Bethshan, 16 Grange Road, Hedge End, Southampton, SO30 2FB

Bat Emergence Survey Report

October 2026

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Bat Emergence Survey Report

Bethshan, 16 Grange Road, Hedge End, Southampton, SO30 2FB

for

Mr Gabriel Janko

Reference: Bethshan, 16 Grange Road, Hedge End	
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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.

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1 EXECUTIVE SUMMARY

1. This report provides information from bat surveys carried out by Hampshire Ecological Services Ltd for Mr Janko in connection with a proposal to renovate and extend the building at Bethshan, 16 Grange Road, Hedge End, Southampton, SO30 2FB (approximate Ordnance Survey Grid Reference SU49791331). 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. CC Ecology ecologist Claire Clarke BSc (Hons) ACIEEM carried out a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of Bethshan, 16 Grange Road and concluded that the building has moderate bat roost suitability and that two surveyors were sufficient to cover the areas of interest (CC Ecology, 2026). Hampshire Ecological Services Ltd were subsequently commissioned to carry out two bat activity (dusk emergence) surveys in line with Gov.uk *Bats: surveys and mitigation for development projects* and BCT's *Bat Surveys for Professional Ecologists Good Practice Guidelines 4th edition*.

3. Details of the dates of the surveys, weather and personnel carrying out the surveys are given in *Sections 3.1* and *3.2*.

4. No bats were observed emerging from the building during the bat activity (dusk emergence) surveys. Therefore, no mitigation or compensation measures are needed, and works can take place without further survey or constraints regarding bats.

5. Common pipistrelles, soprano pipistrelles, serotines and noctules 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 (dusk emergence) 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*.

6. 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 vegetation, and security lights should operate on a timer, to avoid any negative impact on bats. Ideally any lighting installed should avoid spillage of greater than 0.1 lux (typical moonlight/ cloudy sky) onto any 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.

7. 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:

- Two integrated bat boxes (*e.g.* a PRO UK Build-in WoodStone Bat Box, a Habibat™ Bat Box, an Ibstock Enclosed Bat Box, a Schwegler Bat Tube, or similar) will be installed in the two-storey extension. These provide cavities that are incorporated into the external build structure to offer roosting space for bats.
- Two swift boxes will be built into the walls of the two-storey extension or attached to the exterior wall. These boxes are 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*. External swift boxes can be supplied and installed by Hampshire Swifts https://www.hampshireswifts.co.uk and a new soffit design is also available.

8. The bird boxes to be erected within the site, with additional details on siting them to increase chances of occupancy, are summarised in *Table 5.5.4.1*.

9. The indicative locations of the proposed enhancement measures are shown in *Figure 6* in *Section 6*.

10. 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.

11. This survey information 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.

2 INTRODUCTION

2.1 General

This report provides information from bat surveys carried out by Hampshire Ecological Services Ltd for Mr Janko in connection with a proposal to renovate and extend the building at Bethshan, 16 Grange Road, Hedge End, Southampton, SO30 2FB (approximate Ordnance Survey Grid Reference SU49791331). The location of the site is shown in *Figures 1* and *2* in *Section 6*.

A Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) was carried out by CC Ecology (CC Ecology, 2026). This states "*I have therefore assessed the property as having moderate suitability for roosting bats according to current BCT guidelines (Collins 2023).*

In line with Best Practice Guidelines, in order to fully determine the presence or likely absence of roosting bats at 16 Grange Road further Phase 2 bat surveys are required. It is recommended that two emergence bat surveys are carried out prior to any works to the roof of the property and during the active bat season and spaced out accordingly."

Hampshire Ecological Services Ltd were subsequently commissioned to carry out the required bat activity (dusk emergence) surveys, in line with Gov.uk *Bats: surveys and mitigation for development projects* and BCT's *Bat Surveys for Professional Ecologists Good Practice Guidelines 4th edition*.

2.2 Site description

The site is a residential house and a garden. The building surveyed is shown on the plan in *Figure 3* in *Section 6*.

The site is on the north-east side of Grange Road, in Hedge End. The site is located in a mixed residential and commercial area. The buildings surrounding the property are primarily residential properties. To the north-east, at the end of the rear garden, is a patch of broad-leaved woodland, playing fields, the grounds of a hotel and farmland.

