

1 Merdon Close, Chandler's Ford, Eastleigh, SO53 1EF

Preliminary Roost Assessment Report

July 2024

Hampshire Ecological Services Ltd
Consultant Ecologists

E: enquiries@hantsecology.co.uk

W: www.hantsecology.co.uk

T: 0771 456 8361

Preliminary Roost Assessment Report**1 Merdon Close, Chandler's Ford****for****Mr & Mrs Rix**

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Prepared by:	Rev 0	Rev1
ADAM RYE Ecologist	17/07/24	-
First review & Technical QA by:		
VICTORIA RUSSELL Principal Ecologist	24/07/24	25/07/24
Second review & Technical QA by:		
JOHN POLAND Principal Ecologist	25/07/24	-

This report represents sound industry practice; reports and recommends correctly, truthfully and objectively; is appropriate given the local site conditions, scope of works proposed and resources allocated to us by the client; and avoids invalid, biased, and exaggerated statements.

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EXECUTIVE SUMMARY

1. This report provides details from a preliminary roost assessment survey carried out by Hampshire Ecological Services Ltd for Mr & Mrs Rix in connection with a proposal to construct a two-storey front porch extension; conversion of the integrated garage into habitable accommodation; conversion of the integrated garden store into habitable accommodation; and elevational alterations at 1 Merdon Close, Chandler's Ford, Eastleigh, SO53 1EF (approximate Ordnance Survey Grid Reference SU438216). The site consists of a large house with an integrated garage and storage room area, there is a detached car port and front and rear gardens. The location of the site is shown in *Figures 1* and *2* and the buildings surveyed are shown in *Figure 3* in *Section 6*.
2. An internal and external survey of the buildings was carried out by ecologist Adam Rye BSc (Hons) accredited under bat licence 2015-11159-CLS-CLS on the 28th of June 2024.
3. The house is a two-storey brick building with a pitched and hipped roof. Full details of the buildings are given in *Table 4.2.1* in *Section 4.2*.
4. No bats or evidence of bats was found and the roof appears well-sealed and in good condition with only a couple of raised or damaged roof tiles. Details of potential bat access points and external roost locations are illustrated in *Images 4.3.1.1 & 4.3.1.2*. None of the features with bat roost suitability (such as the hanging tiles) will be affected under the current plans. Therefore, although the wider house has at least low bat roost suitability, the affected part of the building is classed as having negligible suitability to be used by roosting bats.
5. Although the features of the house that have bat roost suitability are not affected by the current proposed plans, due to their proximity to the works a precautionary working statement will be adhered to in order to protect the existing suitable bat roost features; ensure that any bats that may be using the site for roosting are not harmed; and ensure that no bat flight paths are blocked. Further details are given in *Section 5.2.3*.
6. The integrated garage is a single-storey room at the north-east end of the house. Full details of the buildings are given in *Table 4.2.1* in *Section 4.2*.
7. The proposed works include converting the integrated garage into habitable accommodation, this will include altering the internal layout of the building. No bats or evidence of bats was found and this area of the building appears well-sealed and in good condition with no potential bat access points or exterior features that provide potential roosting locations for bats. Therefore, the garage is classed as having negligible suitability to be used by roosting bats. Therefore, the proposed works may commence without further survey or constraints regarding bats (subject to any planning constraints).

8. The mature trees, shrubs and hedges on the boundaries of the gardens provide sheltered bat foraging habitat in the immediate vicinity of the buildings. They connect a network of hedges and tree-lines in nearby gardens as well as to the lakes and woodland of Hiltingbury Lakes (c.116m east). These in turn connect the site to areas of high-quality foraging habitat in the wider landscape such as woodland and waterways. Therefore, the site has moderate commuting and foraging habitat. The connectivity around the edges of the site (the trees, shrubs and hedges) will be retained and as such no impact to commuting and foraging bats (and hence bat populations in the local area) is anticipated.
9. The proposed works involve constructing a new two-storey front porch which will affect some of the tiles on the south elevation and partly expose the loft void. The garden storeroom and the integrated garage will also be converted into habitable accommodation which will affect the internal layout and structure of the building. Without mitigation, the proposed works have the potential to disturb, injure or kill a bat. A summary of the proposed mitigation and compensation measures is given in *Section 5.6*.
10. Changes in lighting can affect foraging and commuting bats. Therefore, no works should take place in the hours of darkness or under artificial lighting. In addition, no lighting should be directed onto retained vegetation (particularly the trees), and security lights should operate on a timer, to avoid any negative impact on bats. The use of non-UV LED lighting (preferably using warm spectrum wavelengths) is strongly recommended to avoid the most deleterious impacts of lighting on biodiversity and bats in particular.
11. All of the trees, shrubs and hedges provide suitable habitat for nesting birds. The destruction of active bird nests is prohibited under the *Wildlife and Countryside Act 1981* (as amended). No vegetation is currently proposed to be removed. Should this change, any affected vegetation with the potential to support nesting birds should be cut to near ground level (approximately 30cm) outside the bird breeding season (which is late February to August inclusive). If this is not possible, and vegetation has to be removed during the nesting season, then it should be inspected (by an ecologist) for nests immediately prior to removal of the vegetation. If any active nests are found during works, a 5m buffer zone should be established around them and be temporarily fenced off to prevent plant or personnel disturbing the nest until the end of the breeding bird season (or until the nest is no longer in use).
12. Great crested newts are protected under the *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*, *Wildlife and Countryside Act 1981* and under *Section 41* of the *Natural Environment and Rural Communities Act 2006*. The majority of the site is short, mown lawns, which is sub-optimal habitat for great crested newts. Therefore, it is not anticipated that this species will be found on site. However, due to the site's location, within the red and amber impact zone for great crested newts, as a precautionary measure the works will be carried out in line with the measures described in *Section 5.3.2*.

13. It is a requirement under national planning policy to provide ecological enhancements to sites requiring planning permission in order to provide a net gain in biodiversity. Therefore, the following enhancement measures are proposed:
- One bee brick will be installed in the exterior of the new build structure. This will be on the south elevation so that it is in a sunny location close to vegetation. Bee-friendly and insect friendly plants will be located nearby so that the bees and insects using the boxes have food. Lavender, honeysuckle and buddleia are all pollinator-friendly plants. Alternatively, if this is not viable due to construction methods, one bee or insect hotel from the suggestions in *Table 5.6.5.1* will be placed in a sunny location on the site. The bee and insect hotels (especially the BeePot planter) have been chosen so that they form an attractive feature as part of the landscaping. Solitary bees are non-aggressive and as such are suitable for gardens with pets and children.
 - Plants that attract bees and other insects are generally helpful and trees, shrubs and flowering plants can provide cover for wildlife. Therefore, to enhance the ecological value of the site, the existing planting, around the edges of the garden, will be enhanced with supplemental planting. Examples of suitable species and additional information on flowering periods is given in *table 5.6.2.1*. Additional suggestions are given in *Appendix C*. A mixture of plants will be planted to encourage a diversity of insects. Flowers that bloom throughout the year, including both annuals and herbaceous perennials, are beneficial. Night-flowering blossoms attract night-flying insects, which in turn provide prey for bats.
 - One woodstone bird box suitable for use by blue tits and great tits will be attached to one of the mature trees in the rear garden to provide a new nest site. A strap or other non-invasive fixing will be used to fix the bird box to the tree. The bird box is detailed in *Table 5.6.4.1*.
14. The proposed enhancement measures are shown in *Figures 4 & 5* in *Section 6*.
15. Other enhancements for wildlife that the owners of the site may choose to employ are given in *Appendix C*. However, these are not proposed as enhancements for the purposes of the planning application, but only for information purposes.
16. This survey data is valid for a maximum of 12 months. Bats frequently move around and adopt new roosting sites, therefore if more than 12 months elapse it may be advisable to conduct further survey work to obtain up-to-date information, thereby ensuring protected species compliance.
17. According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), the site is neither designated nor immediately adjacent to any designated areas of nature conservation. However, there are designated sites nearby (see *Table 4.1.1.1* in *Section 4.1.1*) None of these will be directly affected by this small-scale development and all links will be maintained.
18. The site is within 5km of Emer Bog SAC (c.3932m west) and the River Itchen SAC (c.2451m east). As a result of its proximity, the impacts of these small-scale works on the SACs must be considered. The works will cause an increase to the building size but not to the number of people occupying the building, as the house is a residential property and is staying under the same

ownership. Therefore, there will be no increase in the recreational pressure, or pollution, on the nearby internationally designated sites.

19. According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), there have been six granted bat European Protected Species (EPS) licences and one dormouse EPS license within 2km of the site. Due to their close proximity, it is likely that any bats using the site would be part of the same meta-population. However, due to the small-scale of the proposed works and the fact the gardens will be retained, any impacts are considered to be minimal.

INTRODUCTION

2.1 General

This report provides information from a preliminary roost assessment survey carried out by Hampshire Ecological Services Ltd for Mr & Mrs Rix in connection with a proposal to construct a two-storey front porch extension; convert the integrated garage into habitable accommodation; convert the integrated garden store into habitable accommodation; and elevational alterations at 1 Merdon Close, Chandler's Ford, Eastleigh, SO53 1EF (approximate Ordnance Survey Grid Reference SU438216). The location of the site is shown in *Figures 1 and 2 in Section 6*.

