Contract No: 2425/33/1

Preliminary Ecological Appraisal

Land at Bluebells, Meopham, Kent DA13 0QS

Report to:
Mr. Max Cantwell

16th October 2024

CALUMMA
Ecological Services

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Information, including any survey data, contained within this report must only be relied upon for a maximum period of 18 months from the date of the report.

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Contents

1. Summary

Background

1.1 Land at Bluebells has been proposed for a new development project.

1.2 Calumma Ecological Services was commissioned to undertake a preliminary ecological assessment of the site.

Habitats and Designated Sites

1.3 The proposed development site is an existing residential property with a main dwelling, attached garage and outbuilding.

1.4 The site consists of a vegetated garden with trees and shrubs, lawn and ornamental planting.

1.5 The site is bordered on two sides by other residential gardens.

1.6 An area of ancient woodland (replanted) is located to the rear of the site.

Birds

1.7 Structures and woody vegetation include features suitable for breeding birds.

1.8 Care must be taken to ensure that nesting birds are not disturbed during proposed works.

Bats

1.9 The main dwelling included a small number of features suitable for roosting bats (low potential). Other structures were considered to offer negligible potential for roosting bats.

1.10 Bats could forage and/or commute over nearby gardens and woodland.

1.11 A follow-up endoscope survey is recommended.

1.12 Any external lighting should follow appropriate guidelines to minimise disturbance to foraging bats.

Reptiles

1.13 Available grassland is managed as a lawn and characterised by a short sward that offers negligible potential for reptiles.

Amphibians

1.14 One pond is known to be located within 500 m of the application area.

1.15 Available terrestrial habitat offers negligible sheltering potential for amphibians that could breed in the local area.

Badgers

1.16 No setts, latrines or other evidence of badger was observed.

Hazel Dormouse

1.17 Available habitat within the red line application area offers negligible potential for hazel dormouse.

1.18 Adjacent woodland offers habitat suitable for dormouse.

1.19 Providing adjacent woodland is not disturbed, additional survey work for dormouse is not considered necessary.

Beaver, Otter and Water Vole

1.20 Available habitat is considered unsuitable for beaver, otter and water vole.

Hedgehog

1.21 Hedgehogs could shelter and/or forage within the local area.

1.22 Precautionary mitigation for hedgehog is recommended.

Invertebrates

1.23 Available habitat within the proposed development area is considered to offer only limited opportunities for widespread invertebrates.

Other Considerations

1.24 Appropriate biodiversity enhancement features should be included with the proposed development project.

2. Site Location and Assessment

Site Name:	Land at Bluebells, Meopham, Kent - *the site*; Fig. 2.1
Grid Reference:	TQ 638 630
County:	Kent
Planning Authority:	Gravesham District Council
Planning Refs:	20240772
National Character Area:	North Downs

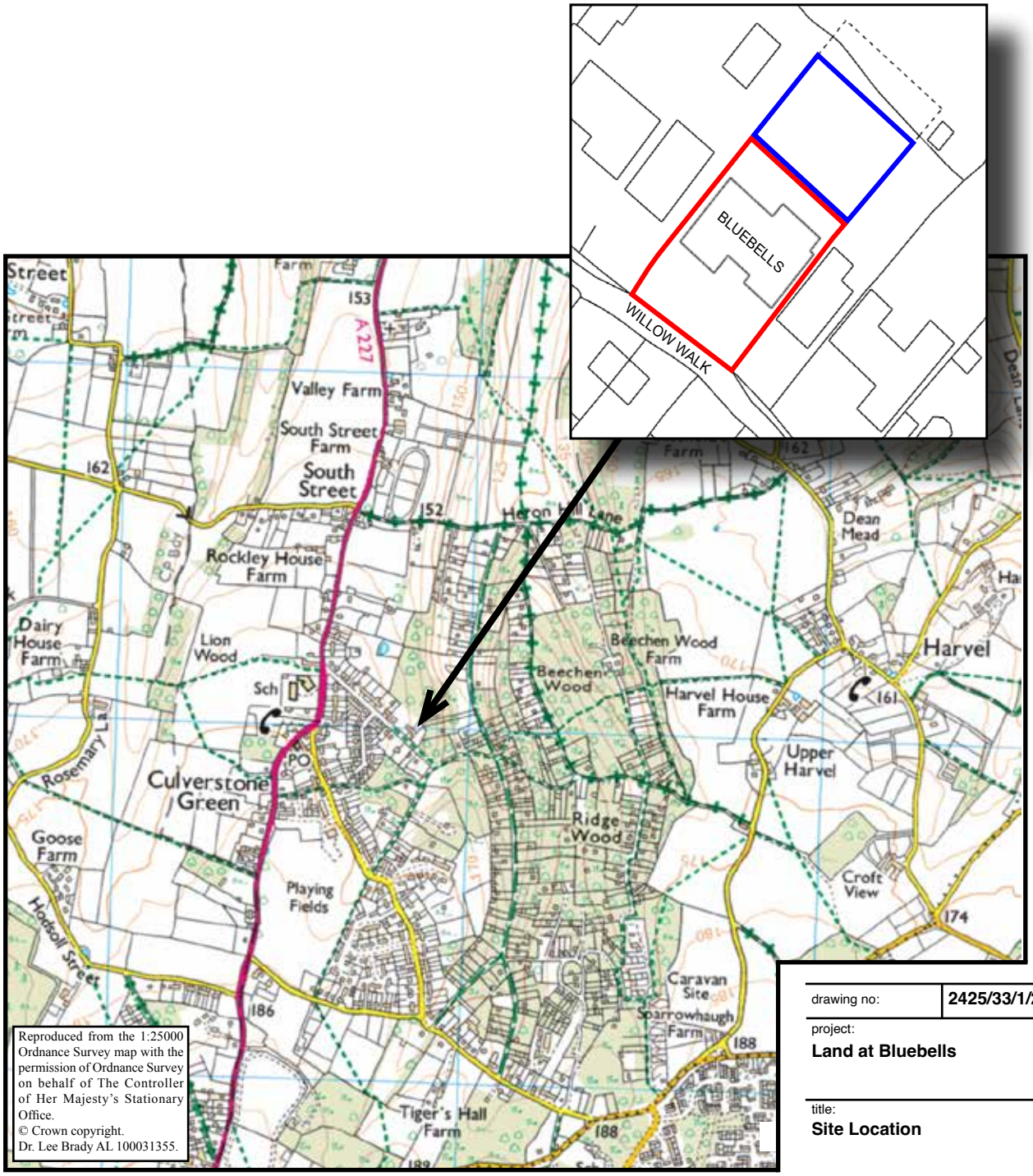
Client:	Mr. Max Cantwell
Proposed Disturbance:	Change of use from single dwellinghouse to use as two single dwellinghouses.
Red Line Application Area:	~ 0.08 Ha
Project Size:	Small The applicant has indicated that the development will be a self-build project that is exempt from BNG. A baseline habitat condition assessment is therefore not included with this report.
Survey Request:	Preliminary Ecological Appraisal

Surveyor:	Lee Brady PhD, BSc (Hons), MCIEEM Great Crested Newt Class Licence: 2015-19076-CLS-CLS Accredited Under Level 2 Bat Licence: 2023-11064-CL18-BAT

Assessment Period:	19th September 2024
Limitations:	This assessment did not include detailed surveys of protected species. Preliminary ecological appraisals assess likely presence of species on a site and recommend follow-up survey work, management and mitigation as appropriate. This report may need to be updated if new information becomes available (e.g. ponds not previously known to be present).
Reliance:	Information, including any survey data, contained within this report must only be relied upon for a maximum period of 18 months from the date of the report.

Fig. 2.1 Land at Bluebells, Meopham, Kent DA13 0QS (TQ 638 630)

Location of study site.



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project:
Land at Bluebells

title:
Site Location

scale: **N.T.S.**	date: **Oct 2024**

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3. Legal Protection and Planning

The protection of animals and plants in the United Kingdom is governed by several different regulations and conventions. Principally, these include:

- The Wildlife & Countryside Act 1981 (as amended);
- The Habitats and Species Directive (92/43/EC) enacted through the Conservation of Habitats and Species Regulations 2010 (updated in 2017);
- The Natural Environment and Rural Communities (NERC) Act 2006;
- The Hedgerow Regulations 1997;
- The National Planning Policy Framework (as amended);
- Biodiversity Net Gain.

3.1 The Wildlife & Countryside Act

The Wildlife and Countryside Act was first introduced in 1981 and has since been amended and updated several times (e.g. Countryside and Rights of Way Act 2000).

The Wildlife and Countryside Act aims to balance conservation efforts with the needs of society and landowners, and provides a framework for the management and protection of wildlife and habitats in the UK.

The main provisions of the Wildlife and Countryside Act include:

- The protection of certain species of plants and animals, including birds, mammals, reptiles, and amphibians, from being killed, injured, or taken from the wild;
- The prohibition of certain methods of killing or taking animals, including the use of poisons, traps, and nets;
- The designation of Sites of Special Scientific Interest (SSSIs), which are areas of land that are of special scientific interest and are given legal protection to preserve their biodiversity and natural beauty;
- The regulation of hunting and killing of certain animals, such as deer, hares, and rabbits;
- The protection of hedgerows, trees, and other natural features in the countryside;
- The regulation of trade in endangered species and the control of invasive non-native species.

3.2 Conservation of Habitats and Species Regulations

The Conservation of Habitat and Species Regulations are designed to protect and conserve natural habitats and species of animals and plants that are of special importance. The regulations stem from the European Union's Habitats Directive, which was implemented in the UK through the Conservation of Habitats and Species Regulations 2010 (updated in 2017).

Under these regulations, certain habitats and species are afforded legal protection, including Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). These areas are designated based on their importance for conservation and biodiversity, and activities that may damage them are regulated or prohibited.

The regulations also require public authorities to conduct an appropriate assessment of any plans or projects that may have an impact on these designated areas. If it is determined that the plans or projects may have a significant effect on the habitats or species, they must be subject to further scrutiny and potential mitigation measures.

The Habitat Regulations apply to species in a number of ways. Firstly, certain species are designated as 'European Protected Species' (EPS), meaning they are afforded legal protection under the regulations.

The regulations prohibit any deliberate capture, killing or disturbance of EPS species, as well as damage to or destruction of their breeding or resting sites. In addition, public authorities must take steps to ensure that these species are protected, and that their habitats are maintained or improved.

