



**Land at 59 Gloucester Road, Reading,
Berkshire RG30 2TH**

Preliminary Ecological Appraisal

December 2020

on behalf of Kiss House

Disclaimer

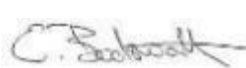
This report is issued to the client for their sole use and for the intended purpose as stated in the agreement between the client and Windrush Ecology Ltd. This report may not be relied upon by any other party without the express written consent of Windrush Ecology Ltd.

Windrush Ecology has exercised due care in preparing this report. It has not independently verified information provided by others, and no warranty is made in relation to the content of this report and Windrush Ecology Ltd assumes no liability for any loss resulting from errors, omissions or misinterpretation made by others.

Any recommendation, opinion or finding stated in this report is based on the circumstances and facts as they existed at the time that Windrush Ecology Ltd performed the work. The content of this report has been provided in accordance with the provisions of the CIEEM Code of Conduct.

Nothing in this report constitutes legal opinion.

Client	Kiss House
Job name	Land at 59 Gloucester Road, Reading, Berkshire RG30 2TH
Survey date	16 th October 2020
Report date	21 st December 2020
Report title	Preliminary Ecological Appraisal
Reference	W4001_rep_Land at 59 Gloucester Road, Reading_21-12-20

	Signed	Name	Position	Date
Prepared by		Robbie Birkett MSci	Assistant Ecologist	19/10/20
Reviewed by		Edward Bodsworth MA (Cantab) PhD MCIEEM	Director	22/12/20

Report Contents

1	Introduction	1
1.1	Site Description & Context.....	1
1.2	Aims of Study.....	1
1.3	Bat Ecology.....	1
2	Methodology.....	2
2.1	Field Surveys	2
2.1.1	Extended Phase 1 Habitat Survey	2
2.1.2	Initial Bat Survey & Preliminary Roost Assessment.....	2
3	Results & Evaluation	4
3.1	Habitats	4
3.1.1	Grassland & Scrub.....	4
3.1.2	Shrubs & Other Vegetation.....	4
3.1.3	Building	4
3.1.4	Hard-standing.....	4
3.2	Species	4
3.2.2	Reptiles	5
3.2.3	Hedgehogs.....	5
3.2.4	Other Species	5
3.3	Relevant Legislation & Policy Guidance.....	5
3.3.1	Nesting Birds.....	5
3.3.2	The Natural Environment and Rural Communities Act 2006	5
3.3.3	National Planning Policy Framework (NPPF)	6
4	Impact Assessment	8
4.1	Habitats	8
4.2	Species	8
4.2.1	Birds	8
4.2.2	Bats	8
4.2.3	Hedgehogs.....	8
4.2.4	Other Species	8
5	Recommendations.....	9
5.1	Further Surveys	9
5.2	Habitats.....	9
5.3	Species	9
5.3.1	Bats	9
5.3.2	Birds	10
5.3.3	Hedgehogs.....	11
6	References.....	11
7	Appendix 1. Photographs	12
8	Appendix 2. Site Location Plans	14

1 Introduction

1.1 Site Description & Context

The land at 59 Gloucester Road, referred to as the 'site' for the purpose of this report, is a former playground and nursery located to the south-west of Gloucester Road within the suburbs of Reading in Berkshire RG30 2TH. The approximate Ordnance Survey grid reference for the site is SU 696 730.

The site comprises a former nursery and its playground. The playground has not been managed recently and the vegetation has grown up to create tall grassland with young scrub. The former nursery building is of brick construction, with a pitched roof of slate tiles. Also within the site are an area of hard-standing, some young apple trees, a hazel, and a hedge of garden privet.

The site is surrounded in all directions by built development within suburban Reading. The development is mostly residential, with habitats limited to private gardens and areas of amenity parkland. The amenity parkland of Prospect Park is located approximately 400m to the west.

