

Preliminary Ecological Appraisal (PEA)

75-81 Southampton Road, Reading, RG1 2QU

SEPTEMBER 2021



Author: Daniel Bardey BSc (Hons) MRES

Reviewer: Tony Stones BSc (Hons) MSc MCIEEM CEnV

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1 Summary

Site	75 – 81 Southampton Road, Reading, RG1 2QU
Central OS Grid Reference	SU 7171 7280
Report Commissioned by	Renew Planning Ltd. on behalf of Perfect Property Developments Ltd.
Report Purpose	To inform an outline / full Planning Application; To inform legislative compliance and best practice for a permitted development.
Dates of Survey	15 th September 2020
Authors	Daniel Bardey BSc (Hons) MRES
Reviewed & Approved by	Tony Stones BSc (Hons) MSc MCIEEM CEnV

Considerations	Description	Comments & Recommendations
Ecological Importance of the Site	The site comprises one building and bare ground habitats.	The site is of negligible importance due to its lack of natural habitats (comprising exclusively building and hardstanding), its urban setting and the presence of artificial lighting.
Further Surveys and mitigation	Nesting Birds	If demolition takes place during bird nesting season (March – August inclusive), a pre-construction check is recommended to ensure no birds are nesting within the building / onsite.
	Bat roost assessment of buildings 1	One bat emergence / re-entry survey between May and August (September sub-optimal).
	Other Protected Species	None recommended
	Schedule 9 non-native invasive species sp.	Butterfly-bush should be removed from site to an approved disposal facility, to avoid its spread.
	Site measures	Cover trenches or provide planked escape routes to allow any animals that fall in to escape. Store materials off the ground and do not leave temporary standing water.
Enhancements	To increase the ecological value of the site.	Minimise artificial lighting, plant native plant species within the site, install wildlife boxes for birds, bats and insects.

2 Introduction

2.1 Background

TSA Ecology was commissioned by Renew Planning Ltd. on behalf of Perfect Property Developments Ltd. to undertake a Preliminary Ecological Appraisal (PEA) at 75-81 Southampton Road, Reading, RG1 2QU, herein referred to as 'the site'. This report will support a planning application for planning application to develop the site into a 4-storey building containing 19 residential flats with associated external works.

2.2 Site Location and Description

The site is located within an urban setting and centred around Ordnance Survey Grid Reference SU 7171 7280. The site comprises one flat-roofed concrete and brick-built building (a former Funeral Director's practice) and adjacent yard / hardstanding (bare ground). The site is located immediately to the north of a hoarded plot of land which supports tall ruderal and dense butterfly-bush and sycamore saplings, presumably on hardstanding, and bare ground on all other elevations. Immediately to the south and east are residential / commercial properties, with a car park overlooking the property from the east. To the west the site lies immediately adjacent to the A327 Southampton – Reading road. The wider area comprises of urban residential and commercial properties, comprising Reading town centre.

2.3 Scope of Survey

The PEA comprised a single visit to the application site. The study area was also extended to consider the following ecological features according to certain distances around the site boundary:

- 5km for statutory sites of international importance designated for nature conservation;
- 2km for statutory sites of national and local importance designated for nature conservation;
- 2km for non-statutory sites designated for nature conservation;
- 2km for protected and notable species;
- 1km for Priority Habitats;
- 500m for water bodies (in relation to great crested newts); and
- 30m for badger setts.

2.4 Development Proposal

The current proposal is for the demolition of existing building and construction of a 4-storey residential building (Use Class C3) containing 19 dwellings (8 x 1-bed, 6 x 2-bed & 5 x 3-bed flats) with associated cycle parking, refuse storage and other related works.

2.5 Objective

The objective of this PEA is to identify any further ecological surveys and / or mitigation required, and potential enhancement opportunities in accordance with planning policy, and European and UK wildlife legislation (**Appendix 1**).

3 Methodology

3.1 Surveyor

Principal Ecologist Tony Stones, BSc, MSc and an ecologist with over 25 years of environmental experience, including over 20 years experience working in multi-disciplinary consultancy surveyed the site. Tony is also a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and subject to the CIEEM Professional Code of Conduct.

3.2 Desk Study

Natural England's Multi-Agency Geographic Information for the Countryside (MAGIC) database was accessed on 11th October 2020 for information on statutory sites designated for nature conservation within a 2km radius of the site. Consideration for Natura 2000 sites was extended to a 5km radius where the potential risk of impact to interest features of such sites may extend over a wider area. Such sites include Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites as well as those currently under public consultation for future designation as SACs, SPAs and Ramsar sites.

The MAGIC Impact Risk Zones (IRZs) were used to assess whether the proposed development may impact on any Sites of Special Scientific Interest (SSSI), and thus whether consultation with Natural England is needed to discuss how impacts might be avoided or mitigated.

The Thames Valley Environmental Records Centre (TVERC) on 11th October 2020 for the following information for a 2km radius around the application site:

- Non-statutory nature conservation designations, such as Local Wildlife Sites (LWS), County Wildlife Sites (CWS), Sites of Importance for Nature Conservation (SINC) and Sites of Nature Conservation Interest (SNCI);
- Legally protected species, such as great crested newts, reptiles, birds and bats; and
- Notable / priority species, such as those listed under Section 41 of the NERC Act, 2006.

The Berkshire and South Buckinghamshire Bat Group (BSBBG) was also consulted in respect of desk study information on bats within a 2 km radius of the site.

3.3 Habitat Survey

The survey involved a site visit on 15th September 2020 to record and map habitat types and ecological features within the site. The survey was undertaken in accordance with *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017), and the general principles and methods outlined in the *Handbook for Phase I Habitat Survey* (JNCC, 2010). Features of interest were identified as target notes on the Phase I Habitat Map (**Appendix 2**).

Aerial photographs, maps and field observations were used to identify habitats in the wider landscape which could be impacted by development of the site.

Weather conditions during the survey were 23°C, a light breeze (Beaufort 2), 10% cloud cover with dry conditions.

3.4 Protected and Notable Species Assessment

The site was inspected for evidence of and assessed for potential to support protected and notable species. This included species listed under the *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*, the *Wildlife and Countryside Act 1981 (as amended) (WCA)*, and those given extra protection under the *Natural Environment and Rural Communities (NERC) Act 2006*, *Countryside and Rights of Way (CROW) Act 2000*, and the *Protection of Badgers Act 1992*.

MAGIC was also accessed on 11th October 2020 to identify any European Protected Species Mitigation (EPSM) licences granted by Natural England within a 2km radius of the site.

The following protected / notable species were considered within the assessment.

3.4.1 Barn Owl

Buildings within the site were externally and internally inspected from the ground for signs of barn owl *Tyto alba* following *Survey Techniques Leaflet No. 8* (The Barn Owl Trust, 2010). Barn owl pellets, white excreta ('whitewash'), feathers and nest debris were searched for. Any potential access points and darkened cavities of sufficient size to accommodate owls were noted. Attention was given to walls beneath any openings, and overhead structures such as beams or ledges.

