

Land at Shinfield Park, Reading

Ecological Appraisal

February 2025

Quality Management	
Client:	Wrenbridge (FRELD Reading) LLP
Project:	Land at Shinfield Park, Reading
Report Title:	Ecological Appraisal
Project Number:	ECO-6856
File Reference:	6856 EcoAp vf CK/BB/DS
Date:	18/02/2025

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Executive Summary

- i) **Introduction.** Aspect Ecology was commissioned by Wrenbridge (FRELD Reading) LLP in May 2024 to undertake an Ecological Appraisal in respect of the proposed redevelopment of land at Shinfield Park, Reading, RG2 9FW.
- ii) **Proposals.** The proposals are for redevelopment of site for flexible employment use (Use Class E(g)(ii)-(iii)/B2/B8) together with associated servicing areas, parking, landscaping and other associated works.
- iii) **Survey.** The site was surveyed in June 2024 with mapping of habitats based on the UK Habitat Classification system. In addition, a general appraisal of fauna was undertaken to record the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of bats, Badger, reptiles, Great Crested Newt and breeding birds. Specific surveys are currently ongoing in regard to Dormouse. Desk study information has also been gathered from the local biological records centre and online resources.
- iv) **Ecological Designations.** The site itself is not subject to any statutory or non-statutory ecological designation. The nearest statutory designation is Pearmans Copse Local Nature Reserve, located approximately 0.4km east of the site. The nearest non-statutory designation is Shinfield Park, Nore's Hill Local Wildlife Site (LWS), which is located adjacent to the southern and western site boundaries. Shinfield Park, Nore's Hill LWS will be fully retained and protected under the proposals.
- v) **Habitats.** The site is dominated by buildings and hardstanding, which are not important ecological features. Features of ecological importance within / adjacent the site include native hedgerows / tree-lines, ancient woodland, lowland mixed deciduous woodland (Priority Habitat) and a single veteran tree. The ancient woodland and veteran tree are fully retained and suitably buffered under the proposals and will be protected during demolition and construction, such that no adverse impacts on ancient woodland or the veteran tree are anticipated. On the contrary, the scheme provides the opportunity to provide a betterment over the existing situation through the removal of built infrastructure, including existing buildings, from within the ancient woodland buffer zone and the provision of a new planted landscape buffer comprising woodland and wildflower grassland. Hedgerow / tree losses will be compensated for by new hedgerow planting as part of the landscape scheme. A small section of on-site lowland mixed deciduous woodland is to be lost.
- vi) **Protected Species.** Habitats within the site support protected and notable fauna including foraging and commuting bats and nesting birds. Specific surveys are ongoing in relation to Dormouse, albeit no evidence of this species has been recorded to date. Appropriate mitigation measures are proposed to safeguard protected species during construction and maintain opportunities for these species in the long-term.
- vii) **Enhancements.** Ecological enhancements proposed to secure a biodiversity net gain will be set out further in the BNG strategy as a separate submission. Faunal enhancements are also proposed, to be detailed as part of a faunal enhancement plan which can be secured via a suitably worded planning condition.
- viii) **Summary.** In summary, the proposals have sought to minimise impacts on biodiversity and subject to the implementation of appropriate avoidance, mitigation and compensation measures, the proposals would not result in significant harm to biodiversity.

1 Introduction

1.1 Background and Proposals

- 1.1.1 Aspect Ecology was commissioned by Wrenbridge (FRELD Reading) LLP in May 2024 to undertake an Ecological Appraisal in respect of the proposed redevelopment of land at Shinfield Park, Reading, RG2 9FW, centred at grid reference SU 72815 69048 (see Plan 6856/ECO1), hereafter referred to as 'the site'.
- 1.1.2 The proposals are for redevelopment of site for flexible employment use (Use Class E(g)(ii)-(iii)/B2/B8) together with associated servicing areas, parking, landscaping and other associated works'

1.2 Site Overview

- 1.2.1 The site is located to the south of the town of Reading, Berkshire within an urban context. The site is bounded to the north by existing residential development, whilst Lower Early Way bounds the site to the east beyond which lies a pocket of woodland (The Grove) and the M4 motorway. To the south and west the site is bound by Nores Hill Wood, beyond which lies existing residential and commercial development.
- 1.2.2 The site itself is a large office building and smaller outbuildings surrounded by areas of hardstanding carparking, soft landscaping and woodland. The soft landscaping comprises areas of mown amenity grassland interspersed with semi-mature to mature trees and introduced shrubs. A pond is also present within the courtyard in the centre of the main office building, with two further ponds adjacent to the southern site boundary.

1.3 Purpose of the Report

- 1.3.1 This report documents the methods and findings of the baseline ecology surveys and desktop study carried out in order to establish the existing ecological interest of the site, informing an appraisal of the likely ecological effects of the proposals. The importance of the habitats and species present is evaluated. Where necessary, avoidance, mitigation and compensation measures are proposed so as to safeguard any significant existing ecological interest within the site. Where appropriate, opportunities for ecological enhancement are identified with reference to national conservation priorities and local Biodiversity Action Plans (BAPs). Habitats are also assessed under Statutory Biodiversity Metric Guidance to inform the pre-development biodiversity value of the site in regard to Biodiversity Net Gain (BNG).

2 Methodology

2.1 Desktop Study

- 2.1.1 In order to compile background information on the site and its immediate surroundings the Thames Valley Environmental Records Centre (TVERC) was contacted in May 2024. Data was requested from within a search area extending 2km from the boundary of the site. Information on statutory designations was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database¹, which uses data provided by Natural England, from within a search area extending to 25km from the site. The MAGIC database was also searched to identify the known presence of any Priority Habitats within or adjacent the site. In addition, the Woodland Trust database² was searched for any records of ancient, veteran or notable trees within or adjacent to the site. The information received from these organisations is discussed in the text and reproduced where appropriate on Plan 6856/ECO2.

2.2 Habitat Surveys

- 2.2.1 The site was surveyed in June 2024 in order to ascertain the general ecological value of the land contained within the boundaries of the site and to identify the main habitats and ecological features present.
- 2.2.2 The survey was informed by Phase 1 Habitat Survey methodology³, with habitat types identified and mapped in accordance with the UK Habitat Classification system (version 2.0)⁴, together with an assessment of the species composition of each habitat. This technique provides an inventory of the habitat types present and allows identification of areas of greater potential for botanical interest which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal⁵ to record details on the actual or potential presence of notable or protected species.
- 2.2.3 In line with guidance⁶, the fine scale minimum mapping unit of 25sqm or 5m in length has been used where appropriate.
- 2.2.4 The nomenclature used for plant species is based on the Botanical Society for the British Isles (BSBI) taxon list⁷.

Habitat Condition Assessment

- 2.2.5 To determine the pre-development biodiversity value of the site for the BNG calculation, the condition of habitats has been assessed in accordance with the methodology set out in the Statutory Biodiversity Metric Technical Annex⁸ and using professional judgement. Condition assessment data were collected during the June 2024 survey.

¹ Multi-Agency Geographic Information for the Countryside (MAGIC), at <https://magic.defra.gov.uk/>

² Woodland Trust Ancient Tree Inventory, at <https://ati.woodlandtrust.org.uk/>

³ Joint Nature Conservation Committee (2010, as amended) *Handbook for Phase 1 habitat survey: A technique for environmental audit*.

⁴ UKHab Ltd (2023). *UK Habitat Classification Version 2.0* (at <https://www.ukhab.org>)

⁵ Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) *Guidelines for Preliminary Ecological Appraisal*.

⁶ *The UK Habitat classification User Manual*. Version 1.1. 2020

⁷ <https://bsbi.org/taxon-lists>

⁸ *Statutory Biodiversity Metric - Technical Annex 1 - Condition Assessment Sheets and Methodology*

2.3 Faunal Surveys

- 2.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded. Particular attention was also paid to the potential presence of protected, rare or notable species, with specific survey work undertaken for bats, Badger, Dormouse, Great Crested Newt, reptiles and breeding birds, as described below.
- 2.3.2 Specific survey work is currently ongoing in relation to Dormouse *Muscardinus avellanarius*. It is proposed that the results of the Dormouse survey, together with full survey methodologies and mitigation strategies, are submitted in a separate addendum.

Bats⁹

Preliminary Appraisal

- 2.3.3 A review was undertaken of the desk study information obtained to identify any known constraints in relation to bats, the bat species recorded and habitats likely to be used by bats within the site and the surrounding area. This included a review of background records, known designations including SACs or SSSIs relevant to bats and an appraisal of OS mapping and aerial photography to identify habitats likely to be of value to bats.
- 2.3.4 During the initial habitat survey, the potential suitability of the site for bats in relation to roosting habitats, potential flight-paths and foraging habitats (termed a 'daytime bat walkover') was investigated. Features were assessed as of negligible, low, moderate or high potential suitability for roosting, foraging and commuting, based on the framework set out under Bat Conservation Trust guidance. This appraisal has informed the scope of the survey work undertaken as set out below.

Buildings and Built Structures

- 2.3.5 **Visual Inspection Surveys.** Buildings and built structures within the site assessed as potentially suitable for use by roosting bats were subject to internal and external inspection surveys using ladders, torches and binoculars where necessary in June and August 2024.
- 2.3.6 During the external inspections, particular attention was given to potential roost features or access points, such as broken or lifted roof tiles, lifted lead flashing, soffit boxes, weatherboarding, hanging tiles, and similar, and for any indications of use by bats such as accumulations of bat droppings or staining. Binoculars were used to inspect inaccessible areas more closely.
- 2.3.7 During the internal inspections, searches were made for evidence of the presence of bats with particular attention paid to any loft voids and locations such as ridge boards, rafters, purlins, gable walls, and mortise joints that may provide potential roost features. Specific searches were made for bat droppings that can indicate present or past use and the extent of use.
- 2.3.8 Inspection surveys were undertaken by a CL18 (bat survey level 2) licence holder (registration number: 2015-14046-CLS-CLS) and CL17 (bat survey level 1) licence holder (registration number: 2021-54497-CLS-CLS).

⁹ Surveys based on: Reason, P.F. and Wray, S. (2023) UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. CIEEM; and Bat Conservation Trust (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn).

- 2.3.9 Emergence Surveys.** Following the visual inspection surveys set out above, a dusk emergence survey was carried out on buildings B4 and B5 in the north-east of the site (see Plan 6856/ECO3). This survey set out to find evidence of whether bats were making use of the buildings identified as having potential to support roosting bats.
- 2.3.10** Based on the visual inspections, survey positions were identified so that all potential roosting features and entry/exit points (typically covering all building elevations) were able to be observed. Survey positions are shown on Plan 6856/ECO4. Infrared (IR) camera set-ups, comprising a 1080p IR sensitive camera and two Evolva T38 IR lights, were deployed at each survey position, along with one Anabat Scout bat detector paired with the IR camera to aid identification of any bats observed.
- 2.3.11** Use of IR cameras allows identification of precise roosting locations and enables the number of any emerging bats recorded to be determined. Surveyors covered two IR cameras each to monitor these during the survey and to respond to any bat activity observed.
- 2.3.12** Surveyors and IR cameras were in position 15 minutes prior to sunset and remained in place for approximately 2 hours. Emergence surveys were carried out during suitable weather conditions, as described in Table 2.1 below.

Table 2.1. Dusk survey details.

Date	Start & end time & time of sunset	Structure reference / location	Equipment used	Weather
26/09/2024	Start time: 18.37 End time: 20.52 Sunset: 18.52	B4 & B5	4x 1080p IR sensitive camera, 8x Evolva T38 IR lights, 3x Anabat Scout.	Light rain proceeding start of survey, 100% cloud, BF4, 13°C
Comments: The survey was undertaken by 2 surveyors under the guidance of class licence holder 2021-54497-CLS-CLS.				

BF0 = calm, BF12 = hurricane force

Trees

- 2.3.13** Trees were assessed for their suitability to support roosting bats based on the presence of features such as holes, cracks, splits or loose bark. Trees were initially categorised as supporting Potential Roost Features (PRFs), Further Assessment Required (FAR) or supporting no suitable features.
- 2.3.14 Ground Level Tree Assessment.** Trees that may be impacted by the development proposals were subject to a Ground Level Tree Assessment (GLTA) based on relevant guidance¹⁰ with PRFs categorised as PRF-I (only suitable for individual or small numbers of bats) or PRF-M (suitable for multiple bats). Any PRFs identified were inspected using binoculars from ground level for any signs indicating possible use by bats, such as staining, scratch marks or bat droppings. Where accessible from ground level, PRFs were subject to close inspection using a torch.
- 2.3.15** The GLTA was undertaken by a CL18 (bat survey level 2) licence holder (registration number: 2015-14046-CLS-CLS) and CL17 (bat survey level 1) licence holder (registration number: 2021-54497-CLS-CLS).

¹⁰ Bat Conservation Trust (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn).

Activity Surveys

- 2.3.16 **Automated Surveys.** Automated static bat detector surveys were carried out during which Song Meter SM4BAT detectors were positioned at a number of locations within the site to record bat data over weekly periods during each month between August and October.
- 2.3.17 Detector 1 was deployed on the eastern boundary of the site adjacent to the carpark. Detector 2 was positioned in the centre of the site on the boundary of the ancient woodland. Detector 3 was positioned at the western boundary of the site adjacent to Nores Hill Wood. Detector 4 was positioned within the Local Wildlife Site to the south of the site near to the ponds (see Plan 6856/ECO5).
- 2.3.18 **Swarming Survey.** Evidence from the Netherlands shows mass swarming events of Common Pipistrelle *Pipistrellus pipistrellus* bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2016). Swarming by Common Pipistrelle has been observed in the UK, but this phenomenon requires further research. Accordingly, the best practice guidance advises ecologists to be aware of the potential for larger numbers of this species to be present during the autumn and winter in large/prominent buildings in highly urbanised environments.
- 2.3.19 Accordingly, due to the large size / height and prominent nature of the main building complex within the site (B1), a swarming survey using automated static bat detector surveys was carried out, during which a Song Meter SM4BAT detector was deployed on the roof of building B1, to record bat data during October 2024 (see Plan 6856/ECO5 for static detector location).
- 2.3.20 All static bat detectors were set to switch on approximately 30 minutes before sunset and switch off approximately 30 minutes after sunrise. The specific dates and weather conditions during the static detector surveys are set out in Table 2.3 overleaf.

Table 2.2. Automated detector survey details.

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°C)	Cloud Cover (%)	Precipitation (mm)
07/08/2024	3	14	23	0
08/08/2024	4	18	100	0
09/08/2024	3	16	53	0
10/08/2024	2	17	13	0
11/08/2024	4	19	12	0
12/08/2024	3	19	5	0
02/09/2024	3	18	89	0
03/09/2024	2	13	13	0
04/09/2024	2	11	86	0.1
05/09/2024	2	16	100	0.3
06/09/2024	1	15	16	0
07/09/2024	3	15	100	0
08/09/2024	2	13	47	0
09/10/2024	3	11	83	0
10/10/2024	2	6	100	0
11/10/2024	0	7	6	0
12/10/2024	4	7	2	0
13/10/2024	2	6	35	0
14/10/2024	2	10	46	0
15/10/2024	3	12	67	0
18/10/2024	2	10	0	0
19/10/2024	2	10	3	0
20/10/2024	4	12	27	0
21/10/2024	2	9	62	0
22/10/2024	2	10	34	0

BF0 = calm, BF12 = hurricane force

Analysis of Bat Survey Recordings

- 2.3.21 All bat calls were analysed using Anabat Insight version 2.0 to identify the species recorded during the survey work. Where recordings could not be reliably attributed to species (such as for *Myotis* species) or where overlaps between otherwise distinguishable species occur (such as in *Pipistrelle* sp. bat calls around 40kHz or 50kHz) calls were identified to genus; in the case of calls which could not be distinguished between *Nyctalus* sp. and Serotine *Eptesicus serotinus*, these have been labelled as 'unidentified big bat' species.

Badger (*Meles meles*)¹¹

- 2.3.22 A Badger survey was carried out in June 2024. The survey comprised two main elements. The first element involved searching for evidence of Badger setts. The second element involved searching for signs of Badger activity such as well-worn paths and push-throughs, snagged hair, footprints, latrines and foraging signs, so as to build up a picture of any use of the site by Badger.

