

9.0 Ecology and Biodiversity

9.1 Introduction

- 9.1.1 This chapter addendum has been prepared by FPCR Environment and Design Ltd in relation to Chapter 9: Ecology and Biodiversity of the previously submitted Environmental Statement (ES)(2021). Chapter 9 of the ES identifies and describes the nature and significance of the effects of the potential effects on biodiversity and ecology as a result of the Proposed Development. For the avoidance of doubt, this chapter addendum should be read in conjunction with chapter 9 of the 2021 ES, and which remains extant unless superseded by the content of this addendum chapter.
- 9.1.2 In response to consultee and officer comments, the Development Framework Plan has been revised (Drawing number HLM066-DFP-001 Rev B, David Lock Associates, 2024). This addendum seeks to review and address changes since the initial submission.

9.2 Assessment Methodology

9.2.1 The overarching assessment methodology remains in line with that detailed in the initial ES submission.

Survey Methodology

9.2.2 A series of ecological surveys were conducted across 2024 and 2025 to update and supplement the previous 2021 baseline assessment. A summary of the surveys undertaken and relevant appendix number is provided in **Table 9.2.1** below.

Table 9.2.1 2025 Technical Report Appendices

Appendix	Title	Surveys	Dates
9.1	Ecological Appraisal	Extended Habitat Survey with Hedgerow Surveys (Regs), following the UKHab 2.0 classification system.	August and September 2024
9.7	Badger Report (Confidential)	Badger Survey based on Cresswell, Harries and Jeffrey	March 2025
9.2	Bat Report	A single update bat activity survey (night-time bat walkover and static monitoring survey). Ground Level Tree Assessment of trees for potential roost features. Aerial and nocturnal surveys of impacted trees with roost potential. Survey methods based on the Bat Survey Guidelines; Bat Conservation Trust; 2023, 4 th Ed.	April / May 2025 August 2024 May- August 2025
9.5	Combined Bird Survey Report	Wintering Bird Surveys – 4 surveys Breeding Bird Survey – single update survey Survey methods based on Bird Survey Guidelines for Assessing Ecological impacts; Bird Survey & Assessment Steering Group; 2023.	January - February 2025 May 2025
9.9	Brown Hairstreak Survey Report	Habitat suitability assessment and egg search. Survey method based on the UK Butterfly Monitoring Scheme 2016.	February 2025
9.3	GCN Report	Habitat Suitability Assessment and eDNA surveys of ponds within 250m. Survey method based on the Analytical and Methodological Development for Improved Surveillance of Great Crested Newt;	April 2025

		WC1067; Appendix 5; Technical advice note for field and laboratory sampling of great crested newt environmental DNA.	
9.4	Reptile Survey Report	Reptile Presence/Likely Absence Surveys (8 occasions). Survey method based on the Herpetofauna Workers' Manual (2003).	April – September 2025
9.8	Riparian Mammal Survey Report	Otter and Water Vole Surveys (2 occasions) methodology based on Monitoring the European Otter (Chanin 2003) and The Water Vole Mitigation Handbook (2016). Water vole activity monitoring (28 feeding platforms)	April and September 2025 April - September 2025
9.10	Biodiversity Impact Assessment	To assess the Site under the Statutory Biodiversity Net Gain Metric, habitats were identified and mapped broadly following the UKHab 2.0 classification system and assessed for their condition using methodology as detailed within the Statutory Biodiversity Metric Technical Annex 1: Condition Assessment Sheets and Methodology (July 2024). River condition assessments were conducted using the Modular River Physical methodology (The MoRPh Survey Technical Reference Manual 2022)	August and September 2024 April 2025

Data sources

9.2.3 Several pertinent consultation responses were received in relation to the initial submission (21/04275/OUT). These are outlined below.

Natural England

9.2.4 Natural England raised no objection to the proposals based on the plans submitted.

9.2.5 Natural England considers that the proposed development will not have significant adverse impacts on statutorily protected nature conservation sites.

Cherwell District Council Ecology Officer

9.2.6 The Ecology Officer comments received in 2022 confirmed the surveys carried out were satisfactory in scope and depth but as some time has passed since the surveys were undertaken, dialogue has taken place directly with the Ecology Officer with regard to the approach to updating these and which has been agreed. The consultation response also requested the following additional information:

- Biodiversity net gain assessment; and
- Farmland bird mitigation strategy.

9.2.7 Further details of these and the updated survey work are included within this addendum.

Bucknell Parish Council

9.2.8 Bucknell Parish Council submitted an objection to the development which covered a range of issues. Focussing on ecology the relevant text was:

"The proposed development will permanently destroy the vital ecological footprint around the village. As a rural community, our village benefits from the rich biodiversity of both flora and fauna inhabiting the farmland and hedgerows, that have been carefully managed under the stewardship of local families for generations. The developer's claim that their plan will preserve, or rather enhance, the ecology of the area by preserving many of the hedgerows around their urban dwellings, is disingenuous. We surmise the claim is only made possible by their proposed breach of the NW boundary as stated above."

9.2.9 The additional information requested by the Cherwell District Council Ecology Officer, will provide further clarity on the ecological mitigation approach, and continue to allow transparency of the ecological assessment.

Uncertainties and limitations

9.2.10 Details of any limitations encountered and assumptions made during these surveys are provided in the relevant Technical Appendix. No limitations encountered were considered to have significantly affected results or subsequent assessment.

9.3 Relevant Policy

- 9.3.1 The assessment methodology reported within the 2021 ES was current at the time of application. Since this time there have been changes in relevant legislation, guidance and best practice which would apply to ecological assessment of new applications. However, as an existing application these changes are not considered obligatory.
- 9.3.2 For clarity key changes are outlined below.