The regulations also require public authorities to assess the potential impact of plans or projects on species and their habitats. If a project is likely to have a significant effect on a protected species, it may require a specific 'derogation' to be granted before it can proceed. This means that the public authority must demonstrate that the project is necessary for certain reasons, such as for public health or safety, and that there are no alternative solutions. Mitigation works that involve EPS usually requires successful application for an appropriate licence.

3.2.1 Habitats Regulations Assessment

Where a proposed development project is located within or close to an area designated or proposed for designation under the Birds and/or Habitats Directives (European sites; SAC/SPA) and/or the Ramsar Convention (Ramsar sites) an Appropriate Assessment under Regulation 61(1) of the Habitat Regulations may be required.

Regulation 63 states that:

“A competent authority, before deciding to undertake, or give any consent, permission, or other authorisation for a plan or project which:

(a) is likely to have significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and

(b) is not directly connected with or necessary to the management of the site must make an appropriate assessment of the implications for the site in view of that site’s conservation objectives”.

The decision as to whether an Appropriate Assessment is required or not is based upon an assessment of 'Likely Significant Effect' (LSE), which is recognised as being a statement that the anticipated effects of the proposal will be more than trivial. That is, the anticipated changes resulting from the proposal have the potential to impact on a designated, or proposed to be designated, European/Ramsar site. It does not automatically follow that an impact will occur, or that the impact would be significant, with a decision of LSE being purely an indication of the need for an Appropriate Assessment.

For more information see:

https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site

3.3 The Natural Environment and Rural Communities Act

The Natural Environment and Rural Communities Act (NERC) seeks to promote and protect biodiversity in the UK. The act recognizes the importance of biodiversity for the health and wellbeing of humans, as well as for the functioning of ecosystems and the provision of ecosystem services.

The NERC establishes the duty for public authorities to have regard for the conservation and enhancement of biodiversity in the exercise of their functions. This means that public authorities must consider the impact of their actions on biodiversity and take steps to mitigate any negative impacts.

The NERC also establishes measures to protect important wildlife habitats, such as Sites of Special Scientific Interest (SSSIs), and to promote sustainable management of natural resources. The act includes provisions for the creation of biodiversity strategies and the establishment of biodiversity targets.

In addition, the NERC provides for the management of invasive non-native species, which can have a negative impact on biodiversity by outcompeting native species and disrupting ecosystems.

3.3.1 Priority Habitats and Priority Species

Previous planning policy refers to UK Biodiversity Action Plan (BAP) habitats and species as being a material consideration in the planning process. Although such habitats and species remain material considerations in the planning process, they are now described as *Species and Habitats of Principal Importance for Conservation* in England, or simply priority habitats and priority species. The list of habitats and species is still derived from Section 41 of the Natural Environmental and Rural Communities (NERC) Act 2006. In 2007, a revised list was produced, following a 2-year review of UK BAP processes and priorities, which included a review of the priority species and habitats. Following the review, the list of UK BAP priority species increased from less than 600 to 1,150.

The UK BAP was succeeded by the 'UK Post-2010 Biodiversity Framework' in July 2012. The UK list of priority species, however, remains an important reference source and has been used to help draw up statutory lists of priority species in England, Scotland, Wales and Northern Ireland, as required under Section 41 of the Natural Environment and Rural Communities Act 2006 (England), Section 7 of the Environment (Wales) Act 2016, Section 2(4) of the Nature Conservation (Scotland) Act 2004, and Section 3(1) of the Wildlife and Natural Environment Act (Northern Ireland) 2011.

Note that as was previously the case when it was a BAP priority species, hen harrier continues to be regarded as a priority species although it does not appear on the Section 41 list.

3.4 The Hedgerow Regulations

The Hedgerow Regulations aim to protect important hedgerows in the countryside, which are an important feature of the UK's rural landscape and provide habitat for a range of wildlife.

Under the regulations, it is illegal to remove or destroy most countryside hedgerows without permission from the local planning authority. Hedgerows that are protected under the regulations are those that meet certain criteria, including age, length, and species composition. The regulations also require that new hedgerows are planted to replace those that are removed, to ensure that there is no net loss of hedgerow habitat.

The Hedgerows Regulations seek to strike a balance between the protection of important hedgerows and the needs of farmers and landowners. The regulations recognize that hedgerows can provide important functions for agriculture, such as acting as windbreaks and providing shelter for livestock, and allow for certain exemptions for hedgerow removal in certain circumstances.

3.5 The National Planning Policy Framework

The National Planning Policy Framework (NPPF) is a document in the UK that sets out the government's planning policies and guidance for local planning authorities. The NPPF was first introduced in 2012 and has since been updated several times.

The main provisions of the NPPF include:

- The promotion of sustainable development, which balances economic, social, and environmental considerations;
- The protection of the natural environment, including biodiversity, landscapes, and heritage assets;
- The promotion of sustainable transport and the reduction of greenhouse gas emissions;
- The promotion of high-quality design and the provision of affordable housing;
- The encouragement of healthy communities and the provision of infrastructure, such as schools and healthcare facilities;
- The promotion of economic growth and the provision of employment opportunities;
- The NPPF provides guidance to local planning authorities on how to make planning decisions that are consistent with the government's planning policies. The document aims to ensure that planning decisions are made in a transparent and consistent manner, and that they reflect the needs of local communities.

For more information see:

https://www.gov.uk/government/publications/national-planning-policy-framework--2

3.6 Biodiversity Net Gain

National policy sets out that planning should provide biodiversity net gains where possible. National Planning Policy Framework Paragraphs 170(d), 174(b) and 175(d) refer to this policy requirement and the Natural Environment Planning Practice Guidance (PPG) provides

further explanation on how this should be done. Delivering net gain is also referred to in the National Infrastructure Commission's Design Principles, National Policy Statements and the National design guide.

Biodiversity net gain (BNG) is a strategy to develop land and contribute to the recovery of nature. It is a way of making sure the habitat for wildlife is in a better state than it was before development. The Environment Act sets out the following key components of mandatory biodiversity gain:

- Amends Town & Country Planning Act (TCPA);
- Minimum 10% gain required calculated using the Biodiversity Metric & approval of a biodiversity gain plan;
- Additional gains may be requested by local planning authority;
- Habitat secured for at least 30 years via planning obligations or conservation covenants;
- Delivered on-site, off-site or via a new statutory biodiversity credits scheme;
- National register for net gain delivery sites.

Developers are required to leave development sites better off for biodiversity than when the development is completed. The UK government is proposing to sell biodiversity credits to developers if the required biodiversity net gains cannot be achieved on-site or through the off-site market. Private landowners can help deliver these gains for both biodiversity and sometimes other ecosystem services.

For more information see:

https://www.local.gov.uk/pas/topics/environment/biodiversity-net-gain

The threshold for developments that must implement BNG include those that will affect priority habitats and/or projects that will affect an area greater than 25 m^2 of non-priority habitat and/or 5 or more meters of linear habitat (e.g. hedgerow).

Developments exempt from BNG include the following:

- Developments below the threshold;
- Householder applications;
- Self-build and custom build applications;
- Biodiversity gain sites;
- High speed rail transport network.

For more information that includes detailed definitions of exempt activities see:

https://www.gov.uk/guidance/biodiversity-net-gain-exempt-developments

3.7 Species Protections

Species receive legal protection under different legislation that may prohibit sale, disturbance and/or killing/injury. The following is a summary of some of the species/groups that are most frequently impacted by development related projects.

3.7.1 Plants

A number of plant species are protected under Section 13 of the amended Wildlife and Countryside Act. It is an offence to intentionally pick, uproot or destroy any wild plant listed in Schedule 8 of the Act. The list includes both higher plants including several of the rarer orchids and lower plants including several mosses and lichens.

3.7.2 Birds

All wild birds (birds in a wild state resident in or visiting Great Britain) and their nests and eggs are protected under the Wildlife & Countryside Act. Particular emphasis is given to the protection of breeding birds. With certain exceptions, it is an offence to intentionally kill, injure or take wild birds, take, damage or destroy the nest of wild birds while in use or being built, take or destroy the eggs of wild birds, disturb wild birds listed in Schedule 1 when nest building or at a nest containing eggs or young, or disturb dependent young of wild birds.

3.7.3 Bats

All species of bat and their breeding sites or resting places (roosts) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations and Schedule 5 of the Wildlife and Countryside Act. It is an offence for anyone to intentionally kill, injure or handle a bat, to possess a bat (whether live or dead), deliberately disturb a roosting bat, or sell or offer a bat for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by bats for shelter.

3.7.4 Reptiles

All native reptiles are listed on Schedule 5 of the Wildlife and Countryside Act. It is an offence for anyone to intentionally kill or injure a so-called ‘widespread’ reptile species (viviparous lizard, slow-worm, grass snake or adder), or sell or offer for sale without a licence.

The sand lizard and smooth snake, their breeding sites or resting places (any structure that may offer refuge) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations. It is an offence for anyone intentionally to kill, injure or handle either of these two species, to possess an animal (whether live or dead), deliberately disturb a sheltering animal, or sell or offer an animal for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by sand lizards and smooth snakes for shelter.

3.7.5 Amphibians

All native amphibians are listed on Schedule 5 of the Wildlife and Countryside Act. It is an offence for anyone to sell or offer for sale any native amphibian species without a licence.

The great crested newt and natterjack toad, their breeding sites (typically ponds) or resting places (typically a terrestrial habitat that offers refuge) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations. It is an offence for anyone to intentionally kill, injure or handle either of these two species, to possess an animal (whether live or dead), deliberately disturb a sheltering animal, or sell or offer an animal for sale

without a licence. It is also an offence to damage, destroy or obstruct access to any place used by natterjack toads or great crested newts for shelter.

3.7.6 Badger

Badgers and their setts are protected under the Protection of Badgers Act 1992, which makes it illegal to kill, injure or take badgers or to interfere with a badger sett. The term 'badger sett' is normally understood to mean the system of tunnels and chambers, in which badgers live, and their entrances and immediate surrounds. The 1992 Act specifically defines a sett as "any structure or place which displays signs indicating current use by a badger".

3.7.7 Hazel Dormouse

Individual animals, their breeding sites or resting places (nests) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations and Schedule 5 of the Wildlife and Countryside Act. It is an offence for anyone intentionally to kill, injure or handle a dormouse, to possess a dormouse (whether live or dead), deliberately disturb a dormouse, or sell or offer a dormouse for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by dormice for shelter.

