



The Hopkiln, Bury Court,
Bentley, Farnham, GU10 5LZ

Email: info@darwin-ecology.co.uk
www.darwin-ecology.co.uk

Ecological Impact Assessment

19 Estcots Drive
East Grinstead
RH19 3DA

April 2025

Darwin Ecology Ltd
Registered Office: 8 Layton Lane, Shaftesbury, Dorset SP7 8EY
Company No. 07654823

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QUALITY CONTROL		
The information which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.		
Prepared by	Assistant Ecologist Maddy Simmonds BSc (Hons)	16/04/2025
Edited by	Consultant Ecologist Libby Pinches BSc (Hons)	16/04/2025
Reviewed by	Principal Ecologist Olatz Gartzia BSc MSc ACIEEM	17/04/2025
This report remains valid for 2 years from date of issue. The survey results provided in the report are valid for 12 - 18 months from date of survey.		

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The views and opinions contained within the document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to works.

1. EXECUTIVE SUMMARY

- 1.1. Darwin Ecology Ltd was commissioned by Mr Ed Harradine to undertake an Ecological Impact Assessment (EclA) of proposals for the site at 19 Estcots Drive, East Grinstead, RH19 3DA. The assessment was required to support a planning application for the construction of two semi-detached houses and associated lighting and landscaping. It was informed by a desk study, habitat walkover survey and a Habitat Suitability Index (HSI) Assessment.
- 1.2. During the habitat walkover survey, habitats on site included modified grassland, suburban mosaic of developed and natural surface, non-native and ornamental hedgerow and standing water.
- 1.3. These habitats offer limited suitability for protected species including commuting and foraging bats, amphibian species including great crested newt, terrestrial mammals, breeding birds and invertebrates. No further surveys are required regarding these species. There is a small likelihood that these species could access the site on occasion and therefore reasonable avoidance measures should be implemented when the works are carried out
- 1.4. Outline enhancement recommendations have been made in order to ensure that opportunities are available for protected and notable species following the completion of the development, and that the ecological value of the site is enhanced in the long-term.

2. INTRODUCTION

Background

- 2.1. Darwin Ecology Ltd was commissioned by Mr Ed Harradine to undertake an EclA of proposals for the site 19 Estcots Drive, East Grinstead, RH19 3DA¹. The assessment was required to support a planning application for the construction of two residential dwellings and associated lighting and landscaping. It was informed by a desk study, habitat walkover survey and an HSI assessment.
- 2.2. The proposed drawings on which this assessment is based are provided at **Appendix, Proposed Plans**.
- 2.3. The habitat walkover survey followed the Chartered Institute for Ecological and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal (2017).
- 2.4. The subsequent EclA follows the CIEEM Guidelines for EclA in the UK and Ireland (2018).

Scope of Assessment

- 2.5. The process of EclA aims to identify, quantify and evaluate the potential effects of development-related or other proposed actions on habitats, species and ecosystems.
- 2.6. Potential effects on the following ecologically sensitive receptors have been considered during the EclA of 19 Estcots Drive:
 - Statutory and non-statutory designated sites;
 - On-site habitats of intrinsic importance (such as priority habitats); and
 - Habitats with the potential to support protected species.

Site Overview

- 2.7. The site comprises the curtilage of a residential dwelling situated in a residential area of East Grinstead. The site is bordered by residential properties with associated hard-standing and amenity gardens (see **Figure 1**).
- 2.8. The wider landscape comprises a moderate density of residential and commercial properties to the east, west and south of the site. To the north is an area of public green space extending into an expanse of woodland. A large pond lies 130m north-east of the site. Further to the east, the urban area transitions into a patchwork of woodland and agricultural fields (see **Figure 2**).

¹ Ordnance Survey (OS) grid reference TQ 39960 38354



Figure 1: Site location within the local landscape. Copyright Google Earth Pro (March 2025)

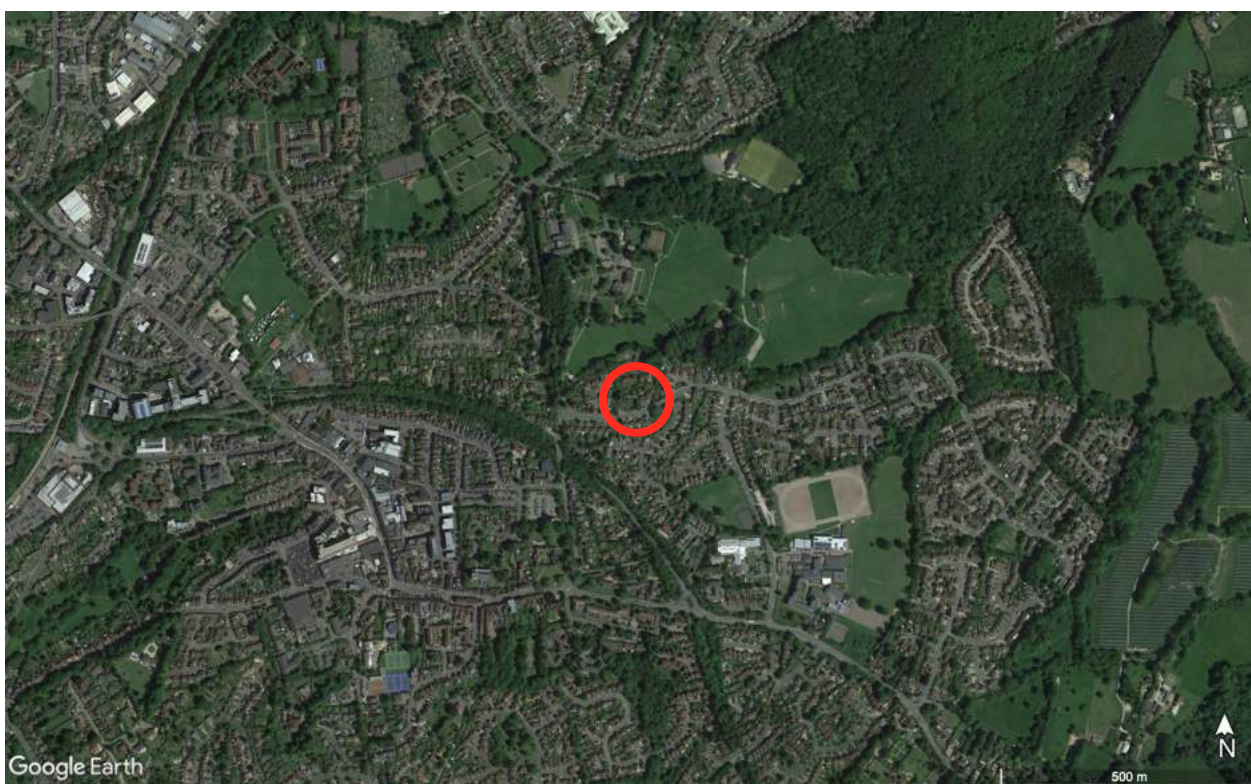


Figure 2: Site location within the wider landscape. Copyright Google Earth Pro (March 2025)

3. LEGISLATION & POLICY

General Wildlife Legislation

- 3.1. Wildlife in the United Kingdom (UK) is protected through European and national legislation, supported by national and local policy and guidance. Development can contribute to conservation and enhancement goals outlined by these various legislation and policy by retaining and protecting the most valuable ecological features within a site and incorporating enhancements to provide biodiversity net gain.
- 3.2. This section provides a brief summary of the principle legalisation and policy that triggers the requirement for EclA in the UK. The presence of protected species within a site are a material consideration during the planning process. Protected species and habitat surveys provide an ecological baseline for a site and evaluation of the potential impact of proposals.
- 3.3. It is the responsibility of those involved with development works to ensure that the relevant legislation is complied with at every stage of a project. Such legislation applies even in the absence of related planning conditions or projects outside the scope of the usual planning process (i.e. permitted development projects or projects requiring Listed Building Consent only).
- 3.4. The principal pieces of legislation relating to wildlife and of relevance to this report are:
 1. *EU Habitats Directive (1992)*;
 2. *EU Birds Directive (1979)*;
 3. *Conservation of Habitats and Species (Amendment) Regulations 2017*;
 4. *The Wildlife and Countryside Act 1981 (as amended)*;
 5. *The Natural Environment and Rural Communities Act 2006*; and
 6. *The Protection of Badgers Act 1992 (extended under The Hunting Act 2004)*.
- 3.5. The above legislation aims to protect sites and species and give detailed descriptions of exactly how these features are protected and what actions would constitute an offence.

National Planning Policy

- 3.6. The *National Planning Policy Framework (2024)* aims to minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity. Chapter 15 'Conserving and enhancing the natural environment' details what local planning policies should seek to consider with regard to planning applications.
- 3.7. Planning policies and decisions should contribute to and enhance the natural and local environment by:
 - 187 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);

187 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;

187 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 and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs;

188) Plans should: distinguish between the hierarchy of international, national and local designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries;

189) Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty (AONB) which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and Broads. The scale and extent of development within all these designated areas should be limited, while development within their settings should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

3.8. Specific policies regarding habitats and biodiversity comprise:

192) To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation and

b) Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species and identify and pursue opportunities for securing measurable net gains for biodiversity.