¹¹ Based on: Mammal Society (1989) Occasional Publication No. 9 – Surveying Badgers

Dormouse (*Muscardinus avellanarius*)¹²

- 2.3.23 Survey visits were undertaken between October 2024 and November 2024 and further survey visits will be undertaken between April 2025 and June 2025 to establish the presence/likely absence of Dormouse within the site. Survey work is following the methodology set out within best practice guidance¹², whereby nesting tubes are attached to branches of trees and shrubs and checked on a regular basis for signs of use by Dormouse.
- 2.3.24 The guidance employs an indexation system to calculate survey effort, which is based on the number of tubes deployed and the months during which these are in place and checked for signs of use. Months in which use of nest tubes by Dormouse is more likely are afforded a higher number of survey effort points than months when there is a lower likelihood of use. The guidance recommends that determination of absence of Dormouse from a site should be based on a survey effort score of at least 20 points.
- 2.3.25 Accordingly, a total of 100 Dormouse nest tubes were deployed within the site and adjacent woodland (see Plan 6856/ECO6). Nest tubes were checked monthly between October 2024 and November 2024, giving a total survey effort score of 8 points to date, which in combination with further checks scheduled between April 2025 and June 2025 (14 points), will result in a total of 22 points across the entire survey period.

Reptiles¹³

- 2.3.26 Given the presence of potentially suitable reptile habitat within the site, a survey was undertaken in October 2024 to establish the presence/absence of common reptile species.
- 2.3.27 A total of 54 50x50cm sheets of thick roofing felt were placed within suitable areas across the site to act as artificial refugia (see Plan 6856/ECO7). This represents a density of nine refugia per hectare. The refugia, which provide shelter for reptiles, heat up more quickly than their surroundings in the morning and can remain warmer than their surroundings in the late afternoon. Being ectothermic (cold blooded), reptiles will readily use these refugia to bask upon or beneath so as to raise their body temperature, which allows them to forage earlier and later in the day. Checking the refugia at appropriate times of the day (morning and evening) for the presence of reptiles provides an effective measure of assessing the presence/absence of common reptiles at a site to be determined.
- 2.3.28 The refugia were left in place undisturbed for approximately 2 weeks to allow reptiles to find and start using them. Following this initial bedding-in period, refugia were checked at appropriate times of the day on seven occasions during suitable weather conditions as set out in Table 2.4 overleaf.

¹² Based on: English Nature (2003) Surveying dormice using nest tubes: Results and experiences from the South West Dormouse Project, English Nature Research Report No. 524; English Nature (2006) The Dormouse Conservation Handbook, 2nd Edition; and Natural England (2011) Interim Natural England Advice Note – Dormouse surveys for mitigation licensing – best practice and common misconceptions, WML-537 (12/11)

¹³ Surveys based on: Froglife Advice Sheet 10 (1999) Reptile Survey - an introduction to planning, conducting and interpreting surveys for snake and lizard conservation.

Table 2.3. Reptile survey dates and weather conditions

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°C)	Cloud Cover (%)	Precipitation
03/10/2024	2	13	10	Dry
07/10/2024	2	15	35	Dry
09/10/2024	2	15	95	Dry
15/10/2024	2	11	100	Light
18/10/2024	2	11	100	Dry
21/10/2024	2	12	100	Dry
23/10/2024	4	12	60	Dry

BF0 = calm, BF12 = hurricane force

- 2.3.29 Any reptiles that were observed basking in the open or within partial cover were also recorded. Searches were also made of existing natural objects (such as logs and rocks) and other artificial refugia (such as debris or discarded tyres), where present, for reptiles or evidence of reptiles (such as sloughed skin).

Great Crested Newt (*Triturus cristatus*)

- 2.3.30 As a first step in assessing the possible presence of Great Crested Newt at the site, Ordnance Survey mapping and satellite imagery were examined to identify water bodies within 500m of the site boundary.
- 2.3.31 Guidance set out within Natural England's Method Statement template, to be used when applying for a Great Crested Newt development licence, states that surveys of ponds within 500m of the site boundary are only required *"when all of the following conditions are met: (a) maps, aerial photos, walk-over surveys or other data indicate that the pond(s) has potential to support a large great crested newt population, (b) the footprint contains particularly favourable habitat, especially if it constitutes the majority available locally, (c) the development would have a substantial negative effect on that habitat, and (d) there is an absence of dispersal barriers."*
- 2.3.32 Given that in this instance, none of the four points listed above are applicable to the site, it is concluded that survey of ponds within 500m of the site boundary is not required, and that survey of ponds within 250m¹⁴ represents adequate survey effort.

Environmental DNA (eDNA)

- 2.3.33 Water samples were taken for eDNA analysis to investigate the presence/absence of Great Crested Newt within ponds located up to 250m from the site (P1-P5, see Plan 6856/ECO8 for pond locations). Water samples were collected on either the 11th June or 24th June 2024 following the procedure outlined in the methods manual prepared for DEFRA by Biggs *et al.* (2014)¹⁵. The survey fell within the acceptable seasonal window set out by Natural England (15 April to 30 June inclusive)¹⁶.

¹⁴ 250m is the typical maximum migratory range of this species, see English Nature (2004) 'An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt *Triturus cristatus*'. English Nature Research Report 576

¹⁵ Biggs J., Ewald N., Valentini A., Gaboriaud C., Griffiths R.A., Foster J., Wilkinson J., Arnett A., Williams P. and Dunn F. (2014). *Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA.* Freshwater Habitats Trust, Oxford.

¹⁶ Natural England (2015) Great crested newts: surveys and mitigation for development projects. Standing advice for local planning authorities who need to assess the impacts of development on great crested newts. Viewed at www.gov.uk on 24/12/2015.

- 2.3.34 Samples were collected by suitably licensed (CL08 Level 1 - Licence No. 2020-47566-CLS-CLS) and/or trained Aspect Ecology staff. The water samples were sent for laboratory analysis which was conducted by Cellmark in accordance with the procedure set out by Biggs *et al.* (2014)¹⁴.

Breeding Birds¹⁷

- 2.3.35 The use of the site and adjacent habitat, up to 100m from the site boundary, by breeding birds was assessed over three survey visits, each undertaken on separate days between June and July 2024. Birds observed or heard within the site were recorded in accordance with a method modified from the British Trust for Ornithology's (BTO's) Common Bird Census technique¹⁸.
- 2.3.36 On each survey occasion a route through the site was walked by an experienced ornithologist. Note was made of all birds either seen or heard. These 'registrations' were annotated on a site plan using standard BTO codes for each bird species and appropriate abbreviations.
- 2.3.37 This survey methodology has the advantage over other survey methods of mapping each registration to a specific point within the site and is therefore able to identify those areas containing the highest density and diversity of bird species.
- 2.3.38 The dates of each survey, together with a summary of the weather conditions are shown in Table 2.5 below.

Table 2.4. Breeding bird survey dates and weather conditions.

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°C)	Cloud Cover (%)	Precipitation (0-5)
18/06/2024	2	12	25	0
01/07/2024	1	14	50	0
15/07/2024	2	14	50	0

2.4 Survey Constraints and Limitations

- 2.4.1 Not all of the species that occur in each habitat will necessarily be present or detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. The habitat survey was undertaken within the optimal season, therefore allowing a robust assessment of habitats and botanical interest within the site to be made. Note was made of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) that were observed during surveys. However, because the detectability of such species varies according to factors such as the time of year or site management regime, the absence of invasive species should not be assumed even if no such species were recorded during the surveys undertaken.
- 2.4.2 A recognised limitation of bat activity surveys is that bat detectors can only provide an index of activity rather than determine absolute numbers of bats. The results of bat activity surveys should therefore only be considered indicative of the amount of use bats make of an area rather than a measure of the abundance of bats.

¹⁷ Surveys based on methodology within: Baille *et al.* RA (2010) *Breeding Birds in the Wider Countryside: their conservation status*, BTO Research Report No. 385, BTO, Thetford.

¹⁸ Marchant (1983) Common Birds Census Instructions. Available at: <https://www.bto.org/our-science/publications/birdtrends/2020/methods/common-birds-census>

- 2.4.3 In addition, some bat species that are more difficult to detect because of their quiet echolocation calls, such as Brown Long-eared Bat, may be under-recorded. This is not considered to be a limitation to the assessment on this species group.
- 2.4.4 The dusk emergence survey of buildings B4 and B5 were undertaken in late September 2024, which falls just outside of the optimal season for surveying buildings with low roosting potential (May – August). September surveys may miss maternity roosts due to dispersal before this time, however given that no other evidence of maternity roosts was found during the internal and external inspections of the buildings, and overall, the buildings offer limited suitability for maternity roosts, it is assessed to be unlikely that any maternity roosts are present. Nonetheless, general precautionary safeguards for bats are proposed (Chapter 6) in respect of demolition of these buildings to minimise the risk of harm to bats in the event that any roosts have been missed or should bats colonise in future.
- 2.4.5 Best practice guidance advises bat activity surveys are spread across the active season of April – October, whereas the 2024 surveys were concentrated into August – October due to the timing of the project. To compensate for this, static bat detectors were deployed for longer than the standard 5 days during each recording month and a relatively high number of static detectors were deployed for what is primarily a built-up site. Given that the majority of key features likely to be used by bats for foraging / commuting, e.g. boundary hedgerows, woodland, etc., are to be retained and an overall net gain in habitat suitable for foraging is to be provided (including new areas of native woodland planting, species-rich wildflower grassland, etc.), the lack of survey effort during the spring / early summer periods is not assessed to be a significant constraint on the overall assessment of likely impacts on bats.
- 2.4.6 The reptile survey was carried out in October 2024, which is relatively late in the survey season but still falls within the typical active reptile season of March – October. Furthermore, weather conditions during October 2024 were mild and all survey visits were carried out during suitable weather conditions. As such, the timing of the reptile survey is not assessed to be a significant constraint on the overall assessment of likely impacts on reptiles.

2.5 Ecological Evaluation Methodology

- 2.5.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)¹⁹, which identifies ‘important ecological features’ within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). Further details are provided at Appendix 6856/1.

2.6 Relevant Planning Policy

National Policy Approach to Biodiversity in the Planning System

- 2.6.1 The National Planning Policy Framework (NPPF)²⁰ describes the Government’s national policies on ‘conserving and enhancing the natural environment’ (Chapter 15).

¹⁹ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine, ver. 1.2, Chartered Institute of Ecology and Environmental Management, Winchester

²⁰ Ministry of Housing, Communities & Local Government (2024) *National Planning Policy Framework*

2.6.2 NPPF is accompanied by Planning Practice Guidance on 'Biodiversity, ecosystems and green infrastructure' and ODPM Circular 06/2005²¹.

2.6.3 NPPF takes forward the Government's strategic objective to halt overall biodiversity loss²², as set out at Paragraph 187, which states that planning policies and decisions should contribute to and enhance the natural and local environment by:

'minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs'

2.6.4 The approach to dealing with biodiversity in the context of planning applications is set out at Paragraph 193:

'When determining planning applications, local planning authorities should apply the following principles:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.'*

2.6.5 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019²³, which sets out the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;

²¹ ODPM (2006) Circular 06/2005: Planning for Biodiversity and Geological Conservation – A Guide to Good Practice

²² DEFRA (2011) Biodiversity 2020: A strategy for England's wildlife and ecosystem services

²³ British Standards Institution (2013) Biodiversity – Code of practice for planning and development, BS 42020:2019

- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.6.6 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the type and scale of the proposed development (BS 42020:2019, section 5.5).

Local Policy

2.6.7 The Core Strategy Development Plan (adopted in January 2010) and Adopted Managing Development Delivery Development Plan (adopted in February 2014) outlines Wokingham Borough Council's vision and strategy for the Borough. Additionally, the Shinfield Parish Neighbourhood Plan (adopted January 2017) outlines the Parish's vision and strategy for the local area.

Adopted Core Strategy (2010)

2.6.8 The Core Strategy Development Plan includes the following policies and strategies which are relevant to biodiversity and ecology:

- Core Policy 1: Sustainable development
- Core Policy 3: General Principles for development
- Core Policy 7: Biodiversity
- Core Policy 8: Thames Basin Heaths Special Protection Area
- Core Policy 12: Green Belt

Adopted Managing Development Delivery Development Plan (2014)

2.6.9 The Managing Development Delivery Development Plan includes the following policies and strategies which are relevant to biodiversity and ecology:

- Policy CC03: Green Infrastructure, Trees and Landscaping
- Policy TB01: Development within the Green Belt
- Policy TB23: Biodiversity and Development

Adopted Shinfield Parish Neighbourhood Plan (2017)

2.6.10 The Shinfield Parish Neighbourhood Plan includes the following policies and strategies which are relevant to biodiversity and ecology:

- Policy 6: Trees, Hedgerows and Woodland
- Policy 7: Biodiversity

3 Ecological Designations

3.1 Statutory Designations

- 3.1.1 The statutory designations of ecological importance that occur within the local area around the site are shown on Plan 6856/ECO2.
- 3.1.2 The nearest statutory nature conservation designation to the site is Pearmans Copse Local Nature Reserve (LNR) located approximately 0.4km east of the site which is designated for its ancient woodland. The next nearest statutory nature conservation designation to the site is Maiden Erlegh Park LNR located approximately 2.5km north-east, which is designated for its lowland mixed deciduous woodland, semi-natural ancient woodland and eutrophic open water.
- 3.1.3 The nearest statutory designation of European importance is Thames Basin Heaths Special Protection Area (SPA) located approximately 6km south-east of the site. Thames Basin Heaths SPA qualifies under Article 4.1 of the Directive (79/409/ECC) for supporting Dartford Warbler *Sylvia undata*, Nightjar *Caprimulgus europaeus* and Woodlark *Lullula arborea* populations of European importance.
- 3.1.4 Natural England has developed Impact Risk Zones (IRZs) as an initial tool to help assess the risk of developments adversely affecting Sites of Special Scientific Interest (SSSIs), taking into account the type and scale of developments. The site sits within IRZ's in relation to Bramshill SSSI (located ~6km south of the site) and Hazeley Heath SSSI (located ~9.2km south of the site) however, the IRZs do not relate to industrial / commercial development.

Assessment of Proposals

- 3.1.5 The site itself is not subject to any statutory nature conservation designations. All statutory ecological designations in the surrounding area are physically well separated from the site by existing development and given the type and scale of the proposals, these designations are unlikely to be physically affected.
- 3.1.6 Thames Basin Heaths SPA, located 6km away, is sensitive to atmospheric pollution and could theoretically be impacted by adverse air quality effects arising from traffic associated with the proposals. However, the Air Quality report produced as part of the Wokingham Local Plan Update (LPU Growth Scenario Appraisal, Stantec, Jan 2023) identifies that there is a predicted decrease in nitrogen deposition rates at all receptor locations within the SPA between the base year and future growth scenarios, as a result of future decreases in vehicle NOx emissions and reduced NOx background concentrations. Given the proposed development would not significantly retard the predicted decreases in vehicle emissions or background NOx concentrations, no likely significant adverse air quality effects on the SPA are anticipated, either alone or in combination with other plans or projects.

3.2 Non-statutory Designations

- 3.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 6856/ECO2.
- 3.2.2 The nearest non-statutory nature conservation designation to the site is Shinfield Park, Nore's Hill Local Wildlife Site (LWS), which is located adjacent to the southern and western boundaries of the site. Shinfield Park, Nore's Hill LWS is designated on the basis of comprising a mixture of woodland, including semi-natural ancient woodland.

- 3.2.3 The next nearest non-statutory nature conservation designation is The Grove LWS located approximately 15m east, separated from the site by Lower Early Way. The Grove LWS is designated on the basis of comprising a mosaic of scrub and tall grassland sward dominated by forbs.

Assessment of Proposals

- 3.2.4 The site itself is not subject to any non-statutory nature conservation designations, however, Shinfield Park, Nore's Hill LWS is adjacent to the site. The LWS will be fully retained under the proposed development. Nonetheless, the woodland and ponds within the LWS could be subject to potential adverse effects such as damage from encroaching construction machinery or vehicles, damage to trees from compaction, together with indirect effects such as dust deposition and surface run-off of contaminants or silt. As such, a number of dust and pollution prevention safeguards will be implemented during demolition and construction as detailed at Chapter 6. Furthermore, protective fencing will be installed during construction around the perimeter of the LWS to prevent accidental encroachment of plant, people or storage materials into the LWS boundary. No additional access to the Nore's Hill Wood LWS is proposed beyond the existing Public Right of Way (PRoW) or hardstanding pathways surrounding the ponds to the south of the site therefore no recreational impacts on Nore's Hill Wood LWS are anticipated. The safeguarding measures detailed above in respect of dust and pollution prevention will equally serve to safeguard The Grove LWS. The Grove LWS is not accessible to the public and access restrictions will not alter as a result of the proposals. Subject to implementation of appropriate mitigation measures set out in Chapter 6 the LWS will be safeguarded during construction works. All remaining non-statutory designations in the surrounding area are physically well separated from the site by existing development are unlikely to be affected.

3.3 Priority Habitats, Ancient Woodland and Notable Trees

- 3.3.1 The site is adjacent to areas of woodland that are identified in MAGIC as the Priority Habitat 'Deciduous Woodland' and 'Woodpasture and Parkland'. Nore's Hill Wood Ancient Woodland is located adjacent to the north-west of the site and a single veteran Oak tree has been identified within Nore's Hill Wood to the south-west of the site.