3.7.8 Beaver, Otter and Water Vole

Water voles receive full protection under Schedule 5 of the Wildlife & Countryside Act. It is an offence to deliberately, capture, injure or kill them or to damage, destroy or obstruct their breeding or resting places. It is also an offence to disturb them in their breeding or resting places. Otters and beavers are protected under the Conservation of Habitats and Species Regulations. It is an offence for anyone to intentionally kill, injure or handle these species, to possess an otter or beaver (whether live or dead), deliberately disturb an otter or beaver, or sell or offer one for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by otter or beaver for shelter.

3.7.9 Hedgehogs

Hedgehogs are protected against being killed or taken by certain methods under Schedule 6 the Wildlife and Countryside Act 1981.

3.7.10 Invertebrates

Some invertebrates including several species of mollusc, crustacean, beetle, cricket, butterfly and moth are protected under Schedule 5 of the Wildlife and Countryside Act against deliberate killing, injuring and taking. Other species receive partial protection under the same act (e.g. against taking for sale).

3.8 Ecological Zone of Influence

The ecological zone of influence (ZOI) is the area around a development project where ecological features might be affected by biophysical changes resulting from the project. This includes impacts during construction, operation, decommissioning, and restoration phases. The ZOI considers the type of project, the sensitivity of ecological features, project activities, environmental processes, and regulatory guidelines. It is a dynamic concept, regularly updated based on new information and project progression.

It can sometimes be useful to review some ecological data outside of the ecological zone of influence. For example, species records collected from a wider area may provide insights into likely occupancy within the ecological zone of influence.

For the purposes of this report the ZOI has been defined according to the following criteria:

3.8.1 Small Development Projects

Examples: single-family homes, small commercial buildings, minor road expansions.

Area: Red line application areas are usually up to 1 Ha.

ZOI Distance: Up to 500 m.

3.8.2 Medium Development Projects

Examples: Residential developments with multiple units, small industrial facilities, moderate road construction.

Area: Red line application areas are typically between 1 and 10 Ha.

ZOI Distance: Up to 5 km.

3.8.3 Large Development Projects

Examples: large industrial complexes, major highways, extensive urban developments, airports.

Area: Red line application areas are typically greater than 10 Ha.

ZOI Distance: Can be up to 50 km or more.

4. Desktop Study

4.1 MAGIC Geographic Information System

The MAGIC website offers reliable geographic information on the natural environment in Great Britain, encompassing rural, urban, coastal, and marine areas. Managed by Natural England and overseen by a Steering Group representing the MAGIC partnership organisations, the website presents this information through an interactive map equipped with mapping tools for exploration and analysis.

http://magic.defra.gov.uk

4.1.1 Priority Habitat Designations

Nearby priority habitat designations are illustrated in Appendix I.

Information available through MAGIC indicates that habitat within the application area has no priority habitat designations associated with it. Woodland located adjacent to the site has been identified as ancient and semi-natural deciduous woodland (replanted).

4.1.2 Statutory Designated Areas

The locations of nearby statutory designated areas are illustrated in Appendix II.

Information available through MAGIC indicates that land within the application area has no statutory designations associated with it. There are no other statutory sites located within the Ecological Zone of Influence.

4.1.3 Non-statutory Designated Areas

The locations of nearby non-statutory designated areas are illustrated in Appendix II.

Information available through MAGIC indicates that the application area is located within the London Area Greenbelt.

4.1.4 Site of Special Scientific Interest Impact Risk Zone

Natural England has created a tool that is accessed via MAGIC to determine the risk of development impact on designated areas (including SSSIs, SACs, SPAs and Ramsar sites). Available information indicates that the proposed development is located within a SSSI risk zone.

The SSSI risk tool provides guidance on when the Local Planning Authority should consult Natural England. Natural England will then provide advice on any potential impacts and how these might be avoided or mitigated.

4.1.5 European Protected Species Licences

The locations of nearby EPS licences are illustrated in Appendix III.

Information available via MAGIC reveals that no EPS mitigation licences have been issued within the ecological zone of influence.

4.1.6 Great Crested Newt Class Survey Licence Returns

The locations of nearby great crested newt survey records are illustrated in Appendix IV.

Information available via MAGIC reveals that great crested newt has not been recorded within the ecological zone of influence.

4.2 Kent Landscape Information System (KLIS)

The Kent Landscape Information System website facilitates informed decision-making by offering detailed information on Kent's landscape and biodiversity. Targeted primarily at landowners, farm advisors, and those engaged in land use planning, the site is also a valuable resource for the general public. It provides information on countryside access, landscape character, opportunities for habitat creation and landscape restoration, the Kent habitat survey, and areas designated for conservation value.

https://webapps.kent.gov.uk/KCC.KLIS.Web.Sites.Public/Default.aspx

4.2.1 Kent Habitat Survey 2012

Habitat designations are illustrated in Appendix V.

The 2012 Kent Habitat Survey characterised the development site as (1) Built-up areas and (2) Improved Grassland that is situated adjacent to (3) broadleaved, mixed, and yew woodland.

4.2.2 Local Wildlife Sites and Reserves

Nearby designations are illustrated in Appendix VI.

Information available through KLIS indicates that Happy Valley, Meopham Local Wildlife Site is located ~ 385 m to the east.

4.3 Records Searches

Available records for protected species have been obtained from Kent Reptile and Amphibian Group.

Note that the availability of records is directly related to survey effort. A lack of records does not necessarily indicate the absence of protected species.

4.3.1 Kent Reptile and Amphibian Group (KRAG)

KRAG is one of the primary data holders for reptiles and amphibians in Kent (including areas of former West Kent now included in Greater London). Information supplied by KRAG indicates that common frog, common toad smooth newt and palmate newt have previously been recorded within the ecological zone of influence. The closest validated great crested newt record was reported from a site located 1.75 km to the north west (Appendix VII).

Viviparous lizard has been recorded within the ecological zone of influence. The closest observation was for Ridge Wood, located 500 m to the south east).

KRAG has prepared a summary risk assessment that describes the likely presence of herpetofauna (Table 4.1). The risk assessment is based on statistical analysis of available distribution data but does not take into consideration the quality of habitat available within the proposed development site.

Species	Likelihood of Presence
Amphibians	
Common Frog	High
Common Toad	High
Natterjack	*n/a*
Smooth Newt	High
Palmate Newt	High
Great Crested Newt	Possible
Reptiles	
Viviparous Lizard	Likely
Slow-worm	Possible
Sand Lizard	Unlikely
Grass Snake	Likely
Adder	Possible
Smooth Snake	*n/a*

Table 4.1. Herpetofauna risk assessment prepared by Kent Reptile and Amphibian Group.

5. Proposed Development and Summary Site Description

5.1 Site Location

The proposed development site includes an existing residential property located in a semi-rural area within the North Downs National Character Area. The site is accessed directly from Willow Walk.

5.1 North Downs National Character Area

The North Downs is a chalk downland ridge with a steep scarp slope to the south, providing extensive views across Kent, Surrey, Sussex, and the Channel seascape to France. The broad dip slope gradually drops towards the Thames and the English Channel, affording extensive views across London and the Thames Estuary.

The area has a distinct topography, with dry valleys, ridges, and plateaus. Chalk soils are predominant, but the upper part of the dip slope is capped by extensive clay-with-flint deposits, and patches of clay and sandy soils also occur. The area ends at the White Cliffs of Dover, which support internationally important vegetation.

The region is cut by deep river valleys such as the Stour, Medway, Darent, Wey, and Mole, which provide distinct landscapes that contrast with the steep scarp slope. The south-facing scarp is incised by short, bowl-shaped dry valleys known as combes, cut by periglacial streams, and the undulating topography of the dip slope has been etched by streams and rivers that sometimes form dry valleys, carrying winterbournes depending on the level of the chalk aquifer.

5.2 Proposed Development

Change of use from single dwelling house to use as two single dwellinghouses.

The proposed development site is ~ 0.08 Ha and illustrated in Fig. 5.1.

5.3 Available Habitat

Habitat within the red line application area was assessed during a daytime walkover survey.

5.3.1 Aquatic Habitat

Ponds located within the local area have been identified using the following sources:

- Ordnance Survey (https://www.bing.com/maps);
- MAGIC (http://magic.defra.gov.uk);
- Google Earth.

One pond is known to be located within 500 m. Other small ponds could be located in nearby residential gardens.

The search area for waterbodies is illustrated in Fig. 5.2.

5.3.2 Terrestrial Habitat

Land within the proposed application area includes a residential property with associated vegetated garden. Vegetation within the site includes modified grassland (lawn), trees, shrubs and ornamental planting.

The garden borders an area of ancient woodland (replanted) to the rear. The red line application area has been adjusted to demonstrate that no development will take place within 15 m of the woodland edge.

Habitat available within the proposed development area is illustrated in Figs. 5.3 - 5.4.

5.4 Buildings

One structure is located within the red line application area. A second structure is located within the same land ownership:

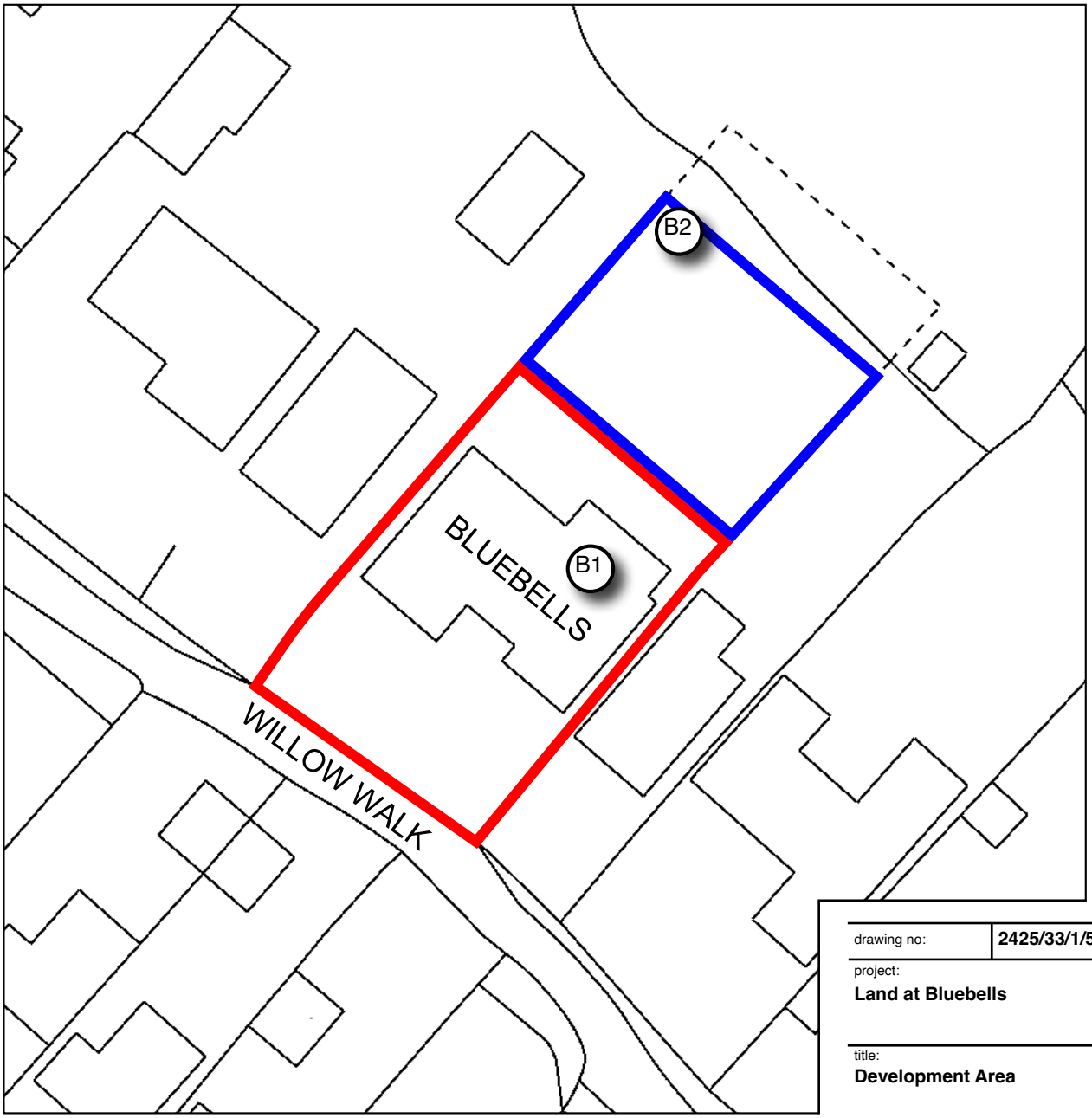
B1 – Main dwelling. Single storey bungalow constructed from brick with pitched tiled roof.

B2 – Garage with pitched roof. Situated outside of red line application area.

Fig. 5.1 Proposed Development Site

Application area ~ 0.08 Ha.

Building B1 is the main dwelling. Building B2 is a small garage located outside of the red line application area.



drawing no:	**2425/33/1/5.1**

project:
Land at Bluebells

title:
Development Area

scale: **N.T.S.**	date: **Oct 2024**

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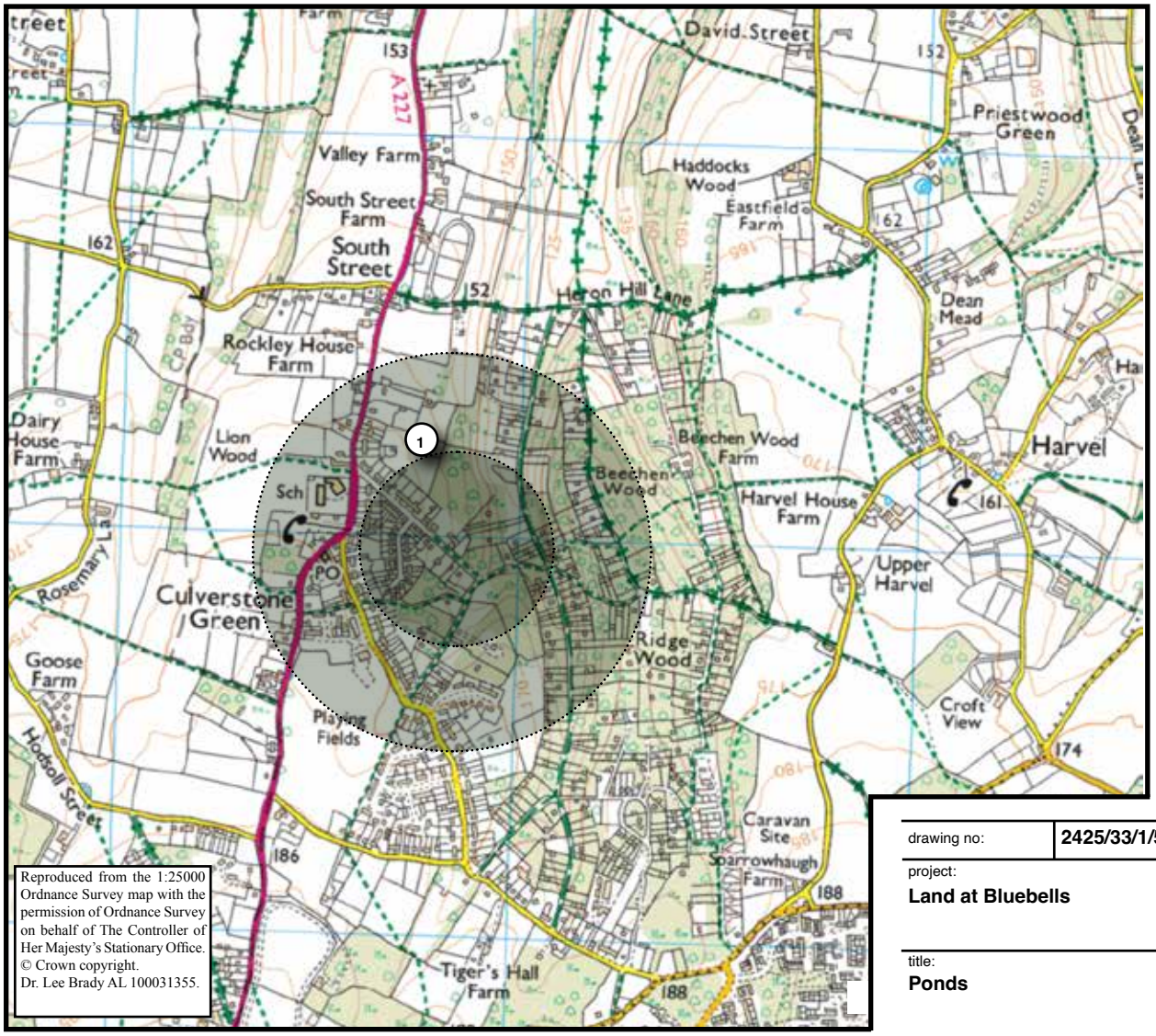
Fig. 5.2 Ponds

Figure illustrates ponds known to occur within recommended area of search for great crested newt.

One pond is known to be located within 500 m of the site boundary.

For ponds located more than 250 m from a proposed development, Natural England recommend that survey work is most appropriate when (a) the pond has the potential to support a large population, (b) the development includes particularly favourable habitat, (c) the development will have a significant impact on available habitat, (d) there is an absence of dispersal barriers.



drawing no:	**2425/33/1/5.2**
project:	**Land at Bluebells**
title:	**Ponds**
scale: **N.T.S.**	date: **Oct 2024**

Key to Symbols

HSI surveyed pond

unsurveyed pond

filled/dry pond

250/500 m radius

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Dunkirk,
Kent ME13 9NY
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Fig. 5.3 Aerial Photographs

Indicative location of proposed application area, illustrating existing habitat (main plate 2024).

The site includes a residential dwelling with a vegetated garden. The rear garden area exctends towards ancient woodland (replanted). The red line development area has been adjusted to ensure there is no development within 15 m of the woodland edge.

drawing no:	**2425/33/1/5.3**

project:
Land at Bluebells

title:
Aerial Photographs

scale: **N.T.S.**	date: **Oct 2024**

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The red line application area includes a residential dwelling with attached garage. The main dwelling (B1) was found to include potential bat roost features (e.g. gaps under roof tiles and gaps between bricks and soffits; insets). Building B1 was considered to offer low potential for roosting bats. Available habitat includes a vegetated garden. Woody vegetation offers potential for nesting birds.

The front garden area includes a conifer hedge that offers potential for nesting birds.

Fig. 5.4 Site Photographs

Figure illustrates habitat features located within the study area.

The rear garden includes ornamental planting and some woody vegetation but is dominated by short sward grassland that is managed as residential lawn.

The rear garden extends towards an area of replanted ancient woodland. The applicant has confirmed that no development works are proposed within 15 m of the woodland edge.

drawing no:	**2425/33/1/5.4**

project:
Land at Bluebells

title:
Site Photographs

scale: **N.T.S.**	date: **Oct 2024**

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6. Protected Species Assessment

Species/Species Group	Likely Presence	Evidence	Further Work Required?
Birds	Possible	Structures and woody vegetation offer potential for breeding birds.	Nesting birds must not be disturbed.
Bats	Roosting: Low Commuting/Foraging: Possible	The main dwelling includes a small number of features suitable for roosting bats. Other structures offer negligible potential for roosting bats. Trees to the rear of the property include features suitable for roosting bats. Low numbers of foraging/commuting bats could use available habitat within the local area.	Endoscope examination of roost features recommended. Disturbance to trees in rear garden should be avoided. External lighting should follow appropriate guidelines.
Reptiles	Negligible	Vegetation within the rear garden is managed as lawn and characterised by short sward.	No.
Great Crested Newt	Breeding: Negligible Sheltering: Negligible	One pond is located within 500 m. Available terrestrial habitat does not include significant sheltering potential.	No.
Amphibians	Breeding: Negligible Sheltering: Negligible	One pond is located within 500 m. Available terrestrial habitat does not include significant sheltering potential.	No.
Badgers	None	No evidence of badgers observed within site.	No.
Hazel Dormouse	Negligible	Habitat within red line application area unsuitable for dormouse. Adjacent woodland offers potential.	Disturbance to adjacent woodland should be avoided.
Beaver, otter and water vole	None	No suitable terrestrial habitat within site.	No.
Hedgehog	Possible	Hedgehog could occupy nearby locations.	Precautionary mitigation recommended.
Rare and Notable Invertebrates	Negligible	Available habitat offers limited potential for widespread invertebrate species.	No.

Table 6.1. Summary of protected species likely presence within application area and recommendations for further survey and/or mitigation work. Species for which additional survey/mitigation is recommended are highlighted. Refer to text for further details. Likely presence is categorised as follows: *None* – no suitable habitat present; *Negligible* – habitat present but limited in area or low quality; *Possible* – habitat present; *Likely* – habitat present and considered highly favourable for species; *Confirmed* – direct evidence of species observed within site.

6.1 Birds

Within the local area there are areas of woodland, gardens and grassland that are expected to support a varied bird population. Structures and woody vegetation within the boundary of the proposed application area could support low numbers of breeding birds.