193) 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 of Sites 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 feature of the site that make it of special scientific interest, and any broader impacts on the national network of SSSIs;
- 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 improve biodiversity in and around development should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

194) The following should be given the same protection as habitats sites:

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

Local Planning Policy

- 3.9. The local planning policy for the site is the Mid Sussex District Plan 2014-2031, which was adopted in 2018. The plan aims to deliver a framework for new development, employment growth, infrastructure, and measures to ensure the protection of the countryside. Relevant policies with regard to habitats and biodiversity include:

Policy DP17: Ashdown Forest SPA and SAC

In order to prevent adverse effects on the Ashdown Forest SPA and SAC, new development likely to have a significant effect, either alone or in combination with other development, will be required to demonstrate that adequate measures are put in place to avoid or mitigate any potential adverse effects.

Within a 400 metres buffer zone around Ashdown Forest, mitigation measures are unlikely to be capable of protecting the integrity of the SPA and, therefore, residential development will not be permitted.

Within a 7km zone of influence around the Ashdown Forest SPA, residential development leading to a net increase in dwellings will be required to contribute to mitigation through:

- 1) The provision of Suitable Alternative Natural Greenspace (SANG) to the minimum level of 8Ha per 1,000 net increase in population; or a financial contribution to SANGs elsewhere; or the provision of bespoke mitigation; and
- 2) A financial contribution to the Ashdown Forest Strategic Access Management and Monitoring (SAMM) Strategy.

Large schemes proposed adjacent or close to the boundary of the 7km zone of influence may require mitigation for the SPA. Such proposals for development will be dealt with on a case-by-case basis.

Where bespoke mitigation is provided, these measures will need to be in place before occupation of development and must be managed and maintained in perpetuity. The effectiveness of such mitigation will need to be demonstrated prior to approval of the development. Bespoke mitigation will need to be discussed and agreed by the District Council as the competent authority following advice from Natural England.

Policy DP37: Trees, Woodland and Hedgerows

The District Council will support the protection and enhancement of trees, woodland and hedgerows, and encourage new planting. In particular, ancient woodland and aged or veteran trees will be protected.

Development that will damage or lead to the loss of trees, woodland or hedgerows that contribute, either individually or as part of a group, to the visual amenity value or character of an area, and/ or that have landscape, historic or wildlife importance, will not normally be permitted.

Proposals for new trees, woodland and hedgerows should be of suitable species, usually native, and where required for visual, noise or light screening purposes, trees, woodland and hedgerows should be of a size and species that will achieve this purpose.

Trees, woodland and hedgerows will be protected and enhanced by ensuring development:

- incorporates existing important trees, woodland and hedgerows into the design of new development and its landscape scheme;
- prevents damage to root systems and takes account of expected future growth;

- where possible, incorporates retained trees, woodland and hedgerows within public open space rather than private space to safeguard their long-term management; and has appropriate protection measures throughout the development process;
- takes opportunities to plant new trees, woodland and hedgerows within the new development to enhance on-site green infrastructure and increase resilience to the effects of climate change; and
- does not sever ecological corridors created by these assets.

Proposals for works to trees will be considered taking into account:

- the condition and health of the trees; and
- the contribution of the trees to the character and visual amenity of the local area; and the amenity and nature conservation value of the trees; and
- the extent and impact of the works; and
- any replanting proposals.

The felling of protected trees will only be permitted if there is no appropriate alternative. Where a protected tree or group of trees is felled, a replacement tree or group of trees, on a minimum of a 1:1 basis and of an appropriate size and type, will normally be required. The replanting should take place as close to the felled tree or trees as possible having regard to the proximity of adjacent properties.

Development should be positioned as far as possible from ancient woodland with a minimum buffer of 15 metres maintained between ancient woodland and the development boundary.

Policy DP38: Biodiversity

Biodiversity will be protected and enhanced by ensuring development:

- Contributes and takes opportunities to improve, enhance, manage and restore biodiversity and green infrastructure, so that there is a net gain in biodiversity, including through creating new designated sites and locally relevant habitats, and incorporating biodiversity features within developments;
- Protects existing biodiversity, so that there is no net loss of biodiversity. Appropriate measures should be taken to avoid and reduce disturbance to sensitive habitats and species. Unavoidable damage to biodiversity must be offset through ecological enhancements and mitigation measures (or compensation measures in exceptional circumstances);
- Minimises habitat and species fragmentation and maximises opportunities to enhance and restore ecological corridors to connect natural habitats and increase coherence and resilience;

- Promotes the restoration, management and expansion of priority habitats in the District; and
- Avoids damage to, protects and enhances the special characteristics of internationally designated SPAs, SACs; nationally designated SSSIs, AONB; and locally designated Sites of Nature Conservation Importance (SNCIs), Local Nature Reserves (LNRs) and Ancient Woodland or to other areas identified as being of nature conservation or geological interest, including wildlife corridors, aged or veteran trees, Biodiversity Opportunity Areas, and Nature Improvement Areas.

Designated sites will be given protection and appropriate weight according to their importance and the contribution they make to wider ecological networks.

Valued soils will be protected and enhanced, including the best and most versatile agricultural land, and development should not contribute to unacceptable levels of soil pollution.

4. METHODOLOGY

Desk Study

- 4.1. A desk study was undertaken for designated sites and bat species and habitat records within 2km of the site.
- The MagicMap website was reviewed, to obtain information on any designated sites of nature conservation interest within 2km of the site and details of any EPS licences issued within 2km;
 - The Mid Sussex District Council Planning Portal was searched for past and pending planning applications that may have associated ecological documents detailing results of bat surveys;
 - A data search was requested from Sussex Biodiversity Records Centre (SxBRC) for non-statutory designated sites, and protected and notable species within 2km; and
 - Google Maps and Ordnance Survey (OS) Leisure Maps was utilised to view aerial photographs and maps to assess the ecological context of the site within the wider landscape.
- 4.2. Natural England has developed a tool to help assess the potential risks to SSSIs by proposed developments. These are known as 'Impact Risk Zones' (IRZs) and they define the area around a SSSI that could be sensitive to development, considering the particular sensitivities of the feature for which the site is designated.
- 4.3. The IRZs help inform whether a development proposal may affect a SSSI and if so, whether it is necessary for the Local Planning Authority (LPA) to seek pre-application advice from Natural England. Information on the IRZs was determined from the MAGIC website to determine if the LPA is required to seek consultation for the current development.

Habitat Walkover Survey

- 4.4. A habitat walkover survey was undertaken on 12th March 2025 by Consultant Ecologist Libby Pinches BSc and Assistant Ecologist Maddy Simmonds BSc (Hons). The weather at the time of the survey was sunny intervals with a light breeze and approximately 8°C.
- 4.5. The habitat walkover survey followed the CIEEM Guidelines for Preliminary Ecological Appraisal (2017). Habitats on site were broadly mapped to a minimum of 25m² in accordance with current guidance from UK Habitat Classification Version 2.0 UKHab Ltd (2023).
- 4.6. The walkover survey assessed habitats present within the application red line boundary for their potential to support protected species, including:
- Bats;
 - Great crested newt *Triturus cristatus* and common amphibians;

- Reptiles;
 - Dormouse *Muscardinus avellanarius*;
 - Other terrestrial mammals, including hedgehog *Erinaceus europaeus* and badger *Meles meles*;
 - Schedule 1 birds, including but not limited to; Barn Owl *Tyto alba*, Lapwing *Vanellus vanellus* and Skylark *Alauda arvensis*
 - Breeding birds; and
 - Invertebrates.
- 4.7. As there is no running water within the site, in combination with their nationally sparse distribution, it is considered highly unlikely that white clawed crayfish *Austropotamobius pallipes* would be using the site and they are therefore not considered further in this report.
- 4.8. Otter *Lutra lutra* and water vole *Arvicola amphibious* are not considered further in this report due to the lack of running water on site. The River Mole is located 1.17km west of the site, however there is no connectivity between this watercourse and the site, and as such, it is not anticipated that water vole or otter would be able to commute between the watercourse and site. The site also does not offer any suitable habitat for these species.
- 4.9. The site was also searched for non-native, invasive plant species, with particular care to search for the most commonly occurring and problematic species, such as Japanese knotweed *Fallopia japonica*, Indian balsam *Impatiens grandiflora* and giant hogweed *Heracleum mantegasanum*.

Great Crested Newt Habitat Suitability Index (HSI)

- 4.10. A Habitat Suitability Index (HSI) assessment was carried out on the waterbodies within 250m of the site. The HSI score gives an indication of the likelihood of presence of great crested newt within a water body. The assessment can be performed at any time of year, although ideally between March and the end of September.
- 4.11. Generally, ponds with a higher score are more likely to support great crested newt than those with a lower score and there is a positive correlation between HSI scores and ponds in which great crested newt are recorded. Ten suitability indices (SI) are assessed for each pond to calculate the suitability of the ponds to support this species:
- | | |
|-------------------------|-----------------------------|
| 1. Geographic location; | 6. Number of fowl; |
| 2. Pond area; | 7. Number of fish; |
| 3. Desiccation rate; | 8. Number of linked ponds; |
| 4. Water quality; | 9. Terrestrial habitat; and |
| 5. Shade; | 10. Macrophyte cover. |
- 4.12. A total score of between 0 and 1 is calculated and pond suitability is then determined according to the scale shown in **Table 1**.