2.2 Site description

The site consists of a house with an integrated garage as well as a detached carport with a converted loft space. There are also front and rear gardens. The gardens are mainly amenity grassland (lawns) with a variety of trees, hedges and ornamental planting along the boundaries. The buildings surveyed are shown on the plan in *Figure 3 in Section 6*.

The site is on the north side of Merdon Close, on the northern side of Chandler's Ford. The immediate surroundings consist of residential housing in all directions. The gardens of the surrounding properties are all connected by tree-lines and hedge-lines, which in turn connect the site to small patches of woodland and waterways in the immediate vicinity of the site such as Hiltingbury Lakes (c.116m east). In the wider landscape, beyond the housing estates of Chandler's Ford, agricultural land and grassland dominate the landscape together with fragmented patches of woodland and private dwellings/ farms. This land usage continues until larger towns are reached such as Southampton to the south and Winchester to the north. In addition, The River Itchen is located c.2451m to the east.

2.3 Proposed activities

This survey was carried out in connection with a proposal to carry out the following works:

- construct a two-storey front porch extension;
- convert the garage into habitable accommodation;
- convert the garden store into habitable accommodation; and
- elevational alterations.

2.4 Current planning status

Planning permission is being applied for at this site.

2.5 Objectives of the survey and report

The survey by Hampshire Ecological Services Ltd included internal and external inspections of the buildings to identify bat roost suitability and to systematically search for bats and evidence of bats. The aim was to identify if bats were present or likely to use the site for roosting.

The survey and the report writing were carried out in accordance with *Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edition* (Collins, 2023). Any deviations from the guidelines are justified in the relevant sections.

Additionally, all ecological surveys should be completed in line with Natural England's *Standing Advice for Local Authorities*

(<http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/advice.aspx>), which states:

- Natural England will not comment on applications that are submitted without the relevant protected species surveys if there are no other issues (i.e. in relation to SSSIs or landscape).
- Natural England will not comment on scoping surveys that recommend further surveys where these have not been undertaken and submitted with the scoping reports.

2.6 Structure of this report

This report is structured as follows:

- *Section 1* contains the executive summary;
- *Section 2* contains an introduction;
- *Section 3* describes the survey methods;
- *Section 4* describes the results;
- *Section 5* evaluates the findings;
- *Section 6* contains the figures including:
 - *Figure 1* gives aerial photographs showing the site location;
 - *Figure 2* gives an Ordnance Survey map showing the location of the site;
 - *Figure 3* gives a site plan showing the area and buildings surveyed; and
 - *Figures 4 & 5* give the indicative locations of the proposed enhancements measures.
- *Section 7* gives photographs of the site;
- *Section 8* lists the references;
- *Appendix A* gives information on relevant legislation;
- *Appendix B* gives information on bat ecology; and
- *Appendix C* lists other enhancements for wildlife (for information, not part of the planning application).

METHODS

3.1 Desk study

The *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk) was used to search for designated sites on or adjacent to the site including Local Nature Reserves (LNRs), National Nature Reserves (NNRs), Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites. The search area was 5km for SAC and SPA sites and 2km for LNRs, NNRs, Ramsar sites and SSSIs, as specified in Hampshire's *Biodiversity Checklist*. The search area is also 500m for Sites of Importance to Nature Conservation (SINCs) and ancient semi-natural and ancient replanted woodlands.

In addition, the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk) was used to search for granted European Protected Species (EPS) licences in relation to bats within 2km of the site.

A data search from the Hampshire Biodiversity Information Centre (HBIC) has not been commissioned by the client in relation to this site.

3.2 Field survey

3.2.1 Date, time and weather

An external and internal inspection of the buildings was carried out during the daytime on the 28th June 2024. The weather conditions during the survey were 16°C and overcast with 100% cloud cover and a gentle wind (Beaufort scale 1).

3.2.2 Personnel

The internal and external inspections were carried out by Adam Rye BSc (Hons) who is experienced in undertaking bat roost surveys and is accredited under Bat Class Licence Registration number 2015-11159-CLS-CLS.

This report was reviewed by John Poland CEnv MCIEEM CBiol MSB, who is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM), a Chartered Environmentalist (CEnv), a Chartered Biologist (CBiol) and multi-species licence holder with 23 years of experience in ecological consultancy and Victoria Russell MCIEEM who is also a full member of the CIEEM and multi-species licence holder with over 25 years of experience in ecological consultancy.

All staff adhere to the Chartered Institute of Ecology and Environmental Management's (CIEEM) *Code of Professional Conduct*.

3.2.3 *Assessment of current bat roost suitability*

Because bats are crevice-dwelling mammals it is often difficult to thoroughly inspect buildings for bats and evidence of bats. Examples are where bats roost between the roofing felt and tiles or slates, around window frames and behind bargeboards. These areas cannot be inspected, but a surveyor would know that bats might roost here because there are places where bats could gain entry. A pipistrelle bat is small enough to fit into a match box and can roost in gaps just 14-20mm wide.

The buildings were assessed for their **bat roost suitability** according to the following factors that influence the likelihood of bat roosting:

- Surrounding habitat: whether there are potential flight-lines and bat foraging areas nearby.
- Construction detail: the type and construction of architectural features such as attics, bargeboards, soffit boxes, lead-flashing, cavity walls and hanging tiles that could be used by roosting bats. Some construction details and materials are more favourable to bat occupation than others.
- Building condition: whether the building has no roof or has a sound roof without any potential bat access points.
- Internal conditions: bats favour sheltered locations with a stable temperature regime, protection from the elements and little wind/light/rain penetration.
- Potential bat access points: whether there is flight and crawl access.
- Potential roosting locations: the presence of bat-accessible voids, cracks and crevices.

The risk of bat roosts being present will be lower where structures have:

- Urban setting with little greenspace.
- Heavy disturbance.
- Small, cluttered roof void (particularly for brown long-eared bats).
- Modern construction with few gaps or crevices that bats can fly or crawl through (although pipistrelles may still be present).
- Prefabricated steel or sheet materials.
- Active industrial premises.

The above list provides generic criteria and there are exceptions to consider. For example, pipistrelle roost sites are often found in modern housing estates and therefore the absence of bats from such locations should not always be assumed.

Some information on bat ecology is included in *Appendix B*.

3.2.4 *Systematic inspection for bats or evidence of bats*

The buildings were assessed for their suitability to support roosting bats using the following access and inspection equipment: high-quality 10x42 binoculars; a 1,000,000 candlepower Clulite™ CB2 torch; an LED pen torch and a 3.8m surveyors' ladder. Binoculars were employed to view higher areas such as potential access points on the outside of the buildings. A description of the buildings was recorded on a survey sheet and digital photographs were taken as a permanent record.

Visual, systematic examinations were made for bats and evidence of bats in the buildings, both internally and externally, of the following:

- roof beams, especially the ridge beam;
- cracks, crevices and sheltered voids;
- the floors and stored items;
- external features such as cracks and holes in the walls; and
- wall bases.

Evidence of roosting bats includes droppings, feeding remains and dead bats, but also staining from urine and fur-oils, scratch marks, odour, the presence of bat-fly (Nycteribiid) pupal cases, and in some cases, the absence of cobwebs.

Bat droppings can prove beyond doubt that bats use a building and can help to identify roosting locations because piles often accumulate beneath roosting sites or entrance points. The location, size, shape, texture and colour of the droppings can be used to aid species identification. DNA analysis of droppings is also possible and samples are taken where necessary. The number and condition (age) of droppings can indicate the size of the roost and when it was last used.

Following the internal and external inspections, the buildings were assigned a level of suitability for being used by roosting bats. This was based on the criteria in *Table 3.2.4.1* (Collins, 2023).

Table 3.2.4.1. Bat Roost Suitability.

Suitability	Description of roosting habitats	Description of commuting and foraging habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year (<i>i.e.</i> a complete absence of crevices/suitable shelter at all ground/underground levels).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (<i>i.e.</i> no habitats that provide continuous lines of shade/protection for flight-lines or generate/shelter insect populations available to foraging bats).
Negligible*	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/ or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (<i>i.e.</i> unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats).	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, <i>i.e.</i> not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths, such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.

Suitability	Description of roosting habitats	Description of commuting and foraging habitats
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
*Negligible is defined as 'so small or unimportant as to be not worth considering, insignificant'. This category may be used where there are places that a bat could roost or forage (due to one attribute) but it is unlikely that they actually would (due to another attribute).		

4

RESULTS**4.1 Desk study****4.1.1 Designated sites**

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), the site is not designated or immediately adjacent to any designated areas of nature conservation. However, there are designated sites nearby. These are listed in *Table 4.1.1.1*.

Table 4.1.1.1. Statutory designated sites; non-statutory designated sites and ancient semi-natural and ancient replanted woodlands within the designated search areas of the site.