3.4.2 Badgers

The site and a 30m zone around the site (where accessible), were surveyed for badger *Meles meles* evidence such as setts, latrines, pathways, footprints, snuffle holes and badger hairs. Any setts recorded were classified according to published criteria (Harris, *et al.*, 1989).

The number of holes comprising each sett was recorded and classified as disused, partially-used or well-used. These sett descriptions and categories of use are set out in **Tables 3.1** and **3.2** below.

Table 3.1: Badger sett categories

Sett Type	Sett Descriptions
Main Setts	These usually have a large number of holes with large spoil heaps, and the sett generally looks well used. There will be well-used paths to and from the sett and between sett entrances. Although normally the breeding sett and in continuous use, it is possible to find a main sett that has become disused due to excessive digging or some other reason; it should be recorded as a disused main sett. The British National Badger Survey found that the average size of an active main sett is twelve holes (including all categories of use).
Annexe Setts	These are often close to a main sett, usually less than 150m away, and are usually connected to the main sett by one or more obvious, well-worn paths. They usually have several holes, but may not be in use all the time even if the main sett is very active. The British National Badger Survey found that the average size of an annexe sett is five holes (including all categories of use).
Subsidiary Setts	These often only have a few holes (averaging four), are usually at least 50m from a main sett, and do not have an obvious path connecting with another sett. They are not continuously active.
Outlying Setts	These usually have only one or two holes, often have little spoil outside the hole, have no obvious path connecting with another sett, and are only used sporadically. When not in use by badgers, they are often taken over by foxes or even rabbits. However, they can still be recognised as badger setts by the shape of the tunnel (not the actual entrance hole), which is usually at least 250mm in diameter, and is rounded or a flattened oval shape. Fox and rabbit tunnels are smaller and often taller than broad.

Table 3.2: Badger sett categories of use

Categories of Sett Use	Description
Well-used Holes	These are clear of any debris or vegetation, are obviously in regular use, and may or may not have been excavated recently.
Partially-used Holes	These are not in regular use and have debris such as leaves and twigs in the entrance, or have moss and / or other plants growing in or around the entrance. Partially used holes could be in regular use after a minimal amount of clearance.
Disused Holes	These have not been in use for some time, are partially or completely blocked and could not be used without a considerable amount of clearance. If the hole has been disused for some time, all that may be visible is a depression in the ground where the hole used to be, and the remains of the spoil heap, which may be covered in moss or plants.

3.4.3 Bats

Potential for the site to support roosting, foraging and commuting bats was assessed in line with the Bat Conservation Trust (BCT) *Bat Surveys for Professional Ecologists Good Practice Guidelines* (Collins, 2016).

3.4.3.1 Roosting

The building on site was assessed for suitability to support roosting bats as per the definitions in **Table 3.3**. All buildings were described and surveyed for bats and their evidence, which includes droppings, staining, scratch marks and feeding remains.

Table 3.3: Classifying the bat roosting suitability of buildings (Collins, 2016)

Low / negligible roosting suitability	Buildings with few, if any, features suitable for roosting.
Moderate roosting suitability	Features with moderate roosting potential, with roosting features appearing less suitable.
High roosting suitability	With significant roosting potential, either because they contain a large number of suitable features or those features present appear optimal.
Confirmed roost	Evidence of bat occupation found.

3.4.3.2 Foraging and Commuting

The site was assessed for its suitability to support foraging and commuting bats according to **Table 3.4**.

Table 3.4: Classifying the suitability of bat foraging and commuting habitat (Collins, 2016)

Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated or poorly connected to habitat in the surrounding landscape. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in parkland) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that bats may use for commuting such as tree-lines and scrub or linked back gardens. Habitat that connects to the wider landscape that bats may use for foraging such as trees, scrub grassland and water.
High	Continuous, high quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, tree-lines and woodland edge. High quality habitat that is well-connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

3.4.4 Other Legally Protected and /or Notable Species

The site was assessed for suitability to support other protected and notable fauna species / assemblages including birds, invertebrates and mammals.

3.4.5 Invasive Species

The site was searched for invasive plants such as giant hogweed *Heracleum mantegazzianum*, Himalayan balsam *Impatiens glandulifera*, Japanese knotweed *Fallopia japonica*, rhododendron *Rhododendron ponticum* and New Zealand pygmyweed *Crassula helmsii*.

3.5 Evaluation

Designated sites, habitats and species (where presence has been identified) have been evaluated in accordance with the *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).

These guidelines aim to give consistency in evaluating the importance of the ecological features within and around a site, which help inform any effects or impacts a scheme will have upon them.

A value of the ecological features (designated sites, habitats or species) has been assigned according to their level of importance using the following terms:

- International and European
- National
- Regional
- Local
- Site
- Negligible

3.6 Limitations and Assumptions

Access was available to the entire site and the baseline conditions reported represent those identified at the time of the survey. The survey was completed during the optimal time of year for recording vegetation. Although a reasonable assessment of the site can be made during a single survey, seasonal variations are not observed.

This PEA provides an overview of the likelihood of protected / notable species occurring on the site (negligible, low, moderate, or high). Absence of a species cannot be presumed where no evidence was found. Further surveys have been recommended where there is reasonable likelihood of a protected species being present and impacted by the development proposal. This is based on the suitability of the habitat and any evidence observed.

This PEA does not constitute a full botanical survey or a Phase 2 pre-construction survey for Japanese knotweed.

The results of this assessment will remain valid for 12 months i.e. until October 2021 after which the assessment should be updated, if works have not yet commenced.

4 Results and Evaluation

The following section presents the results, evaluation and discussion of the designated sites, habitats and protected / notable species, which may be impacted by the proposed development.

4.1 Designated Sites

4.1.1 Statutory Sites

No statutory sites designated for nature conservation are recorded within the vicinity of the site. Ramsar sites are of **international importance**, SPAs and SACs are of **European importance**, SSSIs are of **national importance** and Local Nature Reserves (LNR) are of **local importance**. Potential, possible or proposed SPAs, SACs and Ramsar sites are those that the government has instigated public consultation on and as such, are to be given the same protection as those already with confirmed designations (NPPF, 2019).

A review of MAGIC showed that no statutory sites for nature conservation, of international importance are within 5km of the application site, nor any sites of national or local importance within 2km of the application site.

The application site is not ecologically linked to any statutory sites due to the intervening land being extensively urban. The development is also highly unlikely to indirectly impact any designated sites in the local area due to its small-scale size and number of residential dwellings proposed.

No significant impacts on statutory sites are expected and no further action is recommended.

4.1.2 Non-Statutory Sites

Non-statutory sites designated for nature conservation that are located within 1km of the application site are provided in **Table 4.1**. CWSs are of **local importance**.

The closest of these is the River Kennet/Kennet and Avon Canal Local Wildlife Site (LWS), located 300 m to the south west of the proposed development site.

Due to its location and nature, it is not considered that the development will have any direct or indirect impacts on the habitats of these non-statutory sites.

Further, there does not appear to be any direct public path, hydrological link or other habitat connectivity between these sites and the application site (OS, 2020). No significant impacts on non-statutory sites are expected.

