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# Preliminary Ecological Appraisal Report

Land off Lime Avenue, Camberley, Surrey

Client	Norris Hope-Ross
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## Quality Assurance

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## Document History

Version	Date	Revision
1	14/01/2019	Issued to the client.

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The summary of wildlife legislation provided is for general guidance only and does not in any way provide legal opinion or a definitive statement of the law. For detailed information, the legislation itself should be reviewed and a legal professional consulted.

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The evidence in this document is based upon the field survey(s) detailed. Due to the changing nature of ecology the list of species present cannot be considered comprehensive and Smart Ecology cannot guarantee that other protected/notable species and habitats are not present.

The ecology of a site is constantly changing and therefore the information provided in this document is only relevant at the time of survey. If it has been over 12 months since this survey was undertaken advice should be sought on whether an updated survey is necessary.

The evidence which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

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# Non-Technical Summary

<b>Purpose of Report</b>	Smart Ecology was commissioned by Norris Hope-Ross to undertake a Preliminary Ecological Appraisal of Land off Lime Avenue, Camberley, Surrey GU15 2BS. This was to inform a planning application to Surrey Heath Borough Council, for the erection of two new residential properties, which would require demolition of the existing residential building and garage and removal of bare ground, hardstanding and introduced shrubs. It is understood that the trees and species-poor hedgerows would be retained.		
<b>Methodology</b>	A desk study, extended Phase 1 habitat survey, and preliminary bat roost assessment of on-site buildings were undertaken.		
<b>Ecological Feature</b>	<b>Potential/Anticipated Impacts without Mitigation</b> (refer to Section 5)	<b>Required Surveys</b> (refer to Section 6.1)	<b>Mitigation</b> (refer to Section 6.2)
Scattered trees	Damage to retained trees during works.	None.	Retain and protect trees where possible. Compensatory native tree planting if any trees are removed.
Species-poor hedgerows	Damage to retained hedgerows during works.	None.	Protect hedgerows during works.
Bats	Demolition of the residential building could destroy bat roosts and kill, injure, and disturb bats if present at the time of works. Artificial illumination of yew tree (TN2) could impact upon roosting bats. Artificial illumination of trees and hedgerows could disturb foraging and commuting bats.	One emergence/re-entry survey of the residential building.	Any required mitigation would be advised on completion of the survey. Retain yew tree, if removal is necessary follow soft fell procedure. Avoid artificial light spill onto retained trees and hedgerows.
Badger and hedgehog	Injury/death if animals become trapped in excavations/pipework during construction.	None.	Cover excavations or provide a ramp overnight. Cap pipework overnight.
Birds	Damage/destruction of active nests (if present) if buildings demolished or trees and introduced shrubs removed during the nesting season (which is typically March to August inclusive).	None.	Remove trees and shrubs and demolish buildings outside of the nesting season. If this is not possible then these must be checked by an ecologist for active nests before removal.
Amphibians and reptiles	Injury/death during site clearance or if animals become trapped in excavations during construction.	None.	Clear log piles by hand. Cover excavations or provide a ramp overnight. Cap pipework overnight.
<b>Conclusions</b>	The proposed development would not impact upon any designated sites or protected habitats. As the residential building had low suitability for roosting bats one emergence/re-entry survey is required to ascertain whether bats roost within the building. If bats are found to be roosting within the building, then additional surveys may be required to provide further information on the number of bats present and roost status (e.g. maternity). For all other protected and notable species the site had negligible/low value and no significant impacts are likely if the mitigation measures provided in this report are implemented. The recommended enhancements (see Section 6.3) would meet the requirements of the NPPF to seek a net biodiversity gain.		



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# 1 Introduction

## 1.1 Background

- 1.1.1 Smart Ecology was commissioned by Norris Hope-Ross to undertake a Preliminary Ecological Appraisal of Land off Lime Avenue, Camberley, Surrey, GU15 2BS (central grid reference SU 89066 60459). Refer to Figure 1, Section 9 for a site location map.
- 1.1.2 This was to inform a planning application to Surrey Heath Borough Council for the erection of two new residential properties. This would require demolition of an existing residential building and garage, and removal of bare ground, hardstanding, and introduced shrubs. It is understood that trees and species-poor hedgerows would be retained.
- 1.1.3 This report has been prepared by Rachel Barber, director at Smart Ecology and full member of the Chartered Institute of Ecology and Environmental Management (CIEEM), with reference to CIEEM's Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017a), Guidelines for Ecological Report Writing (CIEEM, 2017b) and BS42020 Biodiversity – a code of practice for planners and developers (BSI, 2013).

## 1.2 Site Context

- 1.2.1 The site is approximately 0.2 ha and is located within the residential area of Camberley. It consists of a single-storey residential building, garage and gardens. At the time of survey the gardens comprised bare ground with scattered trees and stands of introduced shrubs around the boundary. The M3 motorway is located approximately 170 m south-south-east of the site.

## 1.3 Purpose of Report

- 1.3.1 The purpose of this report is to:
- Identify any statutory<sup>1</sup> designated sites on or close to the site.
  - Provide an ecological baseline for the site including habitats and the presence of, and potential for, protected<sup>2</sup> and notable<sup>3</sup> species.
  - Identify any potential impacts on designated sites, habitats, and species.
  - Provide recommendations for further required surveys, mitigation, and enhancements.

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<sup>1</sup> Statutory designated sites are those protected by legislation and include Ramsar, Special Protection Areas (SPA), Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), and Local Nature Reserves (LNR).

<sup>2</sup> Legally protected species include species afforded protection by the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).

<sup>3</sup> Notable species include priority species listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, UK red data book species, and Birds of Conservation Concern (BoCC).



## 2 Legislation and Planning Policy

### 2.1 Legislation

2.1.1 Certain species and habitats are legally protected in the UK by legislation. The main pieces of legislation are:

- The Conservation of Habitats and Species Regulations 2017.
- Wildlife and Countryside Act 1981 (as amended).
- Natural Environment and Rural Communities (NERC) Act 2006.
- Protection of Badgers Act 1992.
- Wild Mammals (Protection) Act 1996.
- The Hedgerows Regulations 1997.

2.1.2 The implications of this legislation with regard to species present, or potentially present, on or close to the site are provided in Table 2-1.

2.1.3 Only a brief summary of wildlife legislation relevant to the site is provided here for general guidance and should not be considered a definitive statement of the law. For detailed information the legislation itself should be consulted.

#### The Conservation of Habitats and Species Regulations 2017

2.1.4 These Regulations transpose the EU Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law. The Regulations require the designation and protection of European Sites (Special Areas of Conservation (SAC) and Special Protection Areas (SPA)) and the protection of European Protected Species (EPS).

**2.1.5 It will be necessary to determine whether any European Sites or EPS may be impacted, either directly or indirectly, by the proposed development.**

#### Wildlife and Countryside Act (WCA) 1981 (as amended)

2.1.6 This Act implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Directive) and the EU Directive 79/409/EEC on the conservation of wild birds (Birds Directive)<sup>1</sup>.

