

St Michael's Convent, 354 London Road, Waterlooville, PO7 7TF

Ecological Assessment Report

April 2012

Hampshire Ecological Services Ltd
Consultant Ecologists & Chartered Environmentalists

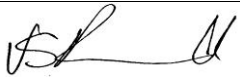
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Ecological Appraisal Report
St Michael's Convent, 354 London Road, Waterlooville, PO7 7TF
for
Linden Homes

Reference: St Michaels Convent, Waterlooville					
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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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EXECUTIVE SUMMARY

1. This report provides information from ecological surveys for Linden Homes in connection with a proposal to convert parts of existing convent buildings and a chapel and to build new dwellings at St Michaels Convent, 354 London Road, Waterlooville, Hampshire, PO7 7TF (approximate Ordnance Survey Grid Reference SU685098). The site location is shown in *Figures 1 and 2*; and a site plan is given in *Figure 3* (see *Section 6*).
2. A Phase 1 Habitat Survey was carried out on the 27th and 28th March 2012. In addition, an internal bat inspection of the buildings was carried out on the 27th of March 2012. The surveys were carried out by licensed bat ecologist Victoria Russell MIEEM and Joseph Jenkins MSc GradIEM of Hampshire Ecological Services Ltd.
3. With the exception of the chapel, convent and associated buildings, the majority of the site is lawns, flowerbeds and ornamental planting including numerous hedges (flanking many of the paths and roads). There is a strip of woodland in the south-east corner, and Hermitage Stream runs along the eastern boundary. An orchard comprising of at least 50 trees is present in the grassland to the south of the buildings. There is also some ruderal vegetation and a few patches of scrub and scattered trees. The buildings are located in the centre of the site surrounded by hardstanding and paving. The habitats are shown in the Phase 1 Habitat Map given in *Figure 4* (see *Section 6*) with the corresponding target notes given in *Appendix A* and plant species lists in *Appendix B*.
4. The habitats and plant species observed on site are generally widespread and are of low nature conservation value from a botanical perspective. The exceptions are the mature trees (which are difficult to replace due to their age), woodland and Hermitage Stream.
5. The mature trees, woodland and boundary hedges are due to be retained and therefore, provided the roots of the trees are protected (see *Section 5.6*) they should not be affected. Hermitage Stream and its associated vegetation will also be retained.
6. One plant species listed on *Schedules 8* of the *Wildlife and Countryside Act 1981* was recorded. This is *Hyacinthoides non-scripta* (Bluebell), which is protected from selling only.
7. One non-native plant species listed on *Schedule 9* of the *Wildlife and Countryside Act 1981* was recorded - *Cotoneaster horizontalis* (Wall Cotoneaster). It is in a boundary hedge between the site and an adjacent house on Brookdale Close (see *Target Note 24*). This *Schedule 9* species should not be caused to spread in the wild. Therefore, it needs to either be removed, or a method statement for work in this area needs to be prepared (to make sure it remains *in situ* to avoid spreading to the remainder of the site or off-site).
8. Three areas have evidence of roosting bats (droppings). These are Building A and the roof voids G and H within the convent buildings. Therefore before any works can be undertaken on

these areas a European Protected Species (EPS) licence for bats would need to be obtained (see *Section 5.7*). The location of the buildings is shown in *Figure 5* in *Section 6*.

9. The emergence surveys described in *Section 5.5* are necessary on all buildings with moderate or high bat roost potential (see *Table 4.3.1.1*). These are essential in order to submit a planning application and support an EPS licence from Natural England. Those buildings with low or negligible bat roost potential could be demolished under ecological supervision.
10. Detailed surveys of individual trees were not carried out. However, if any mature trees need to be removed in the future, or if tree surgery (*e.g.* crown-lifting) is required, then a bat survey at an appropriate time of year may be required.
11. Although the majority of the lawns are regularly mown, there are areas of suitable habitat for reptiles (such as slow-worm), particularly around the edges of the site. In addition, Hermitage Stream and its bank-side vegetation is suitable habitat for grass snakes. A slow-worm was recorded on site during the survey (see *Target Note 2*). Therefore, further surveys are required to assess population size and a reptile mitigation strategy will be needed.
12. There were no records of otter nearby. However, Hermitage Stream is suitable habitat. Although under these proposals the stream will remain, as a precautionary measure the mitigation measures described in *Section 5.6.1* will be implemented.
13. There were no records of water vole nearby and it is sub-optimal habitat for this species. However, if Hermitage Stream is subsequently to be affected, surveys for water voles should be carried out.
14. No badger setts or evidence of badger was found.
15. The removal of any vegetation with the potential to support nesting birds should be undertaken outside the bird breeding season (late February to August inclusive) to avoid destruction of active bird nests. 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 there are active nests then they should be retained and work must be delayed until the young have fledged and left the nest.
16. There are no statutory designated sites within 2km of this site according to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk). However, there are seven areas of ancient and semi natural woodland surrounding the site. These are Alsfordmoor Coppice to the south-west and Bushy Lease. Queens Inclosure to the north of the site has both ancient and replanted woodland. Four other unnamed areas of ancient woodland are located within 2km of the site. In addition, Park Wood SINC is on the opposite side of the A3 to Queen's Inclosure. This is a local non-statutory designated site.

INTRODUCTION

2.1 Purpose of this report

This report provides information from ecological surveys carried out by Hampshire Ecological Services Ltd for Linden Homes in connection with a proposal to convert parts of existing convent buildings and a chapel and to build new dwellings at St Michaels Convent, 354 London Road, Waterlooville, Hampshire, PO7 7TF (approximate Ordnance Survey Grid Reference SU685098).

Aerial photographs showing the location of the site are given in *Figure 1*; a map showing the location of the site is given in *Figure 2*; a site plan is given in *Figure 3*; a Phase 1 Habitat map is given in *Figure 4*; and a plan of the buildings on site is given in *Figure 5* (see *Section 6*).

Site visits were carried out on the 27th and 28th March 2012.

2.2 Ecological context

The site consists of a chapel and the buildings and grounds of the former St Michael's convent. The buildings and extensions date from the Victorian period to the 1960's.

The convent and its outbuildings are located in the centre of the site surrounded by hardstanding and paving. The majority of the site is lawns, flowerbeds and ornamental planting. There is also an orchard and a strip of woodland along part of the southern boundary. Woodland connects to Hermitage Stream which runs along the eastern boundary. To the north this connects to the woodland of Queen's Inclosure and Park Wood SINC (on the opposite side of the A3 to Queen's Inclosure).

The site lies in central Waterlooville, off the A3, London Road. It is surrounded by housing with Hermitage Stream along its eastern boundary. The B2150 is located to the south, separated from the site by a single row of houses in Brookdale Close. The surrounding area is the urban and sub-urban area of Waterlooville with the A3(M) motorway to the east. Beyond Waterlooville to the west there is farmland.

2.3 Proposed activities

The surveys were carried out in connection with a proposal to convert the chapel and parts of the convent buildings and demolish the remaining buildings and build new dwellings on the site.

2.4 Current planning status

Planning permission is being applied for at this site.

2.5 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 photos showing the site location;
 - *Figure 2* gives an OS map showing the location of the site;
 - *Figure 3* gives a site plan;
 - *Figure 4* gives a Phase 1 Habitat map of the site; and
 - *Figure 5* gives a site plan showing the location of the buildings and their roof voids.
- *Section 7* gives photographs of the site;
- *Section 8* lists the references;
- *Appendix A* gives the *Target Notes*;
- *Appendix B* lists the plant species recorded on site;
- *Appendix C* lists key legislation and regulations; and
- *Appendix D* gives information on bat ecology.

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 500m for LNRs, NNRs and SSSIs and 2km for SACs, SPAs and Ramsar sites, as specified in Hampshire's *Biodiversity Checklist*.

The Hampshire Biodiversity Information Centre (HBIC) has not been approached for records in relation to this site.

3.2 **Field survey**

3.2.1 *General*

A site visit was completed within the site boundary. This type of survey is not designed to prove presence or absence of significant or protected species; it is used to highlight habitat that is suitable and to identify where further work to show presence or absence is required. However, in some circumstances species can be ruled out because there is unsuitable habitat or barriers to inward migration.

Significant species were defined as follows:

- European Protected Species (listed on *Schedules 2 and 5 of the Conservation of Habitats & Species Regulations 2010*;
- nationally protected species under *Schedules 1, 5 and 8 of the Wildlife & Countryside Act 1981*, the *Protection of Badgers Act 1992* (as amended) and the *Deer Act 1991*;
- non-native pest species listed on *Schedule 9 of the Wildlife & Countryside Act 1981* (as amended);
- species listed as Critically Endangered, Endangered or Vulnerable on the *IUCN Red List*;
- all species listed on the *RSPB Birds of Conservation Concern 2002-2007* as Red or Amber;
- Nationally Rare or Nationally Scarce species; and
- species that have Action Plans under the UK Biodiversity Action Plan (UKBAP) or are Priority Species under the Local Biodiversity Action Plan.

3.2.2 *Date(s), times and weather*

The initial site visit and internal bat inspection of the buildings was carried out during the daytime on the 27th of March 2012. An additional visit was carried out on the 28th March 2012 to complete the Phase 1 Habitat Survey. The weather was warm and sunny on both occasions.

3.2.3 Personnel

The surveys were carried out by Victoria Russell MIEEM, who is a full member of the Institute of Ecology and Environmental Management (IEEM), and holds a Natural England licence (survey licence number 20113626) allowing the disturbance and handling of bats for the purposes of survey in all counties of England. She has over 13 years experience in ecological consultancy and is a highly competent botanist trained in Phase 1 Habitat Survey and protected species surveys (including botanical expertise in *Schedule 9* species). She was assisted by a second ecologist Joseph Jenkins MSc GradIEEM who is experienced in carrying out bat surveys using detectors as well as undertaking roost surveys with licensed bat ecologists.

This report was reviewed by John Poland CEnv MIEEM CBiol MSB, who is also a full member of the IEEM, a Chartered Environmentalist (CEnv) and a Chartered Biologist (CBiol) with over 11 years experience in ecological consultancy.

All staff are members of IEEM and adhere to the Institute of Ecology and Environmental Management's *Code of Professional Conduct*.

3.3 Botanical surveys

Phase 1 Habitat Survey

The botanical surveys in this report are based on the Phase 1 Habitat Survey methodology (Joint Nature Conservation Committee 2003) and involve the following elements:

- habitat mapping using a set of standard colour codes to indicate habitat types on a Phase 1 Habitat Map; and
- description of features of ecological or nature conservation interest in notes relating to numbered locations on the Phase 1 Habitat Map, called *Target Notes* (for habitat and features of possible ecological interest).

Basic Phase 1 Habitat Survey methods are described in detail in Joint Nature Conservation Committee (JNCC, 2003). Limits to the method are discussed in Cherrill & McClean (1999).