No further action is recommended.

Table 4.1: Non-statutory sites within 1km of the application site

Site Name	Distance & Direction from Site	Area (ha) / Length (km)	Reasons for Designation
Fobney & Kennet Valley Meadows Local Wildlife Site	0.9km SW	140.4 ha	A large area of permanent pasture with some wet grassland and patches of swamp vegetation. The site has a good series of ditches with tall wetland and aquatic species and a small area of woodland. Dragonflies and damselflies seen here include the common darter, banded demoiselle and common hawker. The meadows flood regularly in winter providing an attractive area for overwintering wildfowl.
Holy Brook Local Wildlife Site	0.5km W	4.5km	The Holy Brook is a stream that carries water from and emptying back into the River Kennet, a chalk river. The western end of the site lies just west of the Burghfield Road although the brook originates further west near Theale. A number of notable invertebrates have been recorded in Holy Brook and water vole has been recorded in the central and western sections.
River Kennet/Kennet and Avon Canal Local Wildlife Site	0.3km SW	-	A section of the River Kennet and the Kennet and Avon Canal from near Burghfield Bridge, south-east of Reading, to Waterloo Meadows adjacent to Edgar Road near the centre of Reading. The River Kennet is one of the best examples of a chalk river nationally, and is an UK BAP Priority Habitat.
Kennet Valley East Local Wildlife Site	0.9km SW	-	The Kennet Valley from Newbury to Reading extending to include large areas of gravel pits in the east. The area includes all the area in the valley covered by the West Berkshire Living landscape Project. Also includes the lower section of the Enborne Valley extending to include the valley of a tributary stream at Ashford Hill.

4.2 Habitats

The habitats below were recorded within the site during the survey. No protected, Habitats of Principal Importance (HPIE) or locally important floral species or habitats were recorded within the site during the survey. Habitat types are described below and shown on the Phase I Habitat Map (**Appendix 2**).

- Buildings
- Bare Ground

4.2.1 Buildings

A description of the buildings within the site is provided in relation to their bat roosting suitability in **Section 3.3.6.2**.

4.2.2 Bare ground

Hardstanding lies adjacent to the building on the northern, southern and eastern elevations. This has no ecological value and is therefore of **negligible** importance.

No further action is recommended.



Photo 1: Bare ground on east of building 1, facing north-west.

4.3 Protected and Notable Species

Records of protected / notable species for the last ten years have been considered within the assessment below. Older records have been considered where appropriate.

4.3.1 Invertebrates

The TVERC returned four records of stag beetle *Lucanus cervus*, which are listed on *Schedule 5* of the WCA. The site is considered unlikely to support this species, which requires dead wood as part of its habitat requirements.

The site therefore holds **negligible** potential for rare / notable invertebrates and **impacts to rare / notable invertebrates are not expected**.

No further surveys or mitigation are recommended.

4.3.2 Amphibians

The TVERC returned no records of amphibians.

No known water bodies are located on or within 250m of the application site.

The site therefore holds **negligible** potential for great crested newts and other amphibians and **impacts to amphibians are not expected**.

No further surveys or mitigation are recommended.

4.3.3 Reptiles

The TVERC returned no records of reptiles.

The site holds no habitats that are suited for reptiles and is therefore holds **negligible** potential for reptiles and **impacts to reptiles are not expected**.

No further surveys or mitigation are recommended.

4.3.4 Birds

The TVERC returned records of two bird species listed as Annex I (Birds Directive) and / or Schedule 1 (WCA) as follows: Kingfisher *Alcedo atthis*, Peregrine *Falco peregrinus*. The records also included no species of Birds of Conservation Concern (BoCC) Red-listed and no species of Amber-listed birds.

No bird species were recorded during the survey.

Neither the onsite building nor the adjacent buildings appear to offer significant nesting opportunities, although small numbers of the commoner species (e.g. blackbird, robin etc.) may make use of the butterfly-bush / sycamore scrub for nesting. The site therefore holds **low** potential for widespread species of nesting bird. The site overall is, however, considered to hold **negligible** potential for significant bird species and assemblages. The small nature of the site, lack of connectivity to open areas of fields or water, and heavy levels of disturbance mean that the site has **negligible** potential for notable wintering bird species and assemblages.

Further action for nesting birds is recommended in **Section 5**.

4.3.4.1 Other Schedule 1 Bird Species

Due to its location and habitat connectivity, the building is unsuitable for use by barn owl. The TVERC returned regular records of black redstart *Phoenicurus ochruros* from central Reading between 2003 and 2015 from within 1 km of the site, particularly during April – June, which are considered to represent individuals attempting to breed. This is a scarce breeding species of urban areas, particularly

in southern Britain, but can be encouraged by the presence of nest boxes, and green roofs or areas of similar habitat onsite to provide suitable foraging opportunities.

Further action for Schedule 1 bird species is recommended in Section 5.

4.3.5 Badgers

The TVERC returned two records of badger, located 0.7km east of the site. No badger setts were recorded on or within 30m of the site boundary, although the hoarded area to the north of the site could not be accessed, and there is no suitable habitat for badger on site. The site is of **negligible** importance for badgers.

No further action for badger is recommended and **impacts to badgers are not expected**.

4.3.6 Bats

The TVERC and BSBBG returned records for nine bat species: brown long-eared *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, noctule *Nyctalus noctule*, Soprano pipistrelle *Pipistrellus pygmaeus*, Daubentons bat *Myotis daubentonii*, Serotine *Eptesicus serotinus*, Nathusius pipistrelle *Pipistrellus nathusii*, western barbastelle *Barbastella barbastellus* and Leisters noctule *Nyctalus leisleri*. Refer to table 4.2 for details of bat records; The closest known record to the site is a record of a common pipistrelle roost 0.2 km north from the proposed development site.

Table 4.2 Data search for bat records from TVERC and BSBBG between 2010 – 2020

Species	Number of Records	Maximum number of individuals	Closest known record (km)	Closest Roost to Site (km)
Brown long-eared	10	2	1.4 SW	1.4 SW
Common pipistrelle	109	87	0.2 N	0.2 N
Soprano pipistrelle	93	2	0.6 SE	0.9 NW
Noctule	58	2	0.6 SE	-
Daubentons	12	100	1.2 N	1.2 N
Serotine	7	1	0.7 W	-
Leisters	2	-	1.6 NW	-
Western barbastelle	2	-	1.6 NE	-
Nathusius pipistrelle	11	1	0.6 SW	-
Unknown Myotis species	23	-	0.7 NW	-
Unknown Pipsitrelle species	12	2	0.6 W	0.8 SW
Unknown bat species	6	7	0.4 SW	-

Table 4.3 below provides a list of bat Mitigation Licences granted by Natural England within 1km of the site (MAGIC, 2020).