2.1.7 The Act provides protection to a range of animal and plant species. It also requires sites with special wildlife or geological interest to be designated nationally as Sites of Special Scientific Interest (SSSI).

**2.1.8 It will be necessary to consider whether the proposed development would have any direct or indirect impacts on any SSSI or species listed in relevant schedules of the Act.**

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<sup>1</sup> Now replaced by Directive 2009/147/EC of the European Parliament and of the Council of 30<sup>th</sup> November 2009 on the conservation of wild birds.



### Natural Environment and Rural Communities (NERC) Act 2006

2.1.9 Section 40 of this Act places a duty on public authorities to ‘have regard’ to conserving biodiversity when determining planning applications. Section 41 of the Act requires the Secretary of State to publish a list of species and habitats of principal importance to biodiversity (priority species and habitats). The local planning authority must ‘have regard’ to conserving these species when determining a planning application. The development would need to mitigate for any impacts on priority habitats and species.

**2.1.10 The proposed development would need to mitigate for any impacts on priority habitats and species.**

### Protection of Badgers Act 1992

2.1.11 This Act provides specific protection for badgers and their setts from harm and disturbance.

**2.1.12 The proposed development would need to mitigate for any impacts on badger setts and foraging and commuting habitat.**

### Wild Mammals (Protection) Act 1996

2.1.13 This Act makes it an offence to intentionally inflict unnecessary suffering on a wild mammal through mutilation, kicking, beating, nails, impaling, stabbing, burning, stones, crushing, drowning, dragging, or asphyxiation.

**2.1.14 Care would have to be taken during the construction phase of the proposed development to ensure that unnecessary suffering is not inflicted.**

### The Hedgerows Regulations 1997

2.1.15 These Regulations protect most hedgerows from removal unless permissioned by a local planning authority and provide historic and ecological criteria for defining important hedgerows. The local planning authority can only refuse permission to remove a hedgerow under the Hedgerows Regulations 1997 if a hedgerow is assessed to be important.

**The proposed development should aim to retain and protect hedgerows and mitigate for impacts.**

Table 2-1: Legal implications of legislation with regard to species present, or with potential to be present, on or in close proximity to the site

Legislation	Species	Legal Implications
Conservation of Habitats and Species Regulations 2017	Bats	It is illegal to: <ul style="list-style-type: none"> <li>Deliberately capture, injure or kill bats.</li> <li>Deliberately disturb<sup>1</sup> bats.</li> <li>Damage or destroy a breeding site or resting place.</li> </ul>
Wildlife and Countryside Act 1981 (as amended) – sub-sections 9(4) b and c and 9(5) only	Bats	It is illegal to: <ul style="list-style-type: none"> <li>Intentionally or recklessly disturb bats while they are occupying a structure or place of shelter or protection.</li> <li>Intentionally or recklessly obstruct access to a structure or place of shelter or protection.</li> </ul>



Legislation	Species	Legal Implications
Wildlife and Countryside Act 1981 (as amended)	Birds	<p>It is illegal to intentionally:</p> <ul style="list-style-type: none"> <li>• Kill, injure or take any wild bird.</li> <li>• Take, damage or destroy a wild bird's nest while it is in use or being built.</li> <li>• Take or destroy the eggs of any wild bird.</li> </ul> <p>There is additional protection for birds listed on Schedule 1 (S1) of the Act, which includes barn owls, whereby it is an offence to intentionally or recklessly disturb a S1 bird while it is building a nest or in or near a nest containing eggs or young, and disturb dependent young of a S1 bird.</p>
Protection of Badgers Act 1992	Badgers	<p>It is illegal to:</p> <ul style="list-style-type: none"> <li>• Wilfully capture, kill or injure a badger.</li> <li>• Damage, destroy or obstruct access to setts.</li> <li>• Disturb badgers in setts.</li> </ul>
Wildlife and Countryside Act 1981 (as amended) – sub-sections 9(1) (partial) and 9(5) only	Common reptile species <sup>2</sup>	<p>It is illegal to:</p> <ul style="list-style-type: none"> <li>• Intentionally or recklessly kill or injure these species.</li> </ul>

<sup>1</sup>Disturbance under the Conservation of Habitats and Species Regulations 2017 is defined as impairing the ability of an animal to survive, breed, reproduce, rear or nurture their young, hibernate or migrate, or to significantly affect the local distribution or abundance of the species.

<sup>2</sup>Common reptile species are common lizard, slow worm, grass snake, and adder.

2.1.16 In addition, several species which could be present on the site are listed as species of principal importance (priority species) under Section 41 of the NERC Act, which places a requirement on local planning authorities to 'have regard' to conserving these species. Species of principal importance with potential to occur on this site include bat, bird and reptile species, hedgehog, and common toad.

## 2.2 Planning Policy

### National Planning Policy Framework (NPPF) 2018

2.2.1 Paragraph 170 of the NPPF states that planning decisions should protect sites of biodiversity value, minimise biodiversity impacts, and contribute to net biodiversity gains. Paragraph 175 states that planning permission should be refused if significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for.

2.2.2 The NPPF emphasises the need to consider biodiversity at a landscape scale, conserving, restoring and enhancing priority habitats and ecological networks, and protecting priority species. The NPPF also specifies the need to protect designated sites from adverse harm and to protect irreplaceable habitats (e.g. ancient woodland and veteran trees).

**2.2.3 The proposed development would need to mitigate for impacts on biodiversity and provide net biodiversity gains where possible.**





## Surrey Heath Borough Council Core Strategy & Development Management Policies 2012

- 2.2.4 Surrey Heath Borough Council Core Strategy and Development Management Policies sets out policies for development and land use in the area from 2011 to 2028. One policy is relevant to ecology and biodiversity at this site; refer to Table 2-2.

Table 2-2: Surrey Heath Borough Council Core Strategy policy relevant to biodiversity

Policy	Details
CP14A Biodiversity and Nature Conservation	Development that results in harm to or loss of features of interest for biodiversity will not be permitted. New development will be required to contribute to the protection, management and enhancement of biodiversity.



## 3 Methodology

### 3.1 Desk Study

3.1.1 A search was conducted on the Multi Agency Geographic Information Centre (MAGIC) website<sup>1</sup> for existing information on:

- Statutory designated sites within 1 km of the site.
- Priority habitats and ancient woodlands within 1 km of the site.
- Granted EPS mitigation licences within 1 km of the site.
- Waterbodies containing standing water within 500 m of the site<sup>2</sup>.

3.1.2 Data was not obtained from the Local Records Centre due to the small scale of the development and because the site had low suitability for protected and notable species.

### 3.2 Field Survey

3.2.1 The field survey was undertaken on the 8<sup>th</sup> January 2018 by Rachel Barber. Rachel is an experienced ecologist from Smart Ecology and holds a Natural England level 2 class survey licence for bats (2016-25176) and a level 1 class survey licence for great crested newts (2015-11117).