Plant species lists were compiled for the various habitat types on the site. Subjective estimates of the relative abundance of species were added to the plant species list using a modified DAFOR scale. The DAFOR scale ranks species according to their relative abundance in a given parcel of land as follows: d – dominant, a – abundant, f – frequent, o – occasional, r – rare. In addition, the following prefixes are used: l – locally, v – very. The terms ‘abundant’ and ‘rare’ are used by convention, and apply only to relative-abundance within the recorded area. It does not mean that species are ‘rare’ in the general sense.

Plant nomenclature in this report follows Poland & Clement (2009) for native, naturalised and garden species of vascular plant. Plant names in the text are given with scientific names first, followed by the English name in brackets. Uncertain identifications are preceded by ‘cf.’ placed before the specific epithet where the plant is very probably the species indicated, but it is impossible to distinguish it from similar members of the genus with certainty.

March is a sub-optimal time of year for general botanical recording, though it is always unrealistic to suppose that surveys can generate exhaustive species lists at any time of year.

3.4 *Animal surveys*

3.4.1 *General*

The habitat was assessed to determine whether or not it is suitable for those protected vertebrates that occur in the region. Initial surveys do not usually confirm species presence or absence, but obvious signs and incidental sightings of protected species would have been noted had they been encountered.

An assessment was made of the likelihood of protected vertebrates using the site. Taking into consideration the geographical region and habitat type, species and groups that might be encountered are:

- bats;
- otter;
- water vole;
- badger;
- nesting birds; and
- reptiles.

According to aerial photographs (GoogleEarth™) and online Ordnance Survey 1:25,000 maps, there are no ponds or lakes within 500m of the site. Therefore great crested newt are not considered further. The Hermitage Stream is located on the eastern boundary, but this is not suitable for white-clawed crayfish. Therefore, this species is not considered further.

Details of initial survey methods for each of the relevant species that might have been encountered are given below and an overview of the legal protection of the species and groups is provided in *Appendix C*.

3.4.2 *Bats*

Assessment of current bat roost potential

Because bats are crevice-dwelling mammals it is often difficult to thoroughly inspect buildings for bats and evidence of bats without a destructive search, which is not generally practical or acceptable. Examples are where bats roost between the roofing felt and tiles, around window frames and behind barge boards. These areas cannot be inspected, but a surveyor would know that bats might roost here because there are places where bats could gain entry. A pipistrelle bat is small enough to fit into a match box and can roost in gaps just 14-20mm wide.

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

- Surrounding habitat: whether there are potential flight-lines and bat foraging areas nearby.

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

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

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

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

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

Detailed surveys of individual trees were not carried out. If any mature trees need to be removed in the future, or if tree surgery (*e.g.* crown-lifting) is required, then a bat survey at an appropriate time of year may be required.

Systematic inspection for bats or evidence of bats

The buildings were assessed for their suitability to support roosting bats using the following access and inspection equipment: high quality 10x42 binoculars; a 1,000,000 candlepower torch; a ProVision100TM fiberscope with a 45cm optic cable; and a 3.8m surveyors ladder. Binoculars were employed to view higher areas such as potential access points on the outside of the buildings. A description of the buildings was recorded on a survey sheet, and digital photographs were taken as a permanent record.

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

- roof voids;
- roof beams, especially the top of ridge and hip beams;
- cracks, crevices and sheltered voids including mortise joints;
- the floors and stored items;

- external features such as soffits, barge boards, hanging tiles and lead flashing;
- roof slopes and the ridge;
- wall, window and door surfaces;
- window and door frames; and
- wall bases.

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

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

3.4.3 *Otter and water vole*

Initial surveys centre on identifying suitable habitat. Most watercourses and standing water could support either otter (*Lutra lutra*) or water vole (*Arvicola terrestris*). Other areas where there is surface water for the majority of the year (including wet heath, marshland, rush-pasture, wetland, bogs, mires, ponds and other water bodies) have some potential to support water vole.

3.4.4 *Badger*

An initial assessment was carried out to identify areas that might be used by badger (*Meles meles*) for commuting, foraging and sett-building within at least 30m of all areas potentially affected by works (where access was possible).

3.4.5 *Birds*

Habitat that might be used by nesting birds was identified. Different bird species use buildings, trees and shrubs, undergrowth or even open fields to nest. Suitability of the site for use by a range of bird species was considered giving consideration to factors such as cover, food, disturbance and other habitat requirements.

3.4.6 *Widespread species of reptiles*

The site was assessed for widespread species of reptiles, with particular attention paid to those features that could be used as basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of hardcore) and opportunities for foraging (rough grassland and scrub). The site was assessed for its suitability for each of the four widespread reptile species which have broadly similar habitat requirements. However, more specific requirements include the following (Beebee & Griffiths 2000):

- common lizards (*Zootoca vivipara*) use a variety of habitats from woodland glades to walls and pastures, although one of their favoured habitats is rough grassland;

- slow-worms (*Anguis fragilis*) use similar habitats to common lizards, and are often found in rank grassland, gardens and derelict land;
- grass snakes (*Natrix natrix*) have broadly similar requirements to common lizards with a greater reliance on ponds and wetlands, where they prey on common frogs;
- adders (*Vipera berus*) use a range of fairly open habitats with some cover, but are most often found in dry heath.

RESULTS

4.1 Desk study

There are no statutory designated sites within 2km of this site according to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk). However, there are seven areas of ancient and semi natural woodland surrounding the site. These are Alsfordmoor Coppice to the south-west and Bushy Lease. Queens Inclosure to the north of the site has both ancient and replanted woodland. Four other unnamed areas of ancient woodland are located within 2km of the site.

In addition, Park Wood SINC is on the opposite side of the A3 to Queen's Inclosure. This is a local non-statutory designated site.

4.2 Habitats and plant species

With the exception of the buildings (and associated paths and roads), the majority of the site is lawns, flowerbeds and ornamental planting (*Target Note 12*) together including numerous hedges (flanking many of the paths and roads). There is a strip of woodland in the south-east corner, and the Hermitage Stream runs along the eastern boundary. An orchard comprising of at least 50 trees is present in the lawn to the south of the buildings. There is also some ruderal vegetation and a few patches of scrub and scattered trees. The habitats are shown in the Phase 1 Habitat Map given in *Figure 4* (see *Section 6*) with the corresponding target notes given in *Appendix A* and plant species lists in *Appendix B*.

The majority of the lawns are species-poor amenity grassland (*Target Note 34*) dominated by *Lolium perenne* (Perennial Rye-grass) with *Agrostis stolonifera* (Creeping Bent) and a few common forbs such as *Bellis perennis* (Daisy), *Plantago lanceolata* (Ribwort Plantain), *Potentilla reptans* (Creeping Cinquefoil), *Prunella vulgaris* (Selfheal), *Ranunculus repens* (Creeping Buttercup) and *Taraxacum* sect. *Ruderalia* (Dandelion). There are more forbs near the orchard and under the *Malus domestica* (Apple) trees (*Target Note 1*).

Locally the sward is more species-rich (*Target Note 35*) with species including *Achillea millefolium* (Yarrow), *Festuca rubra* (Red Fescue), *Fragaria vesca* (Wild Strawberry), *Hypochaeris radicata* (Cat's-ear), *Luzula campestris* (Field Wood-rush) and an abundance of the moss *Rhytidiadelphus squarrosus*. Here there is less *Lolium perenne* (Perennial Rye-grass) and more *Agrostis stolonifera* (Creeping Bent).

Where the grassland is adjacent to hedges and under trees (including in the orchard) there are some shade-tolerant species within the sward, including *Anthriscus sylvestris* (Cow Parsley) *Galium aparine* (Cleavers) and *Ranunculus ficaria* (Lesser Celandine).

Where it grades into hardstanding or areas with greater disturbance (*Target Note 36*) there are ruderal species such as *Picris echinoides* (Bristly Oxtongue), *Picris hieracioides* (Hawkweed Oxtongue) and an abundance of *Poa annua* (Annual Meadow-grass).

The majority of the hedges (*Target Notes 6, 15, 16, 18, 21 and 26*) are strongly dominated by *Ligustrum ovalifolium* (Garden Privet) with a field-layer strongly dominated by *Hedera helix* (Ivy), often with locally dominant *Aegopodium podagraria* (Ground-elder). Other woody species include *Aesculus hippocastanum* (Horse-chestnut), *Buddleja davidii* (Butterfly-bush), *Cornus sanguinea* (Dogwood), *Crataegus monogyna* (Hawthorn), *Fraxinus excelsior* (Ash), *Quercus robur* (Pedunculate Oak), *Rosa canina* (Dog-rose) and *Sambucus nigra* (Elder). The exceptions are the hedges described in *Target Notes 19 and 20* which are strongly dominated by *Fagus sylvatica* (Beech), although the field-layer remains dominated by *Hedera helix* (Ivy); and the hedges described in *Target Notes 23, 24 and 25*. The hedges described in *Target Notes 23 and 24* have more ornamental species such as *Berberis* species (a Barberry) and *Forsythia ×intermedia* (Forsythia). The hedge described in *Target Note 25* has a more mixed species composition, although *Ligustrum ovalifolium* (Garden Privet) is present.

The small amount of scrub is either dominated by *Sambucus nigra* (Elder) such as that described in *Target Note 2* or by *Rubus fruticosus* agg. (Bramble) such as that described in *Target Note 9*.

The woodland (*Target Note 5*) has a canopy dominated by *Fraxinus excelsior* (Ash) with *Quercus robur* (Pedunculate Oak) and a small amount of *Taxus baccata* (Yew). The shrub layer contains *Corylus avellana* (Hazel), *Crataegus monogyna* (Hawthorn), *Eleagnus* species (an Oleaster), *Ilex aquifolium* (Holly), *Ligustrum ovalifolium* (Garden Privet), *Ruscus aculeatus* (Butcher's-broom), *Rubus fruticosus* agg. (Bramble), *Salix* species (a willow) and *Sambucus nigra* (Elder). The field layer is dominated by *Hedera helix* (Ivy) with *Urtica dioica* (Common Nettle). Other species include *Alliaria petiolata* (Garlic Mustard), *Arum maculatum* (Lords-and-Ladies), *Carex pendula* (Pendulous Sedge), *Galium aparine* (Cleavers) and *Ranunculus ficaria* (Lesser Celandine). At the western end *Aegopodium podagraria* (Ground-elder) is locally dominant. It is edged with a *Ligustrum ovalifolium* (Garden Privet) hedge, particularly at its eastern end.

Hermitage Stream (*Target Note 3*) is a shallow stream with slow-flowing water. There are numerous *Alnus glutinosa* (Alder) trees along its bank with a field-layer of *Urtica dioica* (Common Nettle) and some *Rubus fruticosus* agg. (Bramble). There are also patches of herbs characteristic of ancient woodland including *Allium ursinum* (Ramsons), *Anemone nemorosa* (Wood Anemone) and *Hyacinthoides non-scripta* (Bluebell).

