

**ALEXANDER HOUSE, 205-207 KINGS ROAD,
READING, BERKSHIRE**

ECOLOGICAL IMPACT ASSESSMENT

Final Document

January 2019

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EclA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

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EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by P.J. Alexander Estates Ltd to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of Alexander House, Reading. The site is located in the centre of Reading, Berkshire and comprises an office building with associated landscaping. The proposals entail demolition of the existing building and the construction of student accommodation with associated car parking and landscaping.

The main findings of the Ecological Impact Assessment are:

- Three non-statutory designated sites of nature conservation interest are located within one kilometre radius of the site, the nearest of which is Reading Cemetery Local Wildlife Site located approximately 235 metres east of the site.
- The habitats within the site are dominated by a single building and hardstanding with small areas of amenity grassland and introduced shrub. The species within the site are common and widespread in nature.
- A single bat emergence survey undertaken in August 2018 recorded no bats emerging from the building, and, therefore roosting bats are assessed as being likely absent from the site. The site has been assessed as supporting foraging and commuting bats and having suitability to support breeding birds.
- Mitigation and compensation measures for foraging and commuting bats include a sensitive lighting strategy. The installation of a bird nest box and swift bricks and sensitive working methods during construction will mitigate and compensate for the potential impacts to breeding birds.
- Enhancement measures include native species planting and the installation of bat roost features into the new building.
- Given the impacts identified, and the mitigation and compensation measures proposed it is considered that the proposals accord with all relevant local and national planning policy.
- If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 12 months of the date of the most recent relevant survey.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed P.J. Alexander Estates Ltd to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of Alexander House, 205-207 Kings Road, Reading, Berkshire RG1 4LS (hereafter referred to as the site).

An Ecological Appraisal and Building Inspection (EPR, 2016a) was undertaken by EPR in 2016, which assessed Alexander House as having low suitability to support roosting bats. During the building inspection, no access was possible into the roof voids of the building.

A subsequent bat emergence survey (EPR, 2016b) was undertaken by EPR in August 2016, during which time no bats were recorded emerging from Alexander House. Roosting bats were therefore assessed as being likely absent within the building. Given that it was not possible to examine all areas of the building it was recommended that a precautionary approach to the demolition is undertaken outside of the maternity season.

Given the length of time which has elapsed since this survey work was undertaken, ECOSA were subsequently appointed to undertake updating survey work in 2018 to support the current planning application.

1.2 The Site

The site is located in Reading, Berkshire centred on National Grid Reference (NGR) SU 7293 7324 (**Map 1**).

The site measures 0.16 hectares and comprises a former office block, which has subsequently been temporarily utilised as residential accommodation, with areas of hardstanding and associated landscaping. The site is bounded to the west by Rupert Street, to the south by Kings Road and to the north and east by residential properties.

The wider landscape is mainly urban with a number of green spaces present within the vicinity of the site. The River Kennet is located approximately 370 metres north of the site.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study and relevant species-specific surveys carried out between August and September 2018. The report describes the habitats and species (hereafter referred to as ecological features) within the site's Zone of Influence (Paragraph 3.2), and provides a detailed

assessment of potential ecological effects of the proposed development of the site. It identifies the need for any measures to avoid, mitigate or compensate for significant adverse effects¹ on habitats and species and outlines enhancements to the site's ecology to be implemented as part of the development. The objectives of the assessment are:

- To provide baseline information on ecological features within the site's Zone of Influence and determine the importance of these features;
- To assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify significant effects in the absence of any mitigation;
- To set out measures to avoid, mitigate and compensate for significant ecological effects in accordance with the 'mitigation hierarchy'²;
- To provide an assessment of the significance of any residual effects;
- To outline opportunities for enhancement in order to achieve a net gain for biodiversity; and
- To set out the requirements for any post-construction monitoring.

1.4 Site Proposals

The proposals comprise the demolition of the existing building and the construction of seven storey student accommodation with associated car parking and landscaping. Access is to be as existing from the western site boundary off Rupert Street.

The Ecological Impact Assessment is based on the designs included as part of the final Design and Access Statement produced by Broadway Malyan, dated January 2019 (**Appendix 1**).

The exact timescales for construction are currently unknown. For the purposes of this report it is assumed that construction would have commenced by September 2020.

¹ For the purposes of this assessment a 'significant' adverse effect is one which will have an adverse effect on the ecological feature at the site level or higher.

² In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2016) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

2.0 PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the Reading Borough Council administrative area. This information is then used to assess the compliance of the scheme in relation to relevant planning policy and where necessary make recommendations for mitigation, compensation and enhancements (see Section 5.0).

2.2 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with the revised NPPF published in July 2018. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF *"Plans and decisions should apply a presumption in favour of sustainable development"*. However, Paragraph 177 goes on to state that *"The presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site³ is being planned or determined"*.

The general impetus of the NPPF in relation to ecology and biodiversity is for development proposals to not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 170 states that the planning system should contribute to and enhance the natural environment by *"...minimising impacts on biodiversity and providing net gains in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures..."*.

A number of principles are set out in Paragraph 175, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats⁴. Where loss to irreplaceable habitats occur planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in place. Paragraph 175 also states *"development whose primary objective is to conserve or enhance biodiversity should*

³ The NPPF defines a habitats site as *"Any site which would be included within the definition at regulation 8 of the Conservation of Habitats and Species Regulations 2017 for the purpose of those regulations, including candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, Special Protection Areas and any relevant Marine Sites."*

⁴ The NPPF defines irreplaceable habitats as *"Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen."*

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". Protection of sites proposed as Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar sites or acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states *"the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat"*. Whilst paragraph 99 states *"it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the proposed development, is established before planning permission is granted"*.

2.3 Local Policy

Local planning policy for Reading Borough Council is provided by the Core Strategy (Adopted 2008, altered January 2015). A single policy makes specific reference to ecology and biodiversity:

- Biodiversity and Geology: Biodiversity and Geology
 - a) Development should retain, protect and incorporate features of biodiversity interest (including protected species and their habitats) found within the application site into their schemes.

On sites with recognised biodiversity value, development will not be permitted where there would be a direct or indirect adverse impact on the site, unless it can be clearly demonstrated that:

- i) The need for development clearly outweighs the need to protect the value of the site; and
 - ii) Appropriate compensation, impact minimisation, mitigation and compensation are provided.
 - b) Local Nature Reserves and Wildlife Heritage Sites will be safeguarded and where possible, enhanced. Permission will not be granted for any development that would adversely affect a designated nature reserve or Wildlife Heritage Site.