Table 4.3: Granted bat mitigation licence applications within 2km of the site

Case Reference	Bat Species	Type of Roost	Distance & Direction	Licence Start & End Dates
2017-28045- EPS-MIT	Daubenton's Bat	Unknown	1km north	08/03/2017 – 08/03/2022
EPSM2013- 6155	Common pipistrelle	Resting place	0.9km north	19/09/2013 – 31/08/2015
2016-22301- EPS-MIT	Common pipistrelle	Resting place	0.4km east	21/04/2016 – 20/04/2021
EPSM2010- 2126	Common pipistrelle	Resting place	1.7km southeast	02/09/2020 – 31/08/2012
2014-3941- EPS-MIT	Common pipistrelle & Soprano pipistrelle	Resting place	1.1km southeast	21/10/2014 – 30/11/3019
2017-32379- EPS-MIT	Common pipistrelle	Resting place	0.8km west	04/12/2017 – 29/11/2022

4.3.6.1 Roosting (Trees)

No mature trees were recorded on site.

No further surveys for roosting bats in respect of trees have therefore been recommended.

4.3.6.2 Roosting (Buildings)

The relevant buildings on site have been described below. Refer to **Appendix 2** for the building locations.

Building 1

The only building (Photo 1) situated within the site consists of a single-story brick built commercial property with a flat roof. The building's western elevation consists of a plaster-rendered brick wall, the southern elevation comprised of interlocking concrete slabs and the northern and eastern elevations being brick built. The building has a flat, felt-covered roof with wooden fascia boards being present on the northern and eastern elevations.

A number of potential access points and roosting opportunities are available for bats within the building, which are described in **Table 4.4**. Based on the roost assessment, building 1 is considered to hold **low suitability** for roosting bats.



Photo 1: Building 1, southern elevation facing north.

Overall Suitability for Roosting Bats in Buildings

Several access points and roosting opportunities were available for bats within the buildings, which are described within **Table 4.4**. The roost assessment concluded that Building 1 holds **low** suitability for roosting bats during the active season and **low** suitability during the hibernation season.

Table 4.4: Suitability features for roosting bats

Building	Potential Access Points	Location of building	Photo
1	Missing brick and damaged fascia board leading into roof void.	North-eastern corner	
1	Gap in brickwork below flat roof	Western elevation	
1	Gap leading into roof void above window	Northern elevation	
1	Degraded brickwork	Northwestern corner	

Further surveys for roosting bats have therefore been recommended in **Section 5**.

4.3.7 Other Legally Protected Species

The TVERC returned no records for hazel dormouse, European otter or European water vole. The site holds **negligible** potential for these species due to the lack of suitable habitats or features situated within the site, or connectivity to sites of importance for dormouse

No further action for these species are recommended, and **impacts to these species are not expected**.

4.3.8 Hedgehogs and Other Section 41 Priority / Rare Species

The TVERC returned two records of hedgehog *Erinaceus europaeus*, the closest of which is 0.6km northwest of the site.

The TVERC returned no records of other Section 41 Priority / Rare Species.

Habitat within the site has **negligible** potential to be used by hedgehogs or any other Section 41 species.

No further action for Section 41 Priority / Rare Species and **no impacts on such species expected**.

4.3.9 Invasive Plants

One invasive plant species (butterfly-bush) listed under Schedule 9 of the *WLCA* was noted on site during the survey.

Further action has therefore been recommended in section 5.

5 Further Surveys, Avoidance, Mitigation and Enhancement Recommendations

5.1 Further Surveys

5.1.1 Bat Roosts: Buildings

Building B1 was assessed as having **low** suitability for roosting bats during the active season and **negligible** suitability during the hibernation season. One bat emergence survey between May and August is therefore recommended in line with current guidance (Collins, 2016).

If roosting bats are identified using the building and impacts are considered likely to cause a legal offence, two further appropriately spaced bat emergence / re-entry surveys between May – September and a Mitigation Licence from Natural England would be required prior to works affecting a roost.

5.2 Mitigation

5.2.1 Bats

The following measures should be implemented within the development to reduce impacts on foraging and commuting bats caused by artificial lighting (BCT & ILP, 2018):

- Direct any task lighting used during construction away from any new boundary trees and installed bat boxes;
- Set any necessary security lighting on short timers with a sensitivity to large moving objects only;
- Consider installing internal light fittings in a recess where installed in proximity to windows facing the boundary vegetation in order to reduce glare and light spill;
- Limit lighting times to provide dark periods;
- If appropriate to the final design, consider screening as a means of reducing light spill to boundary vegetation. This could take the form of soft landscaping, fences, walls or bunds. Fencing could also be overplanted with hedgerow or climbing species to add further ecological value to the site and soften its appearance;
- LED light sources should be used wherever possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capabilities. A warm spectrum light (ideally <2700 Kelvin) should be used to reduce the blue light component. Lights should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats

(Stone, 2012). Luminaires should be mounted on the horizontal, i.e. with no upward tilt. Avoid the use of UV light and do not use metal halide, fluorescent light sources; and

- As a last resort, use hoods or cowls to avoid light being directed at the sky or towards the boundary vegetation.

Appendix 5 provides a table of suitable species that can be included within any new tree-lines / hedges or other planting to encourage bats to continue foraging and commuting within the site. The new road/tree-line should also be kept as a dark corridor for bats. Installation of Schwegler IFF and/or 2F Bat Boxes onto new buildings would enhance roosting opportunities within the development for bats. Install the bat boxes at least 5m above the ground and face them in a southerly direction, so that they receive sun for part of the day. Avoid placing near artificial lighting and ideally locate the boxes adjacent to commuting or foraging habitat, such as dark tree or hedge lines, ensuring that clear access is maintained to the boxes for bats.

5.2.2 Invasive Species: Butterfly Bush

Butterfly-bush *Buddleja davidii* is considered to be an invasive non-native species within the UK by the Department of Environment, Food and Rural Affairs (DEFRA). The plants within the site should be removed and disposed of in such a manner to limit the spread of the dispersible seeds.

5.2.3 Black Redstart

Both male and female black redstarts have been recorded in close proximity to the proposed site during the breeding season over several years. This species can be encouraged by the provision of appropriately located nest boxes / holes, and green roof habitat, or similar designed into the scheme to provide foraging opportunities.

5.2.4 General Site Measures

Use these precautionary measures to avoid / reduce impacts to wildlife:

- Cover any trenches, holes or deep pits overnight, or use secured planks to allow any animals that fall in to escape during construction. A member of staff should check the site at the end of each working day to ensure that these provisions to protect nocturnal species (such as hedgehog, foxes and badger) have been made;
- Store materials off the ground on pallets to prevent amphibians or reptiles from taking refuge under them. No temporary standing water should be left on the site, which could be used by amphibians.