One plant species listed on *Schedules 8* of the *Wildlife and Countryside Act 1981* was recorded. This is *Hyacinthoides non-scripta* (Bluebell), which is protected from selling. In addition, a non-native plant species listed on *Schedule 9* of the *Wildlife and Countryside Act 1981* was recorded: *Cotoneaster horizontalis* (Wall Cotoneaster). This is located at *Target Note 24* on the Phase 1 Habitat Map (see *Figure 4* in *Section 6*) a boundary hedge between the site and an adjacent house on Brookdale Close.

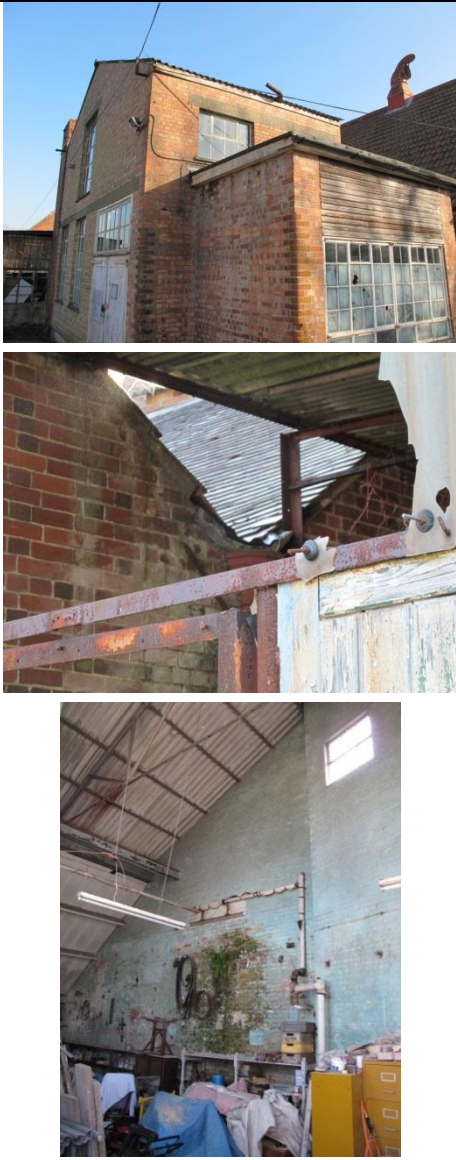
4.3 Protected vertebrates

4.3.1 Bats

Survey of buildings

The building construction details and bat roost potential are summarised in *Table 4.3.1.1.* below.

Table 4.3.1.1. Summary of building construction details, bat roost potential and any evidence of bats observed.

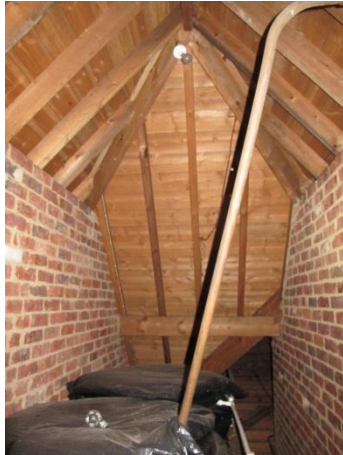
Building	Photograph	Bat Roost Potential
A		Building A is a one-storey brick and breezeblock building with a pitched asbestos sheet roof. There is no internal lining or insulation. A small area of wooden cladding is present on the western elevation. There is an annex on the eastern end, which is constructed from bricks and breezeblocks, with a pitched, tiled roof on timber beams. The roof within the annex is lined with wooden boards. Bargeboards are present around the exterior of the building, and there are several gaps into the interior. A lifted tile on the annex provides entry to the interior of the roof void, whilst the asbestos roof of the main part of the building is raised. There are several loose or missing tiles on the annex (front and side). The interior of the main building is well lit to the roof (approximately 10m high). Mouse droppings are scattered throughout. This building has high bat roost potential which was confirmed by the presence of bat droppings on the floor of the annex. Therefore, this building is a bat roost.

		
B		A large two-storey brick outbuilding with a pitched tiled roof. There are two voids both of which are lined with wooden boards. The interior has a suspended ceiling. The main void above the suspended ceiling has a row of windows running along the north and south elevations making the interior void very well lit. The frame within the voids is wood with ridge beams present at the apex. There were very few cobwebs within the voids, although no evidence of bats was found. Mouse and rat droppings were scattered throughout the voids and the ground floor of the building. It has several loose or missing tiles that could provide access to bats, as well as a hole in the brickwork on the western elevation. However, the high levels of light in the roof voids means that bats may be disturbed. Therefore, it has moderate bat roost potential.

		
C	  	Building C is a two-storey brick house with a hipped, pitched tiled roof. The roof void is lined with roofing felt and is insulated with fiberglass. The frame is wooden with a wooden ridge beam. The void has a maximum height of approximately 3m. Light enters the void through four large tears in the felt lining. Rodent droppings were found throughout. There were few cobwebs within the void, but no evidence of bats. Bargeboards and a chimney with lead-flashing present on the exterior of the building. There are several lifted tiles on the roof, and an area of lifted lead-flashing on the southern elevation of the chimney. This building has moderate bat roost potential.
D		A three-storey brick building with a pitched tiled roof. There is an extension with wooden cladding on the east side. Two roof voids are present, one small void containing a water tank on the east and a larger void on the west. The smaller of the two voids is lined with wooden boards. It contains few cobwebs and is well-sealed. The void is filled with pigeon droppings. The larger of the voids has wooden beams, contains fiberglass insulation, and is lined with plasterboard. No evidence of bats was visible at the time of survey, although some rodent droppings were present.

    	There are gaps into the roof void via a hole to the right of the red drain pipe on the west side and via several slipped tiles. Lead-flashing and a porch are present on the exterior of the structure. There are climbing plants including <i>Hedera helix</i> (Ivy) on the northern elevation. This building has moderate bat roost potential.
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E	   	A two-storey brick building with a pitched tiled roof. The interior of the void is lined with plaster and devoid of cobwebs. A small area of the north end of the roof void is partitioned off, with an access hole into the main part of the roof void. It has a large window, ensuring much of this area is well lit. Rodent droppings were scattered throughout the void, but no evidence of bats was found. There are several raised tiles on the roof and a gap in the soffits in which birds were nesting at the time of survey. There are bargeboards and soffit boxes around the exterior of the roof, and a chimney with lifted lead-flashing. This building has moderate bat roost potential.
F		Building F is an extension to the east of Building E. It is a brick building with a pitched, hipped, tiled roof. The roof void is lined with wooden boards and has a wooden and metal frame. There were few cobwebs within the void. Rodent droppings were scattered throughout but no evidence of bats was found. On the eastern end of the building several hip tiles have and missing and slipped. In addition, there are missing and lifted tiles on the roof and lifted lead-flashing and gaps either side of dormer windows. There is a

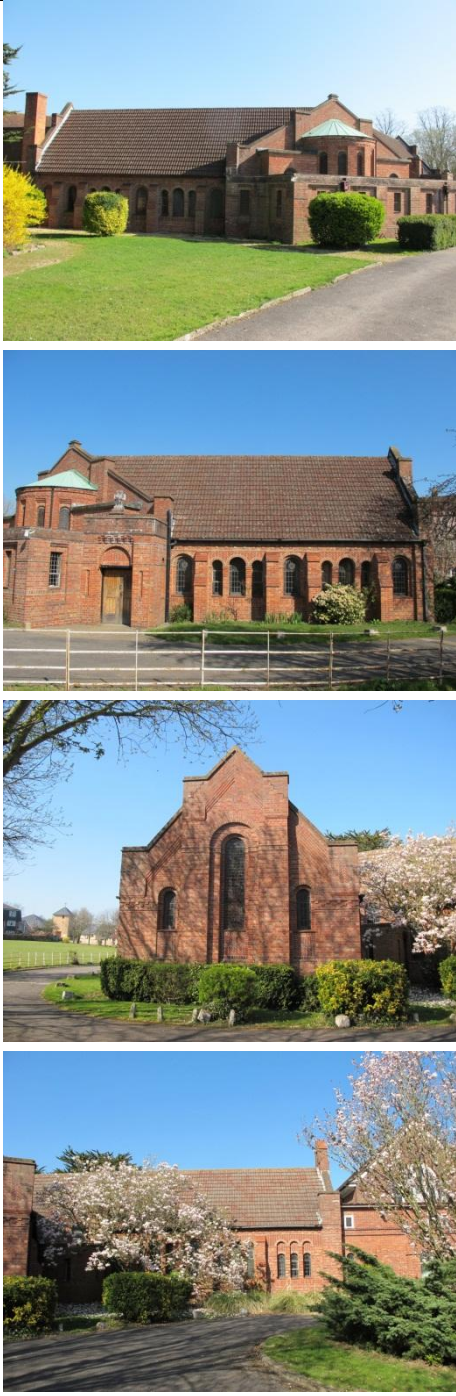


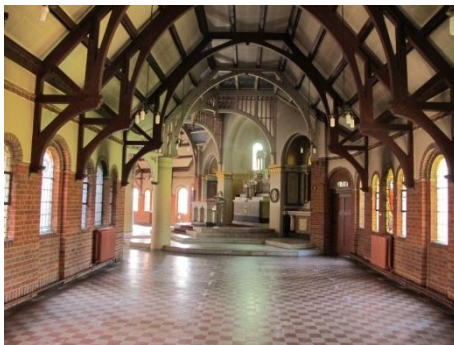
small area of hanging tiles on the northern side. Bargeboards, soffit boxes, dormers windows, a chimney and lead-flashing are present on the exterior of the building. This building has **moderate bat roost potential**.

G	   	A brick built two-storey building with a pitched, hipped, tiled roof. The roof void is open and lined with wooden boards. There are very few cobwebs. Rodent droppings from rodents were scattered throughout. There are missing and slipped hip tiles on the north and south elevations, slipped and missing tiles on the main slope of the roof and lifted lead-flashing. Bargeboards, soffit boxes and a chimney with lead-flashing are present on the exterior. This building has high bat roost potential. This was confirmed by the presence of bat droppings. Therefore, this building is a bat roost.
H		A brick built two-storey building with a pitched tiled roof. Its roof is constructed from wooden beams with a wooden ridge and is lined with wooden boards. It has an open roof void with no insulation between the joists. Light is visible at the northern end of the void, through a large gap in the bricks (covered in wire). There are few cobwebs within the void. Rodent droppings were scattered throughout. There are several lifted and missing tiles that



could provide bat access into the roof void. Also, there are two raised ridge tiles on the southern apex of the building. In addition, there is lifted lead-flashing around the northern dormer on the western elevation and a raised tile on the inner valley of the connection between buildings H and I. There are gaps into the soffits either side of the southern gable end. This building has **high bat roost potential**. This was confirmed by the presence of bat droppings. Therefore, **this building is a bat roost**.