- c) Any development that would sever or threaten the integrity of an established wildlife link, as indicated on an adopted proposals map, will not be permitted. Where applicable, developments should be designed to protect, consolidate, extend and enhance the network of wildlife links and corridors in and adjoining the Borough, working with neighbouring authorities where appropriate.

A new local plan, which will replace the Core Strategy, Reading Central Area Action Plan and Sites and Detailed Policies Document has been submitted to the Secretary of State in March 2018.

3.0 METHODS

3.1 Introduction

This section details the methods employed during the Ecological Impact Assessment. Any significant limitations to the assessment are also considered.

3.2 Zone of Influence

To define the total extent of the study area for this assessment, the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected⁵. The appropriate survey radii for the various elements of the assessment have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to assessment, its surroundings and the nature of the proposals.

3.3 Scoping

Protected species considered within the Ecological Impact Assessment are those species/species groups considered likely to be encountered given the geographical location and context of the site. Where the site was found to be suitable to support these species/species groups, and adverse effects cannot be avoided from the outset, further species-specific surveys are undertaken. These are discussed within the results section (Section 4.0) of the current report. Where such a species is unlikely to be present on site a justification for likely absence is provided. Species considered likely absent from the site are not then considered in the assessment of ecological effects and mitigation/compensation measures section (Section 5.0) of this report.

3.4 Desk Study

3.4.1 Biological Records Centre

Thames Valley Records Centre (TVERC) was consulted on 24th August 2018 for the following data:

- Records of non-statutory designated sites (Local Wildlife Sites (LWSs), Sites of Importance for Nature Conservation (SINCs), Site of Nature Conservation Interest (SNCIs) etc.) within one kilometre of the site boundary. See **Appendix 2** for details;
- Records of legally protected and notable species (flora and fauna) within one kilometre of the site boundary, including Species of Principal Importance (**Appendix 3**); and

⁵ The Zone of Influence (Zoi), as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2016).

- Records of bats within two kilometres of the site boundary. Bat species are highly mobile and therefore the search radius is increased for this species group.

3.4.2 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2018) was reviewed on 7th November 2018 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site. See **Appendix 2** for details. Where appropriate, the desk study search area has been extended to take account of any appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species, particularly those specifically mentioned in local planning policy. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs.

Sites within two kilometres of the site boundary where European Protected Species Mitigation (EPSM) licences or Bat Low Impact Class Licences (BLICLs) have been granted were reviewed. This information allows a greater understanding of the potential for European protected species to be present in the local area.

3.4.3 Other Sources of Information

Online mapping resources, at an appropriate scale, were used to identify the presence of habitats such as woodland blocks, ponds, watercourses and hedgerows, in the vicinity of the site. These habitats may offer resources and connectivity between the site and suitable habitat in the local area, which may be exploited by local species populations.

The presence of ponds or other waterbodies within a 500 metre radius of the site in particular are noted in relation to great crested newt. The 500 metre radius is a standardised search radius to assist in the assessment of the suitability of a site and its surrounding habitat to support this species, based on current Natural England guidance (English Nature, 2001).

3.5 Field Survey

3.5.1 Survey Methods

The field survey broadly followed standard Phase 1 habitat survey methodology (JNCC, 2010) and included a search for evidence of, and an assessment of the site's suitability

to support, protected and notable species as recommended by CIEEM (CIEEM, 2017). The field survey covered all accessible areas of the site, including boundary features.

Phase 1 Habitat Survey

An assessment was made of all areas of vegetation within the site based on the standardised Phase 1 habitat survey methodology (JNCC, 2010). This involved identification of broad vegetation types, which were then classified against Phase 1 habitat types, where appropriate. A list of characteristic plant species for each vegetation type was compiled and any invasive species⁶ encountered as an incidental result of the survey recorded.

Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. Specific methods for species/species groups considered during the appraisal are provided in **Appendix 4**.

3.5.2 Survey Details

The field survey was carried out by Richard Chilcott, Principal Ecologist of ECOSA on 6th September 2018. The weather conditions were cloudy, warm with approximately 60% cloud cover, an ambient temperature of 20°C and no wind.

During the survey, the surveyor was equipped with a ladder, 10x40 binoculars, a high powered torch and a digital camera.

3.5.3 Field Survey Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The field survey has therefore not produced a complete list of plants and animals and in the absence of evidence of any particular species should not be taken as conclusive proof that the species is absent or that it will not occur in the future.

Online mapping resources provide an indication of habitat features present in the wider area, but do not provide a detailed assessment of habitat types.

No access was possible into the roof void of the building. Areas such as roof voids provide suitable locations for roosting bats and as a result of a lack of access, the roof void has not been surveyed for the presence/absence of bats. However, since the building was subsequently subject to a bat survey, the lack of internal access does not compromise the overall findings of the assessment.

⁶ Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

3.6 Bat Survey

3.6.1 Survey Methods

Bat Emergence Survey

The bat emergence survey was undertaken in line with current best practice guidelines (Collins, 2016). In accordance with the guidelines for a building assessed as having low suitability to support roosting bats a single dusk emergence survey was undertaken in order to ascertain the presence/likely absence of roosting bats from within the building. Where the presence of roosting bats is confirmed the data also allows for an assessment of the status of the roost present.

The surveys were carried out by four experienced ECOSA surveyors, positioned at previously identified vantage points around the building. These vantage point locations allowed a sufficient coverage of the Potential Roosting Features identified on the building impacted by the proposals.

During the survey surveyors recorded the time, species, location and direction of flight for each bat encountered, with particular attention paid to establishing bat access/egress locations to any roosts within the building.

3.6.2 Survey Details

Bat Emergence Survey

The bat emergence survey was undertaken in August 2018. **Table 1** provides details of each emergence/re-entry survey.

Table 1: Bat emergence survey details

Survey Date	Survey Type	Duration	Weather Conditions	Sunset/ Sunrise Time
29 th August 2018	Dusk	19:42 – 21:57	General conditions: Dry Start temp: 15 End temp: 15 Cloud Cover: 30 Wind Speed: Gentle breeze	19:57

During the bat emergence survey the surveyors were equipped with Pettersson D240x time expansion bat detectors. The Pettersson detectors were connected to Edirol R-05 recorders for the full duration of the survey. Recordings made with the detectors were later analysed using Sonobat® (v2.9.7) to confirm the identity of any species encountered.