2.3 Proposed activities

This survey was carried out in connection with proposals to carry out the following:

- build a double and single-storey side and rear extension;
- build a new front porch;
- alterations to fenestration; and
- application of render.

2.4 Current planning status

Planning permission is being applied for at this site.

2.5 Objectives of the surveys and report

The PEA & PRA by CC Ecology (CC Ecology, 2026) included internal and external inspections of the building to identify bat roost suitability and to systematically search for bats and evidence of bats. Subsequently, two bat activity surveys were carried out by Hampshire Ecological Services Ltd. The aim was to identify if bats are using the building as a roost.

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.

2.6 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 building surveyed;
  - *Figures 4 & 5* illustrate the bat activity recorded during the bat activity surveys; and
  - *Figure 6* gives plans of the proposed enhancement measures.
- *Section 7* 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 Date(s), times and weather

An external and internal inspection of the building was conducted during the daytime by CC Ecology on the 27th January 2026 (CC Ecology, 2026).

Subsequently two bat activity (dusk emergence) surveys were carried out by Hampshire Ecological Services Ltd. Details of the weather, dates and times of these surveys are given in *Table 3.1.1.*

Table 3.1.1. 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 (%)
04/08/26	20:32	22:17	20:47	20 & 18	1	0
01/09/26	19:37	21:22	19:52	17 & 15	2-3	100

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 both surveys.

3.2 Personnel

The internal and external inspections were carried out by Claire Clarke BSc (Hons) ACIEEM from CC Ecology (CC Ecology, 2026). No information on their bat licence was provided.

Personnel carrying out the bat activity (dusk emergence) surveys are given in *Table 3.2.2*. All surveyors are experienced in carrying out bat surveys using detectors. At least one bat licensed or accredited ecologist was present on each survey as the lead surveyor. The lead surveyors are listed in *Table 3.2.1.*

Table 3.2.1. Bat licensed or accredited ecologists acting as lead surveyor on one or more surveys.

Lead surveyor	Licence number
Alex Grainger BSc (Hons)	Accredited under 2025-86835-CL18-BAT
Harriet Riches BSc	Accredited under 2025-83352-CL18-BAT

Table 3.2.2. Personnel carrying out the activity surveys.

Date	Surveyor	
04/08/26	Alex Grainger BSc (Hons)	Anoushka Alexander BSc (Hons)
01/09/26	Harriet Riches BSc	Ryan Stewart BSc (Hons)

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 25 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 28 years of experience in ecological consultancy.

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

3.3 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 Nightfox Whisker Night Vision Binoculars to supplement observations when light levels were too low for human eyesight.

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. Bat calls were recorded using the Echo Meter app 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 the bat activity (dusk emergence) surveys, which have given us a full appreciation of the bat species using the site, and in the context of the immediate surrounding area. No further bat activity (dusk emergence) surveys are considered necessary.

4 RESULTS

4.1 Bat activity surveys

No bats were observed emerging from or entering the building.

Common pipistrelles, soprano pipistrelles, serotines and noctules 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 (dusk emergence) 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*.

5 INTERPRETATION AND EVALUATION

5.1 Constraints

5.1.1 Constraints on survey data

There were no constraints on the bat activity (dusk emergence) surveys.

5.1.2 Constraints on the mitigation, compensation and enhancement measures

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

As the bat surveys (internal, external and bat activity surveys) showed no evidence of bats using the building, no mitigation or compensation measures are needed.

5.2 Potential impacts of the proposed development

No bats were observed emerging from or entering the building during the bat activity (dusk emergence) surveys. Therefore, no mitigation or compensation measures are needed, and works can take place without further survey or constraints regarding bats.

5.3 Survey report expiry

This survey information 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 October 2027.

5.4 Further survey

No further surveys are proposed.

5.5 Enhancement measures

5.5.1 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'.

In December 2024, the Government published the revised National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2024). 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 July 2021. 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 enhancement measures to provide biodiversity net gain will also be in the form of the following:

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

These enhancement measures 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.

5.5.2 Lighting

Changes in lighting can affect commuting and foraging. Therefore, no works should take place in the hours of darkness or under artificial lighting. In addition, no lighting should be directed onto the boundary vegetation and any lighting installed should avoid spillage of greater than 0.1 lux (typical moonlight/ cloudy sky) near to or directly onto the 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.