3.2.2 The weather during the survey was sunny (10% cloud cover), the temperature was approximately 7°C, there was a gentle breeze (Beaufort wind scale 3), and no precipitation.

#### Extended Phase 1 Habitat Survey

3.2.3 A Phase 1 habitat survey was undertaken following the methodology outlined in the 'Handbook for Phase 1 Habitat Survey' (JNCC, 2010). This involved a walkover of the site to map the vegetation present against Phase 1 habitat categories. Additional information is provided in Target Notes (TN) in Appendix 1 which include details such as management, species composition, and structure.

3.2.4 As an extension to the Phase 1 habitat survey, habitats were assessed for the presence of, and potential to support, legally protected, notable, and invasive and non-native species. Any evidence of these species was noted.

#### Preliminary Bat Roost Assessment

3.2.5 The on-site buildings were assessed for their potential to support roosting bats following the methodology outlined in the Bat Conservation Trust (BCT) good practice guidelines (Collins, 2016).

3.2.6 A detailed external and internal inspection of the buildings was undertaken using a high-powered torch (Clulite 1 million candle power) and close focusing (8.5 x 21) binoculars. Possible

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<sup>1</sup> <http://magic.defra.gov.uk/> (accessed January 2019).

<sup>2</sup> Mapping viewed included OS 1:25,000 and Vector Map Local accessed via the MAGIC website <http://magic.defra.gov.uk/> (accessed January 2019).



entry/exit locations for bats, potential roost sites, and the presence or evidence of bats (e.g. carcasses, droppings, urine, grease marks, feeding remains, vocalisation etc.) were noted.

3.2.7 An assessment was made of the suitability of the buildings for roosting bats in accordance with the BCT good practice guidelines; see Table 3-1.

Table 3-1: Bat roost suitability assessment criteria

Suitability	Description
Negligible	Negligible suitability for roosting bats.
Low	1 + potential roost sites that may be used by individual bats opportunistically. However, these potential roost sites do not provide suitable conditions <sup>1</sup> or have suitable surrounding habitat to be used on a regular basis or by larger numbers of bats.
Moderate	1 + potential roost sites with suitable conditions <sup>1</sup> and surrounding habitat but unlikely to support high conservation status roosts.
High	1 + potential roost sites with good conditions <sup>1</sup> and surrounding habitat, that are obviously suitable for use by large number of bats regularly.
Confirmed roost	1 + roost sites.

<sup>1</sup> Conditions include size, protection, shelter, temperature, humidity, height above ground, light levels and disturbance levels.

### 3.3 Evaluation of Ecological Features

3.3.1 An evaluation of ecological features (designated sites, species and habitats) was undertaken in accordance with CIEEM guidance (CIEEM, 2018). Valuation is provided using the following geographic framework:

- International/European (**most important**)
- National
- Regional
- County
- Local
- Site (**least important**)

3.3.2 The value of an ecological feature is based on a professional ecologist's judgement and takes into consideration various characteristics including any site designations, priority species and habitats, species rarity, the quality of the resources (e.g. habitat diversity, species population size), and location within the landscape context.

3.3.3 Important ecological features, which may pose a constraint to the development, are those with an ecological value which could be impacted by the development. These are the features which may require further survey work and mitigation.

### 3.4 Limitations

3.4.1 Droppings from crevice dwelling bat species may not be found during surveys as these often remain in inaccessible locations under roof felt, tiles or within crevices and cavities. However, it was still possible to note whether there were any features with potential for roosting bats.



- 3.4.2 The survey was conducted during the period when bats are not likely to be active and so evidence of bats deposited on the exterior of the buildings during the bat active period may have been removed by weathering. However, droppings within the building interiors would have remained.
- 3.4.3 The survey was carried out outside of the bird nesting season, which is typically March to August inclusive, and so nesting activity would not have been apparent. Additionally, nests are often hidden away in areas that are not viewable. However, it was still possible to identify any visible evidence of old nests and features with potential for use by nesting birds.
- 3.4.4 The survey was undertaken during the winter when many plant species may not be apparent. However, this is not considered to be a significant limitation as it was still possible to identify the broad habitat types present. Additionally, the habitats present on-site (predominantly bare ground) are considered unlikely to provide botanical interest.



## 4 Baseline Ecological Conditions

### 4.1 Desk Study

#### Designated Sites

4.1.1 There are no statutory designated sites within 1 km of the site.

#### Priority Habitats and Ancient Woodlands

4.1.2 There are records of deciduous woodland, lowland heathland, and traditional orchard priority habitats within 1 km of the site; see Table 4-1. None of these records originate from, or are close to, the site. No ancient woodlands are located within 1 km of the site.

Table 4-1: Priority habitat records within 1 km

Priority Habitat	Details
Deciduous woodland	Closest approximately 225 m north.
Lowland heathland	Closest approximately 680 m south-south-east.
Traditional orchard	Approximately 885 m south-west.

#### EPS Mitigation Licences

4.1.3 Two EPS mitigation licences for bats have been granted within 1 km of the site; see Table 4-2. This shows that bats are present in the area and that the local landscape has suitability for bats.

Table 4-2: Granted EPS mitigation licences within 1 km

Case Reference	Distance from Site	Species Affected	Licence Start Date	Licence End Date	Impact Allowed by Licence
2015-15377-EPS-MIT	Approximately 910 m south-west	Brown long-eared	23/10/2015	31/03/2016	Destruction of a resting place
EPMS2009-1182	Approximately 980 m south-west	Common pipistrelle Brown long-eared	07/01/2014	30/09/2017	Destruction of a resting place

#### Waterbodies

4.1.4 No standing waterbodies are mapped within 500 m of the site boundary.



## 4.2 Field Survey - Habitats

4.2.1 The location and extent of habitats on the site are shown on the Phase 1 habitat map (Figure 2, Section 9).

### Bare Ground



4.2.2 The majority of the site comprised bare ground with no vegetation present.

### Hardstanding



4.2.3 Areas of concrete hardstanding were present around the buildings.



### Scattered Trees



- 4.2.4 Several scattered trees were located close to the site boundary. Species present included oak sp., holly, yew and Scots pine.

### Introduced Shrubs



- 4.2.5 A small stand of bamboo sp. was present along the northern boundary, and cherry laurel shrubs were present along the western boundary and adjacent to the eastern boundary, within the neighbouring property.

### Species-poor Hedgerows



4.2.6 Two managed, intact species-poor hedgerows were present on either side of the access track into the site, located within the gardens of neighbouring properties. Species included cherry laurel, holly, Leyland cypress, snowberry, and beech.

4.2.7 These hedgerows are classified as a priority habitat as they contain more than 80% coverage of at least one native woody species.

### Buildings



4.2.8 A residential property and a garage building were present on the site. These buildings were assessed primarily for their potential value for bats and birds; see Section 4.1.

## 4.1 Field Survey - Species

4.1.1 Target Notes (TN) are provided in Appendix 1.

### Bats

4.1.2 The majority of the site area comprised bare ground which had negligible value for foraging bats. The scattered trees around the boundary and the hedgerows along the access track provided some potential for foraging and connected the site to further tree lines and mature gardens within the surrounding landscape which provided suitable foraging, commuting and





roosting habitat. Only one of the scattered trees contained features with suitability for roosting bats, a yew tree (TN2) which had fluting in the stem. However, these grooves weren't deep and provided limited shelter for bats, therefore the tree was assessed to have low suitability for roosting bats only.

- 4.1.3 The M3 motorway fragments the site from further habitat to the south. There are small areas of deciduous woodland within the local landscape to the north (closest approximately 225 m north) and larger extensive areas of woodland approximately 1.6 km to the north-west which provide suitable foraging and roosting habitat.
- 4.1.4 The presence of moderate quality foraging, commuting, and roosting habitats in the local landscape indicates a higher likelihood that bats may roost in buildings close to these habitats where suitable roosting opportunities are available.

### **Preliminary Bat Roost Assessment**

#### *Residential Building*

- 4.1.5 Photographs of the building are provided in Figure 4-1 and photographs of potential bat roost features (P1-6) described in the text are provided in Appendix 2.





Figure 4-1: Photographs of the residential building

- 4.1.6 The residential building was uninhabited at the time of survey. It was a “T” shaped brick-built bungalow with one roof space and a pitched roof comprising flat concrete tiles. The roof ridges ran approximately north to south and east to west. The eaves were tight, comprising concrete guttering.
- 4.1.7 Several potential bat roost features were noted externally, as follows:
- Gap at the chimney base on the eastern roof slope where a tile was missing (P1).
  - Gaps under tiles at the valley on either side of the false gable where the eastern and northern roof slopes met (P2).
  - Gap under lifted lead flashing at the chimney base on the southern roof slope (P3).
  - Two missing tiles and one slipped tile on the southern roof slope (P4 & P5).
  - Four lifted roof tiles on the northern roof slope near the ridge (P6).
- 4.1.8 Internally there was one roof space. The north to south orientated section was approximately 8 m long and 2 m wide, while the east to west orientated section was approximately 13 m long and 2.4 m wide. The height was 2 m to the ridge.
- 4.1.9 The roof was of a cut and pitch construction which created an uncluttered space. The timbers were machine cut and the roof was lined by intact bitumen felt. There were two brick chimneys which were partially rendered, and the gable ends comprised intact blockwork. There were no crevices within the roof space with suitability for crevice dwelling bats. Roof void dwelling bats could potentially roost on the roof timbers, although no droppings were noted below any of the timbers. Additionally, the roof space was heavily cobwebbed along the ridge board and cobweb

was also hanging throughout. There was no evidence of bats, and no potential access points for bats into the roof space were noted.

4.1.10 The building is assessed to have **low suitability** for roosting bats as it contains several potential roost sites externally that may be used by individual bats.

#### Garage

4.1.11 Photographs of the garage are provided in Figure 4-2.



Figure 4-2: Photographs of the garage

4.1.12 The garage walls were formed by breeze block, with the exception of the north-western wall which comprised corrugated asbestos-type cement sheets. The garage was divided into two

sections by an internal breeze block wall. It had a pitched roof; the roof of the south-eastern section comprised corrugated metal while the roof of the north-western section comprised corrugated asbestos-type cement sheets. Externally the block work was intact and provided no potential roost sites for bats.

- 4.1.13 The south-eastern section was approximately 6.3 m long, 4.3 m wide and 2.5 m high. Internally it comprised breeze block walls with machine cut timber roof supports. The corrugated metal roof sheets were lined with felt. Windows and doors were all tight providing no apparent access to the interior for bats. The interior was light due to the presence of windows, and there were no crevices or cavities with potential for roosting. Roof void dwelling bats could potentially roost on the roof timbers, although no droppings were noted below any of the timbers.
- 4.1.14 The north-western section was approximately 6.3 m long, 2.8 m wide and 2.5 m high. Internally it comprised breeze block and single skin corrugated asbestos-type cement sheet walls. The corrugated asbestos-type roof sheets were unlined and supported by machine cut timbers. The interior was light due to the presence of windows. Gaps under the end of the roof sheets potentially provided bats access into the interior. There were no crevices or cavities in the interior with potential for roosting. Roof void dwelling bats could potentially roost on the roof timbers, although no droppings were noted below any of the timbers.
- 4.1.15 The garage is assessed to have **negligible suitability** for roosting bats as it does not provide suitable roosting features and no evidence of bat use was noted.

#### Other Mammals

- 4.1.16 The on-site habitats provided limited potential for other mammals. Badger and hedgehog could occasionally forage within the areas of bare ground and commute through the site. No badger setts were observed on site. The site had negligible potential for brown hare, water vole, otter, hazel dormouse, harvest mouse and polecat).

#### Birds

- 4.1.17 The majority of the site area comprised bare ground which had limited potential for foraging. The scattered trees, introduced shrubs, and hedgerows provided a small area of potential foraging and nesting habitat. Birds could also nest under missing, slipped, and raised roof tiles on the residential building and within the garage interior, although no evidence of nesting was observed.

#### Amphibians and Reptiles

- 4.1.18 The majority of the site area comprised bare ground which had negligible potential for foraging. Amphibians and reptiles could commute through the site. There were recently created log piles (TN1) which provided potential refuge sites for amphibians and reptiles.
- 4.1.19 There were no standing waterbodies mapped within 500 m of the site. As great crested newts typically stay within 500 m of their breeding ponds it is unlikely that this species would occur on the site.

#### Invertebrates

- 4.1.20 The site had low value for invertebrates, with no habitats (e.g. species-rich grasslands, waterbodies, woodland) suitable for high invertebrate diversity.



## Plants

4.1.21 The on-site habitats did not have potential for rare or notable plant species to be present, and none were recorded during the survey.

## Invasive species

4.1.22 Bamboo and cherry laurel are both non-native species however, they are not listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).



## 5 Ecological Constraints

- 5.1.1 Designated sites, habitats and species with ecological value may pose a constraint if there is potential for them to be affected by a proposed development.
- 5.1.2 The proposed development would require demolition of the existing residential building and garage, and removal of bare ground, hardstanding, and introduced shrubs. Loss of these common and widespread habitats would have no significant biodiversity impact. It is understood that the trees and species-poor hedgerows would be retained.
- 5.1.3 There are no statutory designated sites within 1 km of the site, and no impacts on priority habitats are likely due to their distance from the site and as the species-poor hedgerows are to be retained.
- 5.1.4 It is assessed potential impacts on protected and notable species are limited to bat and bird species, badger, hedgehog, and common amphibian and reptile species. Table 5-1 provides a valuation of these ecological features, justification for that valuation and details of anticipated impacts in the absence of mitigation. All these features will require further surveys and/or mitigation (see Section 6).

**Table 5-1: Valuation and potential impacts on ecological features**

Ecological Feature	Value	Justification for Value	Anticipated/Potential Impacts Without Mitigation
Scattered trees	Site	Native trees add biodiversity value to the site.	Damage to retained trees during works.
Species-poor hedgerows	Site	Native hedgerows add biodiversity value to the site.	Damage to retained trees during works.
Bats (roosting)	Unknown	Residential building and yew tree (TN2) had low suitability for roosting bats.	Demolition of the residential building could destroy bat roosts and kill, injure, and disturb bats if present at the time of works. It is understood that the yew tree (TN2) will be retained. Artificial illumination of yew tree and could impact upon roosting bats.
Bats (foraging & commuting)	Site	Site provided limited foraging and commuting habitat (scattered trees and hedgerows).	Artificial illumination of scattered trees and hedgerows could impact upon bats.
Badger and hedgehog	Site	Site provided limited potential for foraging.	Injury/death if animals become trapped in excavations during construction.



Ecological Feature	Value	Justification for Value	Anticipated/Potential Impacts Without Mitigation
Birds	Site	Scattered trees, hedgerows, introduced shrubs and buildings had suitability for nesting and foraging by common species.	Damage/destruction of active nests (if present) when buildings demolished and introduced shrubs removed during the nesting season (which is typically March to August inclusive).
Amphibians and reptiles	Site	Site provided limited potential for foraging and refuge. Log, piles provided potential refuge habitat. Great crested newts unlikely to occur on site as there are no standing waterbodies within 500 m.	Injury/death during site clearance or if animals become trapped in excavations during construction.



## 6 Surveys, Mitigation and Enhancements

### 6.1 Further Surveys

#### Bats

- 6.1.1 The residential building has low suitability for roosting bats and therefore, in accordance with good practice guidelines (Collins, 2016), one emergence/re-entry survey is required. This survey would determine whether bats are roosting within the building. If bats are found to be roosting within the building then additional surveys would be required to provide further information on the number of bats present and roost status (e.g. maternity).
- 6.1.2 Emergence/re-entry surveys must be carried out between May and September with at least one survey undertaken between May and August. If additional surveys are required these should be spread across the season as bats use different roosts at different times of the year. Three surveyors would be required to view all elevations of the building.

### 6.2 Mitigation

- 6.2.1 The following measures must be implemented to ensure that ecological features are protected and retained.

#### Scattered Trees

- 6.2.2 It is understood that the scattered trees would be retained. Retained trees should be protected during works by erecting fencing around the root protection area or by using suitable ground protection in accordance with BS5387 - *trees in relation to design, demolition and construction* (BSI, 2012). The root protection area should be calculated as 12 times the tree stem diameter, unless otherwise informed by an arboricultural specialist. This protection should be installed prior to works commencing and retained throughout the construction period.
- 6.2.3 If any trees do require removal, plant new native tree species suitable for a small site to compensate for the removal of trees. One tree should be planted for every tree removed. Species suitable for planting include hawthorn, blackthorn, rowan, crab apple, and bird cherry.

#### Species-poor Hedgerows

- 6.2.4 It is recommended that the hedgerows are protected during works by maintaining a protection zone delimited by a temporary fence or barrier tape or using suitable ground protection at least 5 m from the hedgerow's central point. This protection should be installed prior to works commencing and retained throughout the construction period.

#### Bats

- 6.2.5 Any required mitigation for roosting bats would be provided with the results of the emergence/re-entry survey(s).
- 6.2.6 One yew tree (TN2) was assessed to have low suitability for roosting bats. It is recommended that this tree is retained. If the tree does require removal it must be soft felled. The tree can





either be cut at the base or cut in sections and gently lowered to the ground. Any cavities or crevices must not be cut through. The cut sections must be left on the ground, with openings clear, for at least 24 hours to allow any bats (if present) to make their way out. Felling can be undertaken at any time of the year as the tree was not assessed to offer potential for hibernating bats.

- 6.2.7 It is recommended that artificial light spill onto the retained trees and hedgerows is avoided. If external lighting is essential it should be kept to a minimum, and down lighters at a maximum height of 2 m used with warm-white (long wavelength, not UV) LED lights. Motion sensors on short-duration timers and high motion threshold (e.g. so that moths do not set them off) should be fitted.

#### Badger and Hedgehog

- 6.2.8 During construction, it is recommended that any excavations are covered overnight to prevent animals falling in and becoming trapped. If excavations cannot be covered then a ramp at least 40 cm wide must be installed, with an angle no steeper than 40 degrees, to enable animals to escape and excavations checked every morning for trapped animals. Any animals found must be left to escape by their own volition, or carefully moved outside of the works area by gloved hand or using a suitable container. Any open pipework should be capped overnight.

#### Birds

- 6.2.9 It is recommended that demolition of the buildings and any necessary removal of trees and introduced shrubs takes place outside of the nesting season, which is generally March to August inclusive. If this is not possible then the buildings and vegetation must be checked by an ecologist for active nests prior to removal. If active nests are found these must be left undisturbed until the young have fledged.

#### Amphibians and Reptiles

- 6.2.10 Prior to works commencing the log piles should be removed by hand. In the unlikely event that any amphibians or reptiles are present they must be moved using a gloved hand to an area outside of the works area. A suitable location for moving any amphibians and reptiles to is the area of scattered trees and introduced shrubs in the east of the site.
- 6.2.11 During construction, it is recommended that any excavations are covered overnight to prevent animals falling in and becoming trapped. If excavations cannot be covered then a ramp at least 40 cm wide must be installed with an angle no steeper than 40 degrees, to enable animals to escape and excavations checked every morning for trapped animals. Any animals found must be left to escape by their own volition, or carefully moved outside of the works area by gloved hand or using a suitable container. Any open pipework should be capped overnight.
- 6.2.12 **If a great crested newt is found at any time during works, then work must stop immediately, and an ecologist contacted. A guide to newt identification is provided in Appendix 3.**



## 6.3 Enhancements

6.3.1 Paragraph 170 of the NPPF states that planning decisions should contribute to net biodiversity gains. Opportunities to enhance the biodiversity value of the site are provided in Table 6-1.

