

**LAND ADJACENT TO 3 WESTERN ELMS AVENUE,
READING, BERKSHIRE**

ECOLOGICAL IMPACT ASSESSMENT

Final Document

June 2021

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

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ECOSA Quality Assurance Record

This report has been produced in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing 2017 (CIEEM, 2017). The Ecological Impact Assessment and report has been prepared in line with the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018) and survey work has been undertaken in line with references within CIEEM's Source of Survey Guidance (CIEEM, 2017).

Description:	Ecological Impact Assessment
Produced For:	First Avenue Estates Limited
Issue:	Final
Report Reference:	21.0055.0001.F0
Date of Issue:	1 st June 2021
Date of Survey Works:	6 th April 2021
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EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by First Avenue Estates Limited to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of the land adjacent to 3 Western Elms Avenue, Reading. The site comprises a number of garages and workshops and partial gardens of two residential dwellings. The proposals entail the demolition of all on site building and the construction of flats.

The main findings of the Ecological Impact Assessment are:

- The site comprises common and widespread habitats however, to ensure that no net loss of habitats occur as part of the proposals a Biodiversity Metric Assessment will be required;
- The site contains suitability for foraging and commuting bats, nesting birds and European hedgehog;
- Enhancement measures include the provision of native species planting, the erection of bat roosting and bird nesting features on the newly constructed buildings and the creation of European hedgehog passing holes.
- Given the impacts identified, and the mitigation, compensation and enhancement 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 18 months of the date of the most recent relevant survey.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by First Avenue Estates Limited to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of the land adjacent to 3 Western Elms Avenue, Reading, Berkshire RG30 2AJ (hereafter referred to as the site).

1.2 The Site

The site is located in Reading, Berkshire, centred on National Grid Reference (NGR) SY 7013 7339 (**Map 1**). The Phase 1 habitat map (**Map 2**) depicts the boundary of the site.

The site comprises a number of garages and workshops with associated hardstanding and car parking. In addition, the site also comprises part of the rear residential gardens of 311 and 313 Oxford Road.

The site is within central Reading largely surrounded by residential and commercial buildings with associated garden landscaping.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study carried out during April and May 2021. 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 ecological features 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;
- To assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify 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; and

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, 2018) 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'.

- To outline opportunities for enhancement in order to achieve a net gain for biodiversity.

1.4 Site Proposals

The plans are for the demolition of all on site buildings and the subsequent construction of a single block of apartments with associated car parking and amenity space.

The Ecological Impact Assessment is based on the proposed site layout plan produced by Ascot Design (Drawing No. 17-J2212-SK-01) dated November 20, see **Appendix 1**.

Planning permission is being sought during 2021 with construction proposed to commence soon after permission has been granted.

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 used to inform the necessary mitigation, compensation and enhancement measures (see Section 5.0).

2.2 Planning Policy

2.2.1 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 a revised NPPF published in February 2019. 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 the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site."*

The NPPF sets out that development proposals should 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 and providing net gains for 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 habitats³, including ancient woodland⁴. Where loss to irreplaceable

³ 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."*

⁴ Natural England defines ancient woodland as *"An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)."*

habitats occurs 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 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 SPAs, 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”*. 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 Project Development, is established before planning permission is granted”*.

2.2.2 Local Policy

Local planning policy for Reading Borough Council is provided by the Local Plan (Adopted November 2019). A two policies make specific reference to ecology and biodiversity:

- **Policy EN12: Biodiversity and the Green Network**
 - a) The Green Network shall be maintained, protected, consolidated, extended and enhanced. Permission will not be granted for development that negatively affects the sites with identified interest or fragments the overall network.

The green network comprises sites with identified biodiversity interest and areas with potential for biodiversity value and which stitch the Green Network together.

New development shall demonstrate how the location and type of green space, landscaping and water features provided within a scheme have been arranged such that they maintain or link the existing Green Network and contribute to its consolidation.

- b) On all sites, development should not result in a net loss of biodiversity and should provide a net gain for biodiversity where possible. Development should protect and, where possible, enhance features of biodiversity interest on and adjacent to the application site and provide new tree planting, wildlife friendly

landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) where practicable.

In exceptional circumstances where the need for development outweigh the need to protect the value of the site, and it is demonstrated that the impacts cannot be 1) avoided; 2) mitigated or; 3) compensated for on-site; then new development will provide off-site compensation to ensure there is “no net loss” of biodiversity.

Provision of off-site compensation shall be calculated in accordance with nationally or locally recognised guidance and metrics

- **EN14: Trees, Hedges and Woodlands**

Individual trees, groups of trees, hedges and woodland will be protected from damage or removal where they are of importance, and Reading’s vegetation cover will be extended. The quality of waterside vegetation will be maintained or enhanced.

New development shall make provision for tree retention and planting within the application site, particularly on the street frontage. Measures must be in place to ensure that these trees are adequately maintained.

