

Ryefield, St Ippolyts

Ryefield, Stevenage Road, St Ippolyts, Hitchin, SG4 7UW

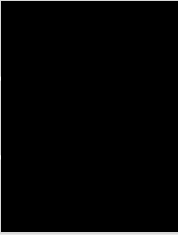
Ecological Impact Assessment (EcIA)

August 2025

Document Amendment History

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1	Draft	30.05.25	Updated Site proposals
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Site Summary

Site / Project Name	Ryefield, St Ippolyts
Site Address	Ryefield, Stevenage Road, St Ippolyts, Hitchin, SG4 7UW
Grid Ref	TL 20198 26734
Client	Sworders
Local Authority	North Hertfordshire Council
Statutory Designations	None on Site.
Non-Statutory Designations	None on Site.

Executive Summary

Maydencroft Limited was commissioned by Samuel Allcock of Sworders to undertake an **Ecological Impact Assessment** (EclA) of the habitats on Site at Ryefield, St Ippolyts, Hertfordshire. The appraisal was required to assess the potential ecological constraints affecting the development of two new houses within the existing garden of Ryefield.

To inform this assessment a range of ecological surveys were undertaken including:

- UK Habs habitat Survey;
- Botanical survey;
- Ground Level Tree Assessments (GLTA);
- Preliminary Bat Roost Assessment (PBRA);
- Pre-works badger walkover.

The habitats on Site are considered suitable to support a number of protected/important species/species groups including roosting, foraging and commuting bats, nesting birds, hedgehogs, and foraging and commuting badgers.

A botanical survey was carried out to confirm the classification of the grassland on Site and determine the abundance and species of the orchids previously identified on Site. The survey confirmed the classification of the grassland on Site as 'Other neutral grassland (g3c)' under UKHab specifications. Only three orchids were observed, none of which are protected under Schedule 8 of the Wildlife and Countryside Act (WCA).

A Ground Level Tree Assessment was carried out to identify Potential Roost Features (PRF) within trees to be removed or

disturbed by the works. No features were identified within any of the trees to be removed. One PRF-I (feature suitable for individual roosting bats) was identified in the treeline along the northern edge of the Site, which may be subject to disturbance.

A Preliminary Bat Roost Assessment was also undertaken of the shed to be demolished and of Ryefield house which may be subject to disturbance. The PBRA found the structures to be of Negligible and Low/Negligible suitability for roosting bats, respectively. No further emergence surveys are required.

A pre-works badger walkover of the adjacent woodland was conducted in anticipation of upcoming archaeology surveys within the garden of Ryefield. No badger setts or evidence of badger activity was identified within 30m of the Site.

No further surveys are recommended prior to the works. Measures to minimise adverse effects on species/species groups which have the potential to be impacted by the proposed development have been set out herein, along with precautionary measures in respect to species throughout the works. To include:

Bats

During the construction phase, the following mitigation should be followed to protect foraging and commuting bats and roosting bats within adjacent habitats:

- All works should be undertaken during normal working daylight hours.
- Sensitive lighting schemes, including using motion activated lights with hooded luminaires
- No lighting should fall or be directed on to the boundary vegetation or the adjacent building.

If permanent lighting is to be installed it must follow the principles of mitigation as outlined within the Bat Conservation Trust and Institution of Lighting Professionals Guidance Note. Mitigation measures for permanent lighting will include:

	- Only luminaires with an upward light ratio of 0% should be used; - All external luminaires used on site should lack UV elements and be warm white coloured (ideally < 2700 Kelvin) to reduce blue-light components; - LED luminaires should be used due to their sharp cut-off, lower intensity, good colour retention and dimming capability; - Where security lighting is installed, this should be motion-activated; - Lights should not be directed at boundary vegetation or at the adjacent building. Where required, lights can be fitted with hoods, baffles or louvres to reduce back-spill.
Badger	Additional pre-works walkover survey of the adjacent woodland to identify any setts within 30m of the Site prior to commencement. Steep sided excavations on Site to have ramps installed and open pipework will be capped.
Birds	Vegetation clearance should avoid bird nesting season. Where it is not possible to do so, an ecologist must first undertake a bird nesting survey. If a bird nest is present a suitable exclusion zone should be set out until the birds have fledged.
Hedgehog	The base of the hedgerow should be checked prior to clearance and any hibernacula should be dismantled and checked prior to clearing. Steep sided excavations on Site to have ramps installed and open pipework will be capped.
Reptiles	The marginal vegetation beneath the treelines on Site should be left undisturbed throughout the works. The grassland on Site should be managed at a low sward height to prevent it progressing into suitable habitat for basking reptiles. Steep sided excavations on Site to have ramps installed and open pipework will be capped.

The following habitats have been identified within and adjacent to the Site with the potential to be impacted by the proposed works: other neutral grassland, individual trees and ornamental hedgerow. The impacts to these habitats are considered ecologically significant and therefore, compensation will be recommended fully in a Biodiversity Net Gain calculation and associated report.

Mitigation measures to protect the habitats on Site include;

- To protect the retained grassland during works, track matting should be installed to limit erosion to the soil
- Good practice measures relating to the storage of hazardous substances and disposal of waste must be followed to ensure these do not enter the soil.
- Any permanent habitat losses must be compensated for through Biodiversity Net Gain (BNG).
- Losses of individual trees should be kept to an absolute minimum.
- All mitigation measures to protect the retained treelines will be detailed within a BS5837 Tree Protection Plan and Arboricultural Method Statement.

Species specific compensation also includes:

- Installation of x2 Shwegler 2F Bat Boxes;
- Installation of x2 Shwegler 1B Hole Nest Boxes;

No residual effects are anticipated as a result of this development if the aforementioned mitigation measures are followed. Enhancements and compensation are required and have been identified. Monitoring of any enhancements should be undertaken prior to any further routine works on Site.

1 Introduction

1.1 BACKGROUND

Maydencroft Limited was commissioned by Samuel Allcock of Sworders to undertake an **Ecological Impact Assessment** (EclA) of the habitats on Site at Ryefield, St Ippolyts, Hertfordshire. The appraisal was required to assess the potential ecological constraints affecting the development of two new houses within the existing garden of Ryefield.

Previous reports undertaken for the proposed development which support the EclA comprise the Preliminary Ecological Appraisal (PEA) produced by Maydencroft Limited, December 2024. This EclA document supersedes the PEA and the written components of the report have been completed by Hannah Brookes, Ecologist of Maydencroft Limited.

1.2 SITE DESCRIPTION

The section of land concerned in the survey (referred to as the 'Site' from hereafter) covers an area of approximately 0.24ha, and lies on the south-eastern edge of St Ippolyts, Hertfordshire. The site covers part of the garden associated with Ryefield, Stevenage Road. It is surrounded by arable fields, woodland, scrub, grassland, treelines, minor roads and residential areas.

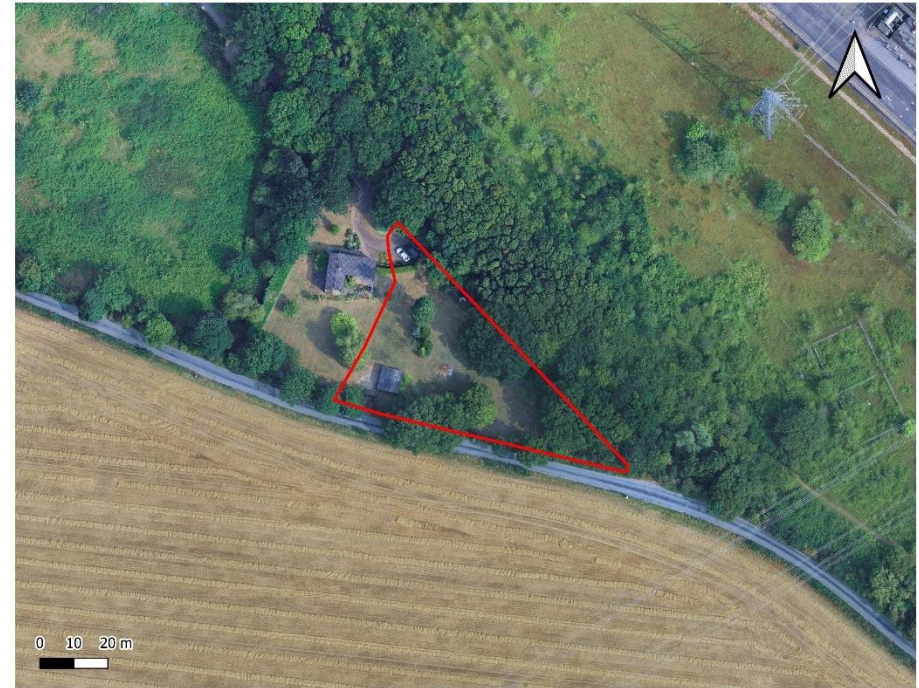


Figure 1. Location of the Site (redline) in its landscape context

1.3 SITE PROPOSALS

The proposed development will involve the construction of two detached houses within the existing garden of Ryefield. The houses will have associated gardens, garages, patios and driveways. A new access road will be constructed from the existing driveway of Ryefield and will lead directly to the new driveways of the proposed dwellings. The development will require the removal of grassland, individual trees and ornamental hedgerow.



Figure 2: Proposed Site layout

1.4 AIMS OF THE STUDY

The aim of this study is to complete an Ecological Impact Assessment of the Site in regard to the proposed works. This report aims to:

- Review and summarise designated sites and biological records returned by the desk study;
- Describe the habitats and features present on Site and evaluate their ecological importance;
- Detail the methods and results of the surveys undertaken on Site;

- Outline the legislative and/or policy protection afforded to any habitats or species of importance likely to be associated with the Site;
- Discuss the predicted impacts on ecological receptors in the absence of mitigation, with recommendations for mitigation measures following the 'mitigation hierarchy' to avoid, reduce or compensate for these impacts.
- Set out recommendations for ecological enhancement measures.

2 Planning Policy & Legislation

2.1 NATIONAL PLANNING POLICY

The National Planning Policy Framework (NPPF) states that the planning system should 'contribute to and enhance' the natural and local environment by, in part;

- Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity.

Other key principles of the NPPF which relate to biodiversity are;

- The conservation of international and national statutorily designated sites;
- Protection of ancient woodland and veteran trees;
- The creation, protection, enhancement and management of networks of biodiversity and green infrastructure;
- The preservation, restoration and recreation of priority habitats and ecological networks, and;
- The recovery of priority species populations.

The NPPF provides information relating to the approach to be taken within the planning system, including the production of Local Development Plans and the determination of planning applications for Local Planning Authorities. The principles set out within this framework should be reflected at a local level

in Local Development Frameworks and other planning policy documents for that area.

2.2 LOCAL PLANNING POLICIES

2.2.1 *The North Hertfordshire Local Plan 2011-2031*

The North Hertfordshire Local Plan 2011-2031 contains planning policies which relate to ecology, biodiversity and/or nature conservation. Those which are considered potentially relevant to the Site are listed below:

Policy SP1: Sustainable development in North Hertfordshire

This Plan supports the principles of sustainable development within North Hertfordshire.

We will:

- a) Maintain the role of key settlements within and adjoining the District as the main focus for housing, employment and new development making use of previously developed land where possible;
- b) Ensure the long-term vitality of the District's villages by supporting growth which provides opportunities for existing and new residents and sustains key facilities;
- c) Grant planning permission for proposals that, individually or cumulatively:
- d) deliver an appropriate mix of homes, jobs and facilities that contribute towards the targets and aspirations in this Plan;
 - i. create high-quality developments that respect and improve their surroundings and provide opportunities for healthy lifestyle choices;

- ii. provide the necessary infrastructure required to support an increasing population;
- iii. protect key elements of North Hertfordshire's environment including biodiversity, important landscapes, heritage assets and green infrastructure (including the water environment); and
- iv. secure any necessary mitigation measures that reduce the impact of development, including on climate change; and
- e) Support neighbourhood plans and other local planning initiatives where they are in general conformity with the strategic policies of this Local Plan.