		
I		Building I is a brick-built Victorian chapel with a pitched, tiled roof. It was not possible to access the roof void between the roof and the interior plaster of the chapel's ceiling. The exterior is well-sealed, with the exception of gaps under lead-flashing on the gable ends on the north, south and west elevations; and where a connection to the convent has been demolished (northern elevation) and there are multiple gaps into the structure (partially covered by roofing felt). There are also raised tiles on a small lean-to building attached to the chapel. This building has moderate bat roost potential.



J		Building J is brick-built with a pitched, tiled roof. The interior is open to the ceiling, which has a wooden ridge and is paneled with wood. Rodent droppings were scattered throughout. There are several raised tiles including ones at both gable ends where the mortar is missing beneath them. There is a small tiled porch on the western elevation with raised tiles; and bargeboards on the northern and southern elevations. This building has moderate bat roost potential.
K		Building K is a three-storey extension built circa 1960. The building is made from brick, with a flat roof and lead-flashing. The climber <i>Hedera helix</i> (Ivy) covers the eastern elevation on the ground floor. Some of the brickwork on the western elevation has crumbled and created a gap behind the lead-flashing. This building has low to moderate bat roost potential.

		
L		Building L is a single-storey, flat roofed garage. It is brick-built with a sheet metal roof. It appears well-sealed. It has low bat roost potential .
M		Building M is a single-storey, flat roofed extension to building H. It is constructed of wood and glass, with a felt roof. The exterior is wooden cladded, although this appears to be well-sealed. It has low bat roost potential .
N		Building N is a single-storey disused greenhouse. Several of the glass panes are broken, and the interior is filled with <i>Rubus fruticosus</i> agg. (Bramble). It has negligable bat roost potential .
O		Building O is a single-storey brick garage with a flat roof covered in roofing felt. It has low bat roost potential .

Although detailed surveys of individual trees were not carried out, several trees with bat roost potential were identified during the Phase 1 Habitat Survey. These include those located at *Target Notes 7, 18, 25, 27, 28, 30, 32 and 33*.

Commuting and foraging bats

There are large grounds associated with the convent that provide suitable habitat for foraging bats, particularly the grassland, orchard and woodland strip to the east of the buildings. These are

adjacent to Hermitage Stream which, together with the trees and bushes along its bank, provides good quality foraging. The woodland strip connects to Hermitage Stream and provides a potential flight-line from the convent buildings down to the stream. Hermitage Stream runs along the eastern boundary of the site and to the north connects to the high quality foraging habitat of the large woodland of Queen's Inclosure and Park Wood SINC (ancient semi-natural woodland).

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

4.3.2 *Otter and water vole*

Hermitage Stream has limited marginal vegetation which makes it sub-optimal habitat for water vole but it is suitable habitat for otter. However, there are no records for either species nearby.

4.3.3 *Badger*

There was no evidence of badger found during the survey.

4.3.4 *Birds*

The trees, woodland, hedges, ornamental planting and buildings all have the potential to support nesting birds during the breeding season. Buildings A and E had birds nesting under raised tiles on the gable ends.

There are many bird species on the UK and Local BAP (or in the RSPB *Birds of Conservation Concern*) that could be using this area of the site for nesting and foraging. These could include song thrush (*Turdus philomelos*) and house sparrow (*Passer domesticus*). None were recorded during the survey.

4.3.5 *Widespread species of reptiles*

Although the majority of the lawns are regularly mown, there are areas of suitable habitat for widespread species of reptiles such as slow-worm, particularly around the edges of the site. These include areas of longer grassland, scrub and the bases of the ornamental planting and hedges. The longer grassland provides suitable foraging habitat while the woody vegetation provides suitable foraging and hibernating habitat. In addition, Hermitage Stream and its bank-side vegetation is suitable habitat for grass snakes.

A slow-worm was recorded on site during the survey (see *Target Note 2*).

5 **INTERPRETATION AND EVALUATION**

5.1 ***Constraints on survey***

The site visit was undertaken in March, outside the optimum survey season for protected species and plants. However, it is possible to assess the habitats present and their suitability for protected species.

Detailed searches often result in the discovery of evidence of bats. However, although such surveys can identify the presence of bats it is more difficult to prove absence due to the crevice-dwelling nature of these elusive mammals. In addition, it was not possible to access certain areas of some of the buildings, either due to lack of physical access or for health and safety reasons (or both).

5.2 ***Survey report expiry***

If more than 12 months elapses after completion of all surveys (including those recommended in Section 5.5), it may be advisable to conduct further survey work to obtain up-to-date information prior to commencement of the development thereby ensuring protected species compliance.

5.3 ***Legal context***

Habitat has been identified on site that is suitable for protected species. Different species are afforded different levels of protection; as detailed in *Appendix C*.

The site is not designated for its wildlife interest at an international, national or local scale.

5.4 ***Potential impacts of proposed development***

5.4.1 ***Desk study***

There are no statutory designated sites within 2km of this site according to the *Multi-Agency Geographic Information for the Countryside* website (www.magic.gov.uk). However, there are seven areas of ancient and semi natural woodland surrounding the site. These are Alsfordmoor Coppice to the south-west and Bushy Lease. Queens Inclosure to the north of the site has both ancient and replanted woodland. Four other unnamed areas of ancient woodland are located within 2km of the site.

In addition, Park Wood SINC is on the opposite side of the A3 to Queen's Inclosure. This is a local, non-statutory designated site.

5.4.2 *Habitats and plants*

The habitats and plant species observed on site are widespread and are of low nature conservation value from a botanical perspective. The exceptions are the mature trees (which are difficult to replace due to their age) and woodland.

The mature trees, woodland and hedges on the boundary of the site are due to be retained and therefore, provided the roots of the trees are protected (see *Section 5.6*) they should not be affected.

One plant species listed on *Schedules 8* of the *Wildlife and Countryside Act 1981* was recorded. This is *Hyacinthoides non-scripta* (Bluebell), which is protected from selling. In addition, a non-native plant species listed on *Schedule 9* of the *Wildlife and Countryside Act 1981* was recorded: *Cotoneaster horizontalis* (Wall Cotoneaster). This is located at *Target Note 24* on the Phase 1 Habitat Map (see *Figure 4* in *Section 6*) a boundary hedge between the site and an adjacent house on Brookdale Close. It is an offence under the *Wildlife and Countryside Act 1981* to cause any species listed on *Schedule 9* to spread in the wild. Therefore, it needs to either be removed or a method statement for work in this area needs to be prepared to make sure it remains in situ and is not spread to the remainder of the site or off-site.

5.4.3 *Bats*

Roosting

Three areas have evidence of roosting bats (droppings). These are Building A and the roof voids G and H within the convent buildings. Therefore before any works can be undertaken on these buildings a European Protected Species (EPS) licence for bats will need to be obtained (see *Section 5.7*).

The surveys described in *Section 5.5* are necessary on all buildings with bat roost potential of moderate or above (see *Table 4.3.1.1*). Those buildings with low or negligible bat roost potential can be demolished under ecological supervision.

Although detailed surveys of individual trees were not carried out, several trees with bat roost potential were identified during the Phase 1 Habitat Survey. These include those located at *Target Notes 7, 18, 25, 27, 28, 30, 32* and *33*. These trees should be retained.

Foraging and commuting

The grassland, orchard and woodland strip to the east of the buildings are suitable foraging habitat for bats. These are adjacent to Hermitage Stream which, together with the trees and bushes along its bank, provides good quality foraging. The woodland strip connects to Hermitage Stream and provides a potential flight-line from the convent buildings down to the stream. Hermitage Stream runs along the eastern boundary of the site and to the north connects to the high quality foraging habitat of the large woodland of Queen's Inclosure and Park Wood SINC (ancient semi-natural woodland).

Retaining connectivity *e.g.* vegetation around the edges of the site will help maintain flight-lines and links to other foraging habitat.

Changes in lighting can also affect foraging and roosting bats. Therefore, in the new development there should be no lighting directed onto any retained woodland, trees or hedges. In addition, the mitigation in *Section 5.6.4* should be carried out.

5.4.4 *Otter and water vole*

There were no records of otter nearby. However, Hermitage Stream is suitable habitat. Although under these proposals the stream will remain, as a precautionary measure the mitigation measures described in *Section 5.6.1* will be implemented.

There were no records of water vole nearby and it is sub-optimal habitat for this species. However, if Hermitage Stream is subsequently to be affected, surveys for water voles should be carried out.

5.4.5 *Badger*

Areas within 30m of development activities are usually searched for setts (where access is possible) as former guidelines suggest badgers and their setts could be disturbed by work using heavy machinery within 30m of a badger sett, light machinery within 20m, and light work (such as digging) within 10m.

As no badger setts were found on site, development works are free to proceed without further regard to this species, although if a badger sett is subsequently discovered within 30m of the proposed works then it may require a licence from Natural England to proceed. Guidance to what may be classed as disturbance to a badger (when occupying a sett) can be found at:

http://www.naturalengland.org.uk/Images/WMLG16_tcm6-11814.pdf.

5.4.6 *Birds*

All trees, woodland, hedges, ornamental planting and buildings could be used by nesting birds during the breeding season. Any affected vegetation with the potential to support nesting birds should be cut to near ground level (approximately 30cm) outside the bird breeding season (late February to August inclusive). The destruction of active bird nests is prohibited under the *Wildlife and Countryside Act 1981* (as amended). 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 there are active nests then they should be retained and work must be delayed until the young have fledged and left the nest.

Buildings A and E were identified as having birds nesting under raised tiles on the gable ends. Therefore, these areas should be checked before work takes place so ensure they are not in current use. These areas must not be sealed as they may be also be used by roosting bats.

5.4.7 *Widespread species of reptiles*

Although the majority of the lawns are regularly mown, there are areas of suitable habitat for reptiles such as slow-worm, particularly around the edges of the site. In addition, Hermitage Stream and its bank-side vegetation is suitable habitat for grass snakes.

A slow-worm was recorded on site during the survey (see *Target Note 2*). Therefore, further surveys are required to assess population size and a reptile mitigation strategy will be needed (see *Section 5.5*).

5.5 *Further survey*

5.5.1 *Bats*

Three areas have been identified as being a bat roost (as a result of bat droppings observed within them). These are Building A and the roof voids G and H within the convent buildings. Therefore, it will be necessary to carry out a minimum of three emergence surveys during the bat active season between May and September in order to watch for bats leaving the building at dusk. This would gather enough information about bat populations (including species, numbers and status of roost sites) to support a bat EPS licence application.

In addition, emergence surveys are needed on all buildings with moderate or higher bat roost potential or those where access was not possible throughout. Therefore, at least two emergence surveys should be carried out on these buildings during the bat active season (between May and September) in order to watch for bats leaving the buildings.

Emergence surveys will be needed on all trees with moderate or higher bat roost potential if they are to be affected. This will involve at least two emergence surveys per tree during the bat active season (between May and September) in order to watch for bats leaving roosts within the tree.