The bat emergence/re-entry surveys were coordinated by Richard Chilcott, Principal Ecologist of ECOSA (Natural England Bat Licence 2015-16561-CLS-CLS) assisted by

suitably qualified and experienced ECOSA surveyors Ralph Dunbar (Natural England Bat Licence 2017-28338-CLS-CLS), Duncan Gilmartin, Laura Tomei and Jade Lemm.

3.6.3 Survey Limitations

Some bat species, e.g. long-eared bats *Plecotus* species⁷, generally emerge from their roosts in total darkness and do not produce strong echolocations, and therefore these bats can be difficult to observe and record during bat surveys, leading to under-recording.

3.7 Criteria used to Assess Ecological Value

The evaluation criteria used in this report are based on ECOSA's professional judgement and publicly available publications, survey data and other sources as referenced in the main text. The evaluation is based on a sliding scale of importance as follows; international and European, national, regional, county, local and site. There are a wide range of characteristics which contribute to the importance of ecological features, and these may justify an increase or reduction in the value of an ecological feature. Where deviations occur, these will be explained in the evaluation section of this report (Section 4.0). Current published relevant guidance, including information sources such as A Nature Conservation Review (Ratcliffe, 1977) and Guidelines for Ecological Impact Assessment in the United Kingdom (CIEEM, 2016) have also been used to inform the assessment.

⁷ There are two species of long-eared bat, the brown long-eared bat *Plecotus auritus* and the grey long-eared bat *Plecotus austriacus*. These species can only be separated by examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the two species shall be referred to in this report as long-eared bat. The brown long-eared bat is the commonest of the two species typically being found roosting within large roof voids although small voids and trees are also utilised. The grey long-eared bat is rare and confined to southern England and like the brown long-eared typically roosts in roof voids.

4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION

4.1 Introduction

This section details the results of the Ecological Impact Assessment undertaken for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the findings of the field survey and subsequent protected species surveys. This section also provides an assessment of the ecological value of ecological features present at the site.

4.2 Statutory and Non-statutory Designated Sites

4.2.1 Baseline Ecological Conditions

Statutory Designated Sites

There are no statutory designated sites of nature conservation interest situated within one kilometre of the site boundary. The nearest statutory designated sites of nature conservation interest is Highwood LNR located approximately 1.9 kilometres south-east of the site.

Non-Statutory Designated Sites

There are three non-statutory designated sites of nature conservation situated within one kilometre of the site boundary. These are:

- Reading Cemetery (LWS) – Located 235 metres east of the site and designated for supporting diverse grassland species containing some elements of a lowland meadow.
- The Coal, Kennetmouth and Kings Meadow East (LWS) – Located 570 metres north and designated for supporting open mosaic habitat, the nationally scarce Loddon lily *Leucojum aestivum*.
- Henley Road Gravel Pit (LWS) – located 740 metres north-east and designated for supporting a range of wintering wildfowl.

Further information on sites designated for nature conservation are provided in **Appendix 2**.

4.2.2 Evaluation

The non-statutory designated sites are of particular importance for nature conservation within Berkshire and are therefore, of county value.

4.3 Habitats

4.3.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with TVERC produced no records of notable habitats or plant species within the desktop study area, however, this does not confirm the absence of notable plants or habitats in the local area.

Field Survey Results

Habitats are described in general terms using standard Phase 1 habitat survey terminology, with reference to dominant, characteristic and notable species in each vegetation type. The main habitats recorded on site during the Phase 1 habitat survey were as follows:

Buildings and Hardstanding

The majority of the site is dominated by a single building and hardstanding. The building is described in detail in Paragraph 4.4.1.

Amenity Grassland

Two small areas of amenity grassland are present within the south of the site (**Figure 1**). The grassland is regularly mown and comprises a short sward height. Species present include perennial rye-grass *Lolium perenne*, fescue *Festuca* species, dandelion *Taraxacum officinale* aggregate, greater plantain *Plantago major*, ivy *Hedera helix* and ribwort plantain *Plantago lanceolata*.



Figure 1: Amenity grassland on southern site boundary

Introduced Shrub

Areas of introduced shrub are present within the south of the site (**Figure 2**). Species present include Portugal laurel *Prunus lusitanica* and *Euonymus* species. There are also two ornamental trees within the site.



Figure 2: Introduced shrub

4.3.2 Evaluation

The habitat within the site comprise common and widespread species and are assessed as having no more than site value.

4.4 Bats

4.4.1 Baseline Ecological Conditions

Desktop Study Results

A total of eight granted EPSM licences in relation to bats were identified within a two kilometre radius of the site. The nearest of which was a licence granted in 2016 for the damage and destruction of a resting place of common pipistrelle *Pipistrellus pipistrellus* located approximately 885 metres south-west of the site. No further details are provided by MAGIC.

A number of records of bats were returned by TVERC as part of the desktop study undertaken. The nearest of which were records of noctule *Nyctalus noctula*, common pipistrelle and soprano pipistrelle *Pipistrellus pygmaeus* located approximately 410 metres south-west of the site in 2017. Other records recorded within two kilometres of the site include brown long-eared bat *Plecotus auritus*, Daubenton's bat *Myotis daubentonii*, pipistrelle *Pipistrellus* species⁸ and serotine *Eptesicus serotinus*. Older records of Leisler's bat *Nyctalus leisleri* and Nathusius' pipistrelle *Pipistrellus nathusii* were also recorded within two kilometres of the site boundary.

⁸ There are three species of pipistrelle bat, the common pipistrelle *Pipistrellus pipistrellus*, the soprano pipistrelle *Pipistrellus pygmaeus* and the Nathusius' pipistrelle *Pipistrellus nathusii*. The species can be separated by their echolocations, examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the three species shall be referred to in this report as pipistrelle bat. All three species will roost in similar locations within buildings. The soprano pipistrelle has a tendency to form larger roosts numbering 100's of bats and is associated with wetland habitat. Nathusius' pipistrelle bats frequently share maternity roosts with soprano pipistrelle bats.

Field Survey Results

Building Assessment

A single building comprising an office block is present within the site. No direct evidence of bats such as droppings or urine staining were recorded during the external inspection of the on-site building. However, internal access to roof void of the building was not possible.

The building is a three to four storey off block of brick built construction with a multi-pitched, hipped and slate-tile roof with a flat roof section (**Figure 3** and **Figure 4**). An area of undercroft parking is also present at the basement level.

