

30-32 Queens View, Netley Abbey, Hampshire, SO31 5EA

Bat Survey Report

August 2024

Hampshire Ecological Services Ltd
Consultant Ecologists

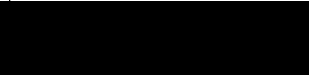
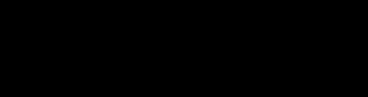
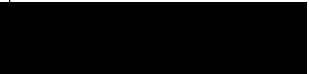
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Bat Survey Report
30-32 Queens View, Netley Abbey, Hampshire, SO31 5EA
for
Eastleigh Borough Council

Reference: 30-32 Queens View, Netley Abbey	
Revision	Issue date:
0	02/08/24
1	07/08/24
2	08/08/24

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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.

The author disclaims any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and the author accepts no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

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1. This report provides details from bat surveys carried out by Hampshire Ecological Services Ltd for Eastleigh Borough Council in connection with a proposal to construct a part three-storey, part two-storey building to provide 18 flats and a ground floor retail unit, following the demolition of the existing building, which will include vehicle access, parking, landscaping and footpath access to a recreation ground at 30-32 Queens View, Netley Abbey, Hampshire, SO31 5EA (approximate Ordnance Survey Grid Reference SU458088). The location of the site is shown in *Figures 1 and 2* and a plan of the site is shown in *Figure 3* in *Section 6*.
2. The site consists of two semi-detached residential buildings, with hardstanding out the front and gardens to the rear.
3. A preliminary ecological appraisal and preliminary roost assessment were carried out by Ecosupport Ltd in June 2022 (Ecosupport Ltd, 2023). This identified the buildings as having low bat roost suitability. Subsequently, one further emergence survey was recommended and carried out in August 2022 (Ecosupport Ltd, 2023).
4. No bats were observed emerging from or re-entering the building during the 2022 bat emergence survey. However, during the planning application process. Eastleigh Borough Council's ecologist stated: *"Two videos have been submitted, one (1000009485.mp4) shows a bat landing and then clearly crawling behind the 2nd tile down from the top at the right of the door frame. The second video (100009486.mp4) clearly shows a bat flying back and forth very close to the building. At one point it lands on one of the tiles but then flies off again. The flying back and forth is common foraging behaviour, but bats can often fly around a bit before they re-enter a roost. When they emerge, they usually drop down and move away from the roost entrance quite quickly, so I would interpret this behaviour as re-entering in the first video and foraging in the 2nd video"*.
5. In 2024, three dusk emergence surveys were carried out by Hampshire Ecological Services Ltd during the optimum season. Common pipistrelles, soprano pipistrelles, noctules and serotine bats were observed flying in the vicinity of the building and foraging on the site, indicating the weather was suitable for bat activity on all occasions, however no bats were observed emerging (despite the use of thermal imaging cameras). Details of the dates of the surveys, weather and personnel carrying out the surveys is given in *Sections 3.2.1 and 3.2.2*. Recent CCTV footage (*pers. comm.* but not seen) indicates the roost is still active, at least for low numbers of bats on an occasional basis.
6. Reviewing the earlier footage indicates the bats are pipistrelles, most likely common pipistrelle based on activity recorded during surveys.

7. As 30-32 Queens View is a confirmed bat roost, a bat European Protected Species (EPS) licence, Bat Earned Recognition (BER) licence or Bat Mitigation Class Licence (BMCL), if qualifying, site registration from Natural England is required before any demolition works can begin.
8. A summary of the bat roosts in the building, including impacts without mitigation and with mitigation and compensation measures is given in the table below.

Building	30-32 Queens View
Species & peak count	Common pipistrelle
Peak count	2
Roost type	Non-breeding day roost
Emergence location	From under a hanging tile on the south elevation, by the easternmost window
Impacts without mitigation	Bats could be injured or killed when the hanging tiles are removed during the demolition of the building.
Mitigation/compensation	The hanging tiles will be removed carefully by hand (under strict ecological supervision) to mitigate the potential for individual bats to be injured or killed. This will ideally be completed in September/ October once maternity colonies have dispersed and before bats have begun to hibernate; or in March/ April before bats have returned to form maternity colonies. However, work at any time of year may be acceptable (subject to licensing from Natural England) providing the destructive search is carried out in mild spells (above 5°C at night) in winter. One woodstone bat box (<i>e.g.</i> Vivara woodstone, Beaumaris Woodstone or similar) will be erected on a large nearby tree prior to the commencement of the works to provide a safe location to put any bats found during the destructive searches. Bats will be captured by hand by the ecologist and, after being checked for injuries, transported immediately in cotton holding bags. In the event that an injured bat is encountered during the destructive search, it will be taken to a veterinary surgeon so that the extent of its injuries can be assessed. If not life-threatening, it will be taken to one of the local bat group's designated carers. As all access points will be lost due to demolition, and the replacement building will not have hanging tiles or roof tiles, an integrated bat box (see <i>Figures 6 - 8</i> in <i>Section 6</i>) will be

	used to provide a replacement roost in a similar location on the new building. The roof lining of the new building <u>must</u> consist of bitumen type 1F felt with a hessian matrix (<u>NOT</u> a breathable membrane such as Tyvek™ or other non-woven membrane), unless a certificate can be provided showing proof that the roofing membrane has passed a ‘snagging propensity test’ for any non-bitumen coated roofing membranes (<i>e.g.</i> TLX Batsafe™). This is currently a Natural England licence requirement. This is because bats can become entangled in breathable membranes and die. Although breathable membranes appear smooth, crawling or hanging bats may become tangled in the fibres as a result of their claws catching on the membrane. A struggling bat may also puncture the membrane, thus invalidating the guarantee of the material and causing water ingress. The building contractor or client may be liable for both damage of the property and killing or injuring bats. Only timber treatments recommended by Natural England should be used in line with Natural England’s <i>Remedial timber treatment products suitable for use in bat roosts (2013)</i> available at: https://www.gov.uk/guidance/bat-roosts-use-of-chemical-pest-control-products-and-timber-treatments-in-or-near-them.
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9. 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 planted vegetation (particularly the trees), and security lights should operate on a timer, to avoid any negative impact on bats. Any lighting installed should avoid spillage of greater than 0.1 lux (typical moonlight/cloudy sky) onto the roost exits and any planted vegetation. 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. 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.
10. 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:
 - The building will be enhanced for bats using four integrated maternity bat boxes (*e.g.* Roost Maternity Bat Box by The nestbox company, or similar), which provide a cavity that is incorporated into the external build structure to offer roosting space for bats. Alternatively,