5.5.2 *Widespread species of reptiles*

As the development will impact suitable reptile habitat and slow-worms are known to be present on site, surveys (between March/April and September) will be needed to establish precisely where and in what numbers reptiles are present. This is in line with Natural England's standing advice: (http://www.naturalengland.org.uk/regions/south_east/ourwork/standingadvice/).

Standard methods involve placing 2x3ft sheets of heavy-duty roofing felt (artificial refugia) in areas where they were most likely to be used by reptiles (*e.g.* at the edges of scrub, in tussocky grassland, *etc*). So far as possible they should be placed on slightly uneven ground so as not to lie completely flat (to create a varied microclimate).

5.6 **Outline mitigation & enhancement measures**

5.6.1 *General*

No trenches or other temporary vertical excavations will be left open over night or, if this is necessary, robust exit ramps (*i.e.* a plank of wood a minimum of 300mm wide) will be provided and checked daily or secured over weekends or pauses in construction. This will be a precautionary measure to ensure that if otters or other animals do access the trenches they are not at risk.

5.6.2 *Habitats*

Heras fencing or similar should be used to protect the roots of the retained trees, woodland and hedges during construction. The guidance provided in BS 5837 *Trees in relation to Construction* provides further advice on minimising the impact to retained trees on a development site.

5.6.3 *Schedule 9 species*

The location of *Cotoneaster horizontalis* (Wall Cotoneaster) is shown at *Target Note 24* in *Figure 4* in *Section 6*. To comply with the law, this *Schedule 9* species should be eradicated so not to cause the plant to spread on this or other sites as a result of earth moving, soil/rubble removal or other operations.

Two main options exist; mechanical removal and chemical treatment. The removal of this species should be completed by appropriately qualified contractors prior to any earth-moving operations.

However, as the plant is located on the boundary of the site (and the adjacent householder may wish to retain it) it could be left in situ, provided a method statement for work in this area is prepared to make sure it is not spread to the remainder of the site or off-site.

5.6.4 *Bats*

Any mitigation for works on Building A and the roof voids G and H within the convent building would be advised by the necessary emergence surveys and subject to an EPS licence from Natural England.

No lighting should be installed near to or directed onto the retained trees and woody vegetation (particularly along the woodland strip, Hermitage Stream and any retained hedges connecting the buildings to these areas) or around areas of green spaces so that light disturbance is not a problem.

Lighting schemes from new developments can impact bat populations habitat directly by disturbing roosts and reducing foraging area, or indirectly by severing commuting routes from roosts. Daubenton's bat, a bat that forages along watercourses, is particularly sensitive to light, needing light levels below 1 Lux (moonlight) for emergence from a roost. Even one of the least sensitive bat species, pipistrelle bats will delay emergence if the light level is above 14 Lux. Therefore, the light spill onto the woodland strip and Hermitage stream will not be greater than 1 Lux. In

addition, the following (modified from *Bats and lighting in the UK* (BCT 2008)) 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 reduce or deter crime.

5.6.5 *Widespread species of reptiles*

Suitable habitat for reptiles has been identified on the site. In addition, slow-worms are known to be present. Therefore, to allow the site to be cleared for development without harm to reptiles (and comply with the law) further surveys as described in *Section 5.5* will be undertaken and population estimates obtained. It will also be necessary to design and implement a reptile mitigation strategy for the site. The exact mitigation will depend on the results of the surveys.

5.7 ***Requirement for Habitats Regulations licence – European Protected Species (EPS) licence***

Bat roosts are present on site in Building A and in the roof voids G and H within the convent buildings. Therefore, an EPS licence for bats from Natural England is required prior to any works commencing on these buildings. The licence would permit activities that may otherwise be offences under the *Conservation Habitats & Species Regulations 2010*, such as destruction of bat roost sites. If bats are found in other buildings on site during the emergence surveys they can be incorporated into the EPS licence. Should bats be found during works on any other buildings then work must stop on the relevant building and an amendment to the EPS licence should be applied for.

Additional supporting evidence will be required by conducting a minimum of three emergence surveys during the bat active season between May and September in order to watch for bats leaving

the buildings at dusk. This would gather enough information about bat populations (including species, numbers and status of roost sites) to support a bat EPS licence application.

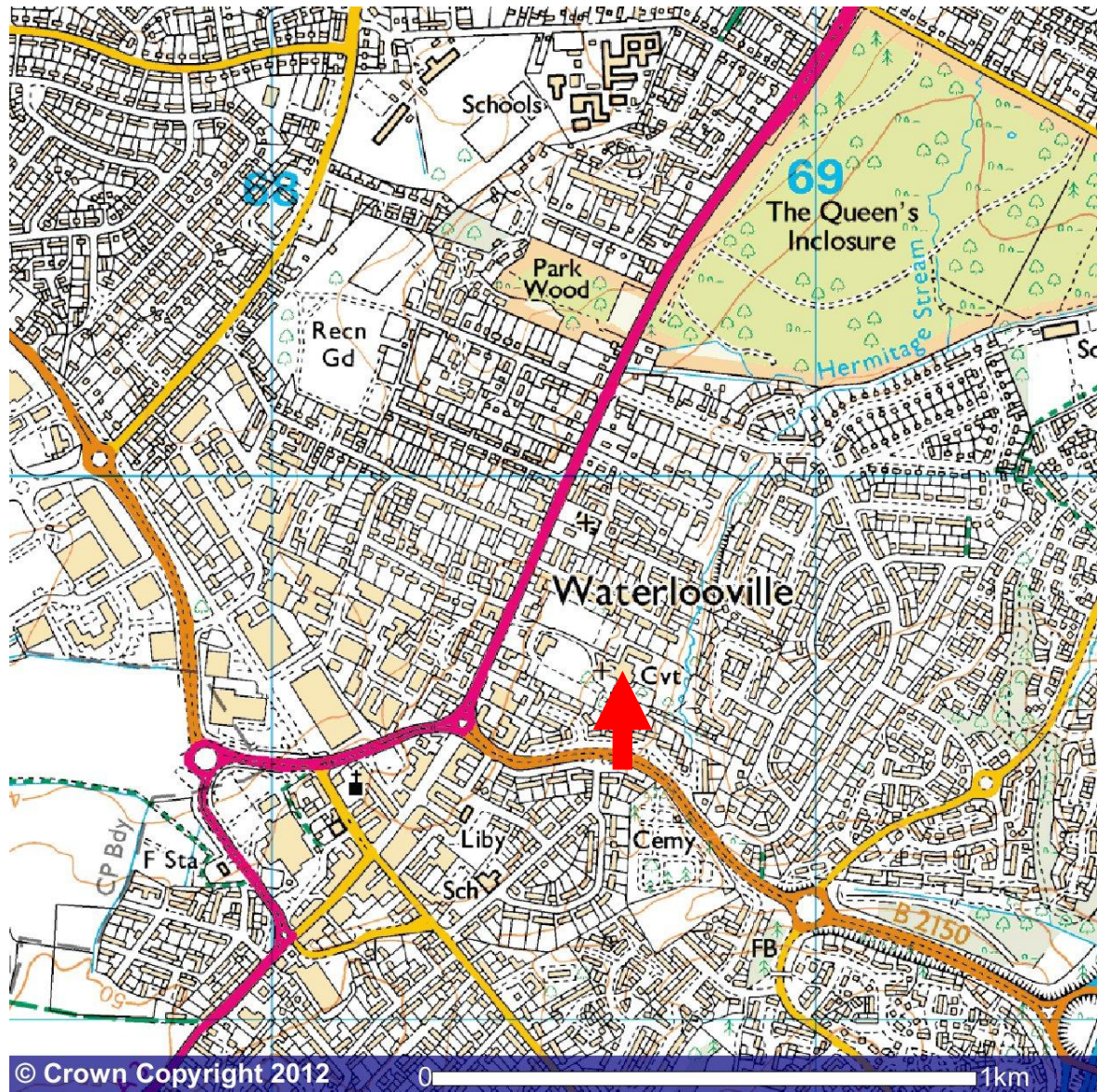
Natural England takes 30 working days to process licence applications following receipt of all the relevant documentation. This includes a Reasoned Statement and a Method Statement in two sections: Background and Supporting Information (Part 1); and Delivery Information (Part 2). The latter includes a detailed mitigation strategy to eliminate or reduce impacts on bats.

It is not possible to apply for an EPS licence until full planning permission has been granted and any conditions relating to wildlife fulfilled, although Local Planning Authorities may 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 2. Location of site as indicated by red arrow.



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Figure 3. Site plan with site outlined in red and building to be retained marked in purple.

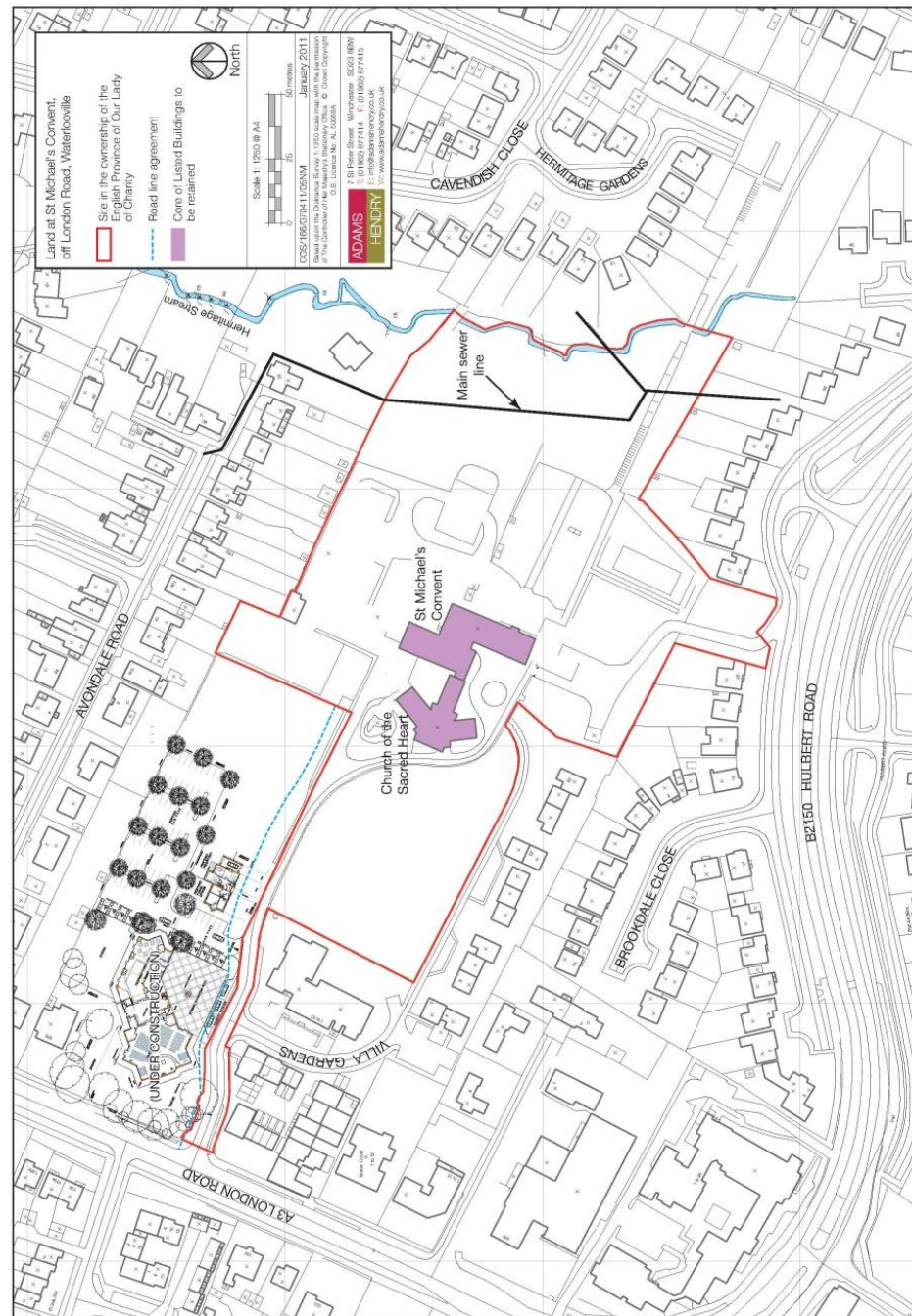


Figure 4. Phase 1 Habitat map of the site.