5.5.3 New bat roost locations

The two-storey extension will be enhanced for bats using at least two integrated bat boxes (e.g. a PRO UK Build-in WoodStone Bat Box, a HabibatTM Bat Box, an Ibstock Enclosed Bat Box, a Schwegler Bat Tube, or similar), which provides a cavity that is incorporated into the external build structure to offer roosting space for bats. These bat boxes will be placed as high as possible (ideally 2.5m or above, facing south or south-east) with a clear exit path.

5.5.4 *Birds*

Two swift boxes will be built into the walls of the two-storey extension or attached to the exterior wall. These boxes are 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*. External swift boxes can be supplied and installed by Hampshire Swifts https://www.hampshireswifts.co.uk and a new soffit design is also available. The proposed bird boxes are summarised in *Table 5.5.4.1.* Additional bird boxes from *Appendix D Section 11.3* can also be installed on site.

Table 5.5.4.1. Bird boxes to be erected within the site with additional details on siting them to increase chances of occupancy.

Type/ example	**Typical species**	**Height**	**Additional information**
Options below: Vivara Pro UK visible build-in swift box  Vivara Pro UK rendered build-in swift box  Swift box – brick facing  Ibstock Eco-habitat  Woodstone swift façade nest box  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.

5.6 Requirement for bat licence

A bat European Protected Species (EPS) licence or Bat Earned Recognition (BER) licence site registration from Natural England is not necessary before work commences on the building. In the unlikely event that bats are found during works, work will stop immediately and a bat licence will be applied for.

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

6 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.



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

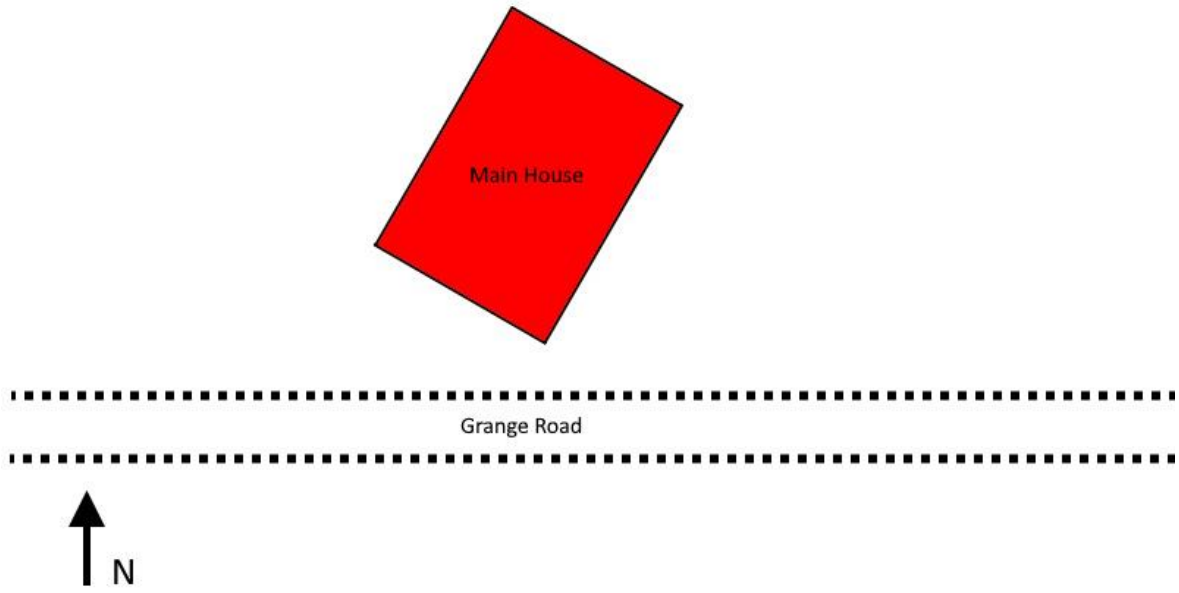


Figure 4. Plan showing bat activity (observations only) for the bat activity survey carried out on the 4th August 2026. Arrows show direction of flight (where known).

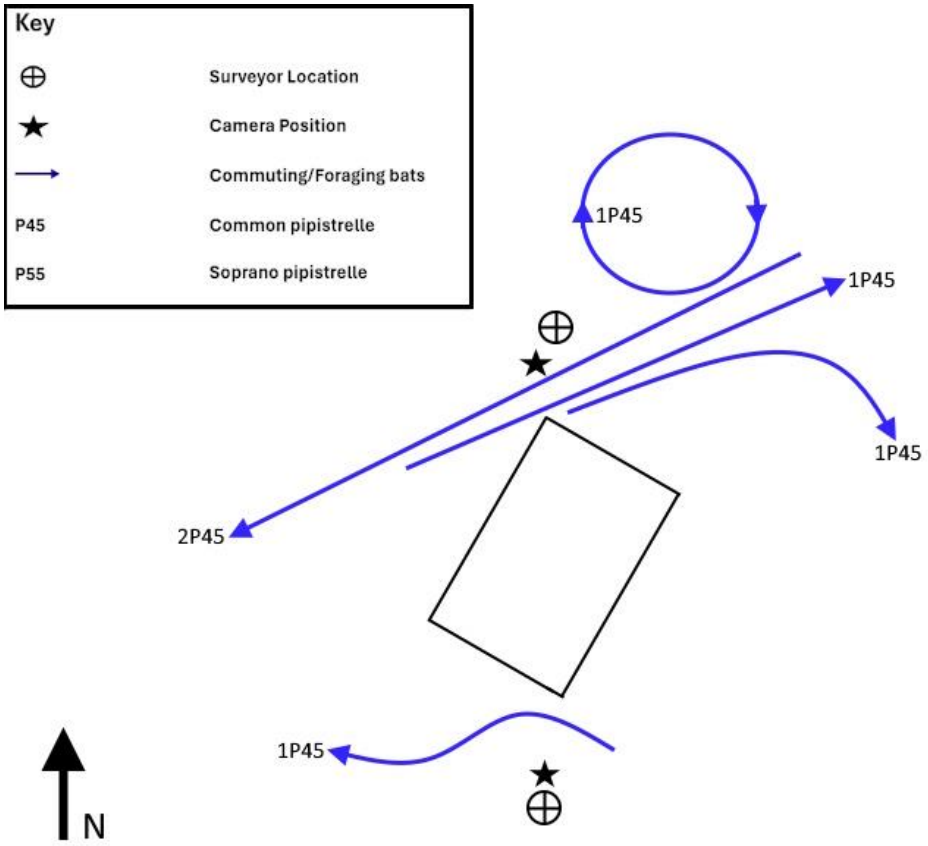


Figure 5. Plan showing bat activity (observations only) for the bat activity survey carried out on the 1st September 2026. Arrows show direction of flight (where known).