if this is not possible (due to construction methods) four woodstone style bat boxes (*e.g.* Vivara Pro WoodStone Bat Box, Beaumaris Woodstone or similar) will be erected on the building, as high as possible (ideally between 2.5m and 5m, facing south or south-east) with a clear exit path. They will remain on site permanently (and shall be repaired or replaced as necessary) (these are in addition to the one that will be erected as mitigation for the loss of the common pipistrelle roost (see *Table 5.2.3.1* in *Section 5*);

- 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, the landscaping 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 5.6.4.1.* and *5.6.4.2.* Approximate flowering periods are listed in the tables;
 - Hedgehogs are declining therefore to allow any hedgehogs in the area to access the garden, any fencing will have 15cm x 15cm gaps beneath to allow hedgehogs to access the new landscaping. This could be achieved by removing all or part of the baseboard/ gravelboard; and
 - Three swift boxes, such as Pro UK Visible Build-In Swift Box or similar, will be integrated into the external build structure. Swift boxes can be supplied and installed by Hampshire Swifts <https://www.hampshireswifts.co.uk> and a new soffit design is also available (this box is also suitable for house sparrows which are also an IUCN Red List Bird of Conservation Concern and listed on Section 41 of the Natural Environment & Rural Communities Act 2006).
11. The bird boxes to be erected within the site, with additional details on siting them to increase chances of occupancy, are summarised in *Table 5.6.5.1.* The indicative locations of the proposed enhancement measures are shown in *Figures 6 - 8* in *Section 6.*
 12. Other enhancements for wildlife that Eastleigh Borough Council may choose to employ are given in *Appendix D.* However, these are not proposed as enhancements for the purposes of the planning application, but only for information purposes.
 13. 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.
 14. According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), there are two internationally statutory designated sites within 5km of the site, and one nationally designated site within 2km of the site. None of these areas should be affected by this small-scale development and all links will be maintained.

15. The site is within 5km of Solent & Southampton Waters SPA and Ramsar and the Solent & Dorset Coast SPA (all c.450m south-west). As a result of its proximity to these designated sites, the impacts of this small-scale development on the Ramsar and SPAs must be considered.

16. There have been two granted bat European Protected Species (EPS) licences within 2km of the site. Due to their close proximity, it is likely that the bats roosting on site are part of the same meta-population. However, due to the small-scale of the proposed works, any impacts are considered to be minimal.

2 INTRODUCTION

2.1 General

This report provides details from bat surveys carried out by Hampshire Ecological Services Ltd for Eastleigh Borough Council in connection with a proposal to construct a part three-storey, part two-storey building to provide 18 flats and a ground floor retail unit, following the demolition of the existing building, which will include vehicle access, parking, landscaping and footpath access to a recreation ground at 30-32 Queens View, Netley Abbey, Hampshire, SO31 5EA (approximate Ordnance Survey Grid Reference SU458088). The location of the site is shown in *Figures 1* and *2* and a plan of the site is shown in *Figure 3* in *Section 6*.

2.2 Site description

The site consists of a two-storey building, of which the ground floor consists of two retail units and the first floor comprises of two residential flats. There are also two gardens to the rear.

The site is on the south side of Queens View in the centre of Netley, a village in the south-east of Southampton city. The immediate surroundings consist of residential housing, with a recreational field to the south-east. Beyond this, the urban area extends to the north and east, with Royal Victoria Country Park to the south-east and the Solent River c.450m to the south-west.

2.3 Proposed activities

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

- demolish the existing building; and
- construct a part three-storey, part two-storey building to provide 18 flats and a ground floor retail unit, which will include vehicle access, parking, landscaping and footpath access to a recreation ground.

2.4 Current planning status

Planning permission is being applied for at this site.

2.5 Previously completed surveys

A preliminary ecological appraisal and preliminary roost assessment were carried out by Ecosupport Ltd in June 2022 (Ecosupport Ltd, 2022). This identified the main building as having low bat roost suitability, and the shed as having negligible bat roost suitability. Subsequently, further emergence surveys were recommended, which are the subject of this report.

2.6 Objectives of the surveys and report

The surveys 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. Subsequently, three bat activity surveys were carried out. The aim was to identify if bats were present or likely to use the site for roosting.

The surveys 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.

2.7 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 plan of the buildings surveyed;
 - Figures 4-5 illustrate the bat activity recorded during the bat activity surveys; and
 - Figures 6 - 8 give plans of proposed mitigation, compensation and enhancement 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;
- Appendix C gives the data from the bat activity surveys; and
- Appendix D lists other enhancements for wildlife (for information, not part of the planning application).

3 **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 *Dates, times and weather*

Three bat activity surveys were carried out. Details of the weather, dates and times of these surveys are given in *Table 3.2.1.1*.

Table 3.2.1.1. Dates, times and weather conditions during the bat activity surveys.

Date	Start time	End time	Sunset/ sunrise	Temperature at start & end (°C)	Wind (Beaufort scale)	Cloud Cover (%)
09/05/2024	20:24	22:09	20:39	13 - 15	1	0
03/06/2024	20:58	22:43	21:13	18 - 17	1	30
24/06/2024	21:08	22:53	21:23	19 - 16	2	20

The surveys commenced fifteen minutes before sunset and continued for an hour and a half after sunset (long after bats would have exited). The weather was suitable for bat emergence and foraging during all the surveys.

