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DOCUMENT HISTORY

Project Number: 25.0155		Document Reference: BMD.25.0155.RPE/P1.001.Ecology&Bat			
Revision	Purpose of Issue	Originated	Reviewed	Approved	Date
-	Planning	AN/NT	JW	JP	14/08/2025

Declaration of compliance with professional code of ethics or conduct

The information which we have prepared and provided is true and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bonafide opinions.

All reasonable efforts have been made to comply with current legislation and best practice, including BS 42020:2013, the Environment Act 2021 (Schedule 7A: Biodiversity Gain), the National Planning Policy Framework (2025), CIEEM EclA Guidelines (2018, updated 2022), and relevant Natural England guidance.

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EXECUTIVE SUMMARY

Client..... Acorn Bioenergy
Consultant..... Bradley Murphy Design Ltd.

SITE

Location Ashton Keynes AD Facility, Wiltshire
National Grid Reference Approx. Centre: SU 03979 96156
Overview The Site has an approximate area of 7 hectares and comprises two parcels of cereal cropland with associated peripheral and intersecting hedgerows and mature trees. The Site is accessed via Ashton Road, which is situated directly east of the Site, connecting South Cerney to Ashton Keynes.

Landscape context The surrounding landscape is dominated by arable fields and numerous large waterbodies and wetland habitats associated with Cotswolds Water Park. The nearest urban environment to the Site is South Cerney and Ashton Keynes. South Cerney is a village and civil parish located ~500 m northeast of the Site and falls under Gloucestershire County. Ashton Keynes is a village located in the north of Wiltshire, approximately 1.9 km south of the Site. The closest linear urban feature is Ashton Road, but continuing further east is the A419, approximately 3.6 km from the Site boundaries.

DEVELOPMENT & PLANNING BACKGROUND

Proposed works The Construction and operation of an anaerobic digestion facility, ancillary infrastructure and the construction of a new access from Ashton Road, Ashton Keynes, Wiltshire.

Planning stage Full Planning Application (Wiltshire County Council planning application reference: PL/2023/03359).

ECOLOGICAL BACKGROUND

General A preliminary Ecological Appraisal has been previously undertaken for the Site by SLR Consulting Ltd in 2023. Further Phase II surveys and assessments were undertaken in 2023, including bat emergence surveys, a biodiversity net gain assessment of the Site, and an environmental assessment.

SURVEY

Objectives

1. To provide an ecological baseline, including nature conservation value, of the Site with a focus on habitats and potential for protected and notable species. Particular attention will be paid to the potential for the Site to support roosting bats.
2. To identify the need and level of more detailed species-specific surveys for a planning application.
3. To guide the initial stages of master planning and indicative mitigation required to ensure net biodiversity gain is achieved and favourable conservation status of species utilising the site as a result of the proposed development.
4. To provide specialist advice and make appropriate recommendations to ensure compliance with wildlife law and recognised best practice.

Approach Desk-based assessment using online resources, including the *MAG/IC* database, and data from the Local Biological Record Centres (Gloucestershire Centre for Environmental Records and Wiltshire & Swindon Biological Records Centre).
Habitat assessment – UK Habitat Classification (UKHab) Survey
Evaluation of habitat condition based on the Statutory Biodiversity Metric

Date 10th July 2025

Results The Site has an approximate area of 7 hectares and comprises cereal cropland with associated peripheral and intersecting hedgerows. The Site is

bounded to the north, south, and west by continuous arable cropland, and Ashton Road and a parcel of grazed pasture bound the eastern edge of the Site.

Several statutory designated Sites are located within 5 km of the Site. Most notably, Cotswolds Water Park Site of Special Scientific Interest (SSSI) comprises numerous large waterbodies and wetland habitats, which surround the Site and are used by many notable and protected species. Additionally, the Site falls within the impact risk zone of two Special Areas of Conservation (SAC), which are located to the east and west of the Site.

The Site has the potential to support the following Protected and Notable Species:

- Amphibians (excluding great crested newt);
- Badger;
- Bats;
- Hedgehog;
- Nesting birds (including schedule 1 birds);
- Reptiles; and
- Invasive species.

Conclusions The main aim of this report is to provide an initial assessment of the ecological interest of the site and to recommend the scope of detailed Phase II ecological surveys that are required to provide a full assessment of the site's ecological value. Initial opportunities for Biodiversity Net Gain have also been identified.

RECOMMENDATIONS

Further species surveys are considered necessary to better inform the proposals and potential impacts. Key habitat of elevated ecological value should be retained and protected.

Initial opportunities for enhancement and creation which may result in a biodiversity net gain are provided.

General and targeted mitigation for protected species known to utilise the Site or adjacent habitats have been provided.

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1. INTRODUCTION

1.1 Background Information

- 1.1.1 Bradley Murphy Design Ltd. (BMD) was commissioned by Acorn Bioenergy in June 2025 to undertake an Ecological Assessment of their site: Ashton Keynes AD Facility, hereafter referred to as 'the Site'. The Site is approximately centred on national grid reference: SU 03979 96156. A plan depicting the Site's location is provided in the Appendices.
- 1.1.2 The report has been prepared in relation to an existing planning application (Wiltshire County Council planning application reference: PL/2023/03359). An updated Preliminary Ecological Appraisal (PEA) was necessary as the previous surveys, conducted in 2023, are now more than two years old and considered out of date. Further surveys were required to determine if there have been any significant changes to the habitats and ecology of the Site and its surrounding area. As such, this report replaces the previous information and survey efforts undertaken by SLR and Tyler Grange as detailed below (see Section 1.4 Ecological Context).
- 1.1.3 This report provides the most up-to-date ecological assessment of the Site required for the determination of the planning application. It should be noted that previous breeding and wintering bird surveys conducted by SLR are also addressed within the Environmental Statement (ES), and their findings still remain valid.
- 1.1.4 The following assessments were completed in July 2025.
- Desk-based assessment;
 - Habitat survey; and,
 - Initial assessments of trees.
- 1.1.5 This report presents the approach, results and evaluation of the assessments and survey undertaken at the Site in order to determine the ecological baseline and nature conservation value of the Site. The data will:
- Enable the identification of the need and level of more detailed species-specific surveys where required for a successful determination of a planning application;
 - Enable potential ecological constraints to the proposed development to be identified; and,
 - Further guide the master planning to ensure that net biodiversity gain is met (an obligation of the NPPF, 2025) through design and mitigation hierarchy (avoid, mitigate, compensate).

1.2 Reason for Reporting

- 1.2.1 This 2025 Ecological Assessment (including Initial Bat) has been prepared to refresh the ecological baseline for the Ashton Keynes AD Facility, given that more than two years have elapsed since the previous Preliminary Ecological Appraisal undertaken by SLR Consulting in March 2023. In line with CIEEM guidance on the "shelf-life" of ecological survey data, surveys older than two years are generally considered out of date unless validated by more recent work.
- 1.2.2 A UKHab walkover survey and desk study were therefore completed in July 2025 to determine whether ecological conditions at the Site had materially changed since 2023. The updated

assessment confirmed that the Site continues to comprise approximately 7 ha of intensively managed arable land with boundary and intersecting hedgerows/trees and a shallow drainage ditch, consistent with the habitats described in the earlier SLR PEA. The ecological receptors of relevance also remain the same (hedgerows, mature trees with bat roost potential, arable habitats supporting farmland birds, and potential for widespread species such as badger, hedgehog, reptiles, and amphibians).

- 1.2.3 The updated assessment concludes that there has been no substantive change in ecological value or constraints at the Site since the 2023 baseline. Accordingly:
- The findings and recommendations of the 2023 PEA and subsequent Phase 2 surveys remain valid.
 - Ecological constraints, opportunities for enhancement, and mitigation measures previously identified are still applicable.
- 1.2.4 The updated report concludes that baseline conditions have been re-checked and remain accurate at the time of further survey.

1.3 Proposed Development

- 1.3.1 The Construction and operation of an anaerobic digestion facility, ancillary infrastructure and the construction of a new access from Ashton Road, Ashton Keynes, Wiltshire.
- 1.3.2 This document has been prepared to provide the necessary ecological information for the determination of the ongoing planning application (Wiltshire County Council reference: PL/2023/03359).

1.4 Site Context

Historic Context

- 1.4.1 Historic aerial imagery and maps indicate that the Site and the surrounding area have undergone some significant changes in the past several decades. The most notable of which being the formation of nearby water bodies, lakes and ponds associated with the Cotswold Water Park. This began in the 1960s as a result of quarrying, allowing water bodies to form ~500 m northeast and ~600 m south of the Site. Whilst there has not been significant expansion observed by nearby residential areas of South Cerney and Ashton Keynes, there have been more recent developments, one of which being the Hoburne Cotswolds Holiday Park. Other significant features including the Ashton Road bordering the east boundary of the Site running North to South, and other nearby main roads (Spine Road and Ewen Road) have remained unchanged since approximately the 1940s.

Present Context

- 1.4.2 The Site is approximately 7 ha in size, located in the North of Wiltshire close to the Gloucestershire boundary, and is centred between National Grid Coordinates of SU 03979 96156. The Site is approximately 1.9 km north of Ashton Keynes.

- 1.4.3 The Site comprises two areas of arable cropland divided by an intersecting hedgerow, with one full field parcel to the north, and a section of cropland to the south. The Site boundary is lined with hedgerows and mature trees and is situated on Ashton Down. The Site borders neighbouring arable land with Ashton Road running North to South along its eastern border. Industrial parks, such as an aggregate and concrete distribution facility, are located ~270 m southeast of the Site. Cotswold Water Park and its associated water bodies are located as close as ~350 m east and ~600 m south of the Site.
- 1.4.4 The Site is accessed by Ashton Road which borders the east of the Site, running north to south. The Site is surrounded by hedgerows and mature trees, and is divided by an intersecting hedgerow that divides the northern and southern field parcel, located within the Site. The Site is surrounded by open flat arable land, with the exception of the southeast, where a woodland block and lake associated with the Cotswold Water Park and Whitefriars Sailing Club is located.
- 1.4.5 The surrounding land is dominated by arable fields, which encompass both the Site and Cotswold Water Park. The nearest urban environment to the Site is South Cerney and Ashton Keynes. South Cerney is a village and civil parish located ~500 m northeast of the Site and falls under Gloucestershire County. Ashton Keynes is a village located in the north of Wiltshire, approximately 1.9 km south of the Site. The closest linear urban feature is the Ashton Road, but continuing further east is the A419, approximately 3.6 km from the Site boundaries.
- 1.4.6 Several industrial sites, including mineral extraction, sewage treatment facilities, and mineral processing such as cement works, also surround the Site. These include, but are not limited to, Cerney Wick Quarry to the east, Cirencester Sewage Treatment Works to the north, and Aggregate Industries directly southeast of the Site. These are interspersed within Cotswolds Water Park, and are mostly comprised of bare ground and disturbed areas with little vegetation.
- 1.4.7 The neighbouring fields of the Site are chiefly arable with linking hedgerows and woodland blocks can be found throughout these areas.
- 1.4.8 Considering the outlined above contextual features regarding the Site and its surrounding landscape, while there are some dispersal barriers for terrestrial fauna including main roads like Ashton Road, the arable landscape with associated hedgerows and nearby wetland areas provides suitable connectivity to the Site and surrounding areas; it is estimated that dispersal capacity of terrestrial fauna to/from the Site is good. It is further estimated that more mobile, flying species, such as bats, birds, and insects, would be more readily able to commute to the Site from surrounding habitats.

1.5 Ecological Context

- 1.5.1 A Preliminary Ecological Appraisal was completed in 2023 by SLR Consulting Ltd and concluded:
- *“The Site contains predominantly arable and modified grassland habitats. Linear habitats comprised hedgerows, lines of trees and ditches.” “[The Site] is located 58 m from Cotswold Water Park SSSI, and as such, any potential direct or indirect impacts will require a full investigation and the development of appropriate avoidance or mitigation measures.”*
 - *“The following Phase 2 protected species surveys are therefore recommended to be undertaken:*

- *Pre-commencement badger survey, Bat survey(s) to establish the presence/absence of bats within tree to be removed; and Breeding bird surveys (scheduled for Spring/Summer 2023)."*

1.5.2 A Biodiversity Net Gain (BNG) Assessment was completed in 2023 by SLR Consulting Ltd and concluded:

- *"The assessment of the proposed development against the current baseline indicates that an increase in biodiversity performance of the Site of approximately 19% in habitat and 102% in hedgerow can be achieved. This is subject to appropriate planting plans and management plans being developed to optimise the delivery of biodiversity performance on the Site and to realise its intended out-turn condition."*

1.5.3 An Environmental Statement was completed by SLR Consulting Ltd which includes details of bird and bat surveys. The wintering and breeding bird survey report concluded that:

- *"During the surveys, species associated with the nearby SSSI and LNR, lapwing, linnet, lesser black-backed gull and black-headed gull were recorded on site. No species associated with non-statutory sites were recorded. The following red list species were recorded on site, starling and skylark. As were the following amber list species: greylag goose, mallard, woodpigeon, wren, song thrush, dunnock, bullfinch, whitethroat, meadow pipit and tawny owl."*
- *"Overall, the assemblage of birds on Site was typical of farmland habitats and the species of conservation concern described above were only recorded in modest numbers. The nearby SSSI - the Cotswold Water Park, comprises predominantly breeding birds of open water and as there are no such habitats on site it is considered unlikely that large numbers of birds from the SSSI would utilise the Site. The only species recorded on Site which is associated with the SSSI comprised low numbers of foraging lapwing. Due to the presence of key species of conservation concern, enhancements should be incorporated into the scheme for the site as follows:"*
- *"Compensatory habitat off-site for lapwing (which will also benefit black-headed gull, meadow pipit and other farmland birds). This should comprise an area measuring at least 7 ha in the landholding identified in Appendix 5, which will be managed as arable, but should be ploughed or harrowed (depending on cropping regime) and left bare in the winter to benefit foraging lapwing."*
- *"Management of existing hedgerows, both on-site and offsite in the landholding identified in Appendix 5, to form an "A-shape" would also increase invertebrate diversity and be beneficial for linnet, woodpigeon, wren, song thrush, dunnock, bullfinch and other farmland birds such as reed bunting and yellowhammer"*
- *"Fourteen skylark plots should be created in the off-site landholding identified in Appendix 5, measuring a minimum of 16m² in area and 3m wide."*
- *"Within the offsite area identified in Appendix 5, wide set aside margins should be created (measuring approximately 6m), to benefit starling as well as a range of other winter and breeding bird species."*

1.5.4 Due to the relatively small extent of the Site and no significant changes to the baseline habitat, the previous bird surveys from 2023 are still considered valid. No further wintering or breeding

bird surveys are considered to be required if the previous recommended offsite mitigation area is delivered.

1.5.5 SLR was also instructed to conduct bat surveys of three trees located outside of the development area, due to be removed for traffic visibility reasons. Their report concluded that:

- *“Tree 1 was identified as having high potential, Tree 2 as low potential and Tree 3 as negligible potential. Therefore, two bat emergence surveys and one re-entry survey were undertaken of Tree 1 on 27th July 2023, 10th August 2023 and 23rd August 2023 to identify the presence/likely absence of roosting bats.*
- *During the surveys, three bats, comprising common and soprano pipistrelles, were observed emerging from the tree. The survey results therefore confirm the presence of two day roosts, comprising soprano and common pipistrelle, within Tree 1. As such, the tree should be included in a bat mitigation licence to facilitate felling.*
- *To compensate for the loss of roosting opportunities resulting in the removal of the tree, two general purpose Woodcrete bat boxes should be installed on trees on site. This excludes any compensation bat boxes required for the bat mitigation licence, estimated as being one maternity suitable box to replace the lost roost and a further box added for each tree lost.”*

1.5.6 Given that the previous bat surveys are over two years old, updated surveys are necessary to determine if Trees 1 and 2 are still suitable for bats, and if so, whether bats are actively roosting in them. Additionally, other trees located within and directly adjacent to the Site may include potential roosting features following the previous surveys conducted in 2023.

1.5.7 Following the surveys conducted by SLR in 2024, a Technical Note was prepared by Tyler Grange and submitted to the Council on the 17th November 2024. The Technical Note was created to following an updated assessment of the Site to determine if the habitats present had changed since the previous surveys in 2023, and confirm the validity of the conclusions drawn by the previous ES Chapter. Their report concluded that:

“Based in the results of the updated ‘Extended’ Phase 1/UK Habs, GLTA and DBW surveys, it is concluded that that site has not significantly changed since the previous survey work in 2023. CIEEM guidance on the shelf life of ecological survey data states that over 12 months old can be considered valid if validated with a survey and there have been not significant changes in the baseline. As such, considering the baseline habitat recorded in 2023 are the same as those recorded in 2024, the conclusions and mitigation strategy informed by the previous survey work are considered valid for the purpose of considering the proposed development and no further update work is required.”

1.5.8 All previous documents and ecology reports associated with the Site (as detailed above) have been reviewed in full, and their findings have been used to inform the current assessment.

Bat Roosts and Species Overview

1.5.9 Different species of bat have different roosting preferences. Table 1.1 provides a summary of bats that have potential to occur on Site and the roost locations they are typically associated with.

Table 1.1 Summary of roosting opportunities on Site important to different bat species that have potential to occur on Site based on their geographical range (adapted from Collins, 2023)

Bat species	Summer roosts				Winter roosts			
	Trees	House/buildings	Barn-type buildings	Bat boxes	Caves/mines	Buildings	Walls/cavity	Trees
Barbastelle								
Brown-long-eared								
Common/soprano pipistrelle								
Daubenton's								
Leisler's								
Nathusius' pipistrelle								
Natterer's								
Noctule								
Serotine								
Whiskered								
Notes		Primary locations						
		Secondary locations, i.e. only sometimes found in such locations						

1.6 Compliance with Policy, Guidance and Legislation

1.6.1 A summary of national planning policy and wildlife legislation relating to development projects in England is provided in Appendix A. The protocols, evaluations and recommendations contained within this report were made in accordance with these policies and legislation. Local policies which apply to the Site are:

Wiltshire Core Strategy (Adopted January 2015)

1.6.2 The Wiltshire Core Strategy is a key planning policy document for the county of Wiltshire (excluding Swindon). It serves as a blueprint for sustainable development from 2006 to 2026. The strategy outlines the overarching framework for development, including a spatial vision, key objectives, and guiding principles. The key policies related to ecology include:

- **Policy 50: Biodiversity and Geodiversity:**
 - Protection: *Development proposals must demonstrate how they protect features of nature conservation and geological value as part of the design rationale. There is an expectation that such features shall be retained, buffered, and managed favourably in order to maintain their ecological value, connectivity and functionality in the long-term. Where it has been demonstrated that such features cannot be retained, removal or damage shall only be acceptable in circumstances where the anticipated ecological impacts have been mitigated as far as possible and appropriate compensatory measures can be secured to*

ensure no net loss of the local biodiversity resource, and secure the integrity of local ecological networks and provision of ecosystem services. All development proposals shall incorporate appropriate measures to avoid and reduce disturbance of sensitive wildlife species and habitats throughout the lifetime of the development. Any development potentially affecting a Natura 2000 site must provide avoidance measures in accordance with the strategic plans or guidance set out in paragraphs 6.75-6.77 above where possible, otherwise bespoke measures must be provided to demonstrate that the proposals would have no adverse effect upon the Natura 2000 network. Any development that would have an adverse effect on the integrity of a European nature conservation site will not be in accordance with the Core Strategy.

