into contact.
- All building materials will be stored on bare ground or hard standing, or stored off the ground on pallets;
- Any demolition waste should be stored in skips to prevent amphibians or reptiles from seeking refuge;
- Should any animals be encountered they should be allowed to displace into retained habitat (e.g. boundaries) or carefully relocated;

- If any GCNs are encountered works must stop immediately and a qualified ecologist be contacted for advice on how to proceed;
- Any installed gully pots that do not discharge without impediment straight into a ditch or pond must be situated $\geq 100\text{mm}$ from roadside; OR a wildlife-kerb⁸ must be installed adjacent to each gully pot; OR a gully pot ladder⁹ placed into each gully pot; and
- Any downpipes taking water off the roofs should be sealed at ground level by using a leaf and debris screen¹⁰ to prevent amphibians entering drains.

c) *Residual effects*

With mitigation implemented direct impacts upon animals will be avoided with no significant residual effect.

5.7

BATS

a) *Potential impacts*

i) Roosting bats

No impacts predicted.

ii) Light disturbance

Lighting during the construction and operational phases can impact bat foraging behaviour and increase the risk of predation, which could affect foraging success and population recruitment.

iii) Commuting and foraging habitat

A small loss of roadside hedgerow H2 considered insignificant at the local scale.

iv) Roofing membranes

Research has shown bats can become entangled in modern breathable roofing membranes (BRMs) which are woven, causing injury or death to individuals (Waring *et al.*, 2013). As the proposed new dwelling will have a metal roof then a BRM could be used as long as any gaps $>4\text{mm}$ are sealed.

In combination, the above impacts have the potential to result in a significant effect upon the conservation status of bats at a local level.

b) *Mitigation*

i) Roosting bats

None required.

ii) Light disturbance

Exterior lighting design will be made with reference to current guidance¹¹¹² and will consider:

Type of lamp (light source): Light levels should be as low as possible as required to fulfil the lighting need. Lamps should have a maximum of 7.5 to 10 lux and LED lights

⁸ <https://www.aco.co.uk/products/wildlife-kerb>

⁹ <https://www.thebhs.org/the-bhs-amphibian-gully-pot-ladder>

¹⁰ <https://www.drainagepipe.co.uk/leaf-and-debris-gully-110mm-p-D94G/>

¹¹ <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting>

¹² www.eurobats.org/sites/default/files/documents/publications/publication_series/WEB_DIN_A4_EUROBATS_08_ENGL_NVK_28022019.pdf

should be used using the warm white (or amber) spectrum, with peak wavelengths >550nm (2700 or 3000°K) and no UV component; and

Lighting design: Lighting should be directed to where it is needed, with minimal horizontal spillage towards retained habitats including grassland, hedgerows, scrub and the watercourse. This can be achieved by restricting the height of the lighting columns and the design of the luminaire, including the following measure:

- Light columns/fixtures in general should be as short as possible as light at a low level reduces the ecological impact.
- Luminaires with an upward light ratio of 0% should be mounted on the horizontal i.e. with no upward tilt.
- If taller lights are required, and as a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill; and
- PIR movement sensors and timers should be used to minimise the 'lit time' on residential properties (up to 1 minute).

iii) Commuting and foraging habitat.

As per Section 5.5

c) Residual effects

No significant residual effects are predicted.

5.8

NESTING BIRDS

a) Potential impacts

Building demolition (garages) and conversion of the barn during the nesting season (1st March to 31st August) could result in the injury or death of nesting birds and damage to active nests and eggs, considered a negative effect at a local scale.

The short section of hedgerow H2 to be removed and the conversion of the barn will result in the permanent loss of potential bird nesting habitat, though not considered a significant effect upon the conservation status of the species present.

b) Mitigation

Building demolition works should be undertaken outside of the nesting bird season. If this is not feasible for any reason, then checks and supervision will be undertaken by a suitably experienced ecologist immediately prior to conversion works commencing and the removal of the section of hedgerow H2.

c) Residual effects

With implementation of prescribed mitigation, no significant residual effects are predicted.