Assessment of Proposals

- 3.3.2 According to the MAGIC database, ancient woodland (Nore's Hill) is present along the north-western site boundary. The MAGIC mapping includes the public footpath and associated hedgerow within the ancient woodland boundary. However, the field evidence is not consistent with this for a variety of reasons, including the fact that built infrastructure is present in the centre of the hedgerow, including signposts and lampposts, which indicates the hedgerow does not form part of the ancient woodland, and instead the hedgerow was planted as part of the previous development of the site. Similarly, the footpath itself contains a relict gravel surface and a concrete step and, as such, is not an undisturbed part of the ancient woodland. In addition, to the north of the footpath / hedgerow lies a ditch and bank structure with mature trees, a typical boundary feature of ancient woodlands and likely to represent the true / original boundary of the ancient woodland, i.e. the boundary lies north of the footpath, outside of the site.
- 3.3.3 The MAGIC mapping also suggests ancient woodland extends beyond the public footpath into the site in places, including built infrastructure such as old garage buildings, concrete foundations, a manhole cover and smoking shelter, as well as areas of scrub, amenity planting and amenity grassland, none of which is consistent with ancient woodland.

- 3.3.4 In summary, the ancient woodland boundary is assessed to be to the north/north-western side of the public footpath, which is marked by a chain-link fence (on the off-site side of the footpath). This is further supported by a review of the historical mapping evidence, which shows the footpath on the outside edge of the woodland. The extent of ancient woodland on the MAGIC database is therefore incorrect and the true extent of ancient woodland is illustrated on Plan 6856/ECO3. Further discussion on this topic is set out within the Woodland Technical Note at Appendix 6856/3.
- 3.3.5 Under the proposals, a minimum 15m buffer will be implemented between proposed built development and the ancient woodland in accordance with government standing advice. The proposals will therefore provide betterment over the current situation, providing a net reduction in built development within the ancient woodland buffer compared to existing, and the woodland edge will be enhanced with new wildflower grassland creation, native woodland planting and tree planting as part of the landscape scheme. The ancient woodland will be protected during construction through use of fencing and pollution prevention measures (see Chapter 6). No additional access is proposed to the ancient woodland as part of the development and the drainage strategy will ensure that the hydrology of the woodland is unaltered under the proposals, with site drainage designed to run downhill away from the retained woodland.
- 3.3.6 A veteran English Oak tree (T18) adjacent to the south-west of the site will also be fully retained and protected in line with arboricultural advice. A large Oak tree (tree R) situated on a woodland bank within Nores Hill, located off-site beyond the north-western boundary, was assessed by Aspect Ecology and Aspect Arboriculture in terms of its potential veteran status in October 2024. The tree features include Ivy coverage, localised butt rot, two storm-damaged limbs (both Ivy covered), knot hole, limb tear-out, small diameter (<100mm) dead branches, basal fungus and burring on the main trunk. In summary, whilst some limited damage and decay is present this is not significant in nature and overall, the tree is not assessed to be of exceptional biodiversity, cultural or heritage value due to its age, size and condition. Therefore, the tree is not assessed to be a veteran tree, based on the NPPF definition. The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024 provide a slightly different definition of veteran trees however, the Regulations are not relevant here given that the tree is located off-site and therefore sits outside the BNG requirements.
- 3.3.7 The MAGIC mapping indicates there are areas of Priority Habitat Deciduous Woodland within and adjacent the site. However, as with the ancient woodland MAGIC mapping, during the Phase 1 ecological survey and specific woodland mapping exercise undertaken by Aspect Ecology in June 2024, it became apparent that the MAGIC mapping is erroneous. For example, the MAGIC woodland includes a pond, roundabout, parking bays and areas of introduced shrub as PH woodland. The only area of Priority Habitat Deciduous Woodland within the site is a small area in the south-east (~0.015ha), which is to be fully retained.
- 3.3.8 Woodpasture and Parkland Priority Habitat is identified within and adjacent to the north of the site on the MAGIC database. However, a review of historic mapping confirms that the area was not historically located within a parkland setting and has instead predominately been under agricultural use with land parcels previously held under different occupiers. This suggests that the site formed part of a wider farmland estate, rather than part of a landscaped parkland or formal grounds.
- 3.3.9 Furthermore, during the Phase 1 Habitat survey this area was noted to comprise other woodland; broadleaved, modified grassland and mixed scrub. As such, the extent of Woodpasture and Parkland on the MAGIC database is incorrect and this habitat type is absent from the site.

- 3.3.10 Overall, subject to implementation of appropriate mitigation measures set out in chapter 6 the priority habitats, ancient woodland and veteran tree will be safeguarded during and after the proposed development.

3.4 **Summary**

- 3.4.1 Subject to the implementation of appropriate mitigation measures (as described above and at Chapter 6), it is unlikely that any statutory or non-statutory ecological designations, ancient woodland, Priority Habitat or veteran trees will be significantly affected by the proposals.

4 Habitats and Ecological Features

4.1 Background Records

- 4.1.1 No specific records of any protected, rare or notable plant species from within or immediately adjacent to the site are included within the information returned from the Records Centre. A number of records of Priority Species were returned from TVERC including Grape-hyacinth *Muscari neglectum*, and Lizard Orchid *Himantoglossum hircinum*, dating between 2002 and 2022, none of which originate from within the site itself. A few records of Bluebell *Hyacinthoides non-scripta*, which is protected from intentional picking and uprooting in Schedule 8 of the Wildlife and Countryside Act, were returned ~100m north of the site boundary, dated 2010.

4.2 Overview

- 4.2.1 The locations of habitat types and features within the site are indicated on Plan 6856/ECO3.
- 4.2.2 The site comprises a large office complex and smaller outbuildings surrounded by areas of hardstanding parking, woodland and modified grassland, interspersed with tree and ornamental shrub planting. A pond is present in the courtyard in the centre of the site, with a further two ponds located adjacent to the southern site boundary.

4.3 Priority Habitats

- 4.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats which are of principal importance for conservation in England. This list is largely derived from the 'Priority Habitats' listed under the former UK BAP, which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.
- 4.3.2 Of the habitats within the site, the native hedgerow and small area of lowland mixed deciduous woodland are considered to qualify as Priority Habitats and therefore constitute important ecological features. This is discussed further in the relevant habitat sections below.

4.4 Irreplaceable Habitats

- 4.4.1 Irreplaceable habitats are now defined under The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024 and include blanket bog, lowland fens, limestone pavements, coastal sand dunes, ancient woodland, ancient trees and veteran trees, spartina saltmarsh swards and mediterranean saltmarsh scrub. A veteran tree is present to the south-west of the site as discussed further in the relevant habitat section below.

4.5 Habitat Descriptions and Evaluation

- 4.5.1 The habitats and ecological features present within the site are described in Table 4.1 below. This table sets out their UK Habitat Classification Primary Habitats and Secondary Codes, and the corresponding habitat type and condition according to the Statutory Biodiversity Metric.

- 4.5.2 The table also indicates whether these habitats constitute an important ecological feature and sets out their level of importance, taking into account the status of habitat types and the presence of rare plant communities or individual plant species of elevated interest. Further information relevant to grassland and woodland habitats is set out below the table. The value of habitats for the fauna they may support is considered separately in Chapter 5 below.

Table 4.1a. Habitat Descriptions and Evaluation – Area Habitats

Ref	UK Hab Primary Habitat/ Secondary Codes*	Statutory Biodiversity Metric Habitat Type and Condition	Description	Evaluation
-	g3c other neutral grassland 108	Grassland: Other neutral grassland (poor condition)	Small areas of grassland in the north-east of the site comprised a uniform short sward, which appears to be managed by regular mowing. Forb cover was relatively high (around 50% or more), but with a high proportion of White Clover <i>Trifolium repens</i>. No species was particularly dominant, but abundant species included Perennial Rye-grass <i>Lolium perenne</i>, Self-heal <i>Prunella vulgaris</i>, Creeping Cinquefoil <i>Potentilla reptans</i> and Bird's-foot Trefoil <i>Lotus corniculatus</i>. Species richness was relatively high for amenity grassland habitat, averaging 9.25 species per square metre, with a range of 6 to 11 species per m². Based on this, the habitat is considered to be of higher value than 'modified grassland', but falls short of qualifying as Priority Habitat, e.g. lowland meadow, on the basis of the high coverage of White Clover and Perennial Rye-grass and unexceptional species mix. As such, the grassland is assessed to qualify as other neutral grassland.	Does not form important ecological feature
-	g4 modified grassland 108	Grassland: Modified grassland (moderate condition)	Areas of modified grassland within the site comprised a uniform short sward, managed by regular mowing. Perennial Rye-grass is dominant with other species present including Bird's-foot trefoil <i>Lotus corniculatus</i>, Ivy <i>Hedera helix</i>, Yorkshire-Fog <i>Holcus lanatus</i>, Daisy <i>Bellis perennis</i>, Creeping Buttercup <i>Ranunculus repens</i>, Cut-leaved Cranes-bill <i>Geranium dissectum</i>, Yarrow <i>Achillea millefolium</i>, Ragwort <i>Senecio jacobaea</i>, White Clover, Selfheal <i>Prunella vulgaris</i> and Ribwort Plantain <i>Plantago lanceolata</i>. The grassland averages between 6 to 8 species per square metre.	Does not form important ecological feature
-	(Introduced shrub) 847	Urban: Introduced shrub (condition assessment N/A)	Areas of amenity planting comprised dense non-native ornamental species such as Barberry <i>Berberis</i> sp. and Rose of Saron <i>Hypericum calycinum</i>, with much Ivy <i>Hedera helix</i> at ground level and occasional colonising Elm <i>Ulmus procera</i>, Ash <i>Fraxinus excelsior</i> and Horse Chestnut <i>Aesculus hippocastanum</i> saplings.	Does not form important ecological feature
-	h3h Mixed scrub	Heathland and shrub: Mixed scrub (poor condition)	The scrub was dense and tall, dominated by Blackthorn <i>Prunus spinosa</i> and Hazel <i>Corylus avellana</i>, over dense Ivy and Ivy Broomrape <i>Orobancha hederæ</i>.	Does not form important ecological feature
-	(hardstanding) u1b developed land – sealed surface	Urban: Developed land; sealed surface (N/A – other)	Hardstanding concrete comprising areas of vehicular and pedestrian access, all of which was in generally good condition with very little vegetation cover.	Does not form important ecological feature

Ref	UK Hab Primary Habitat/ Secondary Codes*	Statutory Biodiversity Metric Habitat Type and Condition	Description	Evaluation
B1	(buildings) u1b developed land – sealed surface	Urban: Developed land; sealed surface (N/A – other)	Three storey office building complex of concrete and brick construction in current use as an office at time of survey.	Does not form important ecological feature
B2	(buildings) u1b developed land – sealed surface	Urban: Developed land; sealed surface (N/A – other)	Three storey metal clad temporary building with windows on all elevations and flat roof.	Does not form important ecological feature
B3	(buildings) u1b developed land – sealed surface	Urban: Developed land; sealed surface (N/A – other)	Single storey garage building of brick construction, with a sloping roof bitumen felt roof and wooden fascia boards at the eaves.	Does not form important ecological feature
B4- B5	(buildings) u1b developed land – sealed surface	Urban: Developed land; sealed surface (N/A – other)	Two disused and abandoned bungalow-style buildings of identical brick-built construction, with pitched tiled roofs.	Does not form important ecological feature
P1	r1g Other standing water 41	Lakes: Ornamental lake or pond	A raised concrete sided ornamental pond located within the courtyard found centrally within building B1. The pond was stocked with fish at the time of survey.	Does not form important ecological feature
	(trees) 200, 202	Individual trees: Urban trees (moderate condition)	Individual trees were recorded throughout the site and comprised semi-mature and mature urban trees. Typical species included Pedunculate Oak <i>Quercus robur</i> , Horse Chestnut, Ash, English Elm, Cherry Plum <i>Prunus cerasifera</i> , London Plane <i>Platanus occidentalis</i> , Alder <i>Alnus glutinosa</i> , Grey Willow <i>Salix cinerea</i> , Field Maple <i>Acer campestre</i> , and Norway Maple <i>Acer platanoides</i> .	Does not form important ecological feature
T18	(veteran tree) 204	N/A – Off-site and therefore not subject to specific condition assessment	A single veteran English Oak tree is located within the LWS to the south-west of the site boundary.	Irreplaceable habitat, forms important ecological feature (District value)
W1	w1f Lowland mixed deciduous woodland 28	N/A – Off-site and therefore not subject to specific condition assessment	Very dense with complex structure, many open scrubby glades (especially Bramble <i>Rubus fruticosus</i> agg. and Bracken <i>Pteridium aquilinum</i>), also some very densely shaded areas. Structurally diverse despite the apparent lack of management. The canopy comprises Pedunculate Oak, Ash, Beech <i>Fagus sylvatica</i> and Wild Cherry <i>Prunus avium</i> . The understorey comprises English Elm, Honeysuckle <i>Lonicera periclymenum</i> , Blackthorn, Hawthorn <i>Crataegus monogyna</i> , Hazel, Norway Maple	Priority Habitat, forms important ecological feature (District value)

Ref	UK Hab Primary Habitat/ Secondary Codes*	Statutory Biodiversity Metric Habitat Type and Condition	Description	Evaluation
			<i>Acer platanoides</i> , Bramble, Cherry Laurel <i>Prunus laurocerasus</i> , Field Maple, Rowan <i>Sorbus aucuparia</i> and Holly <i>Ilex aquifolium</i> . The ground flora comprises Ivy, Bluebell, Bracken <i>Pteridium aquilinum</i> , Herb-Robert <i>Geranium robertianum</i> , Foxglove <i>Digitalis purpurea</i> , Yorkshire-fog, Cleavers <i>Galium aparine</i> , False Oat-grass <i>Arrhenatherum elatius</i> and Three-nerved Sandwort <i>Moehringia trinervia</i> .	
W2	w1g other broadleaved woodland 31	Woodland: Other woodland broadleaved; (moderate condition)	Comprises a very small area of tree cover, disconnected from W1 by a 1m wide hardstanding path, a chain-link fence, then a 1m wide gravelled public footpath, then another chain-link fence (the actual ancient woodland boundary). There is however canopy connectivity above. The woodland is very scrubby in character, comprising Hazel, English Elm and Plum <i>Prunus domestica</i>. Two dead trees are present (appear to comprise Wild Cherry and London Plane). The ground flora is dominated by dense Ivy. A trimmed 1m high hedge is present in places, comprising Hawthorn and English Elm.	Does not form important ecological feature
W3	w1g other broadleaved woodland 31	Woodland: Other woodland; broadleaved (moderate condition)	This comprises a young dense woodland, with a strong amenity character. The canopy comprises a range of species including Ash, Pedunculate Oak, Turkey Oak <i>Quercus cerris</i> , London Plane <i>Platanus x hispanica</i> , and Silver Birch <i>Betula pendula</i> , over an understorey of Hazel, Hawthorn and Holly. The ground flora was dominated by Ivy with much Tutsan <i>Hypericum androsaemum</i> (apparently planted) and Lesser Periwinkle <i>Vinca minor</i> .	Does not form important ecological feature
W4	w1g other broadleaved woodland 31	Woodland: Other woodland; broadleaved (poor condition)	This comprises a sparse canopy of Pedunculate Oak and Ash over dense ornamental Laurel. The ground flora is dominated by dense Ivy.	Does not form important ecological feature
W5	w1f Lowland mixed deciduous woodland 204	Woodland; Lowland mixed deciduous (moderate condition)	This area has a distinct semi-natural character, with a canopy dominated by Pedunculate Oak and Ash, with some Sycamore <i>Acer pseudoplatanus</i>. The canopy layer is relatively diverse with a moderate density, while the ground flora is sparse in places due to the dense woody layers, while Bramble is prolific in places. The eastern edge of the woodland is marked by a road kerb in the north, followed by a Yew <i>Taxus baccata</i> hedge around the ponds. In the south-east, the woodland	Priority Habitat, forms important ecological feature (District value)