- *Biodiversity enhancement: All development should seek opportunities to enhance biodiversity. Major development in particular must include measures to deliver biodiversity gains through opportunities to restore, enhance and create valuable habitats, ecological networks and ecosystem services. Such enhancement measures will contribute to the objectives and targets of the Biodiversity Action Plan (BAP) or River Basin/ Catchment Management Plan, particularly through landscape scale projects, and be relevant to the local landscape character.*
- *Local sites: Sustainable development will avoid direct and indirect impacts upon local sites through sensitive site location and layout, and by maintaining sufficient buffers and ecological connectivity with the wider environment. Damage or disturbance to local sites will generally be unacceptable, other than in exceptional circumstances where it has been demonstrated that such impacts: i. cannot reasonably be avoided ii. are reduced as far as possible iii. are outweighed by other planning considerations in the public interest iv. where appropriate compensation measures can be secured through planning obligations or agreements. Development proposals affecting local sites must make a reasonable contribution to their favourable management in the long-term.*
- **Policy NE12: Woodland:** The majority of the North Wiltshire Local Plan policies relating to ecology were superseded by the adoption of the Wiltshire Core Strategy (as above) and/or national policy and legislation.
 - *The creation, conservation, enhancement and positive management of woodlands across the district will be supported. In particular, areas of ancient and semi-natural woodland should be protected. The retention of the visual amenity and nature conservation value will be sought in particular at the following: Bird's Marsh Wood, Chippenham Vincient's Wood, Chippenham Pockeredge Drive Wood, Corsham Woodland within Braydon Forest.*
 - *Woodlands are a very important element within the landscape of the district. They enhance urban areas and edges and the wider countryside. They have landscape, visual and nature conservation value, are often historic features and can be used for recreation. Ancient and semi-natural woodlands are particularly important and are protected. Circular 9/95 (General Development Order Consolidation) should be referred to in this regard. The multi-purpose use of*

forestry and woodland is supported and should be carried out in accordance with the English Forestry Strategy and UK Forestry Standard.

2. APPROACH

2.1 Introduction

2.1.1 This report has been produced with reference to current guidelines for ecological assessments (e.g. CIEEM, 2017 and 2017a) although adapted to be appropriate for the conditions on Site. Biodiversity – Code of Practice for Planning and Development. The assessment comprised the following:

- Desk study;
- UK Habitat Classification (UKHab) Survey; and,
- Initial bat scoping assessment:
 - A habitat assessment of the Site and immediate environs
 - Initial assessment of buildings and trees for their potential to support roosting bats.

2.1.2 Table 2.1 summarises the geographical extent of the study.

Table 2.1 Geographical extent of study

Element	Study area
Desk study	1 – 5 km. See Table 2.2 for specific details
Detailed UK Habitat Classification (UKHab) Survey	Site boundary
Local site context (broad habitat types)	Approx. 50 m from Site boundary (identified from within Site only)

2.1.3 Full survey methodologies are provided in Appendix B and summarised below. Details of dates, surveyors, weather conditions and a review of survey limitations are provided in Appendix C. Definitions of technical terms used in this report are provided in the Glossary in Section 8. Common names of species are used throughout the report with scientific names provided in Section 8.2.

2.2 Desk Study

2.2.1 The desk study involved gathering and analysing existing ecological focused data within the Site boundary and extending to 5 km. The results of the desk study aid in the interpretation of the survey results. Table 2.2 provides a summary of the data and their sources reviewed in the desk study.

2.3 UK Habitat Classification (UKHab) Survey

2.3.1 A UKHab survey was undertaken at the Site in accordance with industry standards (UKHab, 2023) and best practice guidance, although adapted to be appropriate to the Site. The conditions and assessors of the survey are provided in the Appendices. The methodologies of the survey techniques are provided in the Appendices.

Habitats

- 2.3.2 The vegetation and broad habitat types within the Site were noted during the survey in accordance with the categories specified for a UK Habitat Classification Survey (UKHab, 2023). Dominant plant species were recorded for each habitat present using nomenclature according to Stace (2019). The Site was also appraised for its suitability to support notable flora, with regards to the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017).
- 2.3.3 In line with the requirements of Biodiversity Net Gain Assessment, the condition of the habitats were also assessed against the habitat condition criteria relevant to the Statutory Biodiversity Metric.

Protected and Notable Species

- 2.3.4 The Site has been inspected for evidence of, and its potential to support, protected or notable species, especially those listed under the Schedule 2 of the Habitat Regulations, Schedule 5 of the Wildlife & Countryside Act 1981 (W&CA), the Countryside and Rights of Way Act 2000 (CRoW Act), those given extra protection under the Natural Environment and Rural Communities Act 2006 (NERC Act), and species included in the local Biodiversity Action Plan (BAP) where relevant.

Table 2.2 Desk study data sources

Data ¹	Search area	Source ²	Justification of search area
Species			
Protected & Notable Species	1 km	A, B, E	The Site is anticipated to have some ecological value associated with the hedgerows and scattered trees, and the cropland within the Site is estimated to provide limited ecological value. Most of the Site and its habitats are common and widespread throughout Britain. However, the bordering and intersecting hedgerows may have limited potential to support protected and notable species such as amphibians, nesting birds, badger, reptiles, bats and hedgehog.
European Protected Species Licence Applications (excl. bats)	1 km	B	The Site is mainly arable cropland and is likely to have limited ecological value. A review of licence applications within the local area can provide indicative implications if great crested newt habitat is confirmed on the Site. It also helps in reviewing the conservation status of the species in the area.
European Protected Species Licence Applications (bats)	5 km	B	There is potential that the Site supports features that may be used by bat species and that may be lost through the works. Bats can travel a number of kilometres from their roosts in a single night to forage. A wider search area provides an indication of the potential value that the Site may have for foraging bats based on known roosts that have been affected by other development in the area.
Non-native Invasive Species	1 km	A	There is low potential for non-native invasive species.
Habitats			
UK Priority Habitats	1 km	B, D	The Site is anticipated to have limited ecological value given that it largely comprises of arable cropland with few hedgerows and scattered trees. The green corridors here may provide some links for flying and transient species, however, this is limited.
Ancient Woodland	1 km	B	
Other notable habitats	1 km	A, B	
Change over time/landscape context	1 km	C	To provide an indication of ecosystem connectivity into the wider landscape and subsequent movement of protected and notable species.
Sites			
Statutory Protected Sites – Impact Risk Zones	Site	B	To assess whether any SSSI, SPAs and SACs sites are likely to be impacted upon by the works.
Non-statutory Protected Sites (e.g. LWS)	1 km	A	To assess whether any LWSs are likely to be impacted upon by the works.
Statutory Protected Sites	2 km (5 km for bats)	B	These sites may have been designated for their populations of European Protected Species (EPS). As the Site has potential to support EPS a wider consideration of statutory protected sites is required.
Notes ¹ See glossary for definitions and species and habitats considered. ² A. Local Biological Records Centre: Gloucestershire Centre for Environmental Records (GCER) and Wiltshire & Swindon Biological Records Centre (WSBRC), [both received 18/07/2025] B. MAG/C (Multi-Agency Geographic Information for the Countryside) [accessed 21/07/2025]. C. Readily available aerial images and current/historic map sources [accessed 21/07/2025]. D. Woodland Trust Ancient Tree Inventory [accessed 21/07/2025]. E. PTES The Big Hedgehog Map [accessed 21/07/2025].			

2.4 Limitations

- 2.4.1 Full consideration of limitations are provided in Appendix C; in brief, it is considered that none of the limitations identified are sufficient to negatively affect the overall outcome of the assessment.

2.5 Evaluation and Review

2.5.1 Upon completion of the desk study and field surveys the evaluation and review will consider each of the following:

- Habitats:
 - reviewed in relation to S41 Priority Habitats descriptions
 - reviewed in relation to Local Biodiversity Plans
 - condition assessed using criteria used in the Statutory Biodiversity Metric
 - potential to support protected and notable species
- Species – focusing on protected and notable species:
 - evidence on Site
 - potential to occur on Site based on habitats, connectivity and known records
 - trees were categorised as having negligible, negligible to low, low, low to moderate, moderate, moderate to high or confirmed bat roost potential (see the Glossary for definitions)
- Potential constraints to development (legal and policy implications relating to wildlife)
- Potential for biodiversity enhancement.

2.5.2 The majority of impacts associated with development relate to species, including through habitat loss, fragmentation and deterioration, as well as direct harm and indirect effects. Therefore, until any necessary species-specific surveys, based on the outcome of this habitat focused ecological assessment, are completed it is not feasible to identify specific impacts in relation to developing the Site.

3. RESULTS

3.1 Desk Study

3.1.1 Full documentation of the data considered as part of this Ecological Assessment is provided in Appendix D. This section presents the key findings of significance to development at the Site. Species records are considered within the last 10 years (from date of desk study). The exception to this is species that are typically under recorded and/or have low dispersal rates, such as dormouse and white clawed crayfish. Other exceptions would be species likely to have strong associations with the habitats on site, such as black redstarts and derelict buildings and structures on urban sites.

3.1.2 A data search on *MAGIC* was completed on 21st of July 2025.

Statutory designated sites of nature conservation importance

3.1.3 The Site itself does not lie within any statutory designated sites of nature conservation importance, as identified by *MAGIC* (accessed on 21/07/2025).

3.1.4 There are a number of statutory designated sites of nature conservation importance within 2 km of the Site, and extending to 5 km for European sites and sites designated for bats. As provided by Gloucestershire Centre for Environmental Records (GCER) and Wiltshire & Swindon Biological Records Centre (WSBRC), both received 18/07/2025. These sites are summarised in Table 3.1.

Table 3.1 Statutory designated sites of nature conservation importance within 2 km of the site, extending to 5 km for European sites and sites designated for bats

Site	Designation ¹	Proximity (distance/direction) & connectivity to Site	Summary description ²
Coke's Pit Lake	LNR	~1.4 km Southwest	Coke's Pit is a Rural Local Nature Reserve on the East side of Somerford Keynes including habitats of open water, shingle islands, reed swamp, grassland and hedgerows. Wetland plants and animals include stoneworts, water vole, dragonflies and damselflies, tufted duck, common tern, reed bunting and Daubenton's bat.
Cotswold Water Park	SSSI	~350 m, surrounding the Site from the North, East, South and West.	The Cotswold Water Park consists of 117 current and former gravel working straddling the borders of Gloucestershire, Wiltshire and Oxfordshire. The lakes form an extensive series of shallow and deep open waters which occur in association with a range of marginal habitats including sparsely-vegetated islands, gravel bars and shorelines, reedbed, marsh, wet ditches, rush pasture, semi-natural and improved grasslands, woodland and scattered scrub including a reproductively active population of native black poplar <i>Populus nigra</i> . The wet habitat support a diverse assemblage of notable and protected species including numerous waterbirds, and rare plants such as stonewort's.

Site	Designation ¹	Proximity (distance/direction) & connectivity to Site	Summary description ²
Notes 1. Refer to glossary for definitions 2. As provided by the GCER and WSBRC (18.07.2025).			

3.1.5 The Site lies within the Impact Risk Zone (IRZ) of Cotswold Water Park (SSSI), Clattinger Farm (SSSI), Pike Corner (SSSI), Acres Farm Meadow (SSSI), Upper Waterhay Meadow (SSSI), Wildmoorway Meadows (SSSI), Elmlea Meadows (SSSI), North Meadow Cricklade (SSSI). The following have been identified as potential risks and causes of risk to this designated site if such development takes place within the area under assessment:

- **All Consultations:** All planning applications (except householder applications) where the proposed development is outside or extends outside existing settlements/urban areas and will increase lighting levels or affect greenspace, farmland, semi natural habitats, trees/woodland, waterbodies, rural buildings/structures (manmade or natural) or linear landscape features such as hedgerows, streams and rivers through direct loss, fragmentation or change of use.
- **Infrastructure:** Pipelines and underground cables, pylons and overhead cables (excluding upgrades and refurbishment of existing network). Any transport proposal including new or extended footways, cycleways, roads/car parks, railways and waterways (excluding routine maintenance). Airports, helipads and other aviation proposals.
- **Wind and Solar:** Solar schemes with a footprint > 0.5ha, all wind turbines.
- **Minerals, Oil and Gas:** Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
- **Rural Non-Residential:** Large non-residential developments outside of existing settlements/urban areas where the net additional gross internal floorspace is > 1,000m² or the footprint exceeds 0.2ha.
- **Residential:** Residential development of 50 units or more.
- **Rural Residential:** Any residential development of 10 or more units outside of existing settlements/urban areas.
- **Air Pollution:** Any industrial/agricultural development that could cause AIR POLLUTION (including: industrial processes, livestock & poultry units with a floorspace > 500m², slurry lagoons > 200m² & manure stores > 250 tonnes).
- **Combustion:** General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/combustion.
- **Waste:** Landfill. Including: inert landfill, non-hazardous landfill, hazardous landfill.
- **Compost:** Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
- **Discharge:** Any discharge of water or liquid waste of more than 20m³/day that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream.

- **Water Supply:** Any development needing its own water supply eg remote rural housing that is not connected to a mains water supply, OR large infrastructure such as warehousing/industry where the total net additional gross internal floorspace following development is > 1,000m².

3.1.6 The development proposals within the Site are listed as potential risks and causes of risk to the SSSI outlined above. Consequently, consultation with Natural England would be deemed mandatory at the planning application stage.

Non-statutory designated sites

3.1.7 There are four non-statutory designated sites of nature conservation importance within 1 km of the Site as provided by GCER and WSBRC, both received 18/07/2025. These sites are summarised in Table 3.2.

Table 3.2 Non-statutory designated sites of nature conservation importance within 1 km of the site

Site	Designation ¹	Proximity (distance/direction) & connectivity to Site	Summary description ²
Shorncote Quarry	LWS	~690 m west of Site, Good connectivity to the Site via woodland, grassland and arable land with associated hedgerows.	Excellent exposures of the Upper Thames 1st terrace gravel/sands deposited in the late Pleistocene cold phase; these strata are rarely exposed long-term. Parts of the quarry are undergoing restoration to create biodiverse habitats for wildlife.
Cotswold Water Park LWS Lakes 84 and 85 Shorncote Reedbed, Pits.	LWS	~410 m north of Site, Good connectivity to the Site via woodland, grassland and arable land with associated hedgerows.	All lakes, gravel pits & reservoirs > 0.25 ha with reedbed and bird Assemblages. Connecting habitats - rough grassland with deep ditches and bird assemblages
Cotswold Water Park	LWS	~860 m, east of Site. Good connectivity to the Site via woodland, grassland and arable land with associated hedgerows. Separated from the site by main road.	Lakes and reservoirs: All lakes, gravel pits and reservoirs larger than 0.25 ha with bird and invertebrate interest.
River Churn	LWS	~970 m northeast of Site. Good connectivity to the Site via woodland, grassland and arable land with associated hedgerows. Potential barrier by South Cerney housing and roads.	This is the area of historic former water meadow which continues to flood periodically, thereby providing varied habitats along the River Churn. Local mammal interest.
Notes 1. Refer to glossary for definitions 2. As provided by the WSBRC and GCER both returned 18/07/2025.			

Priority habitats

- 3.1.8 The UK priority habitats: coastal and floodplain grazing marsh, deciduous woodland, traditional orchards and open mosaic habitat occur within 1 km of the Site (see below for further details) as depicted by *MAGIC*.
- 3.1.9 Priority habitats returned by the desk study are listed in Appendix D. In summary, the following UK Priority Habitats occur (as depicted on *MAGIC*) within 1 km of the site:
- **Coastal and Floodplain Grazing Marsh:** 1 block of 8 parcels; parcels are situated northwest of the Site, the closest of which is ~440 m from the Site.
 - **Deciduous Woodland:** 10 blocks of 12 parcels; parcels are scattered within the surrounding landscape within 1 km of the Site. The closest of which is located ~280 m southeast of the Site. Most of the parcels of deciduous woodland are located southeast of the Site.
 - **Traditional Orchards:** 2 parcels; parcels are located southwest of the Site, with the closest being ~430 m from the Site boundary.
 - **Open Mosaic Habitat:** 4 parcels; three parcels are located east of the Site within South Cerney and one parcel is located southwest of the Site. The closest parcel is located ~540 m east of the Site.

Notable habitats

- 3.1.10 The following non-priority but notable habitats occur within 1 km of the Site:
- **No main habitat but additional habitat exists:** 6 blocks of 8 parcels. Parcels are scattered within the surrounding landscape within 1 km of the Site. The closest parcel is ~300 m northwest of the site.
- 3.1.11 A review of the Woodland Trust Ancient Tree Inventory (Woodland Trust, 2025) as of 21/07/2025. highlighted no known ancient, veteran and notable trees on the Site and one notable tree within 1 km of Site.

Protected Species - Bat

- 3.1.12 The Site does not lie within 5 km of a statutory designated site of nature conservation importance designated for bats.
- 3.1.13 A search on *MAGIC* returned 24 applications within 5 km of the Site within the last 10 years. The details of these applications are listed below in Table 3.3.

Table 3.3 Development bat licence applications within 5 km of the Site identified during the data search

Species	Date	Proximity (distance/direction) & connectivity to Site	Licenced activity
Brown long-eared Bat, Common Pipistrelle	20/06/2019 - 01/12/2025	4.29 km north of the Site with good connectivity via agricultural fields, hedgerows and arable landscape.	Destruction of a Resting Place

Species	Date	Proximity (distance/direction) & connectivity to Site	Licenced activity
Brown long-eared Bat, Common Pipistrelle	20/06/2019 - 01/12/2025	4.29 km north of the Site with good connectivity via agricultural fields, hedgerows and arable landscape.	Destruction of a Resting Place
Common Pipistrelle	19/02/2021 - 18/02/2031	4.29 km north of the Site with good connectivity via agricultural fields, hedgerows and arable landscape.	Destruction of a Resting Place
Brown long-eared Bat, Common Pipistrelle, Soprano Pipistrelle	13/02/2015- 12/02/2020	~4 km north of the Site with good connectivity via agricultural fields, hedgerows and arable landscape.	Destruction of a Resting Place
Lesser horseshoe bat	15/03/2019 - 31/12/2021	~3.4 km northwest of the Site with good connectivity via agricultural fields, hedgerows and arable landscape.	Destruction of a Resting Place
Brown long-eared Bat, Lesser horseshoe bat, Natterer's bat	29/05/2019 - 01/06/2029	~4.8 km southeast of the Site, with good connectivity via waterbodies, agricultural fields, hedgerows and arable landscape.	Destruction of a Resting Place
Brown long-eared Bat, Lesser horseshoe bat, Natterer's bat	13/06/2019 - 01/06/2029	~4.8 km southeast of the Site with good connectivity via waterbodies, agricultural fields, hedgerows and arable landscape.	Destruction of a Resting Place
Brown long-eared Bat, Lesser horseshoe bat, Natterer's bat	23/12/2020 - 01/04/2031	~4.8 km southwest of the Site, with good connectivity via waterbodies, agricultural fields, hedgerows and arable landscape.	Destruction of a Resting Place
Common pipistrelle, Natterer's bat	04/10/2018 - 01/11/2024	~4.39 km southwest of the Site, with good connectivity via waterbodies, agricultural fields, hedgerows and arable landscape.	Destruction of a Resting Place
Common pipistrelle, Soprano pipistrelle	01/12/2018 - 01/09/2025	~2.4 km southeast of the Site, with good connectivity via waterbodies, agricultural fields, hedgerows and arable landscape.	Affects Breeding Place Destruction of a Breeding Place Destruction of a Resting place
Common pipistrelle, Soprano pipistrelle	16/03/2019 - 01/09/2025	~2.4 km southeast of the Site, with good connectivity via waterbodies, agricultural fields, hedgerows and arable landscape.	Affects Breeding Place Destruction of a Breeding Place Destruction of a Resting place
Common pipistrelle, Soprano pipistrelle, Brown long-eared bat, Daubenton's bat.	31/10/2012 - 30/09/2016	~2.6 km southeast of the Site, with good connectivity via waterbodies, agricultural fields, hedgerows and arable landscape.	Destruction of Resting Place.
Common pipistrelle, Soprano pipistrelle, Brown long-eared bat.	26/09/2013 - 30/09/2017	~2.8 km southeast of the Site, with good connectivity via waterbodies, agricultural fields, hedgerows and arable landscape.	Destruction of Resting Place
Daubenton's bat, Soprano pipistrelle.	06/03/2017 - 31/03/2022	~3.15 km east of the Site, with good connectivity via waterbodies, agricultural fields, hedgerows and arable landscape.	Affects Breeding Place Damage to a Breeding Place Damage to a Resting Place Destruction of a Resting Place

Species	Date	Proximity (distance/direction) & connectivity to Site	Licenced activity
Daubenton's bat, Soprano pipistrelle.	17/09/2018 - 31/03/2022	~3.15 km east of the Site, with good connectivity via waterbodies, agricultural fields, hedgerows and arable landscape.	Affects Breeding Place Damage to a Breeding Place Damage to a Resting Place Destruction of a Resting Place
Daubenton's bat, Soprano pipistrelle.	20/01/2020 - 17/01/2025	~3.15 km east of the Site, with good connectivity via waterbodies, agricultural fields, hedgerows and arable landscape.	Affects Breeding Place Damage to a Breeding Place Damage to a Resting Place Destruction of a Resting Place

Protected Species- Great Crested Newt

- 3.1.14 A review of *MAG/C* revealed one European protected species licence application for great crested newt, within 1 km of the Site. The application is located within South Cerney Village and approximately 920 m east of the Site, with dates of 05/09/2012 - 31/07/2016. The licence affects a breeding place, and the destruction of a breeding and resting place. However, there is negligible connectivity to the Site from this record location due to the urban features impacting dispersal. Additionally, three Great Crested Newt Class Survey Licence returns have been submitted within 1 km of the Site and within the last 10 years. They are located ~ 730 m southwest of the Site boundary, and have limited connectivity to the Site via waterbodies and hedgerows.

