# HOAD WAY, THEALE, BERKSHIRE

# PRELIMINARY ECOLOGICAL APPRAISAL AND PRELIMINARY BAT ROOST ASSESSMENT

A Report to: Panattoni c/o Turley

Report No: RT-MME-150244-02

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MIDDLEMARCH ENVIRONMENTAL

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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: |
|---|---|---|---|---|
| Final | 09/09/2019 | Tom Docker MSc MCIEEM CEcol (Associate Director; EIA) and Charlotte Page BSc (Hons) (Ecological Project Officer) | Tom Docker MSc MCIEEM CEcol (Associate Director; EIA) | Dr Philip Fermor CEnv MCIEEM (Managing Director) |

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 Panattoni c/o Turley to carry out a Preliminary Ecological Appraisal at the site of a proposed development at land off Hoad Way in Theale, Berkshire. 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 the construction of an employment facility, with associated access infrastructure, drainage and landscaping.

The desk study exercise identified no European statutory sites within 5 km of the survey area, three UK statutory sites within 2 km and four 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 ithin a 1 km radius of the survey area including; bats, badger, hedgehog, brown hare, water vole, otter, common frog, birds and invertebrates.

The walkover survey was undertaken on the 30th July 2019 by Tom Docker, Associate Director. Reference to historical aerial imagery indicates that the site was subject to arable management as recently as 2010, however in recent years has been left fallow and has subsequently colonised with a mosaic of coarse grassland and ruderal species. Field boundaries are formed by a combination of wooden fencing, intact hedgerow, woodland edge and scrub. The field is bisected by a large electricity pylon and overhead wires running north to south. A tall mobile phone mast within a small compound of palisade security fencing is present in the north-eastern corner of the field. The survey area also includes a small hardstanding compound enclosed by Heras fencing to the northwest.

In order to ensure compliance with wildlife legislation and relevant planning policy, the following recommendations are made (the full recommendations text is provided in Chapter 7):

- **Habitat Retention and Protection:** The development proposals should be designed (where feasible) to allow for the retention of existing notable habitats including the hedgerows, woodland and trees on site.
- **Biodiversity Enhancement:** In accordance with the provision of Chapter 15 of the National Planning Policy Framework (Conserving and Enhancing the Natural Environment) and Local Planning Policy, 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 Ground Level Bat Roost Assessment should be undertaken on the mature ash and alder trees located towards the western edge of the site, which may be impacted by the proposed development works.
- **Badger:** Given the suitable habitat present within the survey area and connectivity to adjacent habitat that is suitable for badgers, it is recommended that a Badger Survey is undertaken to determine whether any setts are located within 30 m of the proposed development area.
- **Terrestrial Mammals including Badger, Hedgehog and Brown Hare:** 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.
- **Common Amphibians and Hedgehog:** Vegetation clearance/removal should be undertaken in a sensitive manner to avoid harming small mammals (including hedgehog) and common amphibians.
- **Reptiles:** A Reptile Survey should be undertaken of suitable habitats within the proposed development site. Reptile Surveys can be completed in suitable weather conditions between April and September (inclusive).
- **Nesting Birds:** Vegetation 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).

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# 1. INTRODUCTION

## 1.1 PROJECT BACKGROUND

In July 2019 Panattoni c/o Turley commissioned Middlemarch Environmental Ltd to undertake a Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment of trees at the site of a proposed development at Hoad Way in Theale, Berkshire. This assessment is required to inform a planning application associated with the construction of an employment facility, with associated access infrastructure, drainage and landscaping.

To assess the existing ecological interest of the site an ecological desk study was carried out, and a walkover survey was undertaken on the 30th July 2019. In addition, Middlemarch Environmental Ltd has been commissioned to undertake a Preliminary Arboricultural Assessment (PAA), detailed in report RT-MME-150244-01.

## 1.2 SITE DESCRIPTION AND CONTEXT

The survey area comprised a large grassland-dominated field located to the immediate west of the junction between the M4 motorway and A4 Bath Road (Junction 12). It was centred at National Grid Reference SU 64755 71463 and measured c. 5.5 hectares in area.

Reference to historical aerial imagery indicates that the site was subject to arable management as recently as 2010, however in recent years has been left fallow and has subsequently colonised with a mosaic of coarse grassland and ruderal species. Field boundaries are formed by a combination of wooden fencing, intact hedgerow, woodland edge and scrub. The field is bisected by a large electricity pylon and overhead wires running north to south. A tall mobile phone mast within a small compound of palisade security fencing is present in the north-eastern corner of the field. The survey area also includes a small hardstanding compound enclosed by Heras fencing to the northwest.

Beyond the site boundary to the south-east, south and south-west are steep slopes up to the highway embankments of the A4 Bath Road and Hoad Way respectively. The M4 runs northwest-southeast c. 80 m to the east of the site. To the northwest is a small complex of built environment comprising a mixture of residential and industrial units, and beyond the eastern half of the northern boundary is an area of greenspace. The wider area is occupied by a mosaic of farmland, greenspace, retail and residential development typical of the urban fringes of West Berkshire.

## 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 |
|---|---|
| Site Location Plan / 18-095-P001 | SGP |
| Parameters Plan / 18-095-P002 | SGP |
| Proposed Masterplan / 18-095-M006 | SGP |

**Table 1.1: Documentation Provided by Client**

The drawing ‘Proposed Masterplan - 18-095-M006’ is provided in Chapter 8.

# 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.

## 2.3 PRELIMINARY BAT ROOST ASSESSMENT OF TREES

In line with the specifications detailed in Bat Mitigation Guidelines (English Nature, 2004) and Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), a Preliminary Ground Level Bat Roost Assessment of the trees was conducted during daylight hours. A visual assessment of the trees was undertaken to determine the presence of any Potential Roost Feature (PRF) within the trees, together with a general appraisal of the suitability of the site for foraging and commuting. Table 2.1 provides examples of PRFs in trees. Any accessible PRFs were inspected using binoculars, a torch and endoscope for evidence of possible bat presence. For reasons of health and safety, the survey was only undertaken in areas accessible from 3.5 m ladders.

Based on the PRF's present, the trees within the survey area were assessed using the suitability classes detailed within Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), as detailed in Table 2.2. Trees with features present that are suitable to support roosting bats (high and moderate suitability) are discussed more fully in the report.

A summary of the trees within the survey area without suitable features to support roosting bats (low and negligible suitability) is provided within the report. Due to their negligible potential to support roosting bats, the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016) recommend no further survey work is required for these tree classes.

| Example of Potential Roost Features |
|---|
| • Bat, bird and dormouse boxes on trees;<br>• Cankers (caused by localized bark death) in which cavities have developed;<br>• Compression forks with included bark, forming potential cavities;<br>• Cracks/splits in stems or branches (both vertical and horizontal);<br>• Crossing stems or branches with suitable space between for roosting;<br>• Ivy stems with diameters in excess of 50 mm with suitable roosting space behind (or where a roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk);<br>• Man-made holes (e.g. cavities that have developed from flush cuts);<br>• Natural holes (e.g. knot holes) arising from naturally shed branches, or cavities created by branches tearing out from parent stems;<br>• Other hollows or cavities, including rot holes and butt rots;<br>• Partially detached or loose, platy bark;<br>• Woodpecker holes; or,<br>• Other features that offer a place of shelter. |

**Table 2.1: Potential Roost Features (Adapted from Collins 2016 and BSI 2015)**

| Suitability | Description |
|---|---|
| **High** | A 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. |
| **Moderate** | A 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 (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed). |
| **Low** | A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential. |
| **Negligible** | Negligible habitat features on site likely to be used by roosting bats. |

**Table 2.2: Classification of Trees with Bat Potential (Adapted from Collins, 2016)**

# 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 Habitat 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 Habitat 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

http://info.westberks.gov.uk/index.aspx?articleid=28204

The Local Plan is the overall Development Plan for West Berkshire, setting out the local planning policies. The Development Plan is currently made up of a number of different documents, including:

- West Berkshire District Local Plan 1991-2006 (Saved Policies 2007)
- Core Strategy Development Plan Document 2006-2026

**West Berkshire District Local Plan 1991-2006**

The Core Strategy (below) replaced a number of the saved policies within the West Berkshire District Local Plan. None of the remaining saved policies are of relevance to ecology.