1.2 Aims of Study

The aims of this study are to describe and evaluate the habitats present within the site and to assess the potential for the site to support protected and notable species. The report discusses the likely impacts of development on the ecology of the site, on valued habitats and on protected/notable species. The study also makes recommendations for appropriate mitigation measures and habitat enhancement with regard to habitats and species. The need for further ecological survey work is discussed in light of the impact assessment.

One specific aim of the study is to survey the building for bats, and evidence of roosting bats, as well as other protected species such as nesting birds. The report discusses the potential impacts on bats and their roost sites and makes recommendations for appropriate mitigation, compensation and enhancement measures in this regard. The potential impacts are assessed in accordance with the legal protection afforded to bats under The Conservation of Habitats & Species Regulations 2017.

1.3 Bat Ecology

Bats are the only mammals to have developed the ability of true flight. At present, over 1,100 species of bat are recognised worldwide, making bats the second largest mammal group after rodents. As well as flight, bats have evolved a system of navigation and orientation using echolocation which has allowed many species to become nocturnal. There are 18 species of bat that occur within the British Isles, of which 17 are known to breed here. More species occur in the south and west of the country, with species numbers declining towards the north and into Scotland.

All bat species in the UK are nocturnal and feed exclusively on insects (they are insectivorous) which they catch in flight during their night-time activity, using echolocation to locate and home-in on their prey. Bats will roost during the daytime and seek out dark, enclosed and undisturbed places in which to do so, often using a variety of roosting sites within their home range. Different roost sites are used for different purposes (such as mating, giving birth and hibernation) and at different periods of a bat's life cycle.

During the summer, female bats will gather together in a maternity or breeding roost. In the UK, this starts to occur towards the end of May and the females will seek out a warm and undisturbed site in which to give birth. Because maternity roosts require a particular set of environmental attributes (such as location, temperature, orientation and size), breeding bats tend to return to roost and breed in the same locations year after year. Given that bats live a relatively long time (anywhere from 10-20 years),

and only give birth to one pup a year, maternity colonies are crucial to the reproduction and survival of the local population and can be very sensitive to environmental change.

Relatively little is known about hibernation roosts, as tracking and locating hibernating bats is very difficult. However, many species (particularly those within the genera *Myotis* and *Rhinolophus*) have been found within underground sites such as caves, mines and cellars, where the temperature remains constant and low throughout the winter allowing the bats to remain in a state of torpor. The spring and autumn are periods of transition and bats can use a number of different locations on a temporary basis, often moving between roosts as environmental conditions change and temperatures fluctuate. In the autumn, bats will mate, and it has been shown that male and female bats will gather at particular locations (such as a building, cave or tree) to meet, socialise and mate.

Bats choose to roost in a number of different locations, depending on the species, their activity pattern and the period of their lifecycle. Certain species, such as the pipistrelles, favour crevices and small cavities for roosting and will use features such as cracks, crevices and small rot holes in the boughs and trunks of trees and within certain features of buildings such as boxed eaves, gaps under roof tiles, hanging tiles and soffit boards. Other species favour large, uncluttered roof spaces and lofts within buildings where they can hang up on the underside of the roof and use the interior space for flying prior to emergence. Hollow trees, cellars, caves, barns, churches and cavity walls can also all be used for roosting, given suitable access. Certain species, such as the noctule, favour roosting sites within trees whilst others tend to favour buildings. Roost sites may be used by only a very small number of bats, such as solitary males, or may offer shelter to tens or hundreds of bats within maternity and hibernation roost sites.

The suitability of roosting sites is also highly influenced by the location or context of a tree, building or cave. Roost sites are most often favoured when they are within close proximity to foraging habitats and where those habitats are connected to one another within the landscape by features such as hedgerows, woodlands, rivers or sunken lanes along which bats disperse and 'commute' from place to place. Suitable foraging habitats are any places where insect prey is diverse and abundant such as woodlands, ponds, lakes, rivers, scrub, hedgerows and unimproved grassland or pasture. Thus, the ecological context of a site is very important for determining if bats may be present within a roost and the potential for a roost to be present tends to be much higher within rural or village locations.