Other Protected Species

- 3.1.15 A review of *MAG/C* returned no other European Protected Species licences for other protected species within 1 km of Site (21/07/2025).
- 3.1.16 Table 3.4 below summarises the protected species records, provided by the WSBRC and GCER, both returned 18/07/2025, that occur within 1 km (2 km for bats) of the Site within the last 10 years.

Table 3.4 Protected species recorded within 1 km (2 km for bats) of the Site (as provided by WSBRC and GCER both returned 18/07/2025)

Species	Level of protection ¹	Summary of records ²		
		N ^o ., distribution & connectivity	Distance, direction & date	
Amphibians & Reptiles				
Great Crested Newt	EU & UK (En.)	2 records, located southwest of the Site with limited connectivity via waterbodies, arable land and associated hedgerows and treelines, and woodland. However, limited waterbodies between this record and the Site.	~630 m southwest 2022	~630 m southwest 2022
Bats				
Natterer's Bat	EU & UK (En.)	1 record, located southeast of the Site with good connectivity via waterbodies, grassland with associated hedgerows and treelines, woodland, residential gardens, and country roads.	~1.2 km southeast 2021	~1.2 km southeast 2021
Soprano Pipistrelle	EU & UK (En.)	1 record, located southeast of the Site with good connectivity via waterbodies, grassland with associated hedgerows and treelines, woodland, residential gardens, and country roads.	~1.2 km southeast 2021	~1.2 km southeast 2021
Brown Long-eared Bat	EU & UK (En.)	1 record, located northeast of the Site with good connectivity via grassland with associated hedgerows and treelines, woodland, residential gardens, and country roads.	~700m northeast 20/09/2022	~700m northeast 20/09/2022
Common Pipistrelle	EU & UK (En.)	5 records, scattered around the Site within 5 km. All with good connectivity via waterbodies, grassland with associated hedgerows and treelines, woodland, residential gardens, and country roads.	~1.9 km southwest 20/04/2023	~700 m northeast 20/09/2022
Daubenton's Bat	EU & UK (En.)	3 records, within 5 km of the Site. All with good connectivity via waterbodies, grassland with associated hedgerows and treelines, woodland, residential gardens, and country roads. South Cerney acts as a potential barrier to commuting and dispersal.	~1.7 km northeast 24/09/2017	~1.7 km northeast 24/09/2017
Lesser Horseshoe Bat	EU & UK (En.)	2 records, located northeast of the Site, with good connectivity via grassland with associated hedgerows and treelines, woodland, residential gardens, and country roads. South	~1.8 km northeast 19/10/2016	~1.8 km northeast 19/10/2016

Species	Level of protection ¹	Summary of records ²		
		N-º, distribution & connectivity	Distance, direction & date Nearest	Most recent
		Cerney acts as a potential barrier to commuting and dispersal.		
Myotis Species	EU & UK (En.)	2 records, located northeast of the Site, with good connectivity via grassland with associated hedgerows and treelines, woodland, residential gardens, and country roads. South Cerney acts as a potential barrier to commuting and dispersal.	~700 m northeast 20/09/2022	~700 m northeast 20/09/2022
Nathusius's Pipistrelle	EU & UK (En.)	1 record, located northeast of the Site, with good connectivity via grassland with associated hedgerows and treelines, woodland, residential gardens, and country roads.	~700 m northeast 20/09/2022	~700 m northeast 20/09/2022
Noctule	EU & UK (En.)	2 records, located northeast of the Site, with good connectivity via waterbodies, grassland with associated hedgerows and treelines, woodland, residential gardens, and country roads.	~700 m northeast 20/09/2022	~700 m northeast 20/09/2022
Serotine Bat	EU & UK (En.)	1 record, located northeast of the Site, with good connectivity via grassland with associated hedgerows and treelines, woodland, residential gardens, and country roads. South Cerney acts as a potential barrier to commuting and dispersal.	~1.9 km northeast 20/09/2022	~1.9 km northeast 20/09/2022
Soprano Pipistrelle	EU & UK (En.)	4 records, located northeast of the Site, with good connectivity via grassland with associated hedgerows and treelines, woodland, residential gardens, and country roads.	~1.9 km northeast 20/09/2022	~1.9 km northeast 20/09/2022
Birds				
Barn Owl	WCA1	6 records, located within 1 km of the Site with good connectivity via grassland with associated hedgerows and treelines, and woodland.	~850 m west 2021	~850 m west 2021
Bittern	WCA1	17 records, scattered around the Site within 1 km. Limited connectivity due to the absence of on-Site or adjacent large waterbodies.	~800 m northwest 22/06/2022	~960 m south 2024
Black Tern	WCA1	2 records, both located southwest with limited connectivity due to the absence	~680 m southeast 2017	~680 m southeast 2017

Species	Level of protection ¹	Summary of records ²		
		N-º, distribution & connectivity	Distance, direction & date Nearest	Most recent
		of on-Site or adjacent large waterbodies.		
Black-tailed Godwit	WCA1	6 records, located west of the Site, with limited connectivity due to the absence of on-Site or adjacent large waterbodies.	~800 m west 29/03/2021	~800 m west 29/03/2021
Black-winged Stilt	WCA1	3 records, located west of the Site with limited connectivity due to the absence of on-Site or adjacent large waterbodies.	~430 m west 2020	~430 m west 2020
Brambling	WCA1	2 records, located northwest of the Site, with good connectivity via scrub, woodland, and hedgerows.	~800 m northwest 29/11/2021	~800 m northwest 29/11/2021
Cetti's Warbler	WCA1	74 records, scattered around the Site within 1 km. Moderate connectivity via waterbodies and hedgerows, but the absence of on-Site or adjacent waterbodies or dense scrub reduces its suitability for Cetti's warbler.	~390 m west 2024	~390 m west 2024
Fieldfare	WCA1	31 records, majority located northwest of the Site with good connectivity via the arable landscape and associated hedgerows and treelines.	~80 m south 30/12/2020	~1 km southwest 2024
Garganey	WCA1	1 record, located northwest of the Site with limited connectivity due to the absence of on-Site or adjacent waterbodies.	~410 m northwest 2020	~410 m northwest 2020
Goldeneye	WCA1	20 records, scattered around the Site within 1 km. Limited connectivity due to the absence of on-Site or adjacent waterbodies.	~940 m southwest 2024	~940 m southwest 2024
Green Sandpiper	WCA1	16 records, scattered around the Site within 1 km. Limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~640 west 2022	~640 west 2022
Greenshank	WCA1	4 records, located west of the Site with limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~860 west 2021	~860 west 2021
Hobby	WCA1	13 records, scattered within 1km of the Site. All with good connectivity via the arable landscape, hedgerows and treelines.	~80 m south 03/06/2017	~950 m southwest 2022
King Fisher	WCA1	23 records, scattered within 1 km of the Site. All with negligible	~840 m west 31/03/2017	~750 m northwest 18/10/2020

Species	Level of protection ¹	Summary of records ²		
		N-º, distribution & connectivity	Distance, direction & date Nearest	Most recent
		connectivity due to the absence of nearby watercourses.		
Little Gull	WCA1	6 records, all located southeast of the Site with moderate connectivity via the arable landscape. However, the absence of on-Site wetland habitat significantly diminishes its suitability for little gull.	~760 m southeast 2022	~760 m southeast 2022
Little Bittern	WCA1	1 record, located west of the Site with limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~840 m west 02/06/2017 - 07/06/2017	~840 m west 02/06/2017 - 07/06/2017
Little Ringed Plover	WCA1	12 records, located within 1 km of the Site with limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~710 m northwest 27/05/2022	~710 m northwest 27/05/2022
Marsh Harrier	WCA1	15 records, located west of the Site, with limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~410m west 2024	~410m west 2024
Mediterranean Gull	WCA1	2 records, located within 1 km of the Site, with the closest bordering the site boundaries. Moderate connectivity via the arable landscape. However, the absence of on-Site wetland habitat significantly diminishes its suitability for Mediterranean gull.	~80 m south 24/05/2022	~80 m south 24/05/2022
Merlin	WCA1	1 record, located southwest of the Site, with good connectivity via the arable landscape, hedgerows and treelines.	~1 km southwest 03/06/2022	~1 km southwest 03/06/2022
Osprey	WCA1	1 record, located southeast of the Site, with limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~700m southeast 2021	~700m southeast 2021
Peregrine	WCA1	3 records, each located northwest of the Site, with good connectivity via the arable landscape and mature trees. However, the Site is absent of tall features such as pylon towers, large buildings, or steep rock faces, which reduces the Site's suitability for peregrine.	~400 m northwest 02/12/2017	~470 m northwest 04/05/2018
Pintail	WCA1	7 records, scattered within 1 km of the Site. All with limited connectivity due to the absence	~850 m west 19/12/2021	~890 m southeast 2023

Species	Level of protection ¹	Summary of records ²		
		N-º, distribution & connectivity	Distance, direction & date Nearest	Most recent
		of on-Site or adjacent waterbodies or wetland habitat.		
Redwing	WCA1	44 records, located within 1 km of the Site boundary. Good connectivity via the arable landscape, hedgerows and treelines.	~80 m south 30/12/2020	~960 m south 2024
Ruff	WCA1	1 record, located west of the Site with limited connectivity due to the absence of on-Site or adjacent waterbodies, wetland habitat, or wet meadows.	~850 m west 27/09/2017	~850 m west 27/09/2017
Scaup	WCA1	1 record, located west of the site with limited connectivity due to the absence of on-Site or adjacent waterbodies.	~850 m west 15/01/2017	~850 m west 15/01/2017
Spoonbill	WCA1	2 records, located northwest of the Site limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~630 m northwest 30/12/2022	~630 m northwest 30/12/2022
Whimbrel	WCA1	2 records, located west and northwest of the Site with limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~460 m west 2017	~630 m northwest 07/05/2022
Wood Sandpiper	WCA1	1 record, located northwest of the Site with limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~630 m northwest 01/05/2021	~630 m northwest 01/05/2021
Mammals				
Otter	EU, UK (En.)	4 records, northwest with limited connectivity due to the absence of on-Site wetland habitat, watercourses, or wet ditches.	~600 m northwest 30/04/2022	~700 m northwest 01/05/2022
Water Vole	EU, UK (En.)	1 record, northwest with limited connectivity due to the absence of on-Site wetland habitat, watercourses, or wet ditches.	~600 m northwest 28/12/2017	~600 m northwest 28/12/2017
Badger	UK	1 record, located southwest with good connectivity to the Site via the arable landscape and associated hedgerows.	~960 m southeast 2020	~960 m southeast 2020
Notes 1. EU – European; UK – UK; (En.) – also a notable species in England, e.g. UK Priority/S41 species. 2. As provided the WSBRC and GCER both returned 18/07/2025 Refer to Glossary for details and definitions				

Notable species (including priority species)

- 3.1.17 A review of *MAG/C* displayed five arable and five grassland farm bird assemblages within the Site and 1 km of the Site. Furthermore, species that are shown to form assemblages within 1 km

of the Site include corn bunting, curlew, grey partridge, lapwing, redshank, snipe, tree sparrow, and yellow wagtail.

- 3.1.18 Corn bunting, curlew, grey partridge, lapwing, tree sparrow, and yellow wagtail are also noted as Priority species (s41) in accordance with Section 41 of the Natural Environment and Rural Communities Act (2006).
- 3.1.19 A search of the Big Hedgehog Map (PTES, 2025) highlighted nine live hedgehog within 1 km of the Site as of the 21/07/2025. All the records have good connectivity to Site via residential streets, hedgerows, residential gardens, and parks.
- 3.1.20 Table 3.5 summarises the notable species records, provided by the WSBRC and GCER, both returned 18/07/2025, that occurred within 1 km of the Site and within the last 10 years. This Table excludes any species that are specifically protected (see Table 3.4).

Table 3.5 Notable species recorded within 1 km of the Site (as provided by WSBRC and GCER both returned 18/07/2025)

Species	Status				Summary of records		
	BA P ¹	S4 1	BoCC ²	Other ³	N- ^o , distribution & connectivity	Distance, direction & date Nearest	Most recent
Birds							
Black-headed gull	✓	✓	✓ A		1 record, with good connectivity to the Site via woodland, grassland and waterbodies	~650m northwest 20/09/2020	~650m northwest 20/09/2020
Cuckoo	✓	✓			16 records, with good connectivity to the Site via the arable landscape and hedgerows and scattered trees. However, the absence of on-Site or adjacent woodland reduces its suitability for cuckoo.	~420 m west 2024	~420 m west 2024
European White-fronted Goose	✓	✓			1 record, with limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~820 m west 19/12/2020	~820 m west 19/12/2020
Gadwall			✓ A		1 record, with limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~870 m northwest 15/11/2020	~870 m northwest 15/11/2020
Grasshopper Warbler	✓	✓	✓ R		5 records, with good connectivity to the Site via hedgerows, but the absence of on-Site scrub, grassland, or woodland reduces its suitability for grasshopper warbler.	~1 km southwest 2022	~1km southwest 2022
Great White Egret			✓ A		1 record, with limited connectivity due to the	~940 m west 08/03/2020	~940 m west 08/03/2020

					absence of on-Site or adjacent waterbodies or wetland habitat.		
Grey Partridge	✓	✓	✓ R		3 records, scattered within 1 km of the Site with the closes bordering the site boundaries. All have good connectivity to the Site via the arable landscape.	~80 m south 2019	~80 m south 2019
Greylag goose			✓ A		83 records, scattered around the Site within 1 km. Moderate connectivity to the Site via waterbodies and the arable landscape. However, the absence of on-Site or adjacent waterbodies or wetland habitat reduces its suitability.	~950 m southwest 2024	~950 m southwest 2024
House Sparrow	✓	✓	✓ R		6 records, scattered within 1 km of the Site, with the closest bordering the Site boundary. All have good connectivity to the Site via connecting hedgerows.	~80 m south 2021	~80 m south 2021
Kestrel			✓ A		1 record, with good connectivity via the arable landscape, hedgerows and treelines.	~530 m northwest 20/09/2020	~530 m northwest 20/09/2020
Common gull			✓ A		1 record, with good connectivity to the Site via the arable landscape. However, the absence of on-Site wetland habitat significantly diminishes its suitability for common gull.	~990 m west 11/02/2020	~990 m west 11/02/2020
Lapwing	✓	✓	✓ R		83 records, scattered within 1 km of the Site with the closest bordering the Site boundaries. All have good connectivity to the Site via the arable landscape.	~80 m south 2021	~1 km southwest 2023
Little Egret			✓ A		1 record with moderate connectivity to the Site via waterbodies and the arable landscape. However, the absence of on-Site or adjacent waterbodies or wetland habitat reduces its suitability.	~970 m west 18/10/2020	~970 m west 18/10/2020
Oystercatcher			✓ A		1 record, located bordering the site, with limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~80 m south 28/06/2020	~80 m south 28/06/2020

Reed Bunting	✓	✓	✓ A		95 records, scattered within 1 km of the Site. All have good connectivity to the Site via hedgerows, waterbodies and the arable landscape. However, the absence of on-Site or adjacent waterbodies or wetland habitat reduces its suitability.	~80 m south 30/12/2020	~450m west 2024
Skylark		✓	✓ R		24 records, scattered within 1 km of the site. All have good connectivity to the Site via woodland, and the arable landscape.	~450 m west 2024	~450 m west 2024
Spotted Flycatcher	✓	✓	✓ R		2 records, both located south of the Site with moderate connectivity to the Site via hedgerows and woodland.	~950 m south 2019	~950 m south 2019
Wigeon			✓ A		2 records, located west of the Site with limited connectivity due to the absence of on-Site or adjacent waterbodies or wetland habitat.	~410 west 13/12/2020	~410 west 13/12/2020
Yellowhammer	✓	✓	✓ R		7 records, located mainly west of the Site, with good connectivity to the Site via the arable landscape and associated hedgerows.	~860 m west 2021	~860 m west 2021
Yellow Wagtail			✓ R		1 record, located bordering the site, with good connectivity to the Site via the arable landscape. However, the absence of on-Site wetland habitat significantly diminishes its suitability for yellow wagtail.	~80 m south 31/08/2020	~80 m south 31/08/2020
Invertebrates							
Ghost Moth	✓				1 record, with good connectivity to the Site via gardens and grassland.	~840 m northeast 19/06/2020	~840 m northeast 19/06/2020
Mammals							
Hedgehog	✓	✓			2 records, both located within South Cerney. Good connectivity via gardens, grassland, and hedgerows. Artificial features such as Ashton Road may act as a partial barrier.	~850 m northeast 22/11/2020	~850 m northeast 22/11/2020
Notes 1. Biodiversity Action Plan: UK – UK 2. Birds of Conservation Concern: R - Red listed; A – Amber listed 3. Other: Great Britain Threat Status (GB) / England (Eng.): EN – Endangered; NT – Near Threatened; VU – Vulnerable; LN – WBRN Nationally Notable; Na – Nationally Notable; Nb – Nationally Notable; Ns – nationally scarce; B; LR – Locally Rare; LS – Locally Scarce; LBAP – Local BAP species. Refer to Glossary for details and definitions							

Non-native invasive species

- 3.1.21 Four non-native invasive species that occur within 1 km of the Site and within the last 10 years was returned by WSBRC and GCER (data returned 18/07/2025). Qualifying species are principally those with legislative classification, listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) but excludes widely naturalised species such as grey squirrel.
- 2 records of bar-headed goose, approximately 400 m west of the Site. The most recent record in 2018;
 - 4 records of barnacle goose, approximately 940 m south of the Site. The most recent record in 2019;
 - 127 records of red-crested pochard, approximated 950 m southwest of the Site. The most recent record in 2024; and,
 - 1 record of false Virginia-creeper, approximately 960 m west of the Site in 2021.