5.3 Enhancements

The recommendations below are designed to enhance the value of the site for wildlife, as encouraged through the National Planning Policy Framework (2019), and to help achieve meaningful biodiversity net gain in the context of both national and local biodiversity priorities and targets:

- 1) Plant a native hedgerow within the site to increase habitat connectivity around the site. Locally sourced, native fruit and berry bearing species such as hazel *Corylus avellana*, apple *Malus* spp., hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, guelder rose *Viburnum opulus*, gorse *Ulex europaeus* and spindle *Euonymus europaeus* are recommended. Refer to **Appendix 3** for further suitable species.
- 2) Install integrated nest boxes into new buildings. Recent research (Edward Mayer, Swift Conservation pers. com) has indicated that house sparrows will utilise integrated ‘swift’ nestboxes in preference to ‘sparrow terraces’ (and additionally black redstart may make use of such nest holes). It is recommended that integrated swift nest boxes are incorporated into the eastern elevation and that either single or double swift nest holes are deployed (depending upon box availability, brick type and space). It is considered that 9 – 18 nest holes could be incorporated within the structure in this manner, on the eastern elevation, with suitable makes likely to be ‘S’ bricks or Ibstock (see Appendix 4 for more details), depending upon space available, nature of the brickwork, and availability of the boxes from the manufacturers (See Appendix 4 for more details on suggested locations and attached pdfs for types of box and installation).
- 3) Install Schwegler IFF and/or 2F Bat Boxes onto new buildings and / or integrated [bat bricks](#). Install the bat boxes at least 5m above the ground and face in a southerly direction, so that they receive sun for part of the day. Place boxes clear of any obstructions to allow access for bats (e.g. over-hanging branches).
- 4) Provide insect houses in sheltered, warm locations e.g. within any new flower beds within the public open space to provide over-wintering sites for beneficial insects such as lady birds and lacewings, which typically prey on pest species.
- 5) Create and maintain a swathe of infrequently cut grassland within the site to provide relatively undisturbed habitat for small mammals, invertebrates, birds and reptiles. The swathe should be a minimum of 1m wide and sown with a wildflower seed mix (e.g. Emorsgate EL1).
- 6) Avoid use of slug pellets and use environmentally safe wood preservatives (for sheds and fences etc.).

-
- 7) Create a bog garden / plant up a water feature with a suitable mix of native aquatic plant species.
- 8) Incorporate Sustainable Urban Drainage Systems (SuDS) within the development. Relevant examples of SuDS are listed below. SuDS can increase biodiversity by introducing a series of habitats for wildlife use.
- Proposed buildings within the site, including any cycle or bin stores could have green roofs or green walls. A range of different designs, aimed at increasing biodiversity within urban locations are available (**Photos 5.1 and 5.2**); and
 - Incorporate rain gardens within hardstanding and parking bays (**Photo 5.3**).

Photo 5.1: Bin store with a green roof and invertebrate houses in the walls (Green Roof Shelters, 2016).



Photo 5.2: Cycle store with a green roof, invertebrate houses and bird boxes installed within the walls (Green Roof Shelters, 2016).



Photo 5.3: Example of a rain garden within hardstanding (Integrity Land Works, 2014).



6 Conclusion

The development can proceed with minimal impact to habitats and legally protected / notable species if the mitigation measures outlined within **Section 5**, and any measures arising from the further surveys, are implemented.

There is also the opportunity to enhance the development for local wildlife in the long-term by implementing the enhancement measures.

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Appendix 1 Legislation & Planning Policy

Legislation

Conservation of Habitat and Species (Amendment) (EU Exit) Regulations (CHSR) 2019

The *CHSR 2019* transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time).

The purpose of the 2019 amendments applied to the legislation were to ensure the continued functionality of the Regulations once the UK has left the European Union, with no policy changes included.

Wildlife & Countryside Act (WCA)

The *WCA 1981*, as amended by the *Countryside and Rights of Way Act (CROW) 2000* and the *Natural Environment and Rural Communities Act (NERC) 2006*, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting;
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- Pick or uproot any wild plant listed under Schedule 8 of the Act.

Sites of Special Scientific Interest (SSSI) are designated under this Act.

Special Protection Areas (SPA) are strictly protected sites, designated under the Birds Directive, for rare and vulnerable birds and for regularly occurring migratory species.

Natural Environment & Rural Communities (NERC) Act

The *NERC Act 2006* amends the *CROW Act*, by further extending the requirement to have regard for biodiversity to all public authorities, which includes local authorities and local planning authorities and requires that the Secretary of State consults Natural England (NE) in the publication of the list of living organisms and habitat types deemed to be of principal importance in conserving biodiversity.

Relevant Protected Species Legislation

Species	Relevant Legislation	Level of Protection
White-Clawed Crayfish	Partially protected under <i>Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended)</i> .	It is an offence to: - take white-clawed crayfish. - offer for sale, transport for sale, advertise for the purpose of trading any live, dead, part, or derivative of white-clawed crayfish.
Great Crested Newt	European protected species under the <i>Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019</i> . Full protection under <i>Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended)</i> .	It is an offence to: - intentionally kill, injure, or take great crested newts intentionally or recklessly disturb great crested newts. - intentionally or recklessly disturb great crested newts. - intentionally or recklessly damage destroy or obstruct access to any place used by the animal for shelter or protection.
Reptiles (adder, grass snake, common lizard & slow-worm)	Partially protected under <i>Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended)</i> .	It is an offence to: - intentionally kill or injure these animals. - sell, offer for sale, advertise for sale, possess or transport for the purposes of selling any live or dead animals or part of these animals.
Birds	Protection under the <i>Wildlife and Countryside Act, 1981 (as amended)</i> .	It is an offence to: - intentionally kill, injure or take any wild bird. - intentionally take, damage or destroy nests in use or being built (including ground nesting birds). - intentionally take, damage or destroy eggs. - Species listed on Schedule 1 of the WCA or their dependant young are afforded additional protection from disturbance whilst they are at their nests.
Badger	<i>Protection of Badgers Act, 1992</i> .	It is an offence to: - wilfully kill, injure, take, possess, or cruelly ill-treat a badger, or to attempt to do so. - intentionally or recklessly interfere with a sett.
Bats	European protected species under the <i>Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019</i> . Full protection under <i>Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended)</i> . Protected by the <i>Wild Mammals (Protection) Act 1996</i> .	It is an offence to: - intentionally kill, injure, or take any species of bat. - intentionally or recklessly disturb bats. - intentionally or recklessly damage destroy or obstruct access to bat roosts.

Species	Relevant Legislation	Level of Protection
Hazel Dormouse	European protected species under the <i>Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019</i>. Full protection under <i>Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended)</i>.	It is an offence to: - deliberately capture, injure or kill hazel dormice. - damage or destroy a dormouse resting place or breeding site. - deliberately or recklessly disturb a hazel dormouse while it's in a structure or place of shelter or protection. - block access to structures or places of shelter or protection. - possess, sell, control or transport live or dead hazel dormice, or parts of hazel dormice.
Otter	European protected species under the <i>Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019</i>. Full protection under <i>Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended)</i>.	It is an offence to: - capture, kill, disturb or injure otters (on purpose or by not taking enough care). - damage or destroy a breeding or resting place (deliberately or by not taking enough care). - obstruct access to their resting or sheltering places (deliberately or by not taking enough care). - possess, sell, control or transport live or dead otters, or parts of otters.
Water Vole	Full protection under <i>Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended)</i>. Full protection under <i>Schedule 5 of the Wildlife and Countryside Act, 1981 (as amended)</i>. The <i>Wild Mammals (Protection) Act 1996</i>.	It is an offence to: - capture, kill, disturb or injure otters (on purpose or by not taking enough care). - damage or destroy a breeding or resting place (deliberately or by not taking enough care). - obstruct access to their resting or sheltering places (deliberately or by not taking enough care). - possess, sell, control or transport live or dead otters, or parts of otters.
Wild Mammals	The <i>Wild Mammals (Protection) Act 1996</i>.	This makes it an offence to: crush or asphyxiate any wild mammal with intent to inflict unnecessary suffering. This may apply during site clearance for development, particularly where burrowing animals such as foxes and rabbits are present, since such animals could be crushed or asphyxiated in their burrows by heavy machinery.