3.2.2 Personnel

Personnel carrying out the bat activity surveys are given in *Table 3.2.2.1*. All surveyors are experienced in carrying out bat surveys using detectors. Sophie Stirrat ACIEEM and Jackie Thompson MCIEEM are accredited under bat licences 2015-17894-CLS-CLS and 2015-11159-CLS-CLS respectively.

Table 3.2.2.1. Personnel carrying out the activity surveys.

Date	Surveyor			
09/05/2024	Sophie Stirrat ACIEEM	Adam Rye BSc (Hons)	Robyn Myers BSc	Tom Lock BSc
03/06/2024	Sophie Stirrat ACIEEM	Jackie Thompson MCIEEM	Rosie Shepperd BSc	Laura Hardy BSc
24/06/2024	Sophie Stirrat ACIEEM	Ross Rayner BSc	Rosie Shepperd BSc	Tom Lock BSc

This report was reviewed by John Poland CEnv MCIEEM, who is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM), a Chartered Environmentalist (CEnv) and multi-species licence holder with over 24 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 Bat activity surveys

The bat activity surveys followed standard survey protocol in *Bat Surveys – Good Practice Guidelines, 4th edition* (Collins, 2023).

The surveyors were located with good views of the potential bat access points identified during the initial site visit. The timing of the visits, from early evening until after dark, was aimed at detecting active bats in the vicinity. When it was too dark for visual observation, electronic bat detectors were used to listen for the ultrasonic sounds produced by bats either flying in the vicinity or emerging from the building. Surveyors were also equipped with a Pulsar Axion XQ38 thermal imager to supplement observations when light levels were too low for human eyesight. This detects heat and is more effective than standard night-vision equipment.

The surveyors recorded all bat activity encountered, but particular attention was focused on any bats emerging or re-entering. The results were documented by noting the time, bat species and behaviour (*e.g.* commuting, foraging, social interaction *etc.*). The surveyors were in constant contact via hand-held radios so that information could be easily exchanged regarding bat activity. The time between all surveyors' devices was synchronised so time data was recorded precisely.

Bat detectors are used so that surveyors can identify most bat species in the field, using the heterodyne output in combination with bat shape, flight pattern and behaviour. Surveyors were equipped with Echo Meter Touch™ detectors for real-time analysis and BatBox Duet™ detectors connected to solid-state recorders (Edirol Roland-05) to record bat calls for later sonogram analysis using BatSound™ computer software (should it be required). Frequency-division, whereby the ultrasound is divided by 10 into an audible range, has a considerable advantage over time-expansion for survey work as it allows recordings to be taken in real time. This ensures that all bat activity is recorded.

Queried recordings were later replayed and analysed through BatSound™ software to ensure that any activity accidentally missed during the survey was recorded and times and location calculated. The species of bat was confirmed at this stage where possible. Bat detector surveys provide one of the most effective methods of identifying bat species and activity patterns. However, it is not always possible to identify bats down to species level, even with subsequent sound analysis.

Sufficient survey effort has been gathered through activity surveys, which have given us a full appreciation of the bat species roosting at the site, and of the type and status of roosts they use on site and in the context of the immediate surrounding area. No further emergence surveys are considered necessary.

The latest *Bat Surveys for Professional Ecologists: Good Practice Guidelines*, 4th edition (September 2023) removes the need for pre-dawn surveys and support the use of night-vision equipment as used above.

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	Solent and Southampton Waters	c.450m south-west
		Solent and Dorset Coast	c.450m south-west
	Ramsar	Solent and Southampton Waters	c.450m south-west
	SAC	-	-
National	SSSI	Lee on Solent to Itchen Estuary	c.450m south-west
	NNR	-	-
County	LNR	Westwood Woodland Park	c.440m north
Local	SINC	Royal Victoria Country Park	c.655m south-east
	Ancient woodland	-	-