3.2 UK Habitat Classification Survey: Habitats

Local context

- 3.2.1 The following habitats were recorded immediately adjacent to the Site: i.e. approx. 50 m from the site boundary and visible from boundary/inferred from aerial photography:
- **North:** The surrounding landscape is dominated by arable cropland. This habitat continues north beyond the peripheral hedgerows, which also extend further north and include numerous mature trees.
 - **East:** The Site is bounded to the east by Ashton Road, which runs north to south and connects Ashton Keynes to South Cerney. Beyond this hedgerow, a parcel of grass pasture can be found, and historical aerial imagery suggests that this is used for sheep grazing.
 - **South:** The crop field located within the Site continues further south and is bounded by a hedgerow with mature ash and oak trees.
 - **West:** To the west, the site is bordered by a farm access track and a parallel hedgerow with mature trees. A derelict farm building lies directly north of the hedgerow, with cropland beyond.

Site

- 3.2.2 Full details, including species lists and target notes, of each area of onsite habitat and linear features are outlined in Appendix E.
- 3.2.3 The following habitats were present on Site:

Cereal crops (c1c)

- 3.2.4 The Site is dominated by cropland, with barley covering most of the field parcels to the north and south of hedgerow H2 (Photograph 1). The field parcels lack management in some locations, as arable weeds such as abundant wild oat (Photograph 2), occasional field bindweed, and rare instances of ragwort were recorded within the crop. Furthermore, bare patches of ground were

also noted in places, suggesting poor ground conditions, damage, and/or inadequate management (Photograph 2).

- 3.2.5 Additionally, the edges of the crop fields include thin strips of bare ground and patches of tall false oat grass, interspersed with rare instances of cocksfoot, nipplewort, prickly sowthistle, mugwort, wild chamomile, and fringed willowherb.

Native Hedgerow

- 3.2.6 The cropland within the Site is surrounded and intersected by several species-poor native hedgerows (Photograph 8). The hedgerows vary in location, size, and composition. They are generally dominated by hawthorn, but also regularly include ash and blackthorn. Other frequently recorded species include elder and field maple. The ground flora across the hedgerows is dominated by false oat grass, with frequent common nettle and lesser burdock, as well as other plants such as wild chamomile and cocksfoot.

Rural tree (200)

- 3.2.7 The Site includes several scattered trees along its peripheral and intersecting hedgerows. Mature ash and English oak trees are primarily found along hedgerows H1 and H2. While the remaining hedgerows also contain mature trees, these are frequent enough to be considered part of the hedgerow habitat typology. Notably, the ash trees appeared to be in poor health, exhibiting signs of ash dieback and dry leaves due to an extended drought. Additionally, mature ash trees in hedgerows H3 and H4 exhibited features beneficial to wildlife, including dense canopies, creviced bark, knot holes and woodpecker holes, broken limbs, and fluting. These features provide potential habitats for nesting birds and roosting bats (Photograph 3 and TN 3-8), as detailed in Section 3.5 below and Appendix E.

Developed land; sealed surface (u1b)

- 3.2.8 The Site is accessed via Ashton Road, which runs directly east of the Site boundary. The hardstanding features associated with the Site entrance are situated towards the southeast extent of the Site. The ground is impermeable tarmac, with no signs of cracks, damage or emergent vegetation.

3.3 UK Habitat Classification Survey: Protected and Notable Species

- 3.3.1 There was direct evidence of the following protected and notable species on or immediately adjacent to the Site:
- **Badger** – An outlier badger sett was recorded along the southern aspect of hedgerow H2, with the tunnel directed north into the vegetation (TN1 and Photograph 4). The sett was confirmed to be used by a badger from evidence such as badger hair identified at the entrance (Photograph 5), and the size and shape are indicative of a badger. However, no other evidence such as latrines, footprints, or snuffle holes was identified. Hedgerow corridors and field margins provide ample commuting habitat, and the woodland parcels surrounding the nearby waterbodies likely provide suitable sett creation habitat.

- **Nesting birds** – Nesting birds such as blackbird, goldfinch, robin, wren, blue tit, chiffchaff, jackdaw, linnet, skylark, stock dove, and carrion crow were seen and/or heard using the habitats available on or directly adjacent to Site. It is anticipated that smaller passerines such as blackbird, chiffchaff and wren would use the dense hedgerows for nesting, and larger birds such as corvids, stock dove and woodpigeon would make use of the tree canopies and hollows for nesting. Furthermore, a disused woodpigeon nest was recorded within one of the boundary hedgerows (Photograph 6). The cropland on Site offers suitable nesting potential for ground-nesting birds such as skylark and corn bunting. Additionally, a barn owl (Schedule 1 bird species) was flushed from a veteran ash tree situated approximately 40 m south of the Site boundary (Photograph 7 and TN2). Lastly, a red kite (Schedule 1 bird) was recorded passing over the Site, however, no evidence of nesting was recorded.

3.3.2 Further to the above species, the habitats present within the Site had the potential to support the following protected and notable species:

- **Bats** – The hedgerows around the edges of Site may provide foraging and commuting opportunities for bats. Bats may use the hedgerows to commute to the adjacent woodland and further woodlands. The mature ash trees situated along the boundaries of the Site exhibit potential roosting features such as woodpecker holes, tear-outs, and fluting (Photograph 3 and TN 3-7). Additionally, an individual mature ash tree situated directly south of the South has historically been used by roosting common and soprano pipistrelle bats, and the potential roosting features are still present.
- **Amphibians (excluding great crested newt)** – The dense hedgerows and tall vegetation may support amphibian species.
- **Reptiles** - The dense hedgerows and tall vegetation associated with the field margins may support common reptiles.
- **Hedgehog** - The cropland and field margins provide some commuting and foraging opportunities, and the linear hedgerows provide suitable commuting corridors, and a shelter for hedgehog.
- **Brown hare** – The cereal crops and field margins provide cover and foraging opportunities for brown hare.

3.3.3 Other species recorded during the survey are listed in Appendix F. The potential for the habitats on Site to support other protected and notable species is discussed in Section 4: Evaluation.

3.4 Bat Assessment: Landscape Habitat Review

3.4.1 The broader landscape around the Site is predominantly a rural environment with a mosaic of agricultural land, numerous large waterbodies, woodland blocks, hedgerows, and watercourses, all providing foraging and commuting opportunities for bats. Occasional agricultural and residential infrastructure within the surrounding area also provides potential roosting sites for bats. The neighbouring villages include South Cerney to the east and Ashton Keynes to the south, and the town of Cirencester is located approximately 5 km north of the Site. Additionally, several holiday and industrial parks are located near to the Site, and this mix of rural, urban, and

semi-natural features provides a variety of habitat opportunities for several bat species (as shown in Table 1.1 above).

- 3.4.2 The numerous large waterbodies associated with the Cotswolds Water Parks and historic mineral extraction area provide optimal foraging opportunities for bats. Myotis species such as Daubenton's and Natterer's primarily hunt over still waterbodies such as ponds and lakes. Furthermore, most of these waterbodies are bounded by woodland blocks and corridors, which provide further foraging and roosting habitat for both myotis bats and other species.
- 3.4.3 The immediate surroundings of the Site are mostly arable, with bordering hedgerows and Ashton Road to the east. The vegetated corridors provide some foraging and roosting opportunities and offer ample connectivity to areas of elevated habitat. Nearby urban features include an aggregate supplier to the southeast and newly developed holiday homes to the southwest. These areas likely provide limited habitat opportunities for bats, but the urbanised areas associated with Ashton Keynes and South Cerney likely offer additional roosting and foraging opportunities for common bat species.
- 3.4.4 Table 3.6 provides an overview of habitats within 5 km of the Site in terms of its value to bats.

Table 3.6 Habitat review for its potential value for bats within 5 km of the site

Zone	Review
0 – 1 km	The landscape within this zone includes a mix of arable cropland with bordering hedgerows, woodland pockets, and semi-natural features such as small and large waterbodies to the east, south, and west. These natural and semi-natural features provide optimal foraging, commuting, and roosting habitats for a variety of bat species. Urban features such as aggregate suppliers, holiday homes, roads, and farm buildings are scattered within this area. Also, this zone encompasses part of South Cerney Village and a business park with numerous office buildings and warehouses. Whilst these features provide limited opportunities for bats, the residential areas associated with South Cerney have the potential to include roosting features for common bat species.
1 – 2 km	This zone includes a diverse mix of semi-natural, rural, and urban features. To the west and southwest, the landscape is defined by large water bodies associated with the Cotswold's Water Park SSSI and Coke's Pit LNR. These are bordered by woodlands and scrubland, providing optimal foraging and commuting habitat for bats, with the potential for natural roosting features. The zone also contains areas of floodplain grazing marsh and watercourses, which support abundant invertebrate populations. The urban areas of this zone encompass most of South Cerney, the adjacent holiday park to the east and northeast, as well as a section of Ashton Keynes to the south, which contributes to the overall habitat diversity.
2 – 5 km	The landscape within the 2-5 km zone is dominated by wetlands, including numerous waterbodies and watercourses, with agriculture extending to the north and south. This area contains several designated sites, such as the Cotswolds Water Park SSSI and the North Meadow and Clattinger Farm SAC. These sites are protected for their wetland characteristics and rare habitats, including lowland meadows and rare floral and invertebrate species. These features, in combination with intersecting rivers, mixed woodlands, and grasslands provide optimal foraging and commuting habitats for both common, uncommon and rare bat species. Urban infrastructure, such as the Golden Valley Railway Line, also provides commuting routes to the wider landscape. The historic urban areas of Cirencester and surrounding villages offer additional roosting potential for both common and some rarer bat species.

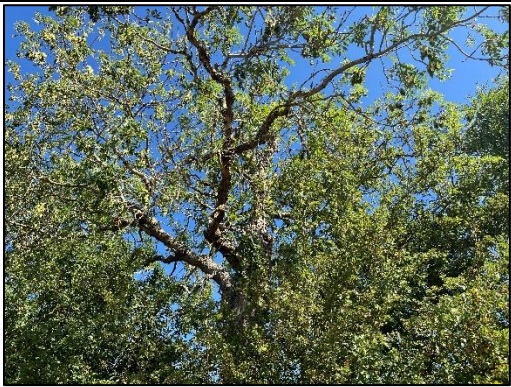
3.5 Structure and Tree Assessment

- 3.5.1 This Section provides an overview of each of the trees assessed for their potential to support bats. No evidence of bats was found during the surveys.

3.5.2 Table 3.7 provides a summary of tree assessments in relation to the value to bats.

Table 3.7 Summary of tree assessments completed on 10/07/2025 in relation to the value to bats

Tree Ref	Species / Age class	Location	Features	Category	Photograph
TN3	Mature ash.	Northeast periphery of Site along hedgerow H3. W3W ///spurred.whiskered.exists	The ash tree includes multiple Potential Roosting Features (PRFs) for bats. These include: • Woodpecker hole along the eastern face of taller tree limb; • Fluting on the eastern main stem, which could lead to a large internal cavity feature; • Multiple horizontal tear-outs which lead downward into the main stem. Low potential due to exposure to rain and pooling water; • Vertical tear-out visible underneath the northern limb. Could not fully assess the extent of the feature; and, • Knot holes were visible on smaller limbs, but these did not appear to go further into the tree.	Moderate	
TN4	Mature ash.	Northern boundary along hedgerow H3. W3W ///sling.hound.node	The ash tree appears in poor health with bracket fungus and ash dieback noted. The tree exhibits several bat PRFs. These include: • Vertical tear out on the northern limb, which could lead to internal features. Low potential due to exposure to rain and pooling water; • Lifted bark across the main stem and most limbs, providing crevice PRFs; and, • Knot visible on southeastern limb, but this did not appear to go further into the tree.	Low	

Tree Ref	Species / Age class	Location	Features	Category	Photograph
TN5	Mature ash.	Northwestern periphery of Site along hedgerow H3. W3W ///seashell.clown.voting	The ash tree appears in poor health with gnarled bark and ash dieback noted. The tree exhibits several bat PRFs. These include: - Lifted bark revealing internal features within the main stem; and, - Horizontal tear out underneath the southern limb.	Low	
TN6	Mature ash.	Northwestern periphery of Site along hedgerow H4. W3W ///coasted.trucked.chairing	The ash tree includes a large tear out along its northern aspect and multiple knot holes on tree limbs. Due to the size and extent of the features noted, a full inspection could not be conducted during the initial survey.	Low	

Tree Ref	Species / Age class	Location	Features	Category	Photograph
TN7	Mature ash.	Western edge of access track and hedgerow H4. The mature ash overhangs part of the Site. W3W ///noises.smoke.drags	The mature ash tree includes several features throughout the main stem and overhanging limbs. These include: - Multiple woodpecker holes visible across the eastern face of the tree limbs; and, - Knot holes are also visible on branches and limbs.	Moderate	
TN8 / T1	Mature ash.	Southwest of Site and south of hedgerow H1. Previously identified as a confirmed common pipistrelle and soprano pipistrelle bat roost.	The ivy-clad mature ash is situated directly south of a potential new access point to the Site. The southwestern aspect still exhibits a knot hole feature, which leads further into the tree limb. There is potential for other features to present along the main stem of the tree, but the ivy obscured this part of the tree. SLR Consulting previously identified this ash tree as a high-potential bat roosting tree. Two roosting features were identified on the northern and southern aspects, and it was confirmed that both common pipistrelle and soprano pipistrelle were using these features as day roosts.	Confirmed roost	

Tree Ref	Species / Age class	Location	Features	Category	Photograph
T2	Mature ash.	Southwest of the Site	The ivy-clad semi-mature tree is situated to the south-west of the Site and directly south of T1 (TN8). The ash tree was previously identified as a low-potential bat roosting tree due to the dense cover of ivy over the main stem of the tree. Further surveys were not conducted to confirm the presence of roosting bats. Additional information relating to previous survey efforts and locations can be found in the SLR Bat Survey report (reference: 404.11923.00004).	Low	

4. EVALUATION

4.1 Introduction

4.1.1 This Section reviews the results of the desk study and field surveys in relation to the proposed development proposals; it:

- Determines the ecological importance of habitats at an appropriate geographic level;
- Determines the likelihood of protected and notable species occurring on Site, with particular attention being paid to bats;
- Identifies any legal and policy implications for developing the Site in relation to nature conservation sites, habitats and species potentially associated with the Site; and,
- Identifies high-level biodiversity gain opportunities.

4.2 Habitats

4.2.1 Table 4.1 provides a summary of the nature conservation importance of habitats within the Site.

Table 4.1 A summary of the nature conservation importance of habitats within the Site

Habitat	Meets UK Priority/Local BAP habitat criteria	Condition ¹	Geographical context ²
c1c Cereal crops	No	N/A	Site
h2a6 Native hedgerow	Yes	Moderate	Site
(200) Scattered tree	No	Good	Site
U1b Developed land; sealed surface	No	N/A	Site
Notes: 1. As determined using the Statutory Biodiversity Metric guidance. Where it is considered that the condition outcome is inappropriate justification is given in the text. See Appendix E for detailed habitat assessments. 2. Geographic level at which the habitat is considered important.			

4.2.2 All boundary and intersecting hedgerow features qualify as UK Priority Habitats, and each hedgerow is considered species-poor, given they do not contain at least five woody species in a 30 m section. Additionally, these features fail to meet 'Important' hedgerow criteria under the Hedgerow Regulations 1997. This is covered in more depth in section 4.4. Hedgerow features provide potential foraging and commuting habitat for numerous protected species as well as offering potential nesting bird habitat.

4.2.3 All scattered trees within the Site boundary were recorded within the hedgerow features, and these were predominantly mature ash and an individual mature oak tree. The tree specimens, whilst exhibiting possible signs of poor health such as ash dieback and drought, are still assessed as being in good condition due to the absence of gaps in the canopy and little impact from human disturbance. This habitat feature is common and widespread in the local landscape but is still considered to be of Local value.

4.3 Species

4.3.1 This section considers the actual occurrence or potential occurrence of protected and notable species (including non-native invasive species) occurring on Site. It takes account of known data records and habitats on the Site and connectivity, appropriate to given species, across the landscape. Species not specifically listed in this Section are unlikely to occur on Site on account of at least one of the following factors:

- No habitat on the Site to support the species;
- No connectivity to suitable habitat beyond the Site boundary;
- Site is outside of the species typical geographic range.

4.3.2 Of the protected and notable species with potential to occur on the Site:

Amphibians

4.3.3 Based on the habitat types present, it is likely that common amphibians like frogs and toads use the suitable habitat available on the Site. Although no records of common amphibians were found in the desk study, the presence of extensive optimal habitat, including nearby lakes, wetlands, scrub, and woodland, suggests they are likely present within 1 km of the Site.

4.3.4 The Site's vegetated boundaries, such as the species-poor hedgerows with thin strips of tussocky grassland, offer essential features for amphibians. These habitats provide moisture, shelter, and foraging opportunities. However, the dominant cropland throughout the Site comprises thin vegetation and large areas of bare ground, which offers limited opportunities for amphibians. The visible cracks in the ground, however, may offer some shelter for subterranean amphibians.

4.3.5 The Site offers limited opportunities for Great Crested Newts (GCN) due to the absence of waterbodies within 250 m and a lack of suitable terrestrial features like dense grassland, scrub, and deadwood. However, records from the local records centre and *MAGIC* show GCN within 1 km of the Site, mostly associated with waterbodies around 600–700 m to the southwest. Whilst these ponds may be linked to ponds 350 m west of the Site boundary, this area is disconnected from the Site due to the extensive arable land that partitions the two locations. Furthermore, Ashton Road is likely a significant barrier to their movement. Given there are no suitable waterbodies within 250 m of the Site and limited nearby records, it is considered that great crested newts are likely to be absent from the Site.

4.3.6 It is unnecessary to extend the survey radius to 500 m, as research (e.g., English Nature, 2001) confirms that GCN typically use terrestrial habitats within 100 - 250 m of breeding ponds, with diminishing returns beyond that distance. Therefore, the 250 m radius is deemed appropriate in this context. The conclusions from previous assessments by SLR regarding GCN remain valid, and no further surveys are required.

4.3.7 Based on the desk study data and local records, the Site provides suitable habitat for common amphibians such as frogs and toads, which are likely present within 1 km. This is supported by the Site's vegetated boundaries, which offer shelter and foraging opportunities. However, the extensive cropland on the Site offers limited habitat. GCN are considered absent from the Site. This is predominantly due to the absence of waterbodies within 250 m, the Site lacks key

terrestrial features for GCN, and it is disconnected from nearby GCN populations by hardstanding features and extensive arable land. Therefore, no further surveys for GCN are considered necessary.

Badger

- 4.3.8 One record of badger was returned by the WSBRC (18/07/2025), located approximately 960 m southwest of the Site with good connectivity via woodland, hedgerows, and field margins. There is badger commuting, foraging, and sheltering on Site in the form of hedgerows and adjacent thin strips of tall grassland.
- 4.3.9 Anecdotal evidence from the farmer suggests that badgers are not known to use the fields within the Site. However, one active outlier badger sett entrance is located centrally within the Site and along the south aspect of hedgerow H2 (TN1 and Photograph 4). The entrance was considered active due to the presence of badger hair within it, and the tunnel appeared intact, with no signs of damage or collapse. However, no other evidence indicative of badger activity, such as latrines, snuffle holes, or push-throughs, was recorded within or directly adjacent to the Site.
- 4.3.10 The Site offers moderate opportunities for badger activity, including sett building, foraging, and commuting. The hedgerows provide some cover and dry earth for burrowing, although their flat structure somewhat limits these. These hedgerows are important as they connect the Site to more suitable habitats, such as woodland and scrub, located to the north, south, and west. While Ashton Road, to the east, may present a barrier for some animals, it's expected that badgers can readily cross it to access habitats to the east. Foraging opportunities on Site are limited, as the cropland likely provides minimal food sources unless maize crops are grown here.
- 4.3.11 One active outlier badger sett was found on the Site. It is estimated that the outlier sett is used opportunistically when moving between other setts or areas of elevated habitat. The Site is well-connected to the wider landscape by a network of hedgerows, which, along with nearby grasslands, provide suitable commuting and sheltering habitat. However, foraging opportunities on the site are limited. The single badger record from the WSBRC, located 960m southwest of the site, confirms the presence of a local badger population within the surrounding landscape, with good connectivity to the Site.