5.9

OTHER S. 41 LIST HABITATS AND SPECIES

a) Potential impacts

Site clearance will result in the small permanent loss of hedgerow habitat and associated ruderal habitat and lawn habitat which provides potential hedgehog foraging and refuge habitat. Ground-breaking and the excavation of footings and/or pipe runs could result in hedgehogs falling open excavations with steep sides and becoming trapped. Animals could be injured or killed if the excavation is deep or they fall into or walk across wet concrete. Such impacts have the potential to result in negative effects upon a small number of animals at the local scale.

Erection of ecological barriers would reduce dispersal capability negatively impacting fitness and recruitment rates. However, no new boundary fences are proposed as part of the development which would prevent hedgehogs from accessing the gardens.

Losses of hedgerow are so limited that no significant effects upon associated invertebrate species are anticipated.

b) Mitigation

During construction, concrete should be poured early in the day or covered with ply boarding or membrane overnight to prevent hedgehog coming into contact. Trenches should be covered overnight.

The use of close board fencing should be avoided as proposed, with native species-rich hedgerows preferable where boundary features are required. If close board fencing were to be installed, then at least one hedgehog highway¹³ should be provided at either end of the fencing run with signage.¹⁴

c) Residual effects

Direct effects upon hedgehog and S. 41 list hedgerows will be avoided with no significant residual impacts.

5.10 COMPENSATION

None required.

5.11 CUMULATIVE EFFECTS

The Mid Suffolk District Council planning website was searched on the 13th July 2020 with a 2km buffer dating back a minimum of 2 years.

A single application (DC/17/06203) for Land formally known as Mark Peacock Landrover, Neaves Lane, Stradbroke IP21 5JE was granted planning permission for the erection of 6 No. single storey dwellings and garages. An ecology report was submitted with the application which ruled out GCNs as using the site, though 5 ponds existed within 250m of the site and 1 was assessed as supporting good habitat suitability.

Only minor applications were returned. No significant cumulative impact with the current application are predicted.

5.12 ENHANCEMENT OPPORTUNITIES

If mitigation and compensation are implemented as advised, the scheme will result in No Net Loss (NNL) of biodiversity once compensatory habitats have established. To be consistent with planning policy, development schemes should deliver Biodiversity Net Gain (BNG).

To deliver a significant BNG at least 4 of the 6 proposed enhancements (Table 5.1) will also be implemented.

¹³ <https://www.hedgehogstreet.org/help-hedgehogs/link-your-garden/>

¹⁴ <https://ptes.org/shop/just-in/hedgehog-highway/>

Table 5.1 Enhancement opportunities

Feature	Guidance
Hedgerows	1. The proposed closeboard fencing could be replaced with a native species-rich hedgerow with at least 6 native species per 30m length.
Fruit trees	2. Some fruit trees could be planted on site such as heritage varieties (http://www.applesandorchards.org.uk/).
Small passerine bird boxes	3. House sparrow, robin or wren boxes (Appendix A3) could be erected on the converted barn (west or north elevations) and/or suitable trees on site.
Bat boxes	4. Three Kent bat boxes (Appendix A4) could be erected on suitable mature trees within the grounds.
Pollen-rich climbers	5. Honeysuckle (<i>Lonicera periclymenum</i>) will be planted at intervals of every 5-10m along existing hedgerows to provide nectar sources for pollinator species.
Invertebrates	6. Bug houses ¹⁵ (x4) could be erected on site on suitable trees. 7. A log/brush pile could be created from the hedgerow removal.

Peat based composts will not be used for any planting or landscaping in order to preserve existing carbon stores and avoid damage to sensitive habitats.

5.13

CONCLUSIONS

With avoidance, mitigation and compensation measures suggested, the scheme will result in NNL of biodiversity, whilst enhancements could be implemented to achieve a BNG in accordance with planning policy.