Table 1: HSI scores and pond suitability for great crested newts. Categorisation of HSI Score by Lee Brady

HSI Score	Pond Suitability
< 0.5	Poor
0.5 - 0.59	Below average
0.6 - 0.69	Average
0.7 - 0.79	Good
> 0.8	Excellent

Limitations

- 4.13. Ecological surveys are limited by factors that affect the presence of plants and animals such as the time of the year, weather, and migration patterns. The habitat walkover survey was undertaken in March, which is a sub-optimal period for identifying many native plant species as many plant species have not grown into recognisable growth forms. Considering the context of the site, the urban nature of the site, and the habitats to be impacted by the proposals, it is considered unlikely that this would have a significant impact on the reliability of the survey results or conclusions.
- 4.14. No other limitations were encountered, or assumptions made during either the desk study or the field survey and it is considered that with the access gained and recording undertaken an accurate assessment of the site's ecological importance has been made.

5. SURVEY RESULTS

Designated Sites

- 5.1. There are three statutory designated sites within 5km of the site. These are detailed in **Table 2**.

Table 2: Statutory designated sites within the search radius.

Designated sites	Name and designation type	Reason for designation	Approximate distance from site
Within Site Boundaries	There are no designated sites within the site boundaries.		
Within 2km of Site	High Weald AONB	The site was designated in 1983. It is a medieval landscape of wooded, rolling hills studded with sandstone outcrops; small, irregular-shaped fields; scattered farmsteads; and ancient routeways. This 1,461km ² area supports 3,720 species of plants and animals (including dormouse, the pearl bordered fritillary <i>Boloria euphrosyne</i> , the black headed cardinal beetle <i>Pyrochroa coccinea</i> , nightjar <i>Caprimulgus europaeus</i> and coralroot bittercress <i>Cardamine bulbifera</i>), 12,500km of hedgerows and field boundaries and over 13,000 ponds with native wildlife.	600m north-east
	Mills Rocks SSSI	The site contains one of the few outcrops of Tunbridge Wells Sandstone in the county which supports a number of unusual and rare plants such as reed fescue grass <i>Festuca altissima</i> , the hay-scented buckler fern <i>Dryopteris aemula</i> and mosses and liverworts including <i>Odontoschisma denudatum</i> , <i>Cephalozia connivens</i> and <i>Calypogeia neesiana</i> var <i>meylanii</i> . Woodland areas are also present.	1.8km south-east
Within 5km of site	Ashdown Forest SPA and SAC	The site covers 2715 hectares and is one of the largest single continuous block of lowland heath in south-east England with both Northern Atlantic wet heaths and European dry heaths. Plant species include bog-mosses <i>Sphagnum</i> spp., deergrass <i>Trichophorum cespitosum</i> , common cotton-grass <i>Eriophorum angustifolium</i> , marsh gentian <i>Gentiana pneumonanthe</i> , heather <i>Calluna vulgaris</i> , bell heather <i>Erica cinerea</i> and dwarf gorse <i>Ulex minor</i> and hairy greenweed <i>Genista pilosa</i> . The site also supports important assemblages of lichen, beetles, dragonflies, damselflies and butterflies, including the nationally rare silver-studded blue <i>Plebejus argus</i> , and birds of European importance, such as European nightjar, Dartford warbler <i>Sylvia undata</i> and Eurasian hobby <i>Falco subbuteo</i> .	4.5km south-east

- 5.2. The site falls within the IRZ for Weir Wood Reservoir SSSI.
- 5.3. The SxBRC data search identified one Local Wildlife Site (LWS) within 1km of the site which was Ashplats Wood, located 320m north of the site. This is an area of ancient and priority deciduous woodland which supports notable species including hazel dormouse.
- 5.4. A search of the Mid Sussex District Council Planning Portal revealed no relevant planning applications within 1km of the site boundary.

- 5.5. There are multiple areas of priority deciduous woodland site within 1km of the site boundary, the closest of which is 150m north-east and is also registered on the National Forest Inventory (Woodland - Broadleaved). Further priority habitats within 1km of the site comprise one area of wood pasture and parkland, and two areas of traditional orchard.
- 5.6. There are seven areas of ancient woodland within 1km of the application site, the closest of which is Escotts Drive Shaw 90m north-east of the site.

Habitat Walkover Survey

- 5.7. Overall description of habitats within red line boundary. This section is to be read in conjunction with **Figure 3. Table 3** below outlines the summary of habitats identified on site, as well as their applicable secondary codes.

Table 3: Habitats with applicable UKHABS codes

Primary Habitat	UK Hab Primary Code	Applicable Secondary Code(s) used	Secondary Code(s) description
Modified grassland	g4	108	Frequently mown
		516	Active management
		827	Garden
		846	Flower bed
		847	Introduced shrub
Non-native and ornamental hedgerow	h2b	523	Non-native
Suburban mosaic of developed and natural surface	u1d	200	Tree
		827	Garden
		846	Flower bed
		847	Introduced shrub
		853	Mortared wall
Other standing water	r1g	46	Ornamental pond

Modified Grassland g4 (secondary codes 108; 516, 827, 846, 847)

- 5.8. This habitat represented approximately half of the site. Flower beds and introduced shrubs were situated at the edges. Species recorded here included perennial ryegrass *Lolium perenne*, chickweed *Stellaria sp.*, large-leaved avens *Geum macrophyllum*, willow herb *Epilobium sp*, babies tears *Soleirolia soleirolii*, moss *Sphagnum sp*, creeping buttercup *Ranunculus repens*, sedge *Carex sp*, wood rush *Luzula sp*, *hydrangea sp*, *clematis sp*, *hyacinth sp*, privet *Ligustrum sp*, and box hedge *Buxus sempervirens*. The grass was regularly managed and at the time of the survey had an average sward length of less than 10cm.
- 5.9. In addition, there was a strip of modified grassland along the south boundary forming a verge for Estcots Drive and is outside the ownership of the property but included in the

application site. The strip is regularly managed and at the time of the survey had a sward length of less than 10cm.

Non-native and ornamental hedgerow h2b (secondary code 523)

- 5.10. On the southern and eastern boundary was linear feature of red cedar trees *Thuja plicata*. This is not considered to be a line of trees under UKHabs due to the urban environment within which it is located.

Suburban mosaic of developed and natural surface u1d (secondary codes 200, 827, 846, 847, 853)

- 5.11. The north and west boundaries of the site were raised hard landscaping areas due to the steep gradient of the site. These areas were retained by a mortared wall and featured introduced shrubs within stone lined flowerbeds. Species recorded here included Australian daisy *Erigeron karvinskianus*, Indian cluster berry *Lonicera ligustrina*, bell heather *Erica cinerea*, *Cotoneaster sp*, *Rhododendron sp*, cherry laurel *Prunus laurocerasus*, California laurel *Umbellularia californica*, privet, ivy *Hedera helix*, Persian violet *Cyclamen sp*, iris *Iris sp*, hart's tongue fern *Asplenium scolopendrium*, jasmine *Jasminum sp*, daffodil *Narcissus sp*, bluebell *Hyacinthoides sp*, tulip *Tulipa sp*, crocus *Crocus vernus*, and orange blossom *Choisya ternata*. A magnolia tree *Magnolia sp*. was also located in this area.

Other standing water r1g (secondary code 46)

- 5.12. Two waterbodies were recorded within the site. The first (W1) was a raised ornamental fish pond of concrete construction with an aeration system. The second (W2) was an ornamental feature of two ponds connected by what was likely formerly a running channel. At the time of the survey these ponds appeared very shallow and the surfaces were covered in leaf litter and duckweed *Lemna minor*. The channel was almost dry with some mud and wet leaf litter. W2 was set within stone on a raised hard landscaping feature of the site.

Habitat Walkover Photographs



Image 1: View of the site from the northwest corner looking south. W1 is visible in this image.



Image 2: View along the northern boundary.



Image 3: View of the site from the southeast corner looking northwest. Shows W2, the raised hard landscaping areas and high boundary walls.



Image 4: View from the southwest corner looking north along the raised hard landscaping.

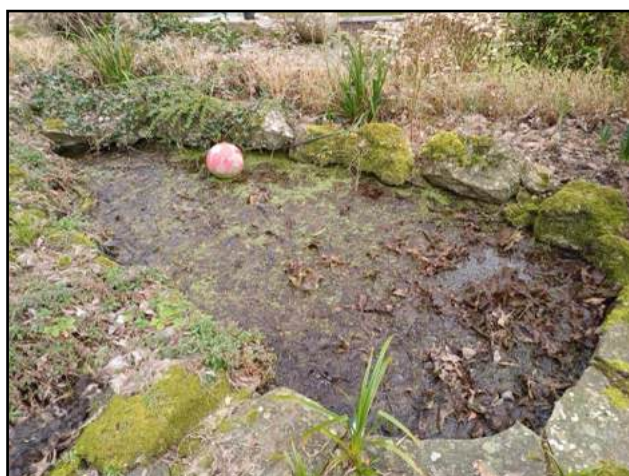


Image 5: View of one of the ponds of W2.



Image 5: View of the ditch



Legend

-  Red Line Boundary
-  Existing Small Urban Tree
-  Non-native and ornamental hedgerow
-  Modified grassland
-  Ornamental lake or pond
-  Vegetated garden



Info@darwin-ecology.co.uk
www.darwin-ecology.co.uk

Project: 19 Estcots Drive

Figure 3: Existing Habitats Map

Date: April 2025

Protected Species

Bats

- 5.13. A search of Magic Maps revealed 12 EPS licences for bats within 2km of the site boundary. These are detailed in **Table 4**.