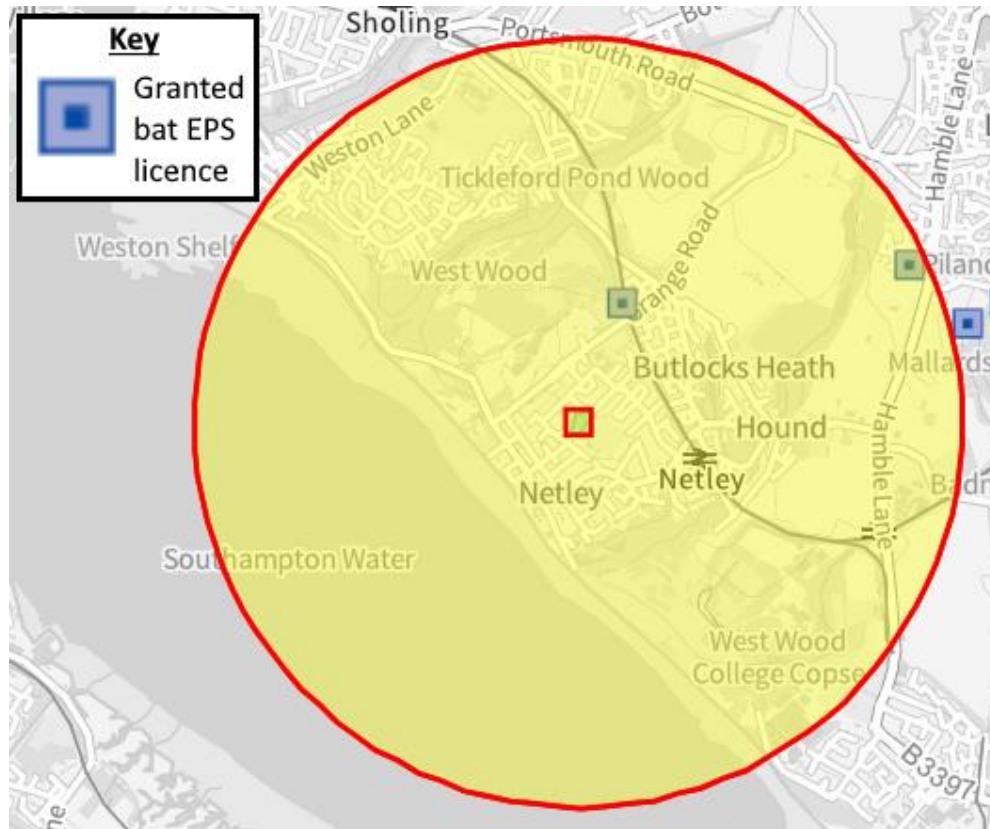
4.1.2 Bats

According to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk), there have been two bat European Protected Species (EPS) licences 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
Brown long-eared bat	Resting place	13/03/2020	c.699m north-east
Common pipistrelle	Resting place	19/04/2017	c.1918m north-east

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 Bat activity surveys

No bats were observed emerging from or re-entering the building during the bat activity surveys.

Common pipistrelles, soprano pipistrelles and Natterer's bats were recorded flying in the vicinity of the building and on the site indicating the weather was suitable for bat activity on all occasions. The full data from the bat activity surveys is given in *Appendix C* and plans illustrating the bat activity (observations only) during the surveys are given in *Figures 4-5* in *Section 6*.

4.3 Other ecological constraints

4.3.1 Birds

The trees, shrubs and hedges provide suitable nesting habitat for birds.

5 **INTERPRETATION AND EVALUATION**

5.1 **Constraints**

5.1.1 *Constraints on survey data*

No bats emerged despite suitable weather and appropriate resourcing and equipment.

Although not a specific constraint, the overall level of bat activity during the current season has been noticeably lower than that experienced in previous seasons. Although circumstantial, this may be due to a colder wetter year and reduced availability of prey items.

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 small development in a built-up location.

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*).

The site is within 5km of the Southampton & Solent Water SPA and Ramsar site (c.450m south-west) and the Southampton and Dorset Coast SPA. Southampton & Solent Water is a designated SPA for its waterbird assemblage as well as specific bird species (black-tailed godwit, common tern, little tern, mediterranean gull, ringed plover, roseate tern, sandwich tern, teal) and in particular for its populations of dark-bellied Brent goose, which are 10-13% of the world's population. It is a designated Ramsar for the same birds and bird assemblages as the SPA, but also its wetland invertebrate assemblage and wetland plant assemblage. The Southampton and Dorset Coast is a designated SPA for its support of breeding populations of sandwich, little and common tern. As a result of its proximity, the impacts of these small-scale works on the SPAs & Ramsar must be considered.

The works will cause increase to the number of dwellings on site and therefore to the number of people occupying the site. This could cause an increase in the recreational pressure, or pollution, on the internationally designated sites. Therefore, the local council may ask for compensation under the Solent Disturbance and Mitigation Project (SCC, 2021) on the basis that it could increase in the recreational pressure and/ 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 two bat European Protected Species (EPS) licences granted within c.2km of the site. Due to their close proximity, it is likely that the bats roosting on site are part of the same meta-population. However, due to the small-scale of the proposed works and proposed mitigation, any impacts are considered to be minimal.

5.2.2 *Commuting and foraging bats*

There is good foraging habitat for emerging bats in the immediate vicinity of the buildings including mature trees along and just past the boundaries which connect a network of hedges, tree-lines and woodland strips. These in turn connect the site to areas of high-quality foraging habitat in the wider landscape such as Southampton Waters c.450m to the south-west. 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 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.

Any lighting installed should avoid spillage of greater than 0.1 lux (typical moonlight/cloudy sky) onto any retained vegetation. 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.

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 *Buildings*

There was a peak count of 2 common pipistrelle bats emerging and re-entering from the building according to the supplied video footage. This level of usage shows that 30-32 Queens View is an occasional, non-breeding day roost for low numbers of common pipistrelles.

The bat roosts and the likely impacts to the roosts are summarised in *Table 5.2.3.1*.

As the building is a confirmed bat roost, a European Protected Species (EPS) licence, Bat Earned Recognition (BER) licence or Bat Mitigation Class Licence (formerly Bat Low Impact Class Licence) from Natural England must be obtained before works commence. A detailed method statement, with a mitigation strategy aimed at maintaining the conservation status of bats, will be prepared as part of the bat licence from Natural England.

Enhancement measures will be required to be incorporated into the building and/ or wider site to comply with national and local planning policy that requires a net gain in biodiversity. The proposed enhancement measures are given in *Section 5.6*. The works to the building will be carried out in line with methods detailed in a Natural England bat EPS licence. Mitigation and compensation measures will be required to be incorporated into the new building.

All proposed mitigation, compensation and enhancement measures are subject to supplied plans.

Table 5.2.3.1. Summary of bat roosts and the likely impacts to these roosts.

Building	House
Species & peak count	Common pipistrelle
Peak count	2
Roost type	Non-breeding day roost
Emergence location	From under a hanging tile on the south elevation, by the easternmost window
Impacts without mitigation	Bats could be injured or killed when the hanging tiles are removed during the demolition of the building.
Mitigation/ compensation	The hanging tiles will be removed carefully by hand (under strict ecological supervision) to mitigate the potential for individual bats to be injured or killed. This will ideally be completed in September/ October once maternity colonies have dispersed and before bats have begun to hibernate; or in March/ April before bats have returned to form maternity colonies. However, work at any time of year may be acceptable (subject to licensing from Natural England) providing the destructive search is carried out in mild spells (above 5°C at night) in winter. One woodstone bat box (<i>e.g.</i> Large Multi Chamber Woodstone Bat Box by NHBS or similar) will be erected on a large nearby tree prior to the commencement of the works to provide a safe location to put any bats found during the destructive searches. Bats will be captured by hand by the ecologist and, after being checked for injuries, transported immediately in cotton holding bags. In the event that an injured bat is encountered during the destructive search, it will be taken to a veterinary surgeon so that the extent of its injuries can be assessed. If not life-threatening, it will be taken to one of the local bat group's designated carers.

	As all access points will be lost due to demolition, and the replacement building will not have hanging tiles or roof tiles, an integrated bat box (see <i>Figures 6 - 8 in Section 6</i>) will be used to provide a replacement roost in a similar location on the new building. The roof lining of the new building <u>must</u> consist of bitumen type 1F felt with a hessian matrix (<u>NOT</u> a breathable membrane such as Tyvek™ or other non-woven membrane), unless a certificate can be provided showing proof that the roofing membrane has passed a ‘snagging propensity test’ for any non-bitumen coated roofing membranes. This is currently a Natural England licence requirement whilst a safe alternative is being researched. This is because bats can become entangled in breathable membranes and die. Although breathable membranes appear smooth, crawling or hanging bats may become tangled in the fibres as a result of their claws catching on the membrane. A struggling bat may also puncture the membrane, thus invalidating the guarantee of the material and causing water ingress. The building contractor or client may be liable for both damage of the property and killing or injuring bats. Only timber treatments recommended by Natural England should be used in line with Natural England’s <i>Remedial timber treatment products suitable for use in bat roosts (2013)</i> available at: https://www.gov.uk/guidance/bat-roosts-use-of-chemical-pest-control-products-and-timber-treatments-in-or-near-them.
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5.2.4 Birds

All trees and shrubs provide suitable habitat for nesting birds. The destruction of active bird nests is prohibited under the *Wildlife and Countryside Act 1981* (as amended). Therefore, all 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 ***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 that could provide bat roosting opportunities.

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 August 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) except for small sites will have to deliver at least 10% biodiversity net gain (BNG) from January 2024. BNG will be required for small sites from April 2024. 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 February 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:

- new bat roost provision;
- planting for wildlife;
- sensitive lighting (for bats and other wildlife); and
- new bird nesting provision.

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 D*. 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 *Lighting*

Changes in lighting can affect foraging and roosting bats. Therefore, no works should take place in the hours of darkness or under artificial lighting. In addition, no lighting should be directed onto new roost exit points (see *Section 5.6.3*) and planted vegetation (particularly the hedges and bushes) and any lighting installed should avoid spillage of greater than 0.1 lux (typical moonlight/ cloudy sky) near to or directly onto the new roost entrances and 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.

5.6.3 *New bat roost provision*

The new building will be enhanced for bats using four integrated maternity bat boxes (*e.g.* Roost Maternity Bat Box by The nestbox company, or similar), which provides a cavity that is incorporated into the external build structure to offer roosting space for bats. Alternatively, if this is not viable (because of the construction methods), then four woodstone style bat boxes (*e.g.* Vivara Pro WoodStone Bat Box, Beaumaris Woodstone or similar) will be erected on an undisturbed aspect of the building. These bat boxes will be erected as high as possible (ideally between 2.5m and 5m, facing south or south-east) with a clear exit path. These bat boxes will remain on site permanently (and shall be repaired or replaced as necessary).

5.6.4 *Planting*

New hedges will be planted around the edges of the site. These will 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.

All new hedges will be under-sown with Emorsgate seed mix EH1 Hedgerow mixture (or equivalent supplier). This will provide cover for wildlife such as hedgehogs as well as providing an attractive feature while the new hedges become established.

Areas of amenity grassland (verges and lawns) will be sown with a species-rich seed mix for lawns such as Emorsgate seed mix EL1 and EG1 (or equivalent supplier). This will increase the plant diversity on site.

The seed mix EL1 will be sown mainly around the edges of lawns and on verges, where it can be mown less frequently without interfering with the amenity value of the grassland. The seed mix EG1, as a purely grass mix, will be sown in the centre of the grassland.

Details of the species present in the proposed seed mixes are given in *Appendix D*.

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, the landscaping 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 5.6.4.1.* and *5.6.4.2.* Approximate flowering periods are listed in the tables.

Table 5.6.4.1. Native and non-native species that could be incorporated into the landscaping.

Species	Common Name	Approximate flowering period
<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>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

Table 5.6.4.2. Examples of suitable garden herbs that could be planted in and around the site to encourage wildlife.

Species	Common Name	Approximate flowering period
<i>Angelica species</i>	Angelica	Summer to autumn
<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>Hesperis matronalis</i>	Dame's-violet, often sold as Sweet Rocket	Spring to summer
<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>Oenothera species</i>	Evening-primroses	Summer
<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 Campion	Spring to summer
<i>Tanacetum parthenium</i>	Feverfew	Summer to early autumn
<i>Thymus</i> species	Thyme	Summer

A mixture of trees, shrubs and flowering plants 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. Approximate flowering periods are listed above.

5.6.5 Hedgehogs

Hedgehogs are declining therefore to allow any hedgehogs in the area to access the garden, any fencing will have 15cm x 15cm gaps beneath to allow hedgehogs to access the new landscaping. This could be achieved by removing all or part of the baseboard/ gravelboard. To prevent these gaps from being filled in or covered, they can be marked using signage (*e.g.* The People's Trust for Endangered Species).

5.6.6 Birds

Three multi-use boxes (swifts and sparrows) will be built into or attached to the exterior wall of the new building. Swift boxes can be supplied and installed by Hampshire Swifts <https://www.hampshireswifts.co.uk> and a new soffit design is also available (this box is also suitable for sparrows which are also an IUCN Red List Bird of Conservation Concern and listed on Section 41 of the *Natural Environment & Rural Communities Act 2006*). These bird boxes will provide new nest sites. The bird boxes are detailed in *Table 5.6.5.1*.

Table 5.6.5.1. Bird boxes to be erected within the site with additional details on siting them to increase chances of occupancy.

Type & quantity	Typical species	No.	Height	Additional information
Pro UK Visible Build-In Swift Box  or Swift boxes from Hampshire Swifts	Swifts	2	≥ 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.

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

A bat European Protected Species (EPS) licence from Natural England is necessary before work commences on the building. This licence from Natural England permits activities that may otherwise be offences under the *Conservation of Habitats & Species Regulations 2017*, such as the destruction of roost sites.

A licence from Natural England permits activities that may otherwise be offences under the *Conservation of Habitats & Species Regulations 2017*.

Evidence is required from bat activity surveys (emergence and/ or re-entry surveys) during the bat active season between May and September in order to gather enough information about bat populations (including species, numbers and status of roost sites) to support a bat licence application.

Survey data supporting licence applications must be up-to-date *i.e.* have been conducted within the current or most recent optimal survey season (May to September). Therefore, if licensable work is delayed until, during or after the next survey season, updated survey(s) will be required to support an application.

Natural England takes a minimum of 30-60 working days to process licence applications following receipt of all the relevant documentation. This includes an application form, a Reasoned Statement (where needed) and a Method Statement. This includes a detailed mitigation strategy to eliminate or reduce impacts on bats.

It is not possible to apply for a licence until full planning permission has been granted and any conditions relating to wildlife fulfilled, although Local Planning Authorities usually request the information prior to determining a planning application request. Additional time will be required where any revisions to a proposed mitigation strategy are necessary to obtain the licence.

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



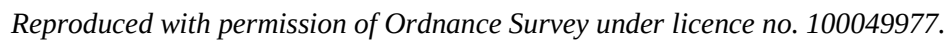


Figure 3. Plan of the site with the building surveyed highlighted in red.

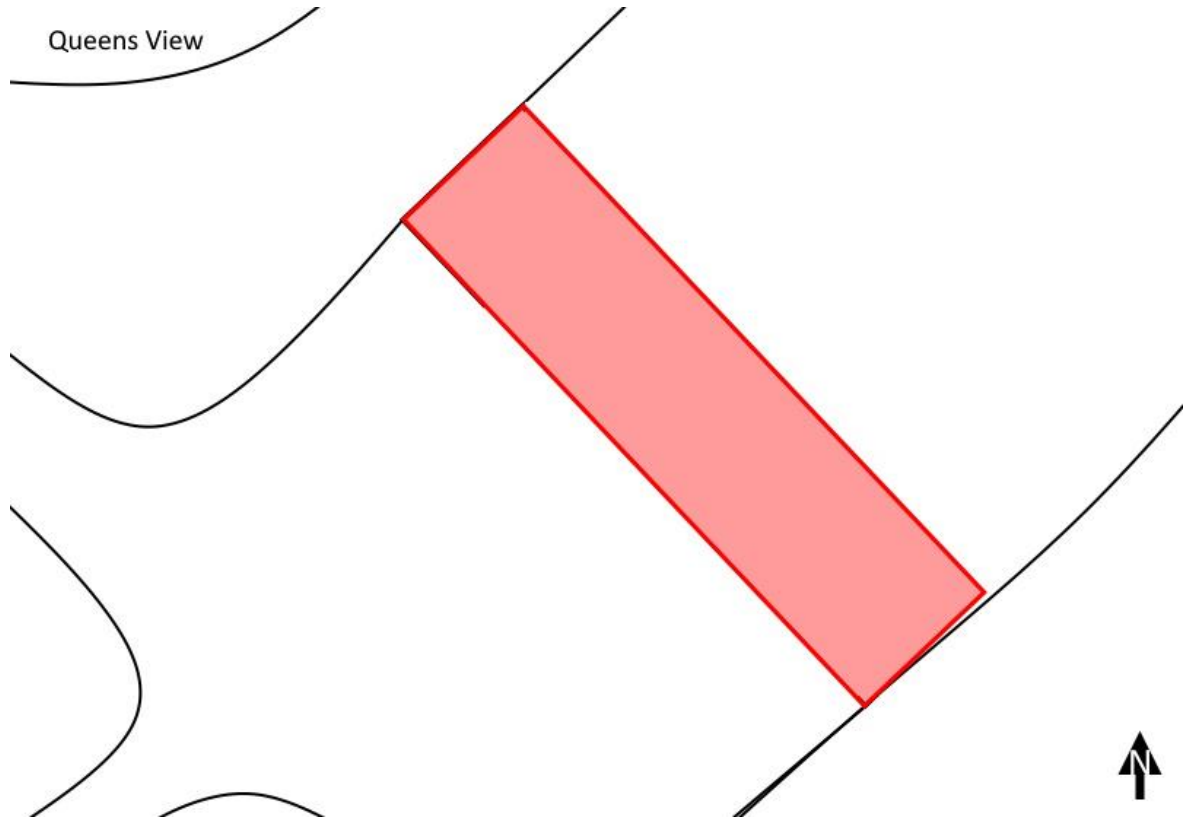


Figure 4. Plan showing bat activity (observations only) for the bat activity survey carried out on the 9th May 2024. Arrows show direction of flight (where known).