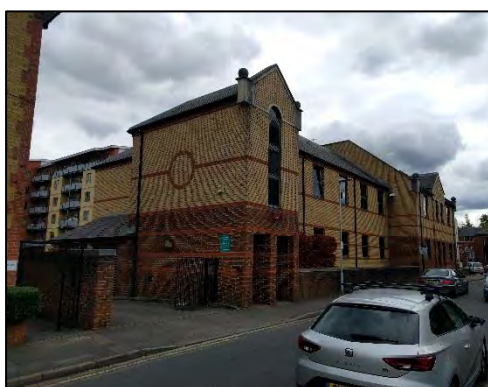


Figure 3: Western elevation of building



Figure 4: Eastern and northern elevations of building

The building was recorded as missing slate roof tiles (**Figure 5**), supporting lifted lead flashing on the roof and a gap in the wall on the northern elevation of the building.



Figure 5: Missing slate tile on western elevation of building

Internally the building is a former office block (**Figure 6**) which has been temporarily converted into living accommodation through the installation of new partition walls and associated facilities. A single plant room is present on the ground floor which was inspected as part of the survey (**Figure 7**).

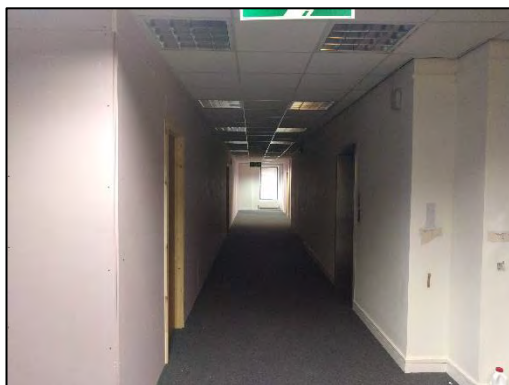


Figure 6: Internal of the building

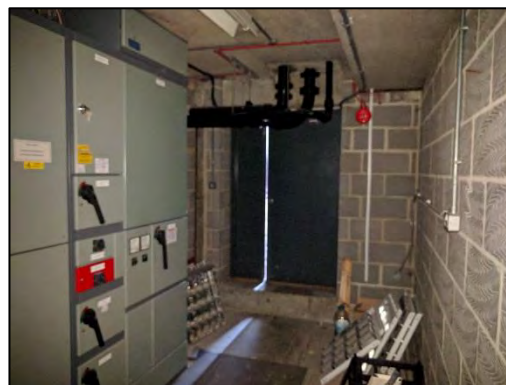


Figure 7: Plant room present on the ground floor

No evidence of roosting bats was recorded during the survey. However, the building was assessed as having low suitability to support roosting bats.

Tree Assessment

The two ornamental trees within the site lack any potential roosting features such as dense coverings of ivy or rot holes and are therefore assessed as having negligible suitability to support roosting bats.

Foraging and Commuting Habitat

The habitats within the site are limited in extent and isolated in nature. The surrounding area is urban in nature and extremely well-lit and therefore the site only provides suitability for light tolerant species such as common pipistrelle and soprano pipistrelle. Good quality foraging and commuting habitat further afield including the River Kennet and a number of green spaces including the Coal, Kennetmouth and Kings Meadow East LWS and Henley Road Gravel Pit LWS. Overall the site is assessed as having low suitability to support foraging and commuting bats.

Bat Emergence Survey Results

The survey recorded two species of bat: common pipistrelle and soprano pipistrelle. No bats were recorded emerging from the building.

Table 2 provides details of the species, numbers and locations of bats recorded roosting and foraging/commuting during the emergence/re-entry surveys.

Table 2: Bat Emergence Survey Results

Survey Date	Recorded Bat Roosts	General Bat Activity at the Site		
29 th August 2018 <i>Dusk Emergence Survey</i>	<u>Summary:</u> No bats were recorded emerging from the building.	Species	First Pass	Last Pass
		Common pipistrelle	20:19	21:57
		Soprano pipistrelle	20:53	-
		<u>Summary:</u> A moderate level of activity was recorded during the survey. The majority of activity was dominated by common pipistrelle with the exception of a single registration of soprano pipistrelle. The majority of activity was recorded as heard not seen with a single pass along the west of the site and single foraging incident recorded within the south of the site.		

4.4.2 Evaluation

Roosting Bats

No bats were recorded emerging from the building, and, therefore roosting bats are assessed as being likely absent from the site.

Foraging and Commuting Bats

Activity surveys were not undertaken as part of the Ecological Impact Assessment, but foraging and commuting activity was recorded as an incidental result of the bat emergence survey. Moderate numbers of common pipistrelle registrations and a single registration of soprano pipistrelle was recorded during the dusk emergence survey which indicates the site is not widely used by bat species, and, therefore the site is only of site value for supporting both species.

4.5 Otter

4.5.1 Baseline Ecological Conditions

Desktop Study Results

No granted EPSM licences in relation to otter *Lutra lutra* were identified within two kilometres of the site boundary.

A review of online aerial photography and 1:25,000 OS mapping identified no watercourses within or adjacent to the site.

Consultation with TVERC produced two records of otter *Lutra lutra* along the River Kennet in 2006 and 2016.

Field Survey Results

The site or immediately adjacent habitat does not support banks of watercourses/bodies. The habitat on site is unsuitable for otter and therefore the species is not considered further in this report.

4.6 Badger

4.6.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with TVERC returned four records of badger *Meles meles* within the desktop study area. Two of the records recent from 2015 and were located within a 100 metre square grid square south-west of the site.

Field Survey Results

No evidence of foraging badger *Meles meles* was recorded during the survey undertaken. The site is located in a urban, built-up area in the centre of Reading with the habitats extremely limited in extent and isolated in nature. The habitat on site is unsuitable for badger and therefore the species is not considered further in this report.

4.7 Hazel Dormouse

4.7.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with TVERC produced no records of hazel dormouse *Muscardinus avellanarius* within the desktop study area, however, this does not confirm the absence of the species in the local area.

Field Survey Results

The habitat on site is unsuitable for hazel dormouse lacking the food resources and species diversity which the species requires or connectivity to the wider area. Accordingly, this species is not considered further in this report.

4.8 Water Vole

4.8.1 Baseline Ecological Conditions

Desktop Study Results

A review of online aerial photography and 1:25,000 OS mapping identified no watercourses within or adjacent to the site.

Consultation with TVERC produced no records of water vole *Arvicola amphibius* within the desktop study area, however, this does not confirm the absence of the species in the local area.

Field Survey Results

The site or immediately adjacent habitat does not support watercourses/bodies. The habitat on site is unsuitable for water vole and therefore the species is not considered further in this report.

