

Preliminary Ecological Appraisal

**Shorne Mead, Pear Tree Lane,
Shorne, Kent, DA12 3JT.**

Report to:
Mrs. Dawn Coward

18th October 2023



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1. Summary

Background

- 1.1 Land at Shorne Mead has been proposed as the location of a new development project that includes demolition of an existing building and construction of a replacement dwelling.
- 1.2 Calumma Ecological Services was commissioned to undertake a preliminary ecological appraisal of the site that advises on the need for additional survey work and mitigation.

Priority Habitats

- 1.3 The proposed development site includes an existing residential property.
- 1.4 Mature trees and shrubs are located within the application area.
- 1.5 A house, garage and shed are located within the application area.
- 1.6 The site is situated within the London Area Greenbelt and close to several other areas designated for their conservation interest.**
- 1.7 Strategic solutions for recreational impacts are in place. The Local Planning Authority should be contacted for specific requirements.**
- 1.8 The site is located adjacent to designated ancient & semi-natural deciduous woodland.**

Birds

- 1.9 Structures and woody vegetation offer potential for nesting birds. Evidence of nesting birds was observed under hanging tiles of the main house. There was no evidence of nesting barn owl.
- 1.10 Care must be taken to ensure that nesting birds are not disturbed during proposed works.**

Bats

- 1.11 The main house (B1) was found to offer moderate potential for roosting bats. The garage (B2) was found to offer low potential and the shed (B3) negligible potential.
- 1.12 Bats are likely to forage and/or commute over the application area.
- 1.13 A bat emergence survey will be required for buildings B1 & B2.**
- 1.14 Any external lighting should follow appropriate guidelines to minimise disturbance to foraging bats.**

Reptiles

- 1.15 Much of the site is subject to ongoing landscaping works.
- 1.16 Remaining ground vegetation is characterised by short sward grassland that is managed on a regular basis making the site suboptimal for reptiles.

Amphibians

- 1.17 A newly constructed pond (WB1) is located within the application area.
- 1.18 WB1 is stocked with fish and offers below average potential for breeding great crested newt (HSI = 0.52).
- 1.19 Four other ponds are located within 500 m of the site boundary.
- 1.20 Proposed development work will not negatively impact the local conservation status of great crested newt nor will it impact widespread amphibian species.

Badgers

- 1.21 No evidence of badger was observed within the application area.

Hazel Dormouse

- 1.22 Available information indicates that habitat suitable for dormouse will not be disturbed by the proposed development.
- 1.23 If adjacent woodland or boundary vegetation is proposed for disturbance, additional survey work may be required for dormouse. Avoidance measures recommended.**

Beaver, Otter and Water Vole

- 1.24 Available habitat is considered unsuitable for beaver, otter or water vole.

Hedgehog

- 1.25 Hedgehog could shelter and/or forage within the local area.
- 1.26 Precautionary mitigation for hedgehog is recommended.**

Invertebrates

- 1.27 Available habitat within the proposed development area is considered to offer opportunities for widespread species of invertebrates.
- 1.28 Several logs were observed near building B3. These offer potential for the larvae of stag beetles.

Other Considerations

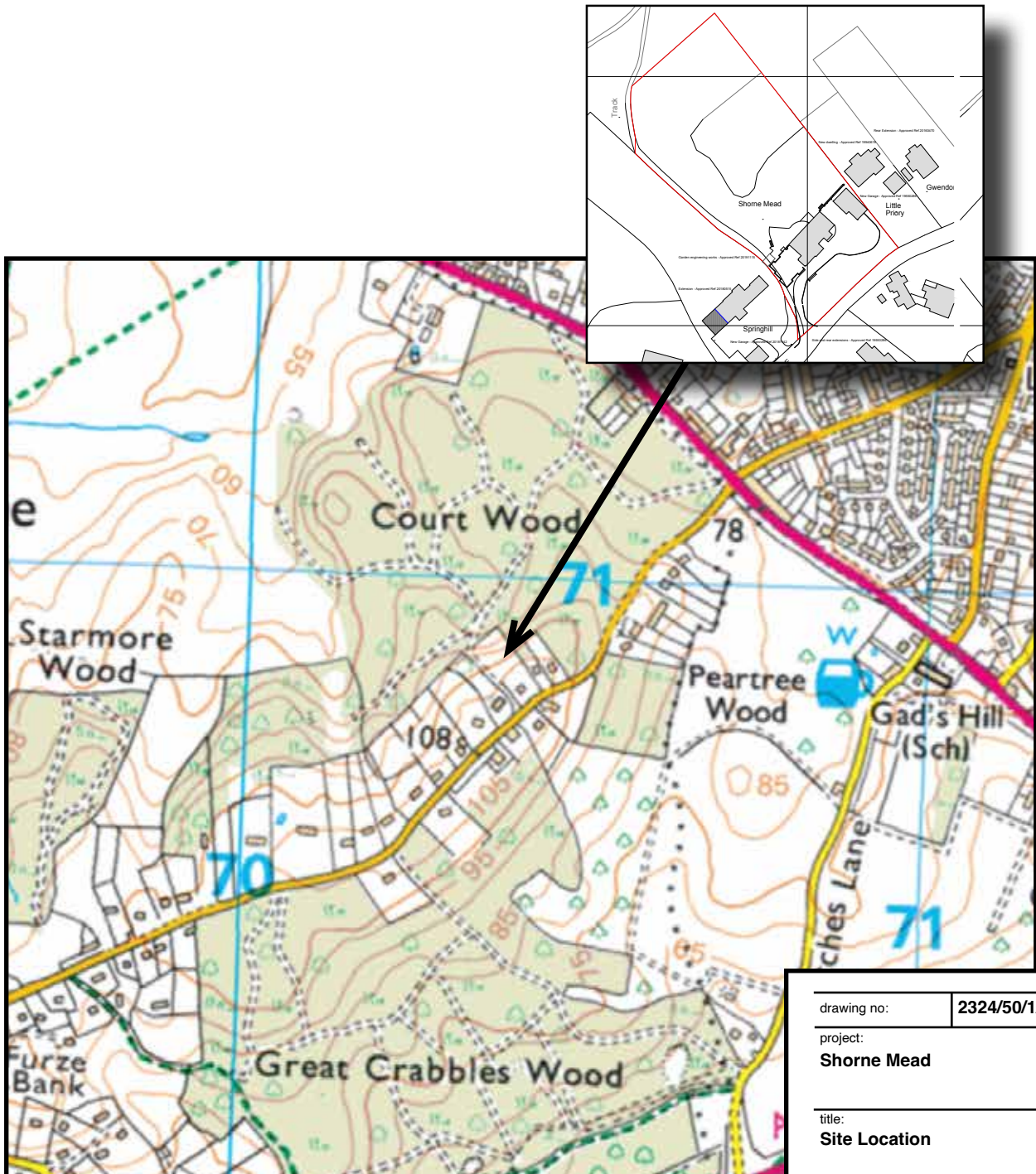
- 1.29 Appropriate biodiversity enhancement features should be included with the proposed development project.**

2. Site Location and Assessment

Site Name:	Land at Shorne Mead, Pear Tree Lane - <i>the site</i> ; Fig. 2.1
Grid Reference:	TQ 703 708
County:	Kent
Planning Authority:	Gravesham Borough Council
Planning Refs:	20230514
National Character Area:	North Kent Plain
Client:	Mrs. Dawn Coward
Proposed Disturbance:	Demolition of the existing dwelling and garage and the erection of a replacement dwelling with associated access and landscaping works.
Survey Request:	Preliminary Ecological Appraisal
Surveyor:	Lee Brady PhD, BSc (Hons), MCIEEM
Assessment Period:	12 th October 2023
Limitations:	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 one year from the date of the report.