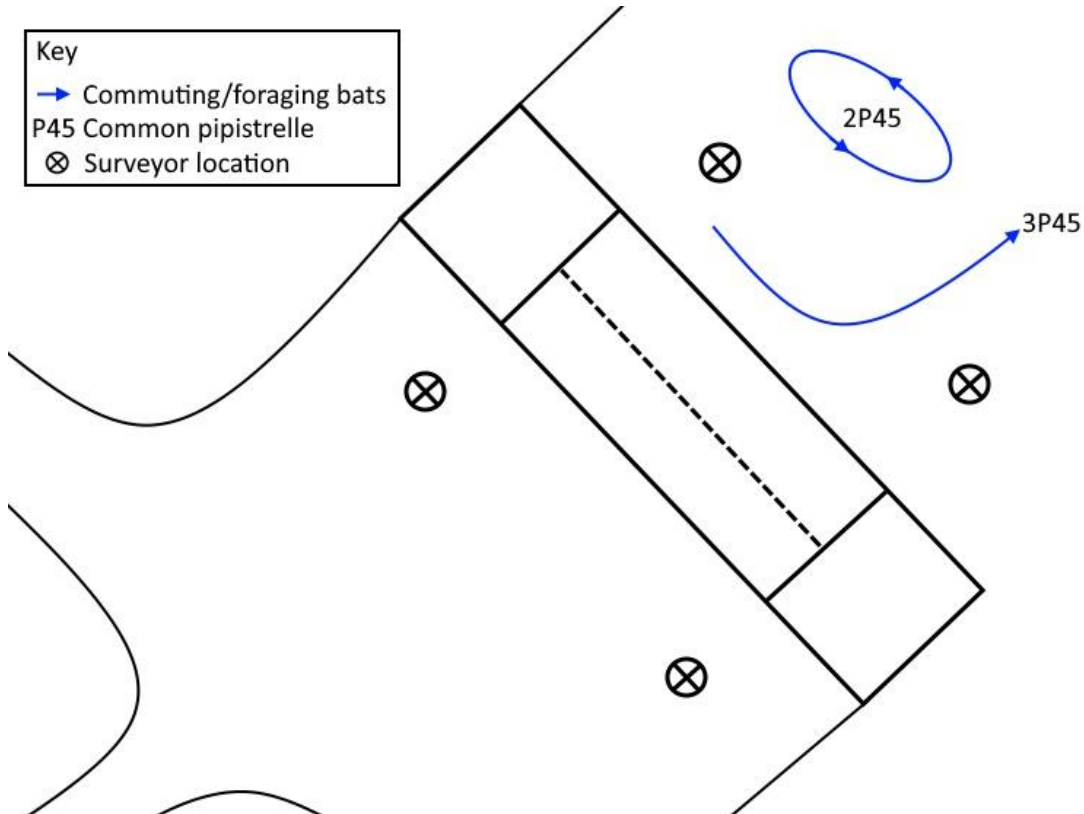


Figure 5. Plan showing bat activity (observations only) for the bat activity survey carried out on the 3rd June 2024. Arrows show direction of flight (where known).

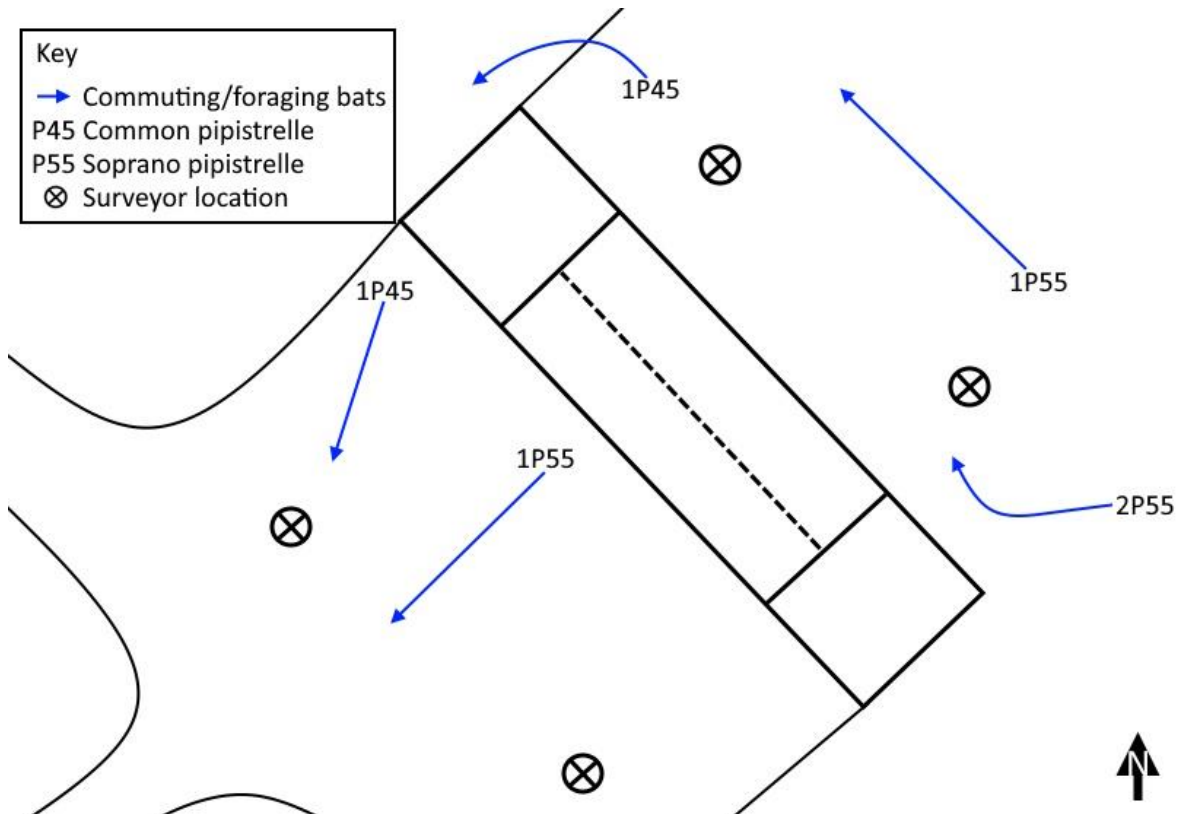


Figure 6. Plan showing the proposed mitigation and enhancement measures (not to scale).



Figure 7. Plan showing the proposed mitigation and enhancement measures (not to scale).



Figure 8. Plan showing the proposed mitigation and enhancement measures (not to scale).



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8.1 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).

8.2 *National planning context*

8.2.1 *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.

8.2.2 *Biodiversity Net Gain (BNG)*

Under the Environment Act 2021, all planning permissions granted in England (with a few exemptions) except for small sites will have to deliver at least 10% biodiversity net gain (BNG) from January 2024. BNG will be required for small sites from April 2024. 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.