3.0 METHODS

3.1 Introduction

This section details the methods used during the field survey and desktop study carried out as part of 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 (Zone of Influence⁵), the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected. The appropriate survey radii for the various elements of the assessment (i.e. desktop study and field survey) 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 appraisal, its surroundings and the nature and scope of the proposals.

3.3 Scoping

Protected species considered within this appraisal are those species/species groups considered likely to be encountered given the geographical location and context of the site. 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 measures section (Section 5.0) of this report.

3.4 Desk Study

A full biological record centre desktop study was not undertaken as part of this assessment. This was not considered necessary given the limited scale of impacts and the nature of on-site and surrounding habitats.

3.4.1 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) (DEFRA, 2021) database was reviewed on 20th May 2021 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. Where appropriate, the desk study search area has been extended to take account of any

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.

appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species⁶. 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 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.

3.4.2 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

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. Habitats described in Section 4.0, have been mapped (**Map 2**) and photographs provided, where relevant.

3.5.1 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

⁶ Search areas for bat records are based upon information contained within Collins, J. (Ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Third Edition). The Bat Conservation Trust, London. Relevant distances for consideration of impacts on SPAs, SACs, Ramsar sites have been based on current published guidance available through web-based sources.

vegetation type was compiled and any invasive species⁷ encountered as an incidental result of the survey recorded.

3.5.2 Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. The following species/species groups were considered during the appraisal.

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 Potential Roosting 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 and internal inspection 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 suitability of the site to support roosting, foraging and commuting bats is based on a four-point scale as detailed in **Appendix 4**.

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 an assessment of the suitability of the site to support badger. Evidence of the species was recorded as an incidental result of the Phase 1 habitat survey and included locating badger setts, paths, and signs of territorial activity such as latrine sites.

⁷ 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.

Hazel Dormouse

The appraisal for the suitability of the site to support hazel 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 suitability of the site for 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 suitability 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 3.4.2), and their suitability to be used as a network.

Invertebrates

An assessment was made of the suitability of the site 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) species⁸, 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.

3.6 Field Survey Details

The field survey was carried out by Joanne Richmond, Ecologist of ECOSA on 6th April 2021. The weather conditions were dry with approximately 60% cloud cover, an ambient temperature of 10°C and a light breeze.

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

3.7 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

⁸ 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.

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.

Not all potential bat roosting features are accessible to the surveyor, e.g. gaps beneath roof materials or holes or cracks in trees, and therefore assessments are based upon the potential for these features to provide suitable roosting opportunities.

It is not always possible to provide definitive assessments of a species' presence/likely absence at a site and so in the absence of direct evidence, assessments and recommendations are based on the presence of suitable habitat within/adjacent to a site and the results of species records within the desk study data.

It should be noted that at the time of the preparation of this report the full extent of the development works were not known and therefore the impacts and mitigation/compensation measures presented are entirely provisional at this stage. There will be a requirement to consider these elements in more detail as the project progresses.

4.0 BASELINE ECOLOGICAL CONDITIONS

4.1 Introduction

This section details the results of the field survey and desktop study undertaken as part of the Ecological Impact Assessment for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the ecological features recorded during the field survey carried out on 6th April 2021.

4.2 Statutory Designated Sites

There are no statutory designated sites of nature conservation interest situated within one kilometre of the site boundary.

4.3 Habitats

4.3.1 Desktop Study Results

Consultation with the MAGIC database did not return the presence of any habitats of principal importance within or adjacent to the site.

4.3.2 Field Survey Results

Habitats within the site are shown on the Phase 1 Habitat Map (**Map 2**). Habitats are described in general terms using standard Phase 1 habitat survey terminology. The main habitats recorded on site during the Phase 1 habitat survey were as follows:

Scattered Trees

Three semi-mature Norway maple *Acer platanoides* trees are situated to the south of the eastern boundary of the site.

Poor Semi-Improved Grassland

An area of poor semi-improved grassland is located to the south of 311 Oxford Road (**Figure 1**). The grassland is currently unmanaged but has been subjected to management through mowing in the past. The habitat largely comprises perennial rye grass *Lolium perenne* with broadleaved dock *Rumex obtusifolius*, foxglove *Digitalis purpurea* and dandelion *Taraxacum officinale* aggregate. Due to lack of management of the grassland ruderal species are encroaching the habitat.



Figure 1: Unmanaged poor semi-improved grassland

Improved Grassland

Three areas of improved grassland are present across the site, two sections are located to the west of the site adjacent to Western Elms Avenue (**Figure 2**) and one section is located in the residential garden south of 313 Oxford Road (**Figure 3**).

The habitats are well managed through mowing and species poor largely comprising of perennial rye-grass with some daisy *Bellis perennis* and dandelion.



Figure 2: Improved grassland adjacent to Western Elms Avenue



Figure 3: Improved grassland at 313 Oxford Road

Tall Ruderal Vegetation

Tall ruderal vegetation is located to the south of the residential gardens of 311 and 313 Oxford Road.

