

11. Biodiversity

Introduction

- 11.1 This Chapter reports the outcome of the assessment of likely significant environmental effects arising from the Project for Assessment in relation to biodiversity. It also reports the likely significant environmental effects associated with the Proposed Scheme, which comprises the planning application.
- 11.2 The Chapter describes the technical consultation that has been undertaken during the EIA, the scope of the assessment and assessment methodology, and a summary of the baseline information that has informed the assessment.
- 11.3 In line with **Chapter 2: Approach to EIA**, the assessment reports on the likely significant environmental effects, the further mitigation measures required to prevent, reduce or offset any significant adverse effects, or further enhance beneficial effects. The conclusions are provided both in terms of the residual effects and whether these are considered significant. The assessment of effects takes into consideration both primary and tertiary mitigation (see **Chapter 2: Approach to EIA** for further details) and is informed by the EIA Scoping process (**Appendix 2.1 – 2.2**) and iterative scoping process where applicable.
- 11.4 This Chