



EXTENDED PHASE 1 ECOLOGICAL ASSESSMENT

2 BROOK COTTAGES, BROAD OAK, BOTLEY, SOUTHAMPTON, SO30 2EU

FINAL REPORT

February 2023

Report conditions

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Executive Summary

- This extended phase 1 ecological assessment report has been prepared in order to support a planning application for the proposed construction of a side extension to the existing dwelling at 2 Brook Cottages, Botley.
- An extended phase 1 ecological assessment of the application site was undertaken on the 2nd February 2023 by Katy Goddard and Connor Hill of Phillips Ecology.
- The survey area comprised the red line boundary of the site which includes the existing dwelling and the surrounding garden. A data search extended to a 2km radius for designated sites and notable habitats.
- The site is considered to support opportunities for protected and priority species including badgers, breeding birds and hedgehog.
- Overall, the existing dwelling is considered to support negligible suitability for roosting bats.
- As a result, there is considered to be no reasonable likelihood that bats will be present and affected by the proposed extension works.
- Information regarding the length of time the findings from this report are valid for can be found in section 13.
- With the implementation of precautionary construction avoidance measures, impacts on designated sites and other protected species will be avoided.

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1. Introduction

1.1 Report purpose

This report has been prepared in order to present the findings of the extended phase 1 ecological assessment undertaken at 2 Brook Cottages, Botley (central grid reference: SU 50538 13164).

1.2 Description of proposal

The planned works include construction of a two-storey and single-storey extension on the eastern side of existing dwelling.

1.3 Report context

A planning application has been prepared for the proposed two-storey and single-storey extension to 2 Brook Cottages, Botley. Phillips Ecology have been instructed by the Applicant to undertake an ecological assessment to support this application, which will be submitted to Eastleigh Borough Council.

1.4 Scope of assessment

An extended phase 1 ecological assessment was carried out on the 2nd February 2023. The survey comprised a field survey and desktop study in order to identify notable or protected sites, habitats or species potentially affected by the proposal under consideration.

1.5 Survey area

The survey area comprised the red line boundary of the site which comprised the existing dwelling and surrounding garden. A data search extended to a 2km radius for designated sites and notable habitats.

1.6 Limitations

Limitations which are specific to each phase of the assessment are given in the relevant sections, below.

2. Data search

2.1 Methodology

A desk-based assessment was undertaken by Phillips Ecology on the 16th February 2023 with Multi-Agency Geographic Information for the Countryside (MAGIC). The MAGIC database was consulted for records of statutory designated sites and priority habitats for the development site and a 2km radius.

2.2 Limitations

The data search results are bound by the following statement contained within MAGICs general disclaimer: "The materials contained on this website are of a general, informational, nature. We have used reasonable endeavours to ensure the accuracy and completeness of the contents of the pages on this site but the information does not constitute advice and must not be relied on as such."

2.3 Results

2.3.1 Statutory designated sites

A total of four statutory designated sites are located within a 2km radius of the application site, these are a Site of Special Scientific Interest (SSSI), Ramsar site, Special Protection Area (SPA) and Special Area of Conservation (SAC). Details on these are given in table 1, below.

Table 1 Statutory designated sites within 2km of the application site

Site Name	Approx. distance and direction from the site	Reason for designation
Solent and Southampton water Ramsar site & SPA	1.1km SE	The site forms a section of the overarching Solent European Marine Site (EMS). The main habitats within the site boundary comprise, mudflats, sandbanks, inter- and subtidal rock, areas of saltmarsh, coastal lagoons, reedbeds, shingle banks and grazing marsh. The sediments within the site support rich populations of invertebrates which are an important resource for wintering birds. Additionally, the whole of the Solent exceeds 90,000 birds annually, the previously mentioned habitats help to provide suitable breeding and roosting grounds for these birds. Some of the identified species that are considered qualifying features for the SPA include, dark-bellied brent geese <i>Branta bernicla bernicla</i>, black-tailed godwit <i>Limosa limosa islandica</i>, common and little tern <i>Sterna hirundo</i> and <i>Sterna albinfrons</i>, and Ringed plover <i>Charadrius hiaticula</i>.

Upper Hamble Estuary and Woods SSSI	1.1km SE	The site comprises multiple habitats all of ecological importance, including, saltmarsh, reed swamp and twelve different types of ancient woodland. The varied ancient woodland types occur due to the changes in soil conditions particularly London clay to well drained valley sands and gravel. These varied soil types help to collectively comprise one of the most ecologically diverse woodland areas in central south England. The varied habitats offer suitable conditions for a range of fauna including the purple emperor <i>Apatura iris</i> and the rare leaf beetle <i>Orsodance lineola</i> in the species rich ground flora of the ancient woodlands. The rare marshland beetle <i>Mecinus collaris</i> in the saltmarshes. Suitable breeding grounds for reed and sedge warblers in the reedbeds, with narrow mudflats supporting marine worms, crustaceans and molluscs providing a food source for several species of shorebirds.
Solent Maritime SAC	1.1km SE	The sites habitats are the primary reason for its designation. The first notable habitats are the many estuaries that feed into the Solent including the Hamble. The site is the only one in the series to contain more than one physiographic sub-type of estuary and is the only cluster site. The second notable habitats are the spartina swards, being the only site in the UK for smoot cordgrass <i>Spartina alterniflora</i> and is one of two sites containing sizable amounts of small cordgrass <i>S. maritima</i>. Lastly, the Solent contains the second largest aggregation of Atlantic salt meadows in south and south-west England. One particular difference this site has to other large salt meadows is the ungrazed nature of the meadows.

2.3.2 Ancient woodlands

A total of eleven compartments of non-statutory ancient woodland are located within a 2km radius of the application site. The closest compartments are detailed in table 2 below.

Table 2 Closest ancient woodlands within 2km of the application site

Woodland Name	Approx. distance and direction from the site	Reason for designation
Unnamed woodland	0.5km NW	This 2.0ha site is designated for its ancient and semi-natural woodland.

Woodland Name	Approx. distance and direction from the site	Reason for designation
Unnamed woodland	0.6km NW	This 2.7ha site is designated for its ancient and semi-natural woodland.
Gould Copse	0.8km S	This 2.9ha site is designated for its ancient and semi-natural woodland.
Trullmill/Pinkmead Copses	1.3km SE	This 7.3ha site is designated for its ancient and semi-natural woodland.
Wangfield Lodge Copse	1.4km NE	This 3.0ha site is designated for its ancient and semi-natural woodland.

2.3.3 Priority habitats

The data search revealed the following priority habitats within 2km of the application site:

- Coastal Saltmarsh
- Mudflats
- Coastal and floodplain grazing marsh
- Good quality semi-improved grassland
- Lowland calcareous grassland
- Lowland meadows
- Purple moor grass and rush pasture
- Lowland fens
- Lowland reedbeds
- Deciduous woodland
- Wood pasture and parkland

2.3.4 Protected Species

The data search revealed four records of protected species licenses being granted in a 2km radius of the site. Of the four records, three were for bats between 2012 – 2021 and one was for hazel dormice *Muscardinus avellanarius* between 2016 – 2021.

The following bat species were licenced:

- Common pipistrelle *Pipistrellus pipistrellus*
- Soprano pipistrelle *Pipistrellus pygmaeus*

- Brown long-eared *Plecotus auratus*
- Natter's bat *Myotis natterii*

3. Habitats

3.1 Methodology

A field survey was carried out on the 2nd February 2023 by Katy Goddard and Connor Hill of Phillips Ecology. During the survey, all broad habitat types were identified, and a list was compiled of characteristic plant species within each habitat type. These habitats are described below in accordance with Phase 1 habitat terminology.

3.2 Limitations

The habitat survey was carried out during February which is outside the optimal period for recording vascular plant species. Whilst certain species would not have been evident if present, it was possible to identify vegetation to effectively classify habitat types in accordance with Phase 1 habitat terminology and no limitations were encountered.

3.3 Existing records

The data search revealed a total of eleven priority habitats are located within 2km of the application site, these habitats listed in section 2.3.3.

3.4 Results

The following Phase 1 habitat types were recorded within the application site. See Appendix 2 for the Phase 1 habitat map.

3.4.1 Broadleaved tree (A1.1)

A single apple *Malus x domestica* tree is located centrally on the site.

3.4.2 Dense Scrub (A2.1)

The majority of the scrub on site has been cleared, however, patches still persist, particularly along the north-eastern boundary (Figure 1). Species recorded during the survey included bramble *Rubus fruticosus*, common ivy *Hedera helix*, dog-rose *Rosa canina*, buddleia *Buddleja davidii*, bamboo spp. *Bambusoideae*, honeysuckle *Lonicera periclymenum*, firethorn spp. *Pyracantha* and blackthorn *Prunus spinosa*. Sycamore *Acer pseudoplatanus* tree canopies overhang the eastern site boundary.



Figure 1 – patch of scrub present at north-eastern boundary

3.4.3 *Introduced shrub (J1.4) and intact species-poor hedgerow (J2.1)*

The south-eastern and southern boundaries of the site comprise introduced shrub. The shrubs extend to form an intact hedgerow along the southern boundary (Figure 2). The species identified include cotoneaster *Cotoneaster apiculatus*, bramble, buddleia, ornamental honeysuckle spp. *Lonicera*, Wilson's honeysuckle *Lonicera nitida* and yellow archangel *Lamiastrum galeobdolon*.



Figure 2 – introduced shrub hedgerow along southern boundary

3.4.4 *Boundaries (J2)*

The south-eastern, southern and western boundaries of the site comprise wooden fencing (J2.4). The northern and north-eastern boundary comprise a low brick-built wall (J2.5) (Figure 3).



Figure 3 – low boundary wall and fencing

3.4.5 Buildings (J3.6)

The application site contains two built structures: the house and a wooden-built shed. The house is described further in section 5.

3.4.6 Bare ground (J4)

Most of the site comprises bare ground where either previously existing scrub has been cleared or grassland has been worn away due to continuous use (Figures 4 and 5). Some vegetation species are beginning to establish on the bare ground including daffodils *Narcissus pseudonarcissus*, lungwort *Pulmonaria spp.*, primrose *Primula vulgaris* and green alkanet *Pentaglottis sempervirens*.



Figure 4 – cleared scrub area east of the dwelling



Figure 5 – bare ground north of the northern brick-built wall

3.4.7 Other habitat (J5)

Hard standing pathways extend throughout the site with a patio area located towards the eastern boundary.

4. Protected and notable species assessment

The scope of works, data search and habitat assessment have informed the scope of the protected and notable species assessment. On this basis, the following protected and priority species have been considered further within this report:

- Bats
- Badgers
- Dormice
- Hedgehogs
- Reptiles
- Amphibians
- Breeding birds

The surveyed site has been assessed for its potential to support the above- named protected species based upon the criteria in Table 3.

Table 3 Protected species grading criteria

<i>Grading criteria</i>	<i>Justification</i>
<i>Negligible</i>	Site is entirely unsuitable for species. Presence of species highly unlikely.
<i>Low Potential</i>	Minimal suitable habitat present or, if present, highly degraded/fragmented. Minimal linkage to suitable habitat beyond site. Presence of species unlikely.
<i>Moderate</i>	Presence of some suitable habitat features for species. Surveyed site within/close to known range or known occurrence but factors such as isolation/fragmentation may reduce potential. Presence of species is more likely than not.
<i>High</i>	Presence of optimal habitat features for species. Surveyed site within known range/close to known occurrence. Excellent connectivity to optimal habitat. No justification for discounting presence of species.
<i>Confirmed presence</i>	Species confirmed on site through direct sighting, presence of field signs (e.g. scat, hair, prints, nest, eggs, habitation etc.) or through desk-based assessment.

5. Bats

5.1 Methodology

The survey did not depart from the Bat Conservation Trust's (BCT) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition) which states that "A preliminary roost inspection survey is a detailed inspection of the exterior and interior of a structure to look for features that bats could use for entry/exit and roosting and to search for signs of bats".

The external features of the built structures which will be modified by the proposed works in such a way that bats or their roosts could be impacted (directly or indirectly) if present, were systematically inspected in detail to compile information on potential and actual bat access points and roosting places such as lifted or broken tiles, loose brickwork and open eaves. This included a thorough search for evidence of bat activity such as bat droppings, urine splashes and fur staining.

The interior of the building was inspected in order to identify potential or actual access points and roosting places and to record any evidence of bat activity or bats themselves.

5.2 Survey equipment

Survey equipment comprised:

- High-powered torch
- Camera
- Ladders
- Binoculars

5.3 Limitations

Limitations were not encountered during the course of the survey.

5.4 Assessment methodology

The suitability of the building for supporting bat roosts will be assessed against the guidelines within Table 4 which have been adapted from the BCT Good Practice Guidelines.

Table 4 Suitability assessment guidelines

<i>Suitability</i>	<i>Description of Roosting Habitats</i>
<i>Negligible</i>	Structure has no reasonable likelihood of supporting roosting bats i.e. no suitable roosting features present.
<i>Low</i>	A structure which could be used opportunistically by individual bats i.e. one or more potential roost sites which do not provide sufficient space, shelter, protection, appropriate conditions (e.g. temperature, light, humidity) and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats.

<i>Suitability</i>	<i>Description of Roosting Habitats</i>
<i>Moderate</i>	A structure which could be used by bats but is not likely to support a roost of high conservation status (e.g. maternity roost). This structure would support features which exhibit suitable size, shelter, protection, conditions and surrounding habitat for roosting bats.
<i>High</i>	A structure which is obviously suitable for supporting larger numbers of bats, on a regular basis and for longer periods of time.

5.5 Results

5.5.1 The house

The structure comprises a two-storey brick-built semi-detached house rising to a pitched and hipped design roof clad with interlocking concrete roof, ridge and hip tiles (Figure 6). The house is oriented north to south. The roof extends beyond the wall plate and the eaves are enclosed with uPVC fascia and under boards which adjoin to uPVC guttering. A single-storey brick-built flat roof extension protrudes from the southern elevation of the house and is clad with roofing felt (Figure 7). A brick-built staircase extends from the southern elevation of the rear extension. A brick-built chimney extends from the northern roof face of the main house and is surrounded by lead flashing at the base. The windows and rear door are set in uPVC frames and the front door in a wooden frame. All are tight-fitting to the surrounding brickwork.

Internally, the building supports a single roof void. The roof is lined with heavy-duty bitumen felt. Fibreglass insulation is present on the floor which is boarded (Figure 8). There is a block-built partition wall between the two houses and light cobwebbing is present throughout the void.



Figure 6 – northern house elevation with brick chimney



Figure 7 – southern house elevation with rear extension



Figure 8 – roof void with lining and insulation

An account of suitable access/egress features and recorded evidence of bat activity is given in table 5.

Table 5 – The house recorded features and activity

	Suitability	Evidence
<i>Exterior</i>	The following suitable access/egress and roosting features were recorded externally: - A single gap under a concrete roof tile (Figure 9) - A single gap in the brickwork (Figure 10)	No evidence of roosting activity was recorded on the external elevations of the building during the survey. Upon closer inspection lichen growth was present under the lifted roof tile and the gap present in the brickwork supported cobwebbing.
<i>Interior</i>	The following suitable access/egress and roosting features were recorded internally during the survey: - Gaps around the chimney	No evidence of roosting activity was recorded on the internal elevations of the building during the survey. Heavy cobwebbing was present blocking all gaps around the chimney.



Figure 9 – lifted roof tile with gap underneath



Figure 10 – gap present in the brickwork

5.5.2 *Site grounds description relevant to bats*

The site grounds comprise hard standing, bare ground, scrub, introduced shrub and hedgerows. Further afield, Botley is composed of residential properties and their associated gardens, commercial development and services. The local landscape is characterised by arable farmland, permanent pasture, blocks of broadleaved and plantation woodland and mature hedgerows. The habitats within the footprint of the proposal are considered to be suitable for foraging and commuting bats and given their location within a landscape which is also suitable for commuting and foraging bats, it is likely that bats will commute and forage through the site.

5.6 **Assessment**

When considered in view of the criteria set out in Table 3, the existing house is considered to support negligible roosting suitability - i.e. a structure which has no reasonable likelihood of supporting roosting bats. This assessment is based on the lack of features identified and evidence recorded during the survey.

In the context of the wider landscape, the habitats within the footprint of the proposal are considered unexceptional for foraging and commuting bats. They are, nevertheless, suitable for commuting and foraging bats and it is likely that bats will commute and forage through the site as a compartment of their wider foraging range.

6. Badgers

6.1 **Methodology**

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. This includes badger setts, latrine sites, dung piles, well-used trails, prints and hairs. Particular emphasis was placed on locating badger setts, paths and signs of territorial activity such as dung piles and latrines.

6.2 **Limitations**

Limitations were not encountered during the course of the survey.

6.3 **Results**

No evidence of mammal foraging activity was recorded in the garden. Furthermore, no evidence of a badger sett was recorded within the application site, however, the nearby woodland and grassland habitats provide suitable habitat for the formation of a sett within the local area.

6.4 **Assessment**

Badger setts are considered to be absent from the application site, however, there is considered to be moderate potential for badgers to utilise foraging opportunities within and surrounding the site.

7. Dormice

7.1 Methodology

An assessment was made of the suitability of habitat on site to support hazel dormice. Key habitats are woodland, scrub and hedgerows, particularly where these offer dense vegetation within which to nest/hibernate and key resources such as hazel nuts, fruiting/nectar-rich plants (e.g. hawthorn, bramble) to provide a continuum of food resources throughout the active season and honeysuckle (for nesting material). Landscape-scale habitat linkages such as hedgerows are fundamental for dormouse presence where small scale or sub-optimal habitats are recorded within a site.

7.2 Limitations

Limitations were not encountered during the course of the survey.

7.3 Results

The site supports very limited suitable vegetation species to support dormice and is not well connected to optimal habitat.

7.4 Assessment

Overall, the site is considered to support negligible potential for dormice.

8. Hedgehogs

8.1 Methodology

The site was assessed for its suitability to support hedgehogs based on the presence of favoured habitats such as woodland edges, hedgerows, grassland and suburban habitats.

Hedgehogs are most abundant within gardens, parks and amenity land close to or within human settlements. They are generally scarce in areas of coniferous woodland, marshes and moorland, probably because of a lack of suitable sites and materials for the construction of winter nests (Morris, 2006). Any evidence of hedgehog activity such as prints or droppings was recorded.

8.2 Limitations

Low detections rates are associated with evidence of hedgehog activity; therefore, absence of evidence does not confirm the absence of hedgehogs. For this reason, the assessment of the likely presence/absence of hedgehogs has largely been informed by the species' local distribution and the habitats within the site and local area.

8.3 Results

The areas of planting and bare ground within the site have the potential to support foraging hedgehog although no direct evidence was noted.

8.4 **Assessment**

There is considered to be moderate potential for hedgehog to occur on site.

9. Reptiles

9.1 **Methodology**

An assessment was made of the site's suitability to support reptile populations. Key habitat features include: tussocky/patchy grassland; scrub edge; linear watercourses; ponds; compost heaps; brash piles and rubble/soil heaps. Linkage to suitable habitat within the surrounding landscape will increase the potential for reptiles to occur, although populations can occur within isolated/fragmented habitats even within urban areas.

9.2 **Limitations**

Limitations were not encountered during the course of the survey.

9.3 **Results**

The bare ground that dominates the site does not exhibit sufficient cover to support reptiles. The patch of scrub and introduced shrub present on site could provide some shelter for more widespread reptile species such as slow worm, however, the habitat is surrounded by the bare ground, hard standing and managed grassland, reducing its suitability.

9.4 **Assessment**

There is considered to be low potential for small numbers of reptiles to occur on site.

10. Great Crested Newts

10.1 **Methodology**

Great crested newts are only present in their breeding ponds during the spring and early summer – for the rest of the year, they will be dispersed across the surrounding area, generally in grassland, scrub, woodland and hedgerows, although they may be found in gardens and brownfield sites. They can travel some distance from their breeding ponds, and as a general rule, developments within 500m of such a pond may have the potential to have an impact on GCN, although to a certain extent, this does depend on any intervening habitat or barriers to dispersal.

An assessment was made of any waterbodies and terrestrial habitat within the site for their suitability to support populations of amphibians. Suitable waterbodies will generally be characterised by the presence of good quality water, diverse macrophyte cover and an absence of fish. For the European-protected great crested newt, each waterbody is normally assessed using the Habitat Suitability Index (HSI) system (Oldham et al., 2000) and assigned a grading score between zero (poor suitability) and 1 (excellent suitability).

10.2 Limitations

The HSI for great crested newts is a measure of habitat suitability. In general, ponds with high HSI scores are more likely to support great crested newts than those with low scores. However, in isolation, the system is not sufficiently precise to allow the conclusion that any particular pond with a high score will support newts, or that any pond with a low score will not do so (Oldham et al., 2000).

10.3 Results

The site itself does not support any freshwater waterbodies, however, two freshwater bodies were identified within 500m of the application site: approximately 50m W and 230m NE. The closest waterbody to the site is a tributary of the River Hamble and the second waterbody is on-line with a tributary of the River Hamble. As such both are considered to be wholly unsuitable for GCN due to the high likelihood of fish presence and flow rates within the waterbodies.

10.4 Assessment

Given the absence of a network of waterbodies within 500m of the application site and the lack of suitable terrestrial habitat within the application site, there is considered to be negligible potential for great crested newt to occur on site.

11. Breeding Birds

11.1 Methodology

An assessment was made of the site's suitability to support breeding bird species. Nesting birds will utilise a broad range of habitats, including: built structures, trees, scrub, isolated shrubs, dense herbaceous vegetation (terrestrial and aquatic) and open grassland. All bird species and evidence of breeding activity (active or inactive) observed on site were recorded.

11.2 Limitations

Limitations were not encountered during the course of the survey.

11.3 Results

The larger ornamental shrubs within the site and the adjacent tree line are considered to support nesting opportunities for breeding birds.

11.4 Assessment

The site is considered to support moderate potential for breeding birds.

12. Discussion and Assessment of Impacts

12.1 Relevant legislation and policy

Circular 06/2005 identifies that applicants should not be required to provide information on protected species unless there is a reasonable likelihood that they will be present and affected by the proposed development. The site is considered to support habitats with suitability and potential for protected species and these may be affected by the proposed development. Therefore, the proposal triggers 'reasonable likelihood' under the Circular.

The Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (commonly referred to as the Habitats Regulations) may apply should protected species be confirmed on site.

In the case that a European protected species (bats in this case) is found to be present and impacted by the proposal, the local planning authority will be required to engage with the Habitat Regulations. Permission will be granted unless:

- a) the development is likely to result in a breach of the Habitats Regulations, and
- b) is unlikely to be granted an EPS licence from Natural England to allow the development to proceed under a derogation from the law (under licence).

When considering whether Natural England would not be unlikely to grant a licence for the identified impact, the local planning authority must consider the three tests which are set out in the Habitat Regulations:

1. the consented operation must be for 'preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment'; (Regulation 53(2)(e))
2. there must be 'no satisfactory alternative' (Regulation 53(9)(a)); and
3. the action authorised 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range' (Regulation 53(9)(b)).

Natural England will grant a licence if the development proposal is able to meet the three tests.

Case-law (Morge vs. Hampshire County Council) has clarified that planning authorities are able to grant permission for developments that would cause a breach of the Regulations is likely (i.e. in the case of this proposal, destruction of a bat roost), provided that sufficient information is provided to give the planning authority assurance that the relevant EPSM licence is not unlikely to be granted - i.e. planning authorities also have a duty to assess planning applications against these tests.

12.2 Designated sites

The proposed works will not result in the direct loss of the identified designated sites.

No further impacts on designated sites associated with the proposed extension of the existing property are anticipated.

12.3 Habitats

The main habitats which will be directly impacted are hard standing and bare ground. As the vegetation establishing on the bare ground which is to be removed is easily replicable and of low botanical value, it is considered that there will be no impact to habitats of ecological importance such as priority habitats as a result of its loss.

12.4 Bats

On the basis that the house supports negligible suitability for roosting bats, there is considered to be no reasonable likelihood of impacts on roosting bats associated with the extension of this structure.

The application site is considered to support moderate suitability for foraging bats and commuting bats leaving or returning to roost. Increasing lighting could impact this behaviour which would indirectly impact roosts.

12.5 Badgers

The site supports moderate suitability for badger. Therefore, impacts to badgers could occur during construction if trenches are left open. Impacts on badgers associated with loss or damage of setts or loss of foraging habitat are not anticipated.

12.6 Hazel dormouse

The proposal will not result in the loss of habitat which is considered to support suitability for dormice. Therefore, no impacts on dormice are anticipated.

12.7 Hedgehog

Impacts on hedgehogs may result from the removal of foraging or nesting habitat associated with the scrub and introduced shrub.

12.8 Reptiles

The development of the site will result in the loss of habitat which has potential to support low numbers of widespread reptiles. Therefore, the construction phase of any proposed development will have the potential to result in killing or injury of reptiles which would be an offence under the Wildlife and Countryside Act 1981 (as amended).

Therefore, there is considered to be potential for impacts upon these species.

12.9 **Great crested newts**

The proposed works will not result in the loss of habitat which is considered to support suitability for great crested newts. Therefore, no impacts on great crested newts are anticipated.

12.10 **Breeding birds**

The development of the site will likely result in the loss of suitable breeding bird habitat. The removal of this habitat has the potential to damage or destroy active bird nests if carried out during the breeding bird season which is generally seen as extending from March to the end of August, although may extend longer depending on local conditions. Development will also likely result in a net loss of bird nesting opportunities.

13. Requirement for further surveys

Further surveys are required where there is a reasonable likelihood that a protected species will be present and impacted by the proposed development. An assessment into the requirement for further surveys is presented below. In summary, no further surveys are considered necessary.

It is important that planning decisions are informed by current ecological survey data. Due to this, there is a limited time frame that phase 1 and phase 2 surveys are valid before becoming outdated. This time frame can vary depending on any changes in project circumstances or plans but it is generally considered that phase 1 ecological surveys are valid for a period of 18 months (CIEEM, 2019). Projects that take place over periods longer than 18 months might be required to carry out further ecological surveys to ensure planning authorities have the necessary up-to-date information to make well informed, evidence-based decisions.

13.1 **Designated sites**

No further surveys are considered necessary.

13.2 **Habitats**

No further surveys are considered necessary.

13.3 **Bats**

Subject to the precautionary mitigation measures set out in Section 14, no further surveys are considered necessary.

13.4 **Badgers**

Subject to the precautionary mitigation measures set out in Section 14, no further surveys are considered necessary.

13.5 **Hazel dormice**

As impacts on dormice are not anticipated, no further recommendations relating to dormice are considered necessary.

13.6 **Hedgehog**

Subject to the precautionary mitigation measures set out in Section 14, no further surveys are considered necessary.

13.7 **Reptiles**

Subject to the precautionary mitigation measures set out in Section 14, no further surveys are considered necessary.

13.8 **Great crested newts**

As impacts on great crested newt are not anticipated, no further recommendations relating to great crested newts are considered necessary.

13.9 Breeding birds

Subject to the precautionary mitigation measures set out in Section 14, no further surveys are considered necessary.

14. Mitigation recommendations

14.1 Bats

In order to limit any effects on foraging and commuting bats, external lighting should be limited to only that which is absolutely necessary for safety purposes, both during the construction phase and once the proposals are complete. The following lighting measures are required:

- Lighting to the dwelling should be as low brightness as possible, kept at a low level and directed away from all structures, boundaries and the designated site. Lighting on sensors should not be so sensitive that foraging bats trigger them.
- All lighting must follow the Bat Conservation Trusts and Institute of Lighting Professionals guidance on bats and artificial lighting (BCT, 2018).

14.2 Badgers

In order to avoid harm to badgers during the construction works, any trenches will either be covered at night or fitted with a soil or plank ramp to enable any badgers which fall in to leave on their own accord.

14.3 Hedgehogs

In order to avoid harm to hedgehogs during construction works the following precautionary measures will be employed:

- Any trenches will either be covered at night or fitted with a soil or plank ramp to enable any hedgehogs that fall in to leave of their own accord.
- Any leaf litter or garden waste piles will be dismantled by hand in a sensitive and careful manner.
- No bonfires will be made or lit on site.

14.4 Reptiles

Care should be taken that the development does not kill/injure reptiles. Key habitat features for reptiles include brash piles and rubble/soil heaps. Linkage to suitable habitat within the surrounding landscape will increase the potential for reptiles to occur, although populations can occur within isolated/fragmented habitats even within urban areas. Should any reptiles be encountered, they should be allowed to move away of their own accord. All waste shall be placed directly into a skip so that rubble piles and therefore potential hibernation areas are not created in areas which will subsequently be disturbed by site works.

14.5 Breeding birds

Care should be taken that development does not impact breeding birds. The bird nesting season is taken to be March to August, inclusive. Any removal of suitable nest habitat will either need to be undertaken outside of this period or else checked by an experienced ecologist to ensure that no nesting birds are present. If occupied nests are present then

the nest must not be removed and works around the nest can only recommence once the nest becomes unoccupied of its own accord.

15. Enhancements

The delivery of biodiversity enhancement on development sites is promoted by the National Planning Policy Framework (NPPF) and Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006.

Where opportunities exist it is best practice to provide enhancement features which encourage greater biodiversity within development sites in accordance with the NPPF and Local Planning Authority's responsibilities under the NERC Act.

Opportunities for enhancement which are proportionate to the scale of the development include:

- The provision of new bat roosting opportunities in the form two bat boxes. These should be installed as high as possible, at least 3m above ground, in different locations of sheltered positions on the southern or eastern elevations of the dwelling.
- The provision of additional bird nesting opportunities. These should be external boxes located on the walls of the two-storey extension. A total of three swift boxes would be appropriate.

16. Conclusion

The extended phase 1 ecological assessment has confirmed that the site supports opportunities for a range of protected species including hedgehogs, badgers and breeding birds.