4.9 Birds

4.9.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with TVERC returned 27 bird species within the desktop study area. Of these records none are likely to breed within the on-site vegetation.

Field Survey Results

A single woodpigeon *Columba palumbus* was recorded during the Preliminary Ecological Appraisal.

The building has suitability to support nesting birds within the roof structure and areas of undercroft which are present. The site also contains some limited suitability for supporting breeding birds in the form of the introduced shrub. A range of suitable habitats for supporting a variety of bird species are also present in the wider surrounds including woodland blocks, hedgerow networks, agricultural fields and residential gardens.

Given the small size of the site and the nature of the habitats present, it is unlikely that the site would support any notable wintering birds.

4.9.2 Evaluation

Breeding Birds

Given the small size of the site, particularly in the context of the wider area, the habitats are of value at the site level for breeding birds.

4.10 Reptiles

4.10.1 Baseline Ecological Conditions

Desktop Study Results

No granted European Protected Species Mitigation (EPSM) licences in respect of smooth snake *Coronella austriaca* or sand lizard *Lacerta agilis* were identified within a two kilometre radius of the site.

Only a single recent record of grass snake was returned by TVERC as part of the desktop study undertaken. The record is from 2008 and is located within The Coal, Kennetmouth and Kings Meadow East LWS.

Field Survey Results

The amenity grassland within the site is regularly mown, and, therefore has a short sward height. Furthermore, the grassland is limited in extent and isolated from any suitable reptile habitat. The habitat on site is unsuitable for reptiles and therefore this species group is not considered further in this report.

4.11 Great Crested Newt

4.11.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with TVERC produced no records of great crested newt *Triturus cristatus* within the desktop study area, however, this does not confirm the absence of the species in the local area.

A review of online 1:25,000 OS mapping and aerial imagery concluded there no waterbodies within a 500 metre radius of the site.

Field Survey Results

The amenity grassland within the site is regularly mown, and, therefore has a short sward height and therefore, would not provide suitable great crested newt terrestrial habitat with the species favour more unmanaged habitat such as longer tussocky grassland and scrub. The habitat on site and the lack of breeding habitat in the surrounds means the site unsuitable for great crested newt and therefore this species group is not considered further in this report.

4.12 Invertebrates

4.12.1 Baseline Ecological Conditions

Desktop Study Results

Four invertebrate species were returned by TVERC as part of the desktop study undertaken with recent records only including the Species of Principal Importance⁹ stag beetle *Lucanus cervus*. The recent record of stag beetle is from 2012 located approximately 700 metres south-west of the site.

Field Survey Results

The site offers limited suitable habitat for supporting invertebrates in the form of amenity grassland and introduced shrub. The site largely supports common and widespread species which are unlikely to support any rare or notable assemblages of invertebrates, and, therefore this species group is not considered further in this report.

4.13 Other Relevant Species

4.13.1 Baseline Ecological Conditions

Desktop Study Results

A single record of European hedgehog⁹ was returned by TVERC from 2006 located No records of any other relevant species were returned by TVERC as part of the desktop study undertaken, however, this does not confirm the absence of other notable species in the local area.

Field Survey Results

The site supports limited suitable habitat for other relevant species due to comprising a well-managed landscape which is isolated in a nature, and, therefore this no other relevant species are considered further in this report.

⁹ As listed on NERC Act 2006

5.0 ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/ENHANCEMENT MEASURES

5.1 Introduction

This section assesses the ecological effects of the proposed development scheme on the identified ecological features as identified in Section 4.0. Methods for addressing potential impacts on ecological features have been approached in accordance with the mitigation hierarchy¹⁰ with avoidance of impacts prioritised where possible. Where significant adverse effects cannot be avoided other forms of mitigation are prioritised over compensation. Enhancement measures have been detailed, where relevant, in order to not only minimise the impacts on biodiversity but also to provide enhancement in accordance with Paragraph 170 of the NPPF (Paragraph 2.2). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

5.2 Scheme Design

The proposed development entails the demolition of the existing building and the construction of student accommodation with associated car parking and landscaping. Access is to be as existing from the western site boundary off of Rupert Street. At the time of preparing this report, the lighting proposals were unknown.

The potential ecological impacts and effects of these proposals, in the absence of mitigation, are described for each ecological feature below. For each ecological feature, measures to mitigate and/or compensate for significant effects are described.

5.3 Designated Sites

5.3.1 *Potential Impacts and Effects*

Three non-statutory designated sites of nature conservation interest are located within a one kilometre radius of the site. Given the removed nature of the designated sites of nature conservation interest and the lack of apparent connectivity between the site and designated sites, no direct impacts on the nearby designated sites are anticipated.

5.3.2 *Mitigation Measures*

Given that no impacts to designated sites are anticipated, no mitigation measures are recommended.

¹⁰ In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2016) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and 'Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

5.3.3 Significance of Residual Effects

Given that no impacts to designated sites are anticipated, there will not be a significant residual effect on designated sites.

5.3.4 Compensation

Given that no significant residual effects are anticipated, no compensation measures are required.

5.3.5 Enhancement

No additional enhancement is recommended in respect of designated sites.

5.4 Habitats

5.4.1 Potential Impacts and Effects

The proposals will result in a net increase in residential units which will result in the loss of approximately 80 square metres of amenity grassland and approximately 100 square metres of introduced shrub. The remainder of the site to be developed comprises a building and hardstanding. Given the low ecological value of amenity grassland and ornamental planting being lost, this effect is considered to be of negligible significance.

5.4.2 Mitigation Measures

Given that the loss of habitats is considered to be of negligible significance, no mitigation measures are considered necessary.

5.4.3 Significance of Residual Effects

The loss of habitats is considered to be of negligible significance.

5.4.4 Compensation

Given that no significant residual effects are anticipated, no compensation measures are considered necessary.

5.4.5 Enhancement

Any new landscaping will primarily incorporate native species as opposed to ornamental or cultivated species wherever possible.

5.5 Bats

5.5.1 Potential Impacts and Effects

Given the limited extent of habitats within the site having suitability to support foraging and commuting bats, the loss of habitats is considered to be of negligible significance.

The introduction of new lighting at the site as a result of the redevelopment has the potential to increase disturbance of foraging and commuting bats. The detailed lighting proposals are unknown at the time of preparing this report.

In England, bats and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, all bat species are protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.5.2 Mitigation Measures

New lighting would ideally comprise LED bulbs at the warmer end of the spectrum (e.g. avoiding blue or white light). LED lights emit much lower levels of UV and therefore have a lower impact on wildlife (Bat Conservation Trust, 2014). The lux level would be as low as possible to allow the task to be carried out safely and effectively.