Environment Act 2021

- 9.3.3 In England, as of 12 February 2024, biodiversity net gain is required under statutory frameworks introduced by Schedule 7A of the Town and Country Planning Act 1990 (inserted by the Environment Act 2021). Under this framework, every grant of planning permission will be deemed to have been granted subject to a general biodiversity gain condition. This will require an objective for developments to deliver at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of all on-site habitats.
- 9.3.4 If a planning application for a development was made before day one of mandatory BNG on 12 February 2024, the development is exempt from statutory BNG requirements.

National Planning Policy Framework

- 9.3.5 The National Planning Policy Framework ('NPPF') (December 2024) was updated from the version that was current in 2021. Key points remain to ensure that the planning system contributes to and enhances the natural and local environment, protect and enhance biodiversity and geodiversity by:

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

and

193. d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate."

Planning Practice Guidance

- 9.3.6 The Planning Practice Guidance ('PPG') was updated to reflect BNG policy in 2024. This confirms that biodiversity net gain has only been commenced for planning permissions granted in respect to an application made on or after 12 February 2024.

Emerging Local Plan

Cherwell Local Plan Review 2042

- 9.3.7 Cherwell District Council ('CDC') is also preparing a new Local Plan. The consultation (Regulation 19) on the draft of the Cherwell Local Plan Review 2042 was held between 19th December 2024 and 25th February 2025. The Submission Local Plan was approved by CDC Executive on 1 July 2025 and by Full Council on 21 July 2025, and was submitted to the Secretary of State for Housing, Communities and Local Government for independent examination, on 31 July 2025. Officers prepared a Schedule of Proposed Changes and Minor Modifications which they consider would improve and update the draft plan in view of the representations received and updated evidence. These will be submitted for consideration by the Inspector at the examination and if appropriate may form the basis for future Main Modifications to the Submission Local Plan as recommended by the Inspector in order to make the plan sound and/or legally compliant. As such, at this time, only limited weight can be attributed to the emerging Local Plan as a material planning consideration. *Survey Guidelines*
- 9.3.8 The Bat Conservation Trust published the 4th edition Bat Surveys for Professional Ecologists: Good Practice Guidelines in 2023. This supersedes the 3rd edition which had been published in 2016.
- 9.3.9 The Bird Survey & Assessment Steering Group published Bird Survey Guidelines for assessing ecological impacts in 2024. These new guidelines supersede the methodology used in the submitted assessment which was broadly based on territory mapping used for the British Trust for Ornithology ('BTO') Common Bird Census ('CBC')¹.
- 9.3.10 The changes to good practice guidance does not undermine previous findings and recommendations. Following CIEEM guidance on data validity, protected species surveys were updated in 2025, and the new guidance was adopted and applied to survey approaches.

¹ Bibby, C.J., N.D. Burgess & D.A. Hill, 2000: Bird Census Techniques: 2nd Edition. London: Academic Press

9.4 Baseline Conditions

Habitats

- 9.4.1 An updated habitat survey was undertaken in August / September 2024 by an experienced botanical surveyor (Botanical Society of Britain & Ireland Field Identification Skills Certificate Level 4), to identify any significant changes relative to that reported in 2021, and to assess the Site under the Statutory Biodiversity Net Gain Metric.
- 9.4.2 The updated survey has informed a revised BNG baseline and feasibility assessment for the site. A Statutory Biodiversity Metric Calculation Tool has been provided as part of the Biodiversity Impact Assessment in **Appendix 9.10**. While the baseline data reflects the current conditions on Site, the proposals should be considered as indicative and subject to further revisions.
- 9.4.3 The overall Site composition and ecological value has not significantly altered from the initial assessment, however the following changes have been made to the baseline.
- The grassland fields used for grazing have been rotated, with new areas being seeded, and other areas previously recorded as grassland being ploughed and used for cropland. A review of publicly available satellite imagery shows this rotational land management has been a long-term practice at the Site. Based on historical imagery, areas of temporary grassland leys have been distinguished from areas of permanent pasture, and reclassified within the baseline assessment.
 - Additional hedgerows have been identified as "Important" under The Hedgerows Regulations 1997, relative to those identified in the previous assessment (**Appendix 9.1**). The change relates to a greater average species density being recorded.
 - An updated ground level tree assessment (GLTA) of potential bat roosting habitat in trees was conducted in August 2024 by a licenced bat worker (2024-12130-CL18-BAT) and a suitably experienced assistant (**Appendix 9.2**). The survey recorded 43 trees with potential roost features (PRFs), and identified 14 trees where Further Assessment is Required (FAR) to establish if PRFs are present.

Fauna

- 9.4.4 Based on the updated survey effort conducted in 2025. The species descriptions and evaluations have been updated as follows.

Amphibians including Great crested newts

9.4.1 A full set of GCN surveys was conducted in 2021 to cover ponds within 500m of the Site. In 2025 an eDNA survey was conducted for ponds within 250m of the Site. Full details of the great crested newt surveys are provided in **Appendix 9.3**.