The ruderal vegetation located at 311 Oxford Road is unmanaged and largely comprises buddleia *Buddleja davidi*, bramble *Rubus fruticosus* aggregate, hoary willowherb *Epilobium parviflorum*, beech *Fagus sylvatica* saplings, cleavers *Galium aparine*, common nettle *Urtica dioica*, hogweed *Heracleum sphondylium* and dandelion (**Figure 5**).

The rear of 313 Oxford Road largely comprises common nettle with some dandelion and creeping buttercup *Ranunculus repens* (**Figure 5**).



Figure 4: Tall ruderal vegetation to the rear of 311 Oxford Road



Figure 5: Ruderal vegetation to the rear of 313 Oxford Road

Intact Hedgerow

Two intact hedgerows are located within the site, the first is located within the centre of the site and divides the garden of 311 Oxford Road with an area of hardstanding. The hedgerow 7comprises Leyland cypress *Cupressocyparis x leylandii*, privet *Ligustrum* species and holly *Ilex aquifolium* with ground flora comprising bramble, common nettle, cleavers, cow parsley and herb Robert *Anthriscus sylvestris* (**Figure 6**).

The second intact hedgerow divides 311 and 313 Oxford Road, this hedgerow consists only of Leyland cypress (**Figure 7**).



Figure 6: Intact hedgerow in centre of site



Figure 7: Intact hedgerow dividing 311 and 313 Oxford Road

Defunct Hedgerow

A defunct hedgerow forms the southern boundary of the site, this hedgerow comprises holly, Norway maple, cherry *Prunus* species and plum *Prunus* species with broadleaved dock, cleavers, ivy, pendulous sedge *Carex pendula*, buddleia and bramble (**Figure 8** and **Figure 9**).



Figure 8: Southern boundary hedgerow



Figure 9: Defunct hedgerow

Other Habitats

The majority of the site comprises buildings and hard standing with a small area of bare earth located within the garden of 313 Oxford Road.

Summary

The site largely comprises buildings and hardstanding with small areas of grassland, ruderal vegetation, hedgerows and trees. These habitats comprise common and widespread species.

4.4 Notable and Legally Protected Species

4.4.1 Bats

Desktop Study Results

Consultation with the MAGIC database returned the presence of 11 recently granted EPSM licences in respect of bats within a two kilometre radius of the site. The closest of which is located approximately 990 metres south-east and was granted in 2017 for the damage and destruction of a resting place of common pipistrelle *Pipistrellus pipistrellus*. The remaining licences include the destruction of a breeding site of soprano pipistrelle *Pipistrellus pygmaeus*, resting places of common pipistrelle, soprano pipistrelle, Daubenton' bat *Myotis daubentonii* and brown long-eared bat *Plecotus auritus*.

Building Assessment

A total of six buildings are present on the site, these comprises garages and workshops. The on site buildings were all assessed as being of negligible suitability for roosting bats. The results of the building assessment are provided in Table 1.

Tree Assessment

The on site trees are semi-mature and do not contain suitable features for roosting bats such as cracks, splits and hollows. Therefore, the on site trees are assessed as being of negligible suitability for roosting bats.

Foraging and Commuting Habitat

The site contains limited suitable habitat for foraging and commuting bats on site due to the lack of vegetation and small extent of linear features. In addition, the site is located within an urban area with fragmented foraging resources in the form of scattered trees and hedgerows. Due to the lack of suitable foraging and commuting habitat within the site and limited extent of foraging and commuting habitat in the local area the site is assessed to be of low suitability for foraging and commuting bats.

Table 1: Building Assessment – Summary of Features with Bat Roost Potential and Evidence of Bat Roost Activity

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Suitability for Roosting Bats
Building 1	 Figure 10: Building 1 western elevation  Figure 11: Internal area of southern section of Building 1  Figure 12: Internal area of central section of Building 1	Building 1 is currently in use as a car garage and workshop and is divided into three sections (Figure 10). The southern section comprises a single storey brick construction with a flat corrugated plastic roof (Figure 11). The central section is a single storey static caravan construction (Figure 12) while the northern section is a single storey building with corrugated metal walls and a corrugated metal flat roof. None of the buildings contain a roof void.	The building is well sealed and does not provide any suitable access or egress points for roosting bats. Due to the lack of suitable access for roosting the building is considered unsuitable for roosting bats.	No evidence of roosting bats was recorded during the survey.	Negligible suitability

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Suitability for Roosting Bats
Building 2	 Figure 13: Southern elevation of Building 2  Figure 14: Eastern internal section of Building 2  Figure 15: Western internal section of Building 2	Building 2 is a single storey breeze block construction with timber doors and a flat corrugated metal and asbestos roof (Figure 13). Internally the building has been divided for partial use for storage and as a garage (Figure 14 and Figure 15).	The building is well sealed and no suitable features for roosting bats were recorded on the building externally. Internally the building is uninsulated and does not provide suitable features for roosting bats	No evidence of roosting bats was recorded during the survey.	Negligible suitability