Bats

- 4.3.12 The desk study identified a total of 23 records of bats present within 2 km of the Site according to the LBRC (returned 18/07/2025). Species associated with these records included: common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, Serotine, Daubenton's, brown long-eared, lesser horseshoe, noctule, Natterer's bat, and Myotis bat species.
- 4.3.13 According to *MAG/C*, there were 24 development licences relating to bats within 2-5 km of the Site and within the last ten years. Species associated with these licences included: common pipistrelle, soprano pipistrelle, brown long-eared, Daubenton's bat, lesser horseshoe, and Natterer's bat.
- 4.3.14 The potential for bats to commute and forage on the Site is considered low due to a lack of optimal resources and limited habitat features. The dominant cropland parcels offer few foraging

opportunities due to the monocultures grown here, resulting in low invertebrate abundance, likely reduced further by insecticide use. While the hedgerows and mature trees with associated thin strips of grassland do provide some habitat for invertebrates, these areas are limited and offer only a small food source for bats.

- 4.3.15 Despite the limited resources on Site, the hedgerows are important as they act as commuting corridors. Hedgerows H1 and H4, in particular, connect north and south to nearby woodland and wetland habitats, which provide optimal habitat opportunities for various bat species. Intersecting hedgerow H2 also provides additional structure and links to these peripheral corridors. Moreover, the surrounding landscape comprises numerous wetland features with parcels of scrub, grassland, and woodland blocks, each providing optimal habitat for bats.
- 4.3.16 While the Site provides limited foraging resources, some mature trees, like the individual oak and ash trees, offer low to moderate roosting potential. Moreover, a mature ash tree directly south of the Site is a confirmed roost. No buildings are on the Site, which further reduces roosting potential. However, off-site woodlands and waterbodies provide optimal foraging, commuting, and roosting opportunities, suggesting the Site is utilised as a transitional habitat. Additionally, the proximity of several villages and hamlets within 5 km also provides additional roosting opportunities for common bat species.
- 4.3.17 Overall, the Site is of low value for bats, primarily due to the limited foraging opportunities offered by the extensive cropland. However, the hedgerows provide important connective links between the Site to more optimal off-Site habitats like woodlands and wetlands. Furthermore, some mature trees located within the Site may provide roosting opportunities, and previous bat surveys have confirmed roosting directly south of the Site. Therefore, the Site is best characterised as a transitional habitat used for commuting and occasional foraging, with natural roosting features available.

Nesting Birds

- 4.3.18 A search on *MAG/C* revealed that five arable and five grassland bird assemblages are known to overlap the Site (returned 21/07/2025). Additionally, corn bunting, curlew, grey partridge, lapwing, redshank, snipe, tree sparrow, and yellow wagtail have been shown to form assemblages within 1 km of the Site. There are numerous records of notable and protected bird species within the Site, as returned by Wiltshire and Swindon Biological Records Centre and Gloucestershire Centre for Environmental Records. Most of these records are associated with the Cotswolds Water Park SSSI and wetland areas, and include numerous Schedule 1 bird species such as bittern, Cetti's warbler, fieldfare, hobby, kingfisher, osprey, redwing and red kite. It is considered unlikely that wetland birds such as bittern and kingfisher would use the habitats available on the Site. However, other species, such as fieldfare, hobby, redwing, and red kite, would use the field parcels for hunting and foraging, and potentially utilise the peripheral hedgerows for nesting.
- 4.3.19 SLR conducted previous wintering and breeding bird surveys in 2022-2023 (Report reference: 404.11923.00004). Their surveys recorded several bird species associated with the nearby SSSI and LNR using the Site, including lapwing, linnet, lesser black-backed gull and black-headed gull. Furthermore, birds listed under the Birds of Conservation Concern (BoCC) were also recorded

on Site. This included starling and skylark (red listed), and several amber-listed species such as greylag goose, mallard, woodpigeon, wren, song thrush, dunnoek, bullfinch, whitethroat, meadow pipit and tawny owl.

- 4.3.20 Evidence of historic nesting was identified within the Site boundary, such as a disused woodpigeon nest (Photograph 6). Nesting birds such as blackbird, goldfinch, robin, wren, blue tit, chiffchaff, jackdaw, linnet, skylark, stock dove, and carrion crow were seen and/or heard using the habitats available on or directly adjacent to Site. It is anticipated that smaller passerines such as blackbird, chiffchaff and wren would use the dense hedgerows for nesting, and larger birds such as corvids, stock dove and woodpigeon would make use of the tree canopies and hollows for nesting. Additionally, a barn owl (Schedule 1 bird species) was flushed from a veteran ash tree situated approximately 40 m south of the Site boundary (Photograph 7 and TN2). Given the size, location, and shape of the cavity, there is potential for barn owl to nest in this feature.
- 4.3.21 The dominant cropland provides some nesting habitat for ground-nesting bird species such as skylark and corn bunting. Furthermore, the peripheral and intersecting hedgerow features provide further nesting opportunities. The dense hedgerows comprised of hawthorn and blackthorn offer suitable nesting habitat for smaller passerines, whilst the mature trees include large canopies and hollows for small passerines such as blue tit and great tit, and larger birds like woodpigeon, corvids, and birds of prey. Additionally, some of the mature ash trees on the Site included woodpecker holes, providing further nesting habitat for cavity-nesting species.
- 4.3.22 Due to the loss of arable land within the Site as part of the proposed development, designated land to the north of the Site will be set aside and managed for bird mitigation. Approximately 7 ha of arable farmland will be offset as a bird mitigation area and will include a 6 m grass border. The mitigation area will be managed as arable farmland; however, it would be ploughed or harrowed (cropping regime dependent) and left bare in the winter. Additionally, 14 Skylark Plots will be created to the north of the mitigation area. These measure 16 m² in area and will be created by switching off the drill while drilling winter cereal crops.
- 4.3.23 Most of the onsite habitats are suitable for a variety of common, notable, and protected nesting birds and schedule 1 birds; features of note are the trees, dense scrub, adjacent woodlands and cropland. It is considered likely that the Site hosts a range of nesting opportunities for the birds within the local landscape, and therefore is considered to be important at a Local level with regard to bird species.

Invertebrates

- 4.3.24 Gloucestershire Centre for Environmental Records returned one record of a ghost moth located approximately 840 m northeast of the Site. No notable invertebrate species were recorded on the Site during the initial assessment.
- 4.3.25 The overall habitat value of the Site for invertebrates is limited due to the dominant cropland monoculture within the Site, significantly limiting invertebrate diversity. Furthermore, it is likely that these crop fields are sprayed with insecticide, further reducing their use by invertebrates. However, the hedgerows on Site and directly adjacent to Site include some species diversity, grasses, and forbs, which will offer some additional foraging habitat for invertebrates, but this is limited. Overall, the Site is not considered to be of elevated value for notable invertebrates due

to the dominance of low value habitat, however there are limited opportunities present that local invertebrate species may utilise.

Otter and Water Vole

- 4.3.26 The GCER returned four records of water vole and one record of otter approximately 600 m northwest of the Site. These records are linked to a wetland area within the Cotswolds Water Park SSSI. It's likely that both species use the surrounding water bodies for holt creation, burrowing, and foraging. These water bodies extend to within approximately 350 m of the western boundary of the Site. However, given the absence of watercourses and/or wet ditches connecting the Site to these optimal habitats, it's unlikely that otter or water vole would use the Site.
- 4.3.27 Moreover, the Site lacks the suitable features typically used by otters and water voles, such as vegetated watercourses, riparian habitats, wet ditches, ponds, and lakes. The landscape is predominantly cropland with no woodland features, which significantly reduces its suitability and provides negligible habitat opportunities for these mammals.

Reptiles

- 4.3.28 No records of reptiles were returned from the desk study or local records on or within 1 km of the Site.
- 4.3.29 The Site offers limited opportunities for reptiles due to its dominant parcels of cropland. While the hedgerows and associated thin strips of tall grassland could support common reptile species like grass snake and slow worm, these habitats are limited and likely only used for commuting and temporary shelter. The absence of waterbodies on or directly adjacent to the Site further reduces its suitability, particularly for grass snakes, which will predate amphibians in ponds.
- 4.3.30 Despite the Site not being a significant resource, it does provide some basking habitat in the form of bare ground and its proximity to more suitable habitats, such as the nearby waterbodies, scrub, and woodlands, means that reptiles likely use the Site to some extent. Therefore, the Site and its habitats are likely used opportunistically by reptiles when moving between habitats of elevated value.

Invasive Species

- 4.3.31 Four non-native invasive species that occur within 1 km of the Site and within the last 10 years was returned by the WSBRC and GCER. The records of bar-headed goose and barnacle goose are both associated with the Cotswolds Water Park SSSI, with good connectivity to the Site via the surrounding waterbodies and arable land. Numerous records of red-crested pochard were returned, however, they lack good connectivity to the Site due to the absence of on-Site or adjacent waterbodies and watercourses. Lastly, 1 record of false Virginia creeper was recorded approximately 960 m west of the Site in 2021, with limited connectivity due to its dispersal method.

Other Notable Fauna

- 4.3.32 A search of the Big Hedgehog Map (PTES, 2025) highlighted nine live hedgehog within 1 km of the Site as of the 21/07/2025. Each of the records are situated northeast of the Site and is

associated with the residential areas of South Cerney. Additionally, the GCER returned two records of hedgehog, and both are located within South Cerney. Each of these records have moderate connectivity to the Site via residential gardens, connecting hedgerows and the arable landscape, but some roads and industrial areas may limit dispersal.

- 4.3.33 Most of the Site comprises arable cropland, and this habitat is unlikely to support diverse and abundance of invertebrates, providing limited foraging opportunities for hedgehog. Nevertheless, the intersecting and adjacent hedgerows provide some suitable cover, commuting, and foraging habitat for hedgehog.
- 4.3.34 The cereal crops and field margins provide cover and foraging opportunities for brown hare. However, other habitats of elevated value are frequently encountered off-Site to the, east and west, such that the Site is considered unlikely to be of particular importance to this Priority Species.
- 4.3.35 Therefore, in summary, the Site is considered to provide some opportunities to other protected, rare, notable, or Priority-listed mammal species, but these opportunities are considered common in a local context, or sub-optimal for the species concerned. As such, no further survey work regarding the potential presence of these species is considered necessary at the Site.
- 4.3.36 In addition, grey squirrel and roe deer are known to utilise this type of Site, whilst given the habitats present rabbit, rat, fox, common shrew, and field vole are considered likely to utilise the site. However, these mammal species do not receive any specific legislative protection and hence no further survey work or mitigation measures are considered necessary regarding these species.
- 4.3.37 Ultimately, based on the habitats recorded on Site, the Site is considered unlikely to support significant populations of other protected or notable species.
- 4.3.38 Table 4.2 provides a summary of protected and notable species (including non-native invasive species) considered in this assessment. Where there is potential for a species to occur but no current evidence the likely associated habitats and location within the Site are given. Associated habitats and location within the Site are also indicated where there is evidence of a species occurring on Site.

Table 4.2 Summary of protected and notable species (including non-native invasive species) considered in this assessment

Species	Status ¹	Confirmed on Site ²	Potential to occur	Associated habitats/location on Site
Amphibians (excluding great crested newt)	N	No	Yes – low potential for commuting, foraging, and sheltering.	Hedgerows.
Badger	UK.	Yes	Yes – Set creation, commuting, and foraging habitat.	Grassland, hedgerows.

Species	Status ¹	Confirmed on Site ²	Potential to occur	Associated habitats/location on Site
Bat	EU, UK, N	No – However, a confirmed bat roost has previously been identified directly south of the Site.	Yes – foraging, commuting, and roosting habitat.	Hedgerows and trees.
Birds (breeding, wintering and/or nesting)	UK, N	Yes	Yes – some potential for nesting and foraging	Whole Site.
Hedgehog	N	No	Yes – potential for commuting, foraging and sheltering	Hedgerows.
Reptiles	UK, N	No	Yes – low potential for foraging, commuting, basking and sheltering.	Hedgerows and associated thin strips of grassland.
Invasive species	UK	No	Yes	Cropland and hedgerows.
Invertebrates	EU, UK, N	Yes	Yes	Cropland and hedgerows.
Notes 1. EU – European protected. UK – UK protected. N – Notable species 2. Field – field evidence; Desk – desk study evidence.				

4.4 Evaluation of Ecological Receptors in Accordance with CIEEM (2018)

- 4.4.1 The ecological evaluation presented in this report follows the methodology set out in the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment (EclA) in the UK and Ireland: Terrestrial, Freshwater and Coastal (2018, updated 2022). The objective is to determine the relative importance of each ecological feature or receptor within or near the Site, and to inform an assessment of the potential impacts arising from the proposed development.
- 4.4.2 The evaluation considers both field survey data collected during the walkover on 10th July 2025 and desk study information obtained from Gloucestershire Centre for Environmental Records (GCER) and Wiltshire & Swindon Biological Records Centre (WSBRC) (both received 18/07/2025), and other publicly available sources. The receptors assessed include habitats, species populations, and statutory and non-statutory designated sites.
- 4.4.3 Each ecological receptor is assigned a geographical level of value, which reflects its importance in terms of rarity, extent, naturalness, and/or role in ecological function. The levels of value used are defined in CIEEM (2018) as follows:
- International: Importance at a global scale (e.g. Ramsar sites, SACs, SPAs);
 - National: Importance within the UK (e.g. SSSIs, UK Priority Habitats or Species);
 - Regional: Important at a regional scale, such as across several counties;
 - County / Metropolitan: Important within the context of a single county or metropolitan area (e.g. Local Wildlife Sites or large habitat blocks);
 - Local: Important at the parish or neighbourhood level (e.g. hedgerows or small habitat patches with some ecological function); and,

- Site: Importance restricted to the Site only, with features typical or widespread and of limited conservation concern.

4.4.4 This framework allows for a consistent and transparent approach to evaluating baseline ecological conditions and for assessing the potential for significant ecological effects as a result of development. The evaluation below outlines the baseline value of each receptor based on this framework, and supports subsequent impact assessment and recommendations.

Designated Sites

Statutory Sites

- 4.4.1 There are no statutory designated nature conservation sites located within or immediately adjacent to the Site boundary. The Site lies within the impact risk zones (IRZ) of Cotswold Water Park (SSSI), Clattinger Farm (SSSI), Pike Corner (SSSI), Acres Farm Meadow (SSSI), Upper Waterhay Meadow (SSSI), Wildmoorway Meadows (SSSI), Elmlea Meadows (SSSI), North Meadow Cricklade (SSSI). The development proposals within the Site are listed as potential risks and causes of risk to the SSSI's outlined above. Consequently, consultation with Natural England would be deemed mandatory in this instance.
- 4.4.2 Two statutory designated sites of nature conservation importance within 2 km of the Site. Several large parcels of wetland habitat associated with Cotswolds Water Park SSSI are situated to the east, south, west, and northwest of the Site, with the closest parcels located approximately 300 m from the Site boundary. This site has been designated as a Site of Special Scientific Interest as it consists of 177 current and former gravel pits, forming the UK's largest marl (lime-rich) lake system. This extensive area of waterbodies with associated terrestrial habitat supports large assemblages of waterbirds, and populations of vulnerable and nationally rare aquatic plants. Additionally, Coke's Pit Lake LNR is located approximately 1.4 km southwest of the Site. The local nature reserve has been designated as it comprises areas of open water, shingle islands, reed swamp, grassland, and hedgerows. Furthermore, these habitats support numerous notable and protected species such as stonewort's, water vole, bird, and bat species. These statutory designated sites are assessed of being at a National level importance.
- 4.4.3 In addition to the above, the Site is situated between two Special Areas of Conservation (SAC). Clattinger Farm (~3.1 km southwest) and North Meadow Farm (~4.6 km east) are a joint SAC split between two parcels of land. The Site falls within the inner Zone of Influence (ZOI) (0-4.2 km) of Clattinger Farm, and outer ZOI (4.2-4.9 km) of North Meadow Farm, and both statutory sites impose specific policy requirements for new developments. To mitigate the potential impacts on the SAC, developers must adhere to the North Meadow and Clattinger Farm Special Area Of Conservation Interim Recreation Mitigation Strategy (2023 – 2028). These include on-Site Strategic Access Management and Monitoring (SAMM), off-Site Infrastructure Mitigation Projects (IMP) and/or contributions towards Suitable Alternative Natural Greenspace (SANG). These measures are designed to offset the increased recreational pressure and ensure the protection of the SAC's ecological integrity. However, given the development proposals are for the creation of an AD plant facility, no additional recreational pressure is expected. Compliance with these requirements ensures that development projects within the ZOI can proceed without adversely affecting the designated conservation areas.

- 4.4.4 An Ecological Impact Assessment (EclA) report completed by SLR in 2023 as part of the Environmental Statement (ES). This assessed the possible range and potential significance of impacts on the ecological features (“receptors”) within and near the Site, and details the appropriate avoidance, mitigation, or compensation measures required. The report confirmed that with appropriate mitigation to impacts from air quality and hydrology (as detailed in a Construction and Ecological Management Plan (CEMP)), there will be “*No Change level of impact to statutory sites*” (further details provided within Chapter 5 of the Environmental Statement). At the time of writing, it is considered that this conclusion remains valid and that the proposed mitigation measures are sufficient to prevent significant adverse effects on the statutory sites.

Non-Statutory Sites

- 4.4.5 There are four non-statutory Local Wildlife Sites (LWS) within 1 km of the Site, as identified through desk study data provided by WSBRC and GCER. These include: Shorncote Quarry LWS (~690 m west), Cotswolds Water Park and Shorncote Reedbed, Pits LWS (~410 m north), Cotswold Water Park (~860 m east), and the River Churn LWS (~970m northeast).
- 4.4.6 Several of these sites are well connected to the Site via arable fields with associated hedgerows, and waterbodies. However, given the relatively small scale and nature of the proposed development, and limited habitat available on or directly adjacent to the Site, no significant direct or indirect impacts are anticipated on any of these Local Wildlife Sites. As such, all non-statutory designated sites are considered to fall outside the Zone of Influence for the proposed development.

Protected and Notable Species

Bats

- 4.4.7 Several trees within the Site comprise low to moderate potential bat roosting features (further details included in Table 3.7 above). It is anticipated that an ash tree with a confirmed historic bat roost, located south of the Site will be cut back to improve visibility, and therefore, further surveys will be required. The Site offers limited foraging opportunities due to its dominant cropland and lack of high-value habitat. However, the peripheral and intersecting hedgerows serve as important commuting corridors between areas of elevated habitat. Overall, the Site is of low value for bats, and significant at the Site level.

Badger

- 4.4.8 Evidence of badger activity was recorded on- Site, including an active-looking outlier sett (TN1), with badger fur present, and the sett tunnels appeared intact. However, no other evidence of badger, such as latrines, prints, or snuffle holes were noted. It is estimated that the outlier sett is used opportunistically when moving between other setts or areas of elevated habitat. There is badger commuting, foraging, and sheltering on Site in the form of hedgerows and adjacent thin strips of tall grassland. Foraging opportunities on Site are limited, as the cropland likely provides minimal food sources unless maize crops are grown here. Given the absence of a main, annexe, or subsidiary badger sett on or directly adjacent to the Site, and limited foraging opportunities present, the Site is assessed as having Site ecological value for badger.