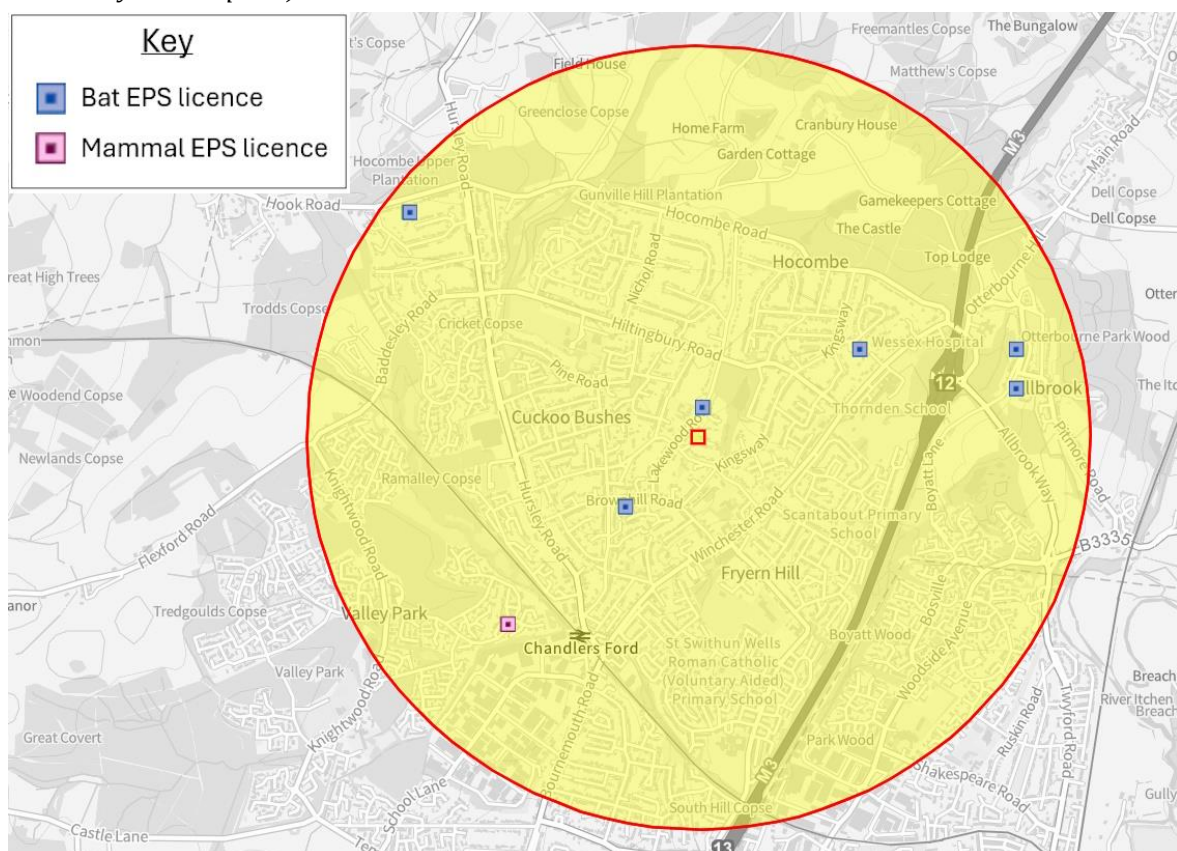
Level of designation	Designation	Name	Distance & direction from site
International	SPA	-	-
	Ramsar	-	-
	SAC	River Itchen	c.2451m east
		Emer Bog	c.3932m west
National	SSSI	Trodds Copse	c.1947m north-west
		-	-
	NNR	-	-
County	LNR	Hocombe Mead	c.1248m north-west
		Valley Park Woodlands	c.1878m south-west
Local	SINC	-	-
	Ancient woodland	-	-
		-	-

4.1.2 Bats

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), there have been six bat European Protected Species (EPS) licences and one dormouse EPS license granted within 2km of the site. These are listed in *Table 4.1.2.1* and their locations are shown in *Figure 4.1.2.1*.

Table 4.1.2.1. Granted European Protected Species (EPS) licences within 2km of the site

Species subject of licence	Type of habitat affected	Date licence was granted	Distance & direction from site
Dormouse	Breeding site and resting place	13/11/2014	c.1552m south-west
Brown long-eared bat, common pipistrelle, serotine, soprano pipistrelle	Resting place	22/03/2017	c.321m north
Soprano pipistrelle	Resting place	02/01/2021	c.526m south-west
Brown long-eared bat, common pipistrelle, soprano pipistrelle	Resting place	27/04/2017	c.912m north-east
Common pipistrelle, soprano pipistrelle	Resting place	01/03/2016	c.1621m east
Brown long eared bat	Resting place	16/04/2018	c.1706m north-east
Common pipistrelle, soprano pipistrelle, brown long-eared bat, Natterer's bat	Breeding site and resting place	17/04/2012	c.1929m north-west

Figure 4.1.2.1. Location of sites with granted bat EPS licences within 2km of the site (site location marked by a red square).

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4.2 Survey of buildings

The construction details and photographs of the buildings are summarised in *Table 4.2.1*. Additional photographs showing the garden are given in *Section 7*.

Table 4.2.1. Summary of the buildings' construction details.

Type/Name	House	Garage (integrated)
Description	A two-storey brick building with a pitched, tiled roof. There is a flat-roof extension on the east elevation.	A single-storey brick room, integrated into the ground-floor of the house.
No. of storeys	2	1
Roof type	Pitched and partly hipped	N/A
Roof cladding	Tile	N/A
Ridge	Tile	N/A
Wall type	Brick	Brick
Exterior	Flat roof extension (east elevation), hanging tiles (all elevations), lead-flashing, chimneys (east and west elevations)	Garage door
Photos	North elevation 	North elevation 
	East elevation 	East elevation 
	South elevation 	South elevation N/A-detached

	West elevation 	West elevation N/A-detached
Building dimensions	c.13m wide x c.12.5m long	c.7m wide x c.7m long
Roof void description	Relatively uncluttered with the exception of stored items. The floor is lined with wooden boards and has fibreglass insulation.	N/A
Frame	Wooden beams and ridge beam	N/A
Roof lining	Roofing felt	No lining
Roof void dimensions	c.7m wide x c.14m long 	N/A
Roof void height	c.2.5m	N/A

Potential roosting locations	Against the ridge beam and between the roof tiles and the internal lining.  The bitumen roof lining has ripped in places and could allow bats to access the roof void. 	N/A
Bat evidence	None	None
Bat suitability	Affected area: negligible Wider house: low	Negligible
Further surveys needed?	No, unless the proposals change to affect the hanging tiles. If the hanging tiles are affected, one bat activity survey will be needed.	No

4.3 **Potential bat access points and potential external roost locations**

4.3.1 *House*

The roof appears well-sealed and in good condition with only a couple of raised/ damaged roof tiles. None of the features with bat roost suitability (such as the hanging tiles) will be affected under the current plans. Therefore, although the wider house has higher bat roost suitability, the affected part of the building is classed as having negligible suitability to be used by roosting bats, following the criteria in *Table 3.2.4.1*.

The locations and details of the potential bat access points and exterior roosting features are illustrated in *Images 4.3.1.1 & 4.3.1.2*.

Image 4.3.1.1. Location of potential bat access points and potential external roost locations on the north elevation of the house.



Image 4.3.1.2. Location of potential bat access points and potential external roost locations on the south elevation of the house.



4.3.2 Integrated garage

This area of the building appears well-sealed and in good condition with no potential bat access points into building or exterior features that provide potential roosting locations for bats. Therefore, the building is classed as having negligible suitability to be used by roosting bats, following the criteria in *Table 3.2.4.1*.

4.4 **Commuting and foraging habitat**

The mature trees, shrubs and hedges on the boundaries of the gardens provide sheltered bat foraging habitat in the immediate vicinity of the buildings. They connect a network of hedges and tree-lines in nearby gardens as well as to the lakes and woodland of Hiltingbury Lakes (c.116m east). These in turn connect the site to areas of high-quality foraging habitat in the wider landscape such as woodland and waterways. Therefore, the site has moderate commuting and foraging habitat, following the criteria in *Table 3.2.4.1*.

Bats follow linear landscape features such as lines of trees, hedges, buildings and waterways in order to commute from their roost sites to their feeding grounds. Likewise, they use these features to navigate between feeding areas and alternative roosts.

4.5 *Evidence of bats*

No bats or evidence of bats was found.

4.6 *Other ecological constraints*

4.6.1 *Birds*

All trees, shrubs and hedges on site provide suitable nesting habitat for birds.

4.6.2 *Great crested newt*

The site is in a red and amber impact zone for great crested newts. However, the majority of the site is short, mown lawns, which is sub-optimal habitat for this species.

5 **INTERPRETATION AND EVALUATION**

5.1 **Constraints**

5.1.1 *Constraints on survey data*

Detailed searches often result in the discovery of evidence of bats. However, although such surveys can identify the presence of bats it is more difficult to prove absence due to the crevice-dwelling nature of these elusive mammals. Bat droppings may be missed where there is debris to obscure them (and also, very old droppings generally crumble away to dust).

Evidence of crevice-dwelling bats, such as pipistrelles, is often not discovered on preliminary roost appraisals.

It is often difficult to thoroughly inspect buildings for bats and evidence of bats without a destructive search, which is not generally legal, practical or acceptable.

5.1.2 *Constraints on the mitigation, compensation and enhancement measures*

There is a limit to the amount of enhancement measures that are possible (and reasonable) on a householder site.

As the affected parts of the buildings have negligible bat roost suitability no mitigation or compensation measures are needed.

5.2 **Potential impacts of the proposed development on bat roosts**

5.2.1 *Desk study*

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), the site is neither designated nor immediately adjacent to any designated areas of nature conservation. However, there are designated sites nearby (see *Table 4.1.1.1* in *Section 4.1.1*). None of these will be directly affected by this small-scale development and all links will be maintained.