Policy SP5: Countryside and Green Belt

We support the principles of the Green Belt and recognise the intrinsic value of the countryside. Green Belt and Rural Areas Beyond the Green Belt are shown on the Policies Map. We:

- a. Have conducted a comprehensive review of the Green Belt. Land has been removed from the Green Belt to:
- b. enable strategic development at the locations referred to in Policies SP8 and SP3;
 - i. enable local development around a number of the District's towns and villages; and
 - ii. define boundaries for villages referred to in Policy SP2 which fall within the Green Belt but were previously 'washed over' by this designation;
- c. Have provided new Green Belt to cover, in general terms, the area bounded by the Metropolitan Green

- Belt to the east, the Luton Green Belt to the west and the A505 Offley bypass to the north;
- d. Will only permit development proposals in the Green Belt where they would not result in inappropriate development or where very special circumstances have been demonstrated; and
- e. Will operate a general policy of restraint in Rural Areas beyond the Green Belt through the application of our detailed policies.

Policy SP9: Design and Sustainability

The Council considers good design to be a key aspect of sustainable development. We will:

- a) Support new development where it is well designed and located and responds positively to its local context;
- b) Require Strategic Masterplans to be produced for Strategic Housing Sites and other significant development. Significant development generally comprises residential development of 100 dwellings or more. Exceptionally, developments under 100 dwellings will be considered significant if there are site specific complexities and sensitivities that require a masterplan-led approach. In some circumstances a Strategic Masterplan may also be required to consider the cumulative impact of more than one site to support a co-ordinated and integrated approach to place-making and design.
- c) Require Strategic Masterplans and planning applications for Strategic Housing Sites and significant development to (as applicable):

- i. create buildings, spaces and streets which positively reflect and respond to the local landscape, townscape and historic character
- ii. create integrated, accessible and sustainable transport systems with walking, cycling and public transport designed to be the most attractive forms of transport and effectively linking into the surrounding areas;
- iii. provide a clear structure and hierarchy of pedestrian friendly streets and well-connected footpaths and cycleways integrate with the wider built and natural environment and communities;
- iv. plan for integrated and mixed-use communities with walkable locally accessible community, employment and retail facilities;
- v. positively integrate with adjacent rural and urban communities and positively contribute to their character and the way the area functions, including addressing cumulative, cross boundary planning and infrastructure matters;
- vi. create and accessible multi-functional green infrastructure network that provides:
 - a) a key structuring and functional place-making feature supporting healthy lifestyles, sport, play and recreation linking into the wider Green Infrastructure Network; and North Hertfordshire Local Plan 2011-2031 70
 - b) a high-quality integrated network to support ecological connectivity, biodiversity net gain, climate adaptation and mitigation linking into the wider Ecological Network
- vii. ensure the effective use of sustainable urban drainage and sustainable water management;
- viii. ensure a hierarchy of linked, high quality and attractive public spaces and public realm that is safe, attractive and supports social interaction for all age groups; and
- ix. design to last with a clear stewardship, management and maintenance strategy
- d) Ensure Strategic Masterplans are informed by a technical and design evidence base and include the following for Strategic Housing Sites and where applicable for other significant development:
 - i. site specific vision and place-making principles
 - ii. Masterplan setting out the quantum, scale, type, mix and distribution of land uses, housing and community facilities;
 - iii. Green Infrastructure Framework identifying the scale, distribution, type and design of green spaces, biodiversity net gain, strategic drainage and on and off-site linkages:
 - iv. Movement Framework setting out the key access points, strategic highways, street hierarchy and footways and cycleways (on and off site)
 - v. Urban Design Framework and design principles identifying how the site responds

- to local character and context and key structuring elements and layout principles (including heights and densities)
- vi. Sustainability & Energy Framework identifying site-wide and building scale opportunities for low and zero carbon
- vii. Illustrative Masterplan Layout
- viii. Infrastructure Delivery, Phasing & Management Strategy
- e) Encourage the submission of Strategic Masterplans for the Council's consideration and agreement before the submission of a planning application. We will also confirm the scope and contents of individual Strategic Masterplans with applicants in pre-application discussions. Planning applications must be accompanied by a Strategic Masterplan. Where applications have already been submitted to the Council a Strategic Masterplan should be agreed with the Council prior to or as part of the grant of planning permission. Adherence to the Strategic Masterplan will be secured through planning conditions and/or legal agreement.

Policy SP12: Green infrastructure, landscape and biodiversity

We will accommodate significant growth during the plan period whilst ensuring the natural environment is protected and enhanced. We will:

- a) Protect, identify, manage and where possible enhance a strategic multi-functional network of green infrastructure;

- b) Consider and respect landscape character, scenic beauty and locally sensitive features, particularly in relation to the Chilterns Area of Outstanding Natural Beauty;
- c) Protect, enhance and manage designated sites in accordance with the following hierarchy of designations and features:
 - Internationally designated sites
 - Nationally designated sites
 - Locally designated sites;
 - Non-designated sites that include important habitats and species
- d) Protect, enhance and manage biodiversity networks including wildlife corridors, ancient woodlands and hedgerows, wetland and riverine habitats, Local Geological Sites, protected species, priority species and habitats, and non-designated sites of ecological value and ensure measurable net gains for biodiversity; and
- e) Protect other open spaces and support provision of new and improved open space.

Policy NE1: Strategic green infrastructure

Planning permission will be granted provided that development:

- a) Protects, conserves and where possible enhances the strategic green infrastructure network;
- b) Avoids the loss, fragmentation, severance or negative impact on the function of the strategic green infrastructure network;

- c) Creates new strategic green infrastructure where appropriate and is accompanied by a plan for its long-term maintenance and management; and
- d) Has suitable mitigation measures or appropriate replacement to satisfactorily address adverse impacts on the strategic green infrastructure network.

Policy NE2: Landscape

Planning permission will be granted for development proposals that:

- a) Respect the sensitivities of the relevant landscape character area and have regard to the guidelines identified for built development and landscape management;
- b) Do not cause unacceptable harm to the character and appearance of the surrounding area or the landscape character area in which the site is located, taking account of any suitable mitigation measures necessary to achieve this;
- c) Are designed and located to ensure the health and future retention of important landscape features; and
- d) Have considered the long-term management and maintenance of any existing and proposed landscaping.

Policy NE4: Biodiversity and geological sites

Planning permission will only be granted for development proposals that appropriately protect, enhance and manage biodiversity in accordance with the hierarchy and status of designations and features listed in Policy SP12. All development should deliver measurable net gains for

biodiversity and geodiversity, contribute to ecological networks and the water environment, and/or restore degraded or isolated habitats where possible. Applicants should, having regard to the status of any affected site(s) or feature(s):

- a) Submit an ecological survey that is commensurate to the scale and location of the development and the likely impact on biodiversity, the legal protection or other status of the site;
- b) Demonstrate that adverse effects can be avoided and / or satisfactorily minimised having regard to the hierarchy of protection below:
 - i. locating on an alternative site with a less harmful impact;
 - ii. providing adequate mitigation measures; or
 - iii. as a last resort compensated for.

The acceptability of approach(es) to avoidance, mitigation and compensation will be commensurate with the status of the asset(s) likely to be affected by the application; Compensation is unlikely to be an appropriate solution for proposals affecting nationally or internationally designated sites other than in the most exceptional circumstances.

- c) Include appropriate measures to manage construction impacts by demonstrating how existing wildlife habitats supporting protected or priority species will be retained, safeguarded and managed during construction;
- d) Integrate appropriate buffers of complimentary habitat for designated sites and other connective features, wildlife habitats, priority habitats and species into the ecological mitigation and design. The appropriateness of any buffers will be considered having regard to the status of the

relevant habitat. 12 metres of complimentary habitat should be provided around wildlife sites (locally designated sites and above), trees and hedgerows. It may be necessary to exceed this distance for fragile habitats such as ancient woodland or to provide appropriate root protection for mature trees; and

- e) Provide a long-term management and monitoring plan including mitigation measures as necessary. Local Geological Sites are ratified by the Herts & Middlesex Wildlife Trust (HMWT) and are afforded the same protection as Local Wildlife Sites.

2.2.2 The Hertfordshire Biodiversity Action Plan

Habitats and species of principle importance (Priority Habitats) in the UK are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Actions that need to be undertaken in order to maintain and/or enhance the nature conservation status of these habitats and species are implemented at a local level in the County Local Biodiversity Action Plan (LBAP), the Hertfordshire BAP.

Habitats of importance:

- Woodland
- Wetlands
- Heathland and Acid Grassland
- Neutral Grassland
- Chalk Grassland

- Farmland
- Urban

Species of importance:

- Water Vole (*Arvicola amphibius*)
- Common Dormouse (*Muscardinus avellanarius*)
- Natterer's Bat (*Myotis nattereri*)
- Otter (*Lutra lutra*)
- Tree Sparrow (*Passer montanus*)
- Bittern (*Botaurus stellaris*)
- Stone-curlew (*Burhinus oediconemus*)
- Song Thrush (*Turdus philomelos*)
- Great Crested Newt (*Triturus cristatus*)
- Chalkhill Blue (*Polyommatus coridon*)
- Grizzled Skipper (*Pyrgus malvae*)
- Stag Beetle (*Lucanus cervus*)
- White-clawed Crayfish (*Austropotamobius pallipes*)
- Great Pignut (*Bunium bulbocastanum*)
- Cornflower (*Centaurea cyanus*)
- River Water-dropwort (*Oenanthe fluviatilis*)
- Pasqueflower (*Pulsatilla vulgaris*)

2.3 LEGISLATION

2.3.1 European Legislation

The Bern Convention (The Convention on the Conservation of European Wildlife and Natural Habitats) was adopted in 1979 and came into force in 1982. To implement this

agreement, the European Community adopted the EC Habitats Directive.

The EC habitats directive has been transposed into UK legislation by the Wildlife and Countryside Act (WCA) 1981 (as amended) and the Conservation of Habitats and Species Regulations, 2017. The Countryside and Rights of Way Act (CRoW) 2000 strengthened the existing wildlife legislation in the UK.

The UK has also signed The Bonn Convention (The Convention on the Conservation of Migratory Species of Wild Animals) and is therefore party to various agreements.

2.3.2 *National Legislation*

The WCA 1981, as amended by the CRoW 2000 and NERC Act 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive).

The WCA gives protection to native species (especially those under threat), controls the release of non-native species, enhances the protection of SSSIs and builds upon the rights of way rules in the National Parks and Access to the Countryside Act 1949.

The NERC Act places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations. Please see [Appendix C](#) for protected species legislation relevant to the Site.

3 Methodology

3.1 GUIDELINES FOR ECOLOGICAL IMPACT ASSESSMENT

This report has been produced based on the Guidelines for Ecological Impact Assessment (Chartered Institute of Ecology and Environmental Management, 2019). It includes an overview of Phase 1 and Phase 2 ecology surveys and identifies, quantifies and evaluates the potential effects of the development on habitats, species and ecosystems on Site.

3.2 SCOPE OF THE ASSESSMENT

This assessment has been produced to identify which ecologically important features lie within the zone of influence (Zol) of the proposed development and to assess how they will be impacted by the proposed works. Ecologically important features considered within this assessment include statutory and non-statutory designated sites, protected and important species and habitats.