Table 9.4.1 Summary Description and Evaluation for Amphibians

Extent	Description	Site / Species Evaluation
<p>Linear features, dense scrub, woodland, one field compartment</p> <p>GCN recorded in 2021 in single extant pond (P10). eDNA results were negative for GCN in 2025.</p> <p>GCN absent from waterbody P17 in 2021. eDNA results were positive in 2025.</p>	<p>Much of the site of limited value to amphibians being without a varied structure. Hedgerows provide a good network of movement around and through the Site to the local and wide area, as well as wintering and shelter habitat. Dense scrub and to a lesser extent scattered scrub, woodland and areas of tussocky grassland to the north of the Site provide foraging and sheltering habitat.</p> <p><u>2021</u> On-site aquatic potential breeding habitats were P10 and P17. P10 located towards the south of the Site, supported at least a small (peak count of 10) GCN population. Survey limitation suggest a precautionary approach should be adopted that a medium population at the lower end of the scale could have be present. P17 was a pooling with the ditch network and no GCN were recorded</p> <p>Offsite there were small populations of GCN recorded in four ponds greater than 500m from P10 (P2, P7, P8 and P13), with an overall peak count indicating a medium meta population across these off-site ponds, which lie within 500m of each other. Two ponds (P7 and P13) supporting small individual populations of GCN lie within 250m of the Site and GCN from these ponds could be using suitable features within the site, up to 500m from the ponds. The other ponds supporting GCN are considered to be sufficiently separate from the site that GCN would not be using it.</p> <p>Large populations of GCN are known to be present in the wider area, at Ardley Cutting SSSI and Bure Park in ponds either over 500m from the Site, or separated from it.</p> <p>Small numbers of smooth newt also recorded at P10 (peak count of 2). Small number of common frog and common toad recorded at surrounding ponds.</p>	<p>Small areas of suitable terrestrial foraging and sheltering habitat within the overall context of site and surrounding area. Good habitat connectivity with surrounding area along hedgerows. Larger more optimal habitat on site is almost 500m from off-site populations reducing its value to these populations.</p> <p>Likely small GCN population on site using available waterbodies. Specific distribution has fluctuated. Likely using surrounding hedgerow, scrub and woodland habitats up to 250m from waterbodies including near Hawkwell Farm. Waterbodies are located over 500m from tussocky grassland in north of site and over 500m from closest offsite pond and other areas of more optimal off-site habitats, indicating these are unlikely to be utilised by on-site newts.</p> <p>GCN known to be widely present in local and wider area and on-site population represents small numbers within the wider population in the local area.</p> <p>Local value / low sensitivity</p>

Extent	Description	Site / Species Evaluation
	<p><u>2025</u> eDNA surveys returned positive results for on-site waterbody P17, but negative results for pond P10.</p> <p>Four ponds within 250m of the Site also tested positive for GCN (P7,P11,P12,and P16). The survey of two ponds (P5 and P13) just beyond 250m also provided positive results.</p>	

Badgers

9.4.2 Badger surveys were conducted in 2021 and in 2025. Full details of the badger surveys are provided in the confidential badger report at **Appendix 9.7**.

Table 9.4.2 Summary Description and Evaluation for Badgers

Extent	Description	Site / Species Evaluation
Site wide	<p>Site provides both seasonal foraging within the arable compartments as well as permanent foraging habitat within grassland and all woody habitats, which also provide sett creation potential. Hedgerows also provide connectivity around and through the site to off-site areas of suitability.</p> <p>Survey found a range of evidence within the search area. Full details are provided in the confidential badger report.</p>	<p>While badger welfare is protected under legislation (The Protection of Badgers Act 1992), they are common and widespread, and for planning purposes are not ascribed a particular conservation value and are considered to be of Negligible importance.</p> <p>Below local / low sensitivity</p>

Bats

9.4.3 Full details are provided in **Appendix 9.2**. Two seasonal activity surveys (summer and autumn) were undertaken in 2020 on a smaller area than this Application red line. The September 2020 static detector survey recorded barbastelle *Barbastellus barbastellus*, an Annex II species as listed on the Habitats Directive. Effort was therefore upgraded in 2021 to monthly survey effort, with transects extending to 3 hours in time in accordance with guidance, with a dusk and dawn survey undertaken on one occasion. At this time the Application red line was altered and an

additional transect route was added. In 2025 an update activity survey was conducted to allow comparison and validation of previous findings. Ground based tree roost assessments and subsequent roost classification surveys were conducted in 2021 and fully updated in 2025.

Table 9.4.3 Summary Description and Evaluation for Bats

Extent	Description	Site / Species Evaluation
Species assemblage and activity		
<p>11 species/groups across Site</p>	<p>Intensively managed farmland supports limited botanical diversity unlikely to attract invertebrate prey. Linear features provide a good network of corridors of greater value as both foraging and commuting habitat, with links to the local area including to small areas of woodland.</p> <p>Hedgerows support mature trees, a small number of which provide roosting features. Results so far indicate the Site is used by a relatively low number of bats given its size, dominated by the more common species. Whilst activity was noted across the whole Site, activity was higher along watercourses.</p> <p>Surveys showed broadly similar patterns of findings across years. Species recorded predominantly comprised common pipistrelle, a generally common species with widespread distribution</p> <p>4 S41 species and local SPI (soprano pipistrelle, noctule, brown long eared bats barbastelle) recorded foraging and commuting during transect and static surveys.</p> <p>Low numbers of two Annex II species recorded (barbastelle and serotine <i>Episesicus serotinus</i>) recorded on static detectors, although September 2021 recorded higher numbers of barbastelle bats on the unit in the north of the Site. Oxfordshire is likely to be on the northern edge of Serotine, with barbastelle typically recorded in southern and central areas. A single Nathusius's pipistrelle <i>Pipistrellus nathusii</i>, was recorded in 2021.</p>	<p>Overall the site's habitats are of low-moderate value for bats, with large areas of low value habitat interspersed and bisected by smaller or linear habitats of greater value. Habitats of greater interest to bats were noted to be the three watercourse corridors. The small woodland block provides some suitability for barbastelle bats, including with the associated presence of the watercourse, but its small size and general lack of fully mature trees limits its value.</p> <p>The overall assemblage and frequency is not considered exceptional or significant, typical of the habitats recorded. Habitats indicating higher levels of use, and therefore of better value to bats, were as would be expected.</p> <p>Numbers of the less common Nathusius' pipistrelle and Annex II bats recorded are not considered significant. The northern area where greater numbers of Barbastelle bats were recorded on one occasion is to be retained as GI. The site lacks potential roosting habitat and limited foraging habitat for these species and males of all three species are known to forage and/or migrate over large areas. These species add value but have not occurred in sufficient numbers or with sufficient regularity to be significant and the limited suitable habitat for these species suggests the site is not likely to form an important part of their foraging resource, largely providing commuting habitat moving between other more suitable habitats in the wider area.</p> <p>Similar and more suitable foraging and bat habitat is present in the local area which could be readily utilised by the foraging and commuting bats recorded.</p> <p>Local / low sensitivity for most species Local / medium sensitivity (barbastelle)</p>