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Suitability for Roosting Bats
Building 3	 Figure 16: Internal area of Building 3	Building 3 is a brick construction with a flat bitumen roof. The building is currently in use for storage and no void is present (Figure 16).	The building is well sealed and does not provide suitable access points for roosting bats.	No evidence of roosting bats was recorded during the survey.	Negligible suitability
Building 4	 Figure 17: Western elevation of Building 4  Figure 18: Internal section of building	Building 4 comprises a row of six garages all constructed of brick with flat corrugated asbestos roofs (Figure 17). Internally the garages are divided by wooden walls, are uninsulated and do not contain a void (Figure 18 and Figure 19)	The building is considered unsuitable for roosting bats as although small gaps to provide access are present above some of the garage doors the building is insulated and does not provide suitable roosting locations for bats.	No evidence of roosting bats was recorded during the survey.	Negligible suitability

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Suitability for Roosting Bats
	 Figure 19: Internal section of building				
Building 5	 Figure 20: Northern elevation of Building 5  Figure 21: Internal area of Building 5	Building 5 comprises two garages within a single storey pebble dashed construction with a corrugated asbestos roof (Figure 20). Internally the buildings are in use for storage, are uninsulated and do not contain a void (Figure 21)	The building is considered unsuitable for roosting bats as although small gaps to provide access are present above some of the garage doors the building is insulated and does not provide suitable roosting locations for bats.	No evidence of roosting bats was recorded during the survey.	Negligible suitability

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Suitability for Roosting Bats
Building 6	 Figure 22: Southern elevation of Building 6	Building 6 is of identical construction to Building 5 with pebble dashed external walls and a flat corrugated asbestos roof (Figure 22). During the survey no access was possible to the internal sections of the building.	The building is considered unsuitable for roosting bats as although small gaps to provide access are present above some of the garage doors the building is insulated and does not provide suitable roosting locations for bats.	No evidence of roosting bats was recorded during the survey.	Negligible suitability

4.4.2 Otter

Field Survey Results

The site does not provide any suitable habitat for otter *Lutra lutra* and is not connected to suitable habitat in the wider landscape. Due to the lack of habitat for otter within and adjacent to the site the species is considered likely absent and is therefore not considered further in this report.

4.4.3 Badger

Field Survey Results

No evidence of foraging or commuting badger was recorded on site during the survey. The site provides limited suitable habitat for badger and is not connected to suitable habitat in the wider area. It is considered unlikely that badger are present within the surrounding landscape and therefore likely absent from the site. As a result the species is not considered further in this report.

4.4.4 Hazel Dormouse

Desktop Study Results

Consultation with the MAGIC database did not return any records of hazel dormouse *Muscardinus avellanarius* within a two kilometre radius of the site however, this does not confirm the absence of the species in the local area.

Field Survey Results

The on site hedgerows are species diverse and do not contain suitable food resources for hazel dormouse. In addition, the hedgerows are limited in size and isolated from any suitable habitat for the species in the local area. As a result, the species is considered likely absent from the site and is not considered further in this report.

4.4.5 Water Vole

Field Survey Results

The site does not contain any suitable habitat for water vole *Arvicola amphibius* and no suitable habitat for the species is present within the local area. Due to the lack of suitable habitat for water vole within the site the species is not considered further in this report.

4.4.6 Birds

Field Survey Results

During the survey no nesting birds were recoded within the site however, it is considered likely that the on site hedgerows and trees provide suitable habitat for

breeding individuals and that where access is available to some of the on site garages these buildings may be utilised by nesting birds on occasion. It is considered possible that nesting wood pigeon *Columba palumbus*, swift *Apus apus* or swallow *Hirundo rustica* may utilise some of the on site buildings.

4.4.7 Reptiles

Field Survey Results

The site largely comprises hardstanding which is considered unsuitable for reptiles however, small sections of grassland present within the residential gardens is considered suitable for foraging and basking individuals. However, due to the small size of available habitat for reptiles it is considered that, if present, populations would be small.

4.4.8 Great Crested Newt

Desktop Study Results

Consultation with the MAGIC databased did not return any recently granted EPSM licences in respect of great crested newt *Triturus cristatus* within two kilometres of the site.

Consultation with ariel photography and OS mapping did not identify any waterbodies within a 500 metre radius of the site.

Field Survey Results

There are no waterbodies within the site or within a 500 metre radius of the site. due to the lack of available breeding ponds within the local area great crested newt are considered to be likely absent and therefore are not considered further in this report.

4.4.9 Invertebrates

Field Survey Results

The site comprises common and widespread habitats unlikely to provide suitable habitat for notable species or assemblages of invertebrates. As a result this species group is not considered further in this report.

4.4.10 Other Relevant Species

Field Survey Results

It is considered likely that European hedgehog may forage and commute across the site on occasion due to the presence of grassland and further suitable habitat in the form of residential gardens in the local area.