The site is within 5km of Emer Bog SAC (c.3932m west) and the River Itchen SAC (c.2451m east).

The River Itchen SAC is designated because it is a watercourse with *Ranunculus fluitantis* as well as the presence of otter and of several protected invertebrates, fish including southern damselfly, freshwater crayfish, brook lamprey, Atlantic salmon and bullhead.

Emer Bog is designated due to the presence of transition mires and quaking bogs.

As a result of its proximity, the impacts of these small-scale works on the SACs must be considered.

The works will cause an increase to the building size but not to the number of people occupying the building, as the house is a residential property and is staying under the same ownership. Therefore, there will be no increase in the recreational pressure, or pollution, on the internationally designated sites.

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), there have been six bat European Protected Species (EPS) licences and one dormouse EPS license granted within 2km of the site. Due to their close proximity and/ or connecting habitat, it is likely that any bats using the site for commuting and/ or foraging are part of the same meta-population. However, due to the small-scale of the proposed works and the fact the gardens will be retained, any impacts are considered to be minimal.

5.2.2 *Commuting and foraging bats*

The mature trees, shrubs and hedges on the boundaries of the gardens provide sheltered bat foraging habitat in the immediate vicinity of the buildings. They connect a network of hedges and tree-lines in nearby gardens as well as to the lakes and woodland of Hiltingbury Lakes (c.116m east). These in turn connect the site to areas of high-quality foraging habitat in the wider landscape such as woodland and waterways. Therefore, the site has moderate commuting and foraging habitat.

Woodland and waterways provide high-quality foraging habitat for a number of different species of bat. These areas will be unaffected by the development and all links will be maintained. The connectivity around the edges of the site (the trees, shrubs and hedges) will be retained and as such no impact to commuting and foraging bats (and hence bat populations in the local area) is anticipated.

Changes in lighting can affect foraging and commuting bats. Therefore, no works should take place in the hours of darkness or under artificial lighting. In addition, no lighting should be directed onto retained vegetation (particularly the trees), and security lights should operate on a timer, to avoid any negative impact on bats.

The use of non-UV LED lighting (preferably using warm spectrum wavelengths) is strongly recommended to avoid the most deleterious impacts of lighting on biodiversity and bats in particular.

5.2.3 *House*

The proposed works include a two-storey front porch extension, this will expose part of the roof void of the house where the tiles are removed to allow for the extension to be crafted in. The garden storeroom at the east end of the house will be converted into habitable accommodation, this will include altering the internal layout of the building. The rest of the roof and the hanging tiles will not be affected.

No bats or evidence of bats was found and the roof appears well-sealed and in good condition with only a couple of raised or damaged roof tiles. None of the features with bat roost suitability (such as the hanging tiles) will be affected under the current plans. Therefore, although the wider house has

low bat roost suitability, the affected part of the building is classed as having negligible suitability to be used by roosting bats.

If the current plans change and the hanging tiles and other features with bat roost suitability (such as lead-flashing) are affected then a bat activity survey (dusk emergence survey) will need to be carried out.

Although the features of the house that have bat roost suitability are not affected by the current proposed plans, due to their proximity to the works the following precautionary working statement will be adhered to in order to protect the existing suitable bat roost features; ensure that any bats that may be using the site for roosting are not harmed; and ensure that no bat flight paths are blocked.

The removal of the tiles to allow the construction of the two-storey front porch will be carried out in line with the precautionary method of hand demolition for bats. The strategy focuses on careful searching and removal of roof tiles.

All roof tiles will be stripped and dismantled carefully. They will be removed one-by-one by gently lifting each one vertically and inspecting underneath to check for bats. This ensures that in the unlikely event that any bats found they are unlikely to be harmed. Contractors must be aware this may be a slower pace of working compared to their normal routine and should factor this into their tenders/ method statements rather than trying to rush the task.

In the unlikely event that bats or evidence of bats be encountered, then works must stop immediately and the ecologist for this project contacted. As a last resort, the National Bat Helpline 0345 1300 228 can be contacted in an emergency.

Contractors and other unlicensed personnel are strictly forbidden from handling bats. Bats may only be captured by the ecologist, solely to check for injuries. If unharmed, the bat will be placed in a bat box on site. Any injured bats will be taken to a veterinary surgeon immediately.

No works should take place in the hours of darkness or under artificial lighting, this is because changes in lighting can affect foraging and commuting bats. Therefore. In addition, no lighting should be directed onto retained vegetation (particularly the trees), and security lights should operate on a timer, to avoid any negative impact on bats.

Additionally, any scaffolding or machinery that is present on site must stay clear of the second storey of the house where there are hanging tiles present. Hanging tiles offer a suitable external roosting location for bats and are a commonly used feature. In case bats are using the hanging tiles, flight paths from the hanging tiles towards the surrounding vegetation must not be blocked. This is because if bats are using the site as a roosting location they will have to emerge to go and hunt. If scaffolding is erected close to the hanging tiles, it has the potential to either trap them in the roost or cause a bat to be injured or killed if it emerges and collides with the scaffolding.

5.2.4 *Integrated garage*

The proposed works include converting the integrated garage into habitable accommodation, this will include altering the internal layout of the building.

No bats or evidence of bats was found and this area of the building appears well-sealed and in good condition with no potential bat access points or exterior features that provide potential roosting locations for bats. Therefore, the garage is classed as having negligible suitability to be used by roosting bats. Therefore, the proposed works may commence without further survey or constraints regarding bats (subject to any planning constraints).

5.2.5 *Alternative roosting potential*

There are buildings nearby that could provide alternative roosting for bats (see *Figure 1* in *Section 6*). In addition, there are several mature trees in the vicinity which could provide bat roosting opportunities.

5.3 *Other ecological constraints*

5.3.1 *Birds*

All of the trees, shrubs and hedges provide suitable habitat for nesting birds. The destruction of active bird nests is prohibited under the *Wildlife and Countryside Act 1981* (as amended). No vegetation is currently proposed to be removed. Should this change, any affected vegetation with the potential to support nesting birds should be cut to near ground level (approximately 30cm) outside the bird breeding season (which is late February to August inclusive). If this is not possible, and vegetation has to be removed during the nesting season, then it should be inspected (by an ecologist) for nests immediately prior to removal of the vegetation.

If any active nests are found prior to or during works, a 5m buffer zone should be established around them and be temporarily fenced off to prevent plant or personnel disturbing the nest until the end of the breeding bird season (or until the nest is no longer in use).

5.3.2 *Great crested newt*

The site is in a red and amber impact zone for great crested newts. Great crested newts are designated and protected as European protected species (EPS). EPS are protected under the *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*. Under this law, it is an offence to:

- deliberately kill, injure, disturb or capture them;
- deliberately take or destroy their eggs;
- damage or destroy their breeding sites and resting places – even if great crested newts are not present; and
- possess, control or transport the (alive or dead).

This species also is protected under the *Wildlife and Countryside Act 1981*. Under this law, it is an offence to:

- disturb great crested newts while they occupy a structure of place used for shelter or protection; and
- obstruct access to a place of shelter or protection.

This species is listed as a rare and most threatened species under *Section 41* of the *Natural Environment and Rural Communities Act 2006* under which its conservation must be addressed when considering planning decisions.

The majority of the site is short, mown lawns, which is sub-optimal habitat for this species. Therefore, it is not anticipated that great crested newts will be found on site. However, due to the site's location, within the red and amber impact zone for great crested newts, as a precautionary measure the works will be carried out in line with the following measures:

- fencing with footpads (that can act as refuge sites for great crested newts) will not be used. If temporary fencing is required, a low-impact fence will be used.
- vegetation under any temporary fencing will be kept short;
- storage of any building materials brought onto the site and any building work waste will be restricted (as far as possible) to areas of hard-standing;
- trenches and other excavations will be filled in before nightfall or, where this is impossible, ramps will be provided to allow the escape of any wildlife that has entered the excavation;
- all new building materials will be stored on pallets or in bags to avoid use as refuges; and
- building waste (*e.g.* rubble, solid debris) will be placed directly into skips (or other appropriate containers) and removed from the site as soon as possible, to avoid creating waste piles that could be attractive to wildlife.

In the unlikely event that great crested newts are found on site, then works must stop immediately and the ecologist for this project contacted for advice. Any suspected great crested newts should not be handled by contractors.

5.4 Survey report expiry

This survey data is valid for a maximum of 12 months. Bats frequently move around and adopt new roosting sites, therefore if more than 12 months elapse it may be advisable to conduct further survey work to obtain up-to-date information to advise work, thereby ensuring protected species compliance.

Given the mobility of bats, it is recommended that a walkover of the site to update the survey information is undertaken prior to the development commencing if this does not occur before the end of July 2025.

5.5 Further survey

No further surveys are proposed.

5.6 **Enhancement measures**

5.6.1 *General*

Under the Environment Act 2021, all planning permissions granted in England (with a few exemptions) have to deliver at least 10% biodiversity net gain (BNG) (required since January 2024 and since April 2024 for small sites). BNG will be measured using Defra's biodiversity metric and habitats will need to be secured for at least 30 years. This sits alongside:

- a strengthened legal duty for public bodies to conserve and enhance biodiversity,
- new biodiversity reporting requirements for local authorities, and mandatory spatial strategies for nature: Local Nature Recovery Strategies or 'LNRS'.