2 Methodology

2.1 Field Surveys

2.1.1 Extended Phase 1 Habitat Survey

An extended Phase 1 Habitat Survey was undertaken on 16th October 2020 by Jan-Piet Stuursma, on behalf of Windrush Ecology. A walkover of the site was conducted, and a description of the habitats present was prepared using standard Phase 1 Habitat Survey methodology (JNCC 2010).

Target notes were also prepared on features of particular ecological interest and an assessment was made of the site's potential to support protected and notable species (such as species listed under Section 41 of the NERC Act 2006).

2.1.2 Initial Bat Survey & Preliminary Roost Assessment

An initial bat survey (daytime building inspection) and preliminary roost assessment (PRA) were undertaken on 16th October 2020, by Jan-Piet Stuursma. Mr Stuursma holds a licence from Natural England to survey for bats within all counties of England (Natural England Level 2 Licence no. 2015-12114-CLS-CLS).

A detailed internal and external survey of the building was undertaken using a 1 million candle-power torch in order to look for bats and/or evidence of bats and to assess the potential of the building to support roosting bats. Internal rooms, loft spaces (if present) and external elevations were inspected for evidence of bats including, bat droppings, urine stains, feeding remains (such as moth wings) and characteristic fur staining around access points.

The bat survey was undertaken according to best practice guidelines published by the Bat Conservation Trust (Collins, 2016) and the *Bat Workers Manual* (JNCC, 2010).

The study also takes into account the nature of the building and the ecological context of the site, including the following factors which may increase the likelihood of roosting bats being present (Collins, 2016):

- Age of the building (pre-20th Century or early 20th Century construction)
- Nature of construction; traditional brick, stone or timber construction
- Large and complicated roof void with unobstructed flying spaces
- Large (>20 cm) roof timbers with mortise joints, cracks and holes
- Entrances and gaps for bats to fly and crawl through
- Poorly maintained fabric providing ready access points for bats into roofs, walls; but at the same time not being too draughty and cool
- Roof warmed by the sun, south-facing roofs in particular
- Weatherboarding and/or hanging tiles with gaps
- Undisturbed roof voids
- Buildings and built structures in proximity to each other providing a variety of roosting opportunities throughout the year
- Buildings or built structures close to good foraging habitat, in particular mature trees, parkland, woodland or wetland, especially in a rural setting

Buildings within the site were assessed for their potential to offer shelter to roosting bats, in accordance with best practice (Collins, 2016; see Table 1). There are no trees within the site that could offer shelter to bats.

Table 1. Criteria for the assessment of buildings and trees for roosting bats (Collins, 2016)

Potential	Features
Negligible	Negligible habitat features on site likely to be used by roosting bats
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation significance.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

3 Results & Evaluation

3.1 Habitats

Photographs of the site are presented in Appendix 1. Appendix 2 illustrates the location of the site and provides an aerial photograph of the site within the surrounding landscape.

3.1.1 Grassland & Scrub

The former amenity grassland of the playground is currently unmanaged and has developed into tall grassland with scrub and ruderals. Species noted include perennial rye *Lolium perenne*, cock's-foot *Dactylis glomerata* and false oat *Arrhenatherum elatius*. Herbs are dominated by ruderals such as dandelion *Taraxacum officinale*, green alkanet *Pentaglottis sempervirens*, creeping buttercup *Ranunculus repens* and stinging nettle *Urtica dioica*.

Young scrub has started to colonise and encroach into the grassland including bramble *Rubus fruticosus*, blackthorn *Prunus spinosa*, sycamore *Acer pseudoplatanus* and hazel *Corylus avellana*.

The grassland and scrub are dominated by common and widespread species and are typical of unmanaged former amenity grassland. The habitat is considered to be of low ecological value.

3.1.2 Shrubs & Other Vegetation

In addition to the scrub, there are four young apple *Malus domestica* trees, a hazel shrub and a hedge of garden privet *Ligustrum ovalifolium* within the site, with the hedge along the eastern site boundary.