Fig. 2.1 Land at Shorne Mead, Kent (TQ 703 708)

Location of study site.



drawing no: 2324/50/1/2.1

project:
Shorne Mead

title:
Site Location

scale: **N.T.S.**

date: **Oct 2023**



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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) 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 Environment 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;
- ☐ 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.

From January 2024, developers will be required to leave development sites 10% 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>

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).

4. Desktop Study

4.1 MAGIC Geographic Information System

<http://magic.defra.gov.uk>

4.1.1 Habitat Designations

Nearby priority habitat designations are illustrated in Appendix I.

Information available through MAGIC indicates that land within the application is situated adjacent to deciduous woodland that has been designated as ancient & semi-natural.

Other priority habitats located within the local area include:

- ☐ Traditional orchard (189 m);
- ☐ Woodpasture and parkland (1.4 km);
- ☐ Coastal and floodplain grazing marsh (2.7 km).

4.1.2 Statutory Designated Areas

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

Information available through MAGIC indicates that the proposed development site is not located within a statutory designated area.

Other statutory designated sites located nearby include:

- ☐ Great Crabbles Wood SSSI (64 m);
- ☐ North Downs AONB (1 km);
- ☐ Shorne and Ashenbank Woods SSSI (1.4 km);
- ☐ Cobham Woods SSSI (1.9 km);
- ☐ Rede Common LNR (2 km);
- ☐ Thames Estuary & Marshes Ramsar (2.3 km);
- ☐ South Thames Estuary & Marshes SSSI (2.3 km).

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 land within the proposed development site 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 (Table 4.1). Natural England will then provide advice on any potential impacts and how these might be avoided or mitigated.

The applicant is advised that strategic solutions for recreational impacts are in place. The Local Planning should be contacted for specific requirements.

Planning Category	Consult NE if Proposals Include
All Planning Applications	-
Infrastructure	Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
Wind & Solar Energy	-
Minerals, Oils & Gas	Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
Rural Non Residential	-
Residential	-
Rural Residential	-
Air Pollution	Any development that could cause AIR POLLUTION or DUST either in its construction or operation (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons & digestate stores, manure stores).
Combustion	All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
Waste	Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management.
Composting	Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
Discharges	Any discharge of water or liquid waste of more than 5m ³ /day to ground (ie to seep away) or to surface water, such as a beck or stream.
Water Supply	Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m ² or more.
Notes	Strategic solutions for recreational impacts are in place. Please contact your Local Planning Authority as they have the information to advise on specific requirements.

Table 4.1. SSSI Risk Assessment for proposed development site: When to consult Natural England.

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 for works within 2 km of the site boundary.

4.1.6 Great Crested Newt Class Survey Licence Returns

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

Information available via MAGIC reveals that in 2015 great crested newt was recorded within 2.4 km of the proposed development site.

4.2 Kent Landscape Information System (KLIS)

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

4.2.1 Kent Habitat Survey 2012

The 2012 Kent Habitat Survey characterised the study area as improved grassland.

4.2.2 Local Wildlife Sites

Information available through KLIS indicates that land within the site is situated adjacent to Court Wood, Shorne Local Wildlife Site (GR01).

4.3 Records Searches

Available records for protected species have been obtained from Kent & Medway Biological Records Centre and 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 & Medway Biological Records Centre

Information supplied by KMBRC indicates that common frog, common toad, smooth newt, palmate newt and great crested newt have been recorded within 1 km of the proposed development site (although the precision for the latter is very low meaning that the records could originate from a site more than 1 km away).

Reptiles recorded within 1 km include viviparous lizard, slow-worm, grass snake and adder. The adder record does not appear to have been validated.

Badger, otter, water vole hedgehog and hazel dormouse have been recorded within 1 km, together with the following species of bat: Daubenton's, noctule and brown long eared.

Invertebrates include stag beetle.

Notable plant species recorded within 1 km include bluebell, broad leaved cudweed, early gentian, ground pine, meadow clary and rough marsh-mallow.

4.3.2 Kent Reptile and Amphibian Group

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, smooth newt and palmate newt have previously been recorded within 1 km of the proposed development site (Appendix V). The closest validated great crested newt record was reported from a private residence located 1.1 km to the west.

Grass snake has been recorded from the local area. The closest recorded observation was reported from Rochester, 0.91 km to the east.

KRAG has prepared a summary risk assessment that describes the likely presence of herpetofauna (Table 4.2). 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
<i>Amphibians</i>	
Common Frog	HIGH
Common Toad	Possible
Natterjack	<i>n/a</i>
Smooth Newt	HIGH
Palmate Newt	HIGH
Great Crested Newt	Possible
<i>Reptiles</i>	
Viviparous Lizard	Possible
Slow-worm	Possible
Sand Lizard	Unlikely
Grass Snake	Likely
Adder	Unlikely
Smooth Snake	<i>n/a</i>

Table 4.2. 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 a private residence that is located in a rural location at Shorne within the North Kent Plain National Character Area. The site is accessed from Pear Tree Lane.

5.1.1 North Kent Plain National Character Area

5.1.1.1 Area Description

The North Kent Plain National Character Area is a fertile agricultural area between the Thames Estuary and the Kent Downs, known as the "Garden of England". It has a diverse coastline with chalk and soft cliffs, intertidal sand and mud, salt marshes, sand dunes, and shingle beaches. The area has significant urban development, including coastal towns and the influence of London and the Medway towns. Canterbury is a World Heritage Site with significant religious and architectural history.

5.1.1.2 Characteristics

The North Kent Plan is characterised by an open, low and gently undulating landscape, with high- quality, fertile, loamy soils dominated by agricultural land uses. The area's geology is dominated by Palaeogene clays and sands, underlain by the chalk. The area includes a diverse coastline (both in nature and orientation), made up of cliffs, intertidal sand and mud, salt marshes, sand dunes and shingle beaches. Much of the coastal hinterland has been built on, and the coast itself has been modified through the construction of sea walls, harbours and piers.

Large arable/horticultural fields with regular patterns and rectangular shapes predominate with a sparse hedgerow pattern. Orchards and horticultural crops characterise central and eastern areas, and are often enclosed by poplar or alder shelterbelts and scattered small woodlands. Woodland occurs on the higher ground around Blean and in smaller blocks to the west, much of it ancient and of high nature conservation interest.

The Stour and its tributaries are important features of the eastern part of the NCA, draining eastwards into the North Sea, with associated wetland habitats including areas of grazing marsh, reedbeds, lagoons and gravel pits. The River Medway cuts through the NCA as it flows into the Thames Estuary.

Other semi-natural habitats include fragments of neutral, calcareous and acid grassland, and also heathland.

The area has rich evidence of human activity from the Palaeolithic period. Key heritage assets include Roman sites at Canterbury, Reculver and Richborough; the Historic Dockyard at Chatham; military remains along the coast; and historic parks and buildings. Large settlements and urban infrastructure (including lines of pylons) are often visually dominant in the landscape, with significant development around Greater London and the Medway Towns, as well as around towns further east and along the coast. Major rail and road links connect the towns with London.