5.5.3 Significance of Residual Effects

The lighting design will avoid disturbance effects on foraging and commuting bats, and, therefore no residual effects are anticipated.

5.5.4 Compensation

Given that no significant residual effects are anticipated, no compensation measures are considered necessary.

5.5.5 Enhancement

As an enhancement measure, two bat roost units will be installed within the walls of the new building, at a minimum height of four metres in order to provide additional roosting opportunities. Two Schwegler 1FF bat tubes, or similar alternatives will provide a suitable enhancement.

5.6 Birds

5.6.1 Potential Impacts and Effects

Demolition of the building and the removal of any woody vegetation has the potential to result in direct harm to nesting birds if undertaken during the nesting bird season (March to August, inclusive) and result in the long-term loss to nesting habitat overall.

All birds, their nests, eggs and young are legally protected, with certain exceptions, under the Wildlife and Countryside Act 1981 (as amended). Refer to **Appendix 3** for details.

5.6.2 Mitigation Measures

Demolition of the building and any necessary woody vegetation clearance required will be undertaken outside the main breeding bird season of March to August, inclusive, or if not possible, an ecologist will be present immediately prior to clearance to check the vegetation and buildings. Active nests will be left with an undisturbed five to ten metre buffer until chicks have fledged and/or the nest is no longer in use.

5.6.3 Significance of Residual Effects

Sensitive timing of works, or sensitive working methods, will avoid harm and disturbance effects on breeding birds.

However, the loss of habitat for nesting birds cannot be mitigated.

5.6.4 Compensation

New bird boxes will be erected on the external elevations of the new building in order to provide replacement nesting habitat for birds at the site. A single bird box (Schwegler 1SP sparrow terrace, or similar alternative) will be incorporated into an elevation of the new building. Two swift bricks will also be fitted on the northern elevation of the new building at a height of at least five metres.

5.6.5 Enhancement

No additional enhancement is recommended in respect of birds.

5.7 Cumulative Effects

Assuming that the mitigation and compensation measures outlined in the paragraphs above are implemented, no significant residual effects are anticipated. As such it is considered unlikely that the proposals will contribute to cumulative adverse effects in association with other proposals in the local area.

6.0 CONCLUSIONS

6.1 Conclusion

Roosting bats were assessed as being likely absent from the site. The site has been assessed as supporting foraging and commuting bats and having suitability to support breeding birds. Adverse impacts on these ecological features have been identified and appropriate mitigation measures proposed. No residual or cumulative impacts are anticipated. Post-development the site will be enhanced for bats through the installation of additional bat roosting features and nesting opportunities, resulting in an overall net gain for biodiversity. As such it is considered that, subject to the incorporation of measures within this report, the proposals will accord with all relevant national and local planning policy in relation to ecology including Policy CS36 of the Core Strategy and the NPPF (see Section 2.0).

6.2 Updating Site Survey

If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 12 months of the date of the most recent relevant survey.

7.0 REFERENCES

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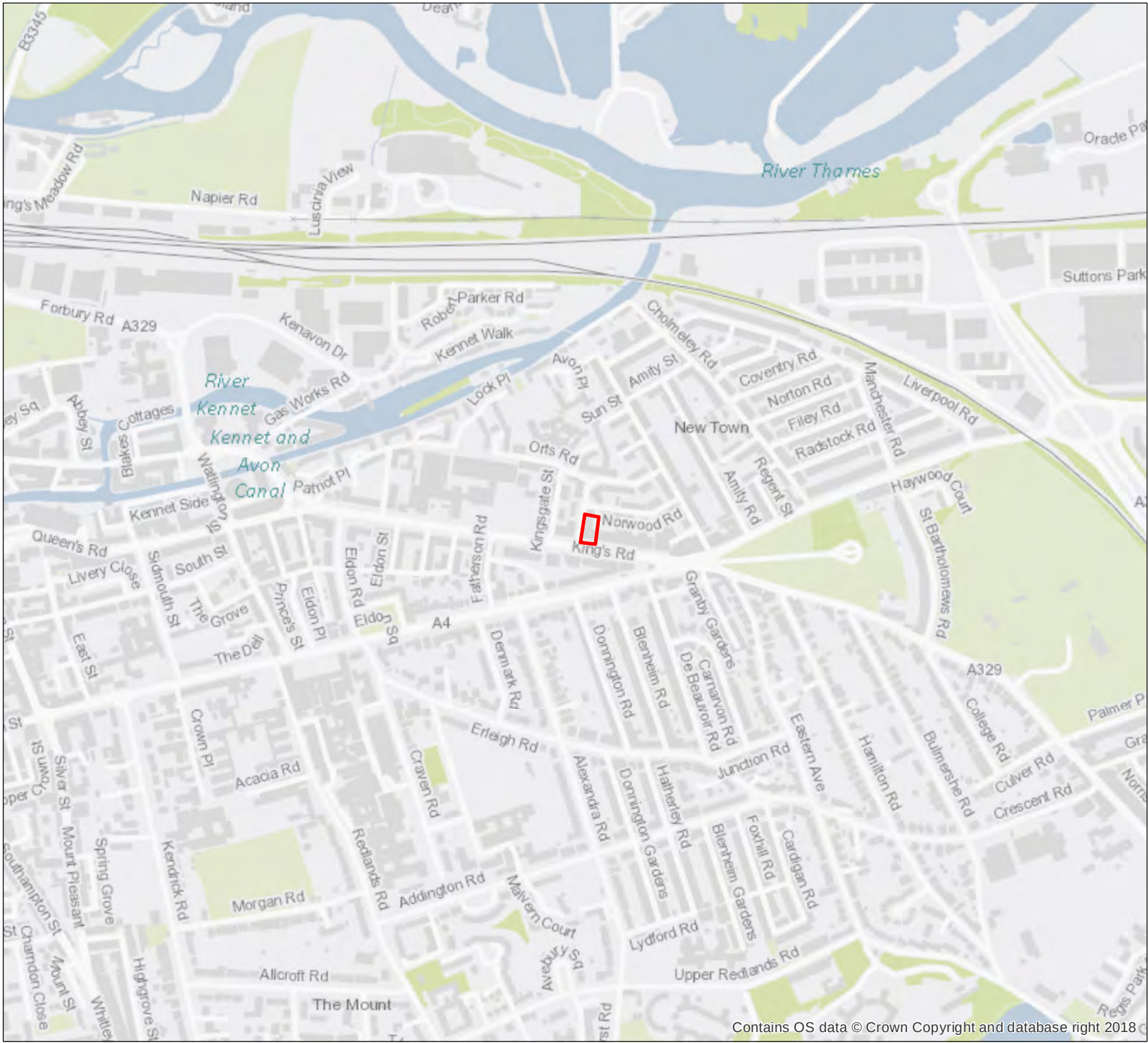
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Map 1