Birds

- 4.4.9 The cropland, hedgerows, and mature trees offer some mixed nesting and foraging habitats. The dense hedgerows are suitable for smaller passerine birds, while the trees provide nesting opportunities for larger birds and cavity-nesting species like woodpeckers. Previous surveys confirmed the presence of various bird species, including those associated with the Cotswold Water Park SSSI. However, the only species recorded on Site which is associated with the SSSI comprised low numbers of foraging lapwing. Additionally, evidence of nesting was found within the Site, and a barn owl was observed near the boundary. Given the limited habitat opportunities present within the Site, and greater value habitat in the surrounding landscape, the Site is assessed as having Site ecological value for nesting birds.

Amphibians

- 4.4.10 No ponds are present on Site, and no waterbodies or wet ditches were identified within 250 m during the field survey. The hedgerows include no wet ditch features and are disconnected from known GCN records. The terrestrial environment is intensively managed and offers poor hibernation or refuge potential. While common amphibians such as common toad may pass through the Site, the lack of suitable breeding habitat results in an ecological value at the Site level only.

Reptiles

- 4.4.11 The Site supports suboptimal reptile habitat. Hedgerows with associated thin strips of grassland are narrow and frequently disturbed, lacking refugia, or prey abundance. Further, the Site does not include wetland features that may be used by grass snake, further reducing its importance for reptiles. The potential presence of reptiles is not ruled out entirely, but any individuals are likely to occur at low density. As such, the Site is considered to be of Site-level ecological value for reptiles.

Brown Hare

- 4.4.12 Brown hare was not recorded on-Site during the initial Site walkover, and no records of hare was returned during the desk study. However, the Site and surrounding arable land do offer suitable foraging, commuting, and shelter habitat features. Due to the small extent of the Site, and greater habitat opportunities available in the local landscape, the Site is considered to be of Site-level ecological value for hare.

Hedgehog

- 4.4.13 Desk study data returned multiple records of hedgehog within 1 km. Each of these records have moderate connectivity to the Site via residential gardens, connecting hedgerows and the arable landscape, but some roads and industrial areas may limit dispersal. The Site offers suitable commuting and foraging habitat along field margins and the hedgerow corridor. The use of the Site by this species, combined with national declines, gives it Local ecological value for hedgehogs.

Invertebrates

- 4.4.14 The Site is intensively farmed and lacks structural diversity or botanical richness. Hedgerows may support a limited assemblage of common invertebrates, but overall, the Site's value to invertebrates is considered low. Therefore, it is assessed as being of Site-level ecological value.
- 4.4.15 Table 4.3 below summarises the ecological value of each identified receptor based on current field survey results and desk study data, in line with CIEEM (2018) guidance.

Table 4.3 Summary Table: Ecological Value of Receptors (CIEEM 2018)

Ecological Receptor	Ecological Value (CIEEM Scale)
Designated Sites	
Cotswolds Water Park SSSI/LWS	National
Clattinger Farm SSSI/SAC	National
Pike Corner SSSI	National
Acres Farm Meadow SSSI	National
Upper Waterhay Meadow SSSI	National
Wildmoorway Meadows SSSI	National
Elmea Meadows SSSI	National
North Meadow Cricklade SSSI	National
North Meadow Farm SAC	National
Coke's Pit Lake LNR	National
Shorncote Quarry LWS	Local
River Churn LWS	Local
Shorncote Reedbeds Pits LWS	Local
Habitats	
c1c Cereal crops	Site
h2a6 Native Hedgerow	Local
Species	
Bats	Site
Badger	Site
Birds	Site
Amphibians (common only)	Site
Reptiles	Site
Brown hare	Site
Hedgehog	Local
Invertebrates	Site

Summary of Likely Impacts

- 4.4.16 Based on the ecological receptors identified and their assessed levels of value, the proposed development at Ashton Keynes AD Facility is anticipated to result in only limited ecological impacts, most of which are temporary and reversible. The removal of a short section of native

hedgerow represents a minor adverse effect at the Local level, but this will be mitigated through habitat creation and enhancement using native species. Other habitats affected, such as arable cropland, are of Site-level value and do not constitute significant ecological loss.

- 4.4.17 Potential disturbance to species such as badger, bats, nesting birds, hedgehog, and brown hare, all valued at Site and Local level, will be managed through the implementation of precautionary working methods, licensing through Natural England (if required), timing of works to avoid sensitive periods (e.g. bird nesting season), and habitat reinstatement post-construction. No impacts are expected on statutory or non-statutory designated sites, and there are no irreplaceable habitats or species populations of high conservation concern within the Zone of Influence.
- 4.4.18 Overall, with standard mitigation and good ecological practice in place, the Scheme is not expected to result in any significant adverse effects on biodiversity, and it will remain in line with both NPPF policy and BNG principles. The development is capable of proceeding with no net loss to ecological function, and all residual effects are predicted to be neutral or minor adverse (temporary) at worst.

Habitats

- 4.4.19 All hedgerows within the Site comprise 80% or more cover of at least one woody UK native species and hence all hedgerows qualify as UK priority habitats under the NERC Act 2006.
- 4.4.20 None of the hedgerows on the Site is regarded as species-rich (contains more than five woody species). Furthermore, these do not qualify as an 'Important hedgerow' under The Hedgerow Regulations 1997; no further survey of these features is warranted. The hedgerows, however, should be adequately buffered to protect their integrity.
- 4.4.21 The habitats on Site are dominated by arable cropland, with little diversity, and provide limited opportunities for notable and protected species. As such, the habitat parcels are assessed as providing negligible habitat value to the Site.
- 4.4.22 The trees within the hedgerows on Site comprise species of oak, ash, dogrose, field maple, blackthorn, hawthorn, hazel, and elder. These do not meet the criteria for habitats of principal importance in England (Section 41 NERC Act 2006) or UK BAP habitats.

Species

- 4.4.23 The potential presence of protected and/or notable species on the Site means that they are a material consideration in the planning system through the NPPF and the Local Planning Policy. The following species/species groups have policy implications if impacted by the proposed development:
- Amphibians (excluding great crested newts);
 - Badger;
 - Bats;
 - Hedgehog;
 - Nesting birds (including schedule 1 birds);

- Reptiles; and
- Invasive plants.

4.4.24 Any development of the Site could have impacts on the other listed species if confirmed to be present. The LPA may request further species-specific surveys prior to determining a planning application associated with the Site.

Summary

4.4.25 Based on the current known ecological baseline of the Site, Table 4.4 summarises the legal and policy implications in relation to wildlife for developing the Site.

Table 4.4 Legal and policy implications of developing the Site

Habitat	Protected &/or notable species associated with the habitat	Legal implication	Policy implication
Scattered trees (200)	Potential habitat for bats, and nesting birds.	Bats are protected under EU & domestic legislation. All birds, their nests, and eggs are protected during nesting period. Potential for Schedule 1 birds (e.g. barn owl) with additional protection against disturbance during nesting.	NPPF & local policy pertaining to protected and notable species. The Conservation of Habitats and Species Regulations 2017 Wildlife and Countryside Act 1981 Environment Act 2021 NERC Act 2006
Hedgerows	Potential habitat for common amphibians, badger, hedgehog, bats, and nesting birds. Low risk of reptiles and invasive plants.	Bats are protected under EU & domestic legislation. Badgers, their setts, and some associated habitats are protected. Common reptiles are protected under domestic legislation. All birds, their nests, and eggs are protected during nesting period. Invasive plants require control and eradication to prevent them spreading in the wild.	NPPF & local policy pertaining to protected and notable species. The Conservation of Habitats and Species Regulations 2017 Wildlife and Countryside Act 1981 Environment Act 2021 NERC Act 2006
c1c Cereal crops	Potential habitat for ground nesting birds.	All birds, their nests, and eggs are protected during nesting period.	Wildlife and Countryside Act 1981 Environment Act 2021 NERC Act 2006

Habitat	Protected &/or notable species associated with the habitat	Legal implication	Policy implication
			NPPF & local policy pertaining to protected and notable species.

4.5 Opportunities for Achieving Biodiversity Gain

Habitat Retention and Enhancement

- 4.5.1 It is understood at the time of writing that the peripheral hedgerows are to be retained where feasible. As such, it is recommended that these areas are maintained and suitably protected during all works.
- 4.5.2 Developing the Site offers the following opportunities for biodiversity net gain and supporting local policy based on the current indicative masterplan for the Site:
- Significant enhancement of greenspace areas. Buffering and planting will strategically increase biodiversity and connectivity to wider habitat areas including priority wetland, woodland and hedgerow features;
 - Retention and buffering of protected and key habits such as hedgerows and mature trees for targeted protected and notable species recorded on the Site; and,
 - Provision of nature recovery network through areas designated for wildlife to help fauna and flora transverse through the Site and wider landscape.
- 4.5.3 Based on the habitats on the Site, desk study data and local records, the following species-specific enhancement would be appropriate:
- Badger
 - Enhancement and buffering of hedgerows and associated grassland strips to improve connectivity through the Site.
 - Bats (all species):
 - Retention, protection and enhancement of suitable onsite commuting, foraging, and roosting habitats, i.e. scattered trees;
 - Bat-friendly planting in any soft landscaping areas, e.g. night scented species such as jasmine; and,
 - Provisions for artificial bat roosts or 'bat boxes' in development buildings and landscaped areas. In-built features capable of supporting maternity roosts should be prioritised, with the final installation details to be agreed by the project ecologist.
 - Birds:
 - Retention, protection and enhancement of suitable on-Site foraging and nesting habitats, i.e. hedgerows;
 - Bird-friendly planting to provide additional foraging resources for a variety of species to be included in landscaped areas and boundary features;

- Provisions for artificial nesting features or 'bird boxes' in development buildings and landscaped areas. Barn owl boxes, Swift bricks and house martin 'nest cups' should be a core focus of onsite enhancement schemes, with the final installation details to be agreed by the project ecologist; and,
- Retention of suitable onsite foraging and nesting habitats for barn owls, i.e. scattered trees.
- Hedgehogs:
 - Retention, protection and enhancement of suitable onsite commuting, foraging and hibernation habitat, i.e. hedgerows;
 - Retention, protection and enhancement of sheltered movement corridors where possible, e.g. existing vegetated field margins to be retained; and
 - Provisions for marked movement corridors through residential areas of development parcels, so-called 'Hog Highways', should be included within the onsite enhancement scheme. Final installation details to be agreed by the project ecologist.
- Invertebrates:
 - Retention, protection and enhancement of key onsite habitats, i.e. vegetated field margins;
 - Insect-friendly planting to provide a diversity of foraging resources for invertebrates to be included in any soft landscaping. Planting designs should lend from The National Pollinator Strategy (DEFRA 2014);
 - Provisions for artificial nesting and sheltering features in development buildings and landscaped areas. So-called 'Bee Blocks' (or similar units designed for solitary bee occupancy) should be included within onsite enhancement schemes, with the final installation details to be agreed by the project ecologist; and
 - Provisions for bee and beetle banks should be explored across the development where feasible.
- Reptiles:
 - Creation, retention, and buffering of new grassland habitat, and protection of suitable onsite basking, commuting, and foraging habitat; and
 - Retention, protection, and enhancement of sheltered movement corridors where possible, e.g. peripheral hedgerows and associated thin grassland strips.

5. RECOMMENDATIONS

5.1 Surveys

5.1.1 Based on the evaluation documented in Section 4, the following further surveys are deemed appropriate and/or necessary to provide a fuller evaluation of the proposed development:

- **Bat** – Bat emergence surveys will be conducted on all trees with potential roosting features that the development may impact.
 - Tree T1 (TN8), located just off-Site, supports confirmed day roosts of common pipistrelle and soprano pipistrelle, as recorded in previous surveys. Tree T2, also just off-Site and directly south of T1, has low roost potential due to extensive ivy cover. Both trees will require further verification surveys to confirm the current roost status. These surveys will inform the necessary European Protected Species Mitigation Licence (EPSML) application to Natural England should removal or works to these trees be required.
 - Two ash trees were recorded as having moderate bat roosting potential (TN3 and TN7). These trees are situated along the northern and western hedgerow peripheries. Should these trees be impacted by the proposed development, additional surveys will be required to confirm the presence/absence of bats.

5.2 Mitigation

5.2.1 This Section is based solely on the current baseline data set above. It outlines recommended ecological control and protection measures to be undertaken to ensure:

- No harm comes to faunal species (unprotected species as well as protected and notable species);
- There is minimal habitat loss and disturbance;
- No harm comes to the adjacent habitats;
- Pollution risk is minimised;
- Ecological best practice is followed;
- Conformity with current planning requirements pertaining to wildlife; and,
- No breaches of current wildlife legislation.

5.2.2 The following mechanisms will ensure implementation of the protection measures:

- **Licence applications** – any necessary licences will ensure compliance with European legislation (European Protected Species) and domestic legislation (badgers). The licence applications will provide detailed and specific protection measures and time frames for the given species. Based on current baseline data it is considered that badger and bat licences are required to facilitate construction in specific areas of the Site.
- **Tool box talk** – To be given to all Site staff, including those joining later in the project. Site staff to be made aware of the safeguard measures put in place and why they are necessary.
- **Suitably qualified ecologist** – To provide advice and guidance as required throughout the development process.

Generic safeguarding measures

5.2.3 Pollution:

- The former Pollution Prevention Guidelines (PPG) have been withdrawn while they are being reviewed and updated. Until such time as new guidance becomes available, standard industry best practice in relation to construction sites and dust production/water pollution must be adhered. Further guidance is to be documented in a Construction Environmental Management Plan (CEMP). Measures to include:
- Dust damping measures.

5.2.4 Works between sunset and sunrise:

- To be avoided.
- If works cannot be avoided then there is to be no significant increase in external light and noise over and above what is anticipated in the area post construction.

Habitats & Trees – Retained and adjacent to site

5.2.5 Hedgerows & Trees:

- Appropriate root Protection areas to be defined prior to any works commencing, and maintained throughout the development; and,
- No spoil to be deposited or works to take place within the protection zones of retained hedgerow and trees.

5.2.6 Air and waterborne pollution:

- Standard industry best practice in relation to construction sites and dust production/water pollution will minimise impacts to retained/adjacent habitats.

Badgers

5.2.7 Prior to works commencing the full Site area will be checked by the Ecological Clerk of Works for the presence of badgers to ensure no badger activity areas are present in or near to construction zones. The search area is to extend to 30-50 m beyond the works footprint.

- If confirmed as active at construction stage, the outlier badger sett entrance would need to be closed under a low-impact badger license (CL35) using the following methods:
 - Exclude badgers from re-entering the sett using steel link mesh, wooden and/or steel pegs, and one-way gates. Using trail cameras and “sticky sticks”, the entrance will be monitored for a minimum of 21 days to determine activity and if badgers have attempted to re-enter the sett;
 - Immediately upon the completion of the badger exclusion, the gate(s), pegs, and steel mesh will be removed, and the tunnel will be carefully dug-back (chased-back) with an excavator, following the line and direction of the tunnel to its conclusion or a sleeping chamber; and,
 - Any tunnel leading off this tunnel will also be chased-back to its conclusion or a sleeping chamber. As the tunnel is chased-back, the licence holder will check the tunnel with a torch to ensure there are no badgers cornered or injured as the

tunnel excavation proceeds. A more detailed method will be created ahead of sett exclusion and removal.

- General protection measures during construction should include:
 - Any trenches and excavations are to be covered at night when construction staff are not on the Site and/or a means of escape provided for any animals that may fall in. Escape ramps should be no greater than 45°. Covering trenches and excavations is preferable as harm may come to some animals if they fall in; risk of harm is greater with trenches/excavations over 1 m deep and if water collects. Trenches are to be checked for trapped animals at the start of each day.
 - Pipes to be capped or covered at night and when construction staff are not on the Site to prevent badgers (and other fauna) entering and becoming trapped.
 - Conditions that may be utilised by badger are not to be created e.g. piles of soft earth. If such features are unavoidable, they should be appropriately fenced to prevent badgers gaining access.

Bats

5.2.8 General:

- Hedgerows and mature trees within the Site that offer roosting potential for bat species. All hedgerows and mature trees should be retained/enhanced where feasible. If any trees are required to be removed, additional inspections by a suitably qualified ecologist would be required prior to any tree management or removal works.
- Tree 1 has confirmed day roosts of soprano and common pipistrelle. Its removal will require a European Protected Species (EPS) mitigation licence from Natural England prior to works.
- A verification roost assessment will be undertaken by a suitably qualified ecologist prior to any tree management or removal to confirm the presence/absence and status of roosts.
- Where an EPS licence is required, mitigation measures will be implemented in accordance with the approved licence method statement, typically including seasonal timing of works, ecological supervision during felling, and provision of appropriate compensation roosting features (e.g. bat boxes).

5.2.9 Lighting:

- No additional flood lighting to be used between sunset and sunrise without agreement with a suitably qualified ecologist; and
- Retained hedgerows to remain as dark corridors during works and post-development with no increase in current light levels where feasible to do so.

Nesting Birds

5.2.10 Works impacting on/in close proximity to the hedgerows (adjacent to the Site), mature trees, or crop habitat areas during the core nesting season (March to August inclusive):

- Immediately prior to works commencing (within 48 hours) an inspection by a suitably qualified ecologist to check for any evidence of nesting or nest building birds to include ground nesting species in arable areas. If evidence is found, works may be delayed; and,

- It should be noted that some bird species such as barn owl have been recorded nesting throughout the year, and therefore additional nesting bird surveys may be required prior to works commencing.

5.2.11 If nesting birds are found at any stage during construction works:

- All works that are likely to cause disturbance and/or within the zone of influence of the birds, MUST stop and not re-commence until advice has been received from a suitably qualified ecologist;
- Depending on the species, situation, stage of nesting and works in immediate vicinity it is likely that an exclusion zone will be put up around the nest and works will be stopped or restricted within the exclusion zone;
- Schedule 1 bird species would require a bespoke mitigation strategy to be agreed with the suitably qualified ecologist depending on species, stage of nesting and location within the Site.

Other Fauna (including common amphibians, reptiles and hedgehog)

5.2.12 Dependant of timing of works but likely to involve the following supervised by a suitably qualified ecologist:

- Check for presence of mobile fauna. Any animals present to be removed or encouraged to move to a place of safety following best practice at the time;
- Vegetation to be cut to a height of 150 mm, in a continuous direction allowing any fauna to disperse. All cut material to be removed immediately off-site/to an area that will not be affected by the proposed works; and
- Check for potential refugia sites and dismantle with care and in a controlled manner. This typically needs to be completed using handheld tools.

5.2.13 Hedgehog specific:

- If active hedgehogs are encountered works that are likely to cause disturbance and/or within the zone of influence of the hedgehog MUST stop and not re-commence until advice has been received from a suitably qualified ecologist;
- If required, the Ecological Clerk of Works will carefully move the hedgehog by hand from the construction area to nearby retained habitat features away from construction works; and,
- If a hibernating hedgehog is encountered (i.e. during the months of November to February) works MUST stop and a suitably qualified ecologist will assess the situation. If the hedgehog can be left in-situ then the nesting material will be carefully replaced and suitable food/water will be left in the area as a precaution should the hedgehog come out of hibernation. The nest area will be monitored by a suitably qualified ecologist until it is evident that that hedgehog has moved on. If the hedgehog is left in-situ then habitat connectivity must be maintained, i.e. it must not become isolated by being surrounded by areas of high-risk and/or low suitability. If there is an imperative reason for the clearance works to continue then a suitably qualified ecologist would be required to carefully relocate the hedgehog within its nesting material to an appropriately sheltered location away from

the works area. Food and water would be left in the vicinity of the relocation site as a precaution should the hedgehog come out of hibernation.