Extent	Description	Site / Species Evaluation
Potential roosts		
Eleven trees	<p>Majority of trees not of sufficient maturity to support suitable roosting features.</p> <p>Of the trees likely to be impacted by the scheme, 5 trees were confirmed to support suitable potential roosting features, with a further two trees which were unsafe to climb, treated as having potential.</p> <p>No roosts were identified in any of the trees throughout any of the tree assessments.</p>	<p>Limited potential roost availability overall and likely presence of similar roosting habitat in local area.</p> <p>Of trees assessed, no evidence of roosting noted within potential roost features.</p> <p>Below local / low sensitivity</p>

Birds

9.4.4 Full details of the breeding and wintering bird surveys are provided in **Appendix 9.5**. FPCR have undertaken a suite of surveys across the Site since 2020. In 2025 a full set of winter bird surveys and a single update breeding bird survey were conducted.

Table 9.4.4 Summary Description and Evaluation for breeding and wintering birds

Extent	Description	Site / Species Evaluation
Breeding Birds		
21 notable species recorded in 2025 (22 in 2021).	<p>Species typical of habitats recorded.</p> <p>The results of the 2025 wintering and breeding bird surveys were in line with the previous 2020/21 surveys, with a similar assemblage of farmland and generalist species recorded in similar numbers.</p> <p>Internal arable field compartments provided breeding habitat for several notable ground nesting farmland birds, as well as foraging for notable farmland species, including lapwing, skylark, yellow wagtail and meadow pipit.</p> <p>Marginal areas provide breeding and foraging for small numbers of notable farmland specialists such as grey</p>	<p>Site does not meet any LWS criteria for birds.</p> <p>Lower-moderate numbers of breeding or probable breeding notable species recorded using suitable habitats. Abundant similar habitat widely available in surrounding area</p> <p><u>Breeding bird assemblage</u> including farmland and more generalist species: Local value / low sensitivity</p> <p><u>Individual species</u>: majority of species recorded in numbers that are not of significance beyond local level.</p> <p>Whilst only one pair of <u>lapwing</u> was confirmed as breeding on Site in 2021, probable breeding was also</p>

Extent	Description	Site / Species Evaluation
	<p>partridge, yellowhammer and linnet, which would also use the compartments for foraging.</p> <p>Modified grassland provides foraging for a small number of the notable species recorded, including meadow pipit, song thrush and starling.</p> <p>Notable species using hedgerow and wooded areas for breeding and foraging included willow warbler bullfinch and dunnock. Mallard were noted as probable breeders within the watercourses.</p> <p>The woodland located south of the Site supports a rookery of approximately 40 nests; however, this is to be retained within the current proposals. The survey identified a count of 125 individuals however it is likely that there is a degree of double counting due to the rooks travelling back and forth from the rookery.</p>	<p>recorded in 2025 within farmland habitats. Breeding pairs within Oxfordshire are declining, with less than 10 pairs annually.</p> <p>Lapwing: county value / medium sensitivity</p>
Wintering Birds		
<p>30 notable species recorded in 2025 (24 in 2020/21)</p>	<p>Majority of species typical of habitats. Farmland habitats recorded generally provide good foraging resources for notable species, with interiors providing foraging for a range of widespread but declining species, including the gulls, birds of prey and thrushes recorded.</p> <p>Hedgerows provided foraging for notable generalists with some resting and communal roosting habitat within hedges for linnet and yellowhammer. Woodland also provided roosting and foraging.</p> <p>A wintering colony of house sparrow occurs at Hawkwell Farm, with wetland areas used by foraging mallard and snipe.</p> <p>2020/21 lapwing were only recorded on one survey occasion as flyovers only, whilst in 2025 they were</p>	<p>Low-moderate numbers recorded of a typical range of notable species for all habitats. Similar habitats abundant in local area.</p> <p>Assemblage for farmland and generalist habitats: Local value / low sensitivity</p> <p><u>Individual species:</u> majority of species recorded in numbers that are not of significance beyond local level /low sensitivity</p> <p>Numbers of grey wagtail, skylark and yellowhammer meet county thresholds for significance, based on LWS criteria. County level / low sensitivity</p>

Extent	Description	Site / Species Evaluation
	recorded utilising the site habitats on three survey occasions with a peak of 37.	

Brown hairstreak

9.4.5 A targeted survey was conducted in 2025. Full details are provided in **Appendix 9.9**.

Table 9.4.5 Summary Description and Evaluation for brown hairstreak

Extent	Description	Site / Species Evaluation
Recorded locally and onsite	<p>Brown hairstreak breed on hedgerows, scrub and woodland edges which contain young blackthorn <i>Prunus spinosa</i>: its larval host-plant.</p> <p>Within the Red List for butterflies, the brown hairstreak is listed as vulnerable to extinction. This is due to a 35% decline in its abundance between 2010 and 2019, thought to be linked to habitat loss.</p> <p>50 eggs were recorded during the survey. The railway corridor and watercourse R2 corridor, as well as hedgerow H19 act as valuable breeding habitat for brown hairstreak due to the relaxed management of hedgerows in this area of site.</p>	<p>An indication of the population size is not possible from egg counts alone. However, it is known that brown hairstreak colonies breed over large areas of habitat with several square kilometres of hedges and woods. As such, the eggs found on site are likely to be part of a wider population in the local area. This is corroborated by the results of the desk study.</p> <p>Further suitable habitat is widely present in local area.</p> <p>Local value / low sensitivity</p>

Reptiles

9.4.6 Full details are provided in **Appendix 9.4**.

Table 9.4.6 Summary Description and Evaluation for Reptiles

Extent	Description	Site / Species Evaluation
<p>Small numbers of grass snake on site which may utilise hedgerow bases, dense scrub, woodland, and watercourses.</p>	<p>Much of the site of limited value to reptiles being without a varied structure. Hedgerows provide a good network of movement around and through the Site to the local and wide area, as well as wintering and shelter habitat. Dense scrub and to a lesser extent scattered scrub, woodland and small areas of tussocky grassland provide further foraging and sheltering habitat.</p> <p>Desk study grass snake and common lizard <i>Zootoca viviparus</i> in wider area, with limited connection to site.</p> <p>Survey in 2021 recorded no reptiles on Site, with an incidental record of one grass snake <i>Natrix helvetica</i> approximately 200 northwest of site. Updated surveys in 2025 recorded two individual grass snake on Site.</p>	<p>Habitats support small numbers (a low population) of grass snake known to be present in the local area and which have a wide foraging range.</p> <p>Further suitable habitat widely present in local area.</p> <p>Below local / low sensitivity</p>

Riparian mammals

9.4.7 Surveys were conducted in 2025. Full details are provided in **Appendix 9.8**.

Table 9.4.7 Summary Description and Evaluation for riparian mammals

Extent	Description	Site / Species Evaluation
<p>Three sections of minor watercourse transect the Site.</p>	<p>Otters are known to utilise all types of waterbodies in the UK, including small streams and watercourses, even when dry. As such, it is considered that the watercourses on Site have the potential to be used by otters for commuting, resting and foraging.</p> <p>The onsite watercourses provide poor suitability for water voles.</p> <ul style="list-style-type: none"> • The southern watercourse (R2) had steep banks but was heavily shaded by bank trees. Water was present but in very low levels and marginal vegetation suitable for foraging and cover was almost absent. • The northern watercourse (R1) had a mixture of shallow and steep sloping earth banks along the majority of the length with the areas of steep banks providing suitable habitat for burrowing. Vegetation present within the watercourses also provided some suitable cover and foraging opportunities, however, the channel bed had limited, or no water. • The eastern watercourse (R3) was dry during the surveys but had steep sided earth banks suitable for burrowing. Vegetation varied from areas dense with tall herbs and reed grass to the south and bank trees and scrub causing shading along the northern portion of the watercourse. <p>Otter spraints were recorded in association with watercourse R2.</p> <p>Water vole droppings and a burrow were recorded in association with watercourse R1.</p>	<p>Surveys have confirmed water vole presence along R1. Due to habitat connectivity, it must be assumed that water voles may be present in low numbers / occasionally utilise all suitable habitats on Site.</p> <p>Surveys have also confirmed that otter have been using the Site, likely for commuting and foraging purposes, with spraints recorded along R2. No holts were identified during the surveys.</p> <p>While numbers of individuals using the site is thought to be low, the watercourse corridors provide connectivity for these species and so are important in a local context.</p> <p>Local value / low sensitivity</p>

9.5 Potential Effects

Construction stage

Impact on Designated Sites

9.5.1 The potential effects reported within the 2021 ES remain as reported therein.

Impact on Habitats

9.5.2 The majority of losses are to habitats not assessed as being Important Ecological Features (IEFs), including arable, and modified grassland, scattered scrub, and tall herbs. Habitat losses of IEF are restricted to hedgerows and their associated trees, as a result of total or partial removal to accommodate primary access roads or location within proposed built areas.

9.5.3 Five hedgerows (H12, H22, H23, H48 and H49) which total 617m will be lost in full. This represents c.5% of the Site hedgerow network. None of these were considered to be Important under the Hedgerow Regulations. All are S41 Habitats of Principal Importance. Further hedgerows will be subject to varying degrees of fragmentation to facilitate access and place-making. Including the hedgerows identified above, approximately of 791m of hedgerow will be lost to facilitate the development and construction of primary roads (**Table 9.5.1**). This equates to 6.4% of the hedgerow network. Additional gaps in some hedgerows are expected to facilitate movement across the Site.

Table 9.5.1: Effects on Hedgerows

Ref	Important under REGs	Potential effect	Reason
H12	No	Total loss	Primary road/built development
H14	No	Partial loss	Primary road
H22	No	Total loss	Primary road/built development
H23	No	Total loss	Primary road/built development
H27	No	Partial loss	Primary road
H28	Yes	Partial loss	Primary road
H35	No	Partial loss	Primary road
H48	No	Total loss	Built development
H49	No	Total loss	Primary road/built development

9.5.4 Currently 14 trees greater than 30cm diameter at breast height (DBH), which are located within hedgerows, have been identified for removal. No trees were identified to qualify for Veteran status by the arboricultural assessment (FPCR 2024).

9.5.5 Effects would be permanent adverse losses and/or fragmentation within the hedgerow network, across several single events. Overall, the losses are such that much of the existing network will be unaffected and its functionality within and contribution to the Site's hedgerow resource, and local hedgerow network unlikely to be adversely affected.