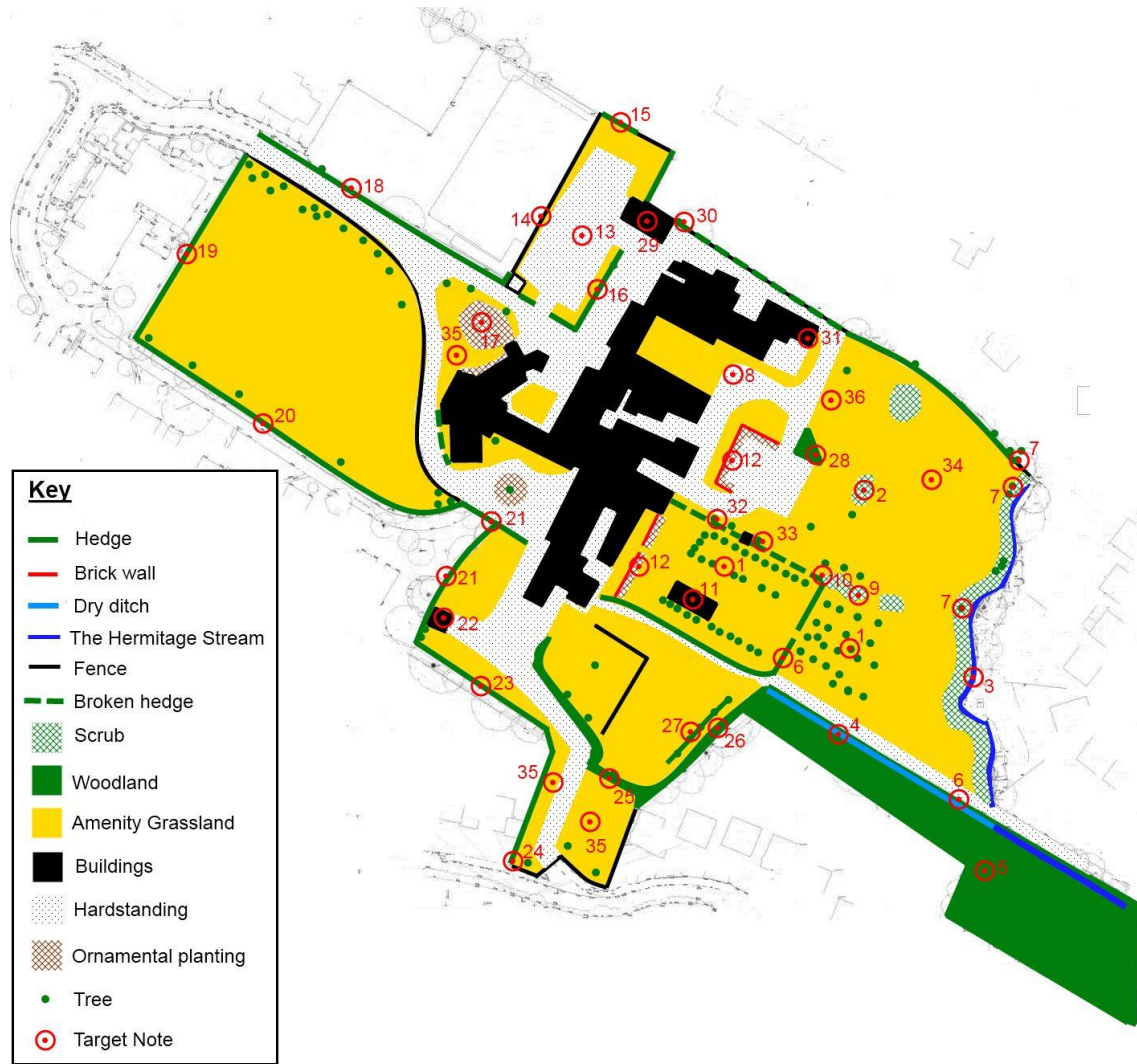


Figure 5. Location of the buildings on site.



PHOTOGRAPHS

Photo 1. View looking north from south-east corner of the site.



Photo 2. View looking west up the path towards the convent.



Photo 3. View of the amenity grassland to the east of the convent.



Photo 4. View south showing the orchard in the centre of the grassland.



Photo 5. The pile of soil described in Target Note 9.



Photo 6. View of the log pile described in Target Note 10.



Photo 7. View showing greenhouse and Malus domestica (Apple) trees.



Photo 8. Car-park with amenity grassland.



Photo 9. The rockery and ornamental planting as described by Target Note 17.



Photo 11. View down the drive to the convent.



Photo 13. View east of Salix ×sepulcralis (Weeping Willow) tree and lawn.



Photo 15. A Quercus robur (Pedunculate Oak) in the hedgerow to the north of the site.



Photo 10. View of amenity grassland and hedges to the west of the site.



Photo 12. View of amenity grassland and the chapel from the south-west corner of the site.



Photo 14. View north of the east side of the convent.



Photo 16. Mature Quercus robur (Pedunculate Oak) in a hedgerow to the south of the site.



Photo 17. A Fraxinus excelsior (Ash) tree with a hole on the southern elevation by the Hermitage Stream.



Photo 18. Hole in the southern elevation of a Fraxinus excelsior (Ash) tree in the north-east corner of the site, by the Hermitage Stream.



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Target Note 1. An orchard of mature *Malus domestica* (Apple) trees in amenity grassland (see *Target Note 34*).

Target Note 2. A small patch of *Sambucus nigra* (Elder) scrub and tree stumps covered in *Hedera helix* (Ivy) with *Urtica dioica* (Common Nettle) and other shade tolerant species including *Aegopodium podagraria* (Ground-elder), *Alliaria petiolata* (Garlic Mustard), *Arum maculatum* (Lords-and-Ladies), *Arrhenatherum elatius* (False Oat-grass) and *Calystegia sepium* (Hedge Bindweed). During the survey a slow-worm was seen at the base of the stumps.

Target Note 3. The Hermitage Stream is a shallow stream with slow-flowing water with a maximum depth of between 15 and 20cm, and a minimum of between 4 and 5cm. The bank varies in height from 20cm to 1m with a 45-90 degree slope. The maximum width of the stream (including the bank) is approximately 3m whilst its minimum width is approximately 1.3m. There are numerous *Alnus glutinosa* (Alder) and some *Fraxinus excelsior* (Ash) trees along its bank with a field-layer of *Urtica dioica* (Common Nettle) and some *Rubus fruticosus* agg. (Bramble). There are also patches of herbs characteristic of ancient woodland including *Allium ursinum* (Ramsons), *Anemone nemorosa* (Wood Anemone) and *Hyacinthoides non-scripta* (Bluebell).

Target Note 4. A shallow drainage ditch containing pools of water within the woodland described in *Target Note 5*. It connects to Hermitage Stream at its eastern end.

Target Note 5. A strip of deciduous woodland with a canopy dominated by *Fraxinus excelsior* (Ash) with *Quercus robur* (Pedunculate Oak). The shrub layer contains *Corylus avellana* (Hazel), *Crataegus monogyna* (Hawthorn), *Ilex aquifolium* (Holly), *Ligustrum ovalifolium* (Garden Privet), *Ruscus aculeatus* (Butcher's-broom), *Rubus fruticosus* agg. (Bramble), *Salix* species (a willow) and *Sambucus nigra* (Elder). The field layer is dominated by *Hedera helix* (Ivy) with *Urtica dioica* (Common Nettle). Other species include *Alliaria petiolata* (Garlic Mustard), *Arum maculatum* (Lords-and-Ladies), *Carex pendula* (Pendulous Sedge), *Galium aparine* (Cleavers) and *Ranunculus ficaria* (Lesser Celandine). At the western end *Aegopodium podagraria* (Ground-elder) is locally dominant. The woodland is edged with a *Ligustrum ovalifolium* (Garden Privet) hedge, particularly at its eastern end. This is suitable foraging and hibernation habitat for reptiles.

Target Note 6. A hedge strongly dominated by *Ligustrum ovalifolium* (Garden Privet). There are *Fraxinus excelsior* (Ash) and smaller *Aesculus hippocastanum* (Horse-chestnut) trees in the northern part of the hedge.

Target Note 7. Mature *Fraxinus excelsior* (Ash) trees with moderate bat roost potential, due to small holes on the western and southern elevations.

Target Note 8. A large pile of soil covered with vegetation dominated by *Holcus lanatus* (Yorkshire-fog) with *Galium aparine* (Cleavers), *Plantago lanceolata* (Ribwort Plantain),

Potentilla reptans (Creeping Cinquefoil), *Rumex crispus* (Curled Dock), *Taraxacum* sect. *Ruderalia* (Dandelion) and *Urtica dioica* (Common Nettle).

Target Note 9. A patch of *Rubus fruticosus* agg. (Bramble) dominated scrub with *Buddleja davidii* (Butterfly-bush) bushes. Locally there is an abundance of *Cirsium arvense* (Creeping Thistle). This is suitable foraging and hibernation habitat for reptiles.

Target Note 10. A pile of logs beside a *Ligustrum ovalifolium* (Garden Privet) hedge. This is suitable habitat for hibernating reptiles.

Target Note 11. A disused greenhouse that has been partially covered by *Hedera helix* (Ivy). The interior of the building is dominated by *Rubus fruticosus* agg. (Bramble). There is also the foundation of a greenhouse which is dominated by *Arrhenatherum elatius* (False Oat-grass) and *Dactylis glomerata* (Cock's-foot); and an old cold frame filled with *Rubus fruticosus* agg. (Bramble).