Site Location Plan



ALEXANDER HOUSE, 205-207 KINGS ROAD, READING, BERKSHIRE

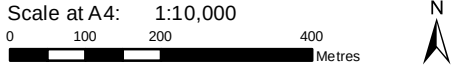
ECOLOGICAL IMPACT ASSESSMENT

Map 1 - Site Location Plan

Client:	P.J. Alexander Estates Ltd
Date:	November 2018
Status:	Final

KEY

 Site Boundary



ECOSA
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Appendix 1 Proposed Site Layout

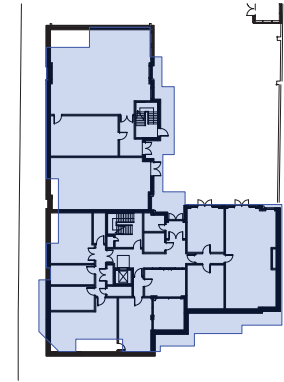
Lower Ground Floor Plan

Room Legend

- Communal Space
- Communal Facilities
- Services

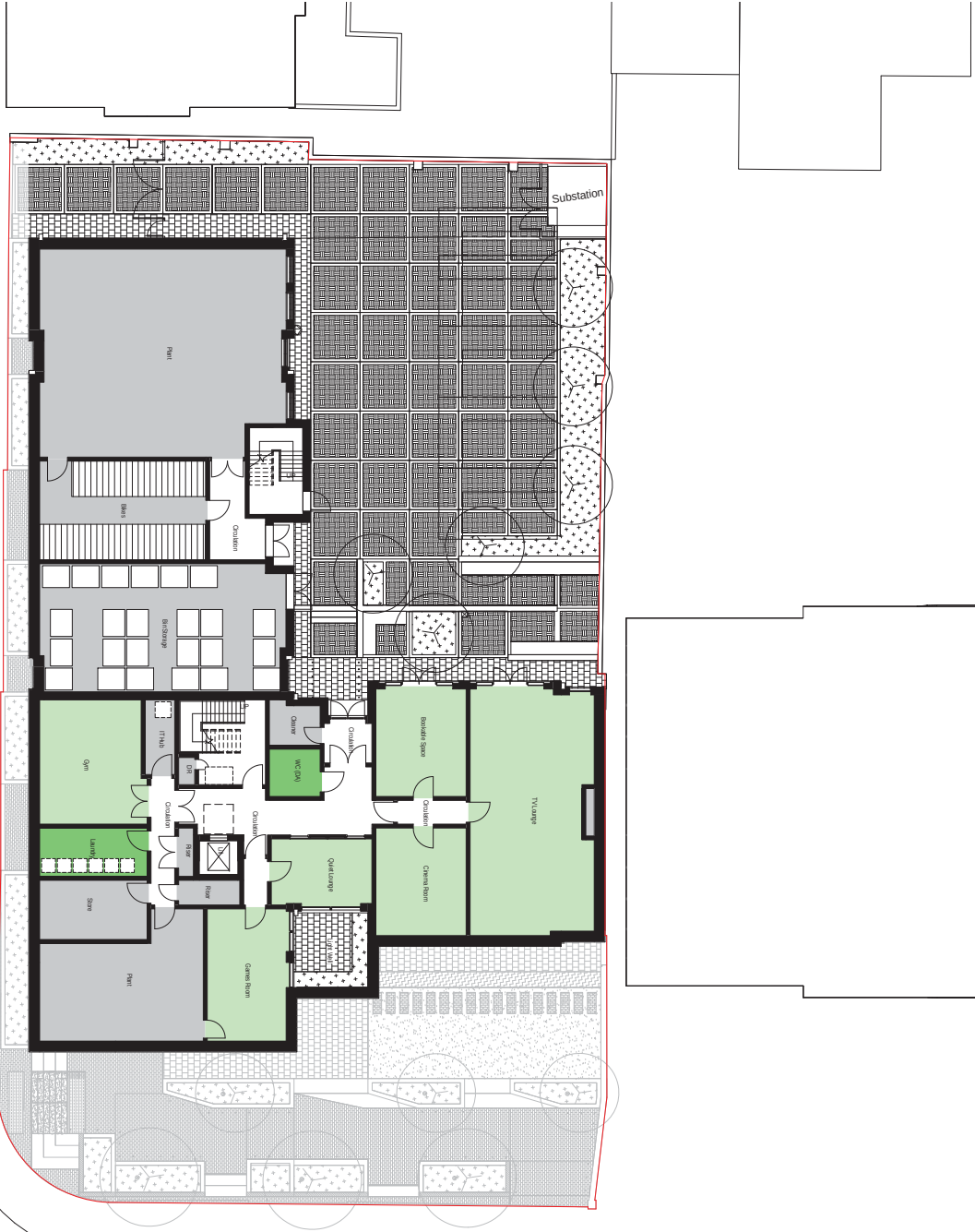
Please refer to the Student Accommodation Management Plan for details of the proposed use and management of the communal spaces.

RUPERT STREET



Scope of extant scheme floor plate shown in blue

Floor Plans 1:250 @A3

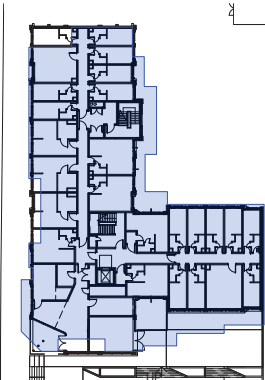


Ground Floor Plan

Room Legend

- Management
- Kitchen
- Communal Space
- Standard Bedroom
- Standard Studio
- Disabled Studio
- Services

Please refer to the Student Accommodation Management Plan for details of the proposed use and management of the communal space.



Scope of extant scheme floor plate shown in blue

Floor Plans 1:250 @A3



RUPERT STREET



Appendix 2 Sites Designated for Nature Conservation

Statutory Sites

Internationally Designated Sites - Ramsar Sites, Special Areas of Conservation and Special Protection Areas

Special Protection Areas (SPA) and Special Areas of Conservation (SAC) form a network of protected sites across the European Union called Natura 2000 sites. In the United Kingdom the primary legislative protection is afforded to these sites under the Conservation of Habitats and Species Regulations 2017 (as amended).