No evidence of barn owl was observed within the site and it is considered unlikely that any species afforded protection by inclusion on Schedule 1 of the Wildlife & Countryside Act 1981 will nest in the proposed development area.

6.2 Bats

Local habitat features include woodland, gardens and buildings that provide potential roosting, foraging and commuting opportunities for bats.

6.2.1 Building Inspection

A daytime building inspection was undertaken that reviewed general conditions and identified features that may have potential for roosting bats.

Features and evidence of bat use and potential considered when assessing the structures included:

- Roof and wall construction;
- Any bat droppings and/or staining on external walls;
- Scattered or accumulated bat droppings (identified by their dry, powdery texture when compressed) within the interior of the buildings or around entrances to potential roosts;
- Oily staining, scratch marks and/or urine staining around entrances to potential roosts;
- Places where cobwebs have been swept away;
- Features that have the potential to be bat roosts or to provide access to roosting opportunities within the building. When present, these include missing tiles, cavities in woodwork or masonry, roof voids and any crevices within the buildings.

The main dwelling included a small number of potential roost features (Table 6.2).

Other structures located within the site offer negligible potential for roosting bats.

6.2.2 Trees

Trees to the rear of the garden (outside of red line application area) included features suitable for roosting bats. The applicant has confirmed that trees are not proposed for disturbance.

Building Number	Description	Features of Bat Potential	Bat Evidence	Level of Bat Roosting Potential
B1	Main dwelling. Brick bungalow with roof void and tiled pitched roof. Ongoing work to ceilings has left roof void open.	Small number of gaps under corner roof tiles. Gaps between bricks and soffits at both gable ends.	None observed.	Low
B2	Garage	None observed.	None observed.	Negligible.

Table 6.2. Buildings and structures within the site.

6.3 Reptiles

Vegetation within the red line application area is characterised by a lawn managed as a short sward that offers negligible potential for reptiles.

6.4 Amphibians

One pond is located within 500 m. Whilst all reasonable effort is made to identify ponds located around the site, small garden ponds and recently constructed ponds may not be included in available information sources. If additional ponds are subsequently identified close to the site, the amphibian risk assessment may need to be updated.

The scale of proposed works and distance from closest ponds means that development will not impact on the local conservation status of great crested newt.

6.5 Badgers

No setts, latrines or other evidence of badger was observed within the red line application area.

6.6 Hazel Dormouse

Habitats typically suitable for dormouse include:

- Deciduous woodland, with a dense understory, species-rich shrub layer and thick ground cover.
- Hazel or sweet chestnut coppice.
- Continuous, thick, wide hedgerows over 4m high with connections to nearby suitable woodland.

- Thick continuous areas of scrub, particularly bramble, close to hedgerows or woodlands.

Vegetation within the red line application area offers negligible potential for dormouse.

Woodland located to the rear of the garden area offers habitat suitable for dormouse. The applicant has confirmed that woodland will not be disturbed by proposed development work and a 15 m buffer will be maintained between the development and ancient woodland. Providing habitat suitable for dormouse is not disturbed, no additional survey or mitigation works are considered necessary for this species.

6.7 Beaver, Otter and Water Vole

Available habitat within the application area is unsuitable for beaver, otter and water vole.

6.8 Hedgehog

Hedgehog could be present in the local area. Precautionary mitigation for hedgehog is recommended.

6.9 Invertebrates

Available habitat within the application area is considered to offer only very limited opportunities for common and widespread invertebrates.

7. Recommendations

Appropriate actions should be undertaken to ensure that there is minimal disturbance to protected species and any retained habitat. Retained habitat should be managed to promote biodiversity interest.

If any areas with potential for protected species are proposed for management or other disturbance (e.g. ground investigations or archaeological excavations), all works should first be discussed and agreed with a suitably experienced ecologist.

7.1 Trees and Ancient Woodland

Where proposals are likely to be in close proximity to trees to be retained it is recommended that any works within the tree protection zones are carefully monitored to protect trees in the long-term. All tree protection, work to trees and any work in the vicinity of trees is to accord with the relevant sections of the following standards:

BS 3998 - Recommendations for Tree Work.

BS 4428 - Code of practice for general landscape operations.

BS 5837 - Guide for Trees in Relation to Construction.

BS 1722 - Fences.

7.1.1 Ancient Woodland

The proposed development is located close to an area of designated ancient woodland (replanted). Appropriate mitigation to ensure the are no impacts on trees, tree root protection areas and soils must be undertaken. Natural England and the Forestry Commission's standing advice states that there should be a minimum 15 m buffer-zone between a development and ancient woodland.

The planning application has been updated to demonstrate that the development will not encroach within 15 m of the woodland.

For more information see:

https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions

7.2 Birds

7.2.1 Timing of Works

To avoid any potential offence under the Wildlife & Countryside Act, no clearance of features that could support nesting birds should be undertaken during the bird-nesting season (1st March to 31st August inclusive).

If this is not practicable, any potential nesting habitat to be removed must first be checked by a suitably experienced ecologist in order to determine the location of any active nests. Any active nests identified will then need to be cordoned off (within a minimum 5 m buffer) and protected until the end of the nesting season or until the birds have fledged. These checking

surveys would need to be carried out no more than three days in advance of vegetation clearance. If vegetation clearance works have not been completed within this timeframe, an update check should be undertaken.

7.2.2 Bird Nesting Boxes

The applicant should consider installing one or more bird nesting boxes in suitable locations. Suitable exterior boxes should be installed at a height of ~3 m above ground with a minimum distance of 3 m between boxes. Boxes should face north to east. Suitable exterior boxes include house sparrow terraces.

In addition, two to four swift nest bricks should be installed, ideally 5 m above ground with a distance of 0.5 - 1 m between boxes. Boxes should receive some shade. Swift bricks typically encroach into the wall cavity, or even span the cavity. If they are placed under the eaves, or under fascia boards, this is generally not a problem, however lower locations may need to incorporate a cavity tray to prevent water penetration. Swift bricks should not overheat on south-facing walls, but if they have a thin front wall, they should not be placed in the sun, but should be sheltered under the eaves. If the design of the building is unsuitable for bricks, exterior boxes can be fitted instead.

For more information see:

https://www.designingbuildings.co.uk/wiki/Swift_brick

https://www.swift-conservation.org/Leaflet%204%20-%20Swift%20Nest%20Bricks%20-%20installation%20&%20suppliers-small.pdf

https://www.nestbox.co.uk/products/swift-nest-box

Details of the boxes that will be installed together with their locations should be included with the application.

7.3 Bats

7.3.1 Bat Survey

The main dwelling (B1) was considered to offer low potential for roosting bats. To determine whether or not bats are using features within the building to roost, further survey work is recommended. Survey work must be undertaken by a suitably experienced and licensed ecologist. Survey work could include a more detailed inspection of the building with an endoscope examination of the corner gaps below roof tiles and/or follow-up emergence survey(s) in accordance with BCT Guidelines (2023). The applicant is advised that whilst an endoscope survey may be able to reduce the potential from low to negligible (meaning no additional surveys are required), the survey could be inconclusive and an additional emergence survey(s) may still be required. The emergence survey should be carried out during the optimum season from May to August. If bats are found to be using the building, further surveys will be required, as per current guidelines (BCT, 2023), to provide sufficient information to inform a European Protected Species Mitigation Licence from Natural England. At least 3 weeks gap should be left between each survey.

Trees to the rear of the property include features suitable for roosting bats. The applicant has confirmed that trees will not be disturbed. If any trees are subsequently proposed for disturbance, a follow up survey to determine bat roost potential will be required.

For more information see:

https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects

7.3.2 Bat Boxes

The applicant should consider installing bat boxes in suitable locations. It is recommended that at least one Kent Bat Box/Schwegler 1FF Bat Box or similar (dependent upon availability) should be installed on a building or suitable tree. The box(es) must be sited at least 3.5 meters above ground and should face south west to south east.

Details of the box(es) that will be installed together with their locations should be included with the application.

For more information on Kent Bat Boxes see:

https://www.kentbatgroup.org.uk/images/content/downloads/kent-bat-box.pdf

7.3.3 Lighting

Some artificial lighting can be detrimental to roosting, foraging and commuting bats especially Daubenton's, Whiskered, Natter's and Long-eared. Impacts on bats are higher in the April/May and September/October time periods, when bats emerge earlier and when most lighting will be on. The impact on bats is increased after mid-October when British Summer Time ends (by subtracting an hour).

If lighting is required, this should be low or zero UV, which is preferred to reduce attraction of insects to lighting and therefore to reduce the attraction of foraging bats to these areas. The Bat Conservation Trust's *Bats and Lighting in the UK guidance* must be adhered to in the lighting design (Appendix VIII).

Lighting should be directed away or shielded from any adjacent gardens/trees, and bat boxes to allow bats safe foraging routes where they will not be visible to predators.

7.4 Hedgehogs

7.4.1 Hedgehog Gates

If any installed fencing will be of a design similar to that of close board fencing which are typically solid from ground level, *hedgehog gates* should be installed in the fencing within the proposed site. The gates consist of semi-circular holes (measuring 0.13 m x 0.13 m) cut into the bottom of the fence to allow the movement of hedgehogs into adjacent areas of land.

7.4.2 Open Excavations

During months when hedgehogs are most likely to be active (March to October), excavations should not be left open for animals to fall into. If this is not possible, suitable planks of wood should be placed to allow trapped animals to escape. Any open excavation should be inspected before works commence in the morning and trapped animals relocated to a suitable place of safety along the site boundary.

7.5 Ecological Enhancement and Biodiversity Net Gain

The National Planning Policy Framework (NPPF) encourages new developments to maximise the opportunities for biodiversity through incorporation of enhancement measures. The proposals present the opportunity to deliver ecological enhancements at the site for the benefit of local biodiversity, thereby making a positive contribution towards the broad objectives of national conservation priorities and the local Biodiversity Action Plan (BAP).

Details of habitat management and enhancement works that the applicant has confirmed will be undertaken should be included with the application and form part of the landscaping proposals. As well as protected species, such work should target more widespread species that are of biodiversity interest.

Features that can be considered for inclusion in the landscaping proposals include:

- Bird nesting boxes (including swift bricks);
- Bat roosting boxes;
- Hedgehog gates;
- Bee bricks;
- Where appropriate, ecologically sympathetic soft landscaping that provides shelter and nectar for invertebrates such as bees.