5.2 Proposed Development

Demolition of the existing dwelling and garage and the erection of a replacement dwelling with associated access and landscaping works.

The proposed development site is approx. 0.64 Ha and illustrated in Fig. 5.1.

5.3 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

A newly constructed pond is located within the application area. Four other ponds are known to be located within 500 m of the site boundary, none of which are located within 250 m.

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

5.4 Terrestrial Habitat

Land within the proposed application area includes an existing residential property bordered to the north by ancient and semi natural deciduous woodland. The rear garden was subject to landscaping works at the time of the site assessment.

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

5.5 Buildings

The development area includes a detached house (B1), garage (B2) and shed (B3).

Fig. 5.1 Proposed Development

Proposals include demolition of the existing dwelling and garage and the erection of a replacement dwelling with associated access and landscaping works.

Application area approx: 0.64 Ha.



drawing no: 2324/50/1/5.1

project:
Shorne Mead

title:
Development Area

scale: **N.T.S.**

date: **Oct 2023**



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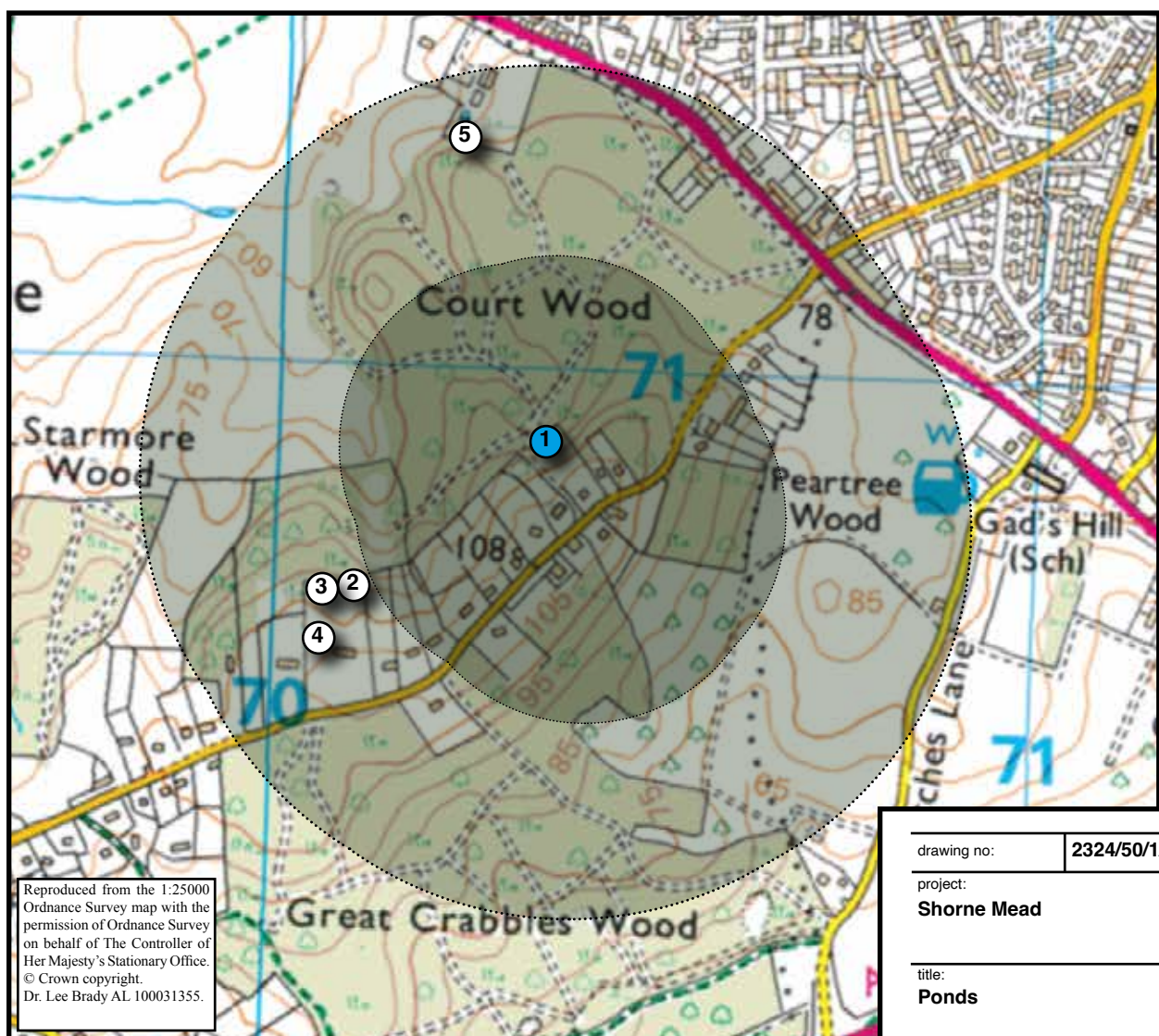
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Fig. 5.2 Ponds

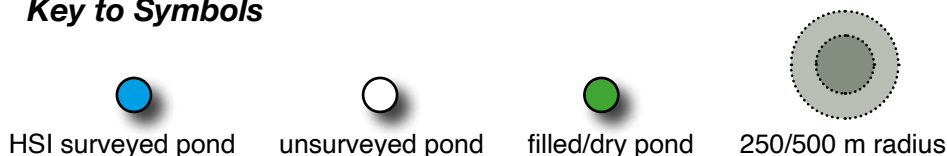
Figure illustrates ponds known to occur within recommended area of search for great crested newt.

One recently constructed pond is located within the application area. Four other ponds are 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.



