

**129 WHITEKNIGHTS ROAD, READING,
BERKSHIRE**

PRELIMINARY ECOLOGICAL APPRAISAL

A Report to: Hives Architects LLP

Report No: RT-MME-152004-01 RevA

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REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 “Biodiversity, Code of practice for planning and development”.

Report Version	Date	Completed by:	Checked by:	Approved by:
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The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client’s brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of 24 months from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.

NON-TECHNICAL SUMMARY

Middlemarch Environmental Ltd was commissioned by Oakbridge Bespoke Homes Ltd to carry out a Preliminary Ecological Appraisal at the site of a proposed residential development at 129 Whiteknights Road, Reading. To fulfil this brief, an ecological desk study and a walkover survey (in accordance with Phase 1 Habitat Survey methodology) were undertaken. This assessment is required to inform a planning application associated with partial demolitions and extensions to the existing residential building.

The desk study exercise identified no European statutory sites within 5 km of the survey area, two UK statutory sites and eight ancient woodland sites within 2 km and two non-statutory sites within 1 km. The site is not located within 10 km of a statutory site designated for bats. The desk study also provided records of protected/notable species within a 1 km radius of the survey, including: bats, hedgehogs, water vole, dormouse, badger, amphibians, reptiles, birds and invertebrates.

The walkover survey was undertaken on 27th July 2020 by Sophie Moy (Senior Ecological Consultant) and Margarita Smoldareva (Ecological Consultant). The site comprises of a two storey residential building with single storey attached garage, amenity grassland with pockets of scattered trees and introduced shrubs. To ensure compliance with wildlife legislation and relevant planning policy, the following recommendations are made (please refer to Chapter 7 for more detail):

Habitat Retention and Protection: The development proposals should be designed (where feasible) to allow for the retention of existing notable habitats including (mature trees, semi-mature trees and log pile).

Biodiversity Enhancement: In accordance with the provision of Chapter 15 of the National Planning Policy Framework (Conserving and Enhancing the Natural Environment) and the Reading Local Plan Policy EN12 'Biodiversity and The Green network', biodiversity enhancement measures should be incorporated into the landscaping scheme of any proposed development to work towards delivering net gains for biodiversity.

Lighting: In accordance with best practice guidance relating to lighting and biodiversity (Miles et al, 2018; Gunnell et al, 2012), any new lighting should be carefully designed to minimise potential disturbance and fragmentation impacts on sensitive receptors, such as bat species.

Roosting Bats: A Preliminary Bat Roost Assessment was undertaken (RT-MME-152004-02) and all recommendations within this report should be followed.

Terrestrial Mammals including Badger and Hedgehog: Any excavations that need to be left overnight should be covered or fitted with mammal ramps to ensure that any animals that enter can safely escape. Any open pipework with an outside diameter of greater than 120 mm must be covered at the end of each work day to prevent animals entering/ becoming trapped. Storage of materials on site should also be adequately secured and fenced off.

Nesting Birds: Vegetation and building clearance should be undertaken outside the nesting bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive (peak period March-August).

Invasive Species: The works must not cause crocosmia plant to spread in the wild. It must either be left in situ or removed with care during vegetation clearance and disposed of in an appropriate manner.

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

In March 2020, Oakbridge Bespoke Homes Ltd commissioned Middlemarch Environmental Ltd to undertake a Preliminary Ecological Appraisal of the site of a proposed development at 129 Whiteknights Road, Reading. This assessment is required to inform a planning application associated with partial demolitions and extensions to the existing residential building.

To assess the existing ecological interest of the site an ecological desk study was carried out, and a walkover survey was undertaken on 27th July 2020. In addition, Middlemarch Environmental Ltd has been commissioned to undertake Preliminary Bat Roost Assessment of this site, results of which are detailed within Middlemarch Report RT-MME-152004-02.

1.2 SITE DESCRIPTION AND CONTEXT

The site under consideration is a rectangular pocket of land located at 129 Whiteknights Road, Reading, Berkshire. It is centred on OS Grid Reference SU 74264 71924. The site contains a large detached residential property, a front garden with driveway and a larger rear garden to the north-east. The site covers an area of approximately 0.148 ha.

The site is bordered to the west and east by residential buildings, to the south by Whiteknights Road and to the north further residential gardens.

The majority of the site is covered by a two storey residential building with single storey attached garage, amenity grassland with pockets of scattered trees and introduced shrubs. There were areas of hardstanding tarmac to the south of the site in a form of vehicular access to the garage and pedestrian access to the house. The rear garden is enclosed by a wooden 6 ft fence.

The wider landscape is comprised of further residential buildings with large gardens to the north, west and east and patches of woodlands to the south.

1.3 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.1.

Document Name / Drawing Number	Author
Existing and Demolition Plans / 2822 004P11	Hives Architects
Proposed Plans / 2822 005P16	Hives Architects
Existing and Proposed Elevations / 2822 003P13	Hives Architects
Existing and Proposed Street Elevations / 2807 004P11	Hives Architects
Proposed Block Plan / 2822 007P8	Hives Architects
Existing and Proposed 3D Views / 2822 006P9	Hives Architects
Front Garden Concept Plan / 865 01	Bradford-Smith

Table 1.1: Documentation Provided by Client

2. METHODOLOGIES

2.1 DESK STUDY

An ecological desk study was undertaken to determine the presence of any designated nature conservation sites and protected species in proximity to the site. This involved contacting appropriate statutory and non-statutory organisations which hold ecological data relating to the survey area. Middlemarch Environmental Ltd then assimilated and reviewed the desk study data provided by these organisations.

The consultees for the desk study were:

- Natural England - *MAGIC* website for statutory conservation sites; and,
- Thames Valley Environmental Records Centre.

The desk study included a search for European statutory nature conservation sites within a 5 km radius of the site (extended to 10 km for any statutory site designated for bats), UK statutory sites within a 2 km radius and non-statutory sites and protected/notable species records within a 1 km radius.

The data collected from the consultees is discussed in Chapter 4. Selected raw data are provided in Appendix 1. In compliance with the terms and conditions relating to its commercial use, the full desk study data is not provided within this report.

The desk study also included a review of relevant local planning policy with regard to biodiversity and nature conservation (see Chapter 3).

2.2 PHASE 1 HABITAT SURVEY

The walkover survey was conducted following the Phase 1 Habitat Survey methodology of the Joint Nature Conservation Committee (JNCC, 2010) and the Institute of Environmental Assessment (IEA, 1995). Phase 1 Habitat Survey is a standard technique for classifying and mapping British habitats. The aim is to provide a record of habitats that are present on site. During the survey, the presence, or potential presence, of protected species was noted.

Whilst every effort is made to notify the client of any plant species listed on Schedule 9 of the Wildlife and Countryside Act (1981, as amended) present on site, it should be noted that this is not a specific survey for these species.

Data recorded during the field survey are discussed in Chapter 5.

3. LEGISLATION AND POLICY

This chapter provides an overview of the framework of legislation and policy which underpins nature conservation and is a material consideration in the planning process in England. The reader should refer to the original legislation for the definitive interpretation.

3.1 GENERAL BIODIVERSITY LEGISLATION AND POLICY

Conservation of Habitats and Species Regulations 2017 (The Habitats Regulations 2017)

The Habitats Regulations 2017 consolidate and update the Habitats Regulations 2010 (as amended). The Habitats Regulations 2017 are the principal means by which the EEC Council Directive 92/43 (The Habitats Directive) as amended is transposed into English and Welsh law.

The Habitats Regulations 2017 place duty upon the relevant authority of government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria are, in conjunction with the European Commission, designated as Sites of Community Importance, which are subsequently identified as Special Areas of Conservation (SAC) by the European Union member states. The regulations also place a duty upon the government to maintain a register of European protected sites designated as a result of EC Directive 79/409/EEC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, form a network of sites known as Natura 2000. The Habitats Directive introduces for the first time for protected areas, the precautionary principle; that is that projects can only be permitted having ascertained no adverse effect on the integrity of the site. Projects may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest.

The Habitats Regulations 2017 also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 5 respectively. Schedule 2 includes species such as otter and great crested newt for which the UK population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade these species. Schedule 5 plant species are protected from unlawful destruction, uprooting or trade under the regulations.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Habitats Regulations 2017, offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs).

Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species.

The Countryside and Rights of Way (CROW) Act 2000

The CROW Act, introduced in England and Wales in 2000, amends and strengthens existing wildlife legislation detailed in the WCA. It places a duty on government departments and the National Assembly for Wales to have regard for biodiversity, and provides increased powers for the protection and maintenance of SSSIs. The Act also contains lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the NERC Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These lists superseded Section 74 of the CROW Act 2000.

The Hedgerow Regulations 1997

The Hedgerow Regulations make provision for the identification of important hedgerows which may not be removed without permission from the Local Planning Authority.

UK Post-2010 Biodiversity Framework

The UK Biodiversity Action Plan (BAP), published in 1994, was the UK Government's response to signing the Convention on Biological Diversity (CBD) at the 1992 Rio Earth Summit. The new UK Post-2010 Biodiversity Framework replaces the previous UK level BAP. The UK Post-2010 Biodiversity Framework covers the period 2011-2020 and forms the UK Government's response to the new strategic plan of the United Nations Convention on Biological Diversity (CBD), published in 2010 at the CBD meeting in Nagoya, Japan. This includes five internationally agreed strategic goals and supporting targets to be achieved by 2020. The five strategic goals agreed were:

- Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society;
- Reduce the direct pressures on biodiversity and promote sustainable use;
- To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity;
- Enhance the benefits to all from biodiversity and ecosystem services; and,
- Enhance implementation through participatory planning, knowledge management and capacity building.

The Framework recognises that most work which was previously carried out under the UK BAP is now focused on the four individual countries of the United Kingdom and Northern Ireland, and delivered through the countries' own strategies. Following the publication of the new Framework the UK BAP partnership no longer operates but many of the tools and resources originally developed under the UK BAP still remain of use and form the basis of much biodiversity work at country level. In England the focus is on delivering the outcomes set out in the Government's 'Biodiversity 2020: a Strategy for England's Wildlife and Ecosystem Services' (DEFRA, 2011). This sets out how the quality of our environment on land and at sea will be improved over the next ten years and follows on from policies contained in the Natural Environment White Paper.

Species and Habitats of Material Consideration for Planning in England

Previous planning policy (and some supporting guidance which is still current, e.g. ODPM Circular 06/2005, now under revision), refers to UK BAP habitats and species as being a material consideration in the planning process. Equally many local plans refer to BAP priority habitats and species. Both remain as material considerations in the planning process but such habitats and species are now described as Species and Habitats of Principal Importance for Conservation in England, or simply priority habitats and priority species under the UK Post-2010 Biodiversity Framework. The list of habitats and species remains unchanged and is still derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006. As was previously the case when it was a BAP priority species hen harrier continues to be regarded as a priority species although it does not appear on the Section 41 list.

3.2 NATIONAL PLANNING POLICY FRAMEWORK AND PRACTICE GUIDANCE

In February 2019, the National Planning Policy Framework (NPPF) was updated, replacing the previous framework published in 2012 and revised in 2018. The government circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System, which accompanied PPS9, still remains valid. A presumption towards sustainable development is at the heart of the NPPF. This presumption does not apply however where developments require appropriate assessment under the Birds or Habitats Directives.

Chapter 15, on conserving and enhancing the natural environment, sets out how the planning system should contribute to and enhance the natural and local environment by:

- protecting and enhancing existing sites of biodiversity value;
- minimising impacts on and providing net gains for biodiversity; and,
- establishing coherent ecological networks.

If a proposed development would result in significant harm to the natural environment which cannot be avoided (through the use of an alternative site with less harmful impacts), mitigated or compensated for (as a last resort) then planning permission should be refused. With respect to development on land within or outside of a Site of Special Scientific Interest (SSSI) which is likely to have an adverse effect (either alone or in-combination with other developments) would only be permitted where the benefits of the proposed development clearly outweigh the impacts on the SSSI itself, and the wider network of SSSIs. Development

resulting in the loss of deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused unless there are wholly exceptional reasons for the development, and a suitable compensation strategy is provided.

Chapter 15 identifies that development whose primary objective is to conserve or enhance biodiversity should be supported and opportunities to incorporate biodiversity improvements in and around development should be encouraged, especially where this can secure measurable net gains for biodiversity.

Chapter 11, making effective use of the land, sets out how the planning system should promote use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Substantial weight should be given to the value of using suitable brownfield land within settlements for homes and other identified needs. Opportunities for achieving net environmental gains, including new habitat creation, are encouraged.

In March 2014 the Department for Communities and Local Government released guidance to support the National Planning Policy Framework (NPPF), known as the National Planning Practice Guidance (NPPG). This has been produced to provide guidance for planners and communities which will help deliver high quality development and sustainable growth in England.

The guidance includes a section entitled 'Natural Environment: Biodiversity, geodiversity and ecosystems and green infrastructure', which was updated in July 2019. This document sets out information with respect to the following:

- the statutory basis for seeking to conserve and enhance biodiversity;
- the local planning authority's requirements for planning for biodiversity;
- what local ecological networks are and how to identify and map them;
- how plan-making bodies identify and safeguard Local Wildlife Sites, including Standard Criteria for Local Wildlife Sites;
- the sources of ecological evidence;
- the legal obligations on local planning authorities and developers regarding statutory designated sites and protected species;
- definition of green infrastructure;
- where biodiversity should be taken into account in preparing a planning application;
- how policy should be applied to avoid, mitigate or compensate for significant harm to biodiversity and how mitigation and compensation measures can be ensured;
- definitions of biodiversity net gain including information on how it can be achieved and assessed; and,
- the consideration of ancient woodlands and veteran trees in planning decisions and how potential impacts can be assessed.

The NPPG July 2019 issue also includes a section entitled 'Appropriate assessment: Guidance on the use of Habitats Regulations Assessment' which provides information in relation to Habitats Regulations Assessment processes, contents and approaches in light of case law. This guidance will be relevant to those projects and plans which have the potential to impact on European Sites and European Offshore Marine Sites identified under the Conservation of Habitats and Species Regulations 2017 (as amended).

3.3 LOCAL PLANNING POLICY - READING

Local Plan

The Local Plan is the main planning document for Reading and was adopted as the Council's official policy on 4th November 2019. It replaces the three previous development plan documents – the Core Strategy (adopted 2008, amended 2015), Reading Central Area Action Plan (adopted 2009) and Sites and Detailed Policies Document (adopted 2012, amended 2015). This document contains planning policies to manage development in Reading up to 2036. Within the Local Plan the policies of relevance to ecology are as follows:

EN11: Waterspaces

Reading's waterspaces will be protected and enhanced, so that they can continue to contribute to local and regional biodiversity and ecology, flood mitigation, local character, heritage and visual amenity, the provision

of accessible leisure and recreational opportunities and, where appropriate, navigation. There will be no adverse impact on the functions and setting of any watercourse and its associated corridor.

Where development in the vicinity of watercourses is acceptable, it will:

- Provide appropriate, attractive uses and buildings that enhance the relationship of buildings, spaces and routes to the watercourse, including through creating or enhancing views of the watercourse, and create a high quality public realm;
- Make positive contributions to the distinct character, appearance, historic significance, landscape and amenity of the watercourses;
- Provide a strengthened role for watercourses as important landscape features, wildlife corridors, historic features and recreation opportunities;
- Wherever practical and consistent with its biodiversity role, provide good, level access to and along the waterside for all those who want to use it;
- Be set at least ten metres back from the watercourse wherever practicable and appropriate to protect its biodiversity significance;
- Improve the quality of watercourse environment through protecting and enhancing habitats and ensuring that habitat creation is balanced with access and urban uses; and
- Pursue opportunities for deculverting of watercourses.

EN12: Biodiversity and The Green Network

- a) The identified Green Network, the key elements of which are shown on the Proposals Map (available here: <https://www.reading.gov.uk/planningpolicy>), 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 - Local Wildlife Sites, Local Nature Reserves, Biodiversity Opportunity Areas, protected and priority species and their habitats, Priority and Biodiversity Action Plan habitats, and the River Thames and all its tributaries (including the River Kennet and the Kennet & Avon Canal); and
 - Areas with potential for biodiversity value and which stitch the Green Network together – designated Local Green Space and open green spaces, and existing and potential Green Links.

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 into the existing Green Network and contribute to its consolidation. Such features should be designed to maximise the opportunities for enhancing this network. All new development should maximise opportunities to create new assets and links into areas where opportunities are as yet unidentified on the Proposals Map.

- b) On all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible. Development should:
- Protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and
 - Provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable.

In exceptional circumstances where the need for development clearly outweighs 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 that 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. It should not replace existing alternative habitats, and should be provided prior to development.

EN14: Trees, Hedges and Woodlands

Individual trees, groups of trees, hedges and woodlands 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, or off-site in appropriate situations, to improve the level of tree coverage within the

Borough, to maintain and enhance the character and appearance of the area in which a site is located, to provide for biodiversity and to contribute to measures to reduce carbon and adapt to climate change. Measures must be in place to ensure that these trees are adequately maintained.

4. DESK STUDY RESULTS

4.1 INTRODUCTION

The data search was carried out on March 2020 by Thames Valley Environmental Records Centre. All relevant ecological data provided by the consultees was reviewed and the results from these investigations are summarised in Sections 4.2 to 4.4. Selected data are provided in Appendix 1.

4.2 NATURE CONSERVATION SITES

Statutory and non-statutory nature conservation sites located in proximity to the survey area are summarised in Table 4.1.

Site Name	Designation	Proximity to Survey Area	Description
UK Statutory Sites			
Highwood	LNR	740 m north-east	The site has exotic tree species which were part of an arboretum (collection of trees) in the house grounds and include giant redwoods <i>Sequoiadendron giganteum</i> and monkey puzzle <i>Araucaria araucana</i> . It is a fine example of mixed lowland woodland with an attractive heathland area.
Maiden Erlegh Park	LNR	880 m south-east	Habitats include lowland mixed deciduous woodland, ancient semi natural woodland and eutrophic open water.
Non-statutory Sites			
Whiteknight Park	LWS	70 m south	Whiteknights Park consists of a mosaic of landscaped trees with mown grassland, a large shaded, eutrophic lake, mixed secondary woodland, several stands of introduced shrubs and trees and a couple of areas managed as meadow.
Maiden Erlegh Woods	LWS	930 m south-east	The site consists of ancient and semi-natural woodland, with a stream flowing through and a couple of associated marshy areas. Most of the site lies within the Maiden Erlegh Park Local Nature Reserve which extends to the west to include a lake and seeded grassland which are not included in the Local Wildlife Site.
Ancient Woodland Sites			
High Wood	ARP/ASNW	750 m north-east	No information provided.
Southland Wood	ASNW	890 m north-east	No information provided.
Redhatch Copse	ASNW	1 km south	No information provided.
Maiden Erlegh: Oak wood	ASNW	1 km south-east	No information provided.
Maiden Erlegh: Oldpond Copse	ASNW	1.1 km south-east	No information provided.
Maiden Erlegh: South Land Coppice	ASNW	1.2 km north-east	No information provided.
Maiden Erlegh: Moor Copse	ASNW	1.2 km south-east	No information provided.
Great Bramleys Park	ASNW	1.7 km north-east	No information provided.
Key: LNR: Local Nature reserve LWS: Local Wildlife Site ARP: Ancient Replanted Woodland ASNW: Ancient Semi-Natural Woodland			

Table 4.1: Summary of Nature Conservation Sites

No Sites of Special Scientific Interest (SSSIs) are located within a 2 km radius of the survey area, however the survey area does fall within a SSSI Impact Risk Zone for Lodge Wood and Sandford Mill SSSI which is located.

4.3 PROTECTED / NOTABLE SPECIES

Table 4.2 and the following text provide a summary of protected and notable species records within a 1 km radius of the study area. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Species of Principal Importance?	Legislation / Conservation Status
Mammals - Bats					
Brown long-eared bat <i>Plecotus auritus</i>	3	2018	100 m north-west	✓	ECH 4, WCA 5, WCA 6
Noctule <i>Nyctalus noctula</i>	24	2017	160 m north-west	✓	ECH 4, WCA 5, WCA 6
Pipistrelle <i>Pipistrellus</i> sp.	12	2016	160 m north-west	#	ECH 4, WCA 5, WCA 6
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	29	2017	180 m north-west	✓	ECH 4, WCA 5, WCA 6
Unidentified bat <i>Chiroptera</i> sp.	8	2017	200 m north-west	#	#
Common pipistrelle <i>Pipistrellus pipistrellus</i>	29	2018	230 m north-west	-	ECH 4, WCA 5, WCA 6
Unidentified myotis <i>Myotis</i> sp.	2	2016	240 m north-west	-	ECH 4, WCA 5, WCA 6
Daubenton's bat <i>Myotis daubentonii</i>	2	2015	360 m west	-	ECH 4, WCA 5, WCA 6
Long-eared bat <i>Plecotus</i> sp.	3	2015	410 m south-east	#	ECH 4, WCA 5, WCA 6
Natterer's bat <i>Myotis nattereri</i>	1	2016	930 m north	-	ECH 4, WCA 5, WCA 6
Serotine bat <i>Eptesicus serotinus</i>	3	2016	930 m north	-	ECH 4, WCA 5, WCA 6
Unidentified bat <i>Vespertilionidae</i> sp.	1	2014	Potentially within a 1 km radius*	#	#
Mammals - Others					
Hedgehog <i>Erinaceus europaeus</i>	7	2019	30 m south-east	✓	WCA 6
Water vole <i>Arvicola amphibius</i>	1	1998	750 m south	✓	WCA 5
Dormouse <i>Muscardinus avellanarius</i>	1	2011	790 m east	✓	ECH 4, WCA 5, WCA 6
Badger <i>Meles meles</i>	1	1991	†	-	WCA 6, PBA
Amphibians					
Common toad <i>Bufo bufo</i>	11	2014	360 m west	✓	WCA 5 S9(5)
Common frog <i>Rana temporaria</i>	4	2014	460 m west	-	WCA 5 S9(5)
Smooth newt <i>Lissotriton vulgaris</i>	2	2007	470 m west	-	WCA 5 S9(5)
Reptiles					
Common lizard <i>Zootoca vivipara</i>	8	2009	530 m north-east	✓	WCA 5 S9(1) WCA 5 S9(5)
Slow worm <i>Anguis fragilis</i>	1	2009	720 m north-east	✓	WCA 5 S9(1) WCA 5 S9(5)

Table 4.2: Summary of Protected/Notable Species Records Within 1 km of Survey Area (continues)

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Species of Principal Importance?	Legislation / Conservation Status
Birds					
Firecrest <i>Regulus ignicapilla</i>	131	2017	400 m south-west	-	WCA1i
Fieldfare <i>Turdus pilaris</i>	21	2017	400 m south-west	-	WCA1i
Greylag goose <i>Anser anser</i>	8	2015	400 m south-west	-	WCA1ii
Kingfisher <i>Alcedo atthis</i>	118	2017	400 m south-west	-	WCA1i
Red kite <i>Milvus milvus</i>	152	2017	400 m south-west	-	WCA1i
Redwing <i>Turdus iliacus</i>	112	2017	400 m south-west	-	WCA1i
Greenshank <i>Tringa nebularia</i>	1	2010	470 m west	-	WCA1i
Eurasian hobby <i>Falco subbuteo</i>	1	1994	640 m west	-	WCA1i
Brambling <i>Fringilla montifringilla</i>	2	2017	Potentially within a 1 km radius*	-	WCA1i
Peregrine <i>Falco peregrinus</i>	1	2013	Potentially within a 1 km radius*	-	WCA1i
Invertebrates					
Stag beetle <i>Lucanus cervus</i>	144	2019	30 m north	✓	ECH 2, WCA 5 S9(5)
White-clawed crayfish <i>Austropotamobius pallipes</i>	1	1998	890 m south-east	✓	ECH 2, WCA 5 S9(1) WCA 5 S9(5)
Key: #: Dependent on species. †: Badger records are confidential and therefore proximity is not provided within the report. *: Grid reference provided was four figures only. ECH 2: Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation. ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest in need of strict protection. PBA: Protection of Badgers Act 1992. WCA 1i: Schedule 1 Part 1 of Wildlife and Countryside Act 1981 (as amended). Birds protected by special penalties at all times. WCA 1ii: Schedule 1 Part 2 of Wildlife and Countryside Act 1981 (as amended). Birds protected by special penalties during close season. WCA 5: Schedule 5 of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). WCA 5 S9(1): Schedule 5 Section 9(1) of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). Protection limited to intentional killing, injury or taking. WCA 5 S9(5): Schedule 5 Section 9(5) of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). Protection limited to selling, offering for sale, processing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from, such animal. WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods. Note. This table does not include reference to the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats), the Bonn Convention on the Conservation of Migratory Species of Wild Animals or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).					

Table 4.2: Summary of Protected/Notable Species Records Within 1 km of Survey Area (continued)

Birds

The desk study provided records of 16 bird species listed as Species of Principal Importance, comprising: bullfinch *Pyrrhula pyrrhula*, cuckoo *Cuculus canorus*, curlew *Numenius arquata*, dunnoek *Prunella modularis*, hawfinch *Coccothraustes Coccothraustes*, herring gull *Larus argentatus*, house sparrow *Passer domesticus*, lesser redpoll *Acanthis cabaret*, lesser spotted woodpecker *Dendrocopos minor*, linnet *Linaria cannabina*, marsh tit *Poecile palustris*, reed bunting *Emberiza schoeniclus*, skylark *Alauda arvensis*, song thrush *Turdus philomelos*, spotted flycatcher *Muscicapa striata* and starling *Sturnus vulgaris*

The desk study provided records of five bird species which are under the RSPB Red List, comprising: grey wagtail *Motacilla cinerea*, mistle thrush *Turdus viscivorus*, nightingale *Luscinia megarhynchos*, pied flycatcher *Ficedula hypoleuca* and pochard *Aythya ferina*.

The desk study provided records of 22 bird species listed under the RSPB Amber List, comprising: barnacle goose *Branta leucopsis*, black-headed gull *Chroicocephalus ridibundus*, common gull *Larus canus*, common sandpiper *Actitis hypoleucos*, common tern *Sterna hirundo*, gadwall *Anas strepera*, great black-backed gull *Larus marinus*, house martin *Delichon urbicum*, kestrel *Falco tinnunculus*, lesser black-backed gull *Larus fuscus*, mallard *Anas platyrhynchos*, meadow pipit *Anthus pratensis*, mute swan *Cygnus olor*, redstart *Phoenicurus phoenicurus*, short-eared owl *Asio flammeus*, shoveler *Anas clypeata*, stock dove *Columba oenas*, swift *Apus apus*, teal *Anas crecca*, wigeon *Anas penelope*, willow warbler *Phylloscopus trochilus* and tawny owl *Strix aluco*.

The desk study also provided records of two bird species that are listed under the Birds Directive Annex 1, comprising: golden plover *Pluvialis apricaria* and little egret *Egretta garzetta*.

Invertebrates

The desk study provided records of two invertebrates species listed as Species of Principal Importance, comprising: meadow ant *Formica pratensis* (ant) and knot grass *Acronicta rumicis* (moth).

4.4 INVASIVE SPECIES

Table 4.3 provides a summary of invasive species records within a 1 km radius of the study area. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Legislation / Conservation Status
Rhododendron <i>Rhododendron ponticum</i>	6	2015	240 m north-east	WCA 9
Himalayan balsam <i>Impatiens glandulifera</i>	2	2015	460 m west	WCA 9
Japanese knotweed <i>Fallopia japonica</i>	1	2014	970 m north-west	WCA 9
Key: WCA9: Schedule 9 of Wildlife and Countryside Act 1981 (as amended). Invasive, non-native, plants and animals.				

Table 4.3: Summary of Invasive Species Records Within 1 km of Survey Area

5. PHASE 1 HABITAT SURVEY

5.1 INTRODUCTION

The results of the Phase 1 Habitat Survey are presented in the following sections. An annotated Phase 1 Habitat Survey Drawing (Drawing C152004-01-01) is provided in Chapter 8. This drawing illustrates the location and extent of all habitat types recorded on site. Any notable features or features too small to map are detailed using target notes. Photographs taken during the field survey are presented in Chapter 9.

The survey was carried out on 27th July 2020 by Sophie Moy (Senior Ecological Consultant) and Margarita Smoldareva (Ecological Consultant). Table 5.1 details the weather conditions at the time of the survey.

Parameter	Condition
Temperature (°C)	20
Cloud (%)	10
Wind (Beaufort)	F1
Precipitation	Nil

Table 5.1: Weather Conditions During Field Survey

5.2 SURVEY CONSTRAINTS AND LIMITATIONS

No significant constraints or limitations were experienced that could have impeded data collection during the walkover survey.

5.3 HABITATS

The following habitat types were recorded on site during the field survey:

- Amenity grassland;
- Buildings;
- Fencing;
- Hardstanding;
- Introduced shrubs; and,
- Scattered trees.

These habitats are described below. They are ordered alphabetically, not in order of ecological importance.

Amenity Grassland

There were two patches of amenity grassland to the front of the building and large area to the rear (Plate 9.1). All of these areas of amenity grassland were well maintained and had a short sward length. The following species were identified within the grassland: perennial rye-grass *Lolium perenne*, annual meadow-grass *Poa annua*, clover *Trifolium* sp., creeping buttercup *Ranunculus repens*, ribwort plantain *Plantago lanceolata* and black medic *Medicago lupulina*.

A log pile was recorded along the eastern fence line (Target Note 3). Holes in the wooden fence were recorded not far from the log pile (Target Note 4) (Plate 9.7).

Buildings

There was a single two storey residential building along with a single storey garage on site (Plate 9.2). The main building at 129 Whiteknights Road was large two-storey residential brick-built detached house, built in early 1900s. The building was in relatively good state of repair and was un-occupied at the time of the survey. The building had pitched clay tiled roof and chimney access. It was brick built with single glazed windows. The garage was single storey and in good state of repair with roofing felt flat roof which was partly covered by English ivy *Hedera helix* on northern elevation. Large double vehicular doors were tightly fitted. Also two wooden framed single glazed windows were recorded on the northern elevation.

Fencing

The site is bounded along the north by wooden panelled fencing, enclosing the rear garden (Plate 9.1) and to the sides of the front garden. The fence was in fairly good condition with few degraded boards at ground level providing corridors for fauna. English ivy *Hedera helix* was recorded along fence in certain locations, particularly on south-eastern and northern corner of the site.

Hardstanding

There was an area of tarmac to the front of the building (south-west of the site) providing access to the garages and parking area (Plate 9.3).

Introduced shrubs

A long herbaceous border running along the western fence line. Species included: dahlias *Dahlia pinnata*, ivy *Hedera helix*, mint *Mentha* sp., catnip *Nepeta cataria*, bamboo *Bambusoideae* sp., thistles (hybrid) *Cirsium* sp. and bindweed *Convolvulus* sp. in places. Montbretia *Crocasmia x crocosmiiflora* was also recorded growing within the border.

Another small area of introduced plants was recorded to the east of the main building (Target Note 5) (Plate 9.4). Small patches of bare ground and small log pile were recorded. Species recorded: ivy, bindweed, dock *Rumex* sp., herb-Robert *Geranium robertianum* and poppy *Papaver* sp.

Scattered trees

There were three scattered trees to the rear of the garden (in the east corner of the site boundary) (Plate 9.5). Species recorded: western red cedar *Thuja plicata*, elder *Sambucus nigra* and Box *Buxus sempervirens*. The red cedar tree was in poor condition (no cracks or holes suitable for bats) and elder and box in fairly good condition.

5.4 FAUNA

During the survey field signs of faunal species were recorded. The time of year at which the survey is undertaken will affect species or field signs directly recorded during the survey.

Birds

During the walkover survey woodpigeon *Columba palumbus* was observed on site.

5.5 INVASIVE PLANT SPECIES

Montbretia *Crocasmia x crocosmiiflora* (Target Note 2) was recorded growing within the introduced shrub border (Plate 9.6), this is an invasive plant species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

6. DISCUSSIONS AND CONCLUSIONS

6.1 SUMMARY OF PROPOSALS

This assessment is required to inform a planning application associated with partial demolitions and extensions to the existing residential building. The flat roof garage and hipped roof kitchen extension are to be demolished to facilitate the construction of a large ground floor extension. Extension works on the first floor of the building will extend northeastwards and involve extensive works to the existing hipped roof. Proposed soft landscaping plans will involve the planting of hedges and trees. Much of the front garden will be stone paved and a patio will be created in the rear garden, adjoining the new extension.

6.2 NATURE CONSERVATION SITES

The desk study exercise identified no European statutory sites within 5 km of the survey area, two UK statutory sites and eight ancient woodland sites within 2 km and two non-statutory sites within 1 km. The site is not located within 10 km of a statutory site designated for bats. The significance of these sites to the proposed development is discussed below.

UK Statutory Sites

Highwood LNR is located 740 m north-east of the survey area and Maiden Erlegh Park LNR is located 880 m south-east. Due to the small-scale nature of the development, the built-up nature of the intervening habitats, and the distance between the conservation sites and the survey area, it is unlikely that these sites will be directly or indirectly impacted by the proposed development. Therefore, UK statutory sites are not a notable consideration in relation to the proposed development.

Whilst there are no Sites of Special Scientific Interest (SSSI's) within a 2 km radius of the survey area, the site falls within one SSSI Impact Risk Zone. The closest SSSI is Lodge Wood and Sandford Mill, which is located 3.7 km north-east of the survey area. However, the proposed development does not fall into any of the risk categories of this conservation site (please refer to Appendix 1). Given this, the intervening distance separating the site from the development boundary, the risk of significant harm or disturbance to this UK statutory site is considered negligible.

Ancient Woodland Sites

There is a total of eight Ancient Semi-natural Woodlands and one Ancient Replanted Woodland within 2 km of the survey area. The closest woodland is High Wood ARP/ASNW located 750 m north-east of the survey area. The remaining ancient woodland sites are located 890 m or more from the survey area. Given the distance between the sites and the lack of connectivity, it is unlikely that the proposed development will have any adverse impact on the woodlands and therefore, ancient woodland sites are not a notable consideration.

Non-Statutory Sites

Whiteknight Park is the closest non-statutory site and is located 70 m south of the survey area. The conservation area is separated from the site Whiteknights Road and the University of Reading access road. Due to the small-scale nature of the development, the risk of significant impacts to these statutory sites is considered negligible.

The remaining conservation site is located 930 m south-east from the survey area. Due to the small-scale nature of the development, the built-up nature of the intervening habitats, and the distance between the non-statutory conservation site and the survey area, it is unlikely that this site will be directly or indirectly impacted by the proposed development. Therefore, this non-statutory site is not a notable consideration in relation to the proposed development.

6.3 HABITATS

The ecological importance of the habitats present on site is determined by their presence on the list of Habitats of Principal Importance in England and on the Local BAP. It also takes into account the intrinsic value of the habitat. Those habitats which are considered to be of intrinsic importance and have the potential to be impacted by the site proposals are highlighted as notable considerations.

A discussion of the implications of the site proposals with regard to the habitats present on site is provided in the text below. A separate discussion of the value of the habitats on site to protected or notable species is provided in Section 6.4.

Scattered trees

The mature and semi-mature trees on site are of intrinsic value as they cannot be easily replaced in the short to medium term. It is believed that the trees will be retained within the development. As such appropriate protection measures will need to be implemented. A precautionary recommendation regarding retention and protection of trees are detailed in Section 7.2.

Amenity grassland, buildings, fencing, hardstanding and introduced shrub

The remaining habitats on site are well represented locally, have low-species diversity or can easily be replaced within the new development. Therefore, they are not a notable consideration for the proposed development.

Habitats considered to be of relevance to the proposed development are summarised in Table 6.1.

Habitat Type	Habitat of Principal Importance?	Local BAP Habitat?	Summary of Potential Impacts
Scattered trees (semi-mature and mature specimens)	-	-	Direct loss, damage or disturbance, root compaction.

Table 6.1: Summary of Potential Impacts on Notable Habitats

6.4 PROTECTED/NOTABLE SPECIES

The following paragraphs consider the likely impact of the site proposals on protected or notable species. This is based on those species highlighted in the desk study exercise (Chapter 4) and other species for which potentially suitable habitat occurs within or adjacent to the survey area.

Mammals

Bats

The desk study provided eight records of four bat species within a 1 km radius of the site, the closest of which was a brown long-eared bat located 100 m north-west.

The scattered trees and introduced shrubs present on site provide foraging and commuting habitat for bats. The wider landscape provides increased opportunities for foraging and commuting bats. Any temporary or permanent lighting as part of the proposed development could however cause fragmentation to foraging and commuting habitat for bats. Foraging bats and lighting are therefore a notable consideration in relation to the development and a recommendation is made in Section 7.2.

The buildings on site were subject to a Preliminary Roost Assessment (RT-MME-152004-02), which identified a number of roosting features such as missing or lifted clay tiles (Plate 9.4). The demolition of the building may result in direct impact on roosting bats. Therefore, a recommendation has been made in Section 7.2.

Badger

The desk study provided a badger record within a 1 km radius of the survey area. No evidence of badgers was found during the field survey such as setts, foraging signs or latrines. The majority of the site provides sub-optimal habitat for this species however, these species may utilise the Whiteknight Park located 70 m south of the survey area and therefore a precautionary recommendation has been made in Section 7.3.

Hedgehog

The desk study provided seven records of hedgehog within a 1 km radius of the site. The amenity grassland and introduced shrubs on site may provide suitable foraging and refuge habitat for this species. Furthermore, a hole in the fencing along the eastern fence boundary (Target Note 4) providing connectivity between further large residential neighbouring gardens. Therefore, it is deemed possible that hedgehogs may utilise

the site and may consequently fall into any excavations required and become trapped, causing direct harm or injury. Therefore, hedgehogs are deemed a notable consideration and recommendations are made in Section 7.3.

Dormouse

The desk study provided a dormouse records, located 790 m east from the survey area. The survey area lacks suitable habitat for this species. The survey area is also not connected to suitable habitat in the wider landscape. Therefore, dormouse is not a notable consideration in regard to the proposed development.

Aquatic mammals – water vole

The desk study provided a water vole record, located 750 m south of the survey area. The site lacks suitable aquatic habitat for this species. Due to residential setting of the survey area with associated roads it is considered unlikely for water vole to be present on site.

Amphibians

The desk study provided records of common toad, common frog and smooth newt, the closest of which was a common toad located 360 m west of the survey area. The desk study did not provide records of great crested newt *Triturus cristatus*. There were no ponds (potential breeding sites) present on site. Ordnance Survey mapped data and aerial imagery indicates that there are no ponds within a 500 m radius of the survey area. The majority of the survey area was dominated by areas of hardstanding and amenity grassland, which was short and well-managed with no structural diversity. Although there were pockets of introduced shrub, they were limited in extent. The log pile located along the southern boundary offers shelter and hibernation habitat for amphibians. However, due to poor connectivity to the survey area this habitat is unlikely to be utilised, Whiteknight Road is also considered a significant barrier to dispersal. Given the lack of terrestrial habitat and suitable breeding habitat on site and in the surrounding area, it is considered unlikely that amphibians will be adversely impacted by the proposed development.

Reptiles

The desk study provided records of common lizard and slow worm, the closest of which located 530 m north-east of the survey area. The majority of the survey area was dominated by areas of hardstanding and amenity grassland, which was short and well-managed with no structural diversity. Whiteknight Road is also considered a significant barrier to dispersal. Considering the sub-optimal habitat on site and the lack of connectivity, reptiles are considered unlikely to utilise the site.

Birds

The desk study provided records of ten bird species listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) within a 1 km radius of the survey area. The desk study also provided several records of Species of Principal Importance within a 1 km radius of the survey area. The specific breeding ranges and habitat requirements of the Schedule 1 species (listed in Table 4.2) mean that they are unlikely to nest within the survey area. There was, however, suitable nesting habitat for bird species listed as Species of Principal Importance including house sparrow, in the form of scattered trees and associated buildings on site. The trees on site also provide suitable opportunities for generalist bird species. Any clearance of this habitat, if required, should be done outside the nesting season for birds. Therefore, a recommendation has been made in Section 7.3.

Terrestrial invertebrates

The desk study provided records of meadow ant and knot grass, which are listed as Species of Principal Importance. The rear garden is to be retained within the development. Although temporary disturbance is possible, suitable alternative habitat is present within the surrounding area. Therefore, no long-term impacts on invertebrates these anticipated. The desk study also provided 144 records of stag beetle, the closets of which was located 30 m north of the survey area. The log pile located to the east of the site (Target Note 3) could provide suitable habitat for stag beetle and therefore a recommendation for retention of this feature has been made in Section 7.2.

Aquatic invertebrates

The desk study also provided a record of white-clawed crayfish, located 890 m south-east of the survey area. The site lacks suitable aquatic habitat for this species. Due to residential setting of the survey area with associated roads it is considered unlikely for white-clawed crayfish to be present on site.

Other Species

The following protected species are not considered to be material considerations due to the lack of desk study records and absence of suitable habitats within the development site and its surroundings: otter *Lutra lutra*.

Summary

Species considered to be of relevance to the proposed development are summarised in Table 6.2.

Species / Species Group	Species of Principal Importance?	Summary of Potential Impacts
Bats	#	Direct harm/injury, habitat loss, fragmentation through increases in lighting
Badger	–	Direct harm/injury, habitat loss / disturbance
Hedgehog	✓	Direct harm/injury, habitat loss / disturbance
Birds	#	Direct harm/injury, habitat loss/ disturbance
Key: #: Species dependent		

Table 6.2: Summary of Potential Impacts on Notable Species

6.5 INVASIVE PLANT SPECIES

The desk study provided records of rhododendron, Himalayan balsam and Japanese knotweed, the closest of which was located 240 m north-east. During the walkover survey montbretia was recorded growing within the introduced shrub border. This species is listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). A recommendation for removal of this species has been made in Section 7.4.

7. RECOMMENDATIONS

All recommendations provided in this section are based on Middlemarch Environmental Ltd's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

The ecological mitigation hierarchy should be applied when considering development which may have a significant effect on biodiversity. The ecological mitigation hierarchy, as set out in the National Planning Policy Framework (NPPF), and the National Planning Practice Guidance (NPPG) should follow these principles:

- **Avoidance** – development should be designed to avoid significant harm to valuable wildlife habitats and species.
- **Mitigation** – where significant harm cannot be wholly or partially avoided, it should be minimised by design or through the use of effective mitigation measures.
- **Compensation** – where, despite whatever mitigation would be effective, there would still be significant residual harm, as a last resort, compensation should be used to provide an equivalent value of biodiversity.

7.1 NATURE CONSERVATION SITES

No recommendations are made in regard to nature conservation sites.

7.2 HABITATS

The following recommendations are made regarding the habitats present on site:

- R1 Habitat Retention and Protection:** The development proposals should be designed (where feasible) to allow for the retention of existing notable habitats including (mature trees, semi-mature trees and log pile). Protection measures comprise:
- **Trees:** Any trees on or overhanging the site, which are retained as a part of any proposed works should be protected in accordance with British Standard 5837: 2012 "Trees in relation to design, demolition and construction - recommendations". Protection should be installed on site prior to the commencement of any works on site.
 - **Log pile:** The log pile noted on site (Target Note 3) should be retained within the redevelopments landscaping scheme.

If retention is not possible, appropriate replacement planting should be incorporated into the soft landscape scheme in accordance with the ecological mitigation hierarchy. Only native and/or wildlife attracting species should be planted.

- R2 Biodiversity Enhancement:** In accordance with the provision of Chapter 15 of the National Planning Policy Framework (Conserving and Enhancing the Natural Environment) and the Reading Local Plan Policy EN12 'Biodiversity and The Green network', biodiversity enhancement measures should be incorporated into the landscaping scheme of any proposed development to work towards delivering net gains for biodiversity. This will involve, for example:
- Planting of habitats which will be of value to wildlife, such as:
 - native seed/fruit bearing species to provide foraging habitat for mammals and birds;
 - nectar-rich species to attract bees, butterflies and moths;
 - wildflower grassland margins to provide larval food for caterpillars and to attract butterfly and moth species; and,
 - species which attract night flying insects which will be of value to foraging bats, for example: evening primrose *Oenothera biennis*, goldenrod *Solidago virgaurea*, honeysuckle *Lonicera periclymenum* and fleabane *Pulicaria dysenterica*.
 - Inclusion/retention of hedgehog passes under any fence lines to allow connectivity between the site and the wider area.

- Provision of nesting/roosting habitat, such as installation of nest boxes for species such as house sparrow, dense scrub for species such as song thrush, and bat boxes for species such as pipistrelle.

- R3 Lighting:** In accordance with best practice guidance relating to lighting and biodiversity (Miles et al, 2018; Gunnell et al, 2012), any new lighting should be carefully designed to minimise potential disturbance and fragmentation impacts on sensitive receptors, such as bat species. Examples of good practice include:
- Avoiding the installation of new lighting in proximity to key ecological features, such as scattered trees and introduced shrubs.
 - Using modern LED fittings rather than metal halide or sodium fittings, as modern LEDs emit negligible UV radiation.
 - The use of directional lighting to reduce light spill, e.g. by installing bespoke fittings or using hoods or shields. For example, downlighting can be used to illuminate features such as footpaths whilst reducing the horizontal and vertical spill of light.
 - Where the use of bollard lighting is proposed, columns should be designed to reduce horizontal light spill.
 - Implementing controls to ensure lighting is only active when needed, e.g. the use of timers or motion sensors.
 - Use of floor surface materials with low reflective quality. This will ensure that bats using the site and surrounding area are not affected by reflected illumination.
 - For internal lights, recessed light fittings cause significantly less glare than pendant type fittings. The use of low-glare glass may also be appropriate where internal lighting has the potential to influence sensitive ecological receptors.

7.3 PROTECTED / NOTABLE SPECIES

To ensure compliance with wildlife legislation and relevant planning policy, the following recommendations are made:

- R4 Roosting Bats:** A Preliminary Bat Roost Assessment was undertaken (RT-MME-152004-02) and all recommendations within this report should be followed.
- R5 Terrestrial Mammals including Badger and Hedgehog:** Any excavations that need to be left overnight should be covered or fitted with mammal ramps to ensure that any animals that enter can safely escape. Any open pipework with an outside diameter of greater than 120 mm must be covered at the end of each work day to prevent animals entering/ becoming trapped. Storage of materials on site should also be adequately secured and fenced off.
- R6 Nesting Birds:** Vegetation and building clearance should be undertaken outside the nesting bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive (peak period March-August). If this is not possible then any vegetation and building to be removed or disturbed should be checked by an experienced ecologist for nesting birds immediately prior to any works commencing. If birds are found to be nesting any works which may affect them would have to be delayed until the young have fledged, and the nest abandoned naturally, for example via the implementation of an appropriate buffer zone (species dependent) around the nest in which no disturbance is permitted until the nest is no longer in use.

7.4 INVASIVE PLANT SPECIES

The following recommendation is made regarding invasive plant species:

- R7 Invasive Species:** The works must not cause montbretia to spread in the wild. It must either be left in situ or removed with care during vegetation clearance and disposed of in an appropriate manner.

8. DRAWINGS

Drawing C152004-01-01 – Phase 1 Habitat Map



C152004-01-01

Legend

--- Site boundary

● Scattered tree

+++++ Fence

A Amenity grassland

■ Buildings

■ Hardstanding

■ Introduced shrub

○ Target note

1. Building with high bat roost potential
2. Crocosmia invasive non-native plant
3. Log pile
4. Holes in wooden fence
5. Herbaceous border with bare ground

Project
129 Whiteknights Road, Reading

Drawing
Phase 1 Habitat Map

Client
Oakbridge Bespoke Homes

Drawing Number
C152004-01-01

Revision
00

Scale @ A4
1:400

Date
August 2020

Approved By
MS

Drawn By
CD

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9. PHOTOGRAPHS



Plate 9.1: Amenity Grassland and Fencing



Plate 9.2: Buildings



Plate 9.3: Hardstanding



Plate 9.4: Introduced Shrub

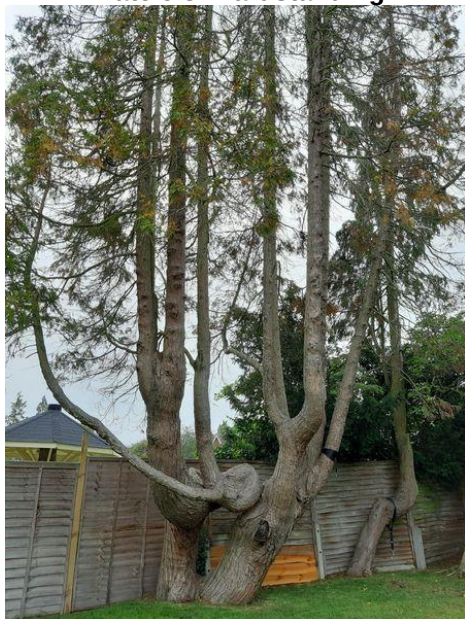


Plate 9.5: Scattered Tree



Plate 9.6: Montbretia (Invasive Plant Species)



Plate 9.7: Log Pile

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APPENDICES

APPENDIX 1: Summary of Statutory Nature Conservation Sites

APPENDIX 2: Overview of Relevant Species Specific Legislation

APPENDIX 1

Summary of Statutory Nature Conservation Sites

UK Statutory Sites

Ancient Woodland (England)

Wood Name

Maiden Erlegh: Oak Wood(Tithe:New Pond Wood)

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505325

Area (Ha)

1.248333

Wood Name

Maiden Erlegh: Oak Wood(Tithe:New Pond Wood)

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505326

Area (Ha)

0.072498

Wood Name

(tithe:Great Bramleys Park)

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505319

Area (Ha)

0.704527

Wood Name

(tithe:Great Bramleys Park)

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505075

Area (Ha)

0.321171

Wood Name

(tithe:Colcrafts Coppice)

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505076

Area (Ha)

0.096347

Wood Name

High Wood(tithe:South Land Coppice)

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505077

Area (Ha)

5.444516

Wood Name

High Wood(tithe:South Land Coppice)

Theme Name

Ancient Replanted Woodland

Theme ID

1505078

Area (Ha)

0.702725

Wood Name

(tithe:South Land Coppice)

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505079

Area (Ha)

0.301004

Wood Name

Southland Wood(tithe:Park Coppice)

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505080

Area (Ha)

2.872699

Wood Name

High Wood(tithe:Wood adjoining coppice)

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505081

Area (Ha)

0.638467

Wood Name

Maiden Erlegh: Moor Copse

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505175

Area (Ha)

0.59053

Wood Name

Redhatch Copse(Tithe:Seven Acre Coppice)

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505176

Area (Ha)

3.720041

Wood Name

Maiden Erlegh: Oldpond Copse

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505263

Area (Ha)

0.36589

Wood Name

Maiden Erlegh: Oldpond Copse(Tithe:212=Coppice adjoining Lower Pond)

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505264

Area (Ha)

0.209024

Wood Name

Maiden Erlegh: Oldpond Copse(Tithe:Coppice adjoining Lower Pond)

Theme Name

Ancient & Semi-Natural Woodland

Theme ID

1505281

Area (Ha)

0.810825

Local Nature Reserves (England)

Reference

1008952

Name

HIGHWOOD

Hectares

15.23

Hyperlink

<https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1008952>

Reference

1009373

Name

MAIDEN ERIEGH PARK

Hectares

10.15

Hyperlink

<https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1009373>

National Nature Reserves (England)

No Features found

Sites of Special Scientific Interest (England)

No Features found

OK

SSSI Impact Risk Zones

SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?

2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications

Infrastructure

Airports, helipads and other aviation proposals.

Wind & Solar Energy

Minerals, Oil & Gas

Rural Non Residential

Residential

Rural Residential

Air Pollution

Livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t.

Combustion

General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

Waste

Composting

Discharges

Water Supply

Notes 1

Notes 2

GUIDANCE - How to use the Impact Risk Zones

[/Metadata for magic/SSSI IRZ User Guidance MAGIC.pdf](#)

OK Cancel Print

European statutory Sites

Ramsar Sites (England)

No Features found

Proposed Ramsar Sites (England)

No Features found

Special Areas of Conservation (England)

No Features found

Possible Special Areas of Conservation (England)

No Features found

Special Protection Areas (England)

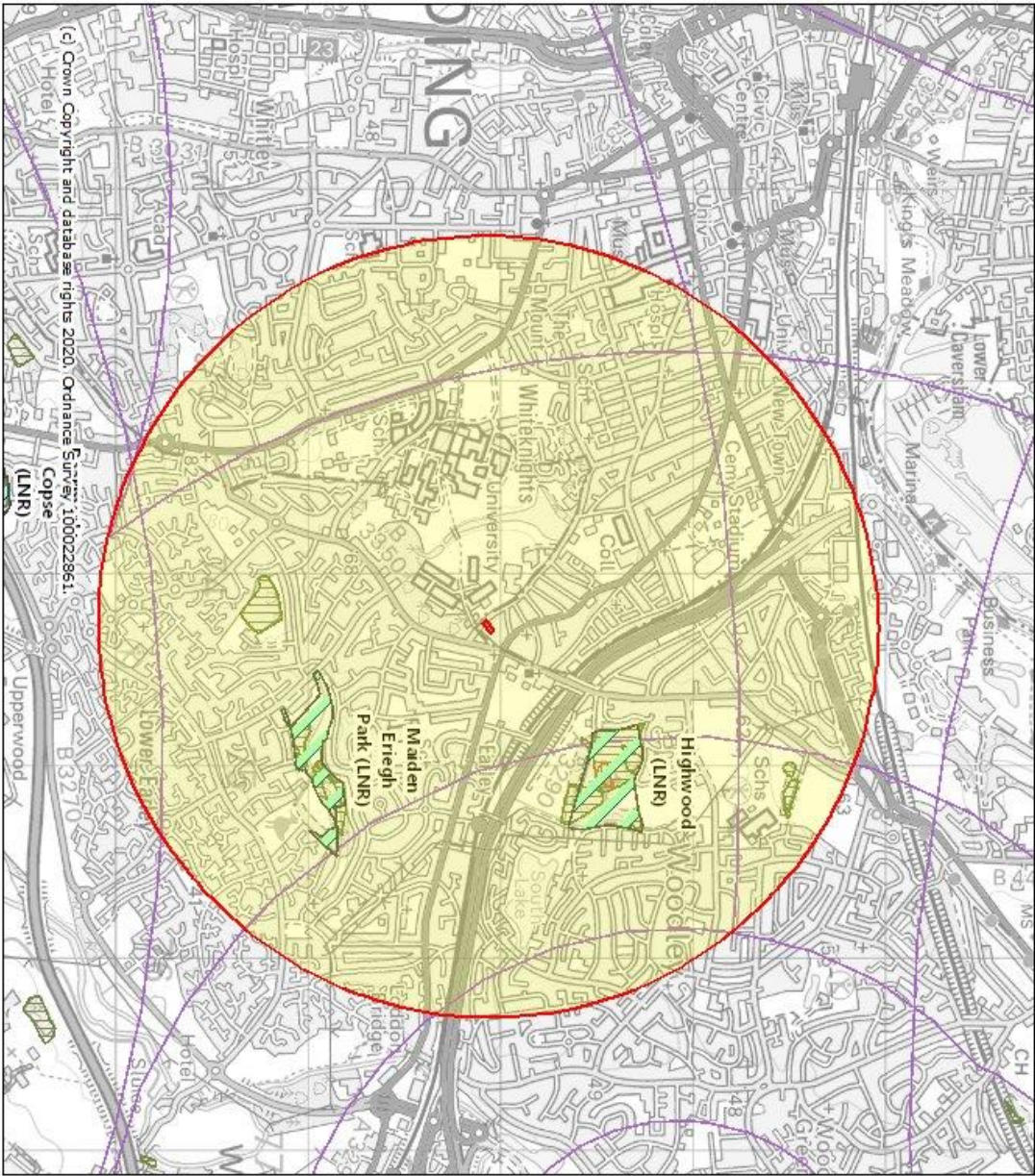
No Features found

Potential Special Protection Areas (England)

No Features found

MAGiC

UK Statutory Sites within 2 km



APPENDIX 2

Overview of Relevant Species Specific Legislation

Bats

Bats and the places they use for shelter or protection (i.e. roosts) receive European protection under The Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2017, states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats; or
- damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2017 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, or *obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection*.

*Reckless offences were added by the Countryside and Rights of Way (CROW) Act 2000.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The following bat species are Species of Principal Importance for Nature Conservation in England: Barbastelle Bat *Barbastella barbastellus*, Bechstein's Bat *Myotis bechsteinii*, Noctule Bat *Nyctalus noctula*, Soprano Pipistrelle *Pipistrellus pygmaeus*, Brown Long-eared Bat *Plecotus auritus*, Greater Horseshoe Bat *Rhinolophus ferrumequinum* and Lesser Horseshoe Bat *Rhinolophus hipposideros*.

Badgers

Badgers and their setts are protected under the Protection of Badgers Act 1992. The Protection of Badgers Act 1992 is based primarily on the need to protect badgers from baiting and deliberate harm or injury, badgers are not protected for conservation reasons. The following are criminal offences:

- To intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it.
- To wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so.

A badger sett is defined in the legislation as:

- '*Any structure or place that displays signs indicating current use by a badger*'.

'Current use' is not synonymous with current occupation and a sett is defined as such (and thus protected) as long as signs of current usage are present. Therefore, a sett is protected until such a time as the field signs deteriorate to such an extent that they no longer indicate 'current usage'.

Badger sett interference can result from a multitude of operations including excavation and coring, even if there is no direct damage to the sett, such as through the disturbance of badgers whilst occupying the sett. Any intentional or reckless work that results in the interference of badger setts is illegal without a licence from Natural England³⁰. In England a licence must be obtained from Natural England before any interference with a badger sett occurs.

Hedgehog

Hedgehogs receive some protection under Schedule 6 of the Wildlife and Countryside Act 1981 (as amended); this section of the Act lists animals which may not be killed or taken by certain methods, namely traps and nets, poisons, automatic weapons, electrical devices, smokes/gases and various others. Humane trapping for research purposes requires a licence.

Hedgehogs are a Species of Principal Importance for Nature Conservation in England and are thus capable of being material considerations in the planning process.

Birds

The Conservation of Habitats and Species Regulations 2017 places a duty on public bodies to take measures to preserve, maintain and re-establish habitat for wild birds.

Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended).

Subject to the provisions of the act, if any person intentionally:

- kills, injures or takes any wild bird;
- takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- takes or destroys an egg of any wild bird, he shall be guilty of an offence.

Some species (listed in Schedule 1 of the WCA) are protected by special penalties. Subject to the provisions of the act, if any person intentionally or recklessly:

- disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturbs dependent young of such a bird, he shall be guilty of an offence.

Several bird species are Species of Principal Importance for Nature Conservation in England, making them capable of being material considerations in the planning process.