**Core Strategy Development Plan Document**

The Core Strategy was adopted on the 16th July 2012 and sets out the overall planning strategy for West Berkshire district up to 2026. The following policy applies across the whole district:

**Policy CS 17 Biodiversity and Geodiversity**

Biodiversity and geodiversity assets across West Berkshire will be conserved and enhanced. Habitats designated or proposed for designation as important for biodiversity or geodiversity at an international or national level or which support protected, rare or endangered species, will be protected and enhanced. The degree of protection given will be appropriate to the status of the site or species in terms of its international or national importance.

Development which may harm, either directly or indirectly,

- locally designated sites (Local Wildlife Sites and Local Geological Sites), or
- habitats or species of principal importance for the purpose of conserving biodiversity, or
- the integrity or continuity of landscape features of major importance for wild flora and fauna

will only be permitted if there are no reasonable alternatives and there are clear demonstrable social or economic benefits of regional or national importance that outweigh the need to safeguard the site or species and that adequate compensation and mitigation measures are provided when damage to biodiversity/geodiversity interests are unavoidable.

In order to conserve and enhance the environmental capacity of the District, all new development should maximise opportunities to achieve net gains in biodiversity and geodiversity in accordance with the Berkshire Biodiversity Action Plan and the Berkshire Local Geodiversity Action Plan. Opportunities will be taken to create links between natural habitats and, in particular, strategic opportunities for biodiversity improvement will be actively pursued within the Biodiversity Opportunity Areas identified on the Proposals Map in accordance with the Berkshire Biodiversity Action Plan.

# 4. DESK STUDY RESULTS

## 4.1 INTRODUCTION

The data search was carried out on August 2019 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** | | | |
| Pincent's Kiln SSSI | SSSI (Geological) | 330 m north-east | A 0.21 ha site comprising a disused quarry providing the best and only remaining permanent exposure of the Tertiary Reading Beds within the area from which they were first described, hence it is a key feature amongst geologists working on rocks of this age in Britain. |
| Hosehill Lake | LNR | 1,480 m south | A 23.59 ha site comprising a lake, meadows, woodland, reedbeds and a pond. There has been a total of 168 observed bird sightings including lapwings *Vanellus vanellus*, little ring plover *Charadrius dubius*, tufted ducks *Aythya fuligula*, great crested grebes *Podiceps cristatus* and several more unusual visitors like bittern *Botaurus stellaris*. A large sand martin *Riparia riparia* bank can be viewed from the other side of the lake and house martins *Delichon urbicum*, swifts *Apus apus* and swallow *Hirundo rustica* can be seen from March/April. |
| Sulham and Tidmarsh Woods and Meadows SSSI | SSSI | 1,690 m north-west | A 75.75 ha site comprising The River Pang and Sulham Brook, encompassing a broad valley of unusually varied alluvial loams, gravel terraces and peat deposits. The variety in soils and topography is exhibted within the mosaic of damp copses and seasonally flooded meadow communities.The whole site supports a rich invertebrate fauna, in the Moor Copse complex, over 300 species of moth have been recorded, of which notable examples are: water carpet *Lampropteryx suffumata*, scarlet tiger *Callimorpha dominula* and white marked *Cerastis leucographa.* |
| **Non-Statutory Sites** | | | |
| Kennet and Avon Canal | LWS | 820 m south | A 7.95 ha site comprising a section of the Kennet and Avon Canal where they form a single watercourse. Here it flows through an area of gravel pits. Records suggest this area has a good variety of aquatic plants and bird life though it has not been surveyed since 1978. |
| Sluice Copse | LWS | 880 m north-west | A 1.4 ha site comprising a Lowland Mixed Deciduous Woodland (Section 41 habitat of principal importance) which represents a predominately neglected, small coppice, bordered by recent tree planting, scrub and the motorway on the west. The predominant species is hazel *Corylus avellana* which has grown tall into a sub-canopy. Other scattered species forming a canopy/sub-canopy include ash *Fraxinus excelsior*, alder *Alnus glutinosa*, oak *Quercus robor*, with an area of wild cherry *Prunus avium*, sweet chestnut *Castanea sativa* and field maple *Acer campestre*. Surrounding the copse there are relatively species poor fields and grasslands. |

**Table 4.1: Summary of Nature Conservation Sites (continues)**

| Site Name | Designation | Proximity to Survey Area | Description |
|---|---|---|---|
| **Non-statutory Sites (continued)** | | | |
| Blossoms Ends Copse | LWS/ASNW | 880 m north west | A 1.36 ha site comprising ancient woodland. It has been altered since the last survey in 1981 with the construction of a golf course which has divided the copse into two areas. The remaining woodland is described as oak *Quercus robor* and ash *Fraxinus excelsior* woodland with hazel *Corylus avellane* coppice and some wet woodland with alder *Alnus glutinosa*, and Willow *Salix* sp. The south west corner was very wet and supported a good range of wetland species including marsh marigold *Caltha palustris*, creeping jenny *Lysimachia nummularia* and ragged robin *Lychnis flos-cuculi.* |
| Harefield Copse, Mount Skyver, Boxgrove | LWS/ASNW | 890 m north-east | A Lowland Mixed Deciduous Woodland (Section 41 Habitat of principal importance) situated on a westerly slope. The canopy is predominately ash *Fraxinus excelsior* with occasional oak *Quercus robor*, birch *Betula* sp. and some wild cherry *Prunus avium*. The understorey is made up of hazel *Corylus avellane* with hawthorn, field maple *Acer campestre* occasional holly *Ilex aquifolium*, elder *Sambucus nigra* and dogwood *Cornus sanguinea.* Overall twenty-three ancient woodland indicators are present and include stinking iris, soft-shield fern, sanicle, primrose, wood anemone and sweet woodruff. The site is part of a greater area of woodland, west of Tilehurst. |
| **Ancient Woodland Sites** | | | |
| Unidentified Woodland | ASNW | 490 m north-west | No information provided |
| Unidentified Woodland | ASNW | 900 m north-west | No information provided |
| Malpas Copse | ASNW | 1590 m north-west | No information provided |
| Horsemoor Wood/Copse | ASNW | 1,690 m north-west | No information provided |
| Ashes Copse | ASNW | 1,890 m north-west | No information provided |
| Garstons/Kiln Copses | ASNW | 1,280 m north-east | No information provided |
| Yewtree Coppice | ASNW | 1,200 m north-west | No information provided |
| Pinks Grove/Beals Copse | ARW/ASNW | 1580 m north-west | No information provided |
| Curtiss Wood | ASNW | 1,670 m north-west | No information provided |
| Horns Copse | ASNW | 1,870 m north-west | No information provided |
| James/Bennetshill Copses | ASNW | 1890 m south-east | No information provided |
| **Key:**<br>SSSI: Site of Special Scientific Interest<br>LWS: Local Wildlife Site<br>LNR: Local Nature Reserve<br>ASNW: Ancient Semi-Natural Woodland<br>ARW: Ancient Replanted Woodland | | | |

**Table 4.1 (continued): Summary of Nature Conservation Sites**

Not only are two Sites of Special Scientific Interest (SSSIs) located within a 2 km radius of the survey area, but the development site itself falls within the Impact Risk Zone for the Sulham and Tidmarsh Woods and Meadows SSSI, located 1,690 m north-west.

### 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** | | | | | |
| Common pipistrelle *Pipistrellus pipistrellus* | 14 | 2016 | 130 m north-east | - | ECH 4, WCA 5, WCA 6 |
| Daubenton's bat *Myotis daubentonii* | 1 | 2011 | 820 m south | - | ECH 4, WCA 5, WCA 6 |
| Noctule *Nyctalus noctula* | 7 | 2016 | 820 m south | ✓ | ECH 4, WCA 5, WCA 6 |
| Soprano pipistrelle *Pipistrellus pygmaeus* | 15 | 2017 | 820 m south | ✓ | ECH 4, WCA 5, WCA 6 |
| Brown long-eared bat *Plecotus auritus* | 5 | 2016 | 820 m south | ✓ | ECH 4, WCA 5, WCA 6 |
| Unidentified bat *Chiroptera* sp. | 1 | 2007 | 990 m north | # | # |
| Unidentified myotis *Myotis* sp. | 2 | 2016 | Potentially within 1 km* | - | ECH 4, WCA 5, WCA 6 |
| **Mammals - other** | | | | | |
| Badger *Meles meles* | 15 | 2016 | † | - | WCA 6, PBA |
| Water vole *Arvicola amphibius* | 10 | 2015 | 280 m east | ✓ | WCA 5 |
| Brown hare *Lepus europeaus* | 3 | 2011 | 770 m north | ✓ | - |
| Otter *Lutra lutra* | 5 | 2017 | 820 m south | ✓ | ECH 2, ECH 4, WCA 5, WCA 6 |
| Hedgehog *Erinaceus europaeus* | 3 | 2012 | 860 m west | ✓ | WCA 6 |
| **Amphibians** | | | | | |
| Common frog *Rana temporaria* | 1 | 2007 | 680 m south-east | - | WCA 5 S9(5) |
| **Birds** | | | | | |
| Red kite *Milvus milvus* | 2 | 2005 | Potentially within 1 km* | - | WCA1i |
| Merlin *Falco columbarius* | 1 | 2004 | Potentially within 1 km* | - | WCA1i |
| Eurasian hobby *Falco subbuteo* | 1 | 2005 | Potentially within 1 km* | - | WCA1i |
| Peregrine *Falco peregrinus* | 1 | 2005 | Potentially within 1 km* | - | WCA1i |
| Green sandpiper *Tringa ochropus* | 6 | 2003 | Potentially within 1 km* | - | WCA1i |
| Mediterranean gull *Larus melanocephalus* | 1 | 2003 | Potentially within 1 km* | - | WCA1i |
| Barn owl *Tyto alba* | 3 | 2005 | Potentially within 1 km* | - | WCA1i |
| Kingfisher *Alcedo atthis* | 3 | 2005 | Potentially within 1 km* | - | WCA1i |
| Fieldfare *Turdus pilaris* | 1 | 2004 | Potentially within 1 km* | - | WCA1i |
| Greylag goose *Anser anser* | 14 | 2012 | 720 m south-west | - | WCA1ii |
| Black necked grebe *Podiceps nigricollis* | 1 | 2003 | 720 m south-west | - | WCA1i |

**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 |
|---|---|---|---|---|---|
| **Bony Fish** | | | | | |
| European eel *Anguilla anguilla* | 11 | 2009 | 860 m south-west | ✓ | - |
| Barbel *Barbus barbus* | 14 | 2015 | 860 m south-west | - | ECH 5 |
| Bullhead *Cottus gobio* | 4 | 2009 | 860 m south-west | - | ECH 2 |
| Atlantic salmon *Salmo salar* | 7 | 2003 | 950 m south-east | ✓ | ECH 2, ECH5 |
| **Invertebrates** | | | | | |
| Stag beetle *Lucanus cervus* | 6 | 2014 | 500 m south-west | ✓ | ECH 2, 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.
ECH 5: Annex V 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 taking in the wild and exploitation may be subject to management measures.
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(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.

Species of Principal Importance: Species of Principal Importance for Nature Conservation in England.

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

**Birds**
The desk study provided six records of five birds listed as Species of Principal Importance, specifically: grey partridge *Perdix perdix,* lesser spotted woodpecker *Dendrocopos minor,* skylark *Alauda arvensis,* song thrush *Turdus philomelos* and starling *Strurnus vulgaris*.

The desk study further provided seven records of four birds listed under the RSPB Red List, specifically: pochard *Aythya ferina*, red-necked grebe *Podiceps grisegena,* grey wagtail *Motacilla cinerea* and Nightingale *Luscinia megarhynchos*.

The desk study further provided 71 of 13 birds listed under the RSPB Amber list, including but not exclusive to; swift *Apus apus,* mallard *Anas platyrhynchos,* gadwall *Anas Strepera,* widgeon *Anas Penelope* and mute swan *Cygnus olor.*

**Invertebrates**
The desk study provided records of 2 species of invertebrates listed as Species of Principal Importance, specifically – the moth, cinnabar *Tyria jacobaeae* and the butterfly, small heath *Coenonympha pamphilus.*

### 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 |
|---|---|---|---|---|
| Himalayan balsam *Impatiens glandulifera* | 3 | 2013 | 480 m south-east | WCA 9 |
| Japanese knotweed *Fallopia japonica* | 1 | 2013 | 930 m south | 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 C150244-02-01) 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 the 30th July 2019 by Tom Docker, Associate Director. Table 5.1 details the weather conditions at the time of the survey.

| Parameter | Condition |
|---|---|
| Temperature (ºC) | 17 |
| Cloud (%) | 100 |
| Wind (Beaufort) | F2-3 |
| Precipitation | Light showers |

**Table 5.1: Weather Conditions During Field Survey**

## 5.2 SURVEY CONSTRAINTS AND LIMITATIONS

No constraints were experienced during the field survey.

## 5.3 HABITATS

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

- Boundaries;
- Broadleaved woodland;
- Hardstanding;
- Poor semi-improved grassland;
- Scattered trees;
- Scrub; and,
- Tall ruderal.

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

**Boundaries**
The most notable boundary feature on site was an intact, infrequently managed hedgerow located along the north-western site boundary (Plate 9.1). This hedgerow extended between 3 m to 4 m in height and was dominated by hawthorn *Crataegus monogyna* with scattered elder *Sambucus nigra* and elm *Ulmus* sp. interspersed with scrambling species including ivy *Hedera helix* and white bryony *Bryonia alba*. The hedgerow bottom flora included a variety of coarse grass and ruderal species such as false oat grass *Arrhenatherum elatius*, nettle *Urtica dioica*, hogweed *Heracleum sphondylium*, mugwort *Artemisia* sp., hemlock *Conium maculatum*, white campion *Silene latifolia* and hedge bindweed *Calystegia sepium*, which extended into a narrow linear strip of tall ruderal vegetation and scattered scrub to the north and south.

A small section of managed cypress hedgerow formed part of the north-western site boundary.

**Broadleaved woodland**
The majority of woodland habitat is located outside of the site boundary, including a strip located between the eastern boundary and the nearby M4 motorway corridor comprising ash *Fraxinus excelsior* and willow *Salix* sp. over an understory featuring hawthorn, elm *Ulmus* sp. and hazel *Corylus avellana*. A further expanse of ash, alder *Alnus glutinosa* and willow *Salix* sp. dominated woodland planting was recorded on the steep embankment between the south-eastern site boundary and the A4 Bath Road, grading into a strip of young ash plantation with progress to the south-west.

Within the site boundary woodland habitat was restricted to a small pocket of ash and alder adjacent to the western site boundary, comprising a mature ivy-clad ash to c. 12 m in height with a significant area of bark damage on the southern side. This tree was surrounded by early to semi mature ash and alder, also with a covering of ivy. All ivy-covered trees within this group are considered to offer high potential to support roosting bat species.

**Hardstanding**
The north-western region of the site included a small tarmacadam compound enclosed by Heras fencing (Plate 9.1). At the time of the survey this area was used for parking and for the storage of metal containers.

**Poor semi-improved grassland**
The survey area was dominated by a large expanse of species-poor semi-improved grassland that was tussocky in nature and had a mean sward height of 0.75 m (Plate 9.2). The grassland had not been subject to any recent management, which had resulted in significant encroachment by tall ruderal species. In some places where this encroachment was significant the habitat is described separately under 'tall ruderal vegetation' below.

Much of the grassland was dominated by false oat grass and cock's-foot *Dactylis glomerata*, with occasional pockets of dominant ryegrass *Lolium* sp., timothy *Phleum pretense* and couch *Elymus repens*. Forb species were present but loosely distributed, including yarrow *Achillea millefolium*, red clover *Trifolium pratense*, white clover *Trifolium repens*, ribwort plantain *Plantago lanceolata*, knapweed *Centaurea nigra*, poppy *Papaver* sp., creeping cinquefoil *Potentilla reptans*, field bindweed *Convolvulus arvensis* and bird's-foot trefoil *Lotus corniculatus*, however coarse ruderals had encroached into much of the sward. Ruderal species included creeping thistle *Circium arvense*, spear thistle *Circium vulgare*, hogweed, hemlock, common ragwort *Jacobaea vulgaris*, nettle, burdock *Arctium* sp., mugwort, broadleaved dock *Rumex obtusifolius*, bristly oxtongue *Helminthotheca echioides* and comfrey *Symphytum officinale*. Occasional chicory *Cichorium intybus* plants were also noted adjacent to the eastern margin.

In places, particularly towards the south-western corner of the field, the grassland showed evidence of a damp substrate and featured species such as Yorkshire fog *Holcus lanatus*, hard rush *Juncus inflexus* and field horsetail *Equisetum arvense*. Beneath the large pylon the grassland was closely managed and had an improved sward dominated by perennial ryegrass *Lolium perenne*.

**Scattered trees**
A line of semi-mature alder specimens extending to 6-7 m in height was present in the south-western corner of the field. These trees were generally in good condition and offered no potential to support roosting bats.

A mature Lombardy poplar *Populus nigra* extending to 18-20 m in height was recorded adjacent to the north-western site boundary. This tree was generally in good condition and offered negligible potential to support roosting bats.

**Scrub**
Part of the north-eastern site boundary was formed by a band of dense bramble *Rubus fruticosus* agg. scrub adjacent to a patch of broadleaved woodland that was just outside of the site boundary (Plate 9.3). This area of scrub also encroached on the southern boundary of the small area of palisade fencing surrounding the phone mast in the north-eastern corner of the field.

Along the southern edge of the site a strip of dense willow scrub extended out from the embankment of the A4 Bath Road into the site. Towards the south-western corner of the site further strips of willow *Salix* sp., alder and bramble scrub were recorded along the site boundary.

A further area of dense bramble scrub covered part of the eastern boundary fence and adjacent embankment up to Hoad Way. This scrub extended into a further band of bramble and elder that was overgrowing a fence between the site and adjacent residential property to the northwest.

**Tall ruderal**
Scattered pockets of tall ruderal vegetation occurred within the main grassland area, including locally dominant stands of comfrey, nettle, creeping thistle and broadleaved dock. This included sections in the south-eastern and south-western corners where ruderal species outnumbered grassland species.

A fringe of dense tall ruderal vegetation extending to 2 m in height was present along the boundary fence of a small hardstanding compound located in the north-western region of the site. Scattered tall ruderal vegetation also occurred adjacent to the northern boundary hedgerow and along part of the north-western boundary.

### 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**
Goldfinch *Carduelis carduelis*, woodpigeon *Columba palumbus*, common buzzard *Buteo buteo*, great tit *Parus major*, magpie *Pica pica*, carrion crow *Corvus corone*, blackbird *Turdus merula*, starling *Sturnus vulgaris* and red kite *Milvus milvus* were observed on site during the field survey.

**Mammals**
An adult roe deer *Capreolus capreolus* flushed from the vegetation was observed on site during the field survey, as well as prints and scat noted across the site.

**Invertebrates**
Ringlet butterfly *Aphantopus hyperantus*, large white butterfly *Pieris brassicae*, gatekeeper butterfly *Pyronia tithonus*, meadow brown butterfly *Maniola jurtina* were recorded on site during the field survey.

Cinnabar moth *Tyria jacobaeae* caterpillars were noted on site. Common blue damselfly *Enallagma cyathigerum* was also observed on site.

### 5.5 INVASIVE PLANT SPECIES

No invasive plant species were recorded on site during the field survey.

# 6. DISCUSSIONS AND CONCLUSIONS

## 6.1 SUMMARY OF PROPOSALS

The site is to be the subject of a planning application for the development of an employment facility, with associated access infrastructure, drainage and landscaping.

## 6.2 NATURE CONSERVATION SITES

The desk study exercise identified no European statutory sites within 5 km of the survey area, three UK statutory sites within 2 km and four 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**
Pincent's Kiln (SSSI) is located 330 m north-east of the survey area. The remaining nature conservation sites are located in excess of 1,480 metres from the survey area. Given the distance between these conservation sites and the survey area, and the built-up nature of the intervening habitats, it is unlikely that these sites will be directly or indirectly impacted by the proposed development.

The survey area falls within the SSSI Impact Risk Zone for the Sulham and Tidmarsh Woods and Meadows SSSI, located 1,690 m north-west; however, the proposed development does not fall under any of the risk categories associated with this SSSI. As such, statutory nature conservation sites are not a notable consideration with regards to the proposed development.

**Non-Statutory Sites**
Kennet and Avon Canal (LWS) is located 820 m south of the survey area. The remaining non-statutory sites are located 880 m or more from the survey area. Due to the built-up nature of the intervening habitats, and the distance between the non-statutory conservation sites and the survey area, it is unlikely that these sites will be directly or indirectly impacted by the proposed development. Therefore, non-statutory sites are 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.

**Hedgerows**
A hedgerow is defined as any boundary line of trees or shrubs measuring over 20 m in length and less than 5 m wide, and where any gaps between the trees or shrub species are less than 20 m wide (Bickmore, 2002). All hedgerows consisting predominantly (i.e. 80% or more cover) of at least one woody UK native species are listed as a Habitat of Principal Importance in England. The hedgerow on site meets this criterion and is therefore a notable consideration in relation to the proposed works. The hedgerow on site should be retained where possible, however, if loss of this habitat cannot be avoided then appropriate mitigation and compensation measures will need to be implemented. Recommendations regarding hedgerows have been made in Section 7.2.

**Broadleaved woodland**
The semi-natural broadleaved woodland present along the north-eastern boundary of the site is a Habitat of Principal Importance for Nature Conservation in England and is of intrinsic value as it cannot be easily replaced in the short to medium term. This woodland is, therefore, a notable consideration in relation to the proposed development and should be retained where possible. The proposed masterplan (Proposed Masterplan / 18-095-M006), provided in Chapter 8, suggests that the woodland will be retained as a part of

the proposed works. However, if loss of the woodland cannot be avoided, then appropriate mitigation and compensation measures should be implemented. A recommendation has been provided in Section 7.2.

**Scattered trees**
The semi-mature trees on site are of intrinsic value as they cannot be easily replaced in the short to medium term. Semi-mature trees are therefore a notable consideration in relation to the proposed development and should be retained and protected where possible. If loss of this habitat cannot be avoided, then appropriate mitigation and compensation measures will need to be implemented. Recommendations are provided in Section 7.2.

**Hardstanding, poor semi-improved grassland, scrub and tall ruderal**
The remaining habitats are well represented locally, have low species diversity or can be easily recreated post development. Any loss of these habitats would be considered to have minimal impact on the ecology of the local area. These habitats are therefore not considered to be notable consideration.

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 |
|---|---|---|---|
| Hedgerows | ✓ | - | Direct loss, damage or disturbance and root compaction |
| Broadleaved woodland | ✓ | - | Direct loss, damage or disturbance and root compaction |
| Scattered trees | - | - | Direct loss, damage or disturbance and 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 records of seven species of bat within a 1 km radius of the survey area. The closest records were of common pipistrelle, located 130 m north-east of the survey area. A small group of mature and semi-mature ash and alder trees had features with high potential for roosting bats. The broadleaved woodland and areas of scrub and tall ruderal vegetation offer suitable foraging habitat for bats; however, the site lacks good quality connectivity to the surrounding landscape. The proposed development has the potential to impact suitable foraging and roosting habitat for bats. As such, bats are a notable consideration with regards to the proposed development. A recommendation regarding the retention and enhancement of suitable foraging and roosting habitat and for lighting has been made in Section 7.3 and 7.2 respectively.

Badger
The desk study provided fifteen records of badger within a 1 km radius of the survey area. No signs of badger activity, such as setts, latrines or prints, were observed during the field survey on or in the vicinity of the survey area. The refuge and foraging opportunities provided by the woodland and scrub on site means that badgers may use the site to forage opportunistically. Given this and the known records of badger in the area, badgers are a notable consideration and a recommendation has been provided in Section 7.3.

Hedgehog
The desk study provided three records of hedgehog within a 1 km radius of the survey area, the closest located 860 m west. The vast majority of the habitats present on site, including the semi-improved grassland, scrub and woodland, provide suitable foraging and refuge opportunities for hedgehog. It is considered likely that hedgehogs may use the site. To prevent any harm coming to the species during the construction phase, a recommendation regarding foraging and commuting terrestrial mammals has been made in Section 7.3. A recommendation proposing the inclusion of hedgehog passes under any fencing to be built on site has been made in Section 7.2.

Brown hare
The desk study provided three records of brown hare within a 1 km radius of the survey area, the closest located 770 m north. As with the aforementioned terrestrial mammals, the range of habitats available on site provide suitable foraging and potential refuge for brown hare, although lacking in connectivity to preferable core habitat for brown hare (i.e. arable farmland). To prevent any harm coming to brown hare during the construction phase, a recommendation regarding foraging and commuting terrestrial mammals has been made in Section 7.3.

Otter
The desk study provided five records of otter within a 1 km radius of the survey area, the closest located 820 m south, potentially in relation to the Kennet and Avon Canal. No evidence of otter activity such as spraint, holts or prints were recorded on site. No suitable holt creation habitat was present on site and no rivers were present on or in the vicinity of the survey area. More suitable holt creation and foraging habitat for otter was present south of the site, separated by the A4 and largely urbanised areas. Given the lack of connectivity and suitable aquatic habitat on site or in the immediate surrounding area, otters are not a notable consideration with regards to the proposed development.

Water vole
The desk study provided ten records of water vole within a 1 km radius of the survey area, the closest located 280 m east. There is no suitable habitat for water vole on site or within the immediate vicinity of the survey area. Therefore, it is unlikely that water voles will be adversely impacted as a result of the proposed development.

**Amphibians**
The desk study provided a single record of common frog within a 1 km radius of the survey area, located 680 m south-east. The desk study did not provide any records of great crested newt. No ponds (potential breeding sites) were observed on site or in the immediate surrounding area during the field survey. Ordnance Survey mapped data and aerial imagery indicates that there are four ponds within a 500 m radius of the survey area. The site itself is relatively separated either by roads (A4 & M4), residential developments or a business park (to the south) from potential breeding habitat for great crested newts or common amphibians. There is, however, suitable terrestrial habitat present on site in the form of semi-improved grassland and scrub. Ordnance Survey mapped data and aerial imagery also indicates that there are drains adjacent to and in the immediate surrounding area, which may provide temporary refuge for common amphibians. A recommendation regarding sensitive clearance of suitable common amphibian habitat has been made in Section 7.3.

**Reptiles**
The desk study did not provide any records of reptiles within a 1 km radius of the survey area. The habitats present on site offer structural diversity and dense cover in the form of grassland, scrub, hedgerows and woodland, providing potential refuge for reptiles. Given the suitable reptile habitat present on site it is recommended that a reptile survey be undertaken prior to the proposed works commencing. A recommendation has been provided in Section 7.3.

**Birds**
The desk study provided records of eleven 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. It is possible that, given the presence of suitable nesting habitat on site in the form of woodland, hedgerows and scrub, many of the Schedule 1 birds listed in Table 4.2 (see Section 4.3) may use the site to nest and forage. This also applies to the birds listed as Species of Principal Importance known to be in the area. If the proposed works are to be undertaken during the nesting bird season then there is potential for direct impacts upon nesting birds and as such, a recommendation has been made in Section 7.3. Measures to enhance the site for birds are detailed in Section 7.2.

**Invertebrates**
The desk study provided records of 2 species of invertebrates listed as Species of Principal Importance. The semi-improved grassland, scrub, hedgerows and woodland on site support the food plants for the protected invertebrate species known to be in the area including the small heath butterfly and cinnabar moth. Although any invertebrates present within the site may be temporarily displaced during the construction phase of the proposed development, providing new habitats are created as part of the development, no long-term impacts

are anticipated. A recommendation regarding general habitat enhancement, which would increase the value of the site for invertebrates, has been provided within Section 7.2.

**Plants**
The desk study did not provide any records of notable plant species within a 1 km radius of the survey area. No notable plant species were recorded on site during the field survey and, given the common and widespread nature of the habitats on site it is unlikely to support any notable plant species. Therefore, plants are not a notable consideration with regards to the proposed development.

**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: 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: dormouse *Muscardinus avellanarius,* harvest mouse *Micromys minutus,* polecat *Mustela putorius,* pine marten *Martes martes,* stag beetle *Lucanus cervus* and white-clawed crayfish *Austropotamobius pallipes*.

**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 | # | Loss of suitable habitat, direct harm or injury, habitat fragmentation, disturbance through increases in lighting. |
| Badger | - | Loss of suitable habitat, direct harm or injury. |
| Hedgehog | ✓ | Loss of suitable habitat, direct harm or injury. |
| Brown hare | ✓ | Loss of suitable habitat, direct harm or injury. |
| Common amphibians | # | Loss of suitable habitat, direct harm or injury. |
| Reptiles | # | Loss of suitable habitat, direct harm or injury. |
| Birds | # | Loss of suitable nesting and foraging habitat, direct harm or injury, disturbance through increases in lighting. |
| **Key:**<br>#: Dependent on species. | | |

**Table 6.2: Summary of Potential Impacts on Notable Species**

### 6.5 INVASIVE PLANT SPECIES

The desk study provided three records of Himalayan balsam and one record of Japanese knotweed within a 1 km radius of the survey area. No invasive plant species were recorded on site during the survey. Invasive plant species are, therefore, not a notable consideration in relation to the proposed development.

# 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 with regards 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 the hedgerows, woodland and trees on site. Protection measures comprise:

- Trees, Woodland and Hedgerows: Any trees or hedgerows 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.

If retention is not possible, appropriate replacement planting should be incorporated into the soft landscape scheme in accordance with the ecological mitigation hierachy. 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 Local Planning Policy, 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 such as wall and small heath; 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 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.

- Creation of deadwood habitat for herpetofauna and invertebrate species.

**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 hedgerows and woodland edges.
- 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 Ground Level Bat Roost Assessment should be undertaken on the mature ash and alder trees located towards the western edge of the site, which may be impacted by the proposed development works. This assessment can be completed at any time of year. Dependent upon the results of the preliminary assessment, nocturnal emergence and dawn re-entry surveys could be required. Surveys should be undertaken in line with best practice survey guidelines (Collins, 2016), during the bat activity season. The bat activity season is considered to extend from May to September (inclusive), with the optimum survey period between mid-May and August (inclusive).

**R5** **Badger:** Given the suitable habitat present within the survey area and connectivity to adjacent habitat that is suitable for badgers, it is recommended that a Badger Survey is undertaken to determine whether any setts are located within 30 m (exact distance is dependent on the nature of the works, e.g. works which include pile driving may require a wider search radius, or works will small machinery would require a smaller area) of the proposed development area. Should badger setts be identified a badger activity survey may be required. Badger surveys can be completed at any time of the year. Should a badger sett be identified that will be required to be disturbed or closed, works to the badger sett will require a licence from Natural England. Badger setts can be closed between July and November inclusive.

**R6** **Terrestrial Mammals including Badger, Hedgehog and Brown Hare:** 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.

**R7** **Common Amphibians and Hedgehog:** Vegetation clearance/removal should be undertaken in a sensitive manner to avoid harming small mammals (including hedgehog) and common amphibians. If any are found during the course of site-based works they should be removed carefully to a suitably undisturbed location within the near vicinity. This should be completed when these species are active. This is weather dependent but generally extends between March and October inclusive.

**R8** **Reptiles:** A Reptile Survey should be undertaken of suitable habitats within the proposed development site. Reptile Surveys can be completed in suitable weather conditions between April and September (inclusive).

**R9** **Nesting Birds:** Vegetation 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 to be removed or disturbed should be checked by an experienced ecologist for nesting birds immediately prior to works commencing. If birds are found to be nesting any works which may affect them should be delayed until the young have fledged and the nest has been 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.

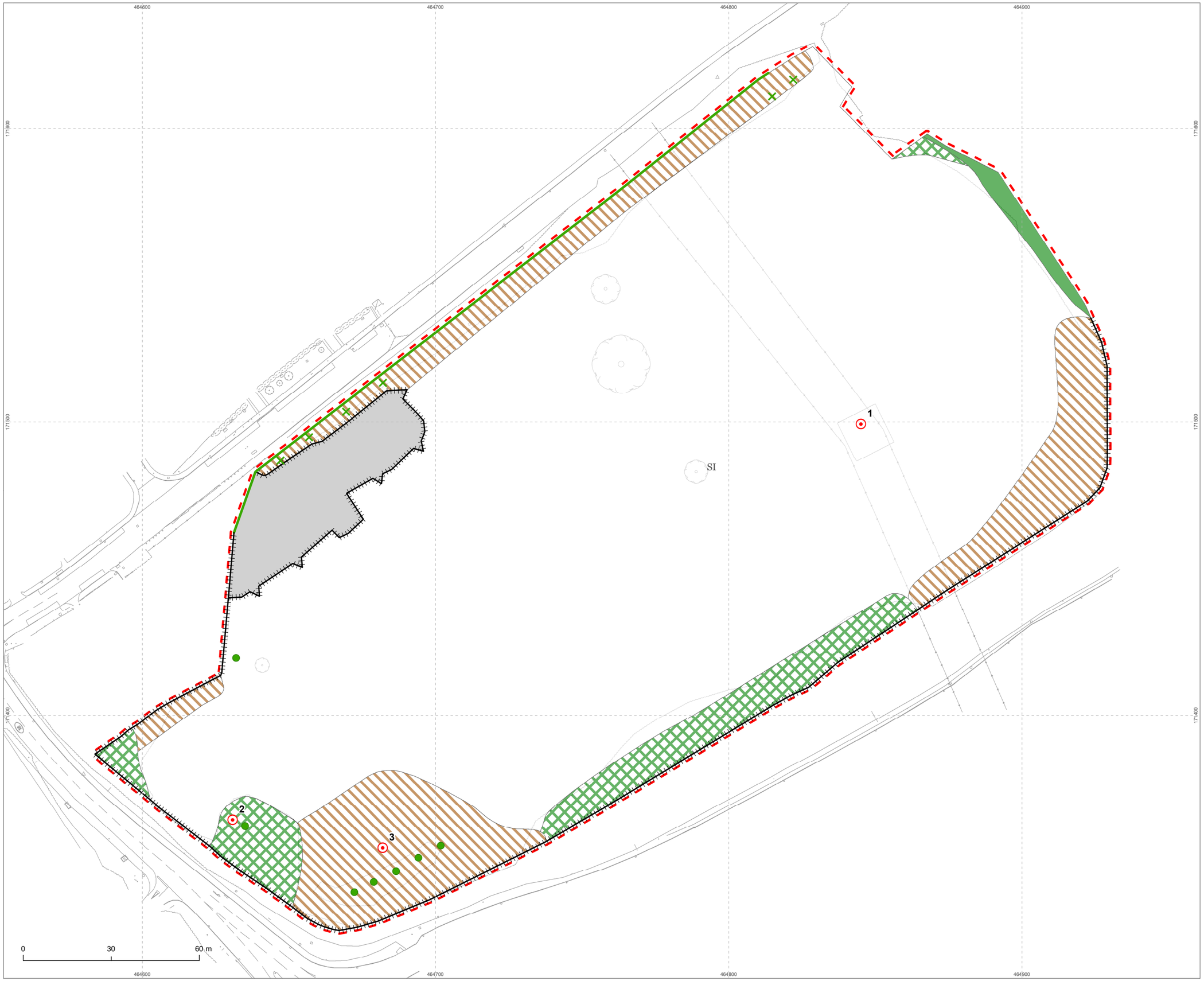
### 7.4 INVASIVE PLANT SPECIES

No recommendations are made with regards to invasive plant species.

# 8. DRAWINGS

Drawing C150244-02-01 – Phase 1 Habitat Map

18-095-M006 – Proposed Masterplan




C150244-02-01

## Legend

- Site boundary
- Scattered broad-leaved tree
- Scattered scrub
- Target note
- Species-poor hedgerow
- Fence
- Dense scrub
- Hardstanding
- SI — Poor semi-improved grassland
- Semi-natural broad-leaved woodland
- Tall ruderal

N

| | |
|---|---|
| Project | Land at Hoad Way, Theale |
| Drawing | Phase 1 Habitat Map |
| Client | Panattoni |
| Drawing Number: C150244-02-01 | Revision: 00 |
| Scale @ A3: 1:1,200 | Date: August 2019 |
| Approved By: TD | Drawn By: GT |

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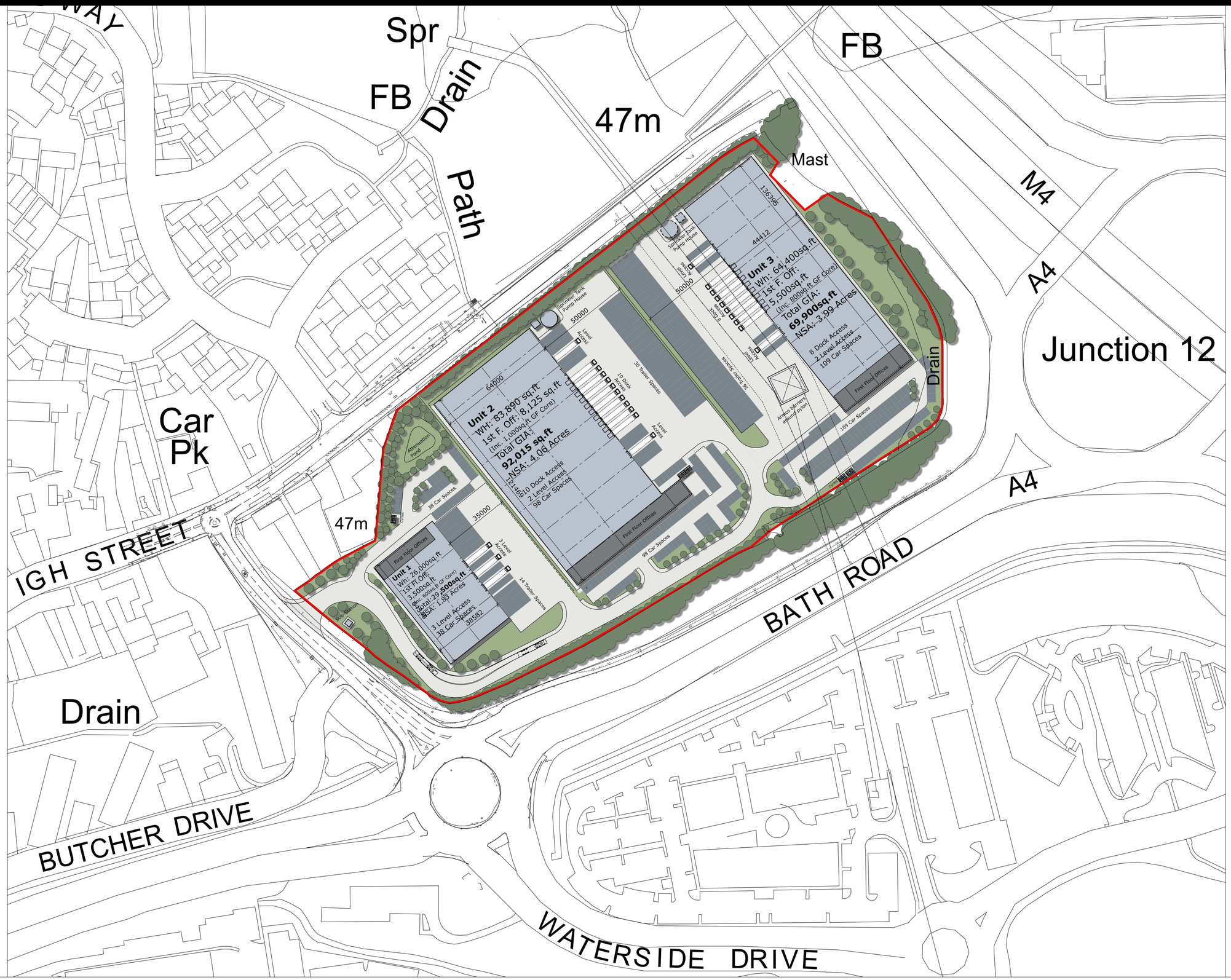
E:admin@middlemarch-environmental.com

# READING, PANATTONI PARK

# PROPOSED MASTERPLAN

| Rev | Date | By | Description |
|---|---|---|---|
| - | | | |




## Area Schedule:

**Unit 1**
Warehouse: 26,000sq.ft
First Fl. Offices: 3,500sq.ft
(Including 600sq.ft GF. Core)
**Total GIA: 29,500sq.ft**
3 Level Access
38 Car Spaces
14 Trailer Spaces
Net Site Area: 1.83 Acres

**Unit 2**
Warehouse: 83,890 sq.ft
Mezz. Offices: 8,125sq.ft
(Including 1,000sq.ft GF. Core)
**Total GIA: 92,015 sq.ft**
10 Dock Doors
2 Level Access
98 Car Spaces
30 Trailer Spaces
Net Site Area: 4.06 Acres

**Unit 3**
Warehouse: 64,400sq.ft
2 St. Offices: 5,500sq.ft
(Including 800sq.ft GF. Core)
**Total GIA: 69,900sq.ft**
8 Dock Doors
2 Level Access
109 Car Spaces
36 Trailer Spaces
Net Site Area: 3.99 Acres

**Total GIA: 191,415 sq.ft**

**Red Line Area: 13.29 Acres**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2a Smith Way, Grove Park,
Enderby, Leicester,
LE19 1SX
t: +44 (0)116 247 0557
www.stephengeorge.co.uk


| | | | |
|---|---|---|---|
| **SGP File Ref:** | 18-095-M006 | **Drawing No:** | M006 |
| **Project No:** | 18-095 | **Rev:** | A |
| **Drawn By:** | MC | **Scale:** | 1:1000@A1 |
| **Date:** | 24-7-2019 | | |

PANATTONI

# 9. PHOTOGRAPHS

**Plate 9.1: Hardstanding, tall ruderal vegetation and hedgerow**

**Plate 9.2: Semi-improved grassland**

**Plate 9.3: Scrub abutting woodland**

**Plate 9.4: Mature ash tree**

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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

Site Check Report Report generated on Thu Aug 15 2019
**You selected the location:** Centroid Grid Ref: SU64747147
The following features have been found in your search area:

**Local Nature Reserves (England)**

**Reference**
1009624
**Name**
HOSEHILL LAKE
**Hectares**
23.59
**Hyperlink**
https://designatedsites.naturalengland.org.uk/SiteLNRDetail.aspx?SiteCode=L1009624

**Sites of Special Scientific Interest (England)**

**Name**
Sulham and Tidmarsh Woods and Meadows SSSI
**Reference**
1000499
**Natural England Contact**
Tim Bernhard
**Natural England Phone Number**
0845 600 3078
**Hectares**
75.75
**Citation**
1003937
**Hyperlink**
http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1003937
**Name**
Pincent's Kiln SSSI
**Reference**
1000522
**Natural England Contact**
TIM BERNHARD
**Natural England Phone Number**
0845 600 3078
**Hectares**
0.21
**Citation**
1000354
**Hyperlink**
http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1000354

**Ancient Woodland (England)**

**Wood Name**
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1495343
**Area (Ha)**
1.005522
**Wood Name**
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1495431
**Area (Ha)**
0.621756
**Wood Name**
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1495569
**Area (Ha)**
1.589625

**Wood Name**
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1494895
**Area (Ha)**
0.111311
**Wood Name**
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1494920
**Area (Ha)**
9.769198
**Wood Name**
ASHES COPSE
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1495179
**Area (Ha)**
0.400658
**Wood Name**
BLOSSOMEND COPSE
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1495466
**Area (Ha)**
0.539514
**Wood Name**
CURTISS WOOD
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1494883
**Area (Ha)**
4.318541
**Wood Name**
GARSTONS/KILN COPSES
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1495032
**Area (Ha)**
6.653045
**Wood Name**
HAREFIELD COPSE
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1495236
**Area (Ha)**
11.305931
**Wood Name**
HORNS COPSE
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1495558
**Area (Ha)**
5.577848
**Wood Name**
JAMES/BENNETTSHILL COPSES
**Theme Name**
Ancient & Semi-Natural Woodland