Non-Native Invasive Species

- 5.2.14 Some species of non-native, invasive plants are listed upon Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), meaning it is illegal to plant them in the wild or otherwise cause them to grow in the wild. Therefore, to avoid a potential offence under Schedule 9 during ground clearance works and in line with best practice, it is recommended that any invasive species identified be eradicated in a controlled manner from the Site.

Off-Site Mitigation Measures

- 5.2.15 Additional off-Site mitigation will be included as part of the development proposals, and these will focus on the remaining areas of cropland located directly northwest of the Site boundary. As detailed in the SLR EcIA report and BNG report, habitat creation should comprise seasonal bare ground for winter foraging by birds, including skylark plots (areas of tall grassland) and wide set-aside margins. Also, off-Site hedgerows should be retained, enhanced, and managed to improve species richness and structure.
- 5.2.16 The recommendations set out in the previous reports by SLR are considered to remain valid, and indicate that an increase in biodiversity performance of the Site of approximately 19% in habitat and 102% in hedgerow can be achieved (as per section 1.4.2 and 1.4.3 above).

6. CONCLUSIONS

6.1.1 Based on the current study:

- Further surveys are considered necessary in order for the application to be validated but not determined as set out in Section 5;
- The Site is situated between two Special Areas of Conservation (SAC). Clattinger Farm (~3.1 km southwest) and North Meadow Farm (~4.6 km east) are a joint SAC split between two parcels of land. To mitigate the potential impacts on the SAC, developers must adhere to the North Meadow and Clattinger Farm Special Area Of Conservation Interim Recreation Mitigation Strategy (2023 – 2028). However, given the development proposals are for the creation of an AD plant facility, no additional recreational pressure is expected.
- The Site lies within the impact risk zones (IRZ) of Cotswold Water Park (SSSI), Clattinger Farm (SSSI), Pike Corner (SSSI), Acres Farm Meadow (SSSI), Upper Waterhay Meadow (SSSI), Wildmoorway Meadows (SSSI), Elmlea Meadows (SSSI), North Meadow Cricklade (SSSI). The development proposals within the Site are listed as potential risks and causes of risk to the SSSI's outlined above. Consequently, consultation with Natural England would be deemed mandatory in this instance.
- Non-statutory designated sites are located in the surroundings of Site, however these sites are not considered likely to be directly affected by the proposed plans due to the nature of the proposals, adequate mitigation and intervening landscape between the Site and non-statutory designated sites. Indirect effects would be managed through standard ecological mitigation measures.
- There are S41/Priority Habitats within the Site and area surrounding the Site. However, it was determined that with appropriate mitigation and precautions, these habitats will not be negatively impacted by the proposed works.
- No protected or notable species will be negatively impacted if appropriate mitigation and precautions are followed (to be informed by further survey for some species), as set out in this report.
- It is recommended that the areas of elevated habitat should be retained and suitably protected during any works.
- Subject to complying with the identified recommendations the proposed works have the potential to provide biodiversity enhancement through implementing recommendations outlined in section 4.

7. REFERENCES AND BIBLIOGRAPHY

- Baker, J (2016) Biodiversity Net Gain Good Practice Principles for Development.
- Baker, J., Hoskins, R., Butterworth, T. (2019) Biodiversity Net Gain. Good Practice Principles for Development. A Practical Guide. CIRA.
- British Standards Institute (BSI) (2013). BS42020 - Biodiversity Code of Practice for Planning and Development. BSI, London.
- British Standards Institute (BSI) (2020). BS8683 – Designing and Implementing Biodiversity Net Gain. BSI, London.
- CIEEM (2017). Guidelines for Preliminary Ecological Appraisal (2nd edn). Winchester: CIEEM.
- CIEEM (2017a). Guidelines on Ecological Report Writing (2nd edn). Winchester: CIEEM.
- Collins, J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines. (4th ed) Bat Conservation Trust. London.
- DEFRA (2014). The National Pollinator Strategy: for bees and other pollinators in England. Department for Environment, Food and Rural Affairs. (2023). The Statutory Biodiversity Metric User Guide. July 2025.
- English Nature (2001). Great Crested Newt Mitigation Guidelines. English Nature, Peterborough.
- Environment Agency (2012). Working at Construction and Demolition Sites: PPG6 Pollution Prevention Guidelines (2nd edn). Bristol: Environment Agency.
- Gallagher, M. et al. (2023). North Meadow and Clattinger Farm Special Area of Conservation Interim Recreation Mitigation Strategy 2023 – 2028.
- HM Government (1981). Wildlife and Countryside Act 1981 (as amended).
- HM Government (2000). Countryside and Rights of Way Act, 2000.
- HM Government (2005). ODPM Circular 06/05 Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.
- HM Government (2021). Protected species and development: advice for local planning authorities. <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications> [Accessed 21/07/2025]
- HM Government (2021b). Environment Act 2021.
- HM Government (2023). National Planning Policy Framework. Department for Communities and Local Government.
- Joint Nature Conservation Committee (2001) Habitat management for bats. A guide for land managers, landowners and their advisors.
- Maddock, A (ed.) (2008). UK Biodiversity Action Plan; Priority Habitat Descriptions (Updated Dec 2011).
- Maddock, A (ed.) (2008). UK Biodiversity Action Plan; Priority Habitat Descriptions: Lowland Mixed Deciduous Woodland (Updated November 2016).
- Mitchell-Jones, A.J. & McLeish (2004). Bat Workers' Manual, 3rd edition, JNCC, Devon.
- Natural England (2023). *MAG/C*. (Accessed 21/07/2025).
- Panks, S. et al. (2023a). Biodiversity metric 4.0: Auditing and accounting for biodiversity – User Guide. Natural England.
- Panks, S. et al. (2023b). Biodiversity metric 4.0: Auditing and accounting for biodiversity – Technical Supplement. Natural England
- PTES (2025). The Big Hedgehog Map. <https://bighedgehogmap.org/> [Accessed 21/07/2025]
- Stace, C. et al. A taxonomic, genetic and ecological data resource for the vascular plants of Britain and Ireland (2019).
- SLR (2023). Ashton Keynes - Preliminary Ecological Appraisal - 20233031 404.11923.00002
- SLR (2023). Ashton Keynes - Biodiversity Net Gain Assessment - 20230424 404.11923.00002

SLR (2023). Ashton Keynes – Environmental Statement Chapter 5 - 404.11923.00004
The Bat Conservation Trust (2014). The State of the UK's Bats 2014.
The Box Moor Trust (2018). Bring Back Bulbourne Stream.
The dormouse conservation handbook Second edition (2014).
The Conservation of Habitats and Species Regulations 2017, as amended.
Tyler Grange (2024). Technical Note – Ashton Keynes – 17204_R01.

8. GLOSSARY

8.1 Scientific Terms and Acronyms

BoCC Birds of Conservation Concern, the UK Red-list for birds, produced by the British Trust for Ornithology and last updated in December 2015.

CIEEM Chartered Institute of Ecology and Environmental Management, the professional organisation and provider of professional codes of conduct for ecological consultancy.

EPS European Protected Species For the purposes of this report EPS are species that require particular licences to allow certain works to go ahead. Species falling within the following situations are not considered as EPS within this report:

Birds listed on Appendix 2 of the Bern Convention (European legislation). The protection requirements of this Appendix are fully integrated in UK law, notably through the Wildlife and Countryside Act 1981 (as amended).

Birds listed on Annex 1 of the Birds Directive (European legislation). The protection of such species survival and reproduction within their geographic distribution is ensured through special conservation measures in relation to their habitats. Such measures are implemented through the establishment of Special Protection Areas. Therefore, any implications are considered at regional habitat and country level rather than individual bird/species level.

GCER Gloucestershire Centre for Environmental Records

LBAP Local Biodiversity Action Plan.

Level of protection – ‘EU’ Protected under the Conservation of Habitats and Species Regulations (2017) as amended.

Level of protection – ‘UK’ Protected under the Wildlife and Countryside Act 1981 (as amended).

LNR Local Nature Reserve. Statutory designation.

LWS Local Wildlife Site. Non-statutory designation.

PLWS Potential Local Wildlife Site

NNR National Nature Reserve. Statutory designation.

Non-native invasive species For the purposes of this report: species listed on Schedule 9 of the wildlife and Countryside Act 1981 (as amended). Widely naturalised species, such as grey squirrel, are excluded.

Notable species A species which is listed as a UK Priority Species, carries an unfavourable conservation status (e.g. scarce, rare, threatened, Red-listed), is invasive or is otherwise worthy of note from an ecological perspective.

Protected species A species protected under specific UK or European legislation, including Habitats Directive, Wildlife and Countryside Act.

PTES Peoples Trust for Endangered Species

SAC Special Area of Conservation. Designated under European Union Habitat Directive (92/43/EEC) to protect species and habitat of European interest.

SAMM Strategic Access Management and Monitoring

SANG Suitable Alternative Natural Greenspace

SINC Sites of Importance for Nature Conservation

SPA Special Protection Area. A site designated under the European Union Directive on the Conservation of Wild Birds.

SSSI Site of Species Scientific Interest. Statutory designation of biological or geological importance.

UK Priority Habitat and species A habitat or species identified as a priority for conservation in accordance with Section 41 of the Natural Environment and Rural Communities Act

(2006). Section 40 of the Act places a duty on public authorities to have regard for the conservation objectives of these habitats and species. (Also known as Section 41 (S41) habitats/species).

WSBRC Wiltshire & Swindon Biological Records Centre

ZOI Zone of Influence

8.2 Scientific Names

8.2.1 Scientific names of species mentioned in this report are outlined in Table 8.1. This table excludes species recorded on Site; see Appendix F.

Table 8.1 Scientific names of species mentioned within this report (excluding species recorded on Site)

English Name	Scientific Name
Amphibians	
Great crested newt	<i>Triturus cristatus</i>
Bats	
Bat species	<i>Chiroptera sp.</i>
Barbastelle	<i>Barbastella barbastellus</i>
Brandt's bat	<i>Myotis brandti</i>
Brown long eared bat	<i>Plecotus auritus</i>
Common pipistrelle	<i>Pipistrellus pipistrellus</i>
Daubenton's bat	<i>Myotis daubentonii</i>
Leisler's bat	<i>Nyctalus leisleri</i>
Lesser horseshoe bat	<i>Rhinolophus hipposideros</i>
Myotis species	<i>Myotis sp.</i>
Nathusius' pipistrelle	<i>Pipistrellus nathusii</i>
Natterer's bat	<i>Myotis nattereri</i>
Noctule bat	<i>Nyctalus noctula</i>
Serotine bat	<i>Eptesicus serotinus</i>
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>
Whiskered bat	<i>Myotis mystacinus</i>
Birds	
Bittern	<i>Botaurus stellaris</i>
Black Tern	<i>Chlidonias niger</i>
Black-headed gull	<i>Chroicocephalus ridibundus</i>
Black-tailed Godwit	<i>Limosa limosa</i>
Black-winged Stilt	<i>Himantopus himantopus</i>
Black redstarts	<i>Phoenicurus ochruros</i>
Brambling	<i>Fringilla montifringilla</i>
Bullfinch	<i>Pyrrhula pyrrhula</i>
Cetti's Warbler	<i>Cettia cetti</i>
Common gull	<i>Larus canus</i>
Common tern	<i>Sterna hirundo</i>
Duncock	<i>Prunella modularis</i>
European White-fronted Goose	<i>Anser albifrons</i>
Fieldfare	<i>Turdus pilaris</i>
Gadwall	<i>Mareca strepera</i>
Garganey	<i>Spatula querquedula</i>
Goldeneye	<i>Bucephala clangula</i>
Grasshopper Warbler	<i>Locustella naevia</i>
Great White Egret	<i>Ardea alba</i>
Green Sandpiper	<i>Tringa ochropus</i>

English Name	Scientific Name
Greenshank	<i>Tringa nebularia</i>
Grey Partridge	<i>Perdix perdix</i>
Greylag goose	<i>Anser anser</i>
Hobby	<i>Falco subbuteo</i>
House Sparrow	<i>Passer domesticus</i>
Kestrel	<i>Falco tinnunculus</i>
Kingfisher	<i>Alcedo atthis</i>
Lapwing	<i>Vanellus vanellus</i>
Lesser black-backed gull	<i>Larus fuscus</i>
Little Bittern	<i>Ixobrychus minutus</i>
Little Egret	<i>Egretta garzetta</i>
Little Gull	<i>Hydrocoloeus minutus</i>
Little Ringed Plover	<i>Charadrius dubius</i>
Mallard	<i>Anas platyrhynchos</i>
Marsh Harrier	<i>Circus aeruginosus</i>
Meadow pipit	<i>Anthus pratensis</i>
Mediterranean Gull	<i>Ichthyaetus melanocephalus</i>
Merlin	<i>Falco columbarius</i>
Osprey	<i>Pandion haliaetus</i>
Oystercatcher	<i>Haematopus ostralegus</i>
Peregrine	<i>Falco peregrinus</i>
Pintail	<i>Anas acuta</i>
Redwing	<i>Turdus iliacus</i>
Ruff	<i>Calidris pugnax</i>
Scaup	<i>Aythya marila</i>
Song thrush	<i>Turdus philomelos</i>
Spoonbill	<i>Platalea leucorodia</i>
Spotted Flycatcher	<i>Muscicapa striata</i>
Starling	<i>Sturnus vulgaris</i>
Tawny owl	<i>Strix aluco</i>
Tufted duck	<i>Aythya fuligula</i>
Whitethroat	<i>Sylvia communis</i>
Whimbrel	<i>Numenius phaeopus</i>
Wigeon	<i>Mareca penelope</i>
Wood Sandpiper	<i>Tringa glareola</i>
Woodpigeon	<i>Columba palumbus</i>
Yellow Wagtail	<i>Motacilla flava</i>
Yellowhammer	<i>Emberiza citrinella</i>
Invertebrates	
Ghost moth	<i>Hepialus humuli</i>
White-clawed crayfish	<i>Austropotamobius pallipes</i>
Mammals	
Badger	<i>Meles meles</i>
Brown hare	<i>Lepus europaeus</i>
Common shrew	<i>Sorex araneus</i>
Dormouse	<i>Muscardinus avellanarius</i>
Field vole	<i>Microtus agrestis</i>
Fox	<i>Vulpes vulpes</i>
Grey squirrel	<i>Sciurus carolinensis</i>
Hedgehog	<i>Erinaceus europaeus</i>
Mole	<i>Talpa europaea</i>
Muntjac	<i>Muntiacus reevesi</i>
Otter	<i>Lutra lutra</i>
Rabbit	<i>Oryctolagus cuniculus</i>

English Name	Scientific Name
Rat	<i>Rattus norvegicus</i>
Water vole	<i>Arvicola amphibius</i>
Plants	
Jasmine	<i>Jasminum spp.</i>
Stoneworts	<i>Fritillaria meleagris</i>
Reptiles	
Common lizard	<i>Zootoca vivipara</i>
Grass snake	<i>Matrix helvetica</i>
Sand lizard	<i>Lacerta agilis</i>
Slow worm	<i>Anguis fragilis</i>

APPENDICES

PLANS AND SITE PHOTOGRAPHS

Ashton Keynes AD Facility Baseline Habitat Map - BMD.25.0155.DRE.001

SITE PHOTOGRAPHS



Photograph 1: c1c Cereal crops dominating land parcels within the Site.



Photograph 2: Wild oat encroaching on cropland.



Photograph 3: Mature ash tree situated along hedgerow H3.



Photograph 4: Outlier badger sett situated along hedgerow H2 (TN1).



Photograph 5: Evidence of badger fur identified at badger sett entrance (TN1).



Photograph 6: Evidence of historic nesting woodpigeon in dense tree canopy.



Photograph 7: *Veteran ash tree used by barn owl for roosting and/or nesting (TN2).*



Photograph 8: *Species-poor hedgerow located along the western periphery of the Site.*

A. POLICY, LEGISLATION AND GUIDANCE

A.1 Overview

A.1.1 Tables A1.1 and A1.2 provide a summary of wildlife legislation and policy of relevance to development at the Site.

Table A1.1 Overview of species/species groups relevant to the current proposals and associated legislation and policy

Species/Species group	European	UK ¹	Priority species ²
Amphibian (common only)		Various	Incl. common toad
Badger		Full	✓
Bats (all species)	✓	Full	Species dependent
Birds		Full	Species dependent, incl. House sparrow
Mammals (general)		Species-dependent	Incl. hedgehog
Reptiles (excluding sand lizard and smooth snake)		Partial – incl. killing and injury	✓

Notes

¹ Principally the Wildlife and Countryside Act: Full = full protection, either from the Wildlife and Countryside Act 1981 (as amended) alone or in combination between this act and European legislation; partial = partially protected. ✓ = covered by other specific legislation.

² Includes over 900 species listed in accordance with section 41 of the NERC Act (2006). Species known or most likely to utilise the Site are indicated where appropriate.

Table A1.2 Relevant species legislation for development at the Site

Species / group	Legislation ^{see notes}													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Badger	✓						✓							✓
Bats (all species)					✓		✓		✓	✓				✓
Birds (nesting)		✓	✓							✓				
Invasive species								✓			✓	✓	✓	
Invertebrates										✓				
Hedgehog							✓			✓				✓
Reptiles					✓	✓				✓				

Notes

¹ Protection of Badgers Act 1992

² Wildlife and Countryside Act, 1981 (as amended) – Part 1

³ Wildlife and Countryside Act, 1981 (as amended) – Schedule 1 (some species, none recorded within the Site)

⁴ Wildlife and Countryside Act, 1981 (as amended) – Schedule 5, Section 9

⁵ Wildlife and Countryside Act, 1981 (as amended) – Schedule 5, Section 9 (4b, 4c) and (5)

⁶ Wildlife and Countryside Act, 1981 (as amended) – Schedule 5, Section 9 (1, in respect of killing and injuring) and (5)

⁷ Wildlife and Countryside Act, 1981 (as amended) – Schedule 6, Section 11

⁸ Wildlife and Countryside Act, 1981 (as amended) – Schedule 9, Section 14

⁹ Conservation of Habitats and Species Regulations 2017 – Schedule 2 (European protected species)

¹⁰ Natural England and Rural Communities Act (2006) – Various species listed in accordance with Section 41

¹¹ Invasive Species regulations: EU Regulation (1143/2014) on invasive alien (non-native) species

¹² Anti-social Behaviour, Crime and Policing Act 2014

¹³ Environmental Protection Act 1990

¹⁴ Wild Mammals (Protection) Act 1996

A.1.2 The key national planning policies and documents are:

- The Environment Act (2021);

- The National Planning Policy Framework (2025); and
- The Natural Environment and Rural Communities (NERC) Act (2006);
- Schedule 7A of the Town and Country Planning Act (1990).

B. ASSESSMENT METHODOLOGIES

B.1 Desk Study

B.1.1 The desk study involved:

- Gathering and analysing existing ecological data within the Site boundary and extending to a radius of 5 km; and
- Reviewing readily available habitat data within 5 km radius of the Site boundary.

B.1.2 The results of the desk study were used to aid in the interpretation of the survey results and were obtained from the following sources:

- Gloucestershire Centre for Environmental Records (GCER) and Wiltshire & Swindon Biological Records Centre (WSBRC);
- The Multi-Agency Geographical Information for the Countryside (*MAGIC*) – web-based database;
- The Woodland Trust Ancient Tree Inventory;
- Natural England Great crested newt class licence database and District Licencing database;
- People's Trust for Endangered Species Big Hedgehog Map – web-based citizen science database of hedgehog sightings.
- Readily available maps (modern and historic);
- Readily available aerial photographs.

B.1.3 In terms of species, particular attention was given to the following species/species groups:

- Amphibians (including great crested newts);
- Badgers;
- Bats;
- Birds;
- Water vole;
- Otter;
- Invertebrates (as appropriate based on geographic location and habitats present on Site);
- Plants (as appropriate based on geographic location and habitats present on Site); and,
- Mammals.