Table 4: ESPL granted for bats within 2km of the site

Case Reference	Licence dates	Species designation	Licensable Impact	Approximate distance from site
2017-31493-EPS-MIT	16/10/2017 - 30/10/2022	Common pipistrelle <i>Pipistrellus pipistrellus</i>	Destroying a resting place	700m south-west
2015-15233-EPS-BDX-1	01/04/2016 - 30/04/2016	Common pipistrelle	Destroying a breeding site and resting place	830m south
EPSM2012-4152	24/02/2012 - 30/09/2017	Common pipistrelle	Destroying a resting place	940m north
2020-49337-EPS-MIT	01/11/2020 - 28/02/2026	Common pipistrelle	Destroying a resting place	1.30km west
EPSM2012-3949	17/05/2012 - 31/08/2012	Brown long-eared <i>Plecotus auritus</i> , Whiskered <i>Myotis mystacinus</i>	Destroying a resting place	1.3km north-east
EPSM2010-1891	17/05/2010 - 30/04/2012	Common pipistrelle, brown long-eared	Destroying a resting place	1.4km north-west
2018-34037-EPS-MIT	19/04/2018 - 13/04/2023	Common pipistrelle, brown long-eared	Destroying a resting place	1.4km north-west
2018-37923-EPS-MIT-1	20/09/2019 - 31/12/2020	Common pipistrelle	Destroying a resting place	1.05km north
2018-37924-EPS-MIT-1	16/08/2019 - 31/12/2020	Common pipistrelle	Destroying a resting place	1.05km north

- 5.14. The SxBRC returned 118 records of bat species within 2km of the site, see **Appendix 2a**. This includes records of nine species. Records of note include three common pipistrelle maternity roosts, the closest of which is 850m southeast of site, two long-eared species (noted to be considered likely brown long-eared) maternity roosts, closest of which is 950m northeast of site, and a serotine *Eptesicus serotinus* maternity roost located 1.6km northwest of site.
- 5.15. No buildings were present on site suitable for roosting bats.
- 5.16. The trees on site were not of an age or character to offer potential roosting features.
- 5.17. The site is sub-optimal for foraging and commuting bats due to the urban environment and likely high levels of light pollution.

Great Crested Newt and Other Amphibians

- 5.18. There are no EPS licence for amphibians within 1km of the site boundary. There are three great crested newt class survey licence returns within 1km, the closest of which is located 75m northeast of the site.
- 5.19. The SxBRC data search returned 99 records of common frog, common toad, palmate newt and smooth newt, see **Appendix 2b**. In addition there were 33 records of great crested newt, the closest of which was recorded in W3 which is further described below. This record is also likely to be linked to the licence return which is in the same location.

HSI Assessment

- 5.20. There are two waterbodies within the site boundary which were subject to a HSI assessment, described above. In addition, there are five ponds within 500m of the site, only one of which (W3) is within 250m (approximately 130m northeast) and was subject to a HSI assessment. The locations of W1-W3 are shown on **Figure 4** and the results of the HSI assessments in **Table 5**.

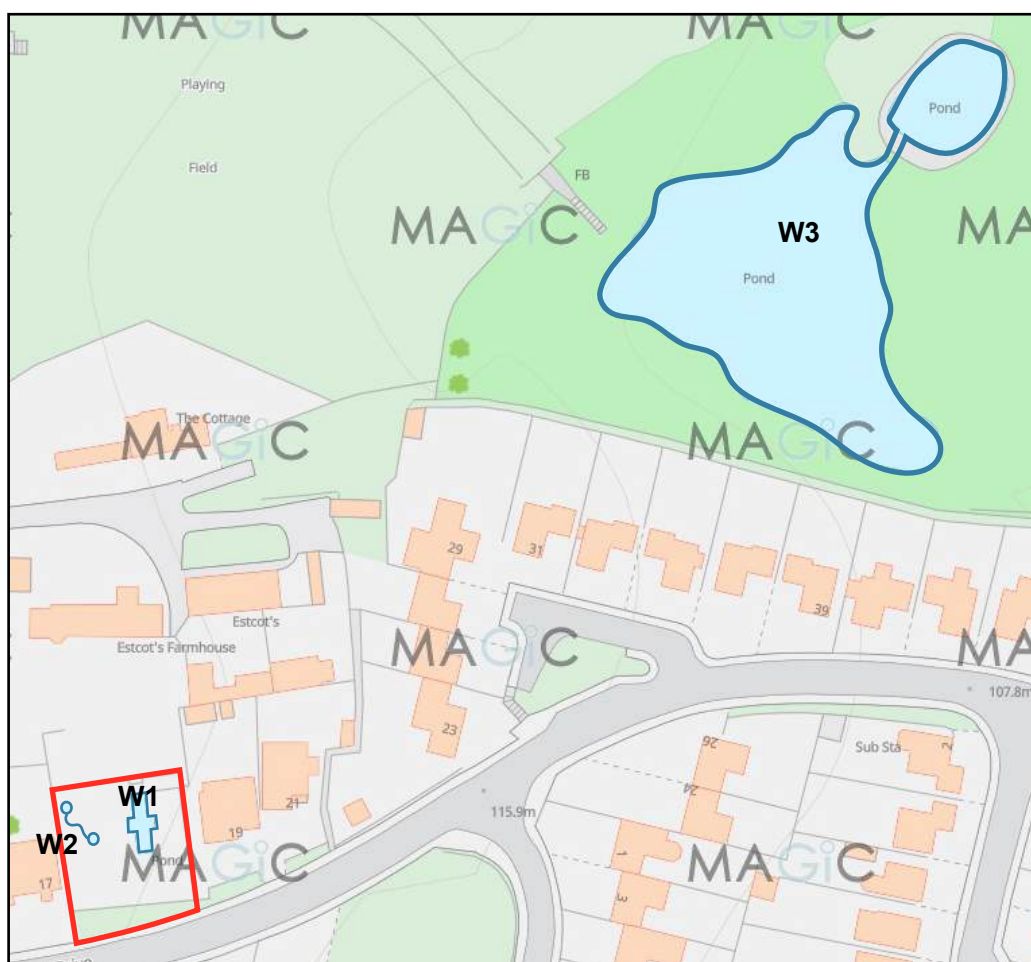


Figure 4: Location of waterbodies on site and within 250m.

Table 5: ARGUK GCN HSI Calculator

Waterbody Name		W1	W2	W3
SI No	SI Description	SI Value	SI Value	SI Value
1	Geographic location	1.00	1.00	1.00
2	Pond area	0.05	0.05	N/A
3	Pond permanence	0.90	1.00	0.90
4	Water quality	0.33	0.01	0.67
5	Shade	1.00	1.00	0.40
6	Water fowl effect	1.00	1.00	0.67
7	Fish presence	0.01	1.00	0.67
8	Pond Density	1.00	1.00	1.00
9	Terrestrial habitat	0.33	0.33	0.67
10	Macrophyte cover	0.30	0.30	0.40
HSI Score		0.33	0.37	0.67
Pond suitability		Poor	Poor	Average

- 5.21. The waterbodies on site were assessed to have poor suitability for great crested newt and are considered highly unlikely to support this species due to their ornamental nature and location within raised hard landscaping. The waterbodies also had little to no aquatic vegetation and in the case of W1, supported several fish.
- 5.22. The habitats on site are sub-optimal for great crested newt due to the short sward length of the grass and high coverage of hard landscaping. However, where the landscaping utilises stones, these could offer opportunities for refuge and hibernation, especially around W2.
- 5.23. Although great crested newt has been recorded within 100m of the site, the site itself is surrounded by high brick walls to the north, west and east which will impede connectivity between these habitats. To the south, the site boundary is a close board fence and beyond it is Estcots Drive. Additionally the site is separated from W3 by residential properties which are also likely to deter great crested newt from accessing the site.
- 5.24. It is considered highly unlikely that great crested newt would be able to obtain access to the site, however due to their presence in the immediate area, it cannot be completely ruled out. The ponds likely support low populations of common amphibians.

Reptiles

- 5.25. A search of Magic map revealed no past or present EPS licences for reptiles within 1km of the site boundary.
- 5.26. The SxBRC data search returned 20 records of adder *Vipera berus*, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica*, and slow-worm *Anguis fragilis*, see **Appendix 2b**. Only one record was returned for adder which was located approximately 1km from the site. The closest record to site is a record of a single grass snake approximately 625m southeast of the site.

- 5.27. As with amphibians, the habitats on site are sub-optimal for reptiles due to the short sward length of the grass and high coverage of hard landscaping. However, where the landscaping utilises stones, these could offer opportunities for refuge and hibernation.
- 5.28. Whilst the public green space to the north of the site is likely suitable for common reptile species, it is considered highly unlikely that any reptiles would be able to gain access to the site due to the high retaining boundary walls which greatly impede connectivity to the site. These species are therefore not considered further in this report.

Dormouse

- 5.29. The nearest EPS licence (EPSM2013-5786) for dormice is 1.1km to the northeast, it allows works to affect a breeding site, destroy a breeding site and destroy a resting place.
- 5.30. The SxBRC returned three records for dormouse within 1km of the site, see **Appendix 2b**. Two of these records were for two nests and one live dormouse found in Ashplats Wood, approximately 850m northeast of the site. The final record was for one live young, approximately 830m northwest of the site, in a fragmented woodland close to a railway.
- 5.31. The site does not possess any habitat suitable for dormouse. The trees on site are non-native and do not offer any resources which dormouse require. There are also no unbroken native hedgerows or tree lines which would connect the site to woodland in the wider area.
- 5.32. Taking into consideration the above, it is highly unlikely the site supports a population of dormouse or that they would be able to access the site from the wider landscape. They are not considered further in this report.