From the 20th July 2021, the Government published the revised National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2021). The document sets out the government's planning policies for England and how these are expected to be applied. This replaces a previous version which was published in June 2019. It states: "*at the heart of the Framework is a presumption in favour of sustainable development (paragraph 11).*"

It also states "*opportunities to incorporate biodiversity in and around developments should be encouraged*" as part of the consideration for "*presumption in favour of sustainable development*".

The updated National Planning Policy Framework (NPPF) also states (paragraph 170) that: "*Planning Policies and decisions should contribute to and enhance the natural and local environment by... minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*"

The updated Planning Policy Guidance (PPG) for the Natural Environment, updated in July 2019 states (paragraph 020) that:

"Net gain in planning describes an approach to development that leaves the natural environment in a measurably better state than it was beforehand."

The updated PPG provides examples of how biodiversity net gain can be achieved. Measures suggested include "creating new habitats" and "enhancing existing habitats".

It is proposed that the enhancements to provide biodiversity net gain will also be in the form of the following:

- Planting to enhance the site for bats (and other wildlife);
- sensitive lighting (for bats and other wildlife);
- new bird nesting provision; and
- insect boxes.

These enhancements are detailed in the following sections.

Other enhancements for wildlife that the owners of the site may choose to employ are given in *Appendix C*. However, these are not proposed as enhancements for the purposes of the planning application, but only for information purposes.

All proposed enhancement measures are subject to supplied plans.

5.6.2 Planting

Plants that attract bees and other insects are generally helpful and trees, shrubs and flowering plants can provide cover for wildlife. Therefore, to enhance the ecological value of the site, the existing planting will be enhanced with supplemental planting. Examples of suitable species and additional information on flowering periods is given in *table 5.6.2.1*. Additional suggestions are given in *Appendix C*.

A mixture of plants will be planted to encourage a diversity of insects. Flowers that bloom throughout the year, including both annuals and herbaceous perennials, are beneficial. Night-flowering blossoms attract night-flying insects, which in turn provide prey for bats.

Table 5.6.2.1. Examples of suitable garden herbs that could be planted in and around the site to encourage wildlife.

Species	Common Name	Approximate flowering period
<i>Borago officinalis</i>	Borage	Spring to early autumn
<i>Calendula officinalis</i>	English marigolds	Summer to autumn
<i>Foeniculum vulgare</i>	Fennel	Summer to early autumn
<i>Hyssopus officinalis</i>	Hyssop	Summer to early autumn
<i>Matthiola bicornis</i>	Night-scented Stock	Spring to autumn
<i>Melissa officinalis</i>	Lemon balm	Summer
<i>Monarda species</i>	Bergamot	Summer to early autumn
<i>Nicotiana species</i>	Tobacco-plant	Spring to autumn
<i>Origanum vulgare</i>	Marjoram	Summer
<i>Rosmarinus officinalis</i>	Rosemary	Spring
<i>Saponaria officinalis</i>	Soapwort	Summer to autumn
<i>Silene noctiflora</i>	Night-scented Catchfly	Summer to autumn
<i>Silene vulgaris</i>	Bladder Champion	Spring to summer
<i>Tanacetum parthenium</i>	Feverfew	Summer to early autumn
<i>Thymus species</i>	Thyme	Summer

5.6.3 Lighting

Changes in lighting can affect roosting, foraging and commuting bats. Therefore, no works should take place in the hours of darkness or under artificial lighting. In addition, no lighting should be directed onto the hanging tiles and retained or planted vegetation (particularly the trees). Any lighting installed should avoid spillage of greater than 0.1 lux (typical moonlight/ cloudy sky) near to or directly onto the hanging tiles and boundary vegetation so that light disturbance is not a problem. However, it is in a highly lit area and as such this may not be possible due to existing light spill. If this is the case any new lighting should not increase the level currently experienced and, if at all possible, should reduce any light spill due to the type of lighting used and the use of protection such as hoods and cowls. This is because lighting can impact bat populations directly by disturbing roosts

and reducing their foraging area, or indirectly by severing commuting routes from roosts. Therefore, the following (modified from *Bats and lighting in the UK* (ILP 2023)) should be undertaken:

- **Aim of light** The light should be aimed to illuminate only the immediate area required by using as sharp a downward angle as possible. This lit area must avoid being directed at, or close to, any retained vegetation. A shield or hood can be used to control or restrict the area to be lit. Avoid illuminating at a wider angle as this will be more disturbing to foraging and commuting bats, as well as people and other wildlife.

For any security lighting, the following should also apply:

- **Power** It is rarely necessary to use a lamp of greater than 2000 lumens (150W) in security lights. The use of a higher power is not as effective for the intended function and will be more disturbing for bats.
- **Movement sensors** Many security lights are fitted with movement sensors which, if well installed and aimed, will reduce the amount of time a light is on each night. This is more easily achieved in a system where the light unit and the movement sensor are able to be separately aimed.
- **Timers** If the light is fitted with a timer this should be adjusted to the minimum to reduce the amount of 'lit time'.
- **Alternatives** The requirement for security lighting in each instance should be carefully considered and only used where absolutely necessary to deter crime.

The use of non-UV LED lighting (preferably using warm spectrum wavelengths) is strongly recommended to avoid the most deleterious impacts of lighting on biodiversity and bats in particular.

5.6.4 *Birds*

One woodstone bird box suitable for use by blue tits and great tits will be attached to one of the mature trees in the rear garden to provide a new nest site. A strap or other non-invasive fixing will be used to fix the bird box to the tree. The bird box is detailed in *Table 5.6.4.1*.

Table 5.6.4.1. Bird box to be erected within the site with additional details on siting it to increase chances of occupancy.

Type & quantity	Typical species	No.	Height	Additional information
Vivara Pro Seville 32mm Woodstone Nest Box 	Blue tits, great tits	1	2-4m	- Position on a building or tree, angled north-east (away from prevailing winds) and tilt forward slightly. - Chances of occupation can be increased by positioning boxes near vegetation.

5.6.5 Insects

One bee brick will be installed in the exterior of the new build structure. This will be on the south elevation so that it is in a sunny location close to vegetation. Bee-friendly and insect friendly plants will be located nearby so that the bees and insects using the boxes have food. Lavender, honeysuckle and buddleia are all pollinator-friendly plants. Alternatively, if this is not viable due to construction methods, one bee or insect hotel from the suggestions in *Table 5.6.5.1* will be placed in a sunny location on the site. The bee and insect hotels (especially the BeePot planter) have been chosen so that they form an attractive feature as part of the landscaping. Solitary bees are non-aggressive and as such are suitable for gardens with pets and children.

Table 5.6.5.1. Examples of insect boxes that could be erected on site.

Type	Species	No.	Height	Additional information
Bee Brick 	Solitary bees	1	>1m from the ground	The Bee Brick should be positioned in a warm sunny spot, in a south-facing wall, with no vegetation in front of the holes
BeePot Bee Hotel 	Solitary bees	1	>1m from the ground	The BeePot should be positioned in a warm sunny spot, preferably on a south-facing wall, with no vegetation in front of the holes
Insect Tower 	Butterflies, solitary bees, lacewings and ladybirds	1	>1m from the ground	The different sections of the Insect Tower have been designed to provide a habitat for a variety of insect species. Suitable for mounting on buildings, trees or fences.

Urban Bee Nester 	Solitary bees and a range of other insects	1	Between 0.75m and 1.5m above ground	The selected canes and the holes are the optimum size for solitary bees but other insects may overwinter in the nester.
Urban Insect Hotel 	A wide range of insects	1	Between 0.75m and 1.5m above ground	Adding natural materials such as drilled canes, hollow stems or bark in the triangular spaces will encourage more insects to the hotel.
Bee and Bug Biome 	A wide range of insects	1	>1m from the ground	Best placed near vegetation. Provides plenty of nooks and crannies for insects such as ladybirds, earwigs and lacewings.

5.7 ***Requirement for Habitats Regulations licence***

A bat European Protected Species (EPS) licence from Natural England is not necessary before the proposed work commences on the house, integrated garage and garden store.

A licence from Natural England permits activities that may otherwise be offences under the *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*. It cannot be applied for on a precautionary basis.

FIGURES

Figure 1. Aerial photographs showing the location of the site.