9.5.6 The assessment of potential effects on the hedgerow network remains as per the previous assessment. These effects are considered to be of a minor magnitude and of **minor significance at a below local level**.

9.5.7 No other changes in construction stage effects are anticipated relative to the previous assessment.

Impacts on Fauna

9.5.8 The assessment of species impacts has been updated to reflect the additional 2025 survey effort.

Badger

9.5.9 Badger activity within the survey area has increased relative to 2021. Whilst they are protected by law, they are not IEF, and as such a full assessment of impacts in accordance with EcIA guidance is not made. Appropriate mitigation will be required to ensure legal compliance.

Bats

9.5.10 The assessment of loss of bat foraging and commuting habitat remains as per the previous assessment and is unlikely to adversely affect the Favourable Conservation Status (FCS) of any bat species recorded at the Site.

9.5.11 An updated ground level tree assessment (GLTA) conducted in 2024 identified twelve trees which are to be removed, that either contained potential roost features (PRFs) or where further assessment is required (FAR) to fully assess roost potential. These trees were subject to further assessment in 2025, and no bat roosts were identified. A further 52 trees have been identified to provide PRFs or with FAR, but are not expected to be impacted. Should this change, these trees would also require assessment.

9.5.12 Based on the proposed Site layout, the loss of potential roosting features can be estimated to represent an 18.75% loss of the on-Site roost resources. No roosts were identified within any of the features to be lost. Should any impacted roosts be identified at a later stage, a Natural England derogation licence will be required to facilitate their removal and secure appropriate compensation. The reduction of overall roost provision is considered to be of a minor magnitude and of **minor significance at a local level**, and is unlikely to adversely affect the Favourable Conservation Status (FCS) of any bat species recorded at the Site.

Birds - Breeding

9.5.13 The assessment of loss of bird breeding habitat remains as per the previous assessment.

Birds - Wintering

9.5.14 The assessment of loss of bird wintering habitat remains as per the previous assessment.

Brown hairstreak

9.5.15 Brown hairstreak were found to be present within and surrounding the Site. Suitable habitat for this species exists where hedgerows, scrub and woodland edges are subject to relaxed

management. The vast majority of these habitats would either be unaffected or enhanced for this species. The limited losses of suitable hedgerow habitat can be considered to be of minor significance at a local level.

Great crested newts (GCN)

9.5.16 According to research published by Natural England², GCNs are unlikely to travel in excess of 200-250m from a breeding pond and if the habitats adjacent to the pond are of good quality, the distance travelled from the pond is likely to be reduced. The report states:

"By far the most captures were recorded within 50 m of ponds and few animals were captured at distances greater than 100m"

"Captures on fences (and by other methods) at distances between 100 m and 200 – 250 m from breeding ponds tended to be so low as to raise serious doubts about the efficacy of this as an approach, although a small number of projects did report captures on significant linear features at distances approximately 150 – 200 m from ponds."

9.5.17 Jehle³ determined a terrestrial zone of 63m, within which 95% of summer refuges were located. In addition, following the breeding season, Jehle and Arntzen⁴ recorded 64% of newts within 20m of the pond edge".

9.5.18 For the purpose of mitigation licences Natural England classify core terrestrial habitats as those within 50m of a breeding pond, habitats between 50m and 250m are classified as intermediate, and beyond this, habitats are classified as distant.

9.5.19 The single on-Site pond (P10) and adjacent woodland habitat previously supported GCN (2021 survey data) and will be retained and buffered from the development. The waterbody that had formed within the ditch (P17) in 2025 tested positive for GCN using an eDNA survey. This waterbody and adjoining woodland will also be retained and buffered from the development. Woodland and hedgerows adjacent to these waterbodies provide some suitable terrestrial habitat. The majority of land within 250m of the waterbodies comprises cropland and pasture of limited suitability. There will be limited loss of habitat likely to be used by the on-Site GCN population. Pertinent habitat loss within 250m will be restricted to hedgerow and scrub habitats. All losses are beyond 50m from pond P10, and so outside the core terrestrial habitat zone. There will be some hedgerow removal within 50m of P17 in the area to the south. This is considered unlikely to form a significant resource for GCN in comparison to the retained woodland immediately adjacent to the waterbody. Losses in themselves are unlikely to reduce the overall extent of foraging and sheltering habitat with the extent of retained woodland and hedgerows still providing the majority of suitable habitat.

² Cresswell and Whitworth, 2004. English Nature Research Report Number 576

³ Jehle, R. 2000. The terrestrial summer habitat of radio tracked great crested newts (*Triturus cristatus*) and marbled newts (*Triturus marmoratus*). The Herpetological Journal, Volume 10, pp137-142.

⁴ Jehle, R., Arntzen, J, W. 2000. Post-breeding migrations of newts (*Triturus cristatus* and *T. marmoratus*) with contrasting ecological requirements. Journal of Zoology, 251, pp297-306.