Badgers and Other Terrestrial Mammals

- 5.33. The SxBRC data search did not return any records of badger but did return 13 records of hedgehog within 1km of site.
- 5.34. No badger sett entrances or signs of badger (latrines, snuffle holes, mammal trails etc) were observed during the survey.
- 5.35. The site has limited suitable habitat for hedgehog and badger however these species are considered likely to be in the surrounding area. The high retaining boundary walls will likely impede the movement of hedgehog but badger may be able to access the site on occasion.

Birds

- 5.36. The SxBRC data search returned 313 records of 41 different notable bird species within 1km of the site. Of these species, 31 are on the amber or red list for species of conservation concern.
- 5.37. The trees on site offer some nesting opportunities for a range of common and urban bird species but are limited by a lack of complex branch structure.

Invertebrates

- 5.38. There is poor diversity in the habitats on site and poor structural diversity within the grassland which is not attractive for invertebrates. However, there are some flowering plants which would offer a range of nectar/pollen sources for invertebrates.
- 5.39. The standing water on site which does increase the value of the site for invertebrates as it presents niches for aquatic and semi-aquatic invertebrates.

6. IMPACT ASSESSMENT

Designated Sites

- 6.1. The site is located within Impact Risk Zones for Weir Wood Reservoir SSSI, which applies restrictions to infrastructure proposals, industrial/agricultural development, and quarries. However the proposed works do not come under any description which would require the local planning authority to consult Natural England.
- 6.2. It is not anticipated that the proposed works will impact any designated sites, priority habitats, or ancient woodland through land take or mechanical damage.
- 6.3. As the works will result in an increase in residential units within 7km of the Ashdown Forest SPA and SAC, in line with the Mid Sussex District Plan, contribution towards mitigation measures is required to remove any adverse effect.

Habitats

Status of Habitats on Site

- 6.4. The modified grassland and garden habitats on site were assessed as being of low intrinsic ecological value. The hedgerow is also of low ecological value due to the non-native species present, whilst the ponds are of moderate ecological value, limited by their ornamental nature.
- 6.5. The proposed post-development plans show that the entirety of the site is to be replaced by housing, vegetated garden, and associated hardstanding.

Potential Impacts

- 6.6. All habitat on site is set to be lost in various forms to the proposed plans under vegetated gardens and developed land.

Mitigation

- 6.7. Given the size of the site and the proposed complete loss of much of the habitat it is highly unlikely that avoidance or minimisation of impacts to habitat will be possible. The loss and subsequent mitigation, compensation and enhancement of these habitats is dealt with in the accompanying Biodiversity Net Gain (BNG) report for the site.
- 6.8. *Proposed planting:* It is recommended that areas of native shrubs are provided within the landscape proposals, including the use and the addition of native plants, to provide opportunities for nesting birds, and foraging and shelter habitats for a range of protected species.

Protected Species

Bats

Status of Bats on Site

- 6.9. No buildings or trees were present on site suitable for roosting bats.

- 6.10. It is likely that the site will be used occasionally by common, light tolerant bat species for foraging or commuting.

Mitigation

- 6.11. Bats are sensitive to light and could potentially avoid the area if foraging areas and commuting routes become lit. A sensitive lighting plan will be designed to ensure there is no light spill onto adjacent vegetation.
- 6.12. Sensitive lighting plans ensure new external lighting is directed to avoid light spillage onto any vegetation or potential roosting sites within trees and neighbouring buildings. Upward lighting is avoided by fitting lights with downward facing baffles and fixtures to ensure no light spillage above an angle of 70°. Lighting is triggered by motion sensors using a short timer where possible and in compliance with building regulations. Warm white LEDs are used in preference to bright white LEDs.
- 6.13. See the **Appendix** for further information on designing lighting to minimise impacts on bats.
- 6.14. Given the above mitigation strategies, it is considered likely that there will be no residual impacts on bats.

Great Crested Newt and Common Amphibians

Status of Amphibians on Site

- 6.15. The ponds on site are considered highly unlikely to support a population of great crested newt but may support a low population of common amphibians. Whilst amphibians including great crested newt are recorded in the immediate area, particularly in W3, it is considered highly unlikely that these species would be able to access the site due to the retaining walls impeding access.

Potential Impacts

- 6.16. Approximately 0.078ha of low suitability habitat will be lost as a result of the proposals. Given that the proposals impact minimal area of terrestrial habitat over 100m from potential breeding ponds and impacts to individual newts can be avoided through Reasonable Avoidance Measures (RAMs), the Natural England “Rapid Risk Assessment” matrix therefore provides a result of “Offence Highly Unlikely” for the proposed works at the site (see **Table 6**).

Table 6: Results of Natural England’s Rapid Risk Assessment relating to the site at 19 Estcots Drive.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.01
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0

	Maximum:	0.01
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

- 6.17. However, if any common amphibians are in the waterbodies on site when they are drained then they are at risk of entrapment and death.

Mitigation

- 6.18. General mitigation measures are considered sufficient to protect common amphibians and reptiles during demolition and construction works within the application area. Reasonable avoidance measures should be implemented during the works and include:
- The waterbodies on site will be carefully drained between July and October to avoid the amphibian breeding and hibernation seasons. The site manager will check for any amphibians which may be present. Any common amphibians will be relocated to the area around W3 where there is a population of common toad, palmate newt, and smooth newts as informed by the data search.
 - Any ground vegetation within the application boundary will be maintained to a short sward length before the works begins to prevent the habitat becoming suitable.
 - Should the vegetation grow longer than 30cm then any vegetation clearance should be done by hand and only during the reptile key active season (March-September, inclusive). Weather should be 9 degrees or higher, and dry with no strong winds. This will allow active reptiles to move to more suitable habitat nearby, if they are present within the working area.
 - In order to prevent creating suitable refuges for wildlife during construction, all stored materials will be raised off the ground on pallets or skids. Aggregates, such as gravel or sand, must be delivered in bulk bags and stored on pallets.
 - When existing potential refugia (composting areas) are to be removed, they should be dismantled by hand between March and October to ensure that no individuals of these species are harmed.
 - Any excavations or trenches on site must be covered whilst works are paused (such as overnight), or a ramp should be provided in order to prevent animals from becoming trapped.
- 6.19. Given the above avoidance and mitigation strategies, it is considered likely that there will be no residual impacts on common amphibians. This strategy will also protect reptiles in the unlikely event they are present.

Terrestrial Mammals

Status of Terrestrial Mammals on Site

- 6.20. Hedgehog and badger may be present in the wider area and may pass through the site on occasion.

Potential Impacts

- 6.21. Should badger and hedgehog be able to access the site during the proposed works, they may be injured due to the destructive activity or trapped in any excavations.

Mitigation

- 6.22. General mitigation measures are considered sufficient to protect terrestrial mammals during demolition and construction works within the application area. Reasonable avoidance measures should be implemented during the works as described in the amphibians and reptiles section.
- 6.23. As a precautionary measure, during construction all trenches and holes are to be covered overnight to prevent wildlife falling in and becoming trapped. Contractors should also ensure that ramps are installed at any excavations or trenches, which must be checked before filling takes place.
- 6.24. In the event a hedgehog or badger is discovered on site during the construction phase then all works must stop and:
- Primarily, the individual should be allowed to disperse naturally, with works being halted until they are outside the development area.
 - Alternatively, if the individual appears injured or is not moving, a suitably qualified ecologist should be contacted.
- 6.25. Given the above mitigation strategy, it is considered likely that there will be no residual impacts on terrestrial mammals.

Birds*Status of Birds on Site*

- 6.26. The tree and hedgerow on site provide some nesting and foraging opportunities for a range of common bird species.

Potential Impacts

- 6.27. The removal of the tree and hedgerow will reduce the nesting opportunities available within the site. Disturbance and destruction of nesting habitats during the breeding bird season of March to August inclusive may cause harm and/or disturbance to breeding birds.

Mitigation

- 6.28. Any vegetation removal should occur outside of the breeding bird season (February - August inclusive).
- 6.29. If any vegetation removal is required during the breeding bird season, a pre-works check by a suitably qualified ecologist will be conducted no more than 24 hours before the removal to ensure that no active nests are present. If active nests are recorded, a suitable buffer will

be retained around these until all chicks have fledged (to be confirmed by a suitably qualified ecologist).

- 6.30. Following the above, it is considered likely that there will be no residual impacts on birds.

Compensation

- 6.31. To provide compensation for the loss of nesting habitat, two bird boxes are to be mounted on the walls of the completed development. These will be Green & Blue Birdblock (multiblock) (or similar). The Green&Blue Bird Block nest box can be built into new buildings or fixed to the surface of walls. The block must be at least 2 metres from the ground, ideally on a north or east facing wall and positioned away from doors, windows and vents to prevent disturbance.
- 6.32. Following the above, it is considered likely that there will be no residual impacts on birds.

Invertebrates

Status of Invertebrates on Site

- 6.33. The application area has limited value for invertebrates, as there are a small number of flowering species present however there is no structural diversity in the grassland. The waterbodies enhance the site for invertebrates.

Potential Impacts

- 6.34. There will be an overall loss of value for invertebrates as there is no proposal to replace the waterbodies.