Ref	UK Hab Primary Habitat/ Secondary Codes*	Statutory Biodiversity Metric Habitat Type and Condition	Description	Evaluation
			boundary is marked by a dense line of shrubs, with urban trees over amenity grassland lying to the north of this. The canopy comprises Pedunculate Oak, Ash and Sycamore. The understorey comprises Elder <i>Sambucus nigra</i>, Hazel, Hawthorn, Dogwood <i>Cornus sanguinea</i>, Blackthorn, Field Maple, Holly, Field Rose, Black Bryony <i>Tamus communis</i>, Grey Willow and English Elm. The ground flora comprises Bramble, Ivy, Giant Fescue <i>Festuca gigantea</i>, Wood Avens <i>Geum urbanum</i>, Nipplewort <i>Lapsana communis</i>, Remote Sedge <i>Carex remota</i>, Pyramidal Orchid <i>Anacamptis pyramidalis</i>, Germander Speedwell <i>Veronica chamaedrys</i>, Wood Dock <i>Rumex sanguineus</i>, Dog's Mercury <i>Mercurialis perennis</i>, Common Nettle <i>Urtica dioica</i>, Male Fern <i>Dryopteris filix-mas</i>, Wood False-brome <i>Brachypodium sylvaticum</i>, Hedge Woundwort <i>Stachys sylvatica</i> and Lords-and-Ladies <i>Arum maculatum</i>.	
W6	w1g other broadleaved woodland 31	Woodland: Other woodland; broadleaved (moderate condition)	The woodland supported a dense structure lacking a clear distinction between the canopy and understorey layers. Non-native Cherry Plum <i>Prunus cerasifera</i> was heavily dominant, with occasional Horse Chestnut, Sycamore, Ash, Silver Maple <i>Acer saccharinum</i>, Blackthorn <i>Prunus spinosa</i>, Hazel <i>Corylus avellana</i>, and <i>Cotoneaster</i> sp. The field layer was heavily shaded and dominated by Ivy with occasional Herb-Robert.	Does not form important ecological feature

* Habitat types not listed as a primary habitat are indicated in brackets

UK Hab Secondary Codes:

31 – secondary woodland

108 – frequently mown

200 – tree

41 – pond (non-priority)

28 – ancient woodland site

203 – mature tree

204 – veteran tree

847 – introduced shrub

Table 4.1b. Habitat Descriptions and Evaluation – Hedgerows/Line of Trees

Ref	UK Hab Primary Habitat/ Secondary Codes*	Statutory Biodiversity Metric Habitat Type and Condition	Description	Evaluation
H1	h2a5 species-rich native hedgerow	Species-rich native hedgerow (good condition)	Managed hedge ~1.8m high and <1.5m wide along the north of a carpark adjacent to the existing boundary fence. Species within the hedge comprise Hazel, Field Maple, Dogwood, Blackthorn, Holly, Pedunculate Oak, Cherry, Dog-rose <i>Rosa canina</i> , Horse Chestnut, Ash and Sycamore. Ground flora was sparse with concrete hardstanding extending to the hedgerow base.	Priority Habitat, forms important ecological feature (local value)
TL1	(line of trees) 33, 203	Line of trees (poor condition)	Line of Leyland Cypress <i>Cupressocyparis leylandii</i> , Lawson Cypress <i>Chamaecyparis lawsoniana</i> , Monterey Cypress <i>Cupressus macrocarpa</i> , English Oak, Field Maple, Turkey Oak and Plum, including one mature specimen.	Does not form important ecological feature

* Habitat types not listed as a primary habitat are indicated in brackets

UK Hab Secondary Codes:

33 – line of trees

203 – mature tree

4.6 Summary

- 4.6.1 On the basis of the above, the following habitats within and adjacent to the site are considered to form important ecological features:

Table 4.2. Evaluation summary of habitats forming important ecological features.

Habitat	Level of Importance
Hedgerow	Local
Ancient Woodland	District
Lowland Mixed Deciduous Woodland	District
Veteran Tree	District

- 4.6.2 Other habitats present within the site include other neutral grassland, modified grassland, buildings and hardstanding, mixed scrub, non-veteran trees and non-priority habitat broadleaved woodland. These habitats do not form important ecological features.

4.7 Assessment of Proposals

- 4.7.1 The proposed development has followed the mitigation hierarchy approach as set out under the National Planning Policy Framework (NPPF), with consideration given first to avoidance, followed by mitigation and compensation.
- 4.7.2 In line with this hierarchy, habitats forming important ecological features are largely retained under the proposals avoiding significant habitat losses, with built development focused within areas of lower value habitat, primarily existing built areas. Losses of other habitats, e.g. modified grassland, not forming important ecological features, will be addressed as part of the overall balance of biodiversity net gain.
- 4.7.3 A discussion of effects and any requirements for mitigation or compensation in relation to individual habitats of ecological importance is set out below.

Lowland Mixed Deciduous Woodland

- 4.7.4 The proposed development has sought to minimise losses of lowland mixed deciduous woodland as far as possible, with retention of the vast majority of the woodland. Individual trees within woodland W5 will be lost as a result of the development works, totalling a loss of 0.015ha of lowland mixed deciduous woodland.
- 4.7.5 Retained woodland will be protected during demolition and construction works in line with standard practice, as detailed further at Chapter 6. Minor losses will be compensated for as part of the BNG strategy.

Veteran Tree

- 4.7.6 The veteran tree is to be fully retained and protected. The retained veteran tree will be protected during construction works in line with standard practice, as detailed further at Chapter 6.

Hedgerows

- 4.7.7 Hedgerow H1 is to be lost under the proposals. Hedgerow losses will be mitigated for through new hedgerow planting, to be secured as part of the habitat measures to achieve biodiversity net gain.

Other Development Impacts

- 4.7.8 Standard measures will be implemented to minimise construction effects such as dust deposition and surface run-off of contaminants or silt, whilst implementation of a drainage strategy as part of the completed development will safeguard water quality in the long-term. Further detail is set out at Chapter 6 below.

5 Faunal Use of the Site

5.1 Overview

- 5.1.1 During the survey work, general observations were made of any faunal use of the site with particular attention paid to the potential presence of protected or notable species. Specific survey work was undertaken in respect of bats, Badgers, Dormouse, reptiles, Great Crested Newt and breeding birds, the results of which are set out below.
- 5.1.2 Specific survey work is currently ongoing in relation to Dormouse. It is proposed that the remaining results of the Dormouse survey are submitted in a separate addendum.

5.2 Priority Species

- 5.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of species which are of principal importance for conservation in England. This list is largely derived from the 'Priority Species' listed under the former UK BAP, which continue to be regarded as Priority Species under the subsequent country-level biodiversity strategies.
- 5.2.2 During the survey work undertaken, several Priority Species of bat and bird were recorded within the site. This is discussed further in the relevant sections below.

5.3 Bats

- 5.3.1 **Legislation.** All British bats are classed as European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended) and are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, both bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 6856/2). If proposed development work is likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. Given all bats are protected species, they are considered to represent important ecological features. Several bat species are also S41 Priority Species.
- 5.3.2 **Background Records.** No specific records of any bats from within or adjacent to the site were returned from the desktop study. Information received from the Local Records Centre includes records of Common Pipistrelle *Pipistrellus pipistrellus*, Long-eared Bat sp. *Plecotus* sp., *Myotis* sp., Nathusius' Pipistrelle *Pipistrellus nathusii*, Noctule *Nyctalus noctula*, Soprano Pipistrelle *Pipistrellus pygmaeus*, Serotine *Eptesicus serotinus*, Barbastelle *Barbastella barbastellus*, Leisler's Bat *Nyctalus leisleri*, Daubenton's Bat *Myotis daubentonii*, Brown Long-eared Bat *Plecotus auritus* and *Pipistrellus* sp. within 2km of the site. The closest specific record is for a Common Pipistrelle, dated 2017, located approximately 50m east of the site boundary.
- 5.3.3 **Survey Results and Evaluation**
- Preliminary Appraisal
- 5.3.4 As detailed above, numerous records of bats have been returned from within the surroundings of the site.

- 5.3.5 These species are largely typical given the region and the types of habitats present in the wider area of the site, although Barbastelle is of particular note given its very rare status, whilst Leisler's Bat, Nathusius' Pipistrelle and Serotine are considered rare within Southern England. The desk study does not indicate the presence of any ecological designations within 10km of the site which are identified for their bat interest.
- 5.3.6 The site is located in an urban context surrounded by development in all directions, although a reasonable network of woodland parcels extends to the west, east and south of the site throughout the developed areas. Connectivity to the wider landscape is more limited to the south-east due to the presence of the M4 motorway.
- 5.3.7 Within the site, several trees and buildings have been identified as potentially suitable to support roosting bats as detailed further below. A preliminary assessment of habitats in terms of their likely value for foraging and commuting bats is set out in Table 5.1 below.

Table 5.1. Assessment of value of habitats within the site for foraging and commuting bats

Commuting (potential flight-paths)	Foraging habitats
Woodland edge and associated hedgerow network forms continuous habitat that is well connected to the wider landscape – high potential suitability.	Woodland edge – high potential suitability.
Connectivity across the remainder of the site more fragmented – low potential suitability.	Other areas of woodland within the site and semi-natural habitat including grassland and scrub – moderate potential suitability.
	Buildings and hardstanding unlikely to support foraging activity away from boundary hedgerows – low potential suitability.

Roosting – Buildings and Built Structures

Visual Inspection

- 5.3.8 All the buildings within the site were subject to detailed inspection, the findings of which are summarised below.
- 5.3.9 Building **B1** was a large three storey office complex of concrete construction. The flat roof was of concrete construction with colonising vegetation. External vents were present and protruding from the roof around 4m high. A glass atrium was present with breezeblock walls and metal framework. Around the perimeter of the glass atrium was a dark, well-sealed sloping void. Access doorways were present between the glass atrium and void. Fibreglass insulation was present on the concrete flooring and wooden rafters/batons supporting the plywood roof. The building was assessed to be of negligible suitability to roosting bats.
- 5.3.10 Building **B2** was a three storey metal clad temporary building with windows on all elevations. The building also had a flat roof. The building was assessed to be of negligible suitability to roosting bats.
- 5.3.11 Building **B3** was a single storey garage building of brick construction. The building had a sloping felt clad roof with wooden fascia boards. The building was assessed to be of negligible suitability to roosting bats.
- 5.3.12 Building **B4** & **B5** were both of identical construction and layout. Both buildings were residential-style bungalows of brick-built construction which were disused and abandoned. The buildings consisted of cavity walls, painted board soffits, timber window and door frames which were all well-sealed. The roof was pan-tiled, pitched with gable ends.

5.3.13 Roof tiles were generally well fitted but some gaps under tiles at gable ends and eaves where mortar had fallen away were noted and possible gaps under ridge tiles. The buildings had enclosed loft voids accessible via hatch (now left permanently open), approx. 1.5m high, trussed rafter construction, felt lined and the floor was partly boarded. Plywood lining was present to internal gable end walls. Building B5 had significant mould and damp, especially in the loft void.

5.3.14 In summary, buildings **B1**, **B2** and **B3** offer negligible roosting opportunities for bats and no evidence of roosting bats was recorded. Buildings **B4** and **B5** exhibited a low number of potential roosting opportunities for bats and overall were assessed as providing low suitability for bats. No evidence of bat occupation, such as droppings, staining or feeding remains, was recorded during the inspection surveys.

Emergence Surveys

5.3.15 Buildings B4 and B5 exhibit low suitability for roosting bats and were therefore subject to further survey work in the form of dusk emergence surveys. The results of the dusk emergence surveys are summarised in Table 5.2 below.

Table 5.2. Building emergence survey results.

Building	Date	Sunset time	Roosting activity	Summary of other activity
B4	26/09/2024	Sunset: 18:52	None	Infrequent passes of Common Pipistrelle and Soprano Pipistrelle.
B5	26/09/2024	Sunset: 18:52	None	

Evaluation

5.3.16 No evidence of roosting bats was recorded in association with any of the on-site buildings during the survey work undertaken. Roosting bats are therefore assessed likely absent from on-site buildings and therefore unaffected by the proposals. However, given that the emergence survey work was carried out relatively late in the survey season, precautionary mitigation measures will be implemented to minimise the risk of harm to bats in the unlikely event they are present or colonise in future.

Roosting – Trees

Assessment of Roosting Potential

5.3.17 Trees within the site were subject to an initial assessment for their suitability to support roosting bats. Where practical, trees have been subject to a ground level tree assessment (GLTA). The results of this assessment are summarised in Table 5.3 below. Trees identified as supporting PRFs or identified as FAR are indicated on Plan 6856/ECO3.

Table 5.3. Tree assessment results

Tree Ref.	Species	Assessment and potential roosting features	Summary
TE1	Pedunculate Oak	Mature Oak with rot holes on limb south-western elevation (~12m high)	Multiple PRF-Is
TO	Pedunculate Oak	Mature Oak knot hole in limb on eastern elevation (~15m high)	PRF-I
TE2	Pedunculate Oak	Mature Oak with bat box on south-eastern elevation (~20m high)	PRF-M
T48	Ash	Mature Ash with pruning scar on northern elevation (~2m high)	PRF-I

- 5.3.18 All remaining trees within/adjacent to the site, other than those listed in the Table 5.3 above, are assessed to be of negligible potential to support roosting bats.

Automated Surveys

- 5.3.19 The results of the automated static bat surveys and swarming survey are summarised in Tables 5.9 to 5.13 below.

Table 5.9. Automated static bat survey summary for Location 1 (SD1).

Survey Date	Detector Location 1: SD1					
	Number of registrations by species#					
	Myotis	Bbar	'Big Bat'	Pip 45	Pip 55	Paur
7th August 2024	0	0	3	55	1	0
8th August 2024	0	0	1	11	2	0
9th August 2024	0	0	4	124	3	0
10th August 2024	0	0	26	261	12	0
11th August 2024	0	0	7	378	16	0
12th August 2024	0	0	6	105	8	0
2nd September 2024	0	0	13	80	5	0
3rd September 2024	0	0	23	142	2	0
4th September 2024	0	0	11	38	15	0
5th September 2024	0	0	9	21	3	0
6th September 2024	0	0	26	28	1	0
7th September 2024	0	0	54	99	5	0
8th September 2024	0	0	14	22	3	0
9th October 2024	0	0	3	0	0	0
10th October 2024	0	0	1	0	0	0
11th October 2024	0	0	3	0	0	0
14th October 2024	0	0	1	0	0	0
15th October 2024	0	0	2	3	1	0
Total registrations	0	0	207	1367	77	0
Approximate % of total registrations	0	0	12.5	82.8	4.7	0
Key: Myotis- <i>Myotis</i> sp. Bbar- Barbastelle 'Big Bat' - Noctule, Leisler's Bat or Serotine Pip 45- Common Pipistrelle Pip 55- Soprano Pipistrelle Paur- Long-eared Bat sp. # - Figures shown are the total no. of registrations recorded during the dusk to the proceeding dawn period for each date shown, i.e. a recording 'night' for the 7th August will be registrations recorded from ~18.00 on the 07/08 till 07.00 on the morning of the 08/08.						

Table 5.10. Automated static bat survey summary for Location 2 (SD2).

Survey Date	Detector Location 2: SD2					
	Number of registrations by species [#]					
	Myotis	Bbar	'Big Bat'	Pip 45	Pip 55	Paur
7th August 2024	0	0	5	156	8	0
8th August 2024	0	0	2	282	4	0
9th August 2024	0	0	7	708	9	0
10th August 2024	0	0	31	937	27	0
11th August 2024	0	0	48	1946	332	0
12th August 2024	0	0	16	1001	23	0
2nd September 2024	0	1	19	109	10	0
3rd September 2024	0	0	29	468	15	0
4th September 2024	0	0	17	341	85	0
5th September 2024	0	0	6	5	0	0
6th September 2024	0	1	8	8	0	0
7th September 2024	0	0	65	255	16	0
8th September 2024	0	0	16	192	21	0
9th October 2024	0	0	3	112	4	0
10th October 2024	0	0	0	0	0	0
11th October 2024	0	2	2	5	5	1
12th October 2024	0	0	0	38	12	0
13th October 2024	0	0	0	0	3	0
14th October 2024	0	0	0	10	1	0
15th October 2024	0	0	0	151	11	0
Total registrations	0	4	274	6724	588	0
Approximate % of total registrations	0	0.1	3.6	88.6	7.7	0
Key: Myotis- <i>Myotis</i> sp. Bbar- Barbastelle 'Big Bat' - Noctule, Leisler's Bat or Serotine Pip 45- Common Pipistrelle Pip 55- Soprano Pipistrelle Paur- Long-eared Bat sp. # - Figures shown are the total no. of registrations recorded during the dusk to the proceeding dawn period for each date shown, i.e. a recording 'night' for the 7th August will be registrations recorded from ~18.00 on the 07/08 till 07.00 on the morning of the 08/08.						

Table 5.11. Automated static bat survey summary for Location 3 (SD3).