8. References and Further Reading

Bat Conservation Trust (2023). Bat Surveys – Good Practice Guidelines. 4th Edition. Bat Conservation Trust, London, UK.

Bright, P., Morris, P. and Mitchell-Jones, T. (2006) The Dormouse Conservation Handbook. English Nature.

English Nature (1998) Natural Areas. Nature Conservation in Context. English Nature, Peterborough.

English Nature (2001) Great crested newt mitigation guidelines. English Nature, Peterborough.

English Nature (2002). Bats in roofs: a guide for surveyors. English Nature, Peterborough, UK.

English Nature (2005) Reptiles: guidelines for developers. English Nature, Peterborough.

Froglife (1999) Reptile survey. An introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.

Gent, T. and Howarth, W. (1998) Amphibians and reptiles and the law. In: Herpetofauna Workers' Manual. Gent, A. H. & Gibson, S. D. (eds.), Joint Nature Conservation Committee, Peterborough, pp. 75 - 93.

Griffiths, R. A. and Inns, H. (1998) Surveying. In: Herpetofauna Workers' Manual. Gent, A. H. & Gibson, S. D. (eds.), Joint Nature Conservation Committee, Peterborough, pp. 1 - 6.

Herpetofauna Groups of Britain and Ireland (1998) Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs). HGBI, c/o Froglife, Halesworth.

Mitchell-Jones, A. J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough, UK.

UKHab (2023) The UK Habitat Classification. Version 2.0.

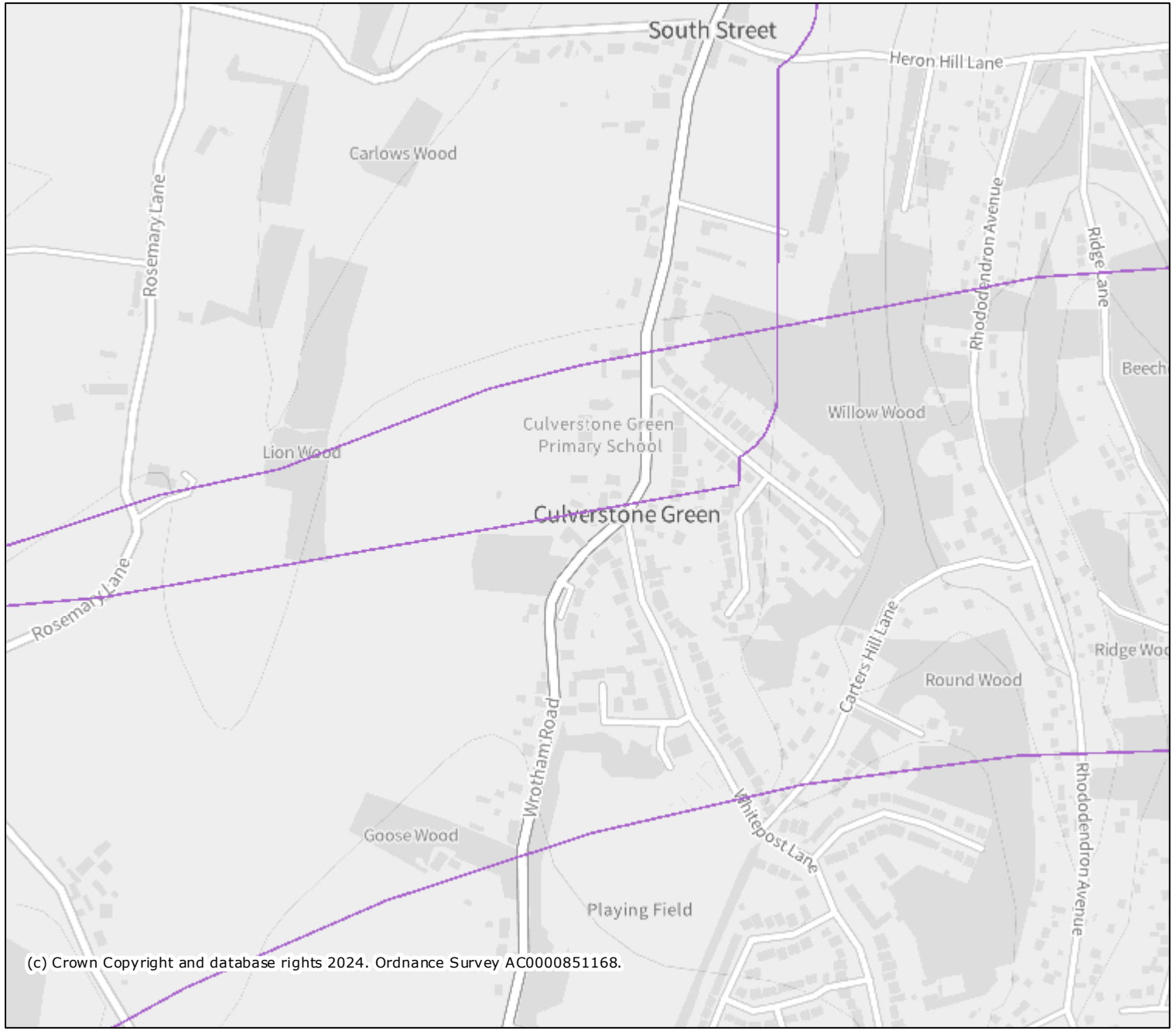
Young, J. S., Ryan, H., Thompson, S., Newcombe, M. and Puckett, J. (2015) Mammals of Kent. Kent Mammal Group, Kent Bat Group, East Kent Badger Group and Kent Field Club.

Appendix I: Habitat Designations

Source:

MAGIC (http://www.magic.gov.uk)

Designated Sites



Legend

- Areas of Outstanding Natural Beauty (England)
- Local Nature Reserves (England)
- National Nature Reserves (England)
- National Parks (England)
- Ramsar Sites (England)

Sites of Special Scientific Interest Units (England)

- Favourable Condition
- Unfavourable Recovering
- Unfavourable no change
- Unfavourable Declining
- Part Destroyed
- Destroyed
- Not Assessed
- Sites of Special Scientific Interest (England)
- SSSI Impact Risk Zones - for LPAs to determine likely impacts on terrestrial SSSIs and when to consult Natural England
- Biosphere Reserves (England)
- Wild Bird General Licence Protected Sites Condition Zone (England)

Projection = OSGB36
xmin = 562300
ymin = 162000
xmax = 564700
ymax = 163900

0 0.1 0.2
km

Map produced by MAGIC on 18 September, 2024.

Appendix II: Land Designations

Source:

MAGIC (http://www.magic.gov.uk)

Statutory Designated Site Descriptions

Ramsar

Ramsar sites are designated under the Convention on Wetlands of International Importance especially as waterfowl habitat. Wetlands are designated, protected and promoted in order to stem progressive encroachment on and loss of wetlands, which are broadly defined to include marsh, fen, peatland and water.

Special Area of Conservation

A Special Area of Conservation (SAC) is a designation under the European Union's Habitats Directive, which aims to protect and conserve Europe's most valuable and threatened habitats and species. In the UK, SACs are designated by the government to protect important habitats and species in order to meet its obligations under the directive. These areas are chosen for their unique or rare wildlife, and may include habitats such as woodlands, heathlands, bogs, and rivers, as well as species such as otters, bats, and birds of prey. Once an area is designated as an SAC, certain activities that could harm the protected habitats or species are either prohibited or require special permits or permissions.

Special Protected Area

Special Protected Area (SPA) is a designation given to a specific site or area that has been identified as having significant conservation value for birds and their habitats. These areas are designated under the European Union's Birds Directive and are given special protection status to help safeguard the natural environment and promote biodiversity. SPAs can include a range of habitats such as wetlands, estuaries, forests, heaths, and moors, and are home to a variety of bird species. SPAs are managed by a range of organisations, including the government, non-governmental organisations, and landowners, who work together to ensure that the sites are protected and managed sustainably.

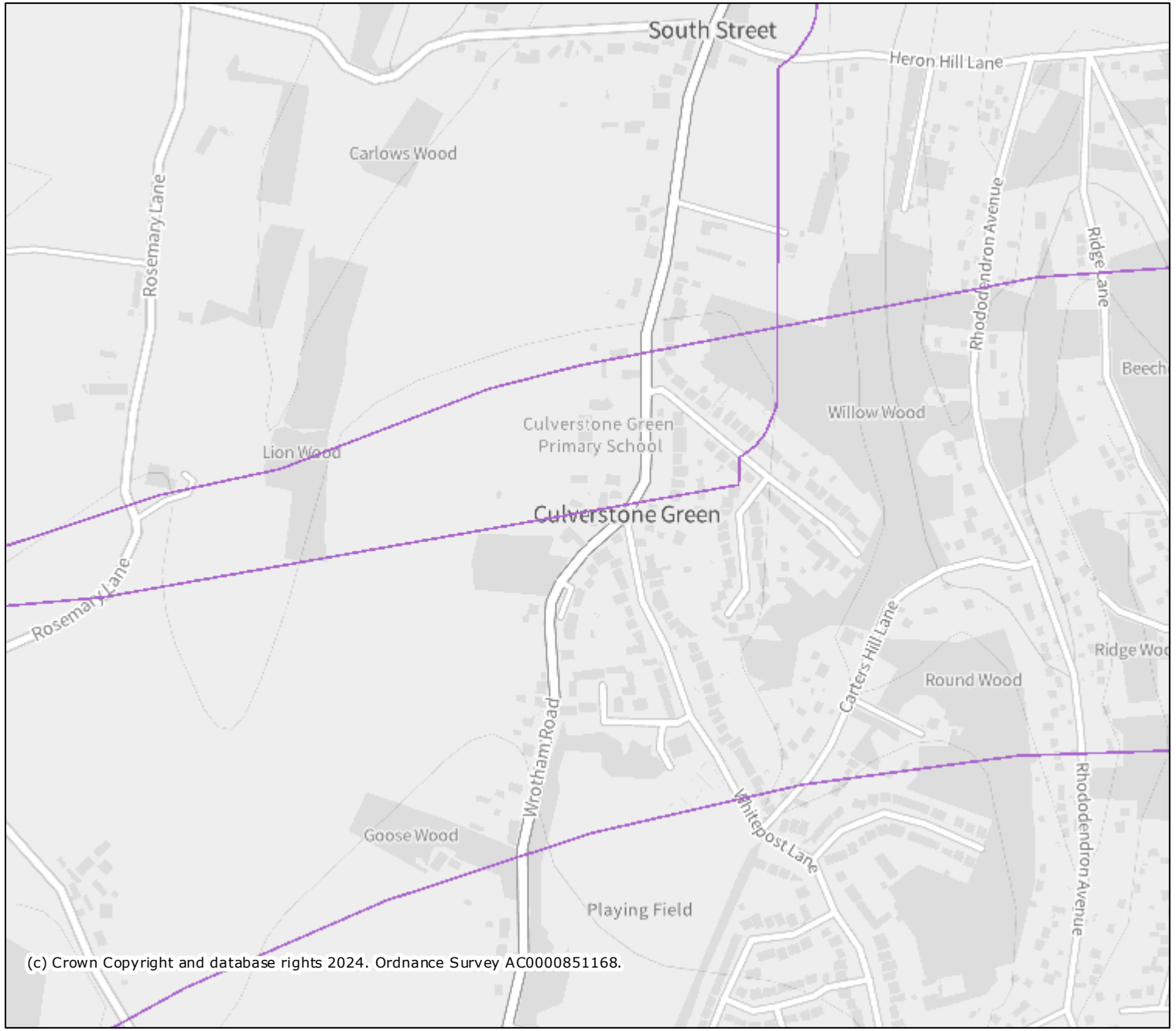
National Nature Reserves

A National Nature Reserve (NNR) is a protected area that has been designated by the UK government as a site of interest for its flora, fauna, and/or geological features. It is managed to ensure that the natural habitats and biodiversity are conserved and maintained. There are over 220 NNRs in the UK, covering over 94,000 hectares of land, and they provide important opportunities for scientific research, education, and recreation.