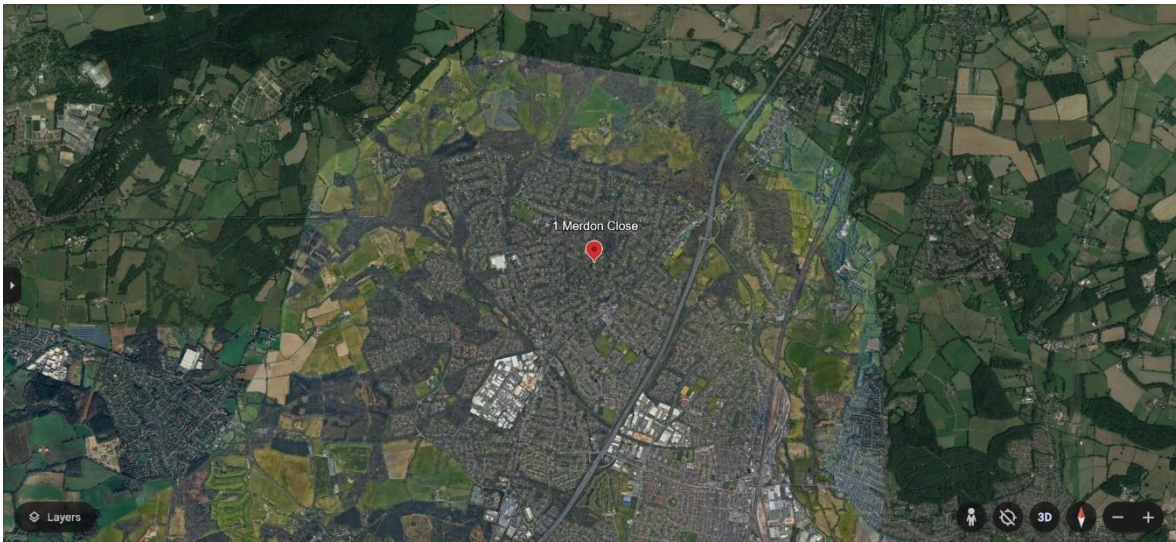
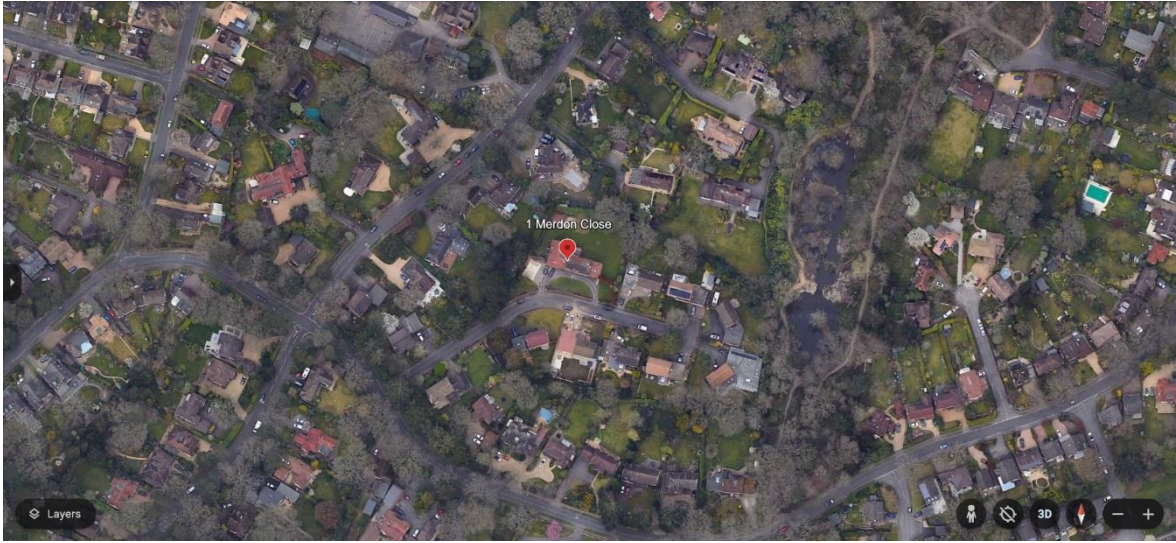


Figure 2. An Ordnance Survey map showing the site location, as indicated by the red arrow.



Reproduced with permission of Ordnance Survey under licence no. 100049977.

Figure 3. Plan of the site with the buildings surveyed highlighted in red.

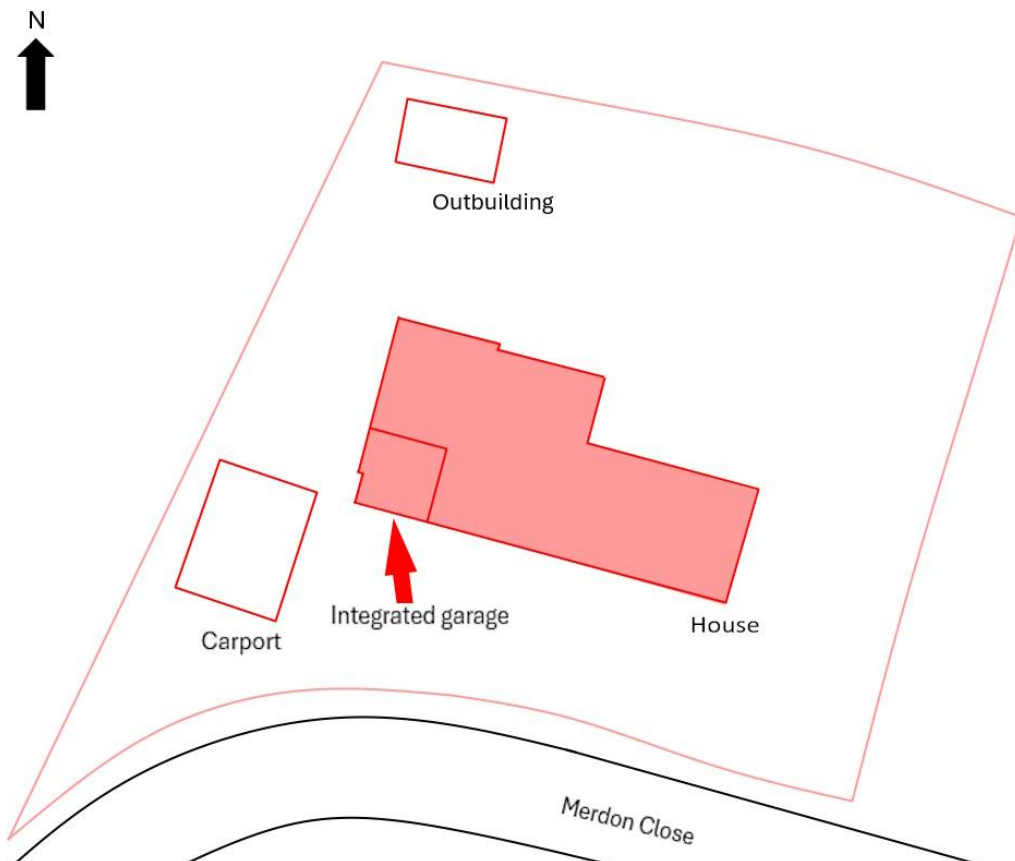
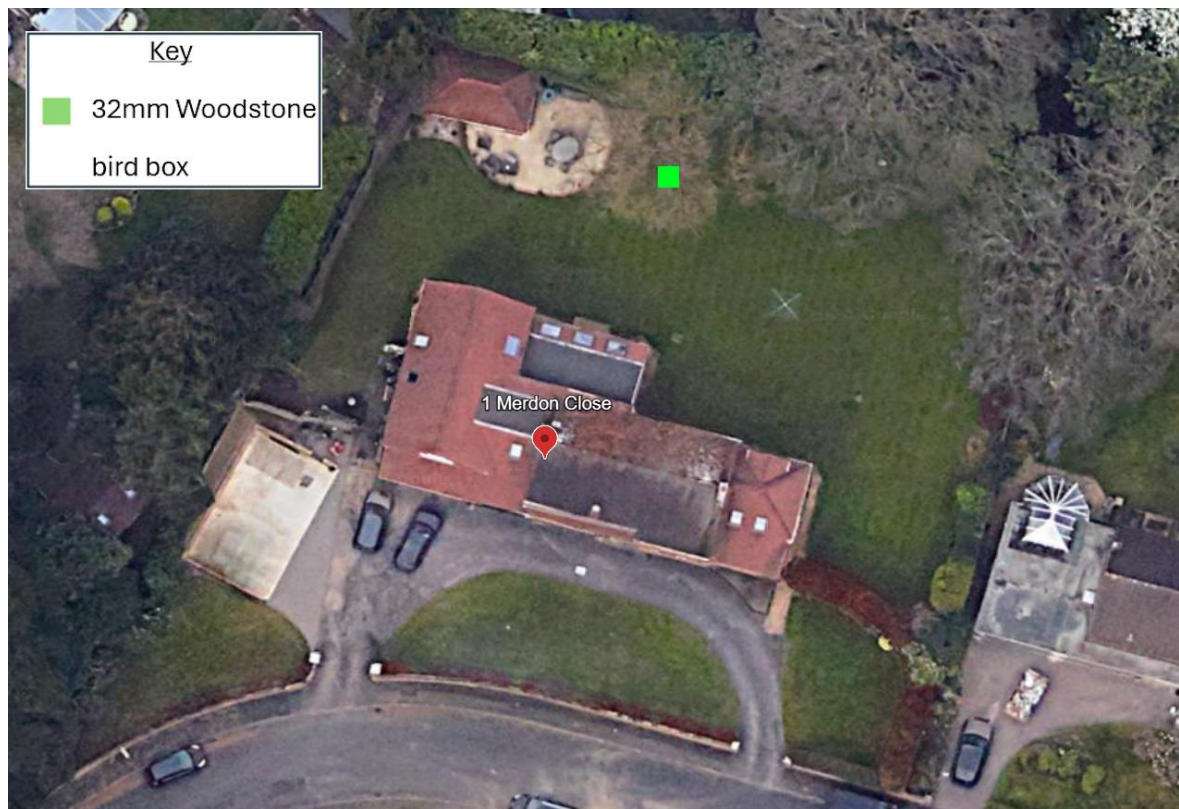


Figure 4. Plan showing the indicative location of the proposed enhancement measure on the south elevation (not to scale).



Figure 5. Plan showing the indicative location of the proposed enhancement measure in the rear garden (not to scale).