Important ecological features have been identified and assessed against potential environmental changes to which they are likely to be sensitive, considering the spatial and temporal scope of the proposed development. The Zol of the proposed development differs depending on the ecological features and other factors such as time of year, time of day, hydrological connectivity, and/or the life stage of a species (CIEEM, 2018). Therefore, the Zol for each ecological features is not listed but is referred to in the assessment when necessary.

The desk study area to inform the Zol was defined as within:

- International statutory designated sites within 5km;
- National statutory sites within 5km;
- Non-statutory sites within 2km;
- Protected and important species and habitats within a 2km radius of the Site.

The survey area of the field survey was informed by Zol and was defined as:

- Habitats present on Site and those of interest surrounding the Site;
- Botanically important species or habitats on Site;
- Bat roosts, commuting routes and foraging areas on Site and in bordering hedgerows and trees;
- Bat roosts in buildings on Site and adjacent to Site;

3.3 DESK STUDY

To provide contextual background to this project, a desk study has been undertaken to search for the following:

- International statutory designated sites within 5km;
- National statutory sites within 2m;
- Non-statutory sites within 1km;
- Protected and important species and habitats within a 2km radius of the Site.

These 'study areas' were considered appropriate for the scale of the proposed works and follow best practice guidance. The desk study was conducted using online sources such as Magic Map alongside data on protected/notable species and

local sites from Hertfordshire Environmental Records Centre (HERC). The data was returned on 4th December 2024.

3.4 BOTANICAL SURVEY

A botanical survey of the grassland on Site was undertaken on the 7th May 2025, whilst grasses are flowering and identification to species level is most successful. A square metre quadrat was used to take ten random samples of botanical species present in each field. The name and relative abundance of each species present within the quadrat was recorded using the DAFOR scale where D=dominant, A=abundant, F=frequent, O=occasional, R=rare. A photograph and accurate location were taken for each quadrat to ensure that the samples provided sufficient coverage of each area. A walkover survey for notable species not included within the quadrats was also conducted.

3.5 GROUND LEVEL TREE ASSESSMENT

A Ground Level Tree Assessment (GLTA) was undertaken on Site by Hannah Yetman, Ecologist of Maydencroft Limited on the 7th May 2025. The GLTA included a ground-level search for PRF on the trees present on site. The surveyor was equipped with; binoculars, a laser clinometer, diameter at breast height tape and surveying forms. The survey was conducted following best practice guidance (BCT 2023, BTHK, 2024).

Information collected about the tree included: UKHabs habitat type, tree species, tree height, whether the tree is alive/dead, diameter at breast height, and number of stems present. Information collected about the PRFs included: whether the

PRF is on the stem or limb, the PRF type, height of PRF and direction the PRF faces. The height and orientation of the entrance of the PRF was also noted where required.

3.6 PRELIMINARY BAT ROOST ASSESSMENT

A Preliminary Bat Roost Assessment (PBRA) was undertaken by Hannah Yetman, Ecologist and Hannah Brookes, Ecologist of Maydencroft Limited on the 7th May 2025, extending to the large existing shed which is to be demolished (Building 1) and Ryefield house itself (Building 2).



Figure 3. Location of buildings assessed during the PBRA

The PBRA was undertaken to evaluate the structures' suitability to support roosting bats and identify potential

roosting features (PRF). The structures were surveyed using close-focusing binoculars and a high-powered torch. All potential bat access/egress points and features with bat roosting suitability were identified and recorded along with any evidence which may have indicated the location of roosts.

The interior of the shed was also inspected during the PBRA for droppings, feeding signs and other indicators of a roost. Internal inspection of the main house was not possible during the survey. However, this is not considered to be a limitation as the house appeared to lack a significant loft space and is not to be directly affected by the development.

The buildings were then given an overall suitability to support roosting bats, following the criteria outlined in the *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2023).

3.7 PRE-WORKS BADGER WALKOVER SURVEY

A pre-works badger walkover survey was conducted within the adjacent woodland on the 29th August 2025 by Hannah Brookes, Ecologist of Maydencroft Limited. The pre-works walkover was conducted in anticipation of upcoming archaeology surveys within the garden at Ryefield which would involve the excavation of trenches using heavy machinery.

Due to access constraints, the majority of the habitat was assessed from the roadside, using high-power binoculars to search for sett entrances and other signs of badger activity such as latrines and mammal paths. Due to the open nature of the woodland, favourable topography and lack of scrub

obstructing the view, this is not considered to pose any significant limitation on the survey results.

3.8 ASSESSMENT

Significance has been determined within geographical contexts and the legal protection afforded to habitats and species within those geographical contexts. The geographical importance of each habitat and species within the Zol. Table 2 outlines the criteria utilised to assess the importance of ecological features.

Ecological impacts were determined following the below criteria:

- Positive or negative impact
- Extent of the impact
- Magnitude of the impact
- Duration of the impact
- Frequency and timing of the impact
- Whether the impact is reversible or not.

The assessment will only discuss the characteristics of the impact where they are relevant to determining the significance of the impact.

Table 1: Geographic importance of habitats and species (CIEEM 2018)

Geographic importance	Description
International	Natura 2000 sites such as Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar sites are considered to be of international importance. Areas of habitats or populations of species which would qualify for Natura 2000 site status but is not currently designated. (ie the amount of habitat

Geographic importance	Description
	present or number of species present meet the criteria for designation) are considered internationally important.
National	Sites of Special Scientific Interest (SSSI) or National Nature Reserves (NNR) are considered to be of national importance. Areas of habitats or populations of species which meet the criteria for SSSI designation but are not yet designated, are considered to be of national importance. All areas of ancient woodland and all veteran trees are considered to be of national importance. Habitats and Species of Principal Importance within the NERC Act (2006) are considered to be of national importance.
County	Non-statutory designated sites are determined to be of county importance.
District	District is utilised only when valuing foraging and commuting habitats for bats.
Local	Common and widespread habitats and species within the study area in proportions greater than may be expected in the local context.
Negligible	Common and widespread habitats and species within the study area which do not exceed those of the surrounding area. Areas of urban or heavily modified habitats.

A significant effect is an effect that either supports or undermines biodiversity conservation objectives for important ecological features or for biodiversity in general (CIEEM 2018). Where significant effects are present, they have been classified at an appropriate geographic scale.

3.8.1 Mitigation hierarchy

The mitigation hierarchy is comprised of four principals: avoidance, mitigation, compensation and offset to enhance biodiversity. Throughout the project, the mitigation hierarchy has been followed, where possible, impacts have been

avoided. Where they could not be avoided sufficient mitigation has been outlined. Where mitigation is not sufficient, compensation and enhancements have been recommended.

3.9 SURVEYOR QUALIFICATIONS

Hannah Brookes- Ecologist, BSc (Hons) *Qualifying* CIEEM
Hannah has two years of experience carrying out ecological surveys and producing reports.

Hannah Yetman- Ecologist, BSc (Hons) ACIEEM AMIEnvSc
Hannah has over three years of professional survey, reporting, consultancy and project management experience. She also holds Level 1 Class Licences for Great Crested Newt and Bat and is a certified tree climber.

4 Baseline Ecological Conditions

4.1 DESIGNATED SITES

4.1.1 International Statutory Sites

No statutory sites of designated international importance were identified in the search area.

4.1.2 National Statutory Sites

No statutory sites of designated national importance were identified in the search area.

4.1.3 Non-Statutory Sites

A total of nine Local Wildlife Sites (LWS) are located within 2km of the Site, four of which lie within 1km. The closest is Wymondley Transforming Station, which runs adjacent to the Site's northeast boundary just 10m from the search location and covers an area of 20.44ha. This LWS, a former gravel pit, has been landscaped to serve as the grounds of a transformer station. It features a poor, stony substrate on chalk, with minimal grasses recorded. Raised banks within the area host coarse calcareous grassland, which is gradually being encroached upon by scrub from the periphery. Notable grassland indicator species observed include Common Knapweed (*Centaurea nigra*), Bird's-foot Trefoil (*Lotus corniculatus*), Fairy Flax (*Linum catharticum*), Ploughman's Spikenard (*Inula conyza*), Yellow-wort (*Blackstonia perfoliata*), Wild Strawberry (*Fragaria vesca*), Wild Parsnip (*Pastinaca sativa*), and Pyramidal Orchid (*Anacamptis*

pyramidalis). The site has been designated due to the presence of grassland indicator species.

Sperberry Hill House Meadow LWS covers an area of 1.72 ha, located 240m southwest of the site, and is also designated for the grassland indicator species it supports. The site comprises unimproved neutral-calcareous grassland situated east of Ippollitts Brook. It is bordered by old hedgerows and scattered trees, primarily Pedunculate Oak (*Quercus robur*) and Beech (*Fagus sylvatica*). The grassland sward supports indicator species, including Sweet Vernal-grass (*Anthoxanthum odoratum*), Lady's Bedstraw (*Galium verum*), Field Wood-rush (*Luzula campestris*), and Common Sorrel (*Rumex acetosa*).

The remaining two LWS are both located over 500m from the Site and are designated for the presence of wet alder woodland, fen, wet grassland, botanical diversity and associated listed buildings. Three areas of Ancient Woodland are present within 2km of the Site, but none within 1km.

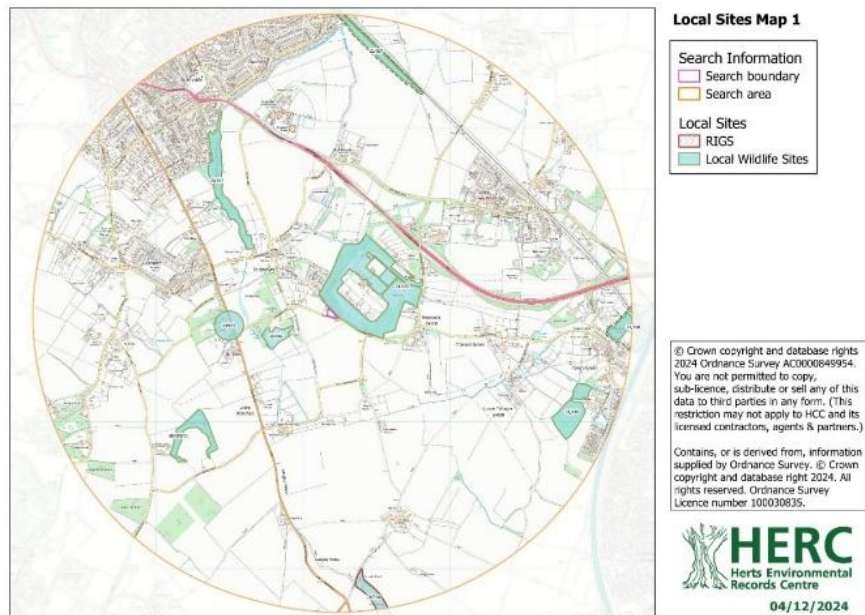


Figure 4. Location of non-statutory designations surrounding the Site.

4.2 HABITATS

4.2.1 Other neutral grassland (g3c)

Reference 1

The majority of the Site was dominated by well managed grassland of moderate species diversity. The sward height was short throughout and was covered with leaf litter from surrounding trees at the time of survey. Grass species present include perennial rye (*Lolium perenne*), smooth meadowgrass (*Poa pratensis*), Yorkshire fog (*Holcus lanatus*) and fescue species (*Festuca* spp.). Broadleaved

species were widespread, with dominant species including daisy (*Bellis perennis*), ribwort plantain (*Plantago lanceolata*), field madder (*Sherardia arvensis*), white clover (*Trifolium repens*), parsley piert (*Aphanes arvensis*) and selfheal (*Prunella vulgaris*). Other broadleaved species include autumn hawkbit (*Scorzoneroides autumnalis*), smooth catsear (*Hypochaeris glabra*), yarrow (*Achillea millefolium*), creeping cinquefoil (*Potentilla reptans*), spear thistle (*Cirsium vulgare*), ragwort (*Jacobaea vulgaris*), sorrel (*Rumex acetosa*), bulbous buttercup (*Ranunculus bulbosus*), common sowthistle (*Sonchus oleraceus*), mouse ear chickweed (*Cerastium biebersteinii*). A couple of orchids (*Orchidaceae* spp.) were observed but were very rare across the parcel. Some patches were dominated by either daisy, parsley piert, field madder or moss (*Bryophyte* spp.). Evidence of a bonfire was noted at the centre of the grassland (TN 1).

This habitat does not qualify as a Habitat of Principle Importance (HPI). Due to the presence of orchids and moderate species diversity across the habitat parcel, a botanical survey within the optimal period for botanical identification (May-September) was deemed necessary to determine the ecological significance of the habitat.

4.2.1.1 Botanical survey

A botanical survey of the grassland which dominates the Site was carried out on the 7th May 2025 to more accurately identify notable species on Site, such as orchids, and confirm the classification of the habitat under UKHab specifications. A comprehensive results table showing all species recorded within each quadrat is provided in [Appendix D](#).

Nine random quadrat samples were taken across the Site, which contained an average species diversity of 8 species per square metre. Species regularly recorded across multiple quadrats include smooth meadowgrass, creeping cinquefoil, parsley-piert, bulbous buttercup, self-heal, field madder (*Sherardia arvensis*), and ribwort plantain.

The grassland was generally dominated by species indicative of neutral soils such as daisy, false-oat grass (*Arrhenatherum elatius*), ribwort plantain, yarrow, creeping bent (*Agrostis stolonifera*) and self-heal but also contained some calcareous indicators such as rough hawkbit (*Leontodon hispidus*), hoary plantain (*Plantago media*), pyramidal orchid (*Anacamptis pyramidalis*) and lesser knapweed (*Centaurea nigra*). The species on Site indicate neutral-calcareous soils and lacked sufficient lowland meadow habitat indicators. Therefore, the grassland is confirmed as 'other neutral grassland (g3c)' under UKHab guidelines.

A walkover survey was conducted for orchids, which only identified three plants, all towards the eastern end of the Site. The leaves had been damaged by mowing but were identified as pyramidal orchid and bee orchid (*Ophrys apifera*). Both species favour calcareous soils but are also known to colonise disturbed ground such as verges and spoil heaps, which may explain their presence within a residential garden. Neither species is protected from picking or destruction under Schedule 8 of the WCA and a permit is not required for their removal.

4.2.2 Other neutral grassland, tall forbs (g3c, 16)

Reference 2

A small area to the east of the Site is comprised of uneven substrate entirely dominated by tall common nettle (*Urtica dioica*). This area has likely been used for storage or composting in the past and is heavily nutrient enriched. This habitat does not qualify as a HPI and is not considered ecologically significant.

4.2.3 Building (u1b5)

Reference 3

A disused garage is located to the southwest of the Site. The structure is comprised of timber panels with double doors and a corrugated plastic roof. This habitat does not qualify as a HPI and is not considered ecologically significant.

4.2.4 Developed land; sealed surface (u1b6)

Reference 4

An area of hardstanding is situated to the southwest of the Site, adjacent to the existing garage. This habitat does not qualify as a HPI and is not considered ecologically significant.

4.2.5 Line of trees, broadleaved (w1g, 33)

Reference H1 & H4

A line of trees (H1) runs along the northern Site boundary. The treeline is comprised of oak (*Quercus robur*), ash (*Fraxinus excelsior*), rowan (*Sorbus aucuparia*) and field maple (*Acer campestre*), ranging from young to mature. Patches of scrub comprised of hawthorn (*Crataegus monogyna*), elder (*Sambucus nigra*) and bramble (*Rubus fruticosus*) were present in places. Ground cover beneath the

treeline was comprised of coarse grasses such as false oat (*Arrhenatherum elatius*) and brome species (*Bromus* spp.) as well as bramble, ivy (*Hedera helix*), stitchwort (*Stellaria* spp.) and stinking iris (*Iris foetidissima*).

The treeline contained three very large mature oaks (TN2) which all appeared to be healthy, with no signs of damage or decay. Oak apple galls were noted on one mature oak tree at the eastern end of the treeline, but appeared otherwise in good condition. The stem of a fourth mature oak is present, which has had all limbs removed and cut down to a height of approximately 7m. The removal of limbs has left large upwards facing cavities in the upper surface. Some smaller dead trees are also present.

A line of trees (H4) also runs along the southern Site boundary, behind a derelict wooden panel fence. The treeline is dominated by oak with some field maple present, with trees ranging from semi-mature to mature in age. Hawthorn and blackthorn (*Prunus spinosa*) scrub is present in places with dogrose (*Rosa canina*), bramble and ivy climbing over much of it. The canopy is generally continuous, except for one gap where there is some standing deadwood.

These habitats do not qualify as an HPI but are considered ecologically important at a local level due to the presence of large mature native oak trees.

4.2.6 Non-native and ornamental hedgerow (h2b)

Reference H2, H3 & H5

Reference H2 runs along the southwestern Site border, adjacent to Reference 2. The hedgerow is comprised of cherry laurel (*Prunus laurocerasus*) which has become

woody and overgrown. The upper branches reach approximately 4m high, but the majority are dead. Bramble and nettle are also present within the hedge and gaps are present.

Reference H3 includes a short stretch of young, planted bamboo (*Bambusoideae* spp.) adjacent to the existing garage. The tallest individuals reach approximately 5m high, and the hedge is less than 1m wide.

A cypress (*Cupressaceae* spp.) hedge runs in an east-west direction to the north of the Site (H5). The hedge is approximately 2.5m high and 1.5m wide and has been well maintained. This habitat does not qualify as a HPI and is not considered ecologically significant.

4.2.7 Individual trees (g3c, 200)

T1-T14

A number of individual trees are present within Reference 1. All trees are young and include one rowan (T1), one silver birch (*Betula pendula*) (T2), two hornbeam (*Carpinus betulus*) (T3 & T4), cypress (T8-T11) and crab apple (*Malus sylvestris*) (T12-T14). Most trees appeared to be generally healthy, although some were slightly crowded. The crab apples present had undergone extensive pruning in the past. Two small dead trees were present adjacent to the existing garage (T6 & T7). Individual trees do not qualify as HPIs however, are considered ecologically significant at a local level.

4.2.8 Individual trees, mature (g3c, 203)

One mature Lombardy poplar (*Populus nigra*) was present to the north of the Site, adjacent to a number of other trees

including cypress and crab apple. The tree was well developed and appeared healthy with no signs of damage or disease. Individual trees do not qualify as HPIs however, are considered ecologically significant at a local level.

4.2.9 *Habitats adjacent Site*

Habitats adjacent to Site include deciduous woodland, built linear features, a residential house and garden and arable fields. The wider area contains arable farmland, residential properties, grassland, woodland belts and scrub.

Priority habitats within 2km of the Site include traditional orchards and deciduous woodland. A parcel of deciduous woodland is situated approximately 7m north of the Site, separated only by a narrow tarmac road.

4.3 SPECIES

4.3.1 Amphibians

4.3.1.1 Desk Study

The data search from Herts Environmental Records Centre (HERC) returned a total of 35 amphibian records, 14 of which were for great crested newt (*Triturus cristatus*). The closest great crested newt (GCN) records were located 318m northwest of the Site, including two records from 2019. The most recent record is from 2020, 1.83km east of the Site.

A total of 21 records of common toad (*Bufo bufo*) were returned. The two closest records of common toad were also located 318m northwest of the Site, recorded in 2015. The most recent record was from 2020, recorded approximately 540m west of the Site.

Waterbodies within 500m of the Site were identified during the desk study and assessed for their potential to support breeding amphibians such as great crested newt. Waterbodies separated from the Site by significant barriers to migration such as major roads, rivers, built up areas etc. were discounted. A total of three waterbodies were identified within 500m of the Site. This includes St Ippolyts Brook approximately 440m southwest of the site, and Ash Brook approximately 450m north of the Site. Both waterbodies are considered likely unsuitable for breeding GCN due to the presence of flowing water as GCN require still or slow-flowing water in which to display and lay eggs. A small pond was present approximately 490m southwest of the Site which is considered potentially suitable.

4.3.1.2 Site Suitability

The grassland habitat which dominates the Site is considered unsuitable habitat for terrestrial phase GCN due to regular management. The treelines with intermittent scrubby ground cover along the north and south of the Site may provide some suitable habitat for sheltering GCN. Woodland, which is considered suitable habitat for terrestrial phase GCN surrounds the singular pond and is abundant in the locality. Therefore, it is considered highly unlikely that GCN would migrate through more suitable habitat to utilise the suboptimal habitat on Site. The presence of one singular pond further decreases the chance of GCN being present, as they often utilise collections of waterbodies to aid dispersal.

Given the abundance of more suitable habitat in the area, the presence of only one suitable waterbody, and the substantial distance of the pond from the Site, GCN are considered likely absent from Site.

4.3.2 Bats

4.3.2.1 Desk Study

The data search provided 110 records of eight different bat species, including common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathusius' pipistrelle (*Pipistrellus nathusii*), Natterer's bat (*Myotis nattereri*), noctule (*Nyctalus noctula*), serotine (*Eptesicus serotinus*), Daubenton's bat (*Myotis daubentonii*) and brown long-eared bat (*Plecotus auritus*). The closest record was of a common pipistrelle, located 193m southeast of the Site, recorded in 2019. The most recent record was also of a common pipistrelle, recorded in 2021, approximately 935m southwest of the Site.

4.3.2.2 Site Suitability

There is suitable habitat for roosting bats on Site in the form of mature trees and standing deadwood within treelines. A number of the trees were found to contain peeling bark, broken branches or cavities. A large weeping willow adjacent west of the Site boundary was found to contain a woodpecker hole. The individual trees scattered across the Site were generally small, young trees in good condition, which are considered unlikely to contain PRF. Although there were a couple of dead individual trees, they were also small and did not appear to contain PRF at the time of survey. As such, roosting bats cannot be ruled out from the treelines on Site but are considered likely absent from the young individual scattered trees.

The existing garage to the southwest of the Site is constructed of timber panels with double wooden doors and a clear plastic corrugated roof. A couple of small entrance points were observed, including gaps underneath the corrugated roof and some small gaps around the doors. Due to the transparent nature of the plastic roof, this would not be considered a PRF in itself as bats require darkness during the day but would provide the structure with good thermal insulation. This entrance point may lead to a darker, more suitable roof cavity. Part of the wooden soffit on the southern aspect was damaged, but did not appear to have created an entrance point to the internal structure. A light fixture was present on the western aspect, which may deter roosting bats if illuminated at night. As such, roosting bats are considered unlikely to be present within the garage, although presence cannot be ruled out as inspection of the internal structure was not carried out during the walkover survey.

The treelines on Site are also considered moderately suitable habitat for foraging and commuting bats, due to their connectivity to other suitable habitat in the form of woodland, hedgerows and treelines.

4.3.2.3 Ground Level Tree Assessment (GLTA)

The GLTA identified a single tree with potential roosting features with suitability for roosting bats. The feature was classified as “PRF-I”, meaning that it may be suitable for individual bats or small numbers of bats. The feature does not provide any suitability for a maternal or hibernation roost.