- 9.5.20 Habitat connectivity to the wider landscape and any potential GCN meta-population will be maintained along a green corridor following the hedgerows. Pond P10 is almost 650m from the nearest off-Site pond (P7), or approximately 900m via suitable connective habitat. GCN have been recorded in offsite pond P7, but these are considered likely to be part of a different local population given the distances between to the onsite waterbodies. Waterbody P17 is c.470m from pond P10, and over 1km from the nearest off-site waterbody. It is therefore considered that there are no significant isolating effects between on and offsite populations from the proposals.
- 9.5.21 Losses associated with hedgerow breaches have the potential to lead to adverse effects through potential fragmentation and isolation of the on-site population from limited areas of suitable terrestrial habitats.
- 9.5.22 GCN are widely present in the local and wider area, with several known and separate populations within 2km of the Site. Ponds P7, P11, P12 and P16 were confirmed to support GCN and are within 250m of the Site. On-site hedgerows are found within 250m of off-site GCN ponds. These ponds all have connections to further off-Site terrestrial and aquatic habitat, and while GCN may utilise on-Site hedgerows, these are unlikely to form a significant part of their terrestrial habitat. No hedgerow losses have been identified within 250m of these ponds and habitat proposals within this zone represent a betterment over current agricultural use.
- 9.5.23 Further ponds supporting GCN within 500m of the Site occur east and west of Bainton Road. GCN located here have access to larger areas of more suitable terrestrial habitat within 500m than is available on-Site. As a result, it is considered that GCN from these off-Site ponds are generally unlikely to use the small areas of less suitable terrestrial habitat at the Site.
- 9.5.24 Adverse effects of on-site fragmentation and isolation are limited in scope to a low order of magnitude and are considered to be of **minor significance at a below local level** for all GCN recorded, on or off-site.
- 9.5.25 There is the potential for harm or mortality to any GCN using suitable terrestrial habitats within 500m of any pond supporting GCN to be removed in the absence of mitigation. For off-site ponds, given the low likelihood of GCN being present on Site, and nature of works within 500m, effects are **not considered to be significant** and unlikely to affect the local FCS of the populations. For GCN at P10 on site, adverse effects are considered to be of a low magnitude, permanent, occurring as one or several events dependent on phasing and of **minor significance at a below local level**, potentially affecting small numbers of the population associated with P10, particularly where directly connected suitable habitat within 250m is removed but unlikely to affect the overall FCS of the wider population.

Otter

- 9.5.26 Suitable habitat for this species exists along riparian habitats which may be used for commuting corridors, as well as potentially providing a limited degree of sheltering and foraging habitat. The vast majority of these habitats would either be unaffected or enhanced for this species.

- 9.5.27 While unlikely to affect the wider population, the construction works have the potential to disturb this species, and could result in incidental harm. In the absence of mitigation, initial construction works could lead to impacts of **minor significance at a local level**.

Reptiles

- 9.5.28 Grass snakes were found to be present within the Site at low density. Suitable habitat for this species exists in association with edge habitats located throughout the Site which may be used for dispersal and along the watercourse corridors where riparian habitats provide areas of cover, basking and hunting. The vast majority of these important habitats would either be unaffected or enhanced for this species.

- 9.5.29 Nevertheless, the construction works will lead to the minor loss of reptile habitat, the displacement of reptiles and potential for direct mortality during initial ground works. In the absence of mitigation, initial construction works could lead to the accidental killing of reptiles and, although unlikely to affect the anticipated wider population, impacts of **minor significance at a local level**, may occur.

Water vole

- 9.5.30 Low suitability habitat for this species exists along riparian habitats, with limited evidence of presence confirmed along watercourse R1 in the north of the Site. The vast majority of riparian habitats would either be unaffected or enhanced for this species.

- 9.5.31 While unlikely to affect the wider population, the construction works, particularly bridge/culvert construction have the potential to disturb this species and could result in incidental harm. In the absence of mitigation, initial construction works could lead to impacts of **minor significance at a local level**.

Post-completion stage

Impact on Designated Sites

- 9.5.32 The potential effects reported within the 2021 ES remain as reported therein.

Impact on Habitats

- 9.5.33 The potential effects reported within the 2021 ES remain as reported therein.

Impact on Fauna

- 9.5.34 The potential effects reported within the 2021 ES remain as reported therein with regards the majority of species/assemblages. However, based on the updated 2025 survey data, the following outlines additional considerations.

Brown hairstreak

- 9.5.35 Brown hairstreak rely on areas of relaxed management allowing suckering growth of blackthorn. Retained hedgerows, watercourses and woodlands are all to be largely buffered with additional green space. There is however a risk that formalised management could reduce the value of these features, if it is not undertaken sensitively. This would constitute an impact of **minor significance at a below local level**.

Great crested newts (GCN)

- 9.5.36 Whilst waterbodies P10 and P17 supporting GCN (either in 2021 or 2025 surveys) will be located within an area of green space, the internal road network will cross connected habitat corridors. Whilst GCN predominantly move at night, when vehicular activity might be reasonably anticipated to be lower, there is the potential for harm and mortality of individuals moving across roads. In addition kerbed roads and gully pots can lead to entrapment on the road and sewer system. Effects are considered to be permanent, of a low magnitude and of **minor significance at a below local level**.
- 9.5.37 Effects of increased disturbance to P10 and P17 from humans and domestic pets could lead to habitat degradation and pollution could lead to decreases in aquatic habitat and water quality, reducing the ability of the population to breed in the long term. Adverse effects are permanent, of a high magnitude, and of **moderate significance at a below local level**.

Otter

- 9.5.38 While unlikely to affect the wider population, there is potential for increased disturbance along riparian corridors from humans and domestic pets. In the absence of mitigation, this could lead to impacts of **minor significance at a local level**.

Reptiles

- 9.5.39 The key habitats for these species; hedgerows, watercourses and woodland edges are all to be largely buffered with additional green space. There is however a risk that formalised management could reduce the value of these features, if it is not undertaken sensitively. This would constitute an impact of **minor significance at a below local level**.
- 9.5.40 There is potential for increased disturbance from humans and domestic pets. In the absence of mitigation, this could lead to impacts of **minor significance at a below local level**.

Water vole

- 9.5.41 While unlikely to affect the wider population, there is potential for increased disturbance along riparian corridors from humans and domestic pets. In the absence of mitigation, this could lead to impacts of **minor significance at a local level**.

11.6 Mitigation Measures

Construction stage

11.6.1 The overarching principles of the proposed mitigation measures within the 2021 ES remain as reported therein. However, the following outlines additional considerations.