Survey Date	Detector Location 3: SD3					
	Number of registrations by species [#]					
	Myotis	Bbar	'Big Bat'	Pip 45	Pip 55	Paur
7th August 2024	0	0	1	374	69	0
8th August 2024	0	0	2	1351	83	0
9th August 2024	0	0	0	763	185	1
10th August 2024	0	0	7	87	18	1
2nd September 2024	0	0	117	54	15	1
3rd September 2024	0	3	92	144	16	1
4th September 2024	0	0	10	158	32	1
5th September 2024	0	0	0	0	1	0
6th September 2024	0	0	3	1	1	0
7th September 2024	0	0	34	6	4	0
8th September 2024	0	0	2	96	3	0
9th October 2024	0	0	1	39	2	0
10th October 2024	0	0	1	4	2	0
11th October 2024	0	1	1	30	20	0
12th October 2024	0	1	0	567	637	0
13th October 2024	0	0	0	16	3	0
14th October 2024	0	0	0	0	1	0
15th October 2024	0	0	1	49	6	0
Total registrations	0	5	272	3739	1098	5
Approximate % of total registrations	0	0.1	5.3	73	21.5	0.1
Key: Myotis- <i>Myotis</i> sp. Bbar- Barbastelle 'Big Bat' - Noctule, Leisler's Bat or Serotine Pip 45- Common Pipistrelle Pip 55- Soprano Pipistrelle Paur- Long-eared Bat sp. # - Figures shown are the total no. of registrations recorded during the dusk to the proceeding dawn period for each date shown, i.e. a recording 'night' for the 7th August will be registrations recorded from ~18.00 on the 07/08 till 07.00 on the morning of the 08/08.						

Table 5.12. Automated static bat survey summary for Location 4 (SD4).

Survey Date	Detector Location 4: SD4					
	Number of registrations by species [#]					
	Myotis	Bbar	'Big Bat'	Pip 45	Pip 55	Paur
7th August 2024	0	15	11	895	512	5
8th August 2024	0	3	16	1646	1053	0
9th August 2024	1	28	10	1212	604	7
10th August 2024	1	18	68	1096	314	5
11th August 2024	9	18	34	940	315	1
12th August 2024	1	8	25	1323	467	5
2nd September 2024	3	12	39	1293	256	4
3rd September 2024	0	10	68	963	184	3
4th September 2024	1	3	22	811	325	1
5th September 2024	0	0	20	1065	75	0
6th September 2024	0	0	11	602	48	0
7th September 2024	0	0	56	1768	115	2
8th September 2024	0	0	21	1978	160	1
9th October 2024	0	1	0	199	21	0
10th October 2024	0	0	1	2	18	0
11th October 2024	0	2	1	95	14	0
12th October 2024	0	12	0	938	304	1
13th October 2024	0	0	0	0	2	1
14th October 2024	0	0	0	8	1	0
15th October 2024	0	2	1	200	24	0
Total registrations	16	127	404	17034	4812	36
Approximate % of total registrations	0.1	0.6	1.8	75.8	21.5	0.2
Key: Myotis- <i>Myotis</i> sp. Bbar- Barbastelle 'Big Bat' - Noctule, Leisler's Bat or Serotine Pip 45- Common Pipistrelle Pip 55- Soprano Pipistrelle Paur- Long-eared Bat sp. # - Figures shown are the total no. of registrations recorded during the dusk to the proceeding dawn period for each date shown, i.e. a recording 'night' for the 7th August will be registrations recorded from ~18.00 on the 07/08 till 07.00 on the morning of the 08/08.						

Table 5.13. Automated static bat survey summary for swarming survey Location 5 (SD5).

Survey Date	Detector Location 5: SD5					
	Number of registrations by species#					
	Myotis	Bbar	'Big Bat'	Pip 45	Pip 55	Paur
18th October 2024	1	0	0	1	0	0
19th October 2024	1	0	1	24	1	1
20th October 2024	0	0	0	1	0	0
21st October 2024	0	1	1	5	0	0
22nd October 2024	0	1	2	62	0	0
Total registrations	2	2	4	93	1	1
Approximate % of total registrations	2	2	4	90	1	1
Key: Myotis- <i>Myotis</i> sp. Bbar- Barbastelle 'Big Bat' - Noctule, Leisler's Bat or Serotine Pip 45- Common Pipistrelle Pip 55- Soprano Pipistrelle Paur- Long-eared Bat sp. # - Figures shown are the total no. of registrations recorded during the dusk to the proceeding dawn period for each date shown, i.e. a recording 'night' for the 7th August will be registrations recorded from ~18.00 on the 07/08 till 07.00 on the morning of the 08/08.						

5.3.20 Summary. During the surveys carried out between August and October 2024, 82.8% of all registrations at SD1 (Location 1) were attributed to Common Pipistrelle, 12.5% to 'Big Bats', and 4.7% to Soprano Pipistrelle. At Location SD2 88.6% of registrations were attributed to Common Pipistrelle, 7.7% to Soprano Pipistrelle, 3.6% to 'Big Bats', 0.1% to Barbastelle and the remainder to Myotis species. Relatively few total bat registrations were recorded at static locations SD1 and SD2, which are located in proximity to existing sources of artificial illumination.

5.3.21 At Location SD3 73% of registrations were attributed to Common Pipistrelle, 21.5% to Soprano Pipistrelle, 5.3% to 'Big Bats', 0.1% to Long-eared Bat species and 0.1% to Barbastelle.

5.3.22 The highest total number of registrations were recorded at Location SD4 where 75.8% of registrations were attributed to Common Pipistrelle, 21.5% to Soprano Pipistrelle, 1.8% to 'Big Bats', 0.6% to Barbastelle, 0.2% to Long-eared Bat species and 0.1% to Myotis species.

5.3.23 At Location SD5 90% of registrations were attributed to Common Pipistrelle, 4% to 'Big Bats', 2% to Barbastelle, 2% to Myotis species, 1% to Soprano Pipistrelle and 1% to Long-eared Bat species.

5.3.24 The average number of bat passes per night generally fell within the range of 1-15 passes for all species during all recording sessions and at all locations, with the exception of Common and Soprano Pipistrelle, which ranged between 4 and 850 passes night.

5.3.25 Based on the data collected during the specific survey work undertaken in October 2025, it is concluded that building **B1** is unlikely to form a swarming site.

Evaluation

5.3.26 Based on the data collected and the period of time over which the data was collected, it is concluded that the building is unlikely to form a swarming site.

5.3.27 An evaluation of the importance of the bat assemblage, based on the methodology set out within the Bat Mitigation Guidelines²⁴, is set out in Table 5.14 below. The site is located within Southern England, with a score of 20% relative to the potential assemblage score. Based on the assemblage score, the site is assessed as being of district importance for its bat assemblage.

Table 5.14. Evaluation of bat assemblage recorded within the site

Rarity category	Potentially occurring species (Southern England)		Species recorded within site	
	Species	Score	Species	Score
Widespread all geographies (score 1)	Ppip Ppyg Paur	3	Ppip Ppyg Paur	3
Widespread in many geographies but not as abundant in all (score 2)	Mmys Mbra Mdau Mnat Nnyc	10	Nnyc Myotis (est. 2 species ²⁵)	6
Rarer or restricted distribution (score 3)	Malc Eser Nlei Pnat	12	Eser	3
Rarest Annex II species and very rare (score 4)	Rfer Rhip Mbec Bbar Paus	20	Bbar	4
Total	45		16 (35.5% of potential score)	

* Species presence not confirmed during surveys (given difficulties associated with identifying to species level based on call analysis alone), although presence may be likely given level of activity recorded, habitats present and records of species returned by desktop study, this has been included in terms of scoring for bat assemblage. Scoring based on these additional species is shown in brackets.

5.3.28 Whilst the assemblage of bats is assessed in Table 5.14 to be of District level importance, the majority of the site provides sub-optimal opportunities for foraging and commuting bats (sealed surface) and the presence of the adjacent ancient woodland and LWS likely explains the presence of the rarer species recorded. The only *Myotis* sp. and *Barbastelle* registrations were recorded at SD4 (within the LWS), along with the majority of Brown Long-eared Bat registrations. All of the above species are sensitive to lighting and therefore their absence from the remainder of the site is likely due to existing illumination levels. No existing artificial light sources are within the LWS at location SD4, and no new lighting is proposed adjacent to the LWS (see MBA's Indicative External Lighting Layout - Drawing No. 24114-MBA-EX-SP-DR-E-0001). Opportunities will therefore be maintained for *Barbastelle* and other light sensitive species within the LWS post-development. If those species whose presence was limited to the bounds of the LWS are removed from the assessment (*i.e.* *Barbastelle*, *Serotine* and *Myotis* sp.), the assemblage of bats on site would be assessed to be of no more than local level importance.

²⁴ Based on the methodology for assessing the importance of the bat assemblage within Reason, P.F. and Wray, S. (2023) *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. CIEEM.

²⁵ Given the difficulties associated with confidently identifying *Myotis* species based on call analysis alone, an indicative score for the number of widespread species (out of those occurring within the region) has been determined using professional judgement to inform the assessment of site assemblage. This is based on level of *Myotis* activity recorded, diversity of habitats present (providing habitat for different *Myotis* species) and records of species returned by the desktop study.

- 5.3.29 In terms of individual species, given the high total number of registrations and average number of passes per night Common Pipistrelle are assessed to form an ecologically important feature at the local level. Common Pipistrelle are the most widespread and common species in Great Britain²⁶, found across a wide variety of habitats. Their presence within the site is therefore unsurprising particularly given that Common Pipistrelle are able to tolerate relatively high light levels such as those across the existing site. The proposals will create new wildflower grassland, mixed scrub and woodland planting which will increase the foraging value of the site and provide additional opportunities for Common Pipistrelle. Additionally, commuting opportunities will be maintained at the site boundaries by retained and proposed hedgerows, trees and woodland. Other bat species occurred only infrequently and are not assessed to be of particular importance outside of a site context.

Assessment of Proposals

5.3.30 Roosting

Buildings and Built Structures

- 5.3.31 No evidence of roosting bats was recorded during the survey work undertaken. As such, no specific mitigation or licensing for bats is required. Nonetheless, bats are dynamic animals and as such it remains possible that individuals could colonise the site in the future. Natural England guidance in respect of European Protected Species²⁷ advises that, even where proposals are reasonably unlikely to result in any offence such that licensing is not required, reasonable precautions should be taken to minimise the risk to protected species in the unlikely event that they should be found during the course of the activity. Accordingly, recommended precautionary mitigation measures are set out at Chapter 6 below and subject to their implementation it is considered that bats will be fully safeguarded under the proposals. New roosting opportunities for bats will be provided through bat box installation (see Chapter 6).

Trees

- 5.3.32 It is understood that all trees described above with potential bat roost features are to be retained within the proposals. As such, subject to the implementation of the recommendation outlined at Chapter 6 below in relation to lighting, it is assessed that roosting bats, should they be present within trees, will be fully safeguarded under the proposals.

Foraging and Commuting

- 5.3.33 The majority of the woodland, trees and scrub within the site are to be retained under the proposals, whilst new woodland, tree, hedgerow and shrub planting will improve connectivity through the site and increase the foraging potential and connectivity within the site. Bats could however be impacted by lighting associated with the proposed development, and accordingly a sensitive lighting scheme is proposed as detailed further at Chapter 6.
- 5.3.34 Accordingly, subject to the implementation of the recommendations outlined at Chapter 6 below, along with other ecological enhancements, it is assessed that the conservation status of local bat populations will be fully safeguarded under the scheme.

²⁶ Bat Conservation Trust, 2024. *The National Bat Monitoring Programme Annual Report 2023*

²⁷ Natural England (2013) European Protected Species: Mitigation Licensing - How to get a licence (WML-G12)

5.4 Badger

- 5.4.1 **Legislation.** Badger receives legislative protection under the Protection of Badgers Act 1992 (see Appendix 6856/2), and as such should be assessed as an important ecological feature. The legislation aims to protect this species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain.
- 5.4.2 Licences can be obtained from Natural England for development activities that would otherwise be unlawful under the legislation. The types of activity that should be licensed are described in the relevant best practice guidance.^{28, 29}
- 5.4.3 **Survey Results and Evaluation.** No evidence of Badger was recorded during specific survey work undertaken therefore this species is not assessed to form a constraint to development. Nonetheless, precautionary safeguarding measures are proposed as set out at Chapter 6 below.

5.5 Dormouse

- 5.5.1 **Legislation.** Dormouse is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals of the species and their breeding sites and places of rest (see Appendix 6856/2). Dormouse is also a S41 Priority Species. On this basis, Dormouse is considered to form an important ecological feature.
- 5.5.2 **Background Records.** No records of Dormouse within or immediately adjacent to the site were returned from the desktop study. The citation for Nores Hill Wood LWS includes reference to the presence of a Dormouse record located within the woodland dated from 1987.
- 5.5.3 **Survey Results and Evaluation.** The majority of the site is dominated by buildings and hardstanding which are unsuitable for Dormouse. The site contains some limited suitable habitat for Dormouse in the form of small areas of woodland, hedgerows and, to a lesser extent, scrub.
- 5.5.4 Berkshire is located within the core distribution area for Dormouse, and the species is relatively widespread across the county³⁰. Given the presence of suitable Dormouse habitat within the site and the known presence of this species in the county, specific Dormouse survey work has commenced at the site (see Plan 6856/ECO6).
- 5.5.5 To date no evidence of Dormouse has been recorded during surveys. Should the presence be confirmed there is scope for the incorporation of mitigation and enhancement within the current scheme. Under the proposals suitable habitats are to be retained and protected during construction in addition to further woodland and scrub planting creating additional suitable habitat. There is also ample opportunity for the erection of Dormouse nest boxes within the LWS, which would provide a significant benefit for the species.

²⁸ English Nature (2002) *Badgers and Development*

²⁹ Natural England (2011) *Badgers and Development: A Guide to Best Practice and Licensing*, Interim Guidance Document

³⁰ Mammal Watch South East (2015) *South East Mammal Atlas: covering Hampshire, Surrey, Sussex, Kent and the Isle of Wight*

- 5.5.6 The lighting strategy is to be sensitively designed to minimise light spill onto retained suitable habitats for Dormouse. It is considered the site would pass the Natural England licence requirements should presence of Dormouse be confirmed during the ongoing survey work.

5.6 Other Mammals

- 5.6.1 **Legislation.** Several other mammal species including Water Vole and Otter receive full protection under the Wildlife and Countryside Act 1981 (as amended). Otter is also a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended), whilst both Water Vole and Otter are S41 Priority Species.
- 5.6.2 Other UK mammal species do not receive direct legislative protection relevant to development activities but may receive protection against acts of cruelty (for example, under the Wild Mammals (Protection) Act 1996). Some other mammal species, such as Hedgehog, Brown Hare and Harvest Mouse are S41 Priority Species and should be assessed as important ecological features.
- 5.6.3 **Background Records.** No specific records of any other mammals from within or adjacent to the site were returned from the desktop study. Data returned from TVERC included a record of Otter recorded in 2014, located approximately 1.3km south-west of the site. Information received from TVERC also includes records of Hedgehog *Erinaceus europaeus* (Priority Species) were returned with the closest record recorded in 2012 located approximately 60m south-east of the site.
- 5.6.4 **Survey Results and Evaluation.** The habitats within the site are unsuitable for Otter and Water Vole therefore these species are assessed to be absent and will be unaffected by the proposals.
- 5.6.5 The desktop study returned records of Hedgehog. Hedgehog is a Priority Species, despite being relatively common and widespread in England. The site contains habitats that may be used by Hedgehog, although are assessed as being of potential importance at a site level only to Hedgehog.
- 5.6.6 No evidence of any other protected, rare or notable mammal species was recorded from within the site. Other mammal species likely to use the site, such as Fox *Vulpes vulpes*, remain common in both a local and national context, and do not receive specific legislative protection in a development context. Such species are not a material planning consideration and the loss of habitats used by these species to the proposals is of negligible significance.
- 5.6.7 **Assessment of Proposals.** Habitat losses arising from the proposals are not likely to have significant effects on Hedgehog. For Hedgehog, habitat losses would be offset by the provision of new grassland, scrub and woodland which will provide a betterment over the existing situation. Precautionary safeguards are recommended to minimise the risk of harm to other mammals that may be present.

5.7 Amphibians

- 5.7.1 **Legislation.** All British amphibians receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt is protected under the Act and is also listed as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). As such, both Great Crested Newt and habitats used by this species are afforded protection (see Appendix 6856/2).

- 5.7.2 Great Crested Newt is also a S41 Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita*, and Pool Frog *Pelophylax lessonae*. As such, these species should be assessed as important ecological features.
- 5.7.3 **Background Records.** No records of Great Crested Newt from within or adjacent to the site were returned by the desktop study. Records of Great Crested Newt and Common Toad were returned from TVERC with the closest record of Great Crested Newt dated 2007 located approximately 1.1km south-west of the site. The closest record of Common Toad was recorded in 2008 located approximately 0.6km east of the site.
- 5.7.4 **Survey Results and Evaluation.** Based on a review of OS mapping, five ponds have been identified within 250m of the site (see Plan 6856/ECO8). These ponds were subject to eDNA surveys during June 2024 to confirm presence or absence of Great Crested Newt. All five ponds returned a negative result from the eDNA testing, indicating likely absence of Great Crested Newt (see Appendix 6856/3 for laboratory results).
- 5.7.5 **Assessment of Proposals.** It is unlikely that GCN or any other amphibians will be adversely affected by the proposals.