4.5 Summary of Key Ecological Features

The following features are those with greatest ecological value that lie within the site's Zone of Influence:

- Suitability for foraging and commuting bats;
- Suitability for nesting birds;
- Suitability for reptiles; and
- Suitability for European hedgehog.

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 and effects on ecological features have been approached in accordance with the mitigation hierarchy⁹ 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 2.2.1). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

5.2 Scheme Design

The proposed development entails demolition of all on site buildings and the subsequent construction of a single block of apartments with associated car parking and amenity space.

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

There are no statutory designated sites of nature conservation within a one kilometre radius of the site and therefore no potential impacts or effects are considered likely.

5.3.2 Mitigation and Compensation Measures

No mitigation and compensation measures are required.

5.3.3 Enhancement

No enhancement measures are recommended.

⁹ In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) 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'.

5.4 Habitats

5.4.1 Potential Impacts and Effects

At time of writing this report no landscaping proposals were available however, it is anticipated that the proposal will result in the small-scale loss of grassland habitats and trees.

5.4.2 Mitigation and Compensation Measures

In order to accord with Local Plan Policy EN12 the proposed development must ensure that no net loss of biodiversity occurs as part of the scheme. Therefore, a Biodiversity Metric Assessment is to be undertaken once proposals for the scheme are available.

It is recommended that any grassland sown within the site comprise Emorsgate EM2 General Purpose Meadow Mixture, or similar, to mitigate for the loss of grassland within the site. The areas of grassland sown should be of a similar extent to habitat lost.

Any trees felled these will be replaced by native species such as pedunculate oak *Quercus robur*, beech, field maple *Acer campestre* and silver birch *Betula pendula*.

All works will follow protective measures in line with *BS 5837:2012 Trees in Relation to Design, Demolition and Construction*. This document outlines the use of tree protection barriers to be used for the duration of the construction phase.

5.4.3 Enhancement

Any tree or hedgerow planting to be incorporated into the landscaping proposals should include native trees and shrub species rather than cultivars in keeping with the local area. Suitable species would be, pedunculate oak, hazel *Corylus avellana*, holly *Ilex aquifolium*, hawthorn *Crataegus monogyna*, guelder rose *Viburnum opulus* and dogwood. The landscape design should aim to increase the extent of natural habitat on the site to ensure an overall net gain in line with national and local policy.

If ornamental shrub planting is proposed within the scheme native species are recommended however, if non-native species planting is to be undertaken, it will be important for the species planted to be of benefit to pollinating invertebrates. Plant families which are especially attractive to pollinating invertebrates include Argentinian vervain *Verbena bonariensis*, common honeysuckle *Lonicera periclymenum*, wild marjoram *Origanum vulgare*, English lavender *Lavandula angustifolia* and common jasmine *Jasminum officinale*.

5.5 Bats

5.5.1 Potential Impacts and Effects

The introduction of new external lighting on site has the potential to result in increased light spill within the local area which may result in disturbance to bats.

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 and Compensation Measures

To reduce the impacts of lighting on site lighting should comprise hooded luminaires. Ideally the bulbs will be LED and 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 wildlife¹⁰. The new lighting will be task related, associated with specific entrance/exit points of the development. The lux level will be as low as possible to allow the task to be carried out safely and effectively. Guidance on task related lighting levels and mitigation options as described within the Bats and Artificial Lighting in the UK report will be followed (Institution of Lighting Professionals, Bat Conservation Trust, 2018). New native tree planting will compensate for the loss of foraging and commuting habitat caused by removal of any scattered trees.

5.5.3 Enhancement

As an enhancement measure, a total of four Ibstock Enclosed Bat Box 'C' will be integrated onto the newly constructed building. The boxes should be installed beneath the eaves of the building, or at a minimum height of four metres on the eastern and southern elevations of the building.

5.6 Birds

5.6.1 Potential Impacts and Effects

Removal of introduced trees and hedgerows and the demolition of on site buildings during the nesting bird season has the potential to result in the destruction of nests and killing and injury of individual birds present.

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.

¹⁰ Wildlife and Artificial Lighting Seminar, 21st – 22nd March 2014, Arup London, Bat Conservation Trust.

5.6.2 Mitigation and Compensation Measures

Vegetation clearance and building demolition will be undertaken outside of the nesting bird season, extending from March to August, inclusive. If this is not possible, an ecologist will be present immediately prior to clearance to check the vegetation. Active nests will be left with a suitable buffer until nesting ends and chicks have fledged.

5.6.3 Enhancement

To enhance the site for nesting birds a range of nest boxes will be integrated into the newly constructed buildings. These will include two Vivara Pro WoodStone House Sparrow Nest Boxes and two Woodstone built-in swift nest box A. These boxes should be installed beneath the eaves of the building, or a minimum height of five metres and avoiding south facing walls.