This vegetation is considered to be of low ecological value.

3.1.3 Building

The former nursery has walls of brick and a pitched roof of slate tiles; there are triangular clay tiles to the ridge of the roof. There is one, relatively small, loft space within the building, with an approximately floor to ridge height of 1m. The roof structure is a simple A-frame with a bitumen underfelt. The eaves of the building are boxed. There is a lean-to car port to the south side of the south side of the building with a simple wooden frame and flat roof of corrugated sheet plastic.

Externally, the building is in a good state of repair, with no missing roof tiles or ridge tiles. No gaps under roof or ridge tiles were noted and the boxed eaves are solid and intact.

There is no evidence of bats and the building is assessed as having 'negligible' potential (Collins, 2016) to offer shelter to roosting bats. It is understood that the building will be retained.

3.1.4 Hard-standing

Also within the site are areas of hard-standing including an access path and former play area.

Hard-standing is considered to be of negligible ecological value.

3.2 Species

3.2.1.1 Birds

Scrub, shrubs and hedges have the potential to offer nesting opportunities to breeding birds. However, the potential for nesting is considered to be limited and the species assemblage is likely to be limited to common and widespread birds of suburban habitats.

However, this may include species listed as 'principal importance' to the conservation such as house sparrow *Passer domesticus* and dunnock *Prunella modularis*.

There are no potential nesting habitats for ground-nesting species. No evidence of nesting birds was noted in association with the building, such as house sparrows.

3.2.1.2 Bats

No bats or evidence of bats were found during the survey, and the building is considered to have negligible potential to offer shelter to bats. Roosting bats are considered to be absent.

There are no trees within the site that could offer shelter to bats.

The surrounding habitats are considered to be relatively poor for bats, being limited to built development and private gardens. These habitats are likely to support only the most common species that are tolerant of suburban habitats, such as the common pipistrelle.

3.2.2 Reptiles

Whilst the grassland and scrub habitat appears, superficially, to be suitable for reptiles, it is considered that reptiles are absent. This is due to the former use/status of the habitats and the fact that surrounding habitats are unsuitable for common reptile species.

The site was formerly a playground of amenity grassland and hard-standing, in regular use by a playgroup and managed accordingly. There are no adjacent habitats that are suitable for reptiles (the surrounding land comprising roads and built residential development within suburban Reading) and so there is no source population from which reptiles could have colonised the site.

3.2.3 Hedgehogs

The grassland and scrub may offer some habitat and shelter to hedgehogs *Erinaceus europaeus*. However, surrounding habitats are considered to be poor for the species and so hedgehogs may well be absent from the local area.

3.2.4 Other Species

No evidence of any other protected species, such as badgers, was recorded during the survey.

There are no ponds within the site, or within 500m of the site (as shown on Ordnance Survey maps). Amphibians are therefore considered to be absent.

3.3 Relevant Legislation & Policy Guidance

3.3.1 Nesting Birds

Nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. The nesting season for most species is between March and August inclusive.

3.3.2 The Natural Environment and Rural Communities Act 2006

Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 places a duty on the Secretary of State to publish, review and revise lists of living organisms and types of habitat in England that are of principal importance for the purpose of conserving English biodiversity. It also requires the Secretary of State to take, and promote the taking of, steps to further the conservation of the listed organisms and habitats. This is important in the context of planning decisions as the National Planning Policy Framework affords planning policy protection to the habitats of species listed by virtue of Section 41.

There are no habitats that are listed within Section 41 of the NERC Act 2006 that are considered to be relevant to the site.

Species listed within Section 41 of the NERC Act 2006 that may be relevant to the site include:

- Hedgehog
- Common birds such as house sparrow or dunnock

3.3.3 National Planning Policy Framework (NPPF)

The revised National Planning Policy Framework was updated in February 2019 and sets out the government's planning policies for England and how these are expected to be applied. This revised Framework replaces the previous National Planning Policy Framework published in March 2012 and revised in July 2018.