Target Note 12. Flowerbeds containing ornamentals including *Carex pendula* (Pendulous Sedge), *Cornus sanguinea* (Dogwood), *Forsythia ×intermedia* (Forsythia), *Hebe* species (a Bush Veronica), *Hyacinthoides hispanica* (Spanish Bluebell), *Leucanthemum vulgare* (Oxeye Daisy), *Lonicera nitida* (Wilson's Honeysuckle), *Malus domestica* (Apple), *Muscari neglectum* (Grape-hyacinth), *Narcissus pseudonarcissus* (Daffodil), *Primula vulgaris* (Primrose), *Prunus laurocerasus* (Cherry Laurel), *Rosa* species (a Rose), *Salix* species (a Willow), *Taxus baccata* (Yew) and *Tulipa gesneriana* (Garden Tulip).

Target Note 13. Hardstanding with *Poa annua* (Annual Meadow-grass) and small amounts of ruderals including *Senecio vulgaris* (Groundsel) and *Sonchus oleraceus* (Smooth Sow-thistle).

Target Note 14. A fence-line covered in *Clematis vitalba* (Traveller's-joy) and arching stems of *Rubus fruticosus* agg. (Bramble). The field layer is variously dominated by *Hedera helix* (Ivy) or *Aegopodium podagraria* (Ground-elder). There are also patches of nettlebed vegetation dominated by *Galium aparine* (Cleavers) and *Urtica dioica* (Common Nettle).

Target Note 15. A road hedge dominated by *Ligustrum ovalifolium* (Garden Privet) with smaller amounts of *Cornus sanguinea* (Dogwood), *Crataegus monogyna* (Hawthorn), *Fraxinus excelsior* (Ash) and *Prunus spinosa* (Blackthorn) with *Clematis vitalba* (Traveller's-joy), *Hedera helix* (Ivy) and *Rubus fruticosus* agg. (Bramble) throughout. The field layer is dominated by *Hedera helix* (Ivy) with *Urtica dioica* (Common Nettle) and localised variegated *Vinca minor* (Lesser Periwinkle).

Target Note 16. A hedge strongly dominated by *Ligustrum ovalifolium* (Garden Privet). Other species include *Buddleja davidii* (Butterfly-bush) and *Sambucus nigra* (Elder). There is also a *Fraxinus excelsior* (Ash) tree. The field-layer is strongly dominated by *Aegopodium podagraria* (Ground-elder).

Target Note 17. A rockery which is covered in *Hedera helix* (Ivy) together with ornamental species including *Hebe* species (a Bush Veronica). The gaps in the rocks provide suitable hibernation habitat for reptiles.

Target Note 18. A hedge of dominated by *Crataegus monogyna* (Hawthorn) and *Ligustrum ovalifolium* (Garden Privet). There is also a *Quercus robur* (Pedunculate Oak) tree within the hedge that has moderate bat roost potential.

Target Note 19. A hedge of copper *Fagus sylvatica* (Beech) with a field-layer variously dominated by *Hedera helix* (Ivy) or *Aegopodium podagraria* (Ground-elder).

Target Note 20. A hedge dominated by *Fagus sylvatica* (Beech). Other woody species include *Betula* species (a Birch), *Cotoneaster* species (a Cotoneaster), *Malus domestica* (Apple), *Populus* species (a Poplar), *Prunus cerasifera* (Cherry Plum), *Prunus domestica* (Wild Plum), *Sambucus nigra* (Elder), *Sorbus aucuparia* (Rowan). The field-layer is dominated by *Hedera helix* (Ivy) with *Galium aparine* (Cleavers) and *Urtica dioica* (Common Nettle). Small amounts of *Aegopodium podagraria* (Ground-elder) and *Arum maculatum* (Lords-and-Ladies) are also present.

Target Note 21. A hedge dominated by *Ligustrum ovalifolium* (Garden Privet) with *Prunus laurocerasus* (Cherry Laurel). Other woody species include *Crataegus monogyna* (Hawthorn) and *Rosa canina* (Dog-rose). There are also two mature *Tilia ×europaea* (Lime) trees and three mature *Fraxinus excelsior* (Ash) trees. The field-layer is strongly dominated by *Hedera helix* (Ivy) with smaller amounts of *Alliaria petiolata* (Garlic Mustard), *Anthriscus sylvestris* (Cow Parsley), *Arum maculatum* (Lords-and-Ladies) and *Hyacinthoides non-scripta* (Bluebell).

Target Note 22. A flat-roofed brick garage.

Target Note 23. A hedge containing *Berberis* species (a Barberry), *Eucalyptus* species (a Gum), *Forsythia ×intermedia* (Forsythia), *Camellia* species (a Camellia), *Fraxinus excelsior* (Ash), *Ilex aquifolium* (Holly), *Ligustrum ovalifolium* (Garden Privet), *Rosa* species (a rose) and *Rubus fruticosus* agg. (Bramble). The field-layer is dominated by *Hedera helix* (Ivy).

Target Note 24. A hedge containing *Cotoneaster horizontalis* (Wall Cotoneaster), *Fraxinus excelsior* (Ash), *Hedera helix* (Ivy), *Ligustrum ovalifolium* (Garden Privet), *Prunus cerasifera* (Cherry Plum) and *Rubus fruticosus* agg. (Bramble). The *Cotoneaster horizontalis* (Wall Cotoneaster) is on the boundary between the site and the adjacent garden.

Target Note 25. A hedge containing *Crataegus monogyna* (Hawthorn), *Fraxinus excelsior* (Ash), *Ligustrum ovalifolium* (Garden Privet), *Prunus spinosa* (Blackthorn) and *Rubus fruticosus* agg. (Bramble). There is also a mature *Quercus robur* (Pedunculate Oak) tree with high bat roost potential.

Target Note 26. A hedge dominated by *Ligustrum ovalifolium* (Garden Privet) with *Fraxinus excelsior* (Ash), *Populus* species (a Poplar) and *Quercus robur* (Pedunculate Oak). The field-layer is dominated by *Hedera helix* (Ivy).

Target Note 27. A *Populus* species (a Poplar) tree with high bat roost potential due to broken branches and holes on its southern elevation.

Target Note 28. A *Taxus baccata* (Yew) tree with high bat roost potential.

Target Note 29. Garages with flat-roofs.

Target Note 30. A mature *Quercus robur* (Pedunculate Oak) tree with high bat roost potential.

Target Note 31. Flat-roofed buildings to the rear of Building J covered by *Hedera helix* (Ivy).

Target Note 32. A *Fraxinus excelsior* (Ash) tree with bark and broken limbs. It has moderate bat roost potential.

Target Note 33. A *Fraxinus excelsior* (Ash) with some *Hedera helix* (Ivy) and lifted bark. It has low bat roost potential.

Target Note 34. Species-poor amenity grassland dominated by *Lolium perenne* (Perennial Ryegrass) with *Agrostis stolonifera* (Creeping Bent) and a few common forbs such as *Bellis perennis* (Daisy), *Plantago lanceolata* (Ribwort Plantain), *Potentilla reptans* (Creeping Cinquefoil), *Prunella vulgaris* (Selfheal), *Ranunculus repens* (Creeping Buttercup) and *Taraxacum* sect. *Ruderalia* (Dandelion). There are more forbs near the orchard and under the *Malus domestica* (Apple) trees (*Target Note 1*). Where the grassland is adjacent to hedges and under trees (including in the orchard) there are some shade-tolerant species within the sward, including *Anthriscus sylvestris* (Cow Parsley) *Galium aparine* (Cleavers) and *Ranunculus ficaria* (Lesser Celandine).

Target Note 35. A lawn with a more species-rich sward than that described in *Target Note 34*. Species including *Achillea millefolium* (Yarrow), *Festuca rubra* (Red Fescue), *Fragaria vesca* (Wild Strawberry), *Hypochaeris radicata* (Cat's-ear), *Luzula campestris* (Field Wood-rush) and an abundance of the moss *Rhytidiadelphus squarrosus*. Here there is less *Lolium perenne* (Perennial Ryegrass) and more *Agrostis stolonifera* (Creeping Bent).

Target Note 36. Where the grassland described in *Target Note 34* grades into hardstanding or areas with greater disturbance there are ruderal species such as *Picris echioides* (Bristly Oxtongue), *Picris hieracioides* (Hawkweed Oxtongue) and an abundance of *Poa annua* (Annual Meadow-grass).

Species	Woodland, hedges & scrub	Amenity grassland	Hermitage Stream	Garden with greenhouse
a) Woody species				
<i>Aesculus hippocastanum</i> (Horse-chestnut)	r	vr	-	vr
<i>Alnus glutinosa</i> (Alder)	-	-	a	-
<i>Berberis</i> species (a Barberry)	vr	-	-	-
<i>Betula pendula</i> (Silver Birch)	vr	vr	-	-
<i>Buddleja davidii</i> (Butterfly-bush)	r	vr	-	-
<i>Cornus sanguinea</i> (Dogwood)	r	-	-	lf
<i>Corylus avellana</i> (Hazel)	lf	-	-	-
<i>Crataegus monogyna</i> (Hawthorn)	lf	vr	-	-
<i>Eleagnus</i> species (an Oleaster)	r	vr	vr	-
<i>Fagus sylvatica</i> (Beech)	ld	-	-	-
<i>Forsythia</i> × <i>intermedia</i> (Forsythia)	r	-	-	r
<i>Fraxinus excelsior</i> (Ash)	o	vr	f	vr
<i>Hebe</i> species (a Bush Veronica)	r	-	-	r
<i>Ilex aquifolium</i> (Holly)	o	-	-	-
<i>Juniperus communis</i> (Common Juniper)	vr	vr	-	-
<i>Ligustrum ovalifolium</i> (Garden Privet)	ld	-	-	la
<i>Lonicera</i> species (a Honey-suckle)	vr	-	-	-
<i>Lonicera nitida</i> (Wilson's Honeysuckle)	-	-	-	lf
<i>Magnolia</i> species (a Magnolia)	-	vr	-	-
<i>Malus domestica</i> (Apple)	-	lf	-	lf
<i>Prunus laurocerasus</i> (Cherry Laurel)	lf	-	-	vr
<i>Prunus serrulata</i> (Japanese Cherry)	-	vr	-	-
<i>Prunus spinosa</i> (Blackthorn)	vr	-	-	-
<i>Quercus robur</i> (Pedunculate Oak)	o	vr	-	-
<i>Rosa</i> species (a Rose)	-	-	-	vr
<i>Rosa canina</i> (Dog-rose)	vr	-	-	-
<i>Rubus fruticosus</i> agg. (Bramble)	lf	vr	lf	la
<i>Ruscus aculeatus</i> (Butcher's-broom)	r	-	-	-
<i>Salix</i> × <i>sepulcralis</i> (Weeping Willow)	-	vr	-	-
<i>Salix fragilis</i> (Crack-willow)	vr	vr	-	-
<i>Salix</i> species (a Willow)	r	vr	-	-
<i>Sambucus nigra</i> (Elder)	lf	-	vr	vr
<i>Spirea</i> species (a Spirea)	-	vr	-	-
<i>Taxus baccata</i> (Yew)	vr	vr	-	vr
<i>Tilia</i> × <i>europaea</i> (Lime)	r	-	-	-
<i>Viburnum tinus</i> (Laurustinus)	-	vr	-	-