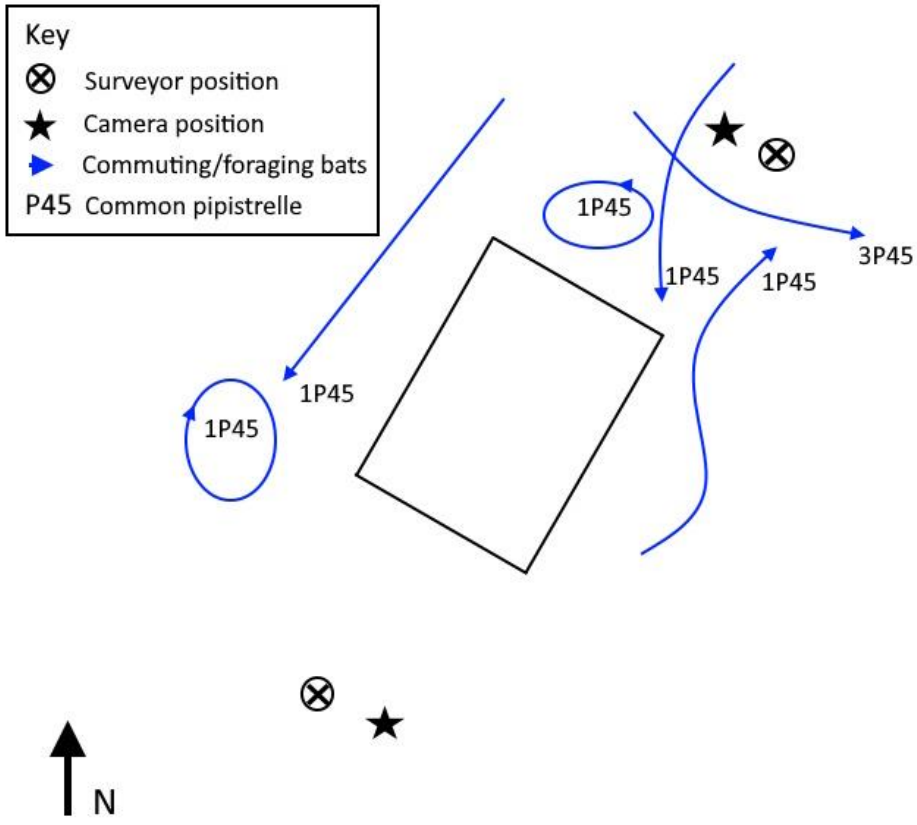


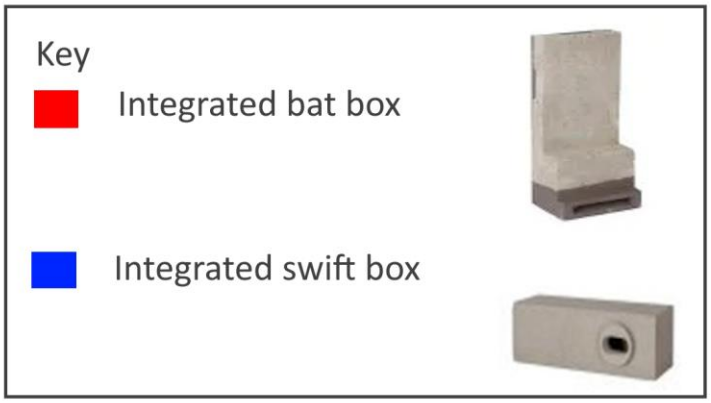
Figure 6. North and south elevations showing the proposed enhancement measures to provide biodiversity net gain (not to scale and enhancement features much smaller than shown, just enlarged for clarity).



Proposed Front Elevation



Proposed Rear Elevation



7 REFERENCES

CC Ecology (2026). *16 Grange Road – Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA)* 5th February 2026. CC Ecology.

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 (2024). *National Planning Policy Framework*. Ministry of Housing, Communities & Local Government, London.

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.

8 APPENDIX A: LEGISLATION

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'.

In December 2024, the Government published the revised National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2024). 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 July 2021. 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.

9 APPENDIX B: BAT ECOLOGY

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.

10 APPENDIX C: BAT ACTIVITY SURVEY DATA

Date	**04/08/2026**			
Temp (ºC)	**Start: 20**		**End: 18**	
Weather	**Clear, Beaufort Scale 1**			
Ecologists	**Alex Grainger, Anoushka Alexander**			
Observer	**Time**	**No.**	**Species**	**Observation**
-	20:32	-	-	Ecologists commenced observations
-	20:47	-	-	Sunset
AA	21:15	1	Common pipistrelle	Heard not seen
AA	21:22	1	Common pipistrelle	Commuting from western elevation to north
AA	21:22	1	Common pipistrelle	Heard not seen
AG	21:23	1	Common pipistrelle	Commuting west over the front house
AA	21:24	1	Common pipistrelle	Heard not seen
AA	21:26	1	Common pipistrelle	Heard not seen
AA	21:28	2	Common pipistrelle	Foraging around the northern elevation
AA	21:31	1	Common pipistrelle	Heard not seen
AG	21:31	1	Common pipistrelle	Commuting west over the front house
AA	21:32	1	Common pipistrelle	Heard not seen
AA	21:32	1	Common pipistrelle	Foraging around the northern elevation
AA	21:39	1	Common pipistrelle	Heard not seen
AA	21:41	1	Common pipistrelle	Heard not seen
AG	21:42	1	Common pipistrelle	Commuting west over the front house
AA	21:43	1	Common pipistrelle	Heard not seen
AA	21:44	1	Common pipistrelle	Foraging around a circular route
AG	21:45	1	Common pipistrelle	Heard not seen
AG	21:50	1	Serotine	Heard not seen
AG	21:53	1	Common pipistrelle	Heard not seen
AA	21:56	1	Common pipistrelle	Heard not seen
AG	21:57	1	Common pipistrelle	Heard not seen
AA	21:59	1	Common pipistrelle	Heard not seen
AA	22:00	1	Common pipistrelle	Heard not seen
AA	22:02	1	Common pipistrelle	Heard not seen
AA	22:03	1	Common pipistrelle	Heard not seen
AA	22:05	1	Common pipistrelle	Heard not seen