Key to Symbols

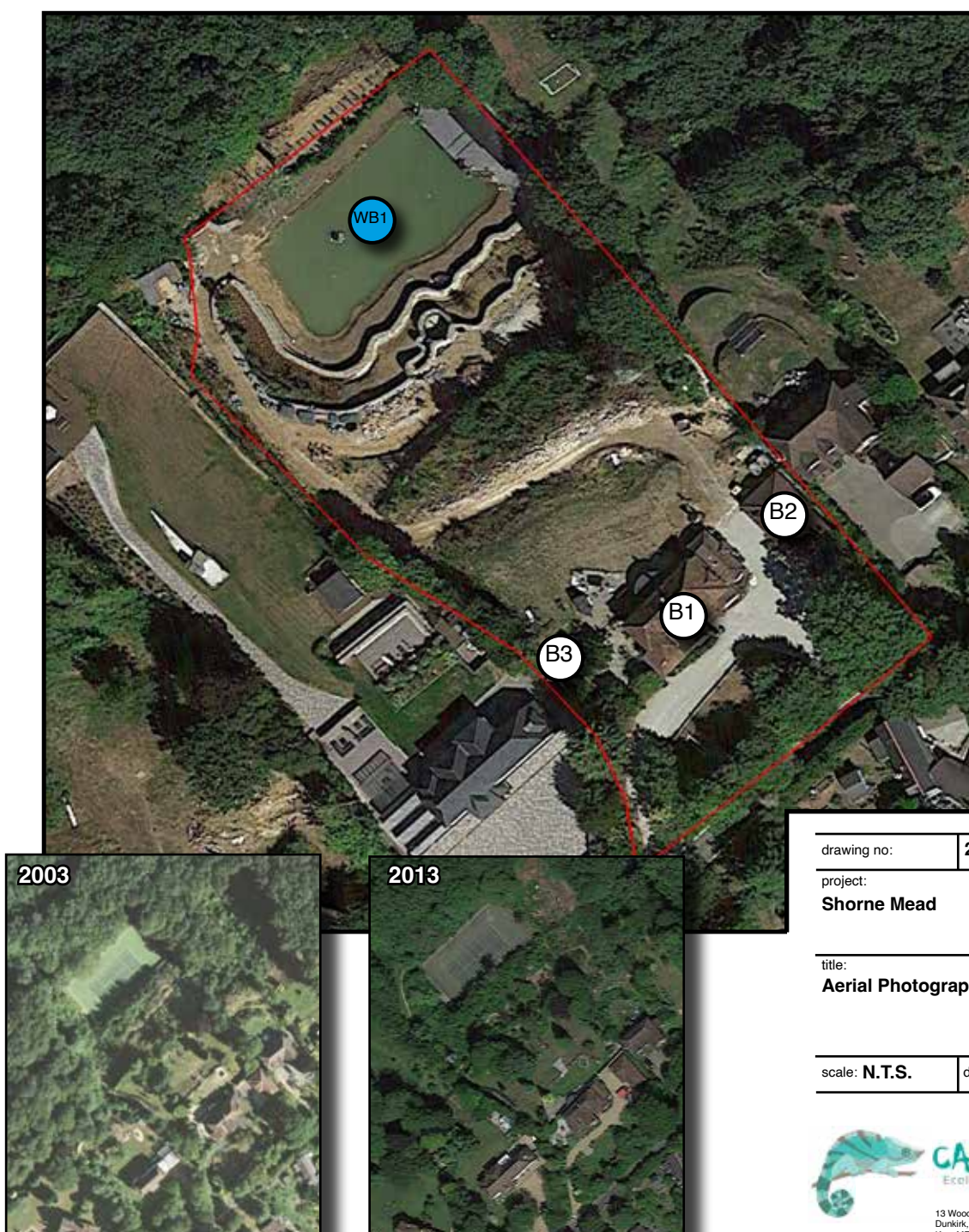


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Fig. 5.3 Aerial Photographs

Indicative location of proposed application area, illustrating existing habitat (main plate 2022).

The application area includes an existing residential property with associated garden and parking. Mature trees are present within the application area. The site is currently subject to landscaping works and a new pond has been constructed. Remaining grassland is managed as a short sward amenity lawn. The garden is bordered to the north by deciduous woodland that Natural England has designated as ancient and semi natural.



drawing no: 2324/50/1/5.3

project:
Shorne Mead

title:
Aerial Photographs

scale: **N.T.S.**

date: **Oct 2023**



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Fig. 5.4 Site Photographs

Figure illustrates habitat features located within the study area.

The proposed development site includes a residential property with main house (B1), garage (B2; left inset), shed (B3; right inset) and associated garden. Proposals include demolition of the buildings and construction of replacement dwelling.

The main house (B1) is constructed from brick with a pitched, tiled roof. There are multiple gaps under hanging tiles and the building offers moderate potential for roosting bats. The garage also displays hanging tiles with low potential for roosting bats. The shed was considered to offer negligible potential for roosting bats.



The rear garden area is currently being landscaped. A new pond has recently been constructed. A tree to the rear of the site offers potential for roosting bats (arrow).

The front garden remains undisturbed with amenity lawn and ornamental planting. Mature trees offer potential for roosting bats.

drawing no:	2324/50/1/5.4
project:	Shorne Mead
title:	Site Photographs
scale: N.T.S.	date: Oct 2023



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6. Preliminary Habitat Assessment

6.1 Habitats

Available habitat within the proposed application area includes a residential garden that is bordered to the north by deciduous woodland designated as ancient and semi natural woodland by Natural England (priority habitat). Remaining grassland within the application area is subject to regular management works and characterised by a short sward. Several mature trees are located within the site boundary.

The rear garden is subject to landscaping works and a pond has recently been constructed.

Note that a more detailed habitat condition assessment may be required if biodiversity net gain calculations are subsequently required. This assessment may need to assess the site as it was before the onset of current landscaping works.

6.2 Designated Sites

Information available through MAGIC indicates that land within the proposed development site is located within the London Area Greenbelt and situated adjacent to designated ancient woodland that forms part of Court Wood, Shorne Local Wildlife Site. The site is also located within 64 m of Great Crabbles Wood SSSI.

6.2.1 London Area Greenbelt

The London area green belt refers to a policy and designated land area surrounding Greater London. It aims to prevent urban sprawl and maintain open spaces by placing restrictions on development. The green belt serves as a buffer zone between the city and the countryside, preserving natural habitats, agricultural land, and recreational areas. It helps to protect the environment, promote sustainable development, and maintain the distinct identity of London while providing residents with access to green spaces.

6.2.2 Site of Special Scientific Interest

Sites of Special Scientific Interest (SSSI) 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 1(981) 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.

6.2.3 Ancient Woodland

Ancient woodlands in the United Kingdom are woodlands that have existed since 1600 or earlier in England, Wales, and Northern Ireland (or 1750 in Scotland). They may have been periodically cut down, but as long as the area remains woodland, it is still considered ancient. These woodlands are home to rare and threatened species and are often regarded as an irreplaceable resource.

Ancient woodlands can be designated and protected in various ways, such as Sites of Special Scientific Interest. Planning decisions that affect ancient woodlands require special consideration, and permission for development resulting in their loss will typically be refused unless the benefits clearly outweigh the loss.

The concept of ancient woodland was developed by ecologist Oliver Rackham, and it includes two sub-types: Ancient semi-natural woodland (ASNW) and Planted ancient woodland site

(PAWS). ASNW consists of native tree species with characteristic wildlife and archaeological features. PAWS refers to ancient woodlands where native species have been replaced with non-native species, often for commercial purposes. Restoration of PAWS sites has been a priority, and some restored sites are practically indistinguishable from ASNW. Ancient woodland indicator species, including plants and ecological indicators like lichens and bryophytes, help identify these woodland sites.

6.2.4 Local Wildlife Sites

Local Wildlife Sites in Kent and Medway are important for county-level wildlife conservation, covering 7% of the county. They support threatened habitats and wildlife and range from small churchyards to large grazing marshes. These sites differ from legally protected national Sites of Special Scientific Interest (SSSIs). Local Wildlife Sites fill a crucial gap in protecting local wildlife, and their importance is recognised in government policy. Their selection is based on clear criteria and expert knowledge, with the Kent Wildlife Trust managing the system.