b) Herbs

<i>Achillea millefolium</i> (Yarrow)	-	lf	-	-
<i>Aegopodium podagraria</i> (Ground-elder)	ld	r	la	-
<i>Agrostis stolonifera</i> (Creeping Bent)	-	a	-	-
<i>Alliaria petiolata</i> (Garlic Mustard)	o	-	o	-
<i>Allium ursinum</i> (Ramsons)	-	-	lf	-
<i>Allium vineale</i> (Wild Onion)	-	vr	-	-
<i>Anemone nemorosa</i> (Wood Anemone)	-	-	lf	-
<i>Anisantha sterilis</i> (Barren Brome)	vr	r	r	-
<i>Anthriscus sylvestris</i> (Cow Parsley)	r	r	r	-
<i>Arrhenatherum elatius</i> (False Oat-grass)	r	o	r	la
<i>Arum maculatum</i> (Lords-and-Ladies)	o	r	o	-
<i>Ballota nigra</i> (Black Horehound)	vr	-	vr	-
<i>Bellis perennis</i> (Daisy)	-	f	-	-
<i>Calystegia sepium</i> (Hedge Bindweed)	r	-	-	-
<i>Cardamine hirsuta</i> (Hairy Bitter-cress)	-	r	-	-
<i>Carex pendula</i> (Pendulous Sedge)	vr	vr	vr	vr
<i>Carex</i> species (a Sedge)	-	vr	vr	-
<i>Cerastium fontanum</i> (Common Mouse-ear)	-	o	-	-
<i>Cirsium vulgare</i> (Spear Thistle)	-	r	-	-
<i>Clematis vitalba</i> (Traveller's-joy)	ld	-	-	-
<i>Dactylis glomerata</i> (Cock's-foot)	-	o	-	o
<i>Epilobium montanum</i> (Broad-leaved Willowherb)	vr	-	-	-
<i>Euphrasia</i> species (an Eyebright)	-	vr	-	-
<i>Festuca rubra</i> (Red Fescue)	-	la		
<i>Fragaria vesca</i> (Wild Strawberry)	-	lf	-	-
<i>Galium aparine</i> (Cleavers)	la	vr	la	-
<i>Geranium dissectum</i> (Cut-leaved Crane's-bill)	-	vr	-	-
<i>Geum urbanum</i> (Wood Avens)	o	-	-	-
<i>Hedera helix</i> (Ivy)	d	-	-	-
<i>Heracleum sphondylium</i> (Hogweed)	vr	vr	vr	-
<i>Holcus lanatus</i> (Yorkshire-fog)	vr	lf	-	-
<i>Hyacinthoides hispanica</i> (Spanish Bluebell)	-	-	-	vr
<i>Hyacinthoides non-scripta</i> (Bluebell)	vr	-	vr	-
<i>Hypochaeris radicata</i> (Cat's-ear)	-	o	-	-
<i>Iris foetidissima</i> (Stinking Iris)	-	vr	-	-
<i>Juncus effusus</i> (Soft-rush)	-	-	r	-
<i>Lamium album</i> (White Dead-nettle)	-	vr	-	-
<i>Leucanthemum vulgare</i> (Oxeye Daisy)	-	-	-	lf
<i>Linaria purpurea</i> (Purple Toadflax)	vr	-	-	-
<i>Linaria vulgaris</i> (Common Toadflax)	-	vr	-	-
<i>Lolium perenne</i> (Perennial Rye-grass)	-	d	-	-
<i>Lonicera nitida</i> (Wilson's Honeysuckle)	-	-	-	-
<i>Luzula campestris</i> (Field Wood-rush)	-	la	-	-

<i>Medicago arabica</i> (Spotted Medick)	-	vr	-	-
<i>Muscari neglectum</i> (Grape-hyacinth)	-	vr	-	lf
<i>Narcissus pseudonarcissus</i> (Daffodil)	-	r	-	lf
<i>Picris echinoides</i> (Bristly Oxtongue)	-	lf	-	-
<i>Picris hieracioides</i> (Hawkweed Oxtongue)	-	lf	-	-
<i>Plantago lanceolata</i> (Ribwort Plantain)	-	o	-	-
<i>Poa annua</i> (Annual Meadow-grass)	-	la	-	-
<i>Poa trivialis</i> (Rough Meadow-grass)	-	r	-	-
<i>Potentilla reptans</i> (Creeping Cinquefoil)	vr	lf	-	-
<i>Primula vulgaris</i> (Primrose)	-	vr	-	r
<i>Prunella vulgaris</i> (Selfheal)	-	a	-	-
<i>Ranunculus ficaria</i> (Lesser Celandine)	o	lf	lf	-
<i>Ranunculus repens</i> (Creeping Buttercup)	vr	la	r	-
<i>Rumex acetosa</i> (Common Sorrel)	-	o	-	-
<i>Rumex crispus</i> (Curled Dock)	vr	-	-	-
<i>Rumex obtusifolius</i> (Broad-leaved Dock)	vr	vr	vr	-
<i>Rumex sanguineus</i> (Wood Dock)	-	-	vr	-
<i>Scrophularia auriculata</i> (Water Figwort)	-	-	vr	-
<i>Senecio jacobaea</i> (Common Ragwort)	-	vr	-	-
<i>Senecio vulgaris</i> (Groundsel)	-	vr	-	-
<i>Sonchus asper</i> (Prickly Sow-thistle)	-	vr	-	-
<i>Sonchus oleraceus</i> (Smooth Sow-thistle)	-	vr	-	-
<i>Stachys sylvatica</i> (Hedge Woundwort)	vr	-	-	-
<i>Stellaria graminea</i> (Lesser Stitchwort)	-	lf	-	-
<i>Taraxacum</i> sect. <i>Ruderalia</i> (Dandelion)	vr	f	-	-
<i>Trifolium repens</i> (White Clover)	vr	f	-	-
<i>Tulipa gesneriana</i> (Garden Tulip)	-	-	-	r
<i>Urtica dioica</i> (Common Nettle)	lf	-	la	-
<i>Veronica chamaedrys</i> (Germander Speedwell)	-	lf	-	-
<i>Viola reichenbachiana</i> (Early Dog-violet)	-	vr	-	-
<i>Viola riviniana</i> (Common Dog-violet)	-	r	-	-
c) Bryophytes				
<i>Brachythecium rutabulum</i> (a moss)	-	r	-	-
<i>Eurhynchium praelongum</i> (a moss)	-	lf	-	-
<i>Rhysodidae squarrosus</i> (a moss)	-	la	-	-

11 APPENDIX C - PROTECTED SPECIES LEGISLATION

11.1 General

This section briefly describes the legal protection afforded to the protected species identified in this report. It is for information only and is not intended to be comprehensive or to replace specialised legal advice. It is not intended to replace the text of the legislation, but summarises the salient points.

11.2 Bats

All species of British bat are listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act). 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 *Schedule 2* of the *Conservation Habitats & Species Regulations 2010* which gives them full protection under *Regulation 39*. 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).

Several species of bat are included as a Priority Species in the UK Biodiversity Action Plan (UKBAP - JNCC (2003) and also as species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

All species of British bat are also protected under *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended). This protection relates specifically to trapping and direct pursuit of the species.

11.3 Otter

Otter (*Lutra lutra*) is listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receives full protection under *Section 9*. This species is also listed as a European Protected

Species on *Schedule 2* of the *Conservation Habitats & Species Regulations 2010* which gives it full protection under *Regulation 39*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRow Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

The otter is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

The otter is also protected under *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended). This protection relates specifically to trapping and direct pursuit of the species.

The European sub-species is also listed as globally threatened on the IUCN/WCMC RDL.

11.4 Water Vole

Water vole (*Arvicola terrestris*) is protected under *Section 9 (4)* of *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), which affords protection to its places of shelter. This protection was extended by the CRow Act 2000. Under this legislation, it is an offence to intentionally or recklessly damage, destroy or obstruct access to any structure or place that water voles use for shelter or protection, or to intentionally or recklessly disturb water voles while they are using such a place. The water vole is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRow Act.

11.5 Badger

Meles meles (badger) is protected in Britain under the *Protection of Badgers Act 1992* (as amended) and *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended).

The legislation affords protection to badgers and badger setts, and makes it a criminal offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a badger sett; or
- to disturb a badger when it is occupying a sett.

Guidance to what may be classed as disturbance to a badger (when occupying a sett) can be found at: http://www.naturalengland.org.uk/Images/WMLG16_tcm6-11814.pdf

11.6 *Birds*

11.6.1 *Birds - general protection*

All species of bird are protected under *Section 1* of the *Wildlife and Countryside Act 1981* (as amended). The protection was extended by the CRow Act.

The legislation makes it an offence to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

11.6.2 *Birds - specially protected species*

Certain species of bird are listed on *Schedule 1* of the *Wildlife and Countryside Act 1981* (as amended) and receive protection under *Sections 1(4)* and *1(5)* of the Act. The protection was extended by the CRow Act. The legislation confers special penalties where the above mentioned offences are committed for any such bird and also make it an offence to intentionally or recklessly:

- disturb any such bird, whilst building its nest or it is in or near a nest containing dependant young; or
- disturb the dependant young of such a bird.

11.7 *Widespread species of reptiles*

Zootoca vivipara (common lizard), *Natrix natrix* (grass snake), *Anguis fragilis* (slow-worm), and *Vipera berus* (adder) are listed under *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), in respect of *Section 9(5)* and part of *Section 9(1)*. This protection was extended by the CRow Act.

Under the above legislation it is an offence to:

- intentionally or deliberately kill or injure any individual of such a species; or
- sell or attempt to sell any part of the species alive or dead.

11.8 *European Protected Species Licences*

Where it is necessary to carry out an action that could result in an offence under the *Conservation Habitats & Species Regulations 2010* 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 that could impact upon any European Protected Species (EPS).

11.9 National planning context

11.9.1 General

Surveys should be completed in line with Natural England's South-east Region *Standing Advice for Local Authorities* (http://www.naturalengland.org.uk/regions/south_east/ourwork/standingadvice/), which states:

- Natural England will not comment on applications that are submitted without the relevant protected species surveys (see flowchart) 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, *Section 40* of the *Natural Environment and Rural Communities Act* (2006) imposes a duty on all public authorities to have regard for biodiversity.

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 the 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 the 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.