5.8 Reptiles

- 5.8.1 **Legislation.** All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which protects individuals against intentional killing or injury. Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* receive additional protection under the Conservation of Habitats and Species Regulations 2017 (as amended), as set out at Appendix 6856/2. All six reptile species are also S41 Priority Species. As such, all reptile species should be assessed as important ecological features.
- 5.8.2 **Background Records.** Information returned from the desk study included records of Grass Snake, Common Lizard and Slow-worm within 2km of the site. The closest record of Grass Snake was recorded in 2008 located approximately 80m south-east of the site boundary. The closest record of Common Lizard was recorded in 2015 located approximately 50m south-east of the site boundary. The closest record of Slow-worm was recorded in 2011 located approximately 10m south-east of the site boundary.
- 5.8.3 **Survey Results and Evaluation.** Specific survey work for reptiles was undertaken at the site, as shown on Plan 6856/ECO7 and summarised in Table 5.15 below.

Table 5.15. Reptile survey results.

Visit	Date	Common Lizard		Slow Worm		Grass Snake		Other Species
		Adult	Juv.	Adult	Juv.	Adult	Juv.	
1	03/10/2024	0	0	0	0	0	0	0
2	07/10/2024	0	0	0	0	0	0	0
3	09/10/2024	0	0	0	0	0	0	0
4	15/10/2024	0	0	0	0	0	0	0
5	18/10/2024	0	0	0	0	0	0	0
6	21/10/2024	0	0	0	0	0	0	0
7	23/10/2024	0	0	0	0	0	0	0
Peak Count		0		0		0		

- 5.8.4 **Assessment of Proposals.** No reptile species were recorded on site during the survey work undertaken. Reptiles are therefore likely absent from the site and will be unaffected by the proposed development.

5.9 Birds

- 5.9.1 Legislation.** All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and special penalties apply to legal offences (see Appendix 6856/2).
- 5.9.2 Conservation Status.** The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status³¹. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern, being either globally threatened and/or experiencing a high level or rapid rate of population decline (>50% over the past 25 years). Numerous birds are also S41 Priority Species. Red and Amber listed species and Priority Species should be assessed as important ecological features.
- 5.9.3 Background Records.** Information returned by the desk study included records for several bird species in the vicinity of the site, including Barn Owl *Tyto alba*, Cuckoo *Cuculus canorus*, Greenfinch *Chloris chloris*, Grey Partridge *Perdix perdix*, House Martin *Delichon urbicum*, Lapwing *Vanellus vanellus*, Lesser Spotted Woodpecker *Dryobates minor*, Linnet *Linaria cannabina*, Marsh Tit *Poecile palustris*, Mistle Thrush *Turdus viscivorus*, Nightingale *Luscinia megarhynchos*, Pochard *Aythya ferina*, Ringed Plover *Charadrius hiaticula*, Skylark *Alauda arvensis*, House Sparrow *Passer domesticus*, Spotted Flycatcher *Muscicapa striata*, Starling *Sturnus vulgaris*, Swift *Apus apus*, Yellow Wagtail *Motacilla flava flavissima*, Yellowhammer *Emberiza citrinella*, and Fieldfare *Turdus pilaris*. None of these records originate from within the site itself.
- 5.9.4 Survey Results and Evaluation.** A total of 30 species were recorded during the breeding bird survey, of which two are Red Listed species on the Birds of Conservation Concern 5, a single species is found on Schedule 1 of the Wildlife and Countryside Act 1981 and eight are Amber Listed. Of these species of conservation concern, six were recorded breeding in the Survey Area and one as possible breeding, as detailed in Table 5.16 below.

Table 5.16. Breeding bird survey results summary.

Species (BTO code)	Conservation status	Est. No. pairs	Notes
Stock Dove (SD) <i>Columba oenas</i>	Amber	3	Confirmed breeder within the mature woodland within the Survey Area.
Woodpigeon (WP) <i>Columba palumbus</i>	Amber	3	Confirmed breeder within woodland within the Survey Area.
Moorhen (MH) <i>Gallinula chloropus</i>	Amber	1	Confirmed breeder at ponds present to the south of the Site.
Lesser Black-backed Gull (LB) <i>Larus fuscus</i>	Amber	0	Non-breeding species, only recorded in flight during surveys.
Sparrowhawk (SH) <i>Accipiter nisus</i>	Amber	0	Recorded once in flight. No territories identified within Survey Area, but a likely breeder in the surrounding area.
Red Kite (KT) <i>Milvus milvus</i>	Green, Schedule 1	1	Possible breeder within mature woodland to the north of the site.

³¹ Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D. and Win I. (2021). 'The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114, p.p. 723-747.

Species (BTO code)	Conservation status	Est. No. pairs	Notes
Wren (WR) <i>Troglodytes troglodytes</i>	Amber	9	Confirmed breeder within Survey Area with multiple territories throughout woodland habitat.
Starling (SG) <i>Sturnus vulgaris</i>	Red	0	Non-breeding species, only recorded in flight during surveys.
Song Thrush (ST) <i>Turdus philomelos</i>	Amber	6	Confirmed breeder within mature woodland in the Survey Area.
Dunnock (D.) <i>Prunella modularis</i>	Amber	1	Confirmed breeder with a single territory identified in the north of the Site.
Greenfinch (GR) <i>Chloris chloris</i>	Red	0	Non-breeding species, only recorded in flight during surveys.

5.9.5 There were 19 species recorded in the Survey Area which are not species of conservation concern: Feral Pigeon *Columba livia*, Grey Heron *Ardea cinerea*, Great Spotted Woodpecker *Dendrocopos major*, Green Woodpecker *Picus viridis*, Jay *Garrulus glandarius*, Magpie *Pica pica*, Jackdaw *Coloeus monedula*, Coal Tit *Periparus ater*, Blue Tit *Cyanistes caeruleus*, Great Tit *Parus major*, Long-tailed Tit *Aegithalos caudatus*, Chiffchaff *Phylloscopus collybita*, Blackcap *Sylvia atricapilla*, Goldcrest *Regulus regulus*, Nuthatch *Sitta europaea*, Treecreeper *Certhia familiaris*, Blackbird *Turdus merula*, Robin *Erithacus rubecula* and Goldfinch *Carduelis carduelis*. The majority of these are likely to have bred within the Survey Area.

5.9.6 All the species recorded during the survey are widespread in Great Britain³². Red Kite was recorded flying over the site and there is potential for this species to nest within the ancient woodland, however no confirmed breeding attempts have been noted within or immediately adjacent the site.

5.9.7 **Assessment of Proposals.** The majority of species were recorded within the adjacent woodland which will be fully protected under the proposals therefore opportunities for birds will be maintained post-development. The proposals will result in the loss of hedgerow H1, scrub and several trees and this could affect nesting birds that may be present at the time of works. Accordingly, a number of safeguards in respect of nesting birds are proposed, as described in Chapter 6 below. In the long-term, additional nesting opportunities will be provided for birds as described in Chapter 6 below, whilst new woodland, scrub and grassland creation will provide additional foraging and nesting opportunities.

5.10 Invertebrates

5.10.1 **Legislation.** Various invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ram's-horn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended), as set out at Appendix 6856/2. Some invertebrates are also S41 Priority Species. Where such species are present, they should be assessed as important ecological features.

5.10.2 **Background Records.** No records of invertebrates were returned from within the site. Records of Shaded Broad-bar *Scotopteryx chenopodiata*, Blood-vein *Timandra comae*, Cinnabar *Tyria jacobaeae*, Buff Ermine *Spilosoma lutea*, Figure of Eight *Diloba caeruleocephala*, Oak Hook-tip *Watsonalla binaria*, September Thorn *Ennomos erosaria* and

³² Population estimates of birds in Great Britain and the United Kingdom. Musgrove et al., British Birds, 2013

Small Square-spot *Diarsia rubi* were returned by the desk study all located with 100m of the site boundary recorded between 1998 and 2019. The closest record was for Shaded Broad-bar record in 2011 located approximately 10m south-east of the site boundary.

5.10.3 Additionally, records for Necklace Ground Beetle *Carabus monilis*, Stag Beetle *Lucanus cervus*, August Thorn *Ennomos quercinaria*, Autumnal Rustic *Eugnorisma glareosa*, Center-barred Sallow *Atethmia centrugo*, Deep-brown Dart *Aporophyla lutulenta*, Dot Moth *Melanchra persicariae*, Dusky Brocade *Apamea remissa*, Dusky Thorn *Ennomos fuscantaria*, Feathered Gothic *Tholera decimalis*, Ghost Moth *Hepialus humuli*, Green-brindled Crescent *Allophyes oxyacanthae*, Knot Grass *Acronicta rumicis*, Lackey *Malacosoma neustria*, Large Wainscot *Rhizodra lutosus*, Mottled Rustic *Caradrina Morpheus*, Mouse Moth *Amphipyra tragopoginis*, Neglected Rustic *Xestia castanea*, Powdered Quaker *Orthosia gracilis*, Rosy Rustic *Hydraecia micacea*, Rustic *Hoplodrina blanda*, Sallow *Cirrhia icteritia*, Wall *Lasiommata megera* and White Ermine *Spilosoma lubricipeda* were returned from the desk study recorded between 1984 and 2022, located within 2km of the site boundary.

5.10.4 **Survey Results and Evaluation.** No evidence of the presence of any protected, rare or notable invertebrate species was recorded from within the site. The site is dominated by buildings, hardstanding and regularly managed amenity planting, which are likely to only support a limited diversity of invertebrates. The site contains occasional patches of woodland/scrub but otherwise supports relatively few micro-habitats that would indicate possible elevated value for invertebrates³³, such as a variable topography with areas of vertical exposed soil, areas of species-rich semi-natural vegetation; variable vegetation structure with frequent patches of tussocks combined with short turf; free-draining light soils; walls with friable mortar or fibrous dung. Accordingly, the site is likely to support only a limited diversity of invertebrates.

5.10.5 **Assessment of Proposals.** Habitats within the site are unlikely to support an important invertebrate assemblage and therefore the proposals are unlikely to result in harm to any protected, rare or notable invertebrate populations.

5.11 Summary

5.11.1 On the basis of the above, a summary of the evaluation of fauna is provided below:

Table 5.17. Evaluation summary of fauna forming important ecological features

Species / Group	Summary	Level of Importance
Bats – Roosting	Potential habitat in the form of trees and buildings	N/A
Bats – Foraging / Commuting (assemblage)	Confirmed presence on site	District
Bats – Foraging / Commuting (Common Pipistrelle)	Moderate levels of activity recorded	Local
Birds	Confirmed presence on site	Local

5.11.2 Other fauna supported by the site include non-Priority Species of mammals, amphibians and invertebrates. These species do not form important ecological features.

³³ Natural England (2010) Higher Level Stewardship – Farm Environment Plan (FEP) Manual, 3rd Edition

6 Mitigation, Compensation and Enhancement

6.1 Mitigation and Compensation

6.1.1 As set out in the previous chapters, the proposed development has followed the mitigation hierarchy approach as set out under the National Planning Policy Framework (NPPF), with consideration given first to avoidance, followed by mitigation and compensation.

6.1.2 Based on the assessment of the proposals and ecological designations, habitats and associated fauna identified within or adjacent to the site, it is proposed that the following mitigation and compensation measures (**MC1-MC13**) are implemented under the proposals. Further detailed mitigation strategies or method statements can be secured via suitably-worded planning conditions, as recommended by relevant best practice guidance (BS 42020:2019).

Ecological Designations/Ancient Woodland

6.1.3 **MC1 - Protective Fencing.** The boundary of the site will be defined by protective fencing, such as Heras fencing, or similar. The protective fencing shall be erected prior to any relevant site preparation, demolition or construction activities commencing. The fencing shall be labelled with appropriate signage detailing the importance of the biodiversity protection zone (BPZ) and outlining that no works are to be undertaken within the BPZ without prior agreement with the advising ecologist / Ecological Clerk of Works.

6.1.4 Where appropriate the protective fencing will be erected in accordance with arboricultural advice, to the standard stipulated under the arboricultural best practice guidance British Standard 5837:2012, in order to safeguard retained hedgerows and trees (refer to Aspect Arboriculture's Tree Protection Plan).

6.1.5 The site manager or suitably appointed person will be responsible for inspecting the protective fencing on a daily basis on parts of the site where construction activities are taking place. If required, a checklist will be produced for the purposes of the inspections and will be maintained with other site data sheets for the duration of the project.

6.1.6 In instances where it is necessary for specific works to be undertaken within the BPZ, such as the erection of scaffolding, installation of services and other relevant ancillary operations, these activities will be undertaken following the submission of method statements to be prior approved by the Ecological Clerk of Works and arboricultural consultant, as necessary. Each method statement will include an agreed method of works, extent of direct supervision by the Ecological Clerk of Works/arboriculturalist (if required), and frequency of site visits to be made for the duration of the works.

6.1.7 **MC2 - Pollution Prevention (Air Quality).** As detailed within the Framework CEMP prepared by Stantec, dated February 2025, in order to safeguard the LWS and ancient woodland the following dust control and abatement measures will be implemented during construction:

- Machinery, fuel and chemical storage and dust generating activities shall not be located adjacent to ancient woodland / LWS;
- Should this not be possible then the ancient woodland / LWS shall be protected by the use of dust barriers/screens where practicable;
- Surfaces and dusty activities will be damped down as required by the use of agreed wet cleaning methods or mechanical road sweepers during periods of dry weather;

- All relevant loads entering and leaving the site will be covered;
- Stock piles of materials shall exist for the shortest possible period of time and be kept away from the ancient woodland / LWS; and
- Any fires will only be lit in secure compounds away from the ancient woodland / LWS (minimum 10m) and not allowed to remain lit during the night.

6.1.8 MC3 - Pollution Prevention (Water Quality/Surface Run-off). Best management practice will be followed in accordance with the advice previously issued by the Environment Agency in their Pollution Prevention Guidelines (PPG) or relevant updated documents, which will essentially reduce potential pollution impacts to nil. The following key safeguards will be implemented at the site:

- During all construction works, good site management will ensure that pollution incidences are kept to a minimum. This will include checking all machinery for any oil-leaks and installing drip trays as required;
- Appropriate spillage kits or absorbent materials will be held on site and staff informed of what to do in an emergency. An up-to-date drainage plan should be maintained, hazards identified, and a contingency plan drawn up, giving advice on what action to take and who to inform;
- Storage areas for chemicals, fuels, etc. will be sited well away from the ancient woodland / LWS (minimum 10m), and stored on an impervious base within an oil-tight bund with no drainage outlet;
- Where possible, and with prior agreement of the sewage undertaker, silty water should be disposed of to the foul sewer or via another suitable form of disposal, e.g. tanker off-site;
- Water washing of vehicles, particularly those carrying fresh concrete and cement, mixing plant, etc. will be carried out in a contained area as far from the ancient woodland / LWS as practicable (minimum 10m), to avoid contamination; and
- Refuelling of plant will take place in a designated area, on an impermeable surface, away from the ancient woodland / LWS (minimum 10m).

Habitats

6.1.9 The proposed development would require the loss of hedgerow H1 (Priority Habitat). Other important habitats including associated trees, veteran trees and woodland are retained under the proposals. Mitigation for hedgerow losses are set out below, together with standard safeguarding measures. Losses of non-important features will be addressed as part of the BNG strategy.

6.1.10 MC4 – Hedgerow, Woodland and Tree Protection. All hedgerows, woodland and trees to be retained within the proposed development will be protected during demolition and construction in line with standard arboricultural best practice (BS5837:2012) or as otherwise directed by a suitably competent arboriculturalist. This may require the use of protective fencing or other methods appropriate to safeguard the root protection areas of retained trees, woodland and hedgerows.

- 6.1.11 **MC5 - Veteran Tree Protection.** The veteran tree will be protected from development works by the creation of a buffer zone which is at least 15 times larger than the diameter of the tree, or 5m from the edge of the tree's canopy, whichever is larger.
- 6.1.12 **MC6 – Ancient Woodland Protection.** The ancient woodland shall be suitably buffered from the proposed development with a minimum 15m buffer zone between the woodland and any new built development.
- 6.1.13 **MC7 – New Hedgerow Planting.** To mitigate for the loss of hedgerow H1, new species-rich native hedgerow planting will be provided as part of the landscape scheme. This will also ensure a minimum 10% gain in hedgerow biodiversity value and will be secured as part of the BNG strategy.

Bats

- 6.1.14 Impacts on foraging and commuting bats will be minimised by implementation of a sensitive lighting design, as detailed further below.
- 6.1.15 **MC8 – Update Survey.** Should any considerable time (e.g. >2 years) elapse between the survey work detailed above and any development works, a further survey of the buildings with potential to support roosting bats should be undertaken prior to the commencement of works to confirm the continued absence of bats.
- 6.1.16 **MC9 – Removal of Roofs.** Removal of the roofs of B4 and B5 shall be undertaken with care during favourable weather conditions (e.g. not during heavy rain, high winds or unseasonable low temperatures) under an appropriate watching brief. Should any bats be encountered, works will need to stop and Aspect Ecology contacted so that suitable mitigation can be agreed prior to works re-commencing. This may potentially involve discussion with Natural England and acquisition of a development licence for works to resume.
- 6.1.17 **MC10 – Sensitive Lighting.** Light-spill onto retained and newly created habitat, in particular the retained woodland and LWS (especially to the south of the site), will be minimised in accordance with good practice guidance³⁴ to reduce potential impacts on light-sensitive bats (and other nocturnal fauna). This will be achieved through the implementation of a sensitively designed lighting strategy, with consideration given to the following key factors:
- **Light exclusion zones** – no new lighting is proposed within the LWS such that dark corridors for bats will be maintained to the west and south of the site;
 - **Appropriate luminaire specifications** – consideration should be given to the type of luminaires used, in particular luminaries should lack UV elements and metal halide and fluorescent sources should be avoided in preference for LED luminaries. A warm white spectrum (ideally <2,700K) should be adopted to reduce the blue light component;
 - **Light barriers / screening** – new planting (e.g. hedgerows and trees) or fences, walls and buildings can be strategically positioned to reduce light spill;
 - **Spacing and height of lighting units** – increasing spacing between lighting units will minimise the area illuminated and allow bats to fly in the dark refuges between lights. Reducing the height of lighting will also help decrease the volume of

³⁴ Bat Conservation Trust and Institute of Lighting Professionals (2023) Guidance Note 08/23: Bats and artificial lighting at night

illuminated space and give bats a chance to fly over lighting units (providing the light does not spill above the vertical plane). Low level lighting options should be considered for any parking areas and pedestrian / cycle routes, e.g. handrail lighting or LED footpath lighting;

- **Light intensity** – light intensity (i.e. lux levels) should be kept as low as possible to reduce the overall amount and spread of illumination;
- **Directionality** – to avoid light spill lighting should be directed only to where it is needed. Particular attention should be paid to avoid the upward spread of light so as to minimise trespass and sky glow;
- **Dimming and part-night lighting** – lighting control management systems can be used, which involves switching off/dimming lights for periods during the night, for example when human activity is generally low (e.g. 12.30 – 5.30am). The use of such control systems may be particularly beneficial during the active bat season (April to October). Motion sensors can also be used to limit the time lighting is operational.

Badger

6.1.18 No evidence of Badger has been recorded at the site. Nonetheless a precautionary approach will be adopted in relation to this species as detailed below.

6.1.19 **MC11 – Badger Update Survey.** Given that no evidence of Badgers has been recorded within or adjacent to the site it is considered that Badgers do not currently pose a constraint to development. Nonetheless, Badgers are dynamic animals and levels of Badger activity can rapidly change at a site, with new setts being created at any time. It is therefore recommended that an update survey is carried out prior to commencement of site works in order to confirm the current status of Badgers at the site.

Nesting Birds

6.1.20 Removal of trees and H1 may result in effects on nesting birds. Accordingly, the following approach will be adopted.

6.1.21 **MC12 – Nesting Bird Restrictions.** To avoid a potential offence under the relevant legislation, no clearance of suitable vegetation shall be undertaken during the bird-nesting season (1st March to 31st August inclusive). If this is not practicable, any potential nesting habitat to be removed shall first be checked by a competent ecologist in order to determine the location of any active nests. Any active nests identified will then need to be cordoned off (minimum 5m buffer) and protected until the birds have fledged. These checking surveys will need to be carried out no more than three days in advance of vegetation clearance.

Other Fauna

6.1.22 Survey work is ongoing in relation to Dormouse, and any specific mitigation requirements in relation to this species, if required, will be set out in a separate addendum report.

6.1.23 The site has been identified as offering potential for other mammal species including Hedgehog. Accordingly, the following approach will be adopted during site clearance and construction works.

6.1.24 **MC13 – Small Mammal Safeguards.** In order to safeguard Hedgehog, and other small mammals should they enter the site during construction works, the following measures will be implemented:

- A watching brief shall be maintained for Hedgehog, and other small mammals throughout any clearance works;
- Any trenches left open overnight shall be provided with a means of escape, e.g. gently graded ramp or a roughened plank, in order to allow animals to escape should they enter the trench. This is particularly important if the trench fills with water;
- Any temporarily exposed open pipes or open drains shall be blanked off at the end of each working day so as to prevent animals gaining access as may happen when contractors are off-site;
- Any trenches/pits shall be inspected each morning to ensure no animals have become trapped overnight;
- The storage of any chemicals at the site will be contained in such a way that they cannot be accessed or knocked over by any roaming animals;
- Fires will only be lit in secure compounds away from wooded habitats and will not be allowed to remain lit during the night;
- Unsecured food and litter will not be left within the working area overnight;
- Any piles of material already present on site, particularly vegetation/leaves, etc. and any areas of dense scrub or hedgerows, shall be dismantled/removed by hand and checked for Hedgehog prior to the use of any machinery/disposal;
- Any material to be disposed of by burning, particularly waste from vegetation clearance and tree works, should not be left piled on site for more than 24 hours in order to minimise the risk of Hedgehogs or other animals occupying the pile. If this cannot be avoided, material should be stored within a container such as a skip to prevent animals from gaining access. Any material which has been stored on the ground overnight should be moved prior to burning to allow a thorough check for any animals which may have been occupying the pile;
- In the event that an injured mammal is found, the animal should be wrapped carefully in a towel and taken to a local vet immediately. If an injured Hedgehog is found the British Hedgehog Preservation Society (BHPS) can be phoned (01584 890 801).

6.2 Ecological Enhancements

- 6.2.1 The National Planning Policy Framework (NPPF) encourages new developments to maximise the opportunities for biodiversity through incorporation of enhancement measures. The proposals present the opportunity to deliver ecological enhancements at the site for the benefit of local biodiversity, thereby making a positive contribution towards the broad objectives of national conservation priorities and the local BAP.

Habitats

- 6.2.2 Habitat enhancements will be delivered as part of the BNG strategy, forming a separate submission. This will be informed by the following principles, according with national and local conservation priorities.
- 6.2.3 **New Planting.** Where practicable, new planting within the site shall be comprised of native species of local provenance, including trees and shrubs appropriate to the local area. Suitable species for inclusion within the planting could include native trees such as Oak, Birch and Field Maple, whilst native shrub species of particular benefit would likely include fruit and nut bearing species which would provide additional food for wildlife, such as Blackthorn, Hawthorn, Crab Apple *Malus sylvestris*, Hazel *Corylus avellana* and Elder. Where non-native species are proposed, these will include species of value to wildlife, such as varieties listed on the RHS' 'Plants for Pollinators' database, providing a nectar source for bees and other pollinating insects.
- 6.2.4 **Wildflower Grassland and Flowering Lawn.** Within areas of open space, wildflower grassland will be created. These shall be subject to a varied management regime to provide a range of sward types. Most areas shall be managed as hay meadow, subject to cutting 2-3 times a year to promote a flower rich sward, whilst areas of rough, tussocky grassland will be established along woodland margins. As such, grassland areas will provide a rich habitat resource for invertebrate species, in turn providing increased foraging opportunities for wildlife including birds and bats.
- 6.2.5 **Scrub Planting.** Scrub habitat will be established along woodland margins forming valuable ecotone habitats for a range of wildlife, including reptiles, small mammals and invertebrates.
- 6.2.6 **Hedgerows.** New lengths of hedgerow planting will be provided along the boundaries of green space areas and around areas of built development.

Fauna

- 6.2.7 To provide additional opportunities for fauna, it is proposed that a range of new features are incorporated within the proposed development. This will include the following features, with specific measures to be detailed as part of a faunal enhancement plan which can be secured via a suitably-worded planning condition.
- 6.2.8 **Bat Boxes.** Bat boxes will be incorporated within the proposed development. The provision of bat boxes will provide new roosting opportunities for bats in the area, such as Soprano Pipistrelle, a national Priority Species. So as to maximise their potential use, the bat boxes should ideally be situated on suitable retained trees, erected as high up as possible and sited in sheltered wind-free areas that are exposed to the sun for part of the day, facing a south-east, south or south-westerly direction. A minimum of 20 bat boxes shall be installed within the LWS. In addition, where architectural design allows, a number of integrated bat boxes / roost features should be incorporated into a proportion of the new build. The precise number and locations of boxes / roost features shall be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.
- 6.2.9 **Dormice.** A minimum of 10 Dormouse nest boxes shall be installed within the LWS to provide an enhancement for this species. The precise number and locations of boxes shall be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.

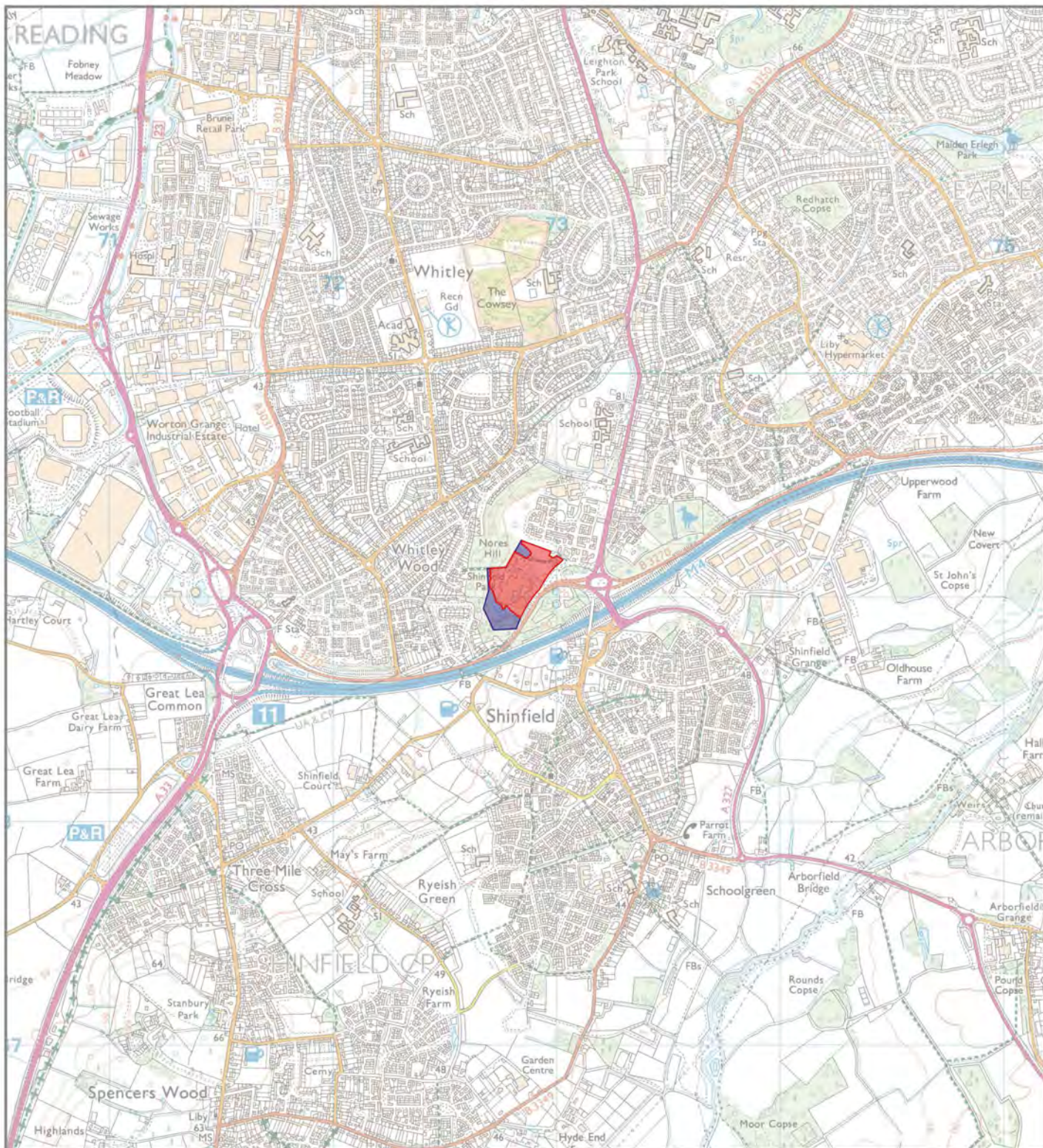
- 6.2.10 Bird Boxes.** Bird nesting boxes will be incorporated within the proposed development, thereby increasing nesting opportunities for birds at the site. This will include integrated nest boxes on new buildings targeting species including Swift and House Sparrow, whilst boxes will also be erected on retained trees. A minimum of 10 bird boxes shall be installed within the LWS. The precise number and locations of boxes shall be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.
- 6.2.11 Habitat Piles and Refugia.** A proportion of any timber arising from vegetation clearance works shall be retained within the site in a number of wood piles located within areas of new planting, new wetland habitats or areas of wildflower grassland in order to provide potential habitat opportunities for invertebrate species, which in turn could provide a prey source for a range of other wildlife.
- 6.2.12 Bee Bricks and Insect Boxes.** It is recommended that bee bricks be incorporated within the proposed development thereby increasing nesting opportunities for declining populations of non-swarming solitary bee populations. Ideally, bee bricks should be located within suitable south-facing walls (where architectural design allows), located at least 1m off the ground. The bricks should be unobstructed by vegetation, though within close vicinity of nectar and pollen sources. Insect boxes can also be provided within the areas of wildlife habitat in order to enhance the nesting and over-wintering locations available for a range of invertebrates, particularly solitary wasps and bees.

7 Conclusions

- 7.1 Aspect Ecology has carried out an Ecological Appraisal of the proposed development, based on the results of a desktop study, habitat survey and a number of detailed protected species surveys.
- 7.2 The available information confirms that no statutory nature conservation designations are present within or adjacent to the site, and none of the designations within the surrounding area are likely to be adversely affected by the proposals. Shinfield Park, Nore's Hill LWS is located immediately adjacent to the site and therefore could potentially be affected by the development. Appropriate mitigation measures set out in Chapter 6 will be implemented to safeguard the LWS during construction works. All remaining non-statutory designations in the surrounding area are well separated from the site by existing development and are unlikely to be affected.
- 7.3 The habitat survey has established that the site is dominated by habitats not considered to be of ecological importance, whilst the proposals have sought to retain those features identified to be of value. Where it has not been practicable to avoid loss of habitats, new habitat creation is proposed to offset losses, in conjunction with the landscape proposals. The ancient woodland and veteran tree will be suitably buffered from the built development in accordance with standing advice.
- 7.4 The habitats within the site support very few protected species limited to foraging and commuting bats and nesting birds. Accordingly, a number of mitigation measures have been proposed to minimise the risk of harm to protected species, with compensatory measures proposed, where appropriate, in order to maintain the conservation status of local populations.
- 7.5 In conclusion, the proposals have sought to minimise impacts and subject to the implementation of appropriate avoidance, mitigation and compensation measures, the proposals will not result in significant harm to biodiversity.
- 7.6 Ecological enhancements are proposed to achieve a biodiversity net gain, to be set out further as part of the BNG strategy in a separate submission.

Plan 6856/ECO1:

Site Location



Key:

- Site Location
- Wider Survey Area

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Shinfield Park, Reading

Site Location

6856/BNG1

B/LS

January 2025

CK/BG

PROJECT

TITLE

DRAWING NO.