The NPPF states that 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);
- Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas and should be given great weight in National Parks and the Broads. The scale and extent of development within these designated areas should be limited. Planning permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

- The need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;

- The cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and
- Any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 172), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.

To protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- 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.

When determining planning applications, local planning authorities should apply the following principles:

- 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. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- 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; and
- 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.

The following should be given the same protection as habitats sites:

- ❖ Potential Special Protection Areas and possible Special Areas of Conservation;
- ❖ Listed or proposed Ramsar sites; and
- ❖ Sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

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.

4 Impact Assessment

4.1 Habitats

All habitats within the site are considered to be of low/negligible ecological value, and there are no foreseeable ecological impacts as a result of loss of habitat. The site was formerly amenity grassland, and has grown up due to lack of management.

There are no foreseeable impacts on habitats of 'principal importance'.

Although the habitats are considered to be of low/negligible ecological value, the grassland and scrub supports low biodiversity. Under the NPPF, proposals for development will need to demonstrate biodiversity net gain and it is considered that this could be achieved within the site through the proposed new landscaping and through using native plant species and species of known value to wildlife.

Species-specific measures for ecological enhancement could also be adopted.

4.2 Species

4.2.1 Birds

Without sensitive timing or the adoption of careful work practices, clearance of hedges, scrub, shrubs and other woody vegetation could result in the destruction of active birds' nests and the killing/injury of eggs/young.

There are no predicted impacts on ground-nesting species or birds associated with buildings.

4.2.2 Bats

The survey indicates that roosting bats are absent from the building. There is no evidence to indicate that the building is being used as a place of shelter/protection by roosting bats. The building is to be retained and works are unlikely to result in any significant impacts on bats or the places that they use for breeding, shelter and/or protection (roosts) and no specific compensation measures are considered necessary (Mitchell-Jones 2004).

Since no significant impacts on bats are predicted under The Conservation of Habitats and Species Regulations 2017, a European Protected Species (bat) licence will not be required for the proposed works to proceed. Since there are no predicted impacts on bats or their habitats, it is not necessary to consider the 'three tests' of The Conservation of Habitats and Species Regulations 2017 in this instance.

4.2.3 Hedgehogs

It is considered unlikely that hedgehogs are present. However, a precautionary method is recommended with regard to site clearance and small mammals.

4.2.4 Other Species

There are no predicated impacts on other protected/notable species of wildlife including reptiles, amphibians and badgers.

5 Recommendations

5.1 Further Surveys

No further ecological surveys are currently recommended.

5.2 Habitats

It is recommended that ecological enhancement (gain) is achieved within any redevelopment proposals, through the planting of native plant species or ornamental species of known value to wildlife, such as trees and shrubs which flower and fruit, providing foraging opportunities to invertebrates and birds. Fruit trees which may be suitable include:

- Crab apple *Malus sylvestris*
- Apple *Malus domestica*
- Pear *Pyrus communis*
- Flowering pear *Pyrus calleryana*
- Wild cherry *Prunus avium*
- Flowering cherry *Prunus* species
- Quince *Cydonia oblonga*
- Plum, greengage, bullace *Prunus domestica*
- Cherry-plum *Prunus cerasifera*
- Bird cherry *Prunus padus*
- Rowan *Sorbus aucuparia*
- Whitebeam *Sorbus aria*

Native shrubs which are also recommended include:

- Dogwood *Cornus sanguinea*
- Hawthorn *Crataegus monogyna*
- Guelder rose *Viburnum opulus*
- Wayfaring tree *Viburnum lantana*
- Spindle *Euonymus europaeus*
- Rose *Rosa canina*, *Rosa arvensis*
- Buckthorn *Rhamnus cathartica*
- Holly *Ilex aquifolium*

5.3 Species

5.3.1 Bats

5.3.1.1 Bat Boxes

It is recommended that bat boxes are installed within the proposed new buildings, with boxes being integrated into the external fabric of the buildings. Possible designs are as follows:

- Schwegler 1FR Bat Tube
- Build-in WoodStone Bat Box
- Vivara Pro Build-in WoodStone Bat Box

Such features can be concealed behind the external finish of a building, such as brickwork, stonework, render or wooden panelling .