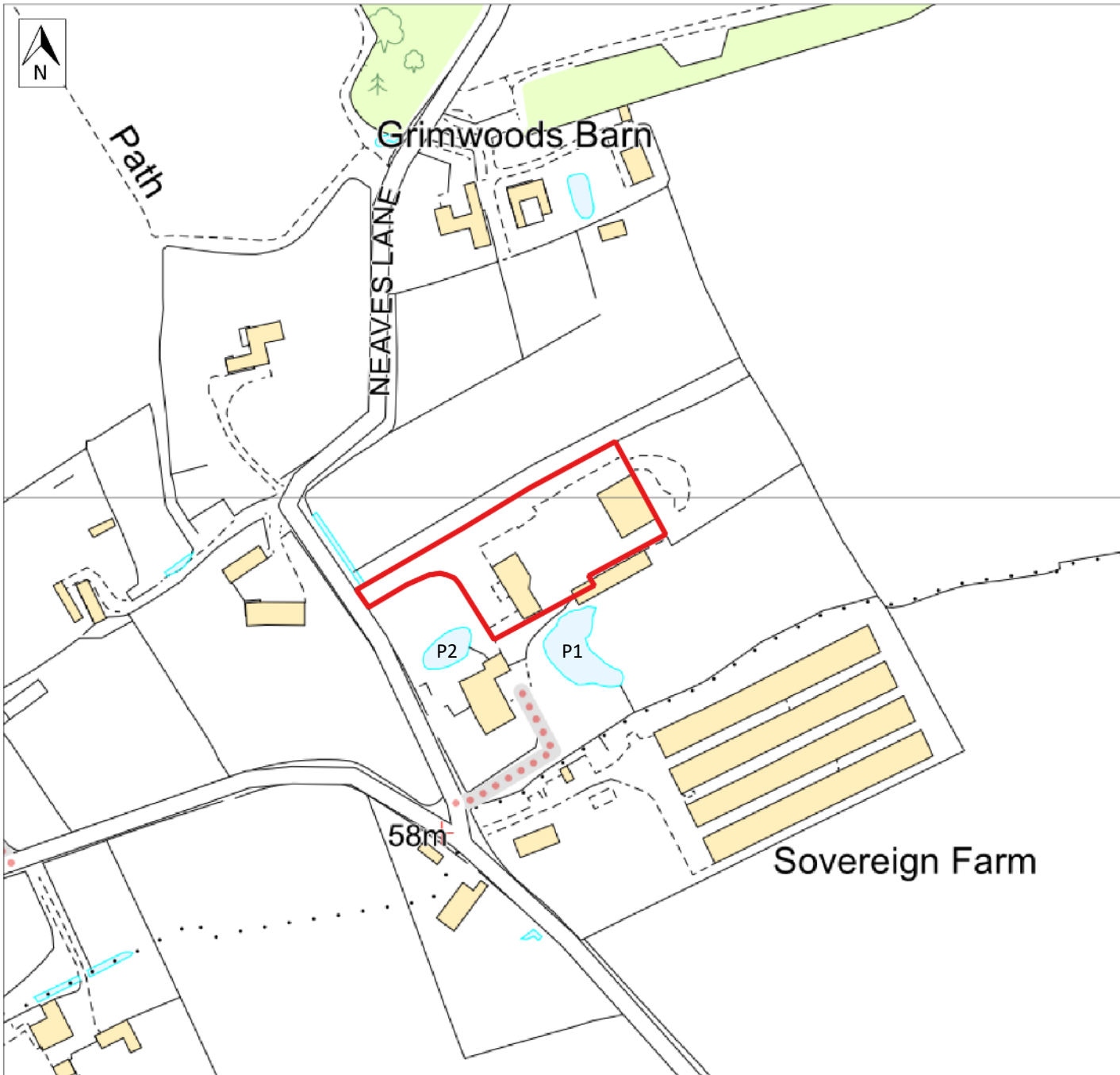
Measures proposed could be secured through appropriate planning conditions as per the British Standard (BS 42020:2013¹). These could include conditions specific to bats and nesting birds (e.g. BS 42020:201 D.3.2.1) and e.g. a Biodiversity Method Statement (BS 42020:2013 D.2.1) to provide detailed guidance for mitigation, compensation, and enhancement measures.