Table 6-1: Opportunities for biodiversity enhancements

Opportunity	Details
Bat tubes/ bricks	It is recommended that two bat tubes or bricks are provided on each of the new buildings, four in total (e.g. Schwegler 1FR, Norfolk Bat Brick). These provide permanent roosts for bats, requiring little or no maintenance. Bat tubes and bricks can be incorporated into external walls. They should be installed on or in south/south-westerly facing elevations close to the eaves/gable apex, at least 4 m from ground level, away from windows and other artificial light sources, and with a clear flight path to and from the entrance. They should not be installed on rear elevations to avoid impacts from any future extensions.
Bird nest boxes	It is recommended that one nest box is installed on the exterior of each of the new buildings, two in total (e.g. Schwegler 1SP sparrow terrace, Schwegler type 23 brick box). Nest boxes should be installed high under the eaves or gable apex. Birds must have a clear flight path to and from the nest boxes.
Wildlife planting	If possible, any planting associated with the development should include native species or species with value for wildlife. Planting could include lavender, sedum, honeysuckle and berberis. The Royal Horticultural Society provide information on plants for pollinators including the following leaflet which is available online: <a href="https://www.rhs.org.uk/advice/pdfs/plants-for-bees.pdf">https://www.rhs.org.uk/advice/pdfs/plants-for-bees.pdf</a>



## 7 Conclusions

- 7.1.1 It is proposed to erect two new residential properties on the site, which would require demolition of the existing residential building and garage, and removal of bare ground, hardstanding, and introduced shrubs. It is understood that the scattered trees and species-poor hedgerows would be retained.
- 7.1.2 The proposed development would not impact upon any designated sites or protected habitats. As the residential building had low suitability for roosting bats one emergence/re-entry survey is required to ascertain whether bats use the building to roost. For all other protected and notable species, the site had negligible/low value and no significant impacts are likely if the mitigation measures provided in this report are implemented.
- 7.1.3 The recommended enhancements would ensure a net biodiversity gain on the site and therefore meet the requirements of the NPPF.
- 7.1.4 A summary of potential/anticipated impacts arising from the proposed development, and recommended mitigation measures and enhancements are provided in Table 7-1.

**Table 7-1: Summary of impacts, further surveys, mitigation, and enhancements**

Ecological Feature	Potential/ Anticipated Impacts without Mitigation (refer to Section 5)	Further Surveys/ Mitigation (refer to Sections 6.1 and 6.2)	Enhancements (refer to Section 6.3)
Scattered trees	Damage to retained trees during works.	Retain and protect trees where possible. Compensatory native tree planting if any trees are removed.	None.
Species-poor hedgerows	Damage to retained hedgerows during works.	Protect hedgerows during works.	None.
Bats	Demolition of the residential building could destroy bat roosts and kill, injure, and disturb bats if present at the time of works. Artificial illumination of yew tree (TN2) could impact upon roosting bats. Artificial illumination of trees and hedgerows could disturb foraging, commuting and roosting bats.	<b>One emergence/re-entry survey of the residential building.</b> Any required mitigation would be advised on completion of the survey(s). Retain yew tree, if removal is necessary follow soft fell procedure. Avoid artificial light spill onto retained trees and hedgerows.	Four bat tubes/bricks. Wildlife planting would increase foraging potential.
Badger and hedgehog	Injury/death if animals become trapped in excavations/pipework during construction.	Cover excavations or provide a ramp overnight. Cap pipework overnight.	Wildlife planting would provide improved foraging habitat.
Birds	Damage/destruction of active nests (if present) if buildings demolished or trees and introduced shrubs removed during the nesting season (which is typically March to August inclusive).	Remove trees and shrubs and demolish buildings outside of the nesting season. If this is not possible then these must be checked by an ecologist for active nests before removal.	Two bird boxes. Wildlife planting would provide improved foraging habitat.



<b>Ecological Feature</b>	<b>Potential/ Anticipated Impacts without Mitigation</b> (refer to Section 5)	<b>Further Surveys/ Mitigation</b> (refer to Sections 6.1 and 6.2)	<b>Enhancements</b> (refer to Section 6.3)
Amphibians and reptiles	Injury/death during site clearance or if animals become trapped in excavations/pipework during construction.	Clear log piles by hand. Cover excavations or provide a ramp overnight. Cap pipework overnight.	None.



## 8 References

**BSI (British Standards Institute) (2013).** BS4202 Biodiversity – A code of practice for planning and development. BSI, London.

**CIEEM (2017a).** *Guidelines for Preliminary Ecological Appraisal – Second Edition.* CIEEM, Winchester.

**CIEEM (2017b).** *Guidelines for Ecological Report Writing – Second Edition.* CIEEM, Winchester.

**CIEEM (2018).** *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater Coastal and Marine.* CIEEM, Winchester.

**Collins, J. (2016).** *Bat Surveys for Professional Ecologists – Good Practice Guidelines, 3<sup>rd</sup> edition.* Bat Conservation Trust, London.

**JNCC (Joint Nature Conservation Committee) (2010).** *Handbook for Phase 1 habitat survey – a technique for environmental audit.* JNCC, Peterborough.