PHOTOGRAPHS

Photo 1. A mature tree in the rear garden that provides good bat foraging habitat as well as suitable bird nesting habitat.



Photo 2. A mature tree in the rear garden that provides good bat foraging habitat as well as suitable bird nesting habitat.



Photo 3. A hedge on the north-east boundary with mature trees in the background, both provide suitable bird nesting habitat.



Photo 4. Hedges on the north-east and north-west boundaries that provide suitable bird nesting habitat



REFERENCES

Collins, J. (ed) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*, 4th edition. The Bat Conservation Trust, London.

HMSO (1981). *Wildlife and Countryside Act 1981*. HMSO, London.

HMSO (2000). *Countryside and Rights of Way Act*. HMSO, London.

HMSO (2019). *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*. HMSO, London.

Institute of Lighting Professionals (2023). *Bats and artificial lighting in the UK*. Institute of Lighting Professionals, Warwickshire.

Mitchell-Jones, A. J. (2004). *Bat Mitigation Guidelines*. English Nature [Natural England], Peterborough.

Ministry of Housing, Communities & Local Government (2021). *National Planning Policy Framework*. London

Multi-Agency Geographic Information for the Countryside (2008). www.magic.gov.uk. Accessed 01/07/2024.

Natural England (2013). *Remedial timber treatment products suitable for use in bat roosts*. Natural England.

Office of the Deputy Prime Minister (2005). *ODPM Circular 06/2005. Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System*. ODPM, London.

9.1 *Legal context*

All species of British bat are protected by the *Wildlife and Countryside Act 1981* (as amended) extended by the *Countryside and Rights of Way Act 2000*. This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat whilst it occupies a bat roost.

Bats are also European Protected Species listed on the *Conservation of Habitats & Species Regulations 2017*. This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb a bat (in such a way as to be likely to significantly affect: (i) the ability of a significant group of bats to survive, breed or rear/nurture their young; or (ii) the local distribution or abundance of the species concerned);
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present (bats tend to reuse the same roost).

Where it is necessary to carry out an action that could result in an offence under the *Conservation of Habitats & Species Regulations 2017* it is possible to apply for a European Protected Species (EPS) licence from Natural England. Licences are only issued where Natural England are satisfied that three derogation tests are met. These are: that the activity is for **imperative reasons of overriding public interest**; that there must be **no satisfactory alternative**; and that **favourable conservation status of the species must be maintained**.

Consideration of these three derogation tests was previously left to Natural England as part of their deliberations on whether to grant a licence for the development activity after a planning consent has been issued. However, the regulations now require that **all** public bodies, i.e. **Local Planning Authorities** (LPAs), have regard to the requirements of the European Habitats Directive when carrying out their functions. As a result, LPAs **must** address the three derogation tests when considering a planning application that could impact upon any European Protected Species (EPS).

9.2 **National planning context**

9.2.1 *General*

Surveys should be completed in line with Natural England's *Standing Advice for Local Authorities* (<http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/default.aspx>), which states:

- Natural England will not comment on applications that are submitted without the relevant protected species surveys if there are no other issues (*i.e.* in relation to SSSIs or landscape).
- Natural England will not comment on scoping surveys that recommend further surveys where these have not been undertaken and submitted with the scoping reports.

In addition to the above, *Section 40* of the *Natural Environment and Rural Communities Act* (2006) imposes a new duty on all public authorities to have regard for biodiversity.

9.2.2 *Biodiversity Net Gain (BNG)*

Under the Environment Act 2021, all planning permissions granted in England (with a few exemptions) have to deliver at least 10% biodiversity net gain (BNG) (required since January 2024 and since April 2024 for small sites). BNG will be measured using Defra's biodiversity metric and habitats will need to be secured for at least 30 years. This sits alongside:

- a strengthened legal duty for public bodies to conserve and enhance biodiversity,
- new biodiversity reporting requirements for local authorities, and mandatory spatial strategies for nature: Local Nature Recovery Strategies or 'LNRS'.

From the 20th July 2021, the Government published the revised National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2021). The document sets out the government's planning policies for England and how these are expected to be applied. This replaces a previous version which was published in June 2019. It states: "*at the heart of the Framework is a presumption in favour of sustainable development (paragraph 11).*"

Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):

- an economic objective;
- a social objective; and
- an environmental objective.

The environmental objective is to "*contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy*".

Planning policies and decisions should contribute to and enhance the natural and local environment by "*protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils*

(in a manner commensurate with their statutory status or identified quality in the development plan)” and “minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures”.

If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.

Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted.

Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.

It states that *"development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity"*.

It should be noted that the *“presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site”*.

The NPPF also encourages *"minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures"* and aims to *“promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity”*. This applies to non-statutory designated sites including Sites of Importance for Nature Conservation (SINCs) and equivalent county wildlife sites.

Early engagement with all necessary stakeholders, including expert bodies, is encouraged by the NPPF.

Bats use different roosting sites throughout the year according to their life cycle requirements.

Hibernation during the winter months requires roosting sites that are cool and humid. As conditions improve through the spring, bats become increasingly active and tend to use transitional roosting sites. During the summer months, females give birth in maternity roosts. Maternity roosts tend to be warm and temperature-stable, which aids rapid development of the young, which are weaned in late summer. In the autumn, adult bats congregate in mating roosts and also use transitional roosting sites. Autumn is the time when both adults and juveniles have to build up fat reserves in preparation for hibernation through the winter months.

Bats also use roosts during the night as feeding perches. Species that catch large prey items such as moths (*e.g.* brown long-eared bat) often enter buildings to hang up and eat their prey before emerging again to forage. Such feeding perches tend to be obvious from scatterings of bat droppings with moth wings, which the bats discard.

Bats are at their most vulnerable during the summer in their maternity roosts, when disturbance can jeopardise their breeding success. Bats give birth to only one pup per year and young do not breed until the second or third year after birth. This means that if maternity colonies are disturbed there can be serious implications for the conservation status of populations.

Bats are also vulnerable during the winter hibernation period, when disturbance can reduce their chance of survival through the winter at a time when food is in short supply.

This is why there are often only narrow timeframes for bat survey and mitigation work.

These are not proposed as enhancements for the purposes of the planning application, but only for information purposes.

11.1 Lawn seed mix composition

The seed mixes in Table 11.1.1 are from Emorsgate Seeds and are suitable for lawns. Emorsgate are only given as an example and a local supplier is preferable. The mixes contain slow growing grasses, some with a selection of wildflowers that respond well to regular short mowing.

Table 11.1.1. Emorsgate seed mix species composition.

EL1	
Species	Common Name
Flowering Species	
<i>Galium verum</i>	Lady's Bedstraw
<i>Leontodon hispidus</i>	Rough Hawkbit
<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Lotus corniculatus</i>	Birdsfoot Trefoil
<i>Primula veris</i>	Cowslip
<i>Prunella vulgaris</i>	Selfheal
<i>Ranunculus acris</i>	Meadow Buttercup
<i>Trifolium pratense</i>	Wild Red Clover
Grasses	
<i>Agrostis capillaris</i>	Common Bent
<i>Cynosurus cristatus</i>	Crested Dogtail
<i>Festuca rubra</i>	Slender-creeping Red-fescue
<i>Phleum bertolonii</i>	Smaller Cat's-tail
EG1	
Species	Common Name
<i>Agrostis capillaris</i>	Common Bent
<i>Cynosurus cristatus</i>	Crested Dogtail
<i>Festuca rubra</i>	Slender-creeping Red-fescue
<i>Phleum bertolonii</i>	Smaller Cat's-tail
<i>Poa pratensis</i>	Smooth-stalked Meadow-grass
EG9	
Species	Common Name
<i>Agrostis capillaris</i>	Common Bent
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass
<i>Brachypodium sylvaticum</i>	False Brome
<i>Cynosurus cristatus</i>	Crested Dogtail
<i>Deschampsia cespitosa</i>	Tufted Hair-grass

<i>Festuca rubra</i>	Red Fescue
<i>Poa nemoralis</i>	Wood Meadow-grass

11.2 Ornamental planting to attract wildlife

Plants that attract insects are generally helpful and trees, shrubs and flowering plants can provide cover for wildlife. Therefore, to enhance the ecological value of the site, any replacement landscaping in the gardens should incorporate a mixture of native and non-native species of value to wildlife. This mixture will be planted to encourage a diversity of insects, which in turn will attract different species. Flowers that bloom throughout the year, including both annuals and herbaceous perennials, are beneficial. Night-flowering blossoms attract night-flying insects, which in turn provide prey for bats. Examples of suitable plant species that could be planted to encourage wildlife include those in Tables 11.2.1 and 11.2.2. Approximate flowering periods are listed in the tables.

Table 11.2.1. Native and non-native species that could be incorporated into the landscaping.