AA	22:06	1	Common pipistrelle	Heard not seen
-	22:17	-	-	Ecologists ceased observations
Date	**01/09/2026**			
Temp (ºC)	**Start: 17**		**End: 15**	
Weather	**Overcast with a light breeze (Beaufort Scale 2-3)**			
Ecologists	**Harriet Riches, Ryan Stewart**			
Observer	**Time**	**No.**	**Species**	**Observation**
-	19:37	-	-	Ecologists commenced observations
-	19:52	-	-	Sunset
HR	20:03	1	Common pipistrelle	Commuting north across east elevation
HR	20:07	1	Common pipistrelle	Commuting south across west elevation
RS	20:07	1	Soprano pipistrelle	Foraging in garden south of building
RS	20:10	2	Soprano pipistrelle	Commuting south through garden to the north of the building
RS	20:12	1	Common pipistrelle	Commuting east over garden to the north of the building
HR	20:15	1	Common pipistrelle	Heard not seen
RS	20:15	2	Soprano pipistrelle	Commuting east through garden to the north of the building
HR	20:17	1	Common pipistrelle	Heard not seen
RS	20:17	1	Common pipistrelle	Foraging to the north of the building
HR	20:18	1	Common pipistrelle	Foraging around west elevation
RS	20:22	1	Common pipistrelle	Commuting east over garden to the north of the building
HR	20:28	1	Common pipistrelle	Heard not seen
RS	20:28	1	Soprano pipistrelle	Heard not seen
HR	20:33	1	Noctule	Heard not seen
RS	20:35	1	Common pipistrelle	Heard not seen
-	21:22	-	-	Ecologists ceased observations

11 APPENDIX D: OTHER ENHANCEMENTS FOR WILDLIFE

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

Deschampsia cespitosa	Tufted Hair-grass
Festuca rubra	Red Fescue
Poa nemoralis	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**
Achillea millefolium	Yarrow	Early summer
Aubretia species	Aubretia	Spring to early summer
Berberis darwinii	Darwin's Barberry	Spring
Iberis sempervirens	Candytuft	Summer to autumn
Centaurea montana	Cornflower	Spring to summer
Centaurea scabiosa	Knapweed	Summer to autumn
Centranthus ruber	Red valerian	Summer to autumn
Cornus sanguinea	Dogwood	Summer
Dianthus barbatus	Sweet William	Summer
Echinacea species	Echinacea	Summer to autumn
Erysimum species	Wallflowers	Spring to early summer
Glebionis segetum	Corn marigold	Spring to summer
Hebe species	Hebes	Summer to autumn
Hedera helix	Ivy	Autumn
Hesperis matronalis	Dame's-violet	Spring to summer
Hyacinthoides non-scripta	English Bluebell	Spring
Hylotelephium spectabile	Ice plant 'Pink lady'	Early autumn
Hypericum species	St John's wort	Spring
Ilex aquifolium	Holly	Spring to summer
Jasminum officinale	Common White Jasmine	Summer to autumn
Lavandula angustifolia	Garden Lavender	Summer
Leucanthemum vulgare	Ox-eye daisy	Summer
Limnanthes douglasii	Poached egg plant	Summer
Lonicera caprifolium	Perfoliate Honeysuckle	Summer
Lonicera etrusca	Italian Honeysuckle	Summer to autumn
Lonicera japonica	Japanese Honeysuckle	Spring

Lonicera periclymenum	Honeysuckle	Summer to autumn
Lunaria annua	Honesty	Spring
Malus domestica	Apple	Spring
Malus sylvestris	Crab Apple	Spring
Malva species	Mallow	Summer to autumn
Matthiola longipetala	Night-scented stock	Summer
Myosotis sylvatica	Wood forget-me-not	Spring
Nicotiana species	Tobacco plant	Summer
Oenothera species	Evening primroses	Summer to autumn
Papaver rhoeas	Corn poppy	Summer
Phacelia species	Phacelia	Summer to autumn
Primula vulgaris	Primrose	Spring
Rosa species	Rose	Summer
Rubus fruticosus agg.	Bramble	Spring to summer
Saponaria officinalis	Soapwort	Summer
Saxifraga fortunei	Cherry pie	Summer to autumn
Scabiosa species	Scabious	Summer
Silene dioica	Red campion	Spring
Silene noctiflora	Night-scented Catchfly	Summer to autumn
Silene vulgaris	Bladder Campion	Summer
Verbena species	Vervain	Summer to autumn
Viburnum lantana	Wayfaring-tree	Spring to summer
Viburnum opulus	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**
Angelica species	Angelica	Summer to autumn
Borago officinalis	Borage	Spring to early autumn
Calendula officinalis	English marigolds	Summer to autumn
Foeniculum vulgare	Fennel	Summer to early autumn
Hesperis matronalis	Dame's-violet, often sold as Sweet Rocket	Spring to summer
Hyssopus officinalis	Hyssop	Summer to early autumn
Matthiola bicornis	Night-scented Stock	Spring to autumn
Melissa officinalis	Lemon balm	Summer
Monarda species	Bergamot	Summer to early autumn
Nicotiana species	Tobacco-plant	Spring to autumn
Oenothera species	Evening-primroses	Summer
Origanum vulgare	Marjoram	Summer
Rosmarinus officinalis	Rosemary	Spring

Saponaria officinalis	Soapwort	Summer to autumn
Silene noctiflora	Night-scented Catchfly	Summer to autumn
Silene vulgaris	Bladder Campion	Spring to summer
Tanacetum parthenium	Feverfew	Summer to early autumn
Thymus 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	
Alliaria petiolata	Garlic Mustard
Arctium minus	Lesser Burdock
Centaurea nigra	Common Knapweed
Chaerophyllum temulum	Rough Chervil
Galium album	Hedge Bedstraw
Geum urbanum	Wood Avens
Lathyrus sylvestris	Narrow-leaved Everlasting-pea
Leucanthemum vulgare	Oxeye Daisy
Primula veris	Cowslip
Prunella vulgaris	Selfheal
Saponaria officinalis	Soapwort
Silene dioica	Red Campion
Silene latifolia	White Campion
Silene vulgaris	Bladder Campion
Torilis japonica	Upright Hedge-parsley
Grasses	
Agrostis capillaris	Common Bent
Anthoxanthum odoratum	Sweet Vernal-grass

Brachypodium sylvaticum	False Brome
Cynosurus cristatus	Crested Dogtail
Deschampsia cespitosa	Tufted Hair-grass
Festuca rubra	Slender-creeping Red-fescue
Poa nemoralis	Wood Meadow-grass
EW1	
Species	**Common name**
Alliaria petiolata	Garlic Mustard
Allium ursinum	Ramsons
Anthriscus sylvestris	Cow Parsley
Arctium minus	Lesser Burdock
Arum maculatum	Lords-and-Ladies
Chaerophyllum temulum	Rough Chervil
Cruciata laevipes	Crosswort
Digitalis purpurea	Foxglove
Filipendula ulmaria	Meadowsweet
Geum urbanum	Wood Avens
Hyacinthoides non-scripta	Bluebell
Iris foetidissima	Gladdon
Prunella vulgaris	Selfheal
Silene dioica	Red Campion
Teucrium scorodonia	Wood Sage
Torilis japonica	Upright Hedge-parsley
Grasses	
Agrostis capillaris	Common Bent
Anthoxanthum odoratum	Sweet Vernal-grass
Brachypodium sylvaticum	False Brome
Cynosurus cristatus	Crested Dogtail
Deschampsia cespitosa	Tufted Hair-grass
Festuca rubra	Red Fescue
Poa nemoralis	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
Options below: Vivara Pro UK visible build-in swift box  Vivara Pro UK rendered build-in swift box  Swift box – brick facing  Ibstock Eco-habitat  Woodstone swift façade nest box  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 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.

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	≤ 2m	• Mount on a tree or large shrub • Conceal amongst foliage to keep well-hidden from predators.
WoodStone Swallow Nest Bowl (Plywood board mounted) 	Swallows	≥ 2m	• 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.

Integrated barn owl roost/ false dormer box 	Barn Owl	≥ 3m	• 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	≥ 5m	• Mounted on a 'telegraph style' pole. • Best positioned facing open grassland for foraging opportunities and away from the prevailing weather.

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.