The preliminary roost assessment has confirmed that the house supports negligible suitability for roosting bats. As such, no adverse impacts on bats or their roost are anticipated.

Given the scale of the proposal, it is possible to deliver the scheme with a range of measures which avoid impacts on the other identified protected and priority species. These include sensitive timing of the works, careful vegetation removal and sensitive lighting.

Opportunities for ecological enhancement have been suggested for the site.

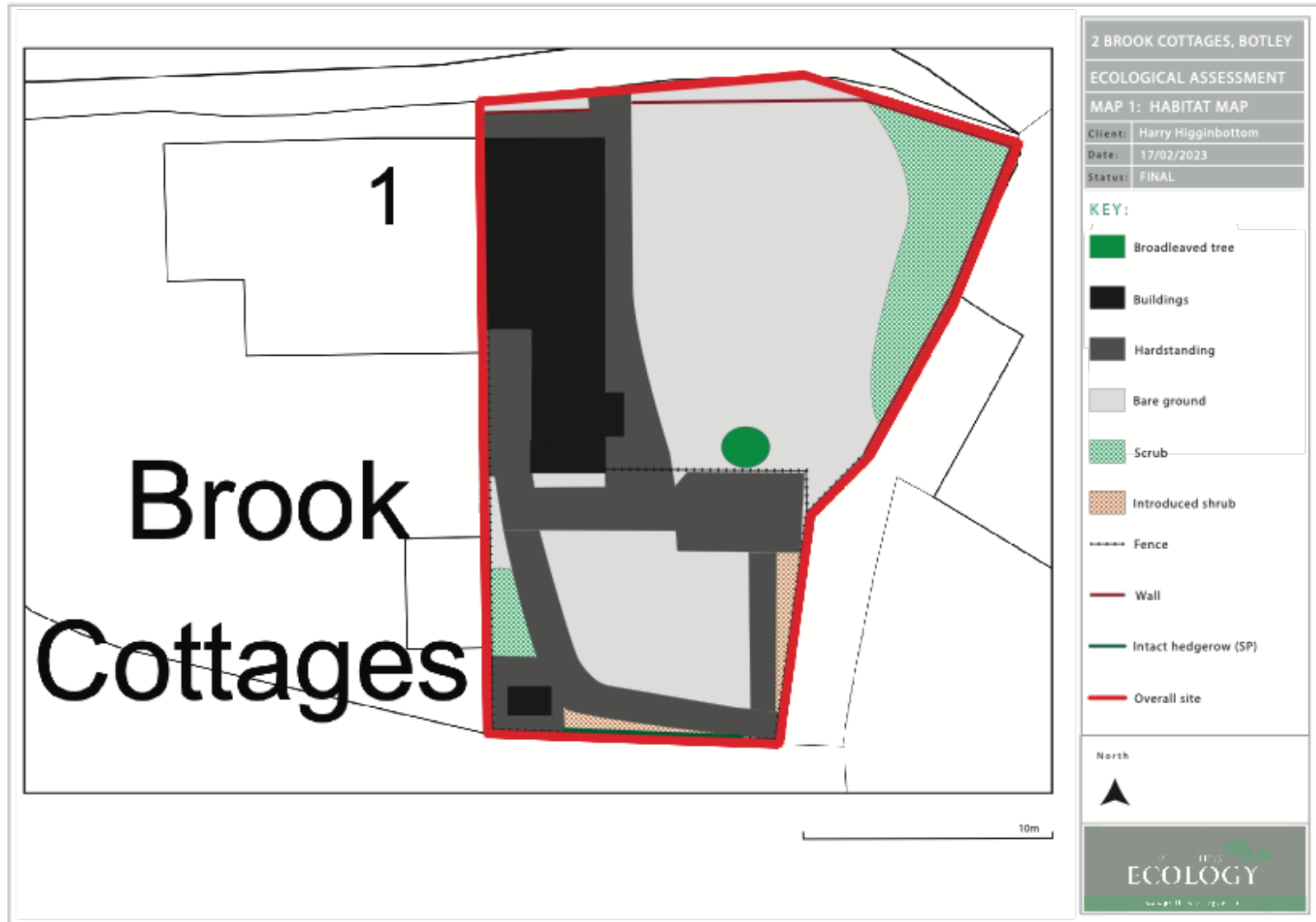
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Appendix 1 – Site Location Plan



Appendix 2 – Phase 1 Habitat Map





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