Such feature should ideally be installed at least 3.5m above ground level, on a southerly-facing elevation of the building.

5.3.1.2 Lighting

It is recommended that external lighting should be avoided within the site, unless it is necessary for reasons of security and safety. In particular, light spillage around new bat roosting features and along boundaries should be avoided, so that a dark corridor is created around the peripheries of the site in order to facilitate the movement of bats, as well as other nocturnal wildlife.

Where external lighting is required, it should be kept at low level and a low intensity, with hoods and baffles used to direct the light to where it is required (Bat Conservation Trust 2008, Emery 2008). To minimise the impact on bats, the use of low pressured sodium lamps is recommended in preference to mercury or metal halide lamps which have a UV element that can affect the distribution of insects and attract bats to the area, affecting their natural behaviour (Bat Conservation Trust 2008).

The key principals for choosing a suitable type of lamp are:

- Avoid blue-white short wavelength lights: these have a significant negative impact on the insect prey of bats. Use alternatives such as warm-white (long wavelength) lights as this will reduce the impact on insects and therefore bats.
- Avoid lights with high UV content: (e.g. metal halide or mercury light sources) or reduce/completely remove the UV content of the light. Use UV filters or glass housings on lamps which filter out a lot of the UV content.

Selecting an appropriate lamp unit that is designed to be environmentally friendly will minimise light spill, but further controls can be imposed by installing directional accessories such as baffles, hoods and louvres on lamps to direct light away from ecologically sensitive areas.

LED (Light Emitting Diode) units are an effective way to direct the light into small target areas and are recommended for lighting the proposed parking and turning area. Composite LEDs can be switched off to reduce/direct the light beam to specific areas.

The erection of a bat box is recommended on any new buildings, or on the existing building. This should be a woodcrete/woodstone box for longevity.

5.3.2 Birds

5.3.2.1 Vegetation Removal

Removal of hedges, shrubs and woody vegetation, if required, should be undertaken outside of the bird breeding season (avoiding March to August, inclusive) so as to avoid any impacts on active birds' nests.

5.3.2.2 Bird Boxes

The erection of bird nesting boxes is recommended in order to provide suitable nest sites for species within the local area, as nest boxes can be excellent substitutes for the holes found in old trees. Over 60 species are known to adopt nest boxes including blue tits, great tits, starlings, robins and sparrows.

The location and nature of the nest box depends on the species it is designed for; boxes for tits, sparrows or starlings should be fixed two to four metres up a tree or a wall; open-fronted boxes for robins and wrens need to be low down, below 2m, and well-hidden in vegetation. Unless there are trees or buildings which shade the box during the day, boxes should be faced between north and east, thus avoiding strong sunlight and the wettest winds.

On buildings, the integration of bird boxes is particularly recommended as species such as house sparrow and swift will readily adopt such features as nest sites. The following bird nesting features are recommended:

- Schwegler Sparrow Terrace 1SP
- Schwegler Avianex 1MR Bird Box (for common species)

Erection of bird boxes would be seen as an ecological enhancement.

5.3.3 Hedgehogs

It is recommended that the site is cleared in a sensitive manner. As well as careful timing for birds, when scrub is cut it should be removed from the site and not piled within it. Grassland should be taken back into management through cutting and the removal of arisings. The grass should be cut long to begin with, with each successive cut lowering the sward height gradually to around 2-3cm of ground level. This will encourage any small mammals to move away from the site.

6 References

Bat Conservation Trust, 2018. *Bats and artificial lighting in the UK: Bats and the Built Environment series*. The Bat Conservation Trust, London.

Bat Conservation Trust, 2014. *The State of the UK's Bats 2014*. National Bat Monitoring Programme.

CIEEM, 2016. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London.