National Planning Policy

National Planning Policy Framework (NPPF)

The NPPF sets out current government policy on biodiversity and nature conservation and places a duty on planners to make material consideration to the effect of a development on legally protected species when considering planning application (MHCLG, 2019). The NPPF also promotes sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within a development, following the principles of the mitigation hierarchy. The goals set out within the NPPF are for developments to minimise impacts on and provide net gains for biodiversity, including at the catchment or landscape scale.

The NPPF works in conjunction with Government Circular *06/2005 'Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System.'*

Regional and Local Planning Policy and Guidance

Local Structure Plans

County, District and Local Councils have Structure Plans and other policy documents that include targets and policies which aim to maintain and enhance biodiversity. These are used by Planning Authorities to inform planning decisions.

Biodiversity Action Plans

The UK Biodiversity Action Plan (UKBAP) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A 'UK Post-2010 Biodiversity Framework' was published in July 2012, and succeeded the UKBAP. Much of the work for the UK BAP is now focussed at a country level due to devolution and the creation of country-level biodiversity strategies.

The UKBAP lists of priority species and habitats are still valuable reference sources. Notably, they have been used to help draw up statutory lists of priority species and habitats as required under Section 41 of the NERC Act (2006).

UK Post-2010 Biodiversity Framework

The UK Post-2010 Biodiversity Framework (2012) was produced in response to a change in strategic thinking following the publication of the Convention of Biological Diversity's Strategic Plan for Biodiversity 2011–2020. The Strategic Plan consists of 20 new biodiversity targets for 2020, termed the 'Aichi biodiversity targets' and the launch of the new EU Biodiversity Strategy in May 2011.

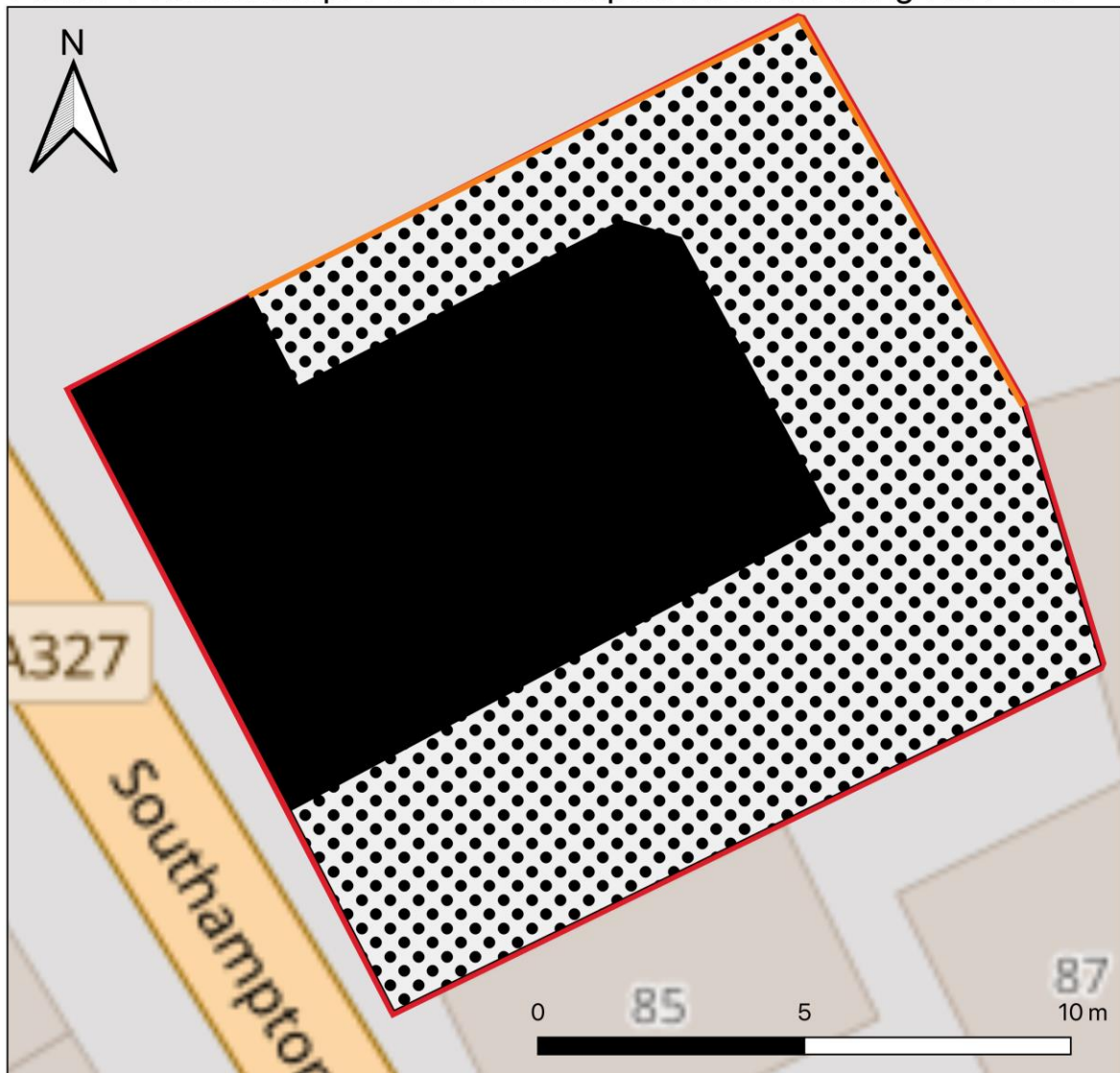
The framework sets a structure for action across the UK between now and 2020, including a shared vision and priorities for UK-scale activities to help deliver the Aichi targets and the EU Biodiversity Strategy. A major commitment by Parties to the Convention of Biological Diversity is to produce a National Biodiversity Strategy and/or Action Plan (NBSAP).

Natural England Standing Advice

Natural England has adopted national standing advice for protected species. It provides a consistent level of basic advice which can be applied to any planning application that could affect protected species. It replaces some of the individual comments that Natural England has provided in the past to local authorities.