Species	Common Name	Approximate flowering period
<i>Angelica</i> species	Angelica	Summer to autumn
<i>Achillea millefolium</i>	Yarrow	Early summer
<i>Aubretia</i> species	Aubretia	Spring to early summer
<i>Berberis darwinii</i>	Darwin's Barberry	Spring
<i>Hesperis matronalis</i>	Dame's-violet, often sold as Sweet Rocket	Spring to summer
<i>Iberis sempervirens</i>	Candytuft	Summer to autumn
<i>Centaurea montana</i>	Cornflower	Spring to summer
<i>Centaurea scabiosa</i>	Knapweed	Summer to autumn
<i>Centranthus ruber</i>	Red valerian	Summer to autumn
<i>Cornus sanguinea</i>	Dogwood	Summer
<i>Dianthus barbatus</i>	Sweet William	Summer
<i>Echinacea</i> species	Echinacea	Summer to autumn
<i>Erysimum</i> species	Wallflowers	Spring to early summer
<i>Glebionis segetum</i>	Corn marigold	Spring to summer
<i>Hebe</i> species	Hebes	Summer to autumn
<i>Hedera helix</i>	Ivy	Autumn
<i>Hesperis matronalis</i>	Dame's-violet	Spring to summer
<i>Hyacinthoides non-scripta</i>	English Bluebell	Spring
<i>Hylotelephium spectabile</i>	Ice plant 'Pink lady'	Early autumn
<i>Hypericum</i> species	St John's wort	Spring
<i>Ilex aquifolium</i>	Holly	Spring to summer
<i>Jasminum officinale</i>	Common White Jasmine	Summer to autumn
<i>Lavandula angustifolia</i>	Garden Lavender	Summer
<i>Leucanthemum vulgare</i>	Ox-eye daisy	Summer

<i>Limnanthes douglasii</i>	Poached egg plant	Summer
<i>Lonicera caprifolium</i>	Perfoliate Honeysuckle	Summer
<i>Lonicera etrusca</i>	Italian Honeysuckle	Summer to autumn
<i>Lonicera japonica</i>	Japanese Honeysuckle	Spring
<i>Lonicera periclymenum</i>	Honeysuckle	Summer to autumn
<i>Lunaria annua</i>	Honesty	Spring
<i>Malus domestica</i>	Apple	Spring
<i>Malus sylvestris</i>	Crab Apple	Spring
<i>Malva species</i>	Mallow	Summer to autumn
<i>Matthiola longipetala</i>	Night-scented stock	Summer
<i>Myosotis sylvatica</i>	Wood forget-me-not	Spring
<i>Nicotiana species</i>	Tobacco plant	Summer
<i>Oenothera species</i>	Evening primroses	Summer to autumn
<i>Papaver rhoeas</i>	Corn poppy	Summer
<i>Phacelia species</i>	Phacelia	Summer to autumn
<i>Primula vulgaris</i>	Primrose	Spring
<i>Rosa species</i>	Rose	Summer
<i>Rubus fruticosus</i> agg.	Bramble	Spring to summer
<i>Saponaria officinalis</i>	Soapwort	Summer
<i>Saxifraga fortunei</i>	Cherry pie	Summer to autumn
<i>Scabiosa species</i>	Scabious	Summer
<i>Silene dioica</i>	Red campion	Spring
<i>Silene noctiflora</i>	Night-scented Catchfly	Summer to autumn
<i>Silene vulgaris</i>	Bladder Campion	Summer
<i>Verbena species</i>	Vervain	Summer to autumn
<i>Viburnum lantana</i>	Wayfaring-tree	Spring to summer
<i>Viburnum opulus</i>	Guelder-rose	Summer

New hedges could be planted around the edges/ front of the site. These should consist of a mixture of native species such as *Acer campestre* (Field Maple), *Carpinus betulus* (Hornbeam), *Cornus sanguinea* (Dogwood), *Corylus avellana* (Hazel), *Crataegus monogyna* (Hawthorn), *Fagus sylvatica* (Beech), *Fraxinus excelsior* (Ash), *Prunus spinosa* (Blackthorn), *Quercus robur* (Pedunculate Oak), *Viburnum lantana* (Wayfaring-tree) and *Viburnum opulus* (Guelder-rose). These species will provide a mixture of leaf shapes and colours through the seasons. In addition, the hedges will contain *Ilex aquifolium* (Holly) and *Taxus baccata* (Yew) to provide an evergreen component for the winter months, and to provide a contrast to the colours of the other plants during the spring, summer and autumn.

Under-sowing new hedges with Emorsgate seed mix EH1 Hedgerow mixture (or equivalent) provides cover for wildlife such as hedgehogs as well as providing an attractive feature while the new hedges become established. Seed mixes suitable for shade are given in *Table 11.2.3*.

Table 11.2.3. Seed mixes suitable for shaded areas.

EH1	
Species	Common Name
Wild Flowers	
<i>Alliaria petiolate</i>	Garlic Mustard
<i>Arctium minus</i>	Lesser Burdock
<i>Centaurea nigra</i>	Common Knapweed
<i>Chaerophyllum temulum</i>	Rough Chervil
<i>Galium album</i>	Hedge Bedstraw
<i>Geum urbanum</i>	Wood Avens
<i>Lathyrus sylvestris</i>	Narrow-leaved Everlasting-pea
<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Primula veris</i>	Cowslip
<i>Prunella vulgaris</i>	Selfheal
<i>Saponaria officinalis</i>	Soapwort
<i>Silene dioica</i>	Red Campion
<i>Silene latifolia</i>	White Campion
<i>Silene vulgaris</i>	Bladder Campion
<i>Torilis japonica</i>	Upright Hedge-parsley
Grasses	
<i>Agrostis capillaris</i>	Common Bent
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass
<i>Brachypodium sylvaticum</i>	False Brome
<i>Cynosurus cristatus</i>	Crested Dogtail
<i>Deschampsia cespitosa</i>	Tufted Hair-grass
<i>Festuca rubra</i>	Slender-creeping Red-fescue
<i>Poa nemoralis</i>	Wood Meadow-grass
EW1	
Species	Common name
<i>Alliaria petiolata</i>	Garlic Mustard
<i>Allium ursinum</i>	Ramsons
<i>Anthriscus sylvestris</i>	Cow Parsley
<i>Arctium minus</i>	Lesser Burdock
<i>Arum maculatum</i>	Lords-and-Ladies
<i>Chaerophyllum temulum</i>	Rough Chervil
<i>Cruciata laevipes</i>	Crosswort
<i>Digitalis purpurea</i>	Foxglove
<i>Filipendula ulmaria</i>	Meadowsweet
<i>Geum urbanum</i>	Wood Avens
<i>Hyacinthoides non-scripta</i>	Bluebell
<i>Iris foetidissima</i>	Gladdon
<i>Prunella vulgaris</i>	Selfheal
<i>Silene dioica</i>	Red Campion

<i>Teucrium scorodonia</i>	Wood Sage
<i>Torilis japonica</i>	Upright Hedge-parsley
Grasses	
<i>Agrostis capillaris</i>	Common Bent
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass
<i>Brachypodium sylvaticum</i>	False Brome
<i>Cynosurus cristatus</i>	Crested Dogstail
<i>Deschampsia cespitosa</i>	Tufted Hair-grass
<i>Festuca rubra</i>	Red Fescue
<i>Poa nemoralis</i>	Wood Meadow-grass

11.3 Bird boxes

It is not advisable to place many boxes with identical dimensions, because individuals of the same species may not tolerate each other's presence, especially in built-up areas with limited food resources.

Table 11.3.1. Bird boxes with additional details on siting them to increase chances of occupancy.

Type/ example	Typical species	Height	Additional information
Vivara Pro WoodStone House Sparrow Nest Box 	House sparrows	≥ 2m	• Can either be incorporated into the build structure or mounted onto a building. • Should be fixed onto a sturdy building, not onto fences or garden sheds due to its weight. • Position away from windows. • Position out of direct sunlight (below eaves on the north elevation), especially if not built into the build structure.
Ibstock Eco-habitat  or Swift boxes from Hampshire Swifts	Swifts	≥ 5m	• Can either be incorporated into the build structure or mounted onto a building. • Position out of direct sunlight (below eaves on the north elevation), away from windows and in a straight line. • Should be in an open area so that it is less accessible to predators and birds are not obstructed as they leave the nest.

Vivara Pro Barcelona WoodStone Open Nest Box 	Robins, wrens	$\leq 2\text{m}$	- Mount on a tree or large shrub - Conceal amongst foliage to keep well-hidden from predators.
Vivara Pro Seville 28mm Woodstone Nest Box 	Blue tits, coal tits	2-4m	- Position on a building or tree, angled north-east (away from prevailing winds) and tilt forward slightly. - Chances of occupation can be increased by positioning boxes near vegetation.
WoodStone Swallow Nest Bowl (Plywood board mounted) 	Swallows	$\geq 2\text{m}$	- Mount within a building with an open door or window - Leave a distance of at least 6cm between the top of the nest and the ceiling.
Vivara Pro WoodStone House Martin Nest 	House martins	$\geq 5\text{m}$	- Position out of direct sunlight (below eaves on the north elevation), away from windows and in a straight line. - Should be in an open area so that it is less accessible to predators and birds are not obstructed as they leave the nest.
Integrated barn owl roost/ false dormer box 	Barn Owl	$\geq 3\text{m}$	- Integrated into the sloped roof ideally as a false dormer. - The base of the internal space must be flat and at least 45cm below the entrance hole. - There must be an easy-to-grip platform outside the hole for fledglings to stand. - The box must not allow owls access into the garage/ carport inside the building to prevent disturbance by human activity. - A closed access hatch into the box from inside the building is advised, to allow essential clearance of built up nest material or waste.

Barn Owl Trust Nest Box 	Barn Owl	$\geq 5\text{m}$	• Mounted on a 'telegraph style' pole. • Best positioned facing open grassland for foraging opportunities and away from the prevailing weather.
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