Ramsar sites are designated as wetlands of international importance which are afforded similar legislative protection to Natura 2000 sites.

SACs are sites which support intentionally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds listed in the annexes of the Birds Directive. SACs, SPAs and Ramsar sites are generally also designated as Sites of Special Scientific Interest.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) there is a legal requirement that competent authorities, such as local planning authorities, need to consider whether plans or projects are likely to have a significant adverse effect on Natura 2000 sites or Ramsar sites, either alone, or in combination with other plans or projects. In the event that a likely significant effect cannot be ruled out, on the basis of objective information, then the competent authority must undertake an “Appropriate Assessment” to fully assess the plan or project against the site’s conservation objectives. Unless certain defined derogation tests can be met, the competent authority may not authorise nor undertake any plan or project which adversely affects the integrity of a Natura 2000 site or Ramsar site.

Nationally Designated Sites – Sites of Special Scientific Interest and National Nature Reserves

Sites of Special Scientific Interest (SSSI) receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Such sites are designated to protect specific areas of biological or geological interest of national importance. Such sites also generally receive strict protection through the planning system.

National Nature Reserves (NNR) are also usually designated as SSSIs and are specifically managed for their wildlife value. They receive legal protection through the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). As with SSSIs, these sites generally receive strict protection through the planning system.

Locally Designated Sites – Local Nature Reserves

Local Nature Reserves (LNR) are designated by local authorities under the National Park and Access to the Countryside Act 1949. These are generally designated not only for their local wildlife value but also for education, scientific and recreational purposes. These sites generally receive protection from development through the planning system.

Non-Statutory Sites

Locally Designated Sites

In addition to statutory designations, local authorities often designate sites of nature conservation importance at the local level. Such designations are named differently by each local authority and may be referred to as Local Wildlife Sites (LWS), Sites of Importance for Nature Conservation (SINC) or Sites of Nature Conservation Importance (SNCI), amongst others. The exact level of protection afforded to these sites varies and is normally defined through local planning policy.

Appendix 3 Relevant Legislation

Bats

All UK bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely:
 - To impair its ability to survive, breed, or rear or nurture their young;
 - To impair its ability to hibernate or migrate;
 - To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

- Greater horseshoe bat *Rhinolophus ferrumequinum*;
- Lesser horseshoe bat *Rhinolophus hipposideros*;
- Bechstein's bat *Myotis bechsteinii*;
- Barbastelle *Barbastella barbastellus*; and
- Greater mouse-eared bat *Myotis myotis*.

In certain circumstances where these species are found the Directive requires the designation of Special Areas of Conservation (SACs) by EC member states to ensure that their populations are maintained at a favourable conservation status. Outside SACs, the level of legal protection that these species receive is the same as for other bat species.

Breeding Birds

With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is an offence, to:

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

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls. Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- Intentionally or recklessly disturb the dependent young of any such bird.

Species of Principal Importance in England

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity List is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. There are currently 943 species of principal importance included on the England Biodiversity List.

Appendix 4 Protected and Notable Species Appraisal Methods

Bats

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2016). An assessment was made of the suitability of buildings and trees on the site and immediately on the site boundary to support roosting bats based on the presence of features such as loose or missing roof tiles or lifted lead flashing for buildings and holes, cracks, splits, loose bark and ivy cladding for trees. A detailed external of accessible structures was undertaken to compile information on potential and actual bat entry/exit points; potential and actual bat roosting locations; any evidence of bats found.

An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The assessment of the potential for the site to support roosting, foraging and commuting bat is based on a four-point scale as detailed in **Appendix 5**.

Otter

The otter appraisal was based on an assessment of the suitability of the habitat present within the site to support otter by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), proximity of the site to freshwater and potential important feeding resources (such as fisheries), presence of habitat features which could provide opportunities for resting places and/or holts (such as tunnels, hollows at the base of trees and presence of dense, undisturbed habitat). During the survey attention was paid to the presence of evidence such as spraints, feeding remains, footprints and slides.

Badger

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. Particular emphasis was placed on locating badger setts, paths, and signs of territorial activity such as latrine sites both on-site and within immediately adjacent areas where access was possible.

Hazel Dormouse

The appraisal for the potential of the site to support dormouse was based on an assessment of habitat features that may indicate that the species is present. This includes the presence of key food sources such as hazel and bramble, or plants used as nesting material such as honeysuckle and clematis. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features in determining the potential presence of hazel dormouse.

Water Vole

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side

vegetation. Water voles generally require sloping banks in which to burrow and well-developed bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

Birds

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the potential for the site to support wintering farmland bird species, waders and wildfowl.

Reptiles

The reptile appraisal was based on an assessment of the suitability of the habitat present within the site to support a population of reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on-site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

Great Crested Newt

The appraisal of the site to support great crested newt included establishing the presence of suitable aquatic habitats such as ponds, lakes or other waterbodies within or adjacent to the site and the presence of suitable terrestrial habitat. Waterbodies that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species. The suitability of on-site ponds and terrestrial habitat is considered in relation to the presence of ponds within the wider area, as identified within the desktop study (Paragraph 3.4.3), and their suitability to be used as a network.

Invertebrates

An assessment was made of the site for its potential value to support diverse communities of invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, varied woodland structure, sunny woodland edges with a diverse flora, waterbodies and water courses and areas of free draining soil exposures. During the field survey there was no attempt made to identify species present as this is a more specialist area of ecological assessment reserved for targeted surveys.

Other Relevant Species

An assessment was made of site suitability for other notable species such as more rarely encountered protected species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the NERC Act 2006 and as listed in the England

Biodiversity List, and Local Biodiversity Action Plan (LBAP) species¹¹, specific to the study region.

Invasive Species

During the field survey any incidental records of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded. However, it should be considered that the survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

¹¹ LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

Appendix 5 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 3**¹².

Table 3: Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

Suitability	Description of roosting habitats	Commuting and foraging habitats
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.	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, lines of trees 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.
Moderate	A structure of 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 status.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically/structure that does 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). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerows or un-vegetated stream, but isolated (i.e. not very well connected to the surrounding landscape by other habitat). Suitable, but isolated, habitat that could be used by small numbers of foraging bats such as a lone tree or a patch or scrub.
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.

¹² Table adapted from (Collins, 2016)