Two further PRF were identified, but further inspection using an endoscope showed both features to be unsuitable for roosting bats. The trees are identified in Figure 5 below. The full results of the GLTA are provided in [Appendix E](#)

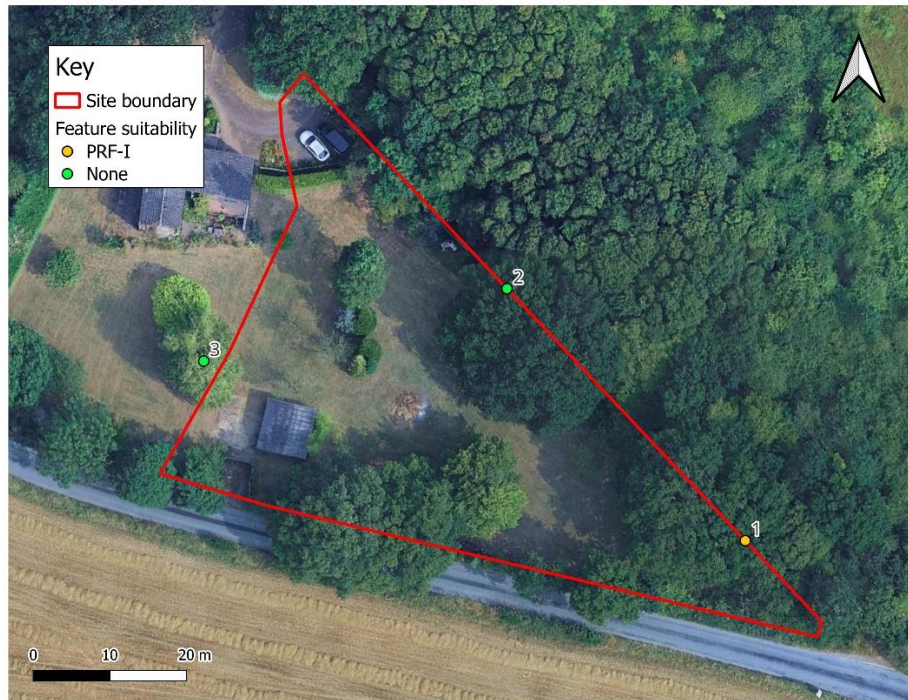


Figure 5. Map showing the location of Potential Roosting Features on Site

4.3.2.4 Preliminary Bat Roost Assessment (PBRA)

Building 1

The wooden shed on Site measured approximately 7m long and 6m wide. It was predominantly constructed of single layered timber planks with no insulation. The roof was flat and constructed of transparent corrugated plastic. Double wooden doors were present on the western face with a light situated directly above. The interior of the building was very

light due to the plastic roof, and mostly empty, with only a few shelves on the walls and lawn mowers stored inside.

Potential entry/egress points were observed in the form of gaps between wooden planks and beneath the edges of the roof. However, given the amount of light entering the structure due to the transparent plastic roof, any bats which may be able to enter would not utilise the structure as a day roost as they require darkness. In addition, the building is unlikely to retain a stable temperature during the night or over the winter due to the lack of insulation and thin roof, making it further unsuitable for roosting or hibernating bats. Wing casings were noted within cobwebs along the walls, which can be a sign of feeding behaviour. However, this is most likely due to several wasp nests noted within the structure rather than habitual use as a feeding roost.

As such, Building 1 is considered to be of 'Negligible' suitability for roosting bats due to the bright light conditions and lack of thermal stability, and roosting bats are considered likely absent. Therefore, in line with the *Bat Conservation Trust – Bat Survey Guidelines for Professional Ecologists*, the demolition of the building is approved to continue without further survey or mitigation for roosting bats.

Building 2

Ryefield house is situated outside of the Site boundary and will not be subject to any direct impacts. However, a PBRA was undertaken due to its proximity to the working area and the potential for the disturbance of any roost which may be present. The house measured approximately 14m wide and 11m long, with a sloping roof and porch on the northern aspect. The building was of a contemporary design,

constructed of brick with large windows, glass doors and a tiled roof. The windows extended almost up to the roof, suggesting that the building lacks a substantial loft cavity.

A single roosting feature was identified on the eastern face of the building. A small gap in the brickwork was identified at the edge of a wooden doorframe, approximately 2m high. The entrance measured approximately 4cm in diameter and may extend further along the doorframe. At the time of survey, the cavity was occupied by an active blue tit (*Cyanistes caeruleus*) nest and as such, roosting bats are considered likely absent from this feature during the present active season due to the presence of a competitor. Blue tits are known to return to the same nesting sites year upon year, often spanning generations, so it is considered likely that the cavity will also be occupied for subsequent active periods.

The feature did not show any suitability for hibernating bats due to its exposure to the environment and lack of thermal stability.

At the current time, Building 2 is considered to be of 'Negligible' suitability for roosting bats due to the presence of a bird nest in the only recorded feature. If nesting birds are not present in subsequent years, the building is considered to be of 'Low' suitability for roosting bats due to the presence of a single roosting feature.

As the building is not subject to any direct works and the impacts of any disturbance are considered minimal due to the low likelihood presence of roosting bats, further emergence surveys are not recommended and mitigation measures are considered sufficient to reduce any impacts.

4.3.3 *Badgers*

4.3.3.1 *Desk study*

A total of 102 badger (*Meles meles*) records were returned in the data search. The closest record was located 95m northwest of the Site, recorded in 2015. The most recent record was from 2023, approximately 1.74km northeast of the Site.

4.3.3.2 *Site suitability*

The habitats on Site are not considered suitable for the construction of a badger sett due to the level topography and lack of shelter in the form of tall grass or scrub. The woodland adjacent to the Site provides much more suitable habitat for the creation of a badger sett. Although the understorey appeared relatively open and there was little scrub shelter, there was a steep embankment where the woodland abuts the adjacent power station. There is a chain link fence along the northern Site boundary, but it had lifted in places creating gaps where badgers and other mammals could enter. As such, foraging and commuting badgers cannot be considered absent from Site, and the presence of a badger sett cannot be discounted from adjacent habitats.

4.3.3.3 *Pre-works badger walkover*

Prior to an archaeological survey within the garden at Ryefield, a pre-works badger walkover was conducted to ensure that no setts were present within 30m of the proposed trenches. The survey found no evidence of a badger sett within the adjacent woodland. Some worn pathways were visible but are most likely due to pedestrian access.

4.3.4 *Birds*

4.3.4.1 Desk study

HERC provided 6186 records of birds that included 96 different species. The most recent sightings were from June 2019, and included 10 records of different species, approximately 980m west of the Site. The species are as follows: song thrush (*Turdus philomelos*), wren (*Troglodytes troglodytes*), house martin (*Delichon urbicum*), rook (*Corvus frugilegus*), woodpigeon (*Columba palumbus*), swift (*Apus apus*), coal tit (*Periparus ater*), blue tit (*Cyanistes caeruleus*), robin (*Erithacus rubecula*) and goldfinch (*Carduelis carduelis*). The closest records were two peregrine falcons (*Falco peregrinus*), recorded 60m southeast of the Site in 2018. This species is listed on Schedule 1 of the Wildlife and Countryside Act 1981.

The data search returned 525 records of 19 species listed on Schedule 1 of the Wildlife and Countryside Act 1981. The most recent record was of a red kite (*Milvus milvus*), recorded in 2019, 977m west of the Site. A total of 465 records were returned for 14 bird species of principal importance, as defined in Section 41 of the NERC Act. The closest records, located approximately 519m northwest of the site, include nine species, with the most recent observations being lapwing (*Vanellus vanellus*) and cuckoo (*Cuculus canorus*) in 2017. The most recent record of a species of principal importance was a house sparrow (*Passer domesticus*), recorded in 2019, approximately 980m west of the Site.

4.3.4.2 Site suitability

There is suitable habitat for nesting birds on Site in the form of individual trees, treelines and hedgerows. Blue tit nests were identified within a cavity in one of the mature oak trees and in Ryefield house adjacent to Site. The grassland

habitats on Site are considered unsuitable for ground nesting birds due to the low sward height. The adjacent woodland also provides suitable nesting habitat. As such, it is considered highly likely that nesting birds are present within suitable habitats on and adjacent to Site during the breeding season.

4.3.5 Hazel dormouse

4.3.5.1 Desk study

No records of hazel dormouse (*Muscardinus avellanarius*) were returned in the data search.

4.3.5.2 Site suitability

Hazel dormice are considered rare in Hertfordshire under current distribution data. The treelines and hedgerows on Site are considered unsuitable for hazel dormice due to the lack of importance food sources such as hazel, and the gappy nature of scrub present. Hazel dormice require a generally continuous scrub layer for arboreal commuting routes. The woodland adjacent had a similarly open structure with little scrub present. Due to the lack of records and of suitable habitat, hazel dormice are considered likely absent from Site.

4.3.6 Invertebrates

4.3.6.1 Desk study

A total of 529 records of 123 invertebrate species were returned in the data search, of which 411 records of 62 species are listed in Section 41 of the NERC Act. The closest and most recent record was a species of dirt-coloured seed bug, *Aphanus rolandri*, located 60m southeast of the Site in 2021.

4.3.6.2 Site suitability

Although the grassland that dominates the Site contains a moderate array of botanical species, the lack of variation within the physical structure and low sward height would inhibit the development of an established invertebrate community. Common invertebrate species are likely present within the habitats on Site, but a species assemblage of significant importance is considered likely absent.

4.3.7 Hedgehog

4.3.7.1 Desk study

A total of 53 records of the west European hedgehog (*Erinaceus europaeus*) were returned in the data search. The closest records were two sightings 218m northwest of the Site in 2015. The most recent record, from September 2021, was located approximately 1.38km northwest of the Site.

4.3.7.2 Site suitability

There is suitable habitat for sheltering and hibernating hedgehogs on Site in the form of hedgerows and treelines. The adjacent woodland is also considered suitable habitat for sheltering hedgehogs. The grassland on Site is considered suboptimal habitat for foraging and commuting hedgehogs due to the low sward height, although foraging and commuting behaviour cannot be discounted due to the abundance of suitable habitat in the surrounding area. As such, sheltering, foraging and commuting hedgehogs cannot be considered absent from Site.

4.3.8 Reptiles

4.3.8.1 Desk study

Two records of common lizard (*Zootoca vivipara*) were returned, dated 1934 and 1985. Three records of grass snake (*Natrix helvetica*) were returned, with the most recent record from 1986. Four records of slow worm (*Anguis fragilis*) were reported, with the latest from 1990. Additionally, five records of adder (*Vipera berus*) were returned, all dated to 1934. Unfortunately, due to poor spatial accuracy, the precise locations of these reptile records could not be determined.

4.3.8.2 Site suitability

The grassland on Site is generally considered unsuitable habitat for basking reptiles due to the regular management of the grassland. The margin of taller grasses and patchy scrub present beneath some sections of the northern treeline, and the area of tall nettles, provides some suitable habitat for sheltering reptiles. There is suitable habitat for basking reptiles further north but is located next to more suitable sheltering habitat in the form of woodland. As such, is it considered possible, but unlikely, that reptiles from suitable basking habitats in the locality may occasionally use these areas.

The adjacent woodland provides suitable habitat for sheltering and hibernating reptiles. Although the habitats on Site are not considered suitable for basking reptiles, there is suitable basking habitat further to the north and west. As such, reptiles are considered unlikely to be present within the suboptimal habitats on Site, but hibernating reptiles may be present in the adjacent woodland.

4.3.9 Water voles

4.3.9.1 Desk study

A total of four records of water vole (*Arvicola amphibius*) were identified in the data search. The closest record, dated 2012, was located 1.17km northwest of the Site. This record, along with two others from 2012 situated 1.46km and 1.75km north of the Site, represents the most recent data available.

4.3.9.2 Site suitability

There are no waterbodies or riparian habitats on or adjacent to Site. Water voles are not known to migrate more than a few metres from a waterbody and as such, are considered likely absent from Site.

4.3.10 Otter

4.3.10.1 Desk study

No records of otter (*Lutra lutra*) were returned in the data search.

4.3.10.2 Site suitability

There are no suitable waterbodies to support an otter population within 2km of the Site. Given the lack of records and of suitable habitat, otters are considered likely absent from Site.

5 Impact Assessment & Mitigation Measures

5.1 DESIGNATED SITES

The mitigation hierarchy will be followed to include in order: avoidance of impacts, mitigation of impacts and compensation for loss/impacts. Where avoidance and mitigation cannot be achieved, compensation will be required and biodiversity net gain will be utilised to ensure that all losses are adequately compensated and a gain in biodiversity is achieved through the development on Site.

5.1.1 Statutory Sites

There are no designated statutory sites of international or national importance within the search area. As such, no impacts are anticipated.

5.1.2 Non-Statutory Sites

Wymondley Transforming Station LWS lies adjacent to the road to be used for access to the Site. As such, some overhanging branches may require cutting back to allow HGV access. This impact is considered temporary and small scale and does not affect any of the calcareous grassland that the Site is designated for. All other non-statutory Sites are considered distant enough from the Site to remain unaffected. As such, no ecologically significant impacts to non-statutory designated Sites are anticipated.

5.2 HABITATS

The mitigation hierarchy will be followed to include in order: avoidance of impacts, mitigation of impacts and compensation for loss/impacts. Where avoidance and mitigation cannot be achieved, compensation will be required.

5.2.1 Other neutral grassland (g3c)

5.2.1.1 Predicted impacts

Areas of other neutral grassland will be removed from the north of the Site to facilitate the construction of two new two-storey houses and associated driveways. A section along the northern boundary will also be removed to create a short access road from Stevenage Road to the new houses. Areas of retained grassland may also be eroded by heavy machinery and storage of materials. These impacts are considered ecologically significant at a local level due to the species diversity of the grassland.

5.2.1.2 Mitigation measures

The neutral grassland on Site should be retained wherever possible. Where the use of heavy machinery within the grassland is unavoidable, track matting should be utilised to limit erosion to the soil.

However, the current grassland will ultimately be included in the garden areas of the proposed houses, and the long-term outcome of this habitat is not guaranteed. As such, it must be accounted for through Biodiversity Net Gain (BNG).

The botanical survey showed that the grassland did not qualify as a Habitat of Principle Importance, contained a relatively low species diversity and did not contain any

notable orchid species. In accordance with the *BNG Statutory Metric User Guide*, it is deemed acceptable that this habitat falls under the 'vegetated garden' habitat category in the BNG baseline calculation, as recommended for private gardens.

5.2.2 *Other neutral grassland, tall forbs (g3c, 16)*

5.2.2.1 *Predicted impacts*

Due to its inaccessible nature, the area of tall nettles will remain unaffected by the proposed works. As such, no impacts are anticipated.

5.2.3 *Building (u1b5)*

5.2.3.1 *Predicted impacts*

The existing garage to the south of the Site is to be removed as part of the development. This impact is considered ecologically significant, should bats utilise the building. However, if bats are found to be absent, this habitat loss is not considered ecologically significant.

5.2.4 *Developed land; sealed surface (u1b6)*

5.2.4.1 *Predicted impacts*

An area of hardstanding to the south of the Site is to be removed and replaced with grassland within one of the created gardens. This impact is not considered ecologically significant, as it will likely contribute towards the biodiversity of the Site.

5.2.5 *Line of trees, broadleaved (w1g, 33)*

5.2.5.1 *Predicted impacts*

The line of trees along the northern and southern Site boundaries are to be retained. The construction of the access road and the use of heavy machinery is likely to encroach upon the Root Protection Areas (RPA) of trees within the northern treeline (H1), causing damage to retained trees via excavation and soil compaction. The proposed development is a further distance from the southern treeline (H4), but it may still be subject to soil compaction from the use of heavy machinery. This impact is considered ecologically significant at a local level.

5.2.5.2 *Mitigation measures*

All mitigation measures to protect the retained treelines will be detailed within a *BS5837 Tree Protection Plan* and *Arboricultural Method Statement*.

5.2.6 *Non-native and ornamental hedgerow (h2b)*

5.2.6.1 *Predicted impacts*

Two of the three hedgerows will be removed to facilitate the development. H3 and H5 will be removed to facilitate the access road and new garden landscaping. H4 is to be retained and will remain unaffected by the works due to its inaccessible nature. These impacts are not considered ecologically significant due to the ornamental species present, however all habitat losses must still be compensated through Biodiversity Net Gain.

5.2.7 *Individual trees (g4, 200)*

5.2.7.1 Predicted impacts

A number of individual trees planted across the grassland will be removed to facilitate the development. Young and semi-mature trees to be removed include T5, T6 and T8-T14. This impact is considered ecologically significant at a local level due to the loss of native tree species.

5.2.7.2 Mitigation measures

Losses of individual trees should be kept to an absolute minimum. All mitigation measures to protect retained individual trees will be detailed within a *BS5837 Tree Protection Plan* and *Arboricultural Method Statement*. The tree losses must also be compensated for through BNG.

5.2.8 Individual trees, mature (g4, 203)

5.2.8.1 Predicted impacts

A single mature tree (T7) will be removed as part of the project. This impact is considered ecologically significant at a local level.

5.2.8.2 Mitigation measures

All mitigation measures to protect retained individual trees will be detailed within a *BS5837 Tree Protection Plan* and *Arboricultural Method Statement*. The tree losses must also be compensated for through BNG.

5.2.9 Habitats adjacent to Site

5.2.9.1 Predicted impacts

The habitats adjacent to the Site, including the priority habitat deciduous woodland, will remain unaffected by the works. Increased access to the Site is anticipated although no significant impacts to surrounding habitats are expected as a result. As such, no impacts are anticipated.

5.3 SPECIES

5.3.1 Amphibians

5.3.1.1 Predicted impacts

Likely absent therefore, no impacts are anticipated.

5.3.2 Bats

5.3.2.1 Predicted impacts

The GLTA did not identify Potential Roosting Features (PRF) within any of the trees to be removed. As such, no impacts to roosting bats are anticipated as a result of tree removals.

PRF-I were identified within trees to be retained along the edges of the Site. The proposed works may cause disturbance to individuals or low numbers of bats within a roost, resulting in a contravention of the law.

The PBRA showed that the large shed to be removed (Building 1) is of Negligible suitability for roosting bats. As such, removal of this structure is not expected to cause any impacts to roosting bats.

The PBRA identified Ryefield house (Building 2) to be of Low-Negligible suitability for roosting bats. Working in close proximity to the house may cause disturbance to individuals or low numbers of bats within a roost, resulting in a contravention of the law.

The works may also cause disturbance to foraging and commuting bats. This impact is considered ecologically significant at a local level.

5.3.2.2 Mitigation measures

The following mitigation is recommended to minimise disturbance to foraging and commuting bats in adjacent habitats, as well as any roosting bats which may be present in the building adjacent west or treelines along the edges of the Site. During the construction phase, the following mitigation should be followed:

- All works should be undertaken during normal working daylight hours. Any artificial lighting (if absolutely required) should not illuminate the boundary habitats or the adjacent building;
- Where security lighting is required, it is recommended that these are motion activated with hooded luminaires and directed away from the boundaries, particularly the northern boundary and the building adjacent west;
- No lighting should fall or be directed on to the boundary vegetation or the adjacent building.

Any new temporary or permanent lighting should be designed to avoid light-spill onto the Site boundaries and boundary vegetation. If permanent lighting is to be installed it must

follow the principles of mitigation as outlined within the Bat Conservation Trust and Institution of Lighting Professionals Guidance Note. Mitigation measures for permanent lighting will include:

- Only luminaires with an upward light ratio of 0% should be used;
- All external luminaires used on site should lack UV elements and be warm white coloured (ideally < 2700 Kelvin) to reduce blue-light components;
- LED luminaires should be used due to their sharp cut-off, lower intensity, good colour retention and dimming capability;
- Where security lighting is installed, this should be motion-activated;
- Lights should not be directed at boundary vegetation or at the adjacent building. Where required, lights can be fitted with hoods, baffles or louvres to reduce back-spill.

5.3.3 Badgers

5.3.3.1 Predicted impacts

No evidence of badger activity was identified within the initial walkover survey. However, due to extended period between the initial walkover and the commencement of the development, there is the potential that new setts could be excavated in proximity to the Site. Therefore, the potential remains for disturbance to badger setts in adjacent habitats, resulting in a contravention of the law.

Disturbance to foraging and commuting badger. This impact is considered ecologically significant at a local level.

5.3.3.2 Mitigation measures

To ensure that no new setts have been excavated, a second pre-works badger walkover survey should be conducted within the month prior to commencement. The walkover should extend to the area of woodland within 30m of the Site. If no badger sett is identified, work can continue as planned. If a sett is identified, the Ecologist will advise further on mitigation methods to reduce disturbance or conduct further surveys if required.

To protect foraging and commuting badgers which may pass through the Site, any excavations on Site must be covered overnight or a means of escape provided for any badger which may become trapped within the excavation. The excavations, if left open, will need to be inspected daily prior to works commencing.

If any equipment or materials are to be stored on site overnight, all possible entrances must be blocked and checked for wildlife the following morning prior to work commencing. If present, the Ecologist should be contacted for advice.

5.3.4 Birds

5.3.4.1 Predicted impacts

Tree works, tree removal and hedgerow removal may be required to facilitate the works. Vegetation clearance has the potential to result in the killing or injury of nesting birds or disturbance, damage or destruction of a nest, resulting in a contravention of the law.

5.3.4.2 Mitigation measures

General guidance states that vegetation clearance should be undertaken outside bird nesting season i.e. during the period September to February (inclusive – as a guide). If this is not possible, all areas impacted should first be checked for active nests by an ecologist or other suitably qualified individual. In the event that nesting activity is identified, certain aspects of the work in the vicinity of the nest will need to cease until the birds have finished nesting and the young have fledged.

A suitable buffer (the size of which is species-dependent) could be retained around an active nest to allow other elements of the work to progress. Note that this approach is usually only practical where small areas of habitat will be affected. Vegetation may also be trimmed down in advance of the breeding season to discourage birds from nesting.

5.3.5 Hazel dormouse

5.3.5.1 Predicted impacts

Likely absent, therefore no impacts anticipated.

5.3.6 Invertebrates

5.3.6.1 Predicted impacts

Significantly important species assemblage likely absent therefore, no impacts anticipated.

5.3.7 Hedgehog

5.3.7.1 Predicted impacts

Potential for killing/injury of hedgehog during development and loss of suitable foraging and commuting habitat. This impact is considered ecologically significant at a local level.

5.3.7.2 *Mitigation measures*

Cutting back and removal of hedgerows should be undertaken outside of hedgehog hibernation season where possible (i.e. between the months of May – August, inclusive as a guide) to avoid impacts to any hedgehogs hibernating within the undergrowth. The base of the hedgerow should be checked prior to clearance and any hibernacula should be dismantled and checked prior to clearing.

Any excavations on Site must be covered overnight or a means of escape provided for any hedgehogs which may become trapped within the excavation. The excavations, if left open, will need to be inspected daily prior to works commencing.

If any equipment or materials are to be stored on site overnight, all possible entrances must be blocked and checked for wildlife the following morning prior to work commencing. If present, the Ecologist should be contacted for advice.

5.3.8 *Reptiles*

5.3.8.1 *Predicted impacts*

Any suitable habitat for sheltering reptiles on Site is to be retained. As the proposed works are separated from the adjacent woodland by a road, the development is considered distant enough to continue without causing disturbance to hibernating reptiles. As such, no impacts are anticipated.

However, should the grassland on Site be allowed to grow taller, the Site would become more suitable for basking reptiles. Removal of suitable basking reptile habitat may

cause killing/injury to reptiles, resulting in a contravention of the law.

5.3.8.2 *Mitigation measures*

The marginal vegetation beneath the treelines on Site should be left undisturbed throughout the works. The grassland on Site should be managed at a low sward height to prevent it progressing into suitable habitat for basking reptiles.

5.3.9 *Water voles*

5.3.9.1 *Predicted impacts*

Likely absent, therefore no impacts anticipated.

5.3.10 *Otter*

5.3.10.1 *Predicted impacts*

Likely absent, therefore no impacts anticipated.

5.4 **RESIDUAL EFFECTS**

The measures detailed above avoid and/or mitigate the impact on amphibians, bats, badger, birds, brown hare, invertebrates, hedgehog, reptiles, water vole, and polecat.

In addition, when BNG is calculated, loss of habitats will be mitigated by proposed measures.

5.5 **ENHANCEMENTS**

Enhancements to the Site post-works should be fully listed within a Biodiversity Net Gain Assessment to compensate for the loss of habitats created by the works.

5.5.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) requires local planning authorities to request the preservation, restoration, and recreation of priority habitats and ecological networks and the recovery of priority species populations. In addition, the works should result in no net loss of biodiversity.

The following list is the recommended ecological enhancement opportunities for the Site. They are not required for mitigation but would allow a greater increase in biodiversity at the Site in line with the NPPF requirements:

- Provision of hedgehog houses along retained treelines
- Creation of log piles or hibernacula within created grassland to provide areas of shelter for reptiles;

5.6 COMPENSATION

The proposed development on the main site will result in the loss of habitats. As such, a calculation of net gain against the loss of habitat using Natural England's Statutory Biodiversity Metric should be conducted by a suitably qualified Ecologist to ensure all loss is compensated for and a 10% gain in biodiversity is achieved.

This will include undertaking a baseline survey, completing the habitat condition assessment sheets, and inputting all data into the metric.

Biodiversity net gain is distinguished from other forms of ecological compensation by the requirement for measurable

outcomes. Losses from development and gains from an 'offset' are calculated using a single biodiversity metric, which quantifies habitats against fixed units of biodiversity.

Biodiversity offsets can be both on-site and off-site, and can involve creation, enhancement or accelerated succession of habitats. The amount of biodiversity units an offset is worth must exceed the amount of biodiversity units that will be lost as a result of development.

Species specific compensation to account for the loss of habitats are listed as follows:

- Installation of x2 Shwegler 2F Bat Boxes;
- Installation of x2 Shwegler 1B Hole Nest Boxes;

5.7 MONITORING

The BNG enhancement and creation proposals will require a Habitat Management and Monitoring Plan (HMMP) to ensure the habitats on Site are retained for 30 years post development. No further post-construction ecological monitoring is required.

6 Conclusions

The proposed works on Site are not considered likely to impact any internationally, nationally or locally designated sites. The habitats on Site include; other neutral grassland, tall forbs, buildings, developed land; sealed surface, treelines, non-native ornamental hedgerows and individual trees.

The habitats on Site are considered suitable to support a number of protected/important species/species groups including roosting, foraging and commuting bats, birds, hedgehogs, and foraging and commuting badgers.

A botanical survey was carried out to confirm the classification of the grassland on Site and determine the abundance and species of the orchids on Site. The survey confirmed the classification of the grassland on Site as 'Other neutral grassland (g3c)' under UKHab specifications. Only three orchids were observed, none of which are protected under Schedule 8 of the WCA.

A Ground Level Tree Assessment was carried out to identify Potential Roost Features (PRF) within trees to be removed or disturbed by the works. No features were identified within any of the trees to be removed. One PRF-I suitable for individual roosting bats was identified in the treeline along the northern edge of the Site, which may be subject to disturbance during the works.

A Preliminary Bat Roost Assessment was also undertaken of the shed to be demolished and of Ryefield house which may be subject to disturbance. The PBRA found the structures to be of Negligible and Low/Negligible suitability for roosting

bats, respectively. No further emergence surveys are required.

A pre-works badger walkover of the adjacent woodland was conducted in anticipation of upcoming archaeology surveys within the garden of Ryefield. No badger setts or evidence of badger activity was identified within 30m of the Site.

No further surveys are recommended prior to the works. Measures to minimise adverse effects on species/species groups which have the potential to be impacted by the proposed development have been set out herein, along with precautionary measures in respect to species throughout the works. To include:

Table 5: Summary of further surveys and mitigation measures on Site

Bats	
	During the construction phase, the following mitigation should be followed to protect foraging and commuting bats and roosting bats within adjacent habitats: • All works should be undertaken during normal working daylight hours. • Sensitive lighting schemes, including using motion activated lights with hooded luminaires • No lighting should fall or be directed on to the boundary vegetation or the adjacent building. If permanent lighting is to be installed it must follow the principles of mitigation as outlined within the Bat Conservation Trust and Institution of Lighting Professionals Guidance Note. Mitigation measures for permanent lighting will include: • Only luminaires with an upward light ratio of 0% should be used; • All external luminaires used on site should lack UV elements and be warm white coloured (ideally < 2700 Kelvin) to reduce blue-light components;

	- LED luminaries should be used due to their sharp cut-off, lower intensity, good colour retention and dimming capability; - Where security lighting is installed, this should be motion-activated; - Lights should not be directed at boundary vegetation or at the adjacent building. Where required, lights can be fitted with hoods, baffles or louvres to reduce back-spill.
Badger	Additional pre-works walkover survey of the adjacent woodland to identify any setts within 30m of the Site prior to commencement. Steep sided excavations on Site to have ramps installed and open pipework will be capped.
Birds	Vegetation clearance should avoid bird nesting season. Where it is not possible to do so, an ecologist must first undertake a bird nesting survey. If a bird nest is present a suitable exclusion zone should be set out until the birds have fledged.
Hedgehog	The base of the hedgerow should be checked prior to clearance and any hibernacula should be dismantled and checked prior to clearing. Steep sided excavations on Site to have ramps installed and open pipework will be capped.
Reptiles	The marginal vegetation beneath the treelines on Site should be left undisturbed throughout the works. The grassland on Site should be managed at a low sward height to prevent it progressing into suitable habitat for basking reptiles. Steep sided excavations on Site to have ramps installed and open pipework will be capped.

The following habitats have been identified within and adjacent to the Site with the potential to be impacted by the proposed works: other neutral grassland, non-native and

ornamental hedgerow and individual trees. The impacts to these habitats are considered ecologically significant and therefore, compensation will be recommended fully in a Biodiversity Net Gain calculation and associated report.

Mitigation measures to protect the habitats on Site include;

- To protect the grassland during works, track matting should be installed to limit erosion to the soil. Good practice measures relating to the storage of hazardous substances and disposal of waste must be followed to ensure these do not enter the soil.
- Any permanent habitat losses must be compensated for through Biodiversity Net Gain (BNG).
- Losses of individual trees should be kept to an absolute minimum.
- All mitigation measures to protect the retained treelines will be detailed within a BS5837 Tree Protection Plan and Arboricultural Method Statement.

Species specific compensation also includes:

- Installation of x2 Shwegler 2F Bat Boxes;
- Installation of x3 Shwegler 1B Hole Nest Boxes;

No residual effects are anticipated as a result of this development if the aforementioned mitigation measures are followed. Enhancements and compensation are required and have been identified. Monitoring of any enhancements should be undertaken prior to any further routine works on Site.

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Disclaimer

Every effort has been made to ensure that the content of this report accurately identifies the potential ecological constraints to operations, its overall ecological value, and considered the possibility of the presence or absence of all Protected Species and the need for further surveys or ecological works. External factors such as weather conditions, time of day, seasons, disturbance by others, can all affect the use of the site by such species, and this report should therefore not be viewed as definitive. No liability can be accepted for omissions or changes within the status of wildlife after the production of this report.

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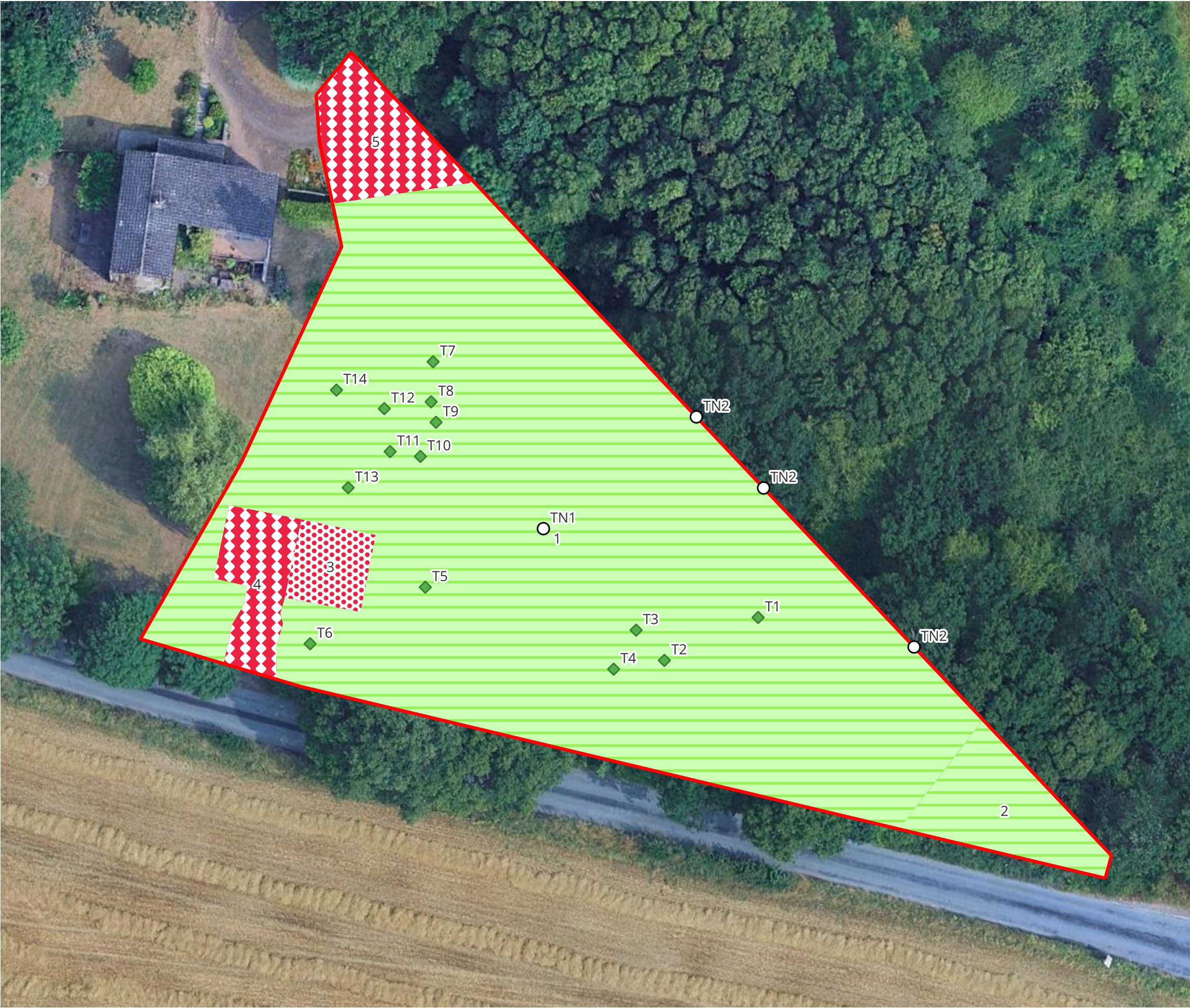
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29th August 2025