7. Protected Species Assessment

Species/Species Group	Likely Presence	Evidence	Further Work Required?
Birds	Breeding: Likely	The site includes buildings and woody vegetation suitable for nesting birds. Evidence of roosting/nesting birds observed under hanging tiles on the main house (B1).	Nesting birds must not be disturbed.
Bats	Roosting: Likely Foraging and Commuting: Likely	The main house and garage include hanging tiles with gaps suitable for crevice roosting species.	Emergence survey required.
Reptiles	Negligible	Rear garden disturbed by ongoing landscaping works. Front garden includes only short sward grassland.	No.
Amphibians	Breeding: Negligible for great crested newt Sheltering: Low	Onsite pond stocked with fish and offers below average potential for breeding great crested newt. No other ponds known to be located within 250 m. Available terrestrial habitat provides limited potential for sheltering amphibians.	No.
Badgers	Negligible	No evidence of badgers observed.	No.
Dormouse	Low	Adjacent woodland offers habitat suitable for dormouse.	Avoidance Measures recommended.
Beaver, otter and water Vole	Negligible	Available habitat unsuitable for otter, beaver and water vole.	No.
Hedgehog	Possible	Hedgehog could occupy nearby locations.	Precautionary mitigation recommended.
Invertebrates	Widespread species: Likely	Potential for widespread invertebrates in remaining vegetated areas. Logs could support breeding stag beetle.	No survey required, but appropriate habitat enhancement recommended.

Table 7.1. 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.

7.1 Birds

Within the local area there are areas of woodland, hedgerows, gardens and agricultural fields that are expected to support a varied bird population. Buildings and trees within and close to the proposed application area are likely to support nesting birds. Evidence of roosting/nesting birds was observed under hanging tiles on the main house (B1).

No evidence of barn owl was observed within the site.

7.2 Bats

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

7.2.1 Building Inspection

A building inspection was undertaken that followed the survey guidelines recommended in The Bat Workers' Manual (Mitchell-Jones, 2004) and the Bat Conservation Trust's Good Practice Guidelines (BCT, 2016).

Features and evidence of bat use and potential considered when assessing the buildings 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;
- ☐ The presence of live or dead bats; and
- ☐ Features that have the potential to be bat roosts or to provide access to roosting opportunities within the buildings. These include missing tiles, cavities in woodwork or masonry and any crevices within the buildings.

Buildings B1 & B2 are constructed from brick with pitched roofs and partially clad with hanging tiles. Gaps beneath hanging tiles offer potential for crevice roosting bat species.

An emergence survey will be required.

Building Number	Description	Features of Bat Potential	Bat Evidence	Level of Bat Roosting Potential
B1	Main house. Brick construction with pitched, tiled roof. Partially clad with hanging tiles.	Multiple gaps beneath hanging tiles.	None observed.	Moderate.
B2	Garage. Brick construction with pitched, tiled roof. Partially clad with hanging tiles.	Gaps beneath hanging tiles.	None observed.	Low.
B3	Brick shed.	None observed.	None observed.	Negligible.

Table 7.2. Buildings and structures within the site.

7.2.2 Trees

Trees located within the application area were considered to offer low to moderate potential for roosting bats. Available information indicates that trees suitable for roosting bats will not be disturbed. If any trees are subsequently proposed for removal/disturbance a follow up bat assessment should be undertaken.

7.3 Reptiles

At the time of the site assessment the rear garden was subject to landscaping works resulting in significant ground disturbance. Remaining ground vegetation is generally short and managed on a regular basis.

7.4 Amphibians

A newly constructed pond is located within the area. Four other ponds are known to be located within 500 m of the site boundary, none of which are located within 250 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.

7.4.1 Great Crested Newt Habitat Suitability Assessment

The likely presence of great crested newt in the pond located within the site boundary has been assessed by examination of aquatic variables such as presence of fish, waterfowl and water quality. These data have been used to calculate a 'Habitat Suitability Index' (HSI; after

Oldham et. al., 2000). The HSI is represented by a number from 0 to 1, the higher the number the higher the quality of habitat and the more likely each pond is to support breeding great crested newt. A pond with a score of 0.7 or higher is typically considered to represent a likely breeding pond. In order to facilitate interpretation of a waterbody's HSI, calculated scores are accompanied by a subjective description that reflects pond quality and the likely presence of great crested newt (ARG UK, 2010).

WB1 is a newly created ornamental pond that is reportedly stocked with fish. WB1 was considered to offer *below average* potential for great crested newt (HSI = 0.52) and considered unsuitable for breeding.

7.4.2 Great Crested Newt Risk Assessment

Natural England has a risk map for Kent that predicts the likelihood of newts being present within a proposed development site. The application area is located in a *Green* risk zone. Note that the boundaries of different risk zones are periodically reassessed by Natural England.

"Red zones contain key populations of GCN, which are important on a regional, national or international scale and include designated Sites of Special Scientific Interest for GCN. Amber zones contain main population centres for GCN and comprise important connecting habitat that aids natural dispersal. Green zones contain sparsely distributed GCN and are less likely to contain important pathways of connecting habitat for this species. White zones contain no GCN."

Natural England has also published a risk assessment tool for determining whether development activities are likely to result in significant disturbance to great crested newt (Natural England, 2008). Natural England advise:

"This risk assessment tool has been developed as a general guide only, and it is inevitably rather simplistic. It has been generated by examining where impacts occurred in past mitigation projects, alongside recent research on newt ecology. It is not a substitute for a site-specific risk assessment informed by survey. In particular, the following factors are not included for sake of simplicity, though they will often have an important role in determining whether an offence would occur: population size, terrestrial habitat quality, presence of dispersal barriers, timing and duration of works, detailed layout of development in relation to newt resting and dispersal. The following factors could increase the risk of committing an offence: large population size, high pond density, good terrestrial habitat, low pre-existing habitat fragmentation, large development footprint, long construction period. The following factors could decrease the risk: small population size, low pond density, poor terrestrial habitat, substantial pre-existing dispersal barriers, small development footprint, short construction period. You should bear these mitigating and aggravating factors in mind when considering risk.."

The following calculations indicate the risk of disturbance based on the below average potential of the newly created onsite pond and assumes that at least one of the offsite ponds located within 500 m is occupied by breeding newts.

Based on available information, the size of the application area, quality of available aquatic/terrestrial habitat and distance from the closest offsite pond means that there is unlikely to be a negative impact on the favourable conservation status of great crested newt.

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)	No effect	0
Land >250m from any breeding pond(s)	0.5 - 1 ha lost or damaged	0.03
Individual great crested newts	No effect	0
Maximum:		0.03
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

"Green: offence highly unlikely" indicates that the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed. Therefore, no licence would be required. However, bearing in mind that this is a generic assessment, you should carefully examine your specific plans to ensure this is a sound conclusion, and take precautions (see **Non-licensed avoidance measures** tool) to avoid offences if appropriate. It is likely that any residual offences would have negligible impact on conservation status, and enforcement of such breaches is unlikely to be in the public interest.

7.4.3 Other Widespread Amphibian Species

Common frog, common toad, smooth newt and palmate newt are likely to breed in nearby ponds, including those in residential gardens and ponds supporting fish.

The proposed development is not considered likely to have a significant negative impact on the local conservation status of widespread amphibian species.

7.5 Badgers

No evidence of badger was observed within the application area.

7.6 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.

The proposed development site is situated adjacent to habitat that could support dormouse. Avoidance measures are recommended to ensure that adjacent areas of suitable habitat are not disturbed.

7.7 Beaver, Otter and Water Vole

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

7.8 Hedgehog

Hedgehog could be present in the local area. Available habitat offers potential foraging and sheltering habitat for hedgehog.

Precautionary mitigation for hedgehog is recommended.

7.9 Invertebrates

Available habitat within the application area is considered to offer opportunities for common and widespread invertebrates. Logs present within the site could support the larvae of stag beetle.

Although additional survey work for invertebrates is not considered necessary, appropriate habitat enhancement is recommended to promote biodiversity interest within the site.

8. 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, all works should first be discussed and agreed with a suitably experienced ecologist.

8.1 Habitats

8.1.1 Ancient Woodland

The proposed development is located adjacent to an area of designated ancient woodland. Appropriate mitigation to ensure there 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 should include drawings to illustrate how the development will avoid negative impacts on the ancient woodland, with the 15 m buffer-zone clearly illustrated.

For more information see:

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

8.1.2 Trees

Where proposals are likely to be in close proximity to mature 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.

8.2 Birds

8.2.1 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.

8.2.2 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 those for house sparrow and blue/great tit that can be attached to the new house..

In addition, two to four swift nest bricks should be installed at least 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 proposed new building is unsuitable for bricks swift nesting boxes should be installed instead.

For more information see:

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

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

<https://www.rspb.org.uk/get-involved/activities/nature-on-your-doorstep/garden-activities/create-a-high-home-for-swifts/>

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

8.3 Bats

8.3.1 Bat Survey

The house (B1) was considered to offer moderate potential for roosting bats. The garage (B2) 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. The house should be subject to two emergence survey(s) in accordance with BCT Guidelines (2016). One survey is required for the garage. The surveys should be carried out during the optimum season from May to August. If bats are found to be using a building, further surveys may be required, as per current guidelines (BCT, 2016), to provide sufficient information to inform a European Protected Species Mitigation Licence from Natural England. At least 2 weeks gap should be left between each survey.

For more information see:

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

8.3.2 Bat Boxes

The applicant should consider installing bat boxes in suitable locations. Provisionally, it is recommended that at least one Kent Bat Box/Schwegler 1FF Bat Box or similar (dependent upon availability) should be installed on the proposed buildings or retained trees. 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 confirmed after completion of survey work and included with the application.

For more information on Kent Bat Boxes see:

<http://www.kentbatgroup.org.uk/kent-bat-box.pdf>

8.3.3 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 VI).

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

8.4 Hazel Dormouse

8.4.1 Avoidance Measures

Adjacent areas of woodland and woody vegetation along boundaries should not be disturbed. If habitat is subsequently proposed for removal or likely to be damaged, survey work to confirm the presence or likely absence of dormouse is recommended.

If dormouse is found to occupy habitat that will be damaged/removed within the proposed development site a European Protected Species Mitigation Licence from Natural England will be required before such habitat can be disturbed.

8.5 Hedgehogs

8.5.1 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.

8.5.2 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.

8.6 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 to achieve net gain 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;
- ☐ Bat roosting boxes;
- ☐ Landscaping proposals should include appropriate management of retained trees and boundary vegetation to protect and enhance biodiversity value;
- ☐ Non-native species such as laurel could be replaced by native trees/shrubs;
- ☐ Where appropriate, ecologically sympathetic soft landscaping that provides shelter and nectar for invertebrates such as bees;
- ☐ If appropriate, bee bricks can be included within the construction of the new house;
- ☐ Native hedgerow planting along appropriate site boundaries;
- ☐ Retention of log piles to provide breeding habitat for stag beetles;
- ☐ Green roofs and walls where appropriate.

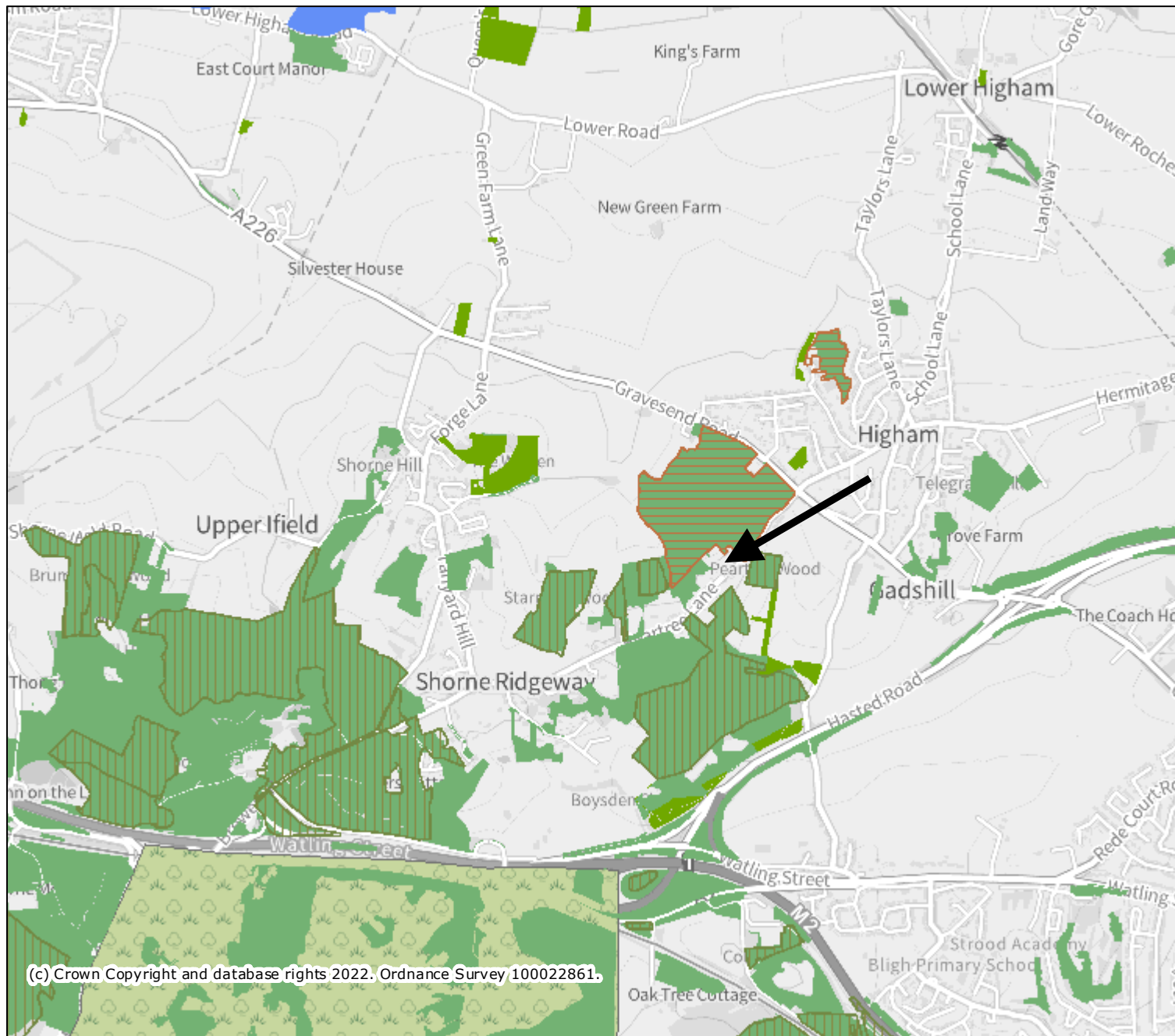
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Appendix I: Habitat Designations

Source:

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



Legend

-  Priority Habitat Inventory - Calaminarian Grassland (England)
-  Priority Habitat Inventory - Coastal and Floodplain Grazing Marsh (England)
-  Priority Habitat Inventory - Good quality semi-improved grassland (Non Priority) (England)
-  Priority Habitat Inventory - Lowland Calcareous Grassland (England)
-  Priority Habitat Inventory - Lowland Dry Acid Grassland (England)
-  Priority Habitat Inventory - Lowland Meadows (England)
-  Priority Habitat Inventory - Lowland Heathland (England)

Ancient Woodland (England)

-  Ancient and Semi-Natural Woodland
-  Ancient Replanted Woodland
-  Priority Habitat Inventory - Deciduous Woodland (England)
-  Priority Habitat Inventory - Traditional Orchards (England)
-  Woodpasture and Parkland BAP Priority Habitat (England)

Projection = OSGB36

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xmin = 565300
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ymin = 168200
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xmax = 574400
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ymax = 173800
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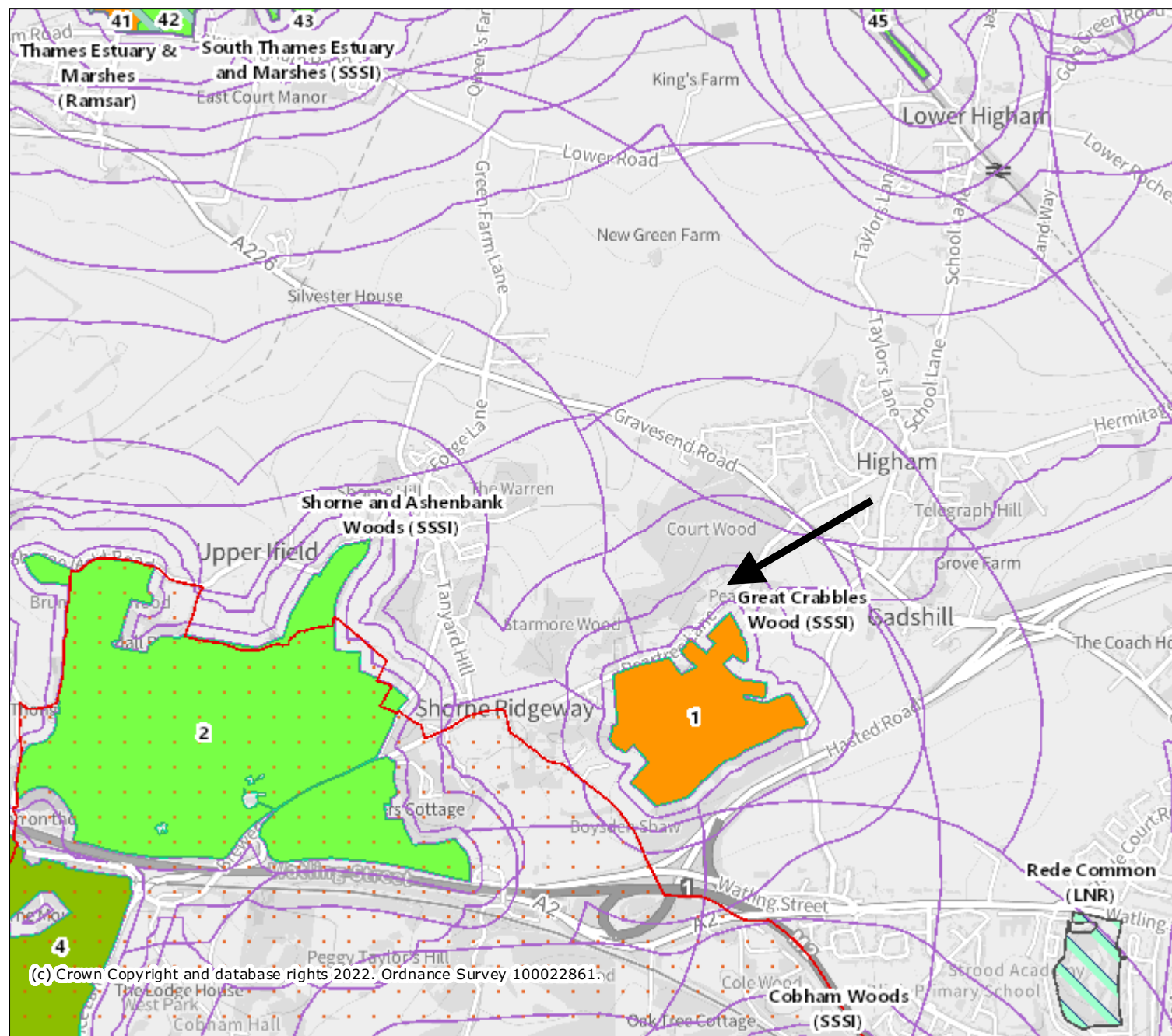
Map produced by MAGIC on 18 October, 2023.

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Appendix II: Land Designations

Source:

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



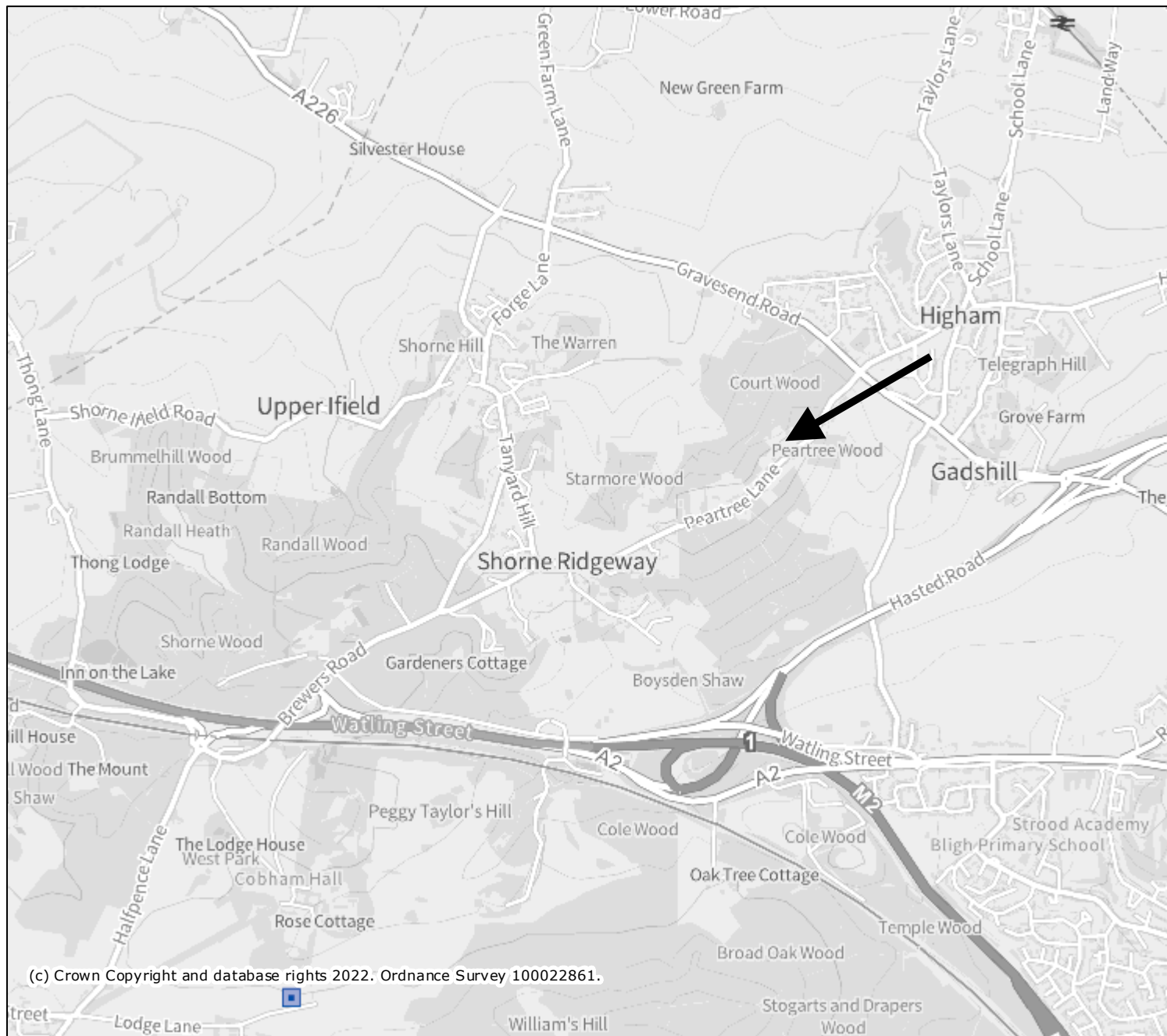
Legend

- | | |
|---|---|
| Areas of Outstanding Natural Beauty (England) | Destroyed |
| Local Nature Reserves (England) | Not Assessed |
| National Nature Reserves (England) | Sites of Special Scientific Interest (England) |
| National Parks (England) | SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England) |
| Ramsar Sites (England) | Special Areas of Conservation (England) |
| Sites of Special Scientific Interest Units (England) | |
| Favourable Condition | Special Protection Areas (England) |
| Unfavourable Recovering | Biosphere Reserves (England) |
| Unfavourable no change | Community Forests (England) |
| Unfavourable Declining | RSPB Reserves (GB) |
| Part Destroyed | |

Appendix III: European Protected Species Mitigation Licences

Source:

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



Legend

Granted European Protected Species Applications (England)

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

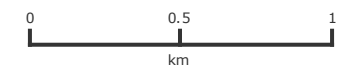
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ymax = 173200



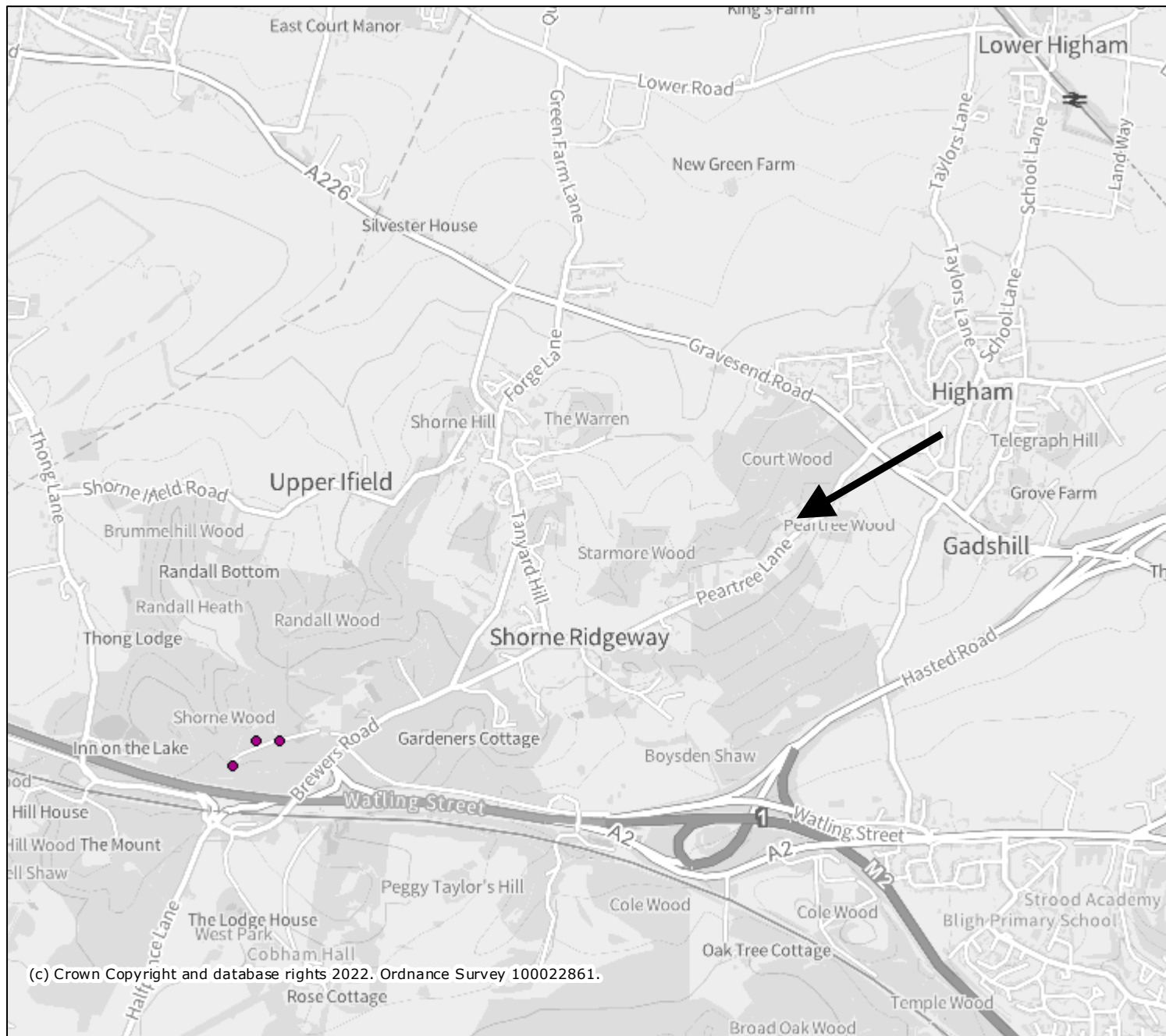
Map produced by MAGIC on 18 October, 2023.

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Appendix IV: Great Crested Newt Records

Source:

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



Appendix V: Record Search Results

Source:

Sussex Biological Records Centre

Species Risk Assessment

Enquiry No: CES/23/253
 On Behalf of: Calumma Ecological Services
 Search Area: Shorne
 Grid Reference: TQ 703 708

Amphibians

	<u>Likelihood of Presence</u>	
	<u>Score</u>	<u>Dist (km)</u>
Common Frog:	HIGH	0.71
Common Toad:	Possible	2.28
Natterjack:	n/a	64.01
Smooth Newt:	HIGH	0.28
Palmate Newt:	HIGH	0.28
Great Crested Newt:	Possible	1.10
Marsh Frog:	Possible	2.50
Alpine Newt:	n/a	17.66

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

Reptiles

	<u>Likelihood of Presence</u>	
	<u>Score</u>	<u>Dist (km)</u>
Viviparous Lizard:	Possible	1.82
Slow-worm:	Possible	1.93
Sand Lizard:	unlikely	65.39
Grass Snake:	Likely	0.91
Adder:	unlikely	4.74
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: 9
 distance to nearest pond (km): 0.31

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: 18/10/2023

info@kentarg.org
 www.kentarg.org

Appendix VI: 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

For more details please contact:

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