5.7 Reptiles

5.7.1 Potential Impacts and Effects

The site provides suitable habitat for foraging and basking reptiles, construction activities have the potential to result in the killing or injury of individuals should they be present on site and the net loss of suitable reptile habitat.

Widespread reptile species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and adder *Vipera berus*) are protected under the Wildlife and Countryside Act 1981 against harm. Refer to **Appendix 3** for details.

5.7.2 Mitigation and Compensation Measures

Due to the small size of the site, limited suitable habitat on site and in the local area, a detailed reptile survey of the site was not considered necessary. However, as a precaution a destructive search will be undertaken of the on-site habitat under supervision of a suitably qualified ecologist.

The destructive search must be undertaken during the reptile active season (late March to early October inclusive). This will entail the methodical removal of any suitable habitat within the site including, grassland and refuse piles. In the unlikely event that reptiles are encountered as part of the destructive search, these will be captured by the ecologist and relocated to an off site area which, where suitable habitat is present. The location of this off site receptor will be agreed with the Local Authority and landowner prior to the commencement of works.

Once the destructive search has been completed, and all suitable reptile habitat has been removed from the site, the development work will be able to proceed.

It is considered that due to the small size of the site and suitable reptile habitat present that the loss of the area is not likely to have an impact on local populations and therefore no on site compensation measures have been recommended.

5.7.3 Enhancement

Due to the small extent of suitable reptile habitat no enhancement measures are considered necessary.

5.8 Other Relevant Species

5.8.1 Potential Impacts and Effects

Removal of poor improved grassland and introduced shrubs on site will result in the long-term loss of suitable habitat for foraging and commuting European hedgehog.

5.8.2 Mitigation and Compensation Measures

Fences installed on site will comprise post and rail fences, not close-board fences, to ensure the continued permeability of the site by individual hedgehogs and other wildlife. If post and rail fences are not possible, gaps in fences will be created measuring a minimum of 13 by 13 centimetres to allow passage of individuals (Peoples Trust for Endangered Wildlife and British Hedgehog Preservation Society, 2018).

5.8.3 Enhancement

The inclusion of additional grassland and shrub planting habitats on site will enhance the site for foraging and commuting European hedgehog overall.

5.9 Residual and Cumulative Effects

Given the mitigation and compensation measures outlined above, no significant residual effects are anticipated on any of the species considered. Therefore, there will be no cumulative effects on local populations as a result of the development.

6.0 CONCLUSIONS

6.1 Conclusion

The site provides suitable habitat for foraging and commuting bats, nesting birds, reptiles and European hedgehog. Adverse impacts on these ecological features have been identified. A Biodiversity Metric Assessment is required to ensure that no net loss of biodiversity occurs as part of the scheme and this will be undertaken on completion of the landscape proposals. The site will be enhance for bats and birds through the installation of bat roosting and bird nesting features. As such it is considered that the proposals will accord with all relevant national and local planning policy in relation to ecology including Policy EN12 and EN14 of the Local Plan 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 18 months of the date of the most recent relevant survey.