Appendix 2 Phase I Habitat Map

Phase 1 Habitat Map: 75-81 Southampton Road Reading RG1 2QU



Legend

— J2.5 Wall

— Boundary

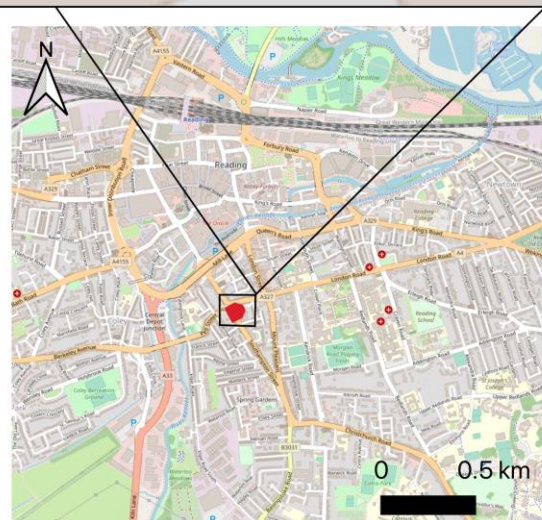
■ J3.6 - Buildings

◻ J4 - Bare ground

Survey Conducted by:
Tony Stones BSc MSc MCIEEM CEnV
Principle Ecologist

Mapping Conducted by:
Daniel Bardey BSc (Hons) MRES
Ecologist

Survey Date: 22/09/2020
Map Generated: 29/09/2020



Appendix 3 Wildlife Friendly Planting

Table A3.1: Native and wildlife-friendly shrubs (Natural England, 2008)

Common Name	Scientific Name
Hazel	<i>Corylus avellana</i>
Elder	<i>Sambucus nigra</i>
Goat willow	<i>Salix caprea</i>
Hawthorn	<i>Crataegus monogyna</i>
Dog rose	<i>Rosa canina</i>
Guelder rose	<i>Viburnum opulus</i>
Gorse	<i>Ulex europaeus</i>
Broom	<i>Cytisus scoparius</i>
Wayfaring tree	<i>Viburnum lantana</i>
Shrubby cinquefoil	<i>Potentilla fruticosa</i>
Raspberry	<i>Rubus idaeus</i>
Alder buckthorn	<i>Frangula alnus</i>
Wild privet	<i>Ligustrum vulgare</i>
Barberry	<i>Berberis × stenophylla</i>
Barberry	<i>Berberis vulgaris</i>
Bell heather	<i>Erica cinerea</i>
Bilberry	<i>Vaccinium myrtillus</i>
Black currant	<i>Ribes nigrum</i>
Blackthorn	<i>Prunus spinosa</i>
Buckthorn	<i>Rhamnus catharticus</i>
Butcher's-broom	<i>Ruscus aculeatus</i>
Cowberry	<i>Vaccinium vitis-idaea</i>
Cross-leaved heath	<i>Erica tetralix</i>
New Zealand holly	<i>Olearia macrodonta</i>
Daphne	<i>Daphne odora</i>
Dogwood	<i>Cornus sanguinea</i>
Field rose	<i>Rosa arvensis</i>
Firethorn	<i>Pyracanthus angustifolia</i>
Flowering Currant	<i>Ribes sanguineum</i>
Gooseberry	<i>Ribes uva-crispa</i>
Hebe 'Midsummer Beauty'	<i>Hebe</i> sp.
Himalayan honeysuckle	<i>Leycesteria formosa</i>
Holly	<i>Ilex aquifolium</i>
Japanese quince	<i>Chaenomeles japonica</i>
Lilac	<i>Syringa vulgaris</i>
Mexican orange	<i>Choisya ternata</i>
Mezereum	<i>Daphne mezereum</i>
Midland hawthorn	<i>Crataegus laevigata</i>
Oregon grape	<i>Mahonia aquifolium</i>
Osier	<i>Salix viminalis</i>
Portugal laurel	<i>Prunus lusitanica</i>
Privet	<i>Ligustrum ovalifolium</i>

Common Name	Scientific Name
Purple willow	<i>Salix purpurea</i>
Snowy mespilus	<i>Amelanchier canadensis</i> , <i>Amelanchier lamarckii</i>
Spindle	<i>Euonymus europaeus</i>
Spurge laurel	<i>Daphne laureola</i>
Sweet briar	<i>Rosa rubiginosa</i>
Wild privet	<i>Ligustrum vulgare</i>

Table A3.2: Native and wildlife-friendly trees (Natural England, 2008).

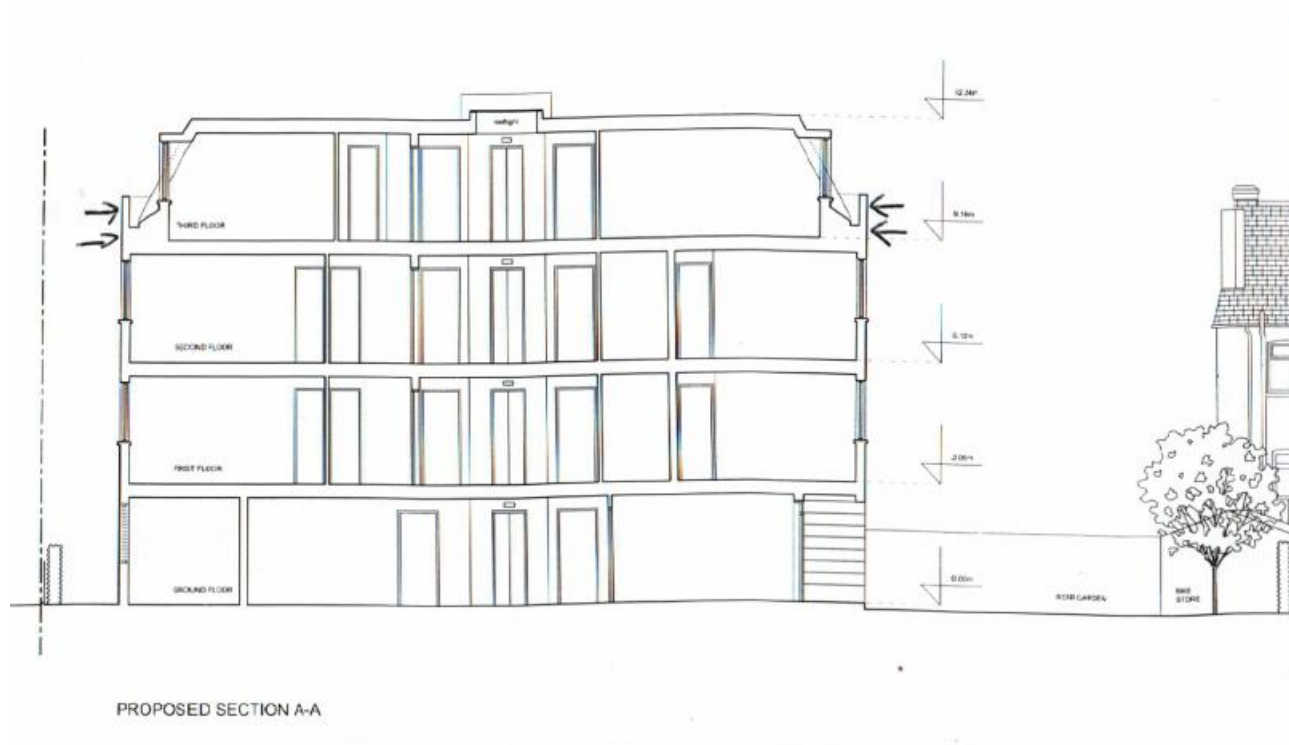
Common Name	Scientific Name
Pedunculate oak	<i>Quercus robur</i>
Ash	<i>Fraxinus excelsior</i>
Wych elm	<i>Ulmus glabra</i>
Whitebeam	<i>Sorbus aria</i> agg.
Rowan	<i>Sorbus aucuparia</i>
Aspen	<i>Populus tremula</i>
Apple	<i>Malus domestica</i>
Bird cherry	<i>Prunus padus</i>
Common alder	<i>Alnus glutinosa</i>
Crab apple	<i>Malus sylvestris</i>
Crack willow	<i>Salix fragilis</i>
Downy birch	<i>Betula pubescens</i>
Field maple	<i>Acer campestre</i>
Hornbeam	<i>Carpinus betulus</i>
Juniper	<i>Juniperus communis</i>
Large-leaved lime	<i>Tilia platyphyllos</i>
Small-leaved lime	<i>Tilia cordata</i>
Pear	<i>Pyrus communis</i>
Scots pine	<i>Pinus sylvestris</i>
Sessile oak	<i>Quercus petraea</i>
Silver birch	<i>Betula pendula</i>
Sweet chestnut	<i>Castanea sativa</i>
Wild cherry	<i>Prunus avium</i>
Wild service-tree	<i>Sorbus torminalis</i>
Yew	<i>Taxus baccata</i>