Site of Special Scientific Interest (SSSI)

Sites of Special Scientific Interest identify areas that have been identified as being of special interest for their wildlife or geological features. These sites are protected under the Wildlife and Countryside Act (1981) and are managed by Natural England, Scottish Natural Heritage, or Natural Resources Wales. The aim is to ensure that these areas are conserved and managed appropriately to safeguard their unique qualities.

Designated Sites



Legend

- Areas of Outstanding Natural Beauty (England)
- Local Nature Reserves (England)
- National Nature Reserves (England)
- National Parks (England)
- Ramsar Sites (England)

Sites of Special Scientific Interest Units (England)

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- Unfavourable Declining
- Part Destroyed
- Destroyed
- Not Assessed
- Sites of Special Scientific Interest (England)
- SSSI Impact Risk Zones - for LPAs to determine likely impacts on terrestrial SSSIs and when to consult Natural England
- Biosphere Reserves (England)
- Wild Bird General Licence Protected Sites Condition Zone (England)

Projection = OSGB36
xmin = 562300
ymin = 162000
xmax = 564700
ymax = 163900

0 0.1 0.2
km

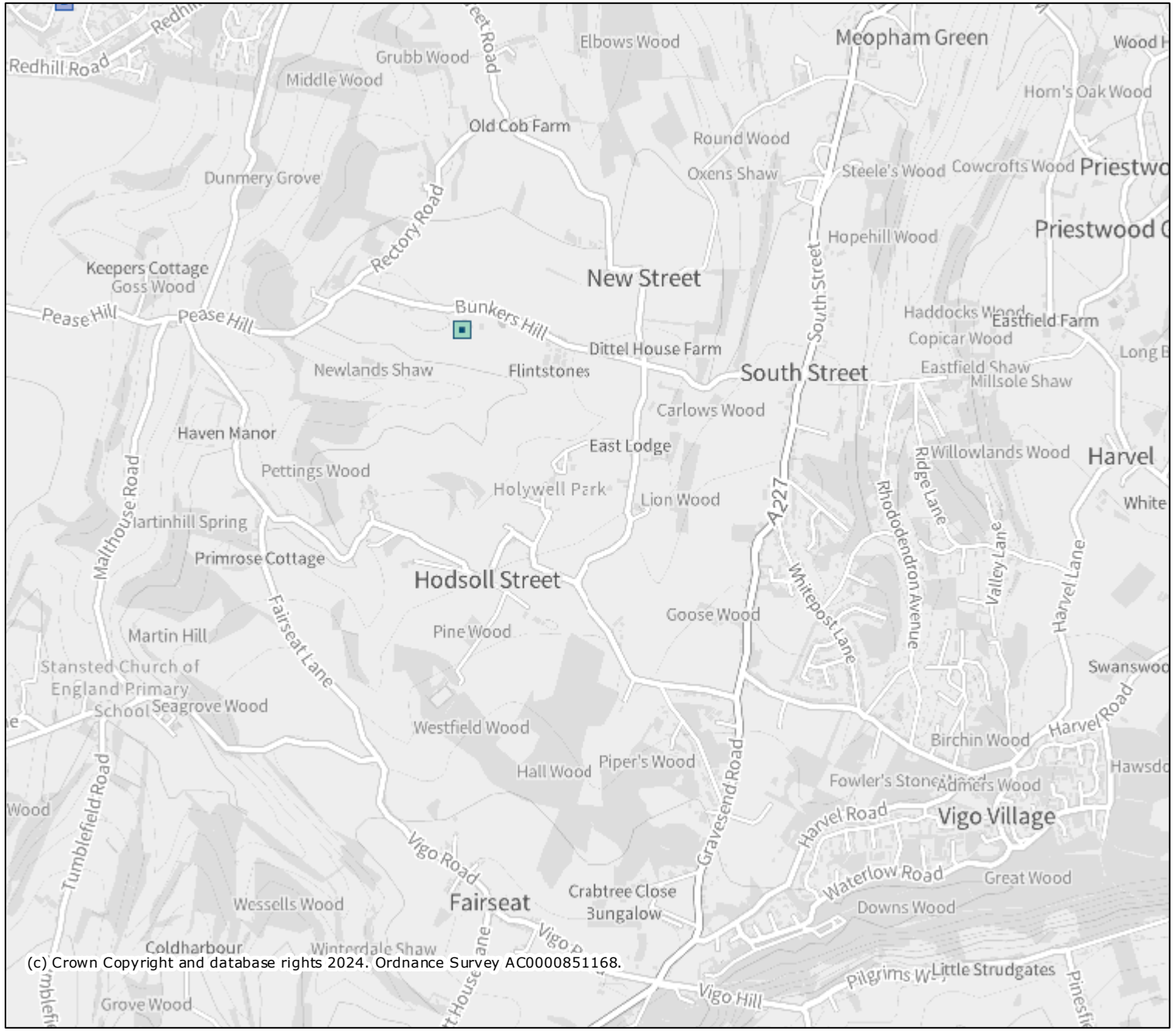
Map produced by MAGIC on 18 September, 2024.

Appendix III: European Protected Species Mitigation Licences

Source:

MAGIC (http://www.magic.gov.uk)

EPS Licences



Legend

Granted European Protected Species Applications (England)

- Amphibian
- Bat
- Cetacean
- Invertebrate
- Other Mammal
- Plant
- Reptile

Projection = OSGB36
xmin = 558800
ymin = 159900
xmax = 566700
ymax = 166100

0 0.5 1
km

Map produced by MAGIC on 18 September, 2024.

Appendix IV: Great Crested Newt Records

Source:

MAGIC (http://www.magic.gov.uk)

Great Crested Newt

Legend

- Great Crested Newt Class Survey Licence Returns (England)

Projection = OSGB36
xmin = 559000
ymin = 159700
xmax = 566800
ymax = 166000

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km

Map produced by MAGIC on 18 September, 2024.

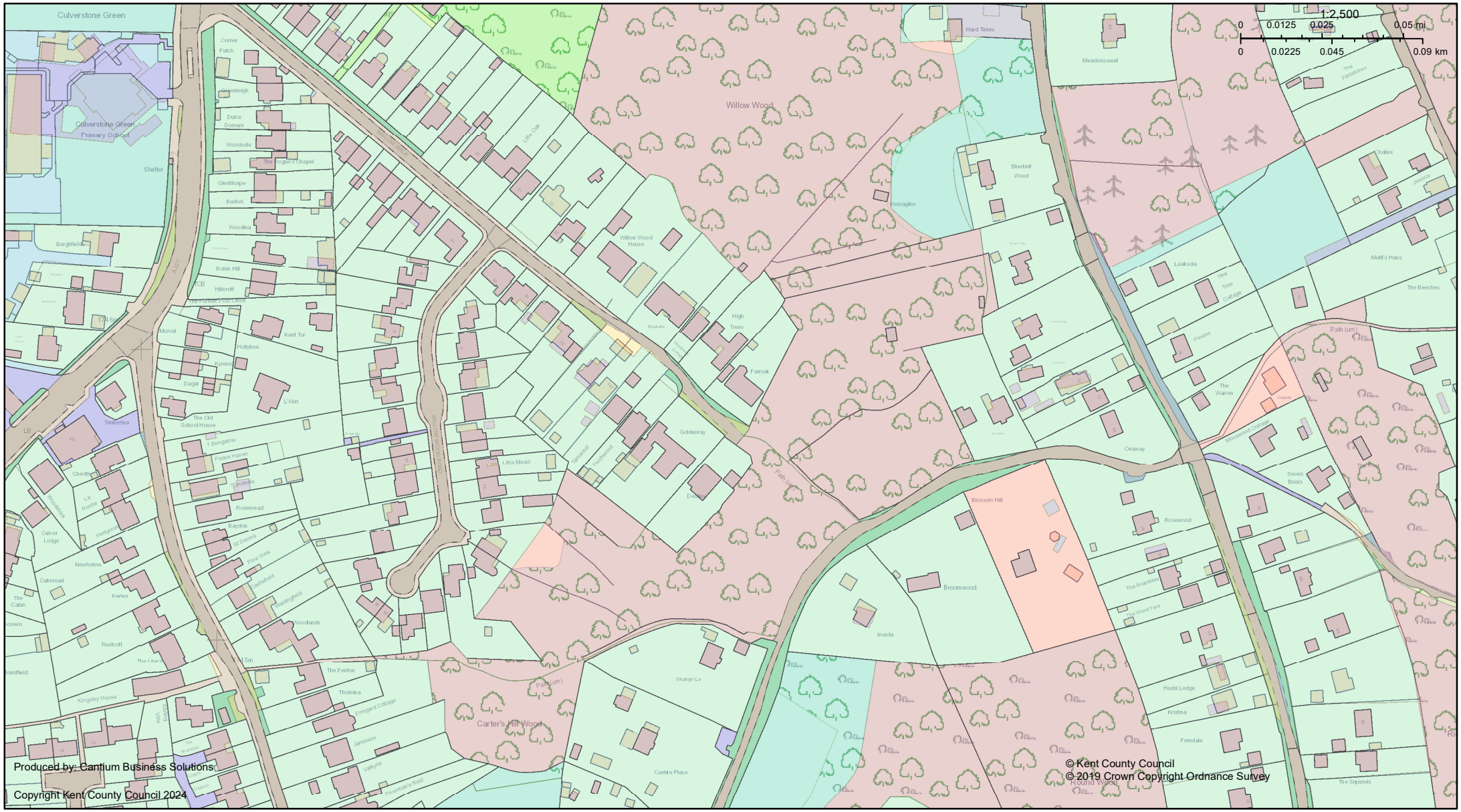
Appendix V: Kent Habitat Survey 2012

Source:

Kent Landscape Information Land System
(https://webapps.kent.gov.uk/KCC.KLIS.Web.Sites.Public/ViewMap.aspx)

KHS 2012

September 18, 2024



Legend

Kent Habitat Survey 2012

- Acid grassland
- Arable and horticulture
- Boundary and linear features
- Bracken
- Broadleaved, mixed, and yew wooland
- Built-up areas
- Calcareous grassland
- Coniferous woodland
- European dry heaths
- Fen, marsh and swamp
- Improved grassland
- Inland rock/Quarry
- Littoral Rock
- Littoral Sediment
- Maritime grassland
- Neutral grassland
- Rivers and streams
- Standing open water and canals
- Supralittoral Rock
- Supralittoral Sediment
- Traditional orchard
- Unknown terrestrial vegetation

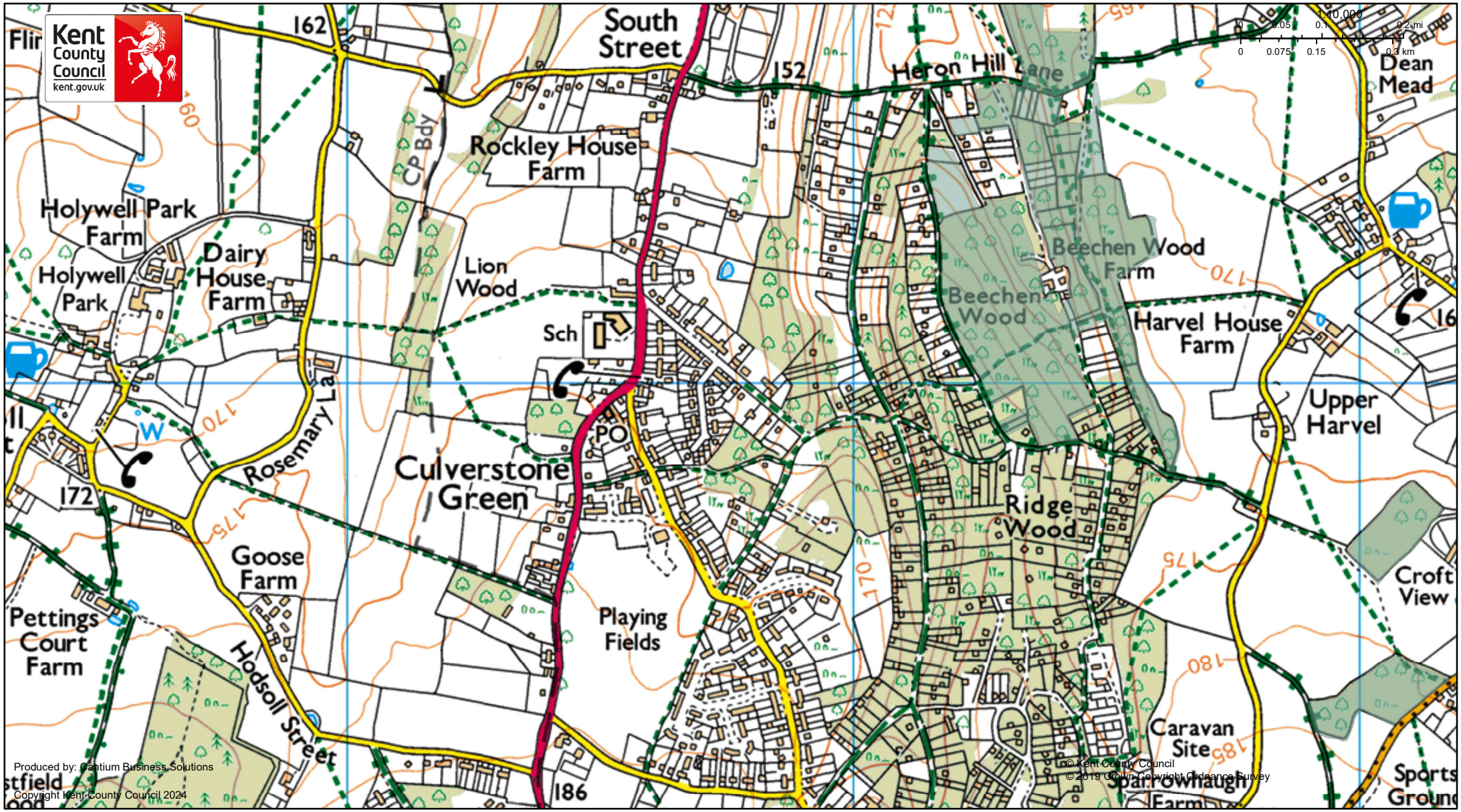
Appendix VI: Local Wildlife Sites

Source:

Kent Landscape Information Land System
(https://webapps.kent.gov.uk/KCC.KLIS.Web.Sites.Public/ViewMap.aspx)

Local Wildlife Sites

September 18, 2024



Legend

- Woodland Trust Sites
- Local Wildlife Sites
- RSPB Reserves
- Wildlife Trust Reserves

Appendix VII: Records Search

Source:

Kent Reptile and Amphibian Group

Kent Reptile and Amphibian Group

Species Risk Assessment

Enquiry No: CES/24/180

On Behalf of: Calumma Ecological Services

Search Area: Meopham

Grid Reference: TQ 638 630

Amphibians

	Likelihood of Presence	
	Score	Dist (km)
Common Frog:	**HIGH**	**0.10**
Common Toad:	**HIGH**	**0.10**
Natterjack:	n/a	70.00
Smooth Newt:	**HIGH**	**0.10**
Palmate Newt:	**HIGH**	**0.10**
Great Crested Newt:	Possible	1.75
Marsh Frog:	Possible	6.62
Alpine Newt:	n/a	15.34

Amphibian survey effort in local area is considered to be below average. Results should be interpreted with caution.

Reptiles

	Likelihood of Presence	
	Score	Dist (km)
Viviparous Lizard:	Likely	0.50
Slow-worm:	Possible	1.53
Sand Lizard:	*unlikely*	*71.31*
Grass Snake:	Likely	1.25
Adder:	Possible	1.53
Smooth Snake:	n/a	n/a

Reptile survey effort in local area is considered to be below average. Results should be interpreted with caution.

 # ponds within 1 km: 5

distance to nearest pond (km): 0.19

This risk assessment is based on a nearest neighbour analysis of records available at the time of this search request. The assessment considers habitat characteristics for each species at the landscape level, but does not control for the suitability of available habitat at the specified grid reference. The risk assessment does not include historical records and may underestimate likely presence of a species in areas with limited survey effort. The risk assessment is provided for guidance only and should not be used in place of a full herpetofauna survey.

For sites with no waterbodies where the analysis suggests that amphibians are likely to be present, individual animals may use suitable terrestrial habitat for sheltering, foraging and/or dispersal.

Kent Reptile and Amphibian Group

Search Date: 18/9/2024

info@kentarg.org
www.kentarg.org

Database search prepared by Calumma Ecological Services on behalf of Kent Reptile and Amphibian Group.

Appendix VIII: Bats and Lighting

Source:

Bat Conservation Trust and Institution of Lighting Engineers

Summary of Requirements

The two most important features of street and security lighting with respect to bats are:

1. The UV component. Low or zero UV installations are preferred to reduce attraction of insects to lighting and therefore to reduce the attraction of foraging bats to these areas.
2. Restriction of the area illuminated. Lighting must be shielded to maintain dark areas, particularly above lighting installations, and in many cases, land adjacent to the areas illuminated. The aim is to maintain dark commuting corridors for foraging and commuting bats. Bats avoid well lit areas, and these create barriers for flying bats between roosting and feeding areas.

UV characteristics:

Low

- Low pressure Sodium Lamps (SOX) emit a minimal UV component
- High pressure Sodium Lamps (SON) emit a small UV component
- White SON, though low in UV, emit more than regular SON

High

- Metal Halide lamps emit more UV than SON lamps, but less than Mercury lamps
- Mercury lamps (MBF) emit a high UV component.
- Tungsten Halogen, if unfiltered, emit a high UV component
- Compact Fluorescent (CFL), if unfiltered, emit a high UV component.

Variable

- Light Emitting Diodes (LEDs) have a range of UV outputs. Variants are available with low or minimal UV output.

Glass glazing and UV filtering lenses are recommended to reduce UV output.

Street lighting

Low-pressure sodium or high-pressure sodium must be used instead of mercury or metal halide lamps. LEDs must be specified as low UV. Tungsten halogen and CFL sources must have appropriate UV filtering to reduce UV to low levels.

Lighting must be directed to where it is needed and light spillage avoided. Hoods must be used on each lamp to direct light and contain spillage. Light leakage into hedgerows and trees must be avoided.

If possible, the times during which the lighting is on overnight must be limited to provide some dark periods. If the light is fitted with a timer this must be adjusted to reduce the amount of 'lit time' and provide dark periods.

Security and domestic external lighting

The above recommendations concerning UV output and direction apply. In addition:

- Lighting should illuminate only ground floor areas - light should not leak upwards to illuminate first floor and higher levels;
- Lamps of greater than 2000 lumens (150 W) must not be used;
- Movement or similar sensors must be used - they must be carefully installed and aimed, to reduce the amount of time a light is on each night;
- Light must illuminate only the immediate area required, by using as sharp a downward angle as possible;
- Light must not be directed at or close to bat roost access points or flight paths from the roost - a shield or hood can be used to control or restrict the area to be lit;
- Wide angle illumination must be avoided as this will be more disturbing to foraging and commuting bats as well as people and other wildlife;
- Lighting must not illuminate any bat bricks and boxes placed on buildings, trees or other nearby locations.

Calumma Ecological Services is an independent wildlife consultancy specialising in the applied conservation of amphibians and reptiles. *Calumma Ecological Services* offers a full range of specialist services to private companies, local authorities, government agencies, wildlife organisations and members of the public.

Calumma Ecological Services always works to industry good practice

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