**Theme ID**
1495486
**Area (Ha)**
7.527052
**Wood Name**
PINKS GROVE/BEALS COPSE
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1495331
**Area (Ha)**
1.284741
**Wood Name**
PINKS GROVE/BEALS COPSE
**Theme Name**
Ancient Replanted Woodland
**Theme ID**
1495446
**Area (Ha)**
9.028391
**Wood Name**
YEWTREE COPPICE
**Theme Name**
Ancient & Semi-Natural Woodland
**Theme ID**
1495368
**Area (Ha)**
2.814093

**National Nature Reserves (England)**
No Features found

**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

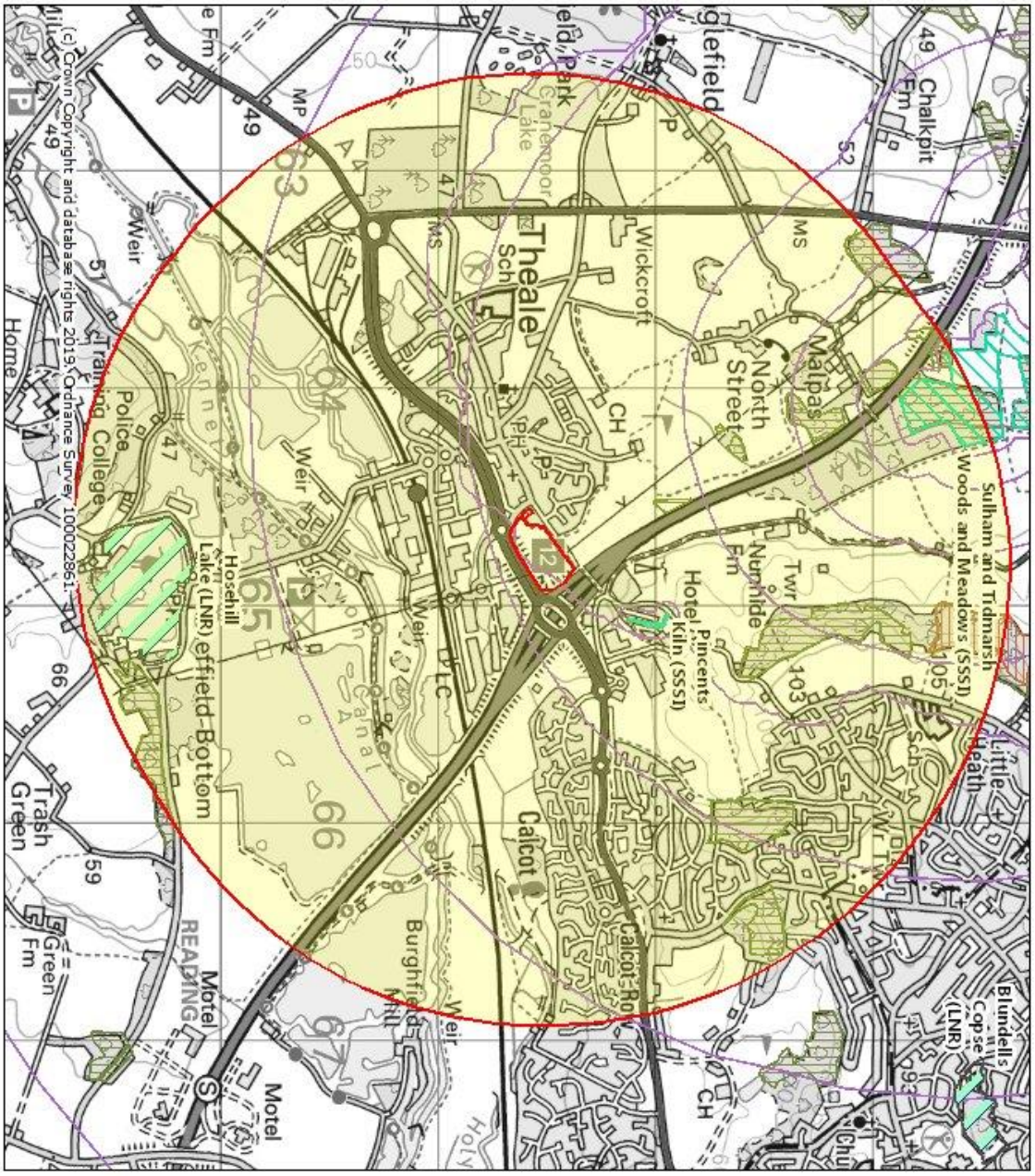
**SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)**

**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**
Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
**Wind & Solar Energy**
**Minerals, Oil & Gas**
Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
**Rural Non Residential**
**Residential**
**Rural Residential**
**Air Pollution**
Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t).
**Combustion**
General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
**Waste**

Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.
**Composting**
Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
**Discharges**
**Water Supply**
Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.
**Notes 1**
**Notes 2**
**GUIDANCE - How to use the Impact Risk Zones**
/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf
**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**
Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
**Wind & Solar Energy**
**Minerals, Oil & Gas**
Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
**Rural Non Residential**
Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.
**Residential**
**Rural Residential**
Any residential development of 100 or more houses outside existing settlements/urban areas.
**Air Pollution**
Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t).
**Combustion**
General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
**Waste**
Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.
**Composting**
Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
**Discharges**
Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).
**Water Supply**
Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.
**Notes 1**
**Notes 2**
**GUIDANCE - How to use the Impact Risk Zones**
/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf

MAGIC

## 2 km Buffer Map




**Legend**

- Local Nature Reserves (England)
- National Nature Reserves (England)
- Sites of Special Scientific Interest (England)
- SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)

**Ancient Woodland (England)**

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland

Projection = OSGB36
xmin = 458100
ymin = 167900
xmax = 471800
ymax = 174800

0 0.5 1 km

Map produced by MAGIC on 15 August, 2019.
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## 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*.

**Badger**
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 England[30]. 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.

**Common Amphibians**
Common frogs, common toad, smooth newt and palmate newt are protected in Britain under Schedule 5 of the Wildlife and Countryside Act (1981, as amended) with respect to sale only. They are also listed under Annex III of the Bern Convention 1979. Any exploitation of wild fauna specified in Appendix III shall be regulated in order to keep the populations out of danger. The convention seeks to prohibit the use of all indiscriminate means of capture and killing and the use of all means capable of causing local disappearance of, or serious disturbance to, populations of a species.

Common toad is listed as a Species of Principal Importance for Nature Conservation in England.

**Reptiles**
All of the UK's native reptiles are protected by law. The two rarest species – sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*) – benefit from the greatest protection; however, these two species are not known to occur within Berkshire. Common lizard (*Zootoca vivipara*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and grass snake (*Natrix natrix*) are protected under the Wildlife and Countryside Act 1981 as amended from intentional killing or injuring.

In England and Wales, this Act has been amended by the Countryside and Rights of Way Act 2000 (CRoW), which adds an extra offence, makes species offences arrestable, increases the time limits for some prosecutions and increases penalties. The Natural Environment and Rural Communities (NERC) Act 2006 places a duty on Government Departments to have regard for the conservation of biodiversity and maintains lists of species and habitats which are of principal importance for the purposes of conserving biodiversity in England and Wales. All native reptile species are included on these lists.

This is a simplified description of the legislation. In particular, the offences mentioned here may be absolute, intentional, deliberate or reckless. Note that where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.

**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.