APPENDIX C: BAT ACTIVITY SURVEY DATA

Date	09/05/2024			
Temp	15°C at start and 13°C at the end			
Weather	Bright, warm and clear (Beaufort scale 1)			
Ecologists	Sophie Stirrat, Adam Rye, Robyn Myers, Tom Lock			
Observer	Time	No.	Species	Observation
-	20:24	-	-	Ecologists commenced observations
-	20:39	-	-	Sunset
RM	21:05	1	Common pipistrelle	Commuting north-east over the rear gardens
TL	21:08	1	Common pipistrelle	Heard but not seen
RM	21:09	1	Common pipistrelle	Foraging over the rear gardens
RM	21:10	1	Common pipistrelle	Foraging over the rear gardens
TL	21:11	1	Common pipistrelle	Heard but not seen
RM	21:12	1	Common pipistrelle	Heard but not seen
RM	21:14	1	Common pipistrelle	Heard but not seen
RM	21:17	1	Common pipistrelle	Commuting north-east over the rear gardens
RM,TL	21:17	1	Common pipistrelle	Foraging over the rear gardens
RM,TL	21:24	1	Common pipistrelle	Foraging over the rear gardens
RM,TL	21:25	1	Common pipistrelle	Commuting north-east over the rear gardens
RM	21:29	1	Common pipistrelle	Heard but not seen
-	22:09	-	-	Ecologists ceased observations
Date	03/06/2024			
Temp at start (°C)	18	Temp at end (°C)		17
Weather	Slightly overcast (30%), still (Beaufort scale 0)			
Ecologists	Rosie Shepperd, Jackie Thompson, Sophie Stirrat, Laura Hardy			
Observer	Time	No.	Species	Observation
-	20:58	-	-	Ecologists commenced observations
-	21:13	-	-	Sunset
RS	21:19	1	Natterer's	Heard not seen
RS	21:35	1	Natterer's	Heard not seen
JT	21:35	1	Soprano pipistrelle	Flying across garden, commuting/foraging
LH	21:36	1	Natterer's	Heard not seen
JT	21:39	1	Soprano pipistrelle	Commuting/foraging, both came from same direction (oak tree), but flew in different directions
JT	21:39	1	Soprano pipistrelle	
JT	21:41	1	Common pipistrelle	Flying low across garden fence
LH	21:41	1	Soprano pipistrelle	Heard not seen
RS	21:42	1	Common pipistrelle	Heard not seen
RS	21:58	1	Soprano pipistrelle	Flew towards surveyor but could not see origin
RS	22:02	1	Common pipistrelle	From buildings direction, seen not heard
JT	22:06	1	Common pipistrelle	Heard not seen
LH	22:06	1	Common pipistrelle	Flew from behind surveyor towards house
RS	22:06	1	Common pipistrelle	Heard not seen
RS	22:08	1	Soprano pipistrelle	Heard not seen
RS	22:12	1	Common pipistrelle	Heard not seen
JT	22:16	1	Common pipistrelle	Heard not seen

LH	22:20	1	Common pipistrelle	Heard not seen
-	22:30	-	-	Ecologists finished observations
Date	24/06/2024			
Temp at start (°C)	20	Temp at end (°C)		17
Weather	Clear skies (0% cloud cover), still, Beaufort scale 0			
Ecologists	Rosie Shepperd, Sophie Stirrat, Tom Lock, Ross Rayner			
Observer	Time	No.	Species	Observation
-	21:08	-	-	Ecologists commenced observations
-	21:23	-	-	Sunset
RR	22:10	1	Soprano pipistrelle	Heard but not seen
RR	22:12	1	Common pipistrelle	Heard but not seen
RR	22:12	1	Soprano pipistrelle	Heard but not seen
TL	22:21	1	Common pipistrelle	Heard but not seen
RR	22:26	1	Soprano pipistrelle	Heard but not seen
-	22:53	-	-	Ecologists finished observations

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

11.1 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 with a selection of wildflowers that respond well to regular short mowing. The EG9 grass mixture for hedges and woodland contains a selection of grasses that are tolerant of a degree of shade.

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 *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>Achillea millefolium</i>	Yarrow	Early summer
<i>Aubretia</i> species	Aubretia	Spring to early summer
<i>Berberis darwinii</i>	Darwin's Barberry	Spring
<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

Table 11.2.2. Examples of suitable garden herbs that could be planted in and around the site to encourage wildlife.

Species	Common Name	Approximate flowering period
<i>Angelica species</i>	Angelica	Summer to autumn
<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>Hesperis matronalis</i>	Dame's-violet, often sold as Sweet Rocket	Spring to summer
<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>Oenothera species</i>	Evening-primroses	Summer
<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 Campion	Spring to summer
<i>Tanacetum parthenium</i>	Feverfew	Summer to early autumn
<i>Thymus</i> species	Thyme	Summer

New hedges could be planted around the edges 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 Dogtail
<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	Typical species	Height	Additional information
Ibstock Eco-habitat  or Swift boxes from Hampshire Swifts 	Swifts	$\geq 5\text{m}$	- 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 WoodStone House Sparrow Nest Box  	House sparrows	$\geq 2\text{m}$	- 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.
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.
Vivara Pro Seville 32mm Woodstone Nest Box 	Blue tits, great 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.
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.

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.
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11.4 Insects

Insect boxes (hotels or towers) should be installed in a sunny location close to vegetation. Bee-friendly and insect friendly plants should be located nearby so that the bees and insects using the boxes have food. Lavender, honeysuckle and buddleia are all pollinator-friendly plants. The boxes suggested in *Table 11.4.1* (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 11.4.1. Examples of insect boxes that could be erected on site.

Type	Species	Height	Additional information
Bee Brick 	Solitary bees	>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	>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	>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	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	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	>1m from the ground	Best placed near vegetation. Provides plenty of nooks and crannies for insects such as ladybirds, earwigs and lacewings.