B.1.4 Some species, such as the blue tit, may be listed on red data books but described as neither threatened nor near threatened; such species are not included in the protected and notable species tables within the desk study sections. Species listed solely on Schedule 5 Section 9(5)a and 9(5)b are not considered to be protected species in the context of this report as offences detailed in these Sections relate to sale/intention to sell.

B.1.5 For the purposes of this report species falling within the following situations are not indicated as having European level of protection in the desk study tables:

- Birds listed on Appendix 2 of the Bern Convention (European legislation). The protection requirements of this Appendix are fully integrated in UK law, notably through the Wildlife and Countryside Act 1981 (as amended).
- Birds listed on Annex 1 of the Birds Directive. The protection of such species survival and reproduction within their geographic distribution is ensured through special conservation measures in relation to their habitats. Such measures are implemented through the establishment of Special Protection Areas. Therefore, any implications are considered at regional habitat and country level rather than individual bird/species level.

B.1.6 For the purposes of this report widely naturalised non-native invasive species listed in Schedule 9 of the Wildlife and County Act, such as grey squirrel and muntjac, are excluded.

B.2 UK Habitat Classification Survey

B.2.1 The UK Habitat Classification (UKHab) Survey was conducted as part of the assessment process for Biodiversity Net Gain (BNG) using the Statutory Biodiversity Metric (DEFRA, 2024). The survey involved a detailed walkover of the Site to record and map habitats in accordance with the UK Habitat Classification User Manual, Version 2.01 (UKHab Ltd, 2023). Each definable land parcel was assessed and classified based on the UKHab framework, with further subdivision into component habitat types where appropriate. Descriptions included the likely origin of each habitat (e.g., self-established, planted), character, condition, and current management practices. Habitat condition was determined using the condition assessment criteria outlined in the Statutory Biodiversity Metric, ensuring compliance with the mandatory requirements for BNG.

B.2.2 Attention was also paid to the presence or potential for protected and notable species occurring on Site. This focused on the species/species groups as listed in paragraph B1.3.

B.2.3 Target notes were used to aid the interpretation of mapped habitats to indicate notable features within the Site, including their What3Words locations.

B.3 Evaluation

Habitats

B.3.1 The habitats were assessed against the criteria and descriptions of Priority Habitats to determine if they could be considered as Priority Habitat and, therefore, likely to have greater implication on developing the Site.

B.3.2 Habitats were also considered in relation to their wider landscape integration, notably connectivity and acting as a buffer to other habitats or protected sites.

B.3.3 The habitat condition assessments followed the habitat condition criteria set out in the Statutory Biodiversity Metric.

Species

B.3.4 The Site was assessed in terms of its potential to support protected and notable species with particular attention being paid to those listed in paragraph B1.3. It takes account of habitats

present on Site, the desk study species data, connectivity to known records and other suitable habitat and geographic range of species. For example, a Site may have suitable habitat for sand lizard but is outside the species geographic distribution and as such would not be considered in the evaluation of the Site. Another example would be if water vole were returned in the desk study data but there was no watercourse within the site or within a zone of influence which may be indirectly affected by pollution run-off.

Bats – Roosting Bats – Trees

- B.3.5** A bat roost assessment of all trees present was carried out by Archie Neale under the guidance of Jonathan Wood Level 1 and Level 2 licenced bat surveyor on the 10th of July 2025. The trees were assessed from the ground (where access was available and externally only) for their suitability to support breeding, resting and hibernating bats using survey methods based on the BCT Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2023) – hereafter referred to as the ‘BCT Guidelines’. The system shown in Table B4.1 was therefore used to categorise the bat roost suitability of any features found.

Table B4.1 Categories for determining bat roost suitability

Suitability	Typical Roosting Feature
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and / or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis & potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

Foraging/commuting bats

- B.3.6** The BCT Guidelines use the criteria shown in Table B4.2 to categorise the potential value of habitats and features for use by foraging and commuting bats and these have been used to characterise the value of this site .

Table B4.2 Categories for determining bat foraging/commuting suitability

Suitability	Typical Foraging & Commuting Features
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.

Suitability	Typical Foraging & Commuting Features
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by another habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.

Other species

- B.3.7 The Site was also appraised for its suitability to support other protected or notable fauna e.g. invertebrates with regard to the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) and BS42020:2013 Biodiversity – Code of Practice for Planning and Development (BSI, 2013). Evidence of any current or historical presence of such species was recorded.

C. METADATA, SURVEY CONDITIONS AND LIMITATIONS

C.1 Metadata

Factor	Detail
Data	Habitats described and mapped in accordance with UK Habitat Classification Survey. Target notes of specific features. Bats: Landscape habitat review, habitat assessment.
Reason for collection	To provide baseline ecological data to inform master planning, planning applications and appropriate mitigation in relation to proposed development.
Location	Ashton Keynes AD Facility Approx. centre: SU 03979 96156
Date	10/07/2025
Method of collection	The UK Habitat Classification (UKHab) Survey Initial bat assessments following current best practice (Collins, 2023)
Who collected	Archie Neale BSc (Hons)

C.2 Survey Conditions

Date	Start Time	Preceding days	Cloud (%)	Sun	Temp. (°C)	Precipitation	Wind (Beaufort scale & direction)
10/07/2025	09:00–11:00	Sunny	0%	Sunny / Clear	24-27	Nil	F1 N

C.3 Limitations Review

Consideration	Comment
Survey & data	
Personal competence, i.e. qualifications, training, skills, understanding, experience	All survey works were undertaken by or directly supervised by personnel experienced in ecological surveying (see meta data; Section C1). <u>Archie Neale BSc (Hons)</u> has over 5 years' experience in ecological consultancy, including experience in performing and coordinating site-based ecological mitigation work, ecological surveys and reporting. <u>Jonathan Wood BSc (Hons) MCIEEM</u> has over 11 years' experience in ecological consultancy, including an experience of performing and coordinating the survey work and assessments undertaken at Site. <u>James Patmore CEcol CEnv MCIEEM</u> has over 23 years' of experience in ecological consultancy, including an extensive amount of experience performing and directing ecological survey work and assessments.
Resources (equipment and/or personnel)	Appropriate resources and suitably qualified personnel were used.
Time spent surveying	Sufficient time was spent on site to undertake all surveys. No surveys were 'cut short'.
Data (e.g. arising from incomplete or inappropriate surveys)	The data used and collected were sufficient for the purpose of the works. The data held by PTES on the Big Hedgehog Map is the output of various surveys including citizen science and as such a degree of caution should be applied when depending solely on these data to inform impacts as data may not have been verified.
Lack of statistical robustness and higher uncertainties	Statistical analysis of data was not deemed necessary for the purpose of the current works.
Old and out of date data	The data used to complete this Preliminary Ecological Assessment were current and up to date.
Timing or seasonal constraints and suboptimal survey periods	The survey was conducted during July 2025. This is inside the optimal period for habitat surveys.
Partial use of and/or departures from good practice guidelines	All surveys accorded with the relevant best practice guidelines.
Site conditions & other factors	
Adverse weather conditions	No significantly adverse weather conditions were encountered during the survey work undertaken at the Site that would be considered to have significantly adversely impacted the reliability and/or accuracy of data collected.
Restricted access to site or part of site	The Site was fully accessible.
Unrealistic deadlines	No restrictions on survey data collected or analysed to date are as a result of unrealistic deadlines.
Unproven or untested measures for mitigation and compensation	N/A
Evaluation of conservation value and impacts	The evaluation of the conservation value of habitats and species associated (or potentially associated) with the site and impacts of the development, are based on the current information available. This evaluation will need to be reviewed and updated as necessary should a considerable period of time (24 months) elapse and/or more data from other survey work (on and within 500 m of the site) becomes available.

D. DESK STUDY SCOPING EXERCISE

D.1.1 A data search on MAGIC and other web-based data sources was completed on the 21st of July 2025. A summary of features checked is provided in Tables D1.1. to D1.5.

Table D1.1 Statutory nature conservation sites within 2 km of the Site (extending to 5 km for European designated sites)

Site designation	Number of sites				
	Total	On Site	0-1 km	1-2 km	2-5 km
AONB	0	0	0	0	N/A
LNR	0	0	0	1	N/A
NNR	0	0	0	0	N/A
National Park	0	0	0	0	N/A
Ramsar	0	0	0	0	0
SSSI	0	0	1	0	N/A
SAC	0	0	0	0	1
SPA	0	0	0	0	0
Impact Risk Zone	Cotswold Water Park (SSSI), Clattinger Farm (SSSI), Pike Corner (SSSI), Acres Farm Meadow (SSSI), Upper Waterhay Meadow (SSSI), Wildmoorway Meadows (SSSI), Elmlea Meadows (SSSI), North Meadow Cricklade (SSSI).				

Table D1.2 Priority (and notable) habitats within 1 km of the Site

Broad category	Priority Habitat Inventory	Other habitats	On Site	0-1 km
Coastal	Saltmarsh		0	0
	Sand Dunes		0	0
	Vegetated Shingle		0	0
	Maritime Cliffs and Slopes		0	0
	Mudflats		0	0
	Saline Lagoons		0	0
Grassland	Calaminarian Grassland		0	0
	Coastal and Floodplain Grazing Marsh		0	1 block of 8 parcels
		Good quality semi-improved grassland (non-priority)	0	0
	Lowland Calcareous Grassland		0	0
	Lowland Dry Acid Grassland		0	0
	Lowland Meadows		0	0
	Purple Moor Grass and Rush Pasture		0	0
	Upland Calcareous Grassland		0	0
	Upland Hay Meadows		0	0
Heath	Lowland Heathland		0	0
	Mountain Heaths and Willow Scrub		0	0
	Upland Heathland		0	0
Limestone pavements	Limestone Pavements		0	0
Marine	Intertidal Substrate Foreshore		0	0

Broad category	Priority Habitat Inventory	Other habitats	On Site	0-1 km
Wetland	Blanket Bog		0	0
	Lowland Fens		0	0
	Lowland Raised Bog		0	0
	Reedbeds		0	0
	Upland Flushes, Fens and Swamps		0	0
Woodland		Ancient: Semi-natural	0	0
		Ancient: Replanted	0	0
	Deciduous Woodland		0	10 blocks of 12 parcels
			0	0
	Traditional Orchards		0	2 parcels
	Wood pasture and Parkland BAP Priority Habitat		0	0
Trees ²		Ancient, veteran or notable trees	0	0
Other		Fragmented heath (Non-Priority)	0	0
		Grass Moorland (Non-Priority)	0	0
		No main habitat but additional habitat exists	0	6 blocks of 8 parcels
	Open Mosaic Habitat		0	4 parcels
Notes 1. Not notable habitats but provide information to guide mitigation 2. Woodland Trust Ancient Tree Inventory				

Table D1.3 European Protected Species licence applications within 1 km and 5 km (bats) of the Site. NB excluding GCN, see Table D1.4.

Protected species licence applications	Number of applications				
	Total	On Site	0-1 km	1-2 km	2-5 km
Hazel dormouse	0	0	0	0	0
Bat	24	0	0	0	24
Species covered by the bat licences					
Alcathoe bat					
Barbastelle					
Bechstein's bat					
Brandt's bat					
Brown long-eared bat	9				✓
Common pipistrelle	10				✓
Daubenton's bat	5				✓
Greater horseshoe bat					
Grey long-eared bat					
Leisler's bat					
Lesser horseshoe bat	4				✓

Protected species licence applications	Number of applications				
	Total	On Site	0-1 km	1-2 km	2-5 km
Nathusius pipistrelle					
Natterer's bat	6				✓
Noctule					
Pipistrelle sp.					
Serotine					
Soprano pipistrelle	8				✓
Whiskered bat					
Notes 1. As depicted on <i>MAG/C</i>					

Table D1.4 Great crested newt data within 1 km of the Site

Data source	Number of records		
	Total	On Site	0-1 km
NE Class licence database ¹	1	0	1
NE country-wide survey data ¹	3	0	3
Development licenses ¹	0	0	0
Notes 1. As depicted on <i>MAG/C</i>			

Table D1.5 Notable fauna in relation to the Site

Species	On Site	0-1 km
Farmland bird assemblages¹		
Arable (max number of species)	5	5
Grassland (max number of species)	5	5
Black grouse		
Cirl bunting		
Corn bunting	✓	✓
Curlew	✓	✓
Grey partridge	✓	✓
Lapwing	✓	✓
Redshank	✓	✓
Snipe	✓	✓
Stone curlew		
Tree sparrow	✓	✓
Turtle dove		
Twite		
Yellow wagtail	✓	✓
Mammals		
European hedgehog ²	0	9
Notes 1. As depicted on <i>MAG/C</i> 2. As depicted on the Big Hedgehog Map (PTES, 2025)		

E. HABITAT TARGET NOTES

- E.1.1 The survey involved a detailed walkover of the Site to record and map habitats in accordance with the UK Habitat Classification User Manual, Version 2.01 (UKHab Ltd, 2023). Each definable land parcel was assessed and classified based on the UKHab framework, with further subdivision into component habitat types where appropriate. Descriptions included the likely origin of each habitat (e.g., self-established, planted), character, condition, and current management practices. The condition of the habitat was determined using professional judgement, and the Statutory Biodiversity Metric condition assessments.
- E.1.2 Tables E1.1 to E1.2 outline target note descriptions of key features within the Site including different habitat types and waterbodies within the Site. The tables encompass composition as well as conditions in these areas, except for the case of buildings in which bat potential is assessed.

Table E1.1 Target notes of habitat areas and significant features on Site

Target note	Description	Bat roosting potential
1	Outlier badger sett A single outlier badger sett was identified towards the middle of hedgerow H2. The entrance was positioned 0.5 m off the south face of the hedgerow and the tunnel was directed north into the grass sward. Use by badger was confirmed from presence of badger hair within the burrow.	N/A
2	Barn owl roost and/or nest A mature (near veteran) ash tree was noted directly south of the Site boundary, where a barn owl had flushed from a deep cavity approximately 10 ft above ground. Given the condition of the tree and cavity features present, there is the possibility of this being used by nesting barn owl.	N/A
3	Ash tree with Potential Roosting Features (PRFs) for bats A mature ash tree situated along the eastern extent of hedgerow H3. Features noted on the ash tree include woodpecker hole(s), tear-outs, and fluting. Given the number of diverse features, elevation, and shelter, the tree has been assessed as providing low-moderate potential for roosting bats.	Low-moderate
4	Ash tree with Potential Roosting Features (PRFs) for bats A mature ash tree located along hedgerow H3. Potential roosting features noted included cracked bark, hazard beams, and tear-outs. The tree exhibits poor health, such as ash dieback and bracket fungi. Given the condition, features noted, and shelter from neighbouring trees, the ash tree is assessed as offering low roosting potential for bats.	Low
5	Ash tree with Potential Roosting Features (PRFs) for bats The ash tree appears in poor health with gnarled bark and ash dieback noted. The tree exhibits several bat PRFs. These include lifted bark revealing internal features within the main stem, and a horizontal tear-out underneath the southern limb.	Low
6	Ash tree with Potential Roosting Features (PRFs) for bats	Low

	The ash tree includes a large tear out along its northern aspect and multiple knot holes on tree limbs. Due to the size and extent of the features noted, a full inspection could not be conducted during the initial survey.	
7	Ash tree overhanging the Site with Potential Roosting Features (PRFs) for bats The mature ash tree includes several features throughout the main stem and overhanging limbs. These include multiple woodpecker holes visible across the eastern face of the tree limb, and knot holes are also visible on branches and limbs.	Low-moderate
8	Mature ash tree situated southwest of Site and south of hedgerow H1. Previously identified as a confirmed common pipistrelle and soprano pipistrelle bat roost. The ivy-clad mature ash is situated directly south of a potential new access point to the Site. The southwestern aspect still exhibits a knot hole feature, which leads further into the tree limb. There is potential for other features to present along the main stem of the tree, but the ivy obscured this part of the tree.	High

Table E1.2 Linear features on Site

Hedgerow number	Description	Habitat condition
H1	h2a6 Native Hedgerow Situated along the eastern periphery of the Site and adjacent to Ashton Road. The hedgerow includes a few scattered mature ash and oak trees. The hedgerow is species-poor and dominated by intact and continuous hawthorn, interspersed with elder and field maple, and dominant blackthorn at the northern extent. Ground flora comprises prickly sow thistle, common nettle, cow parsnip, and is dominated by false oat grass. The hedgerow is approximately 4 m tall and 3 m wide, and includes a dry ditch which runs between the hedgerow and the adjacent road.	Moderate
H2	h2a6 Other native hedgerow Defunct hedgerow intersecting the crop fields, heading east to west. The hedgerow is dominated by hawthorn with scattered dogrose and mature ash. Ground flora includes false oat grass, common nettle, lesser burdock, wild chamomile, and other grasses such as cocksfoot and soft brome.	Moderate
H3	h2a6 (11) Native hedgerow with trees Situated along the northern periphery of the crop fields, it is 8 m tall and 3 m wide on average and includes a dry ditch running west to east. Trees noted here include hawthorn, mature ash exhibiting damage and decay, and scattered blackthorn and elder. Ground flora is comprised of dominant false oat grass, cocksfoot, common nettle, lesser burdock, and wild chamomile.	Moderate
H4	h2a6 (11) Native hedgerow with trees Situated along the western periphery, this hedgerow runs adjacent to a farm track and a parallel hedgerow directly west. Species noted here include dominant hawthorn, mature ash, and scattered bramble. Ground flora is similar to that of H3.	Moderate

F. DETAILED SURVEY RESULTS

F.1 Species Recorded on Site

English Name	Scientific Name
Birds	
Barn owl	<i>Tyto alba</i>
Blackbird	<i>Turdus merula</i>
Blue tit	<i>Cyanistes caeruleus</i>
Carrion crow	<i>Corvus corone</i>
Chiffchaff	<i>Phylloscopus collybita</i>
Goldfinch	<i>Carduelis carduelis</i>
Jackdaw	<i>Coloeus monedula</i>
Linnet	<i>Linaria cannabina</i>
Red kite	<i>Milvus milvus</i>
Robin	<i>Erithacus rubecula</i>
Skylark	<i>Alauda arvensis</i>
Stock dove	<i>Columba oenas</i>
Wren	<i>Troglodytes troglodytes</i>
Plants	
Ash	<i>Fraxinus excelsior</i>
Barley	<i>Hordeum vulgare</i>
Bent grass species	<i>Agrostis spp.</i>
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus agg.</i>
Broad-leaved dock	<i>Rumex obtusifolius</i>
Cock's foot	<i>Dactylis glomerata</i>
Common nettle	<i>Urtica dioica</i>
Common nipplewort	<i>Lapsana communis</i>
Corn poppy	<i>Papaver rhoeas</i>
Cow parsnip	<i>Heracleum sphondylium</i>
Creeping thistle	<i>Cirsium arvense</i>
Curly dock	<i>Rumex crispus</i>
Dogwood	<i>Cornus sanguinea</i>
Elder	<i>Sambucus nigra</i>
False oat grass	<i>Arrhenatherum elatius</i>
Field bindweed	<i>Convolvulus arvensis</i>
Field maple	<i>Acer campestre</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Hedge mustard	<i>Sisymbrium orientale</i>
Ivy	<i>Hedera helix</i>
Lesser burdock	<i>Arctium minus</i>
Mugwort	<i>Artemisia vulgaris</i>
Oak	<i>Quercus robur</i>
Prickly sowthistle	<i>Sonchus asper</i>
Ragwort	<i>Jacobaea vulgaris</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Scarlet pimpernel	<i>Anagallis arvensis</i>
Spear thistle	<i>Cirsium vulgare</i>
Speedwell	<i>Veronicaceae sp.</i>
Wild chamomile	<i>Matricaria chamomilla</i>
Wild oats	<i>Avena fatua</i>