8 Appendices



Key

- Site boundary
- Habitats**
 - g3c - Other neutral grassland
 - u1b5 - Buildings
 - u1b6 - Other developed land
- Hedgerows**
 - w1g, 33 - Line of trees, broadleaved
 - h2b - Non-native and ornamental hedgerow
- Trees and Target Notes**
 - Tree
 - TN1 - Bonfire remains
 - TN2 - Large mature oak within treeline

Client	Sworders		
Project	Ryefield, St Ippolyts Ecological Impact Assessment		
Title	Habitat Map		
Drawn	HB	Checked	AS
Date	30/05/2025		
Drawing No.	Appendix A		Revision
			Issue
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Scale	1:350		Original Size
			A3
Licensing	Contains OS data © Crown copyright Google Maps (2019)		Orientation
			

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APPENDIX B. SURVEY PICTURES



Plate 1: MR 1 Grassland with low sward dominates the Site.



Plate 2: Line of broadleaved trees along southern Site boundary



Plate 3: MR 2 Area of tall nettles to the east of the Site



Plate 4: MR 2 Area of tall nettles to the east of the Site



Plate 5: H1 Line of broadleaved tree species along the northern boundary, containing young and mature trees



Plate 6: Existing garage (MR 3) with bamboo screening (H3)



Plate 7: Existing garage (MR 3) showing security light and double doors with small gaps



Plate 8: Interior of existing garage showing unsuitable light levels



Plate 9: Wing casings along the interior walls of the garage



Plate 10: Large mature oak to the east of Site (TN2)



Plate 11: PRF-I within mature oak to the east of Site (GLTA Ref 1)



Plate 12: Occluded wound containing blue tit nest (GLTA Ref 2)



Plate 13: Large mature tree, with all limbs removed



Plate 14: Small trees on Site (T2-T4)



Plate 15: Cypress trees to the north of Site



Plate 16: Small crab apple trees on Site (T12 & T13)



Plate 17: Woodpecker hole within willow tree shown to be unsuitable for roosting bats



Plate 18: Gap in brickwork next to door frame, containing a blue tit nest



Plate 19: Pyramidal orchid on Site



Plate 20: Bee orchid on Site

APPENDIX C. RELEVANT PROTECTED SPECIES LEGISLATION

Summary

Species	Protection	Details
Bats (All)	Conservation of Habitats and Species Regulations 2017 – Sch 2	Works likely to impact on the species or its habitat requires a European Protected Species Licence issued by Natural England
	Wildlife and Countryside Act – Sch 5 Section 9 (full protection)	Prohibits killing, injuring or taking by any method; Prohibits sale or advertising for sale; Prohibits damage, destruction or obstruction of access to any structure or place which is used for shelter or protection; Prohibits disturbance whilst occupying a structure used for shelter or protection
	Wildlife and Countryside Act – Sch 6	Prohibits killing or taking by certain methods under Section 11 (1)
Birds	Wildlife and Countryside Act – Sch 1	Prohibits the taking, damaging or destruction of active bird nests; killing, injuring or taking of any wild bird; taking or destruction of the eggs of any wild bird
	Wildlife and Countryside Act – Sch 1 (pt.1)	Prohibits any form of intentional or reckless disturbance to bird species as listed under Schedule 1 part 1 whilst they are nesting or rearing young
Badger	Protection of Badgers Act 1992	Prohibits killing, injuring or taking a badger or cruelly ill-treating a badger
	Wildlife and Countryside Act – Sch 6	Prohibits killing or taking by certain methods under Section 11 (1)
Reptiles (Common species)	Wildlife and Countryside Act – Sch 5 Section 9 (pts. 1 & 5 only)	Prohibits killing, injuring, taking by any method; Prohibits sale or advertising for sale

European Protected Species

The Bern Convention (The Convention on the Conservation of European Wildlife and Natural Habitats) was adopted in 1979 and came into force in 1982. To implement this agreement, the European Community adopted the EC Habitats Directive.

The EC habitats directive has been transposed into UK legislation by the Wildlife and Countryside Act, 1981 (as amended) and the Conservation of Habitats and Species Regulations, 2017. The Countryside and Rights of Way Act (CROW), 2000 strengthened the existing wildlife legislation in the UK.

The UK has also signed The Bonn Convention (The Convention on the Conservation of Migratory Species of Wild Animals) and is therefore party to various agreements.

Bats

All 17 species of bats are protected under Schedules 5 and 6 of the Wildlife and Countryside Act 1981 (and as amended) and are also protected under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are listed under Appendix II of the Bern Convention (with the exception of common pipistrelle (*Pipistrellus pipistrellus*) which is listed under Appendix III) and Annex IV of the EC Habitats Directive, 1992. Certain species of bat are additionally listed under Annex II of the Habitats Directive, which means that sites of key importance to populations may be afforded statutory protection as a Special Area of Conservation (SAC). Bats and their habitats are also listed under Appendix II of The Bonn Convention and therefore the UK has an obligation to protect their habitat, including links to important feeding areas.

Other Protected Species

Birds

All wild birds are protected under Schedule 1 of the Wildlife and Countryside Act, 1981. Therefore, in the

UK it is an offence to:

- take, damage or destroy the nest of any wild bird whilst it is being built or in use;
- kill, injure or take any wild bird; and
- take or destroy the eggs of any wild bird.

To avoid committing an offence no works should be carried out on a structure/ feature that is being used by nesting birds. Nesting is deemed to be over when the young have fully fledged.

Certain species which are listed in Schedule 1 Part 1 of the Wildlife and Countryside Act receive special protection. In these cases any form of intentional or reckless disturbance when they are nesting or rearing dependant young, constitutes an offence.

Badger

Badgers are fully protected in the UK by the Protection of Badgers Act, 1992 and by Schedule 6 of the Wildlife and Countryside Act, 1981(as amended). This makes it an offence to:

- wilfully kill, injure, take, possess or cruelly treat a badger;
- intentionally or recklessly damage, destroy or obstruct access to a badger sett; and
- disturb a badger while it is occupying a sett. Disturbance could include digging or scrub clearance within 30m of the sett, and therefore advice should be sought before carrying out such activities.

Badgers are mainly protected due to persecution in the past and are not rare.

Reptiles

All native reptiles are protected from intentional killing and injury under Schedules 5 of the Wildlife and Countryside Act 1981 (and as amended). They are listed under Appendix III of the Bern Convention as species which are in need of protection.

Species of Principal Importance

Species of principal importance for the purpose of conserving biodiversity, covered under Section 41 (England) of the NERC Act (2006). Species of principal importance must be treated as a material consideration by a public body when performing any of its functions with a view to maintaining the favourable conservation status. Those such species which are considered to have potential to be encountered on Site and are not aforementioned as a result of a higher level of protection in the sections above are listed below:

- *West European Hedgehog (Erinaceus europaeus).*

APPENDIX D. BOTANICAL SURVEY RESULTS

D = Dominant, **A** = Abundant, **F** = Frequent, **O** = Occasional, **R** = Rare

Species	Quadrat 1	Quadrat 2	Quadrat 3	Quadrat 4	Quadrat 5	Quadrat 6	Quadrat 7	Quadrat 8	Quadrat 9
Smooth meadowgrass (<i>Poa pratensis</i>)	F	O	A	O	F	D	O	F	A
Daisy (<i>Bellis perennis</i>)	F	O		O			O	O	O
False oat (<i>Arrhenatherum elatius</i>)	R								
Mouse ear hawkweed (<i>Pilosella officinarum</i>)	R		R				D		O
Ragwort (<i>Jacobaea vulgaris</i>)	R								
Bulbous buttercup (<i>Ranunculus bulbosus</i>)	R		O						
Rough hawkbit (<i>Leontodon hispidus</i>)	R					O			
White clover (<i>Trifolium repens</i>)	F				F			R	F
Field madder (<i>Sherardia arvensis</i>)		A		A	R				
Ribwort plantain (<i>Plantago lanceolata</i>)		O	F		F	O	R	O	O
Yarrow (<i>Achillea millefolium</i>)		R			O		O		O

Parsley-piert (<i>Aphanes arvensis</i>)		O							
Creeping cinquefoil (<i>Potentilla reptans</i>)		R	R	O					R
Creeping bent (<i>Agrostis stolonifera</i>)		O							
Smooth catsear (<i>Hypochaeris glabra</i>)		O		R				R	
Hawkweed species (<i>Hieracium</i> spp.)		O							
Self-heal (<i>Prunella vulgaris</i>)			R	F					
Thyme-leaved speedwell (<i>Veronica serpyllifolia</i>)			R						
Hoary plantain (<i>Plantago media</i>)				F	F				
Cutleaf geranium (<i>Geranium dissectum</i>)				R					
Mouse-ear chickweed (<i>Cerastium fontanum</i>)				R					R
Pyramidal orchid (<i>Anacamptis pyramidalis</i>)				R					
Lesser knapweed (<i>Centaurea nigra</i>)					O				

Autumn hawkbit (<i>Scorzoneroïdes autumnalis</i>)					R	O			
Annual meadowgrass (<i>Poa annua</i>)						O			
Germander speedwell (<i>Veronica chamaedrys</i>)								R	
Lesser trefoil (<i>Trifolium dubium</i>)									R

APPENDIX E. GROUND LEVEL TREE ASSESSMENT RESULTS

Tree Number	Species	Diameter (mm)	Location (what 3 words)	Type of feature	Orientation	Height of feature (m)	Roost suitability	Description
1	Oak (<i>Quercus robur</i>)	1500	afford.nuns.hotel	Stress fracture	North-west	7	PRF-I	A stress fracture was noted running longitudinally along the western face of a north-west pointing branch. The split was approximately 20cm in length and 1-2m wide. The depth was not able to be determined from the ground, but likely only provides enough space for individual or small numbers of bats.
2	Oak (<i>Quercus robur</i>)	980	voters.tech.fails	Rotted edge of callus roll	South	2.5	None	A small opening was noted beneath the edge of an occluded wound where a branch had fallen or been removed. The feature was accessed using a ladder and inspected using an endoscope. The internal cavity measured approximately 8cm in width and depth but extended downwards by approximately 15cm. However, the feature was occupied by an active blue tit nest and as such, is considered unsuitable for roosting bats due to the presence of a competitor. If a nest was absent in future, the feature would be classified as PRF-I.
3	Crack willow (<i>Salix fragilis</i>)	650	crowds.valid.locked	Woodpecker hole	South	2.5	None	A woodpecker hole was identified within the main stem of a mature crack willow. The opening measured approximately 4cm in diameter. The feature was accessed using a ladder and inspected with an endoscope. The depth of the cavity was approximately 12cm and did not extend further up or down the stem. Given the shallow depth and exposure to the environment, this feature is considered unsuitable for roosting bats.