Table A3.3: Moth pollinator species (Butterfly Conservation, 2019)

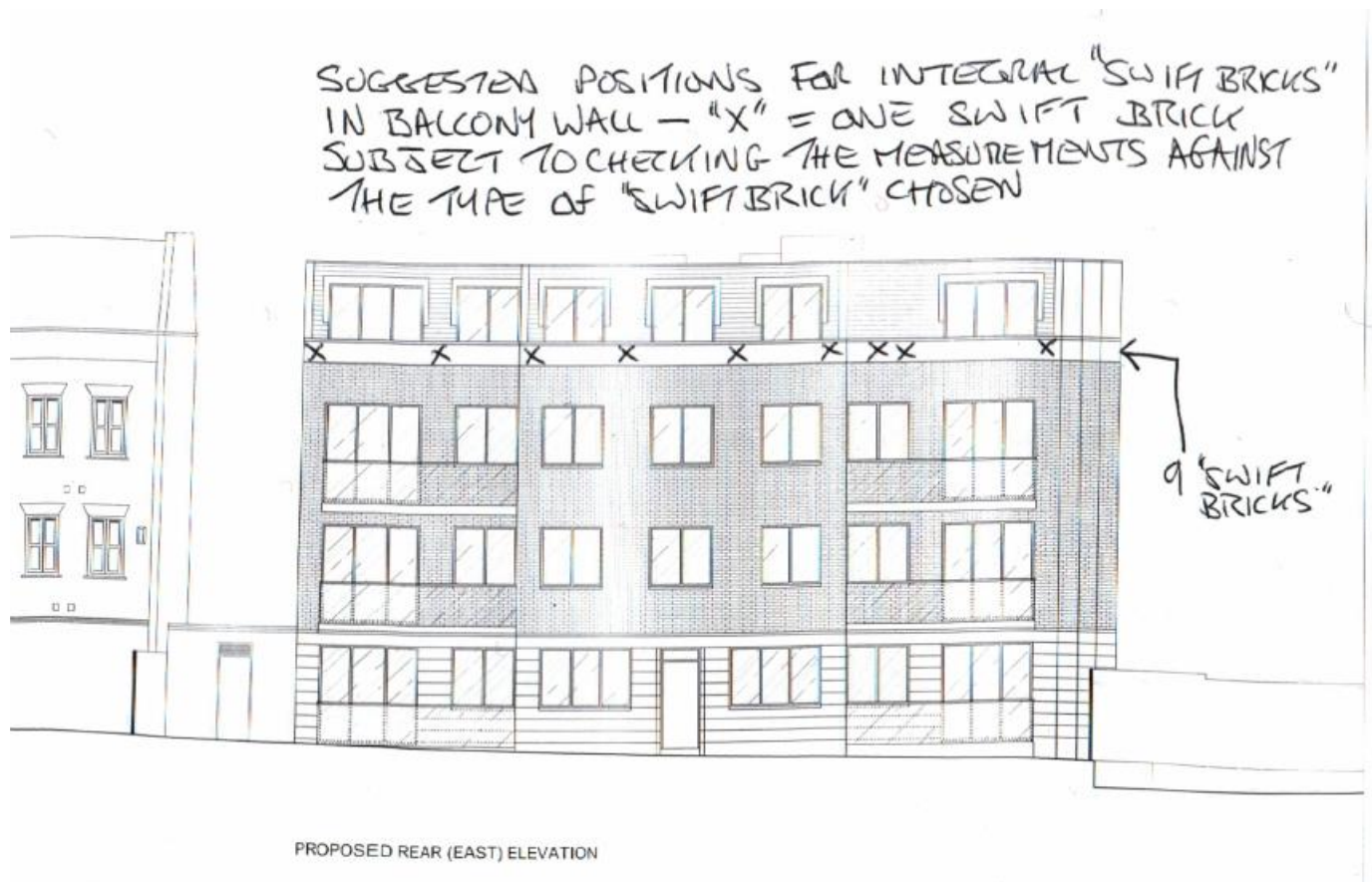
Common Name	Scientific Name
Honeysuckle	<i>Lonicera periclymenum</i>
Jasmine	<i>Jasminum officinale</i>
Evening primrose	<i>Oenothera biennis</i>
Sweet rocket	<i>Hesperis matronalis</i>
Night-scented stock	<i>Matthiola bicornis</i>
Aubretia	<i>Aubretia</i> sp.
Cuckooflower	<i>Cardamine pratensis</i>
Forget-me-not	<i>Myosotis</i> sp.
Honesty	<i>Lunaria annua</i>
Pansy	<i>Viola</i> sp.
Primrose	<i>Primula veris</i>
Wallflower	<i>Erysimum</i> sp.
French marigold	<i>Tagetes</i> sp.
Ice plant	<i>Sedum</i> sp.
Knapweed	<i>Centaurea</i> sp.
Lavender	<i>Lavendula</i> sp.
Marjoram	<i>Origanum vulgare</i>
Michaelmas daisy	<i>Aster amellus</i>
Mint	<i>Mentha</i> sp.
Scabious	<i>Scabiosa</i> sp.
Thyme	<i>Thymus</i> sp.

Appendix 4 Swift / House Sparrow Boxes

ARROWS SHOW SUGGESTED POSITIONS FOR INTEGRAL
"SWIFT BRICKS" SUBJECT TO CHECK ON WALL THICKNESSES



Suggested Locations for Swift Boxes



Approximate Proposed Locations, East Elevation