Emery, M., 2008. *Effect of Street Lighting on Bats*. Urbis Lighting Ltd., Anglia.

JNCC, 2010. *Handbook for Phase 1 Habitat Survey - a technique for environmental audit*. JNCC First published 1990; reprinted in 2010.

7 Appendix 1. Photographs



Photograph 1. The building at 59 Gloucester Road.



Photograph 2. The loft space of the building.



Photograph 3. The building viewed from the west.



Photograph 4. Area of hard-standing (left) and former amenity grassland (right).



Photograph 5. A general view over the site, showing grassland and scrub.



Photograph 6. Detail showing the hazel, apple tree and other shrubs.



Photograph 7. Detail showing the former playground.

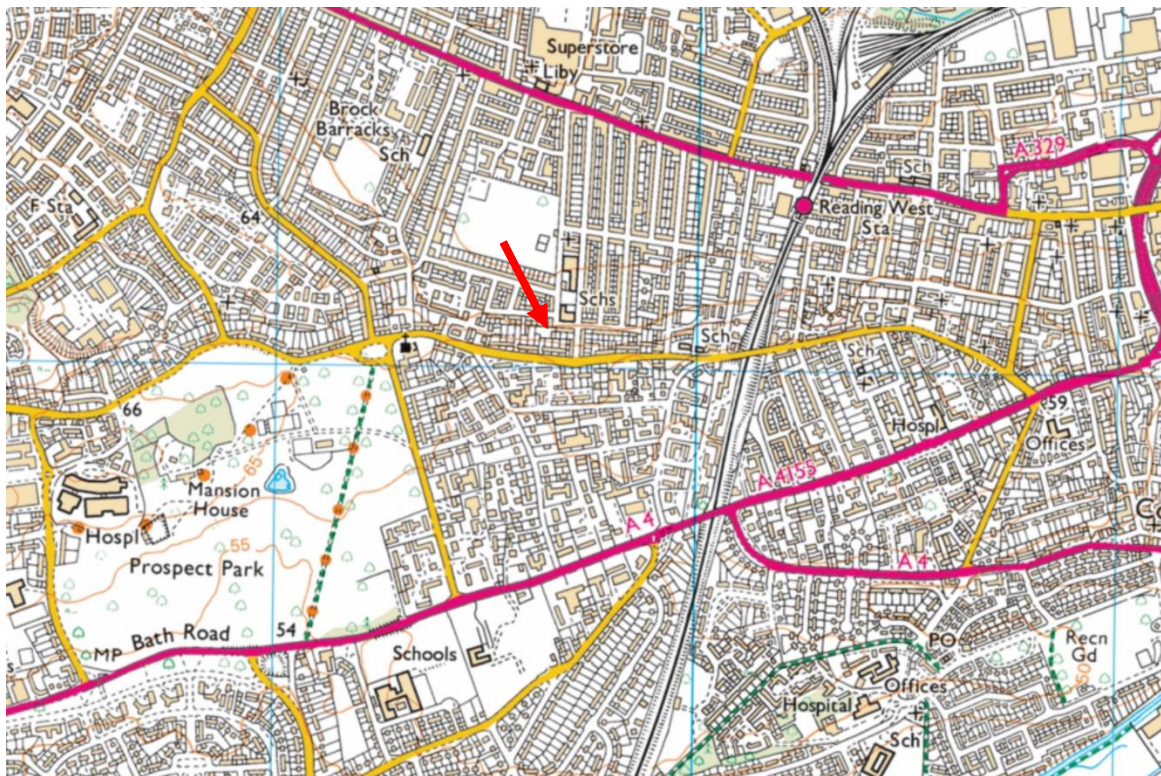


Photograph 8. Overview of the grassland and scrub habitats.

8 Appendix 2. Site Location Plans



Aerial photograph showing the approximate location of the land at 59 Gloucester Road, outlined in red.



Ordnance Survey map showing the approximate location of the site (indicated by the red arrow) within the local area.