Habitats

11.6.2 Habitat creation within the Green Infrastructure have been further informed by the Biodiversity Impact Assessment (**Appendix 9.10**). While proposals are not finalised, the assessment quantifies baseline habitats and sets out the minimum requirements to provide appropriate gains in biodiversity units. It is expected that gains will be achieved on-Site, and that the final provision will be tailored to provide benefits to individual faunal species as well as the prescribed habitat compensation.

Fauna

Bats

11.6.3 The approach remains as previously reported, but will be extended to include the additional trees identified in **Appendix 9.2**.

Birds

11.6.4 Under the NW Bicester SPD (9e) it states, 'As it is not possible to mitigate for the Impact of farmland birds on the site, off-site mitigation measures should be provided and all applications within the masterplan area should contribute to the provision of off-site mitigation'. Since the original submission, further communications with Cherwell District Council have taken place. Mitigation could be provided either through utilising adjoining or nearby off-site agricultural land or where such measures cannot be implemented, the applicant could pursue a financial contribution to a suitable strategic farmland bird mitigation scheme in the local and wider area to secure the provision of breeding habitat. This is expected to be secured through a Section 106 agreement.

Brown Hairstreak

11.6.5 The implementation of the CEMP will ensure that all retained hedgerows / woodland edge habitats are afforded suitable protection during construction works.

11.6.6 New hedgerows will include blackthorn within the planting mixes.

GCN

11.6.7 The approach remains as previously reported, but will be extended to include the waterbody P17, and terrestrial habitat in licensable proximity to offsite ponds.

Otter

- 11.6.8 The implementation of the CEMP will ensure that riparian habitats are afforded suitable protection during construction works. This will include measures in relation to lighting which will avoid any unnecessary light spill into these areas.
- 11.6.9 Green infrastructure proposals will enhance blue corridors, with significant buffering of watercourses being applied throughout the scheme.

Reptiles

- 11.6.10 The CEMP will include a method statement for vegetation clearance that will detail passive displacement measures for reptiles, allowing them to reach retained habitats.
- 11.6.11 In addition to green infrastructure proposals that will enhance green/blue corridors, additional habitat creation measures will be employed to include log piles /hibernacula features.

Water vole

- 11.6.12 A pre-commencement survey prior to works will be undertaken to check for water vole burrows 10m either side of proposed bridge locations and associated working area. If evidence of water vole is recorded within that area, and works can not be micro-sited to avoid impacts, then an appropriate NE licensed approach for displacement will be required.
- 11.6.13 The implementation of the CEMP will ensure that the retained riparian habitats are afforded suitable protection during construction works. This will include measures in relation to lighting which will avoid any unnecessary light spill into these areas.
- 11.6.14 Green infrastructure proposals will enhance blue corridors, with significant buffering of watercourses being applied throughout the scheme.

Post-completion stage

- 11.6.15 The overarching principles of the proposed mitigation measures within the 2021 ES remain as reported therein. However, the following outlines additional considerations.

Fauna

Bats

- 11.6.16 The provision of a sensitive lighting will reduce adverse effects on foraging and roosting habits. Guidance has been updated since the initial submission. A lighting scheme that minimises light spill (including upwards) will be designed, following the guidance published by the Institution of Lighting Professionals & Bat Conservation Trust⁵. In general, the sensitive design of lighting with regard to bats will be achieved through a combination of the following measures:

⁵ Institution of Lighting Professionals & Bat Conservation Trust (2023) Guidance Note GN08/23 Bats and Artificial Lighting At Night.

- Avoiding unnecessary lighting;
- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used;
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability;
- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component;
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats;
- Internal luminaires can be recessed (as opposed to using a pendant fitting) - where installed in proximity to windows to reduce glare and light spill;
- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges;
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards;
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered;
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt;
- Where appropriate, external security lighting should be set on motion-sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate;
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand
- Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS;
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues; and
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the

effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

Brown Hairstreak

11.6.17 This species relies on young blackthorn as its larval host-plant. The LEMP will ensure that there are areas of relaxed management along specified hedgerows and woodland edge habitats to allow suckering growth. These will be cut back in rotation to ensure that there is a continuity in the available resource.

GCN

11.6.18 The approach remains as previously reported, but will be extended to include the waterbody P17.

Otter

11.6.19 The implementation of the sensitive lighting scheme outlined above will benefit riparian corridors and otters that use them.

Reptiles

11.6.20 Buffer strips of at least two metres will be allowed to develop at hedgerow bases and woodland edges along green/blue corridors. These will be subject to relaxed management, with interventions targeted only where necessary to maintain this area as a healthy ecotone. Grassland areas will be managed to promote structural diversity including tussocky grassland, mown pathways and clearings, and areas of bare ground, creating a range of micro-climates.

Water vole

11.6.21 The implementation of the sensitive lighting scheme outlined above will benefit riparian corridors and otters that use them.

11.6.22 Watercourses will be enhanced through management by reducing scrub encroachment to allow increased light penetration and opportunities for aquatic vegetation.

11.7 Residual Effects

- 11.7.1 No change to any of the residual operational and constructional effects identified in the 2021 application has been identified.
- 11.7.2 With regard otter and water vole, the mitigation proposed means that construction and operational effects can reasonably be expected to be negligible.
- 11.7.3 With regard to brown hair streak, residual construction effects are expected to be negligible. Operational effects creating a sustained increase in larval resource could provide a **minor beneficial effect in the long term, potentially at a local level.**

11.8 Cumulative Effects

- 11.8.1 No changes to cumulative effects have been identified and hence no change to the assessment in the 2021 ES is reported.