Recommendations

- 6.35. Where new planting is considered in the plan, native tree, hedgerow, and shrub species should be used to enhance the ecological value of the site, with particular preference for fruiting and flowering species.
- 6.36. Incorporation of a water feature even as small as a bird bath or open half barrel can enhance the site for invertebrates.

7. ENHANCEMENT RECOMMENDATIONS

- 7.1. National planning policy states that all developments should seek to enhance onsite biodiversity whether impacts on protected species are recorded or not. Incorporating enhancement features into new or renovated buildings, and landscaping proposals, should be carefully considered. These features can be simple and inexpensive, please see below for specific recommendations.

Wildlife Beneficial Landscaping Scheme.

- 7.2. Landscape planting should seek to enhance biodiversity, improve connectivity to the surrounding habitats and provide food and shelter for a wide range of wildlife. All amenity planting and formally landscaped areas should be designed using a variety of plant species beneficial for wildlife. These do not necessarily have to be native but should be chosen for their ability to provide nectar or fruit and should be non-invasive species. There are a number of specialist seed mixes available specific to certain soil types, growing conditions and designed to benefit different groups of species such as bees or butterflies and moths.
- 7.3. All habitats should be managed in a suitable way to encourage a wide variety of insects and other wildlife to use the site.

Bats

- 7.4. To increase the roosting opportunities for bats in the area, at least one roosting feature could be integrated into the new building. This could be an integrated bat box such as a Schwegler 1FR bat tube or Green&Blue Bat Brick, which are built into the external brickwork of the new dwelling in order to provide new roost locations. Alternatively, where traditional building methods are to be used, discrete features can be built into a wet ridge. This is done by providing a gap in the mortar allowing access for bats. By linking together a couple of ridge tiles, the feature becomes more suitable for a greater range of species and number of bats (see the **Appendices**).
- 7.5. Where discrete features are being created, breathable roofing membrane must **NOT** be used in order to avoid hazards to bats.
- 7.6. Alternatively, at least one external bat box, such as Greenwoods Small Hollow or Vivara Pro Beaumaris bat box can be installed on the external elevations of the new dwelling or on any mature trees on site. Bat boxes should be installed at a height of at least 4m, preferably on a southern un-cluttered aspect with good connectivity to linear features such as other mature trees and hedgerows. The location should be determined by a licensed bat ecologist to ensure likelihood of repeated use is increased (see **Appendices**).

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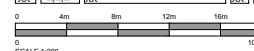
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APPENDICES

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STATUS

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Lane, Sturminster,
Auruk, SL5 7DD
Tel: 01494 299 383

MANCHESTER
No. 1 Bury Park,
Chelford Road,
Knockford,
Warrington, WU1 5RL
Tel: 01565 755 147

LONDON
29 Farn Street,
Mayfair,
London,
W1J 5RL
Tel: 020 3064015

Email: info@ascotdesign.com
www.ascotdesign.com



Client: EMH ELECTRICAL AND BUILDING SERVICES LTD

Project Title: 19 ESTCOTS DRIVE, EAST GRINSTEAD, RH19 3DA

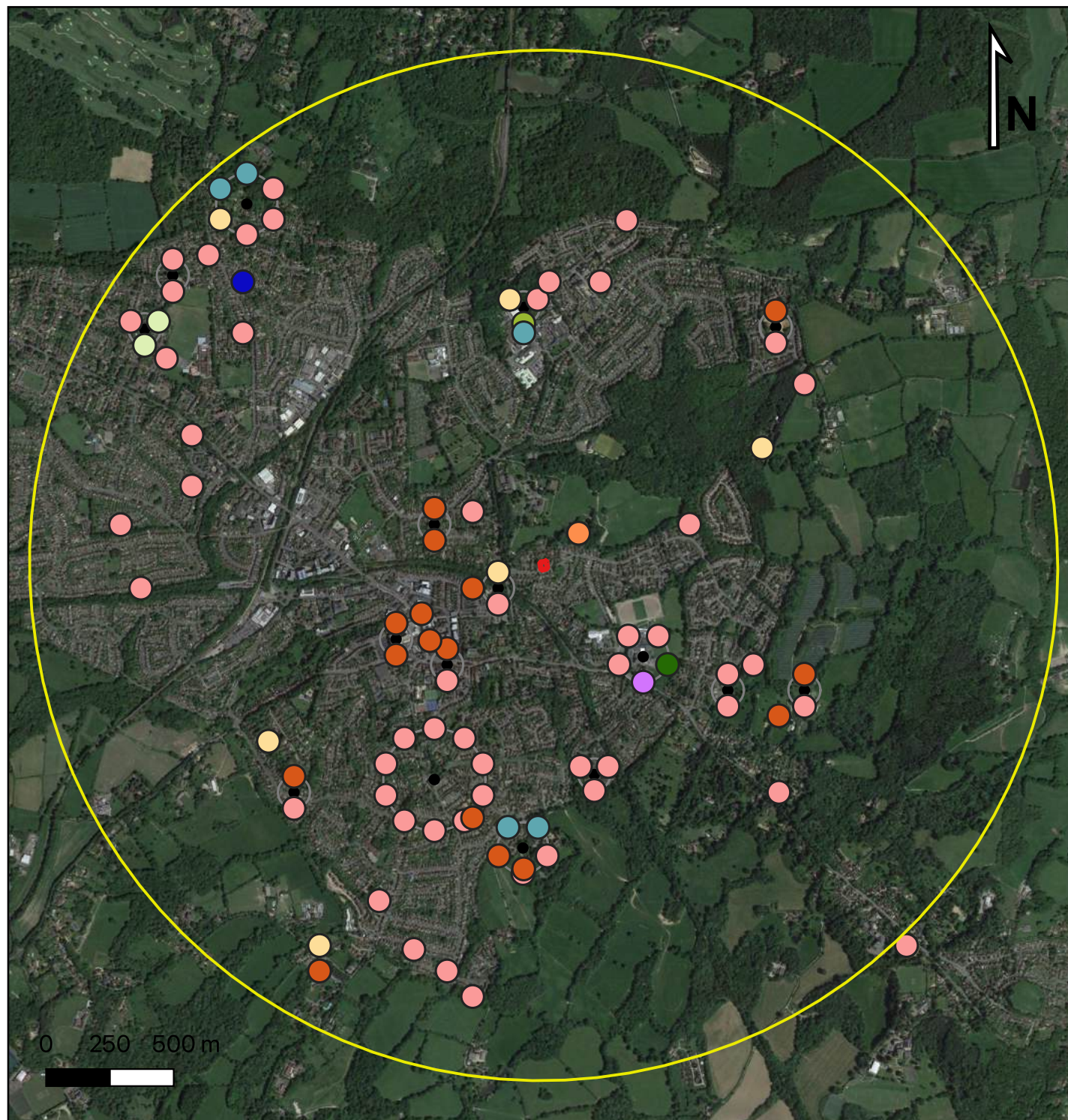
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Legend

-  2km Buffered
-  Red Line Boundary

TEMP bat records

-  Brown Long-eared Bat
-  Common Pipistrelle
-  Daubenton's Bat
-  Leisler's Bat
-  Long-eared Bat species
-  Nathusius's Pipistrelle
-  Natterer's Bat
-  Noctule
-  Serotine
-  Soprano Pipistrelle

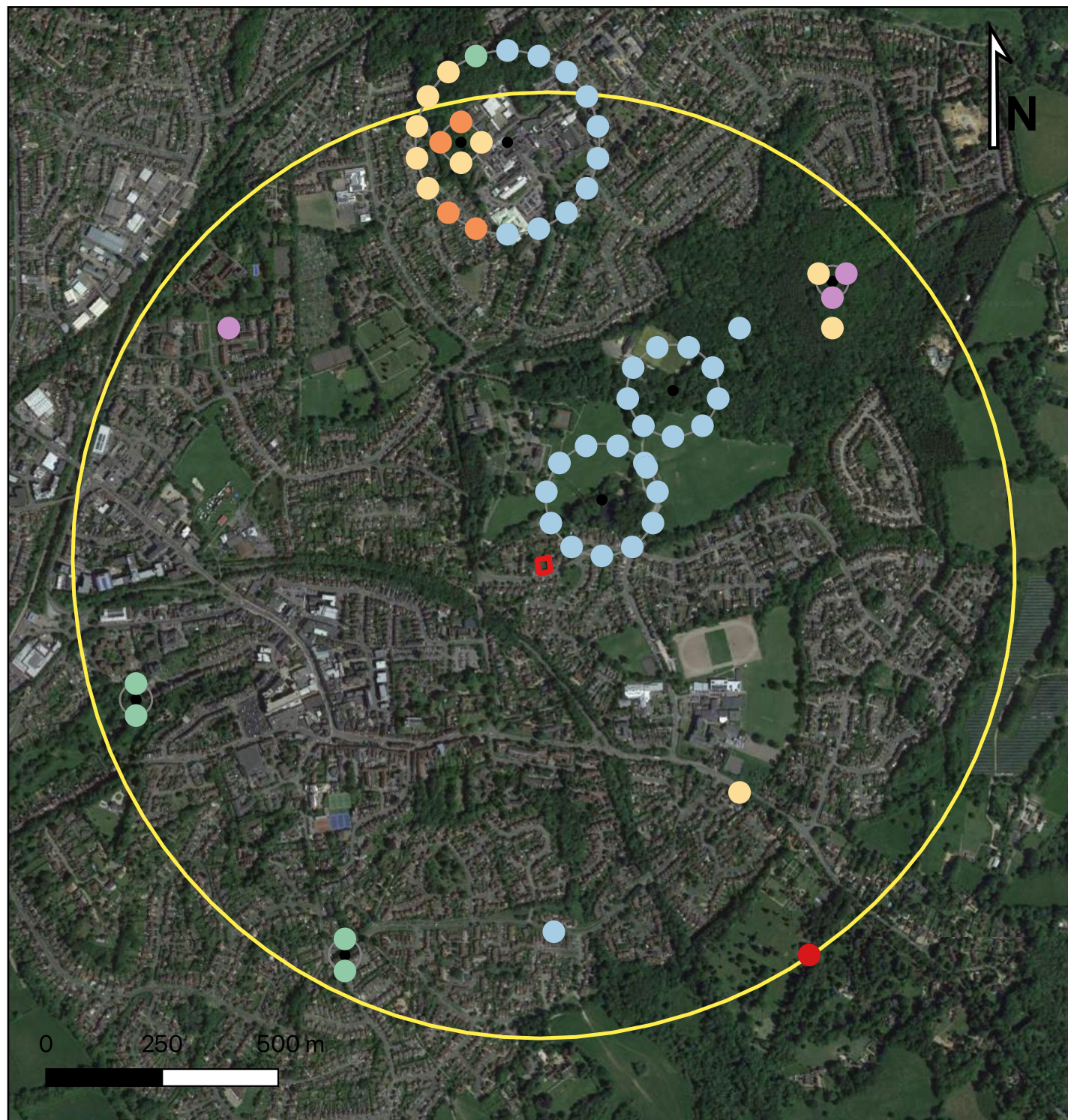


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www.darwin-ecology.co.uk

Project: 19 Estcots Drive

Appendix 2a: Bat Records

Date: April 2025



Legend

-  Red Line Boundary
-  1km Buffer
-  Adder
-  Common Lizard
-  Grass Snake
-  Great Crested Newt
-  Hazel Dormouse
-  Slow-worm



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Project: 19 Estcots Drive

Appendix 2b: Protected Species
Records (excluding bats)

Date: April 2025



THE IMPACT OF LIGHTING ON BATS

Bats favour a dark environment for both roosting and foraging as they are adapted to low-light conditions. Artificial lighting will disturb bats if the lighting covers roost access points, flight paths or foraging habitats.

The main peak of nocturnal insect abundance occurs at dusk and a delay in emergence results in a lower foraging rate for bats.

Artificial lighting creates a 'vacuum effect' for nocturnal insects. During the night nocturnal insects use the light of the moon* to navigate. However, artificial lighting and even sky glow above cities obscures the natural moonlight as it is closer

and radiates light in multiple directions.

Some species of bats have been recorded foraging around street lights such as *Pipistrellus* species and *Nyctalus* species. However, species that are less tolerant of artificial light are at a disadvantage when foraging as insects are drawn away from these species usual foraging grounds into the zones of artificial light.

Lighting must be considered in context to any development as increased lighting may cause roost abandonment, reduced reproductive success, and reduced foraging. Mitigation to reduce the impacts of lighting for bats is therefore of great importance in bat conservation.

Table 1: Summary of predicted impact of lighting for each species/genus

Impact	High	Medium	Low
Behaviour			
Maternity roost	All species	-	-
Night roost	<i>Rhinolophus hipposideros</i> <i>Rhinolophus ferrumequinum</i> <i>Myotis</i> spp. <i>Plecotus</i> spp.	<i>Pipistrellus</i> spp. <i>Nyctalus</i> spp. <i>Eptesicus serotinus</i> <i>Barbastella barbastellus</i>	-
Emergence	All species	-	-
Foraging	<i>Rhinolophus hipposideros</i> <i>Rhinolophus ferrumequinum</i> <i>Myotis</i> spp. <i>Plecotus</i> spp.	-	<i>Pipistrellus</i> spp. <i>Nyctalus</i> spp. <i>Eptesicus serotinus</i> <i>Barbastella barbastellus</i>
Commuting	<i>Rhinolophus hipposideros</i> <i>Rhinolophus ferrumequinum</i> <i>Myotis</i> spp. <i>Plecotus</i> spp.	-	<i>Pipistrellus</i> spp. <i>Nyctalus</i> spp. <i>Eptesicus serotinus</i> <i>Barbastella barbastellus</i>
Swarming	All species	-	-
Hibernation	All species	-	-

*For more information see Warrant, E., and Dacke, M. (2016) Visual Navigation in Nocturnal insects. *Physiology*, 31, 182-196.

Sources of light that can disturb bats include; light spill via windows, sport floodlighting, car headlights, roadside lighting, security lighting, aesthetic lighting of waterways, and aesthetic illumination of buildings. Glare will affect bats over greater distance than the target area directly illuminated.

Avoidance is the most effective method, but if this is not possible the following measures should be considered.

What lighting should I use?

- Low pressure sodium lights or 'warm' LEDs
- Wavelength above 540nm
- Colour temperature below 2700K
- Shielded lights that prevent light spill above a 70 degree angle
- Passive infrared (PIR) motion sensors



What to avoid:

- Lighting roost entrances, flightpaths, and foraging or commuting routes
- Reflective surfaces beneath lighting
- High level lights
- Non-directional lighting

Lighting should be considered at an early stage allowing impacts to be minimised through the design of the site.

Key Points

- Keep lighting intensity to the minimum level required
- Limit the times that lights are on to provide some dark periods (e.g. switching installations off between midnight and 5am)
- Dim lighting according to demand
- As an alternative to lighting pathways use paving materials that reflect moonlight
- Low level lighting allows darkness to be retained within higher vegetation
- Set dark habitat buffers - lighting should always be a minimum of 25m from vegetated margins and 40m from waterbodies
- Incorporate dark corridors within the site
- Compensate for the loss of dark areas by enhancing other dark areas
- Consider building design - install internal lighting away from windows



How to Install



Integrated bat boxes can be installed into the brickwork of buildings to provide a roosting spot for bat species.

Being embedded in the masonry of a building, they do not impact the exterior seal of structure and are commonly integrated in new builds.

With some modification or bespoke design, integrated bat boxes can be installed in such a way that it does not interfere with a building's exterior facade.

The 1FR bat tube has a 45 degree angle for bats to land on and crawl upwards into the bat tube. It has been designed to be installed within or adjacent to the the external skin of the block work or brickwork.

For a rendered finish, the 1FR bat tube can be built into the external skin of breeze blocks (acting as a block) and be rendered over (ensuring the access point is left clear). Ridges should be created in the render immediately below the access point, which will aid the bats when crawling into the bat tube.

For a brickwork finish, the 1FR bat tube should be installed within the brickwork, set back slightly to allow the front to either be rendered over or for a continuity of brick slips to be mortared over the top of the tube. The upper brick slip should overlap the access point and the lower brick slip should be in line with the 45 degree angle of the bat tube.

Alternatively, **Habibat** bat tubes can be purchased that are designed for brickwork design and can be custom made.





Raised Access Tiles

Integrated bat Features



Location of the Raised Access Tiles

Anywhere that the access is not illuminated by artificial lighting at a height of 2-7m.

Access for summer maternity roosts should be placed on southerly or westerly aspects. Male roosts and winter hibernation roosts on northerly aspect.

Tiles can be flat and “pegged” outwards, or specialised bat access tiles can be purchased.



Raised access tiles can provide two uses; roosts for individual “crevice dweller” species that prefer to roost in narrow gaps or, providing access to larger roosting spaces such as loft voids.

Raised access tiles for bats can be easily incorporated in both roofs and hanging tiles by the methods below.

An Ecologist will advise on the best locations and use for your raised access tiles.

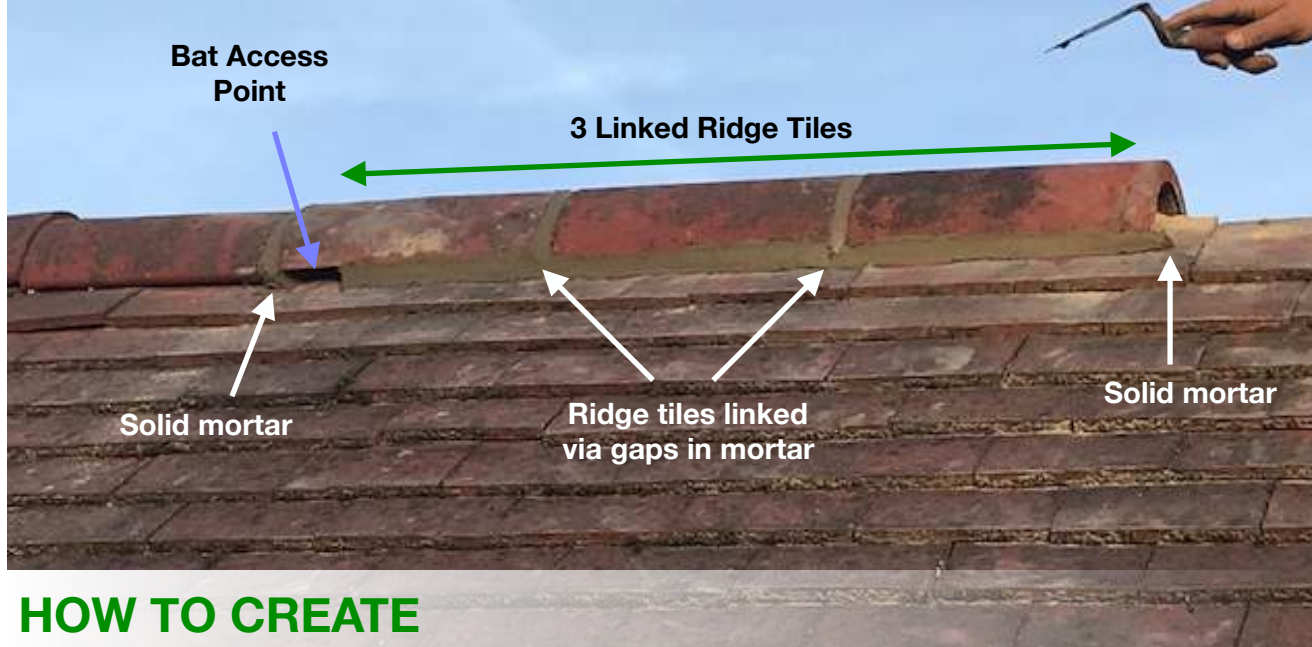


Construction of the Raised Access

The tiles can be pegged out using small amount of mortar/cement/pieces of tile placed under the bottom of the tile to raise it slightly from the one below.

Crevice should be pegged out to 20-30mm wide. However a wider gap may be required for a known maternity roosts

Create a small access hole in the felt that is 20-50mm wide x 15-20mm high. Gaps larger than this can be accessed by birds that may block the gaps with nesting material.

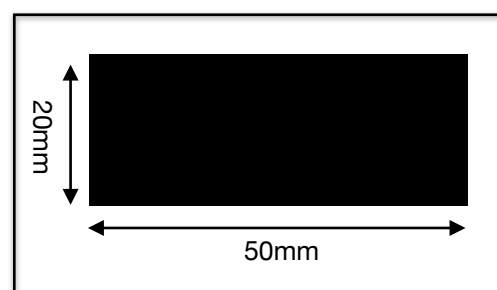


HOW TO CREATE

Note: Use three adjacent ridge tiles for one Ridge Tile Crevice Feature



1. Notch out the underside of a ridge tile measuring 20mm high by 50mm wide.



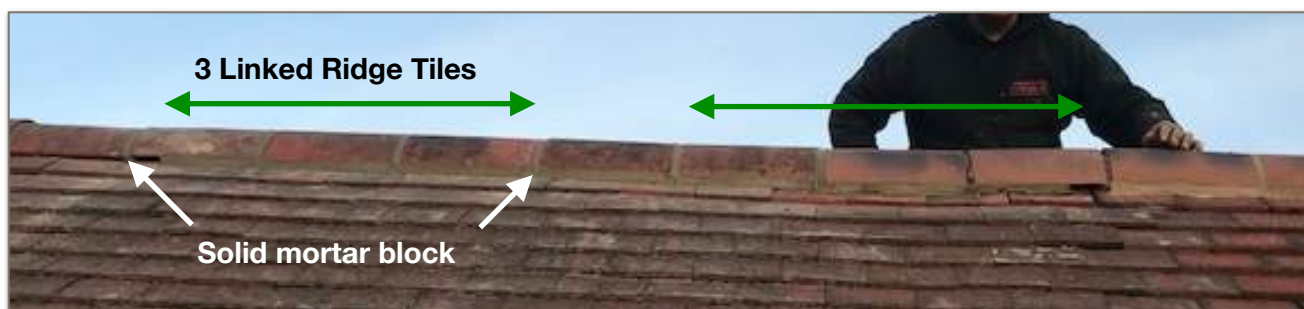
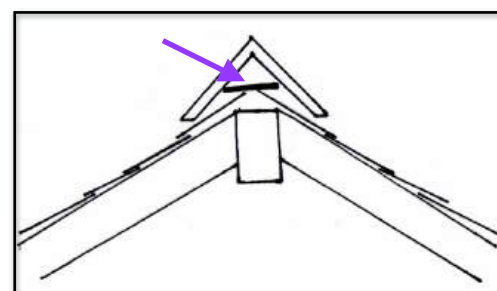
2. Or leave a gap in the mortar of the same size



3. Leave the gap mortar free when bedding the tile onto the ridge.



4. To ensure the three ridge tiles remain linked either; place a broken tile over the ridge and mortar only above the tile (left) or fill one side with mortar and leave the other side empty (do this on alternate sides to ensure the feature does not become draughty) (right).



5. At each end of the three linked ridge tiles insert a solid mortar block to reduce through draughts.



TYPES OF BAT BOXES



Schwegler 2F Double Front Panel

- Manufactured from long-lasting woodcrete
- Lifetime - 20-25 years
- Suitable for pipistrelle and Myotis species
- A second inner wooden panel is fitted adjacent to the front panel imitating a cavity wall



Schwegler 1FD Double Front Panel

- Manufactured from long-lasting woodcrete
- Lifetime - 20-25 years
- Suitable for pipistrelle and Myotis species
- A second inner wooden panel is fitted adjacent to the front panel imitating a cavity wall
- Small entrance hole discourages birds from using the box



Vincent Pro Bat Box

- Manufactured from timber and recycled plastic
- The front and the top of the box is black, which helps heat absorption
- Suitable for a range of species including pipistrelle species, Myotis species, and brown long-eared bats.
- No maintenance required



Schwegler 2FN

- Manufactured from long-lasting woodcrete
- Lifetime - 20-25 years
- Suitable for pipistrelle species, Myotis species, serotine, brown long-eared, noctule and Leisler's bats
- Dual entrance
- Birds and dormice have also been found using this box
- A newer model is now available, Schwegler 3FN, designed with smaller entrance holes which discourage birds and dormice



Schwegler 1FS Large Colony Box

- Manufactured from long-lasting woodcrete
- Lifetime - 20-25 years
- Suitable for a range of bats including pipistrelle species, Myotis species, Noctule, and brown long-eared bats
- Three grooved inner wooden panels are connected to the front panel, which are ideal for bats to cling to.
- Accommodates large summer colonies



Schwegler 1FF Colony Box

- Manufactured from long-lasting woodcrete
- Lifetime - 20-25 years
- Suitable for a range of crevice dwelling bats including pipistrelle species, barbastelle, noctule, and brown long-eared bats
- Rough wooden surface for bats to cling onto and climb



Greenwoods Ecohabitats Small Hollow Bat Box

- Manufactured from long-lasting ecostyrocete
- Lifetime - 20-25 years
- Suitable for a range of bats preferring a cavity space, including pipistrelle species, myotis species, noctule, and brown long-eared bats
- Suitable for hibernating bats



Bark Boxes Large Twin Crevice Bat Box

- Suitable for range of bat species providing roosting opportunities similar to naturally formed tree roosts.
- Thermal mass suitable for spring and autumn roosts.
- Natural and discreet appearance for hanging on trees.
- No maintenance required.
- Made from over 50% recycled materials./



TYPES OF BIRD BOXES



Vivar Pro Seville 32mm WoodStone Nest Box

- Manufactured from woodstone - increases longevity and provides a consistent internal temperature
- The nest box compensates for the lack of natural cavities that are found in trees
- Suitable for blue tits, tree sparrows, house sparrows, great tits, crested tits, nuthatches, coal tits and pied flycatchers
- Should be installed between 1.5m and 3m high



House Martin Nest Cups



Swallow Nest Bowl

- Suitable nest building mud is difficult for house martins and swallows to find
- Alterations to house construction and roof design have resulted in a decrease of suitable nesting sites
- Install swallow nest bowls within an outbuilding or garage that has flight access - 6cm below the ceiling
- Install house martin nest cups under the eaves of a house - minimum of 2m high



Swift Nest Box

- Swift numbers are declining partly due to a loss of nesting sites
- The entrance hole discourages other birds such as starlings and sparrows
- Install a minimum of 5m high with unobstructed airspace in front of the nest
- Integrated models of swift nest boxes are also available



5KL Schwegler Nuthatch Nest Box

- Manufactured from woodcrete
- Nuthatches prefer nest boxes with larger cavities. They will often occupy owl nest boxes and fill the entrance hole with mud reducing the size to approximately 32mm
- Nuthatches plaster mud on the internal walls of the cavity and line the floor with wood chipping and leaves to nest
- To discourage nuthatches from using owl nest boxes try installing the 5KL immediately adjacent



Open-fronted Nest Box

- Manufactured from woodstone - lifetime of 20-25 years
- Suitable for robin, wren, spotted flycatchers, and black redstart
- Best installed hidden from view on the wall of a building or hidden within ivy/honeysuckle as the boxes open-front may attract predators
- Install at a height of 1-3m



Sparrow Terrace Nest Box

- Sparrow populations are decreasing due to a lack of nesting sites
- Sparrows are a sociable species and prefer to nest in a colony
- Likelihood of uptake is increased if more nesting chambers are available (the example nest box shown contains three nesting chambers)
- Various other nest box designs are available
- Install at a minimum of 2m high



Tawny Owl Nest Box

- Install on a mature tree within a woodland (not on the outskirts)
- Install a minimum of 3m high
- Face the box entrance away from prevailing wind (generally avoiding west/south-west)



Little Owl Nest Box

- Prefer areas of mixed farmland and orchards
- Essential features; small entrance hole (70mm), narrow tunnel, and a dark nesting chamber
- Install on a horizontal tree branch/wall top or beam so that owlets can walk in/out prior to fledging
- Can be installed on any tree species apart from cherry - the cherry harvest coincides with the little owl breeding season
- Entrance hole should face the tree trunk
- Install at a minimum height of 3m