¹⁵ <https://www.nhbs.com/bug-box-kit>


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Figures



Legend

 Site boundary

0 25 50 75 100 m



Client: Mr and Mrs Thacker

Project: Proposed barn conversion, Chestnut House, Stradbroke

Drawn:

Date:

Drawing Ref:

CW

13/07/20

CHESTNUTHOUSE/ESR/001

Figure 1 Site location plan

Appendices

Appendix A1 Photos



Photo 1 Former offices – south and west elevations



Photo 2 Former offices – north and west elevations

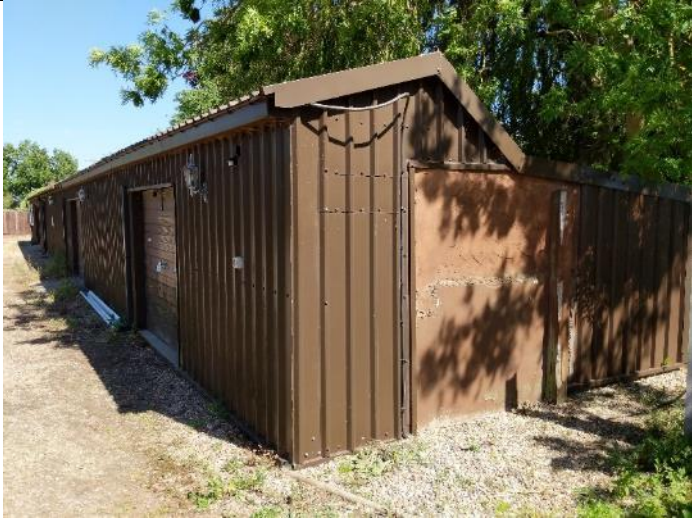


Photo 3 Garages



Photo 4 Garages



Photo 5 Hard standing



Photo 6 Lawn and scattered trees



Photo 7 Hedgerow H1



Photo 8 Hedgerow where a new site access is proposed



Photo 9 Pond P1



Photo 10 Pond P2

Appendix A2 EclA criteria

A2.1 General criteria for geographic context/value

Designation	Example
International	<ul style="list-style-type: none"> • SPA, SAC and Ramsar sites and the features that they have been designated for. • A sustainable area of habitat listed in Annex I of the Habitats Directive or smaller areas of such habitat which are essential to maintain the viability of a larger whole. • A sustainable population of an internationally important species e.g. UK Red Data Book (RDB) species or European Protected Species (EPS) of unfavourable conservation status in Europe (e.g. Annex II species: bats, GCNs etc.), of uncertain conservation status or of global conservation concern in the UK BAP.
National	<ul style="list-style-type: none"> • SSSI or a discrete area that meets the selection criteria for designation. • A sustainable area of priority habitat identified included on the S. 41 NERC Act list or smaller areas of such habitat that are essential to maintain the viability of a larger whole. • A sustainable population of priority species (listed under S. 41 of the NERC Act 2006). • A sustainable population of a nationally important species i.e. RDB species not included in above category but which is listed on Schedules 5 or 8 of the WCA 1981 (as amended). Also, sites supporting a breeding population of such species or supplying a critical element of their habitat requirements. • A sustainable population of uncommon or threatened Annex IV EPS species at a UK level. • A nationally scarce species (occurs in 30-100 10km squares in the UK) that has its main UK population within the district.
County	<ul style="list-style-type: none"> • A viable area of habitat identified in the county BAP. • A County Wildlife Site. • A sustainable population of common or non-threatened Annex IV EPS species at a UK level. • A Nationally Scarce species that does not have its main population within the county. • A sustainable population of a BAP species not included in the 'national' category above for which a county Action Plan exists.
Local	<ul style="list-style-type: none"> • Individual members of local populations of priority or other nationally/internationally important species which are not in themselves key for maintaining a sustainable population (e.g. individual dog otter passing through area with no holts or resting sites). • Other habitats and species not in the above categories but are considered to have some value at the district/borough level.