## 9 Figures

Figure 1 - Location Map

Figure 2 - Phase 1 Habitat Map



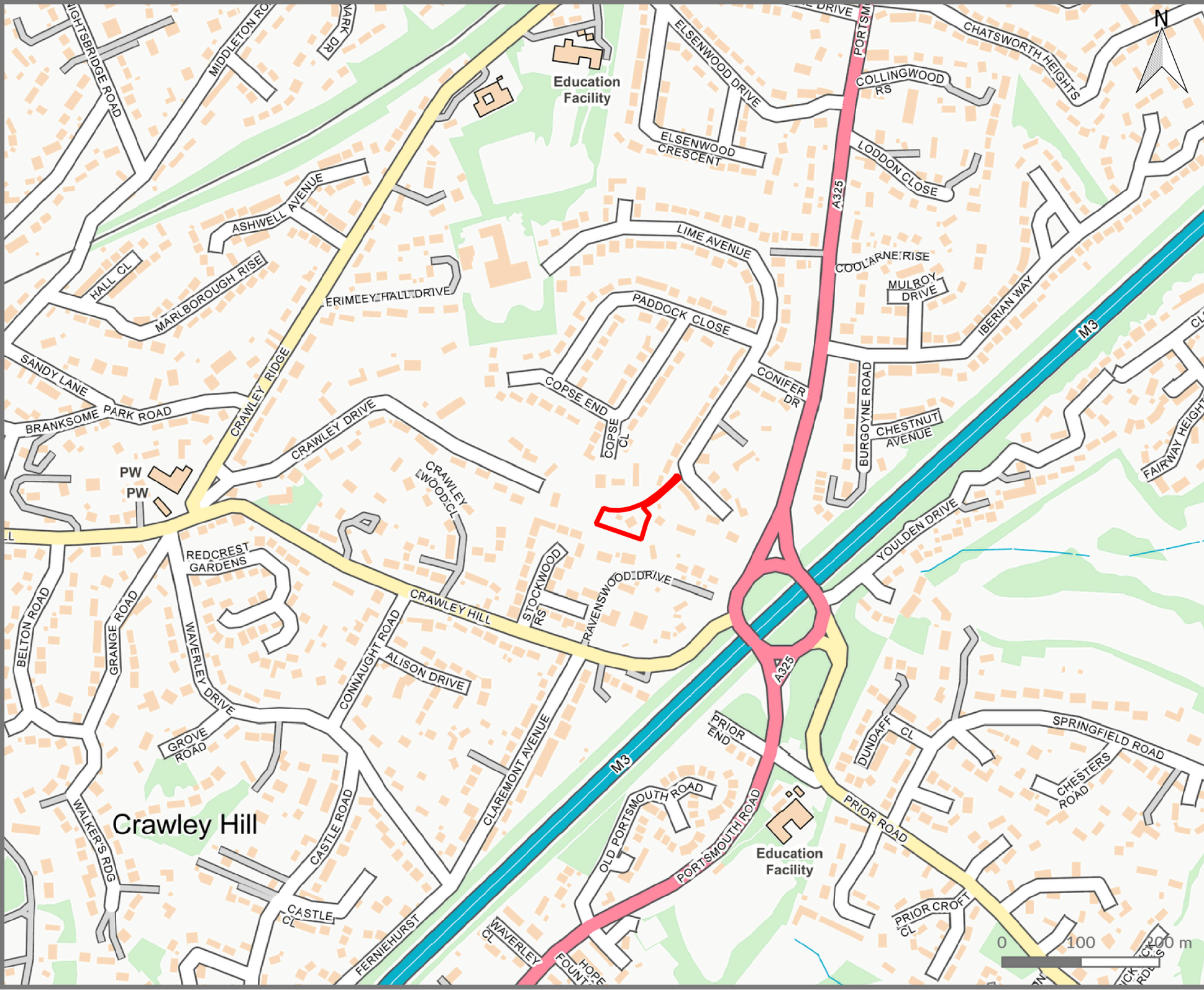


Figure 1 -  
Location Map  
Land off Lime Avenue,  
Camberley, Surrey

 Site Boundary

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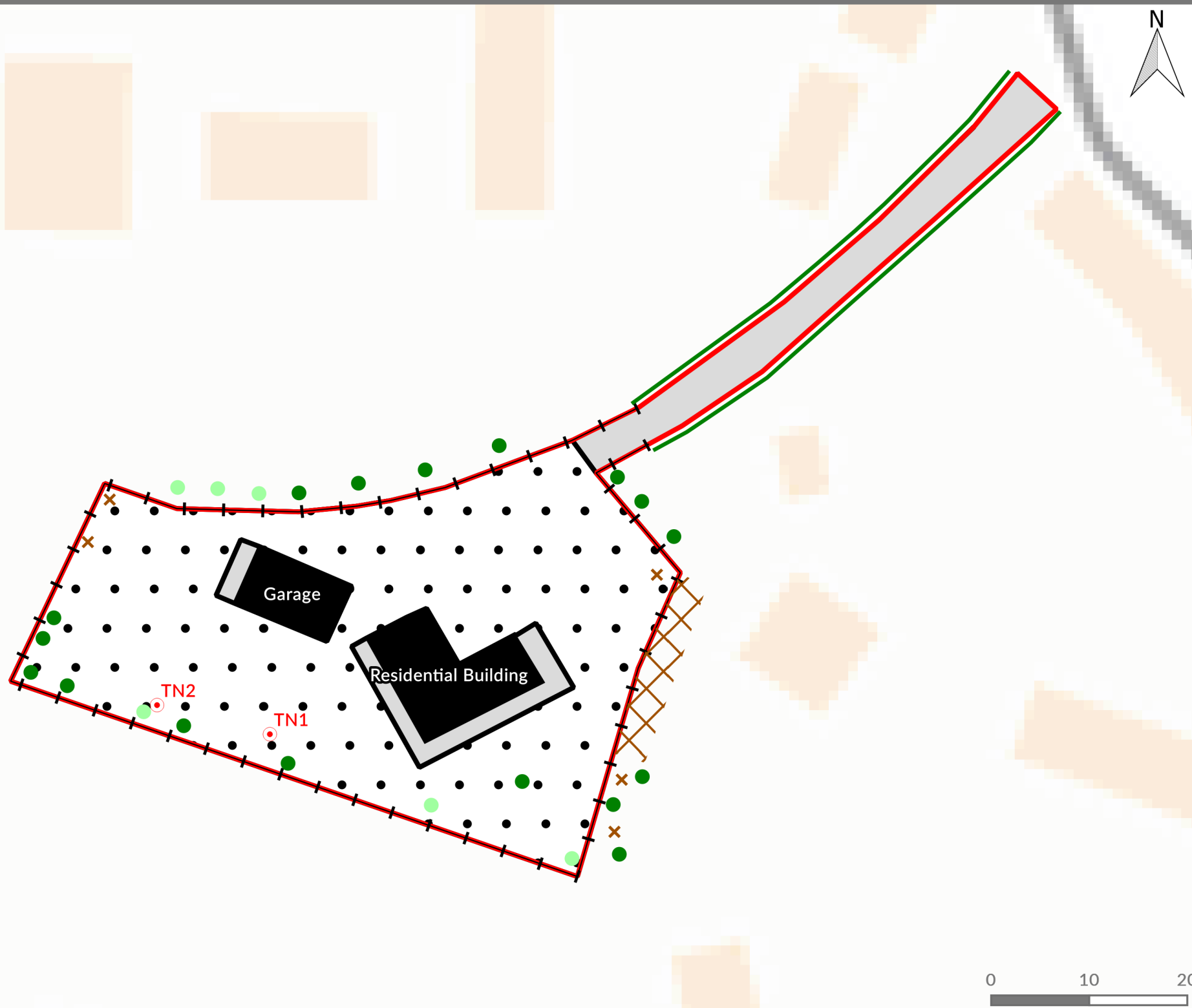
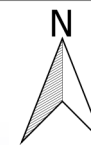
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Drawn by:	Rachel Barber
Checked by:	Robert Dunn

Smart Ecology\Projects\2018\  
2018-079\GIS



0 100 200 m

Figure 2 -  
Phase 1 Map  
Land off Lime Avenue,  
Camberley, Surrey



- Introduced Shrub
- Scattered Broadleaved Trees
- Scattered Coniferous Trees
- Target Notes
- Fence
- Intact Species-poor Hedgerow
- Site Boundary
- Bare Ground
- Buildings
- Hardstanding
- Introduced Shrub

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Date:	09/01/2019
Drawn by:	Rachel Barber
Checked by:	Robert Dunn

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2018-079\GIS



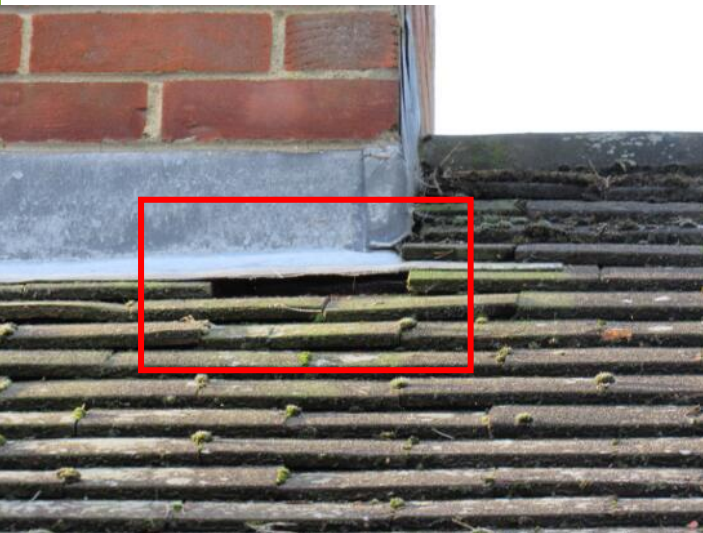






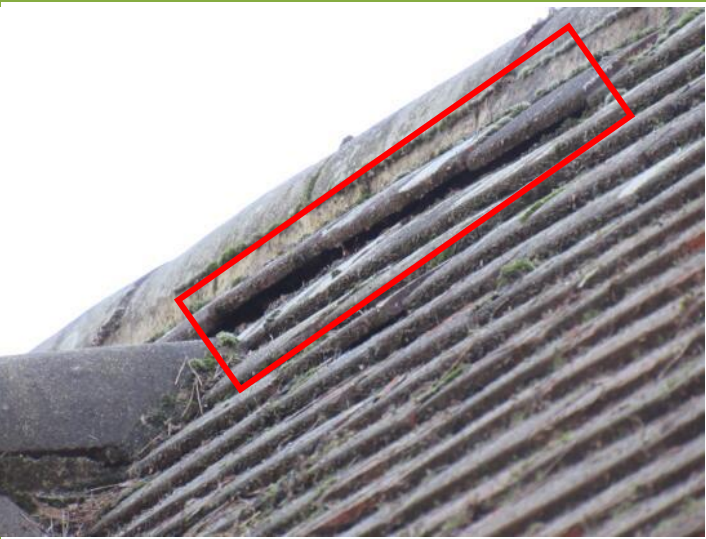
# Appendix 1 – Target Notes

Number	Description	Photograph
TN1	Log pile which provided potential refuge habitat for amphibians and reptiles.	
TN2	Yew tree with fluting, which provided low potential for roosting bats.	



# Appendix 2 – Building Survey Photographs

Number	Description	Photograph
P1	Gap at the chimney base on eastern roof slope where a tile was missing which provided a potential roost site.	
P2	Gaps under tiles at the valley on either side of the false gable where the eastern and northern roof slopes met which provided potential roost sites.	
P3	Gap under lifted lead flashing at the chimney base on the southern roof slope which provided a potential roost site.	

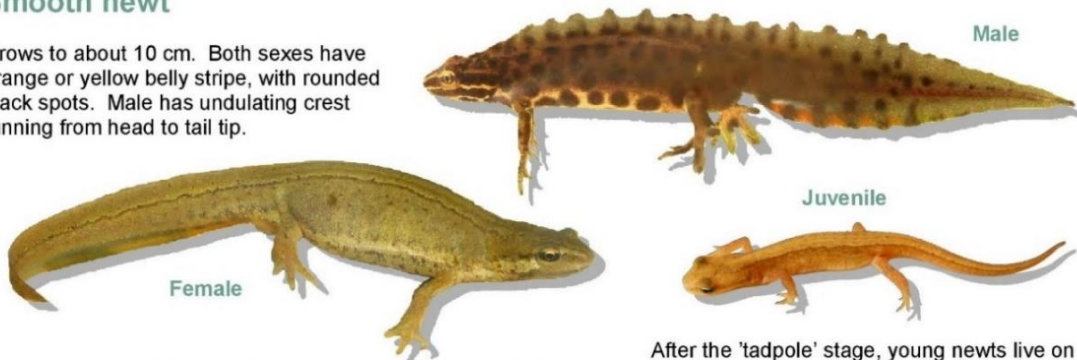
Number	Description	Photograph
P4	Example of missing tiles on the southern roof slope which provided potential roost sites.	
P5	Slipped tile on the southern roof slope which provided a potential roost site.	
P6	Four lifted roof tiles on the northern roof slope near the ridge which provided potential roost sites.	

# Appendix 3 – Newt Identification Guide

Newt Identification Guide (source: Amphibian and Reptile Conservation Trust)

## Smooth newt

Grows to about 10 cm. Both sexes have orange or yellow belly stripe, with rounded black spots. Male has undulating crest running from head to tail tip.

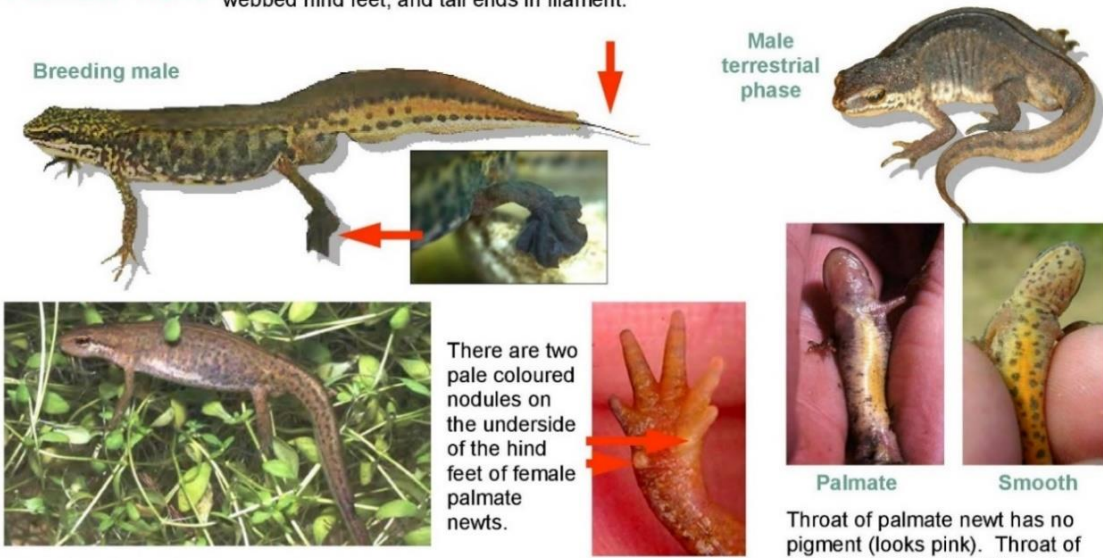


A widespread species which breeds in a variety of water bodies. Often found in garden ponds.

After the 'tadpole' stage, young newts live on land. Most likely to be found from late summer to autumn as they disperse from ponds.

## Palmate newt

Grows to 9 cm. Breeding male has ridge running along back, rather than a crest. Dark, webbed hind feet, and tail ends in filament.



Female looks similar to smooth newt.

There are two pale coloured nodules on the underside of the hind feet of female palmate newts.

Throat of palmate newt has no pigment (looks pink). Throat of smooth newt is off-white and usually spotted.

## Great crested newt

Grows to 16 cm, but usually smaller. Crest in male has break at base of tail. Silvery-white stripe towards rear of tail conspicuous.

Both sexes have rough, granular skins and yellow/orange bellies with irregular black spots.

Juveniles look like smaller versions of the female and may live on land or in the water.

Strictly protected species, requiring a licence to handle or disturb.