REV

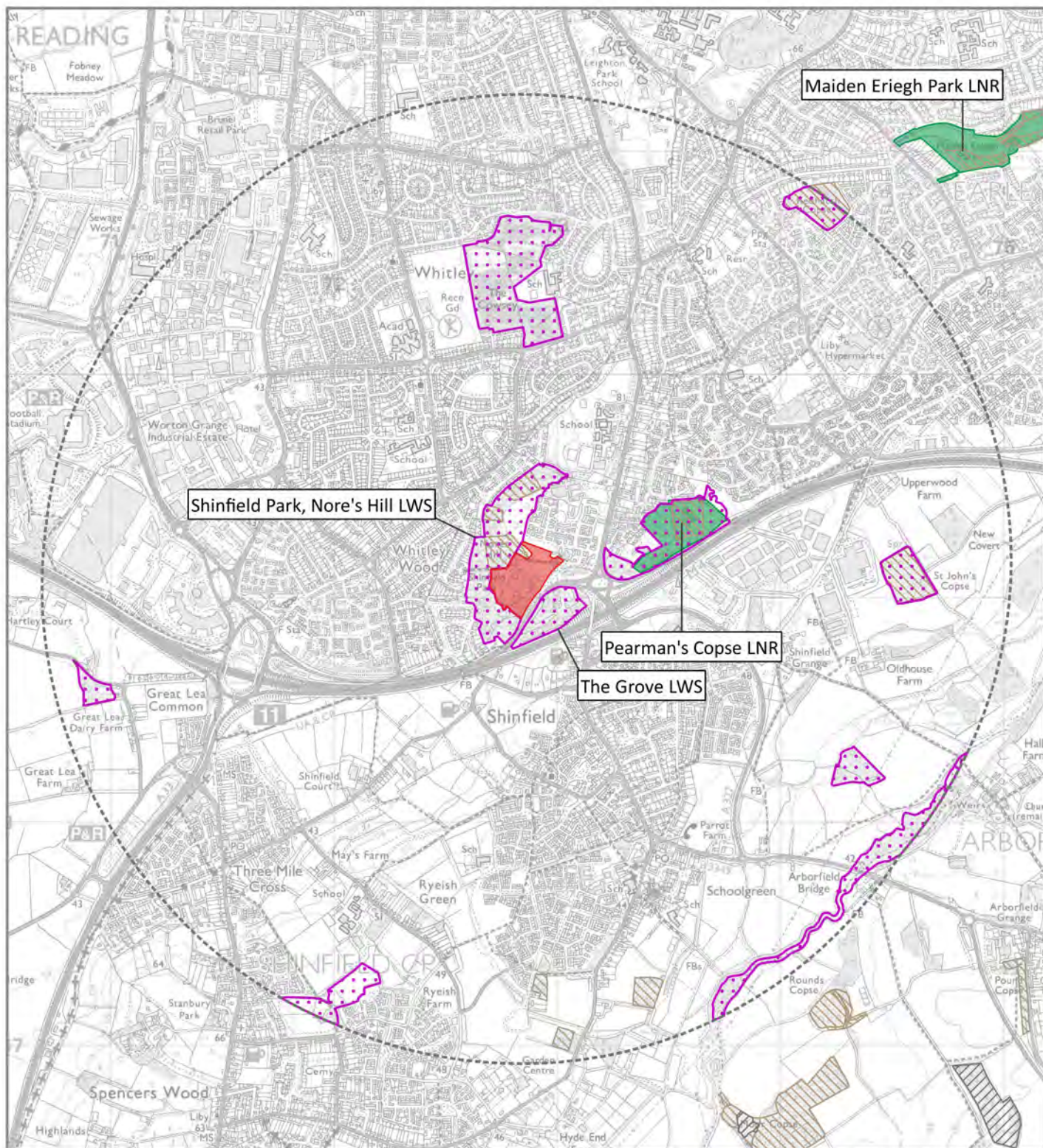
DATE

QC



Plan 6856/ECO2:

Ecological Designations



Key:

- Site Location
- 2km Local Record Centre Search Area
- Local Nature Reserve (LNR)
- Ancient Replanted Woodland (ARW)
- Ancient Semi Natural Woodland (ASNW)
- Local Wildlife Site (LWS)

(Only non-statutory designations within the 2km search area are shown on this plan)

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Shinfield Park, Reading

Ecological Designations

6856/ECO2

E/LS

February 2025

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DATE

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Non-statutory data provided by Thames Valley Environmental Records Centre

Plan 6856/ECO3:

Ecological Features



- Key:
- Site Boudnary
 - Developed land; sealed surface - Building
 - Modified Grassland
 - Artificial unvegetated unsealed surface
 - Developed land; sealed surface - Hardstanding
 - Introduced shrub
 - Lowland mixed deciduous woodland
 - Mixed scrub
 - Other neutral grassland
 - Other woodland; broadleaved
 - Pond
 - Tree Line
 - Hedgerow
 - Tree
 - Veteran Tree
 - Tree with Potential to Support Roosting Bats
 - Ancient Semi Natural Woodland
 - Local Wildlife Site

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Habitats and Ecological Features

6856/ECO3

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Plan 6856/ECO4:

IR Camera Locations



Key:



Site Boundary



Building



IR Camera Field of View



IR Camera Location



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PROJECT

IR Camera Locations

TITLE

6856/ECO4

DRAWING NO.

C/LS

REV

January 2025

DATE

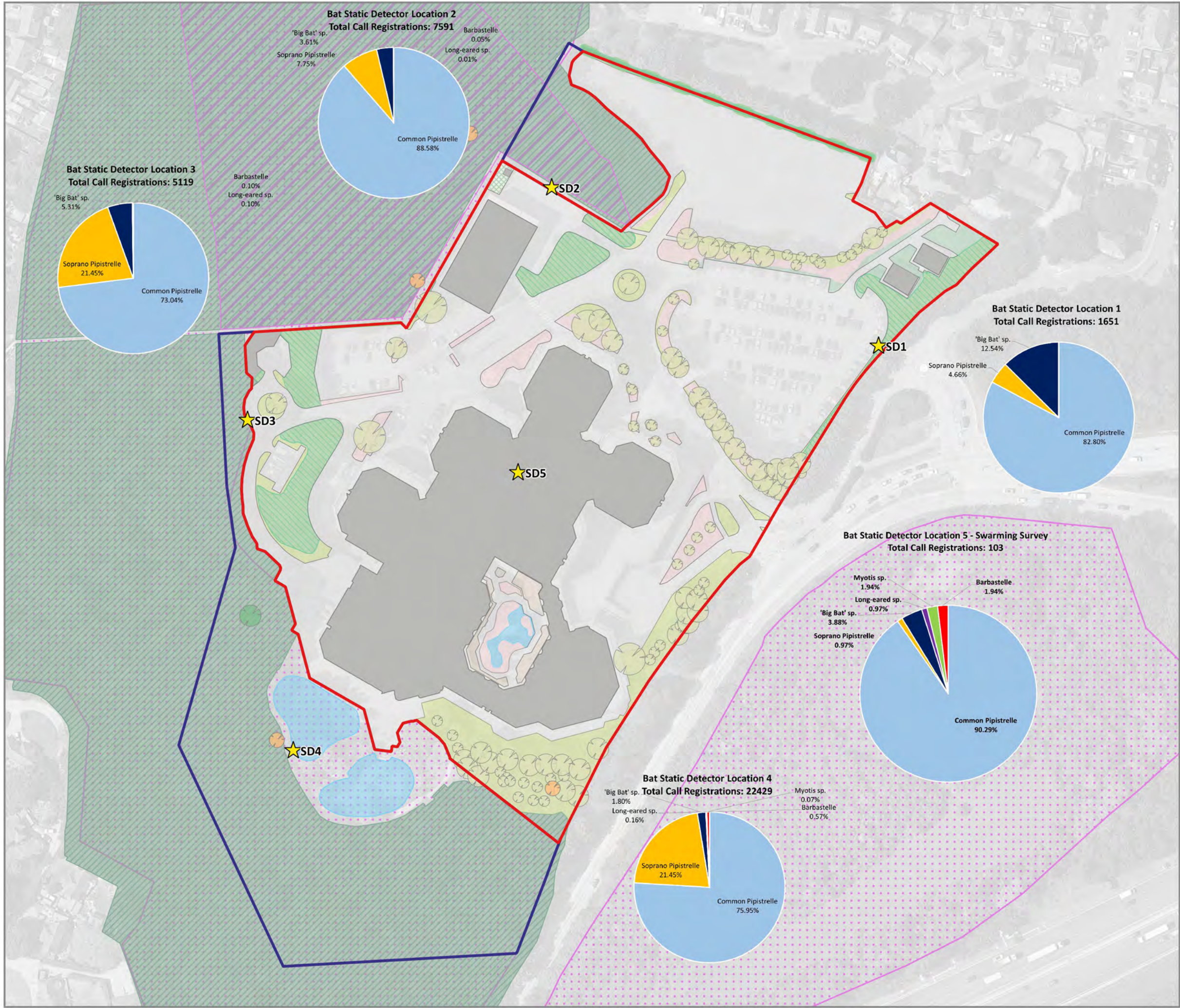
CK/BG

QC



Plan 6856/ECO5:

Static Detector Locations



- Key:**
- Site Boundary
 - Wider Survey Area
 - Static Detector Locations
 - Local Wildlife Site
 - Ancient Semi Natural Woodland
 - Lowland mixed deciduous woodland

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Static Detector Locations

6856/EC05

C/LS

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Plan 6856/ECO6:

Dormouse Survey Methods



- Key:
- Site Boundary
 - Wider Survey Area
 - Dormouse transects and number of tubes per transect (Total tubes: 100)
 - Local Wildlife Site
 - Ancient Semi Natural Woodland
 - Lowland mixed deciduous woodland

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Dormouse Survey Methods

6856/ECO6

C/LS

February 2025

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TITLE

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Plan 6856/ECO7:

Reptile Survey Results



- Key:
- Site Boundary
 - Wider Survey Area
 - Reptile Transect and Number of Refugia

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Shinfield Park, Reading

Reptile Survey Results

6856/EC07

D/LS

February 2025

CK/BG



PROJECT
TITLE
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REV
DATE
QC

No reptiles recorded

Plan 6856/ECO8:

eDNA Survey Results



- Key:
- Site Boundary
 - Wider Survey Area
 - Pond with Negative eDNA Survey Result
 - Local Wildlife Site

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Shinfield Park, Reading

eDNA Survey Results

6856/EC08

D/LS

February 2025

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PROJECT

TITLE

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REV

DATE

QC



Plan 6856/ECO9:

Breeding Bird Survey Results



Bird Species:

- D. Dunnock
- MH Moorhen
- ST Song Thrush
- SD Stock Dove
- WP Woodpigeon
- WR Wren
- KT Red Kite

Key:

- Site Boundary
- Wider Survey Area
- Breeding / Probable Breeding (BOCC Red List)
- Possible Breeding (BOCC Red List)
- Breeding / Probable Breeding (BOCC Amber List Species)
- Possible Breeding (BOCC Amber List Species)
- Local Wildlife Site
- Ancient Semi Natural Woodland
- Lowland mixed deciduous woodland

Only species of conservation concern recorded at the site are shown on the above plan. For a full species list and detailed survey results please refer to the Ecological Appraisal report.



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Shinfield Park, Reading

Breeding Bird Survey Results

6856/ECO9

D/LS

February 2025

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PROJECT

TITLE

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DATE

QC



Photographs

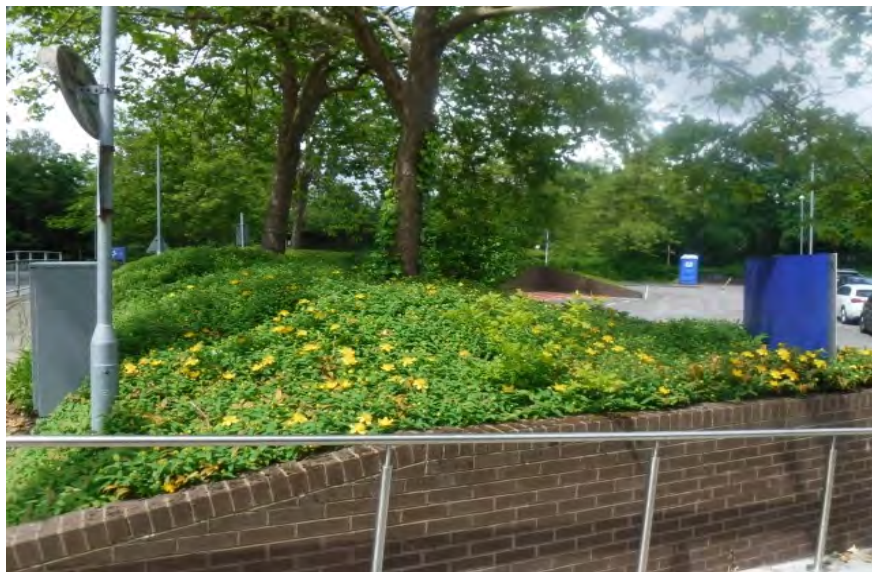
Photograph 1 : Other Neutral Grassland



Photograph 2 : Modified Grassland



Photograph 3 : Introduced Shrub



Photograph 4 : Mixed Scrub



Photograph 5 : Hardstanding



Photograph 6 : Building B1



Photograph 7 : Building B2



Photograph 8 : Building B3



Photograph 9 : Building B4



Photograph 10 : Building B5



Photograph 11 : Pond P1



Photograph 12 : Pond P2



Photograph 13 : Pond P3



Photograph 14 : Woodland W1



Photograph 15 : Woodland W2



Photograph 16 : Woodland W3



Photograph 17 : Woodland W4



Photograph 18 : Woodland W5



Appendix 6856/1:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)¹.

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable"*.
3. Various characteristics contribute to the importance of ecological features, including:
 - Naturalness;
 - Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
 - Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
 - Endemic species or locally distinct sub-populations of a species;
 - Habitat diversity;
 - Habitat connectivity and/or synergistic associations;
 - Habitats and species in decline;
 - Rich assemblages of plants and animals;
 - Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
 - Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
 - Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.
4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

¹ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', Version 1.3, Chartered Institute of Ecology and Environmental Management, Winchester (updated September 2024)

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

Assigning Level of Importance

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:
 - International (European);
 - National;
 - Regional;
 - County;
 - District;
 - Local (e.g. Parish or Neighbourhood);
 - Site (not of importance beyond the immediate context of the site).
7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.
8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.
9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.
12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.
13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.
15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.
16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.
17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6856/2:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).
2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself¹. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.
3. In summary, the key pieces of legislation relating to nature conservation in the UK are:
 - Wildlife and Countryside Act 1981 (as amended)
 - Protection of Badgers Act 1992
 - Hedgerows Regulations 1997
 - Countryside and Rights of Way (CROW) Act for England and Wales 2000
 - Natural Environment and Rural Communities Act 2006
 - Conservation of Habitats and Species Regulations 2017
4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.
5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.
6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).
7. Under Section 1(1) of the Act, all wild birds are protected such that it is an offence to intentionally:
 - Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
 - Take or destroy an egg of any wild bird.

* The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.
8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:
 - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
 - Disturb dependent young of such a bird.

¹ <http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/>

9. Under Section 9(1) of the Act, it is an offence to:
 - Intentionally kill, injure or take any wild animal included in Schedule 5.
10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:
 - Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
 - Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.
11. Under Section 13(1) it is an offence:
 - To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
 - Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.
12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.
13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
 - To intentionally or recklessly interfere with a sett[#] (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way
14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.
15. **Hedgerows Regulations 1997.** ‘Important’ hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify ‘important’ hedgerows for wildlife, landscape or historical reasons.
16. **Countryside and Rights of Way (CROW) Act for England and Wales 2000.** The CROW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).
18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.
19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)² classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.
20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species;
 - Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
 - Deliberately take or destroy the eggs of such an animal;
 - Damage or destroy a breeding site or resting place of such an animal.
21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.
22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

² Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

Appendix 6856/3:

eDNA Laboratory Results

eDNA Technical Report



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Report Reference	R0000629
Report Date	27 Jun 2024
Reported By	rwarre

Dispatch Order Reference		P0000487					
Site Name		Pond 1 6856					
Site Location		Shinfield Reading					
Barcode	Received Date	Sampled Date	Sample Check	Degradation Check	Inhibition Check	Result	Positive Replicates
GCN009101	19/06/2024	11/06/2024	PASS	PASS	PASS	NEGATIVE	0 out of 12

eDNA Technical Report



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Report Reference	R0000632
Report Date	28 Jun 2024
Reported By	cgolding

Dispatch Order Reference		P0000487					
Site Name		P2					
Site Location		Shinfield Park Reading					
Barcode	Received Date	Sampled Date	Sample Check	Degradation Check	Inhibition Check	Result	Positive Replicates
GCN009132	19/06/2024	11/06/2024	PASS	PASS	PASS	NEGATIVE	0 out of 12

eDNA Technical Report



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Report Reference	R0000637
Report Date	28 Jun 2024
Reported By	cgolding

Dispatch Order Reference		P0000487					
Site Name		P3					
Site Location		Shinfield Park Reading					
Barcode	Received Date	Sampled Date	Sample Check	Degradation Check	Inhibition Check	Result	Positive Replicates
GCN009103	19/06/2024	11/06/2024	PASS	PASS	PASS	NEGATIVE	0 out of 12

eDNA Technical Report



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Report Reference	R0000689
Report Date	11 Jul 2024
Reported By	mkwalker

Dispatch Order Reference		P0000487					
Site Name		Pond 4					
Site Location		Shinfield 6856					
Barcode	Received Date	Sampled Date	Sample Check	Degradation Check	Inhibition Check	Result	Positive Replicates
GCN009096	27/06/2024	24/06/2024	PASS	PASS	PASS	NEGATIVE	0 out of 12

eDNA Technical Report



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Report Reference	R0000683
Report Date	10 Jul 2024
Reported By	mhooper

Dispatch Order Reference		P0000487					
Site Name		Pond 5					
Site Location		Shinfield 6856					
Barcode	Received Date	Sampled Date	Sample Check	Degradation Check	Inhibition Check	Result	Positive Replicates
GCN009099	27/06/2024	24/06/2024	PASS	PASS	PASS	NEGATIVE	0 out of 12

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