7.0 REFERENCES

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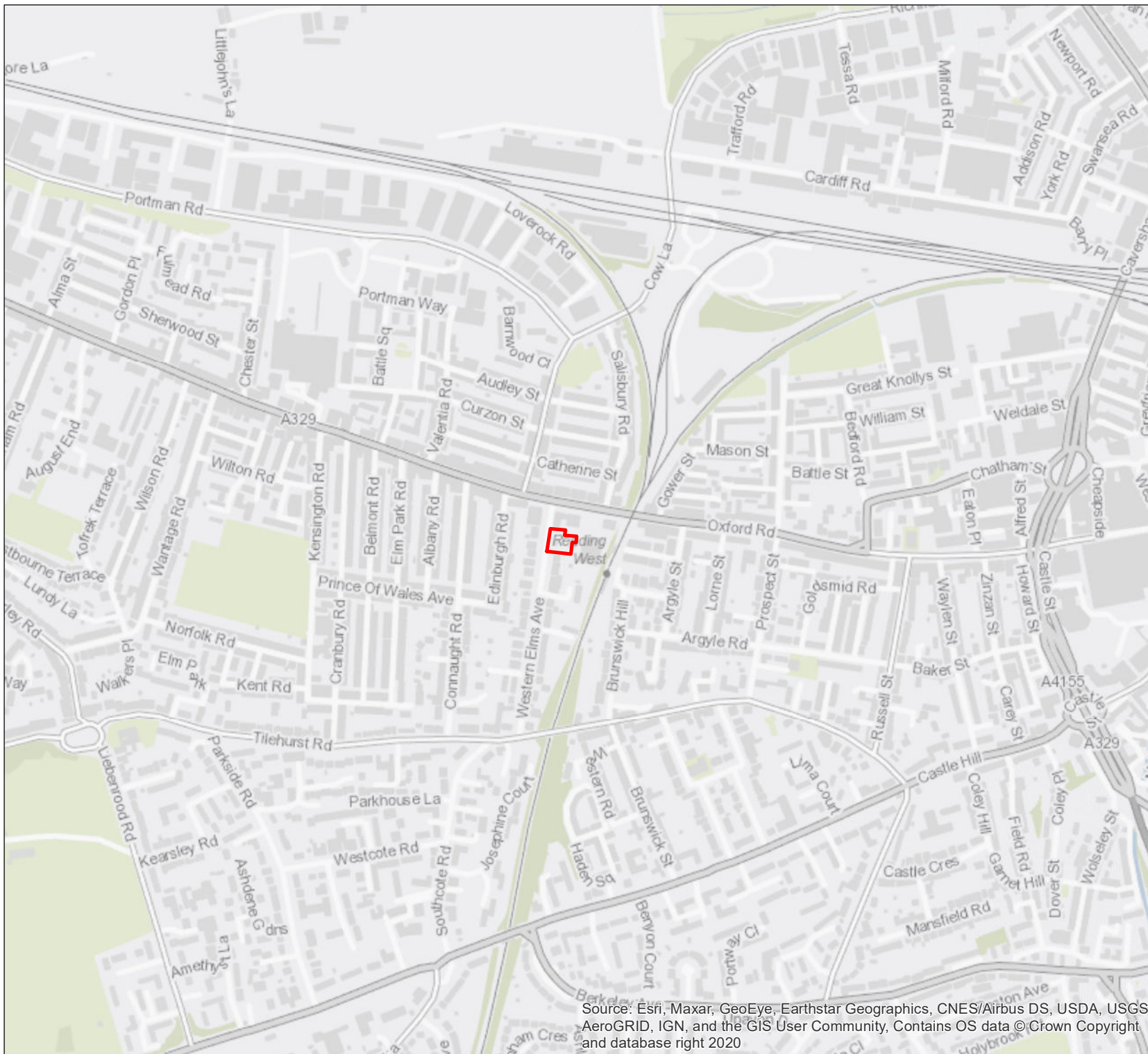
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Map 1 Site Location Plan



**LAND TO THE REAR OF 303-313
OXFORD RD & ADJACENT TO
3 WESTERN ELMS AVENUE,
READING, BERKSHIRE**

PRELIMINARY ECOLOGICAL APPRAISAL

Map 1 - Site Location Plan

Client:	First Avenue Estates Limited
Date:	May 2021
Status:	Final

KEY

 Site Boundary



Source: Esri, Maxar, GeoEye,
Earthstar Geographics,
CNES/Airbus DS, USDA,
USGS, AeroGRID, IGN, and
the GIS User Community

Scale at A4: 1:10,000

0 100 200 400
Metres



Prepared by: OW	Date: 200521
Last amended by: N/A	Date: N/A

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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Contains OS data © Crown Copyright and database right 2020

Map 2 Phase 1 Habitat Map

LAND ADJACENT TO 3 WESTERN ELMS AVENUE, READING, BERKSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Map 2 - Phase 1 Habitat Map

Client: First Avenue Estates Limited

Date: May 2021

Status: Draft

KEY

-  Site Boundary
-  Building Number
-  Scattered Broadleaved Trees
-  Poor Semi-Improved Grassland
-  Improved Grassland
-  Tall Ruderal
-  Intact Hedgerow
-  Defunct Hedgerow
-  Buildings
-  Hardstanding
-  Bare Ground
-  Wall

Habitat features not to scale.

Basemap reproduced from Ascot Design 'Boundary to Deed BK45178'
Drawing No. 17-P2212-B6 Revision D dated 27th September 2018

Prepared by: JR Date: 24/05/2021

Last amended by: Date:

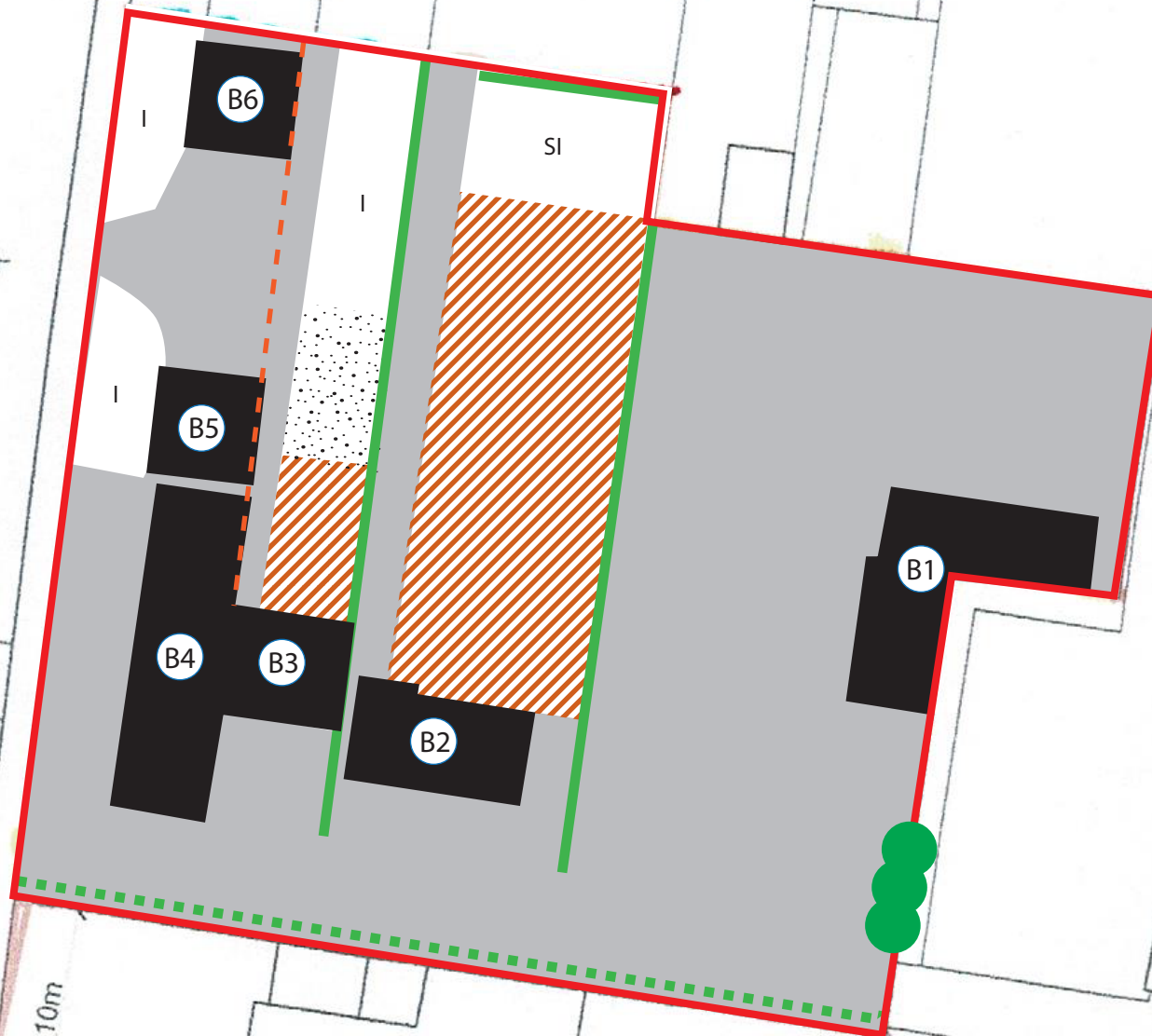
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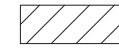
VISION SPLAY

INDICATES RIGHT OF WAY
WESTERN ELMS

Appendix 1 Site Proposals Plan

LIDL

KEY:



EXISTING LEGAL RIGHTS OF WAY FOR
COMMUNITY GARDEN, ADJACENT LAND &
303/305 & 307 OXFORD ROAD



EXISTING LEGAL RIGHTS RETAINED FOR
303/305 & 307 OXFORD ROAD



PARKING PROVISION FOR 311 & 313 OXFORD ROAD



AMENITY AREA 380m2



BOUNDARY LINE

El Sub Sta

303 305

307

309

311

313

315

1

Garage

ACCESS TO GARAGES

ACCESS TO 303/305

ACCESS TO 307

4.8m WIDE PARKING SPACE FOR FLAT 3
307 OXFORD RD

GARAGE FOR
311/313

1

WESTERN ELMS AVENUE

EXISTING LEGAL RIGHTS OF WAY FOR
COMMUNITY GARDEN



Status	PRE APP PLANNING
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Client

FIRST AVENUE ESTATES

Project Title

LAND TO THE REAR OF 303-315
OXFORD ROAD, READING

Drawing Title

PROPOSED SITE LAYOUT

Scale.
1:200 @ A2

Date NOV 20 Drawn DQ

Drawing No.
17 - J2212-SK-01

14

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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 (SPAs) and Special Areas of Conservation (SACs) form a network of protected sites across the European Union and United Kingdom. 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 SPAs and SACs.

SACs are sites which support internationally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds. 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 SPAs, SACs 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 SPA, SAC 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.

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.

Reptiles

The four widespread species of reptile that are native to Britain, namely common or viviparous lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix helvetica*, are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are afforded limited protection under Section 9 of this Act. This makes it an offence to:

- Intentionally kill or injure any of these species.

The remaining native species of British reptile (sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*) receive a higher level of protection via inclusion under 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 (in England and Wales only) and the Wildlife and Countryside Act 1981 (as amended). The distribution of these species are restricted to only a few sites in England.

Species and Habitats 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 and 41 habitats of principal importance included on the England Biodiversity List.

Appendix 4 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 2**¹¹.

Table 2: 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 or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation 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 of 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.

¹¹ Table adapted from (Collins, 2016)