Appendix A3 Bird boxes



RSPB Robin and wren diamond nestbox

Product Code: R401640

£ 13.99

★★★★☆ [Read all reviews](#)

Best-selling, diamond shaped, open-fronted nest box attractive to robins, wrens, pied wagtails and spotted flycatcher.

Beautifully made from FSC timber; roof treated with safe, non-toxic, water-based preservative. UK made.

[Read full information](#)

SAVE £2 WHEN YOU BUY TWO PROMOTIONAL NEST BOXES!

- Add two promotional nest boxes to your basket to save £2
- Offer ends 5th January 2021 and is subject to availability
- Loyalty points can be collected/redeemed as usual
- Not available in conjunction with any other offer

RSPB Sparrow terrace nest box

Product Code: R407816



[Product Information](#) [Product details](#) [Ratings & Reviews](#)

PROMOTIONAL NEST BOXES!

- Add two promotional nest boxes to your basket to save £2
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- Loyalty points can be collected/redeemed as usual
- Not available in conjunction with any other offer



Qty

£ 29.99

In Stock:

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Apex starling nestbox

Qty

Product Code: R405836

£ 23.99



In Stock

[ADD TO BASKET](#)

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- Not available in conjunction with any other offer



Appendix A4 Bat boxes

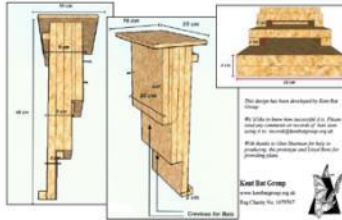
The Kent bat box

Simple to construct, self-cleaning and low maintenance.

The only critical measurement is the width of the crevice—these should be no larger than suggested. Other measurements are approximate.

Materials and construction
Box to be made from untreated rough-sawn timbers
Timber should be c.20mm thick
The base should be roofter and draught-free
Crevices can be between 15 and 25 mm wide
Fungus may be by use of brackets, durable bonds or wires

Location
Boxes are best fixed as high as possible in a sheltered wind-free position, exposed to the sun for part of the day.
They can be fitted to walls, other flat surfaces or trees.
A clear flight line to the entrance is important



Kent bat box

habitat.co.uk/category/bat-boxes/habitat-unfaced-bat-box

UK Grid Reference... National Biodiversit... Bing Maps - Santander Online... Microsoft Office Ho... Jacobs Engineering... Worldwide sunrise...

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Habitat Unfaced Bat box

- Other Options -

Plinth Colour Options: Red, Blue or Buff
Dimensions: 215 mm wide x 440 mm high x 102 mm deep
Material: Concrete plus plain facing (for rendering over)
Weight: approximately 7 kg

The Habitat Bat Box is a large, solid box made of insulating concrete which provides an internal roost space, and can be seamlessly integrated into the fabric of a building as it is built or renovated. Suitable for most species commonly found in the UK, this single chambered unit features an integrated V system to increase the surface for bats to roost against, whilst allowing them to move around.

The Habitat Bat Box can be faced with a number of products to suit the design build. This includes, brick, block, stone, wood or a rendered finish, ensuring the box is unobtrusive and aesthetically pleasing. There are a choice of 3 plinth colours available: smooth blue, smooth red, or buff.

BIM
BIM versions of the Habitat 001 Bat Box are available for download, to request these please contact us.



Vincent Pro bat box

Gromford - Google Maps x maximising the biodiversity x Meadow mixtures for differ x EM7 - Meadow Mixture for x 1FF Schwegler Bat Box With x Schwegler 1FF Bat Box - The x

nhbs.com/1ff-schwegler-bat-box-with-built-in-wooden-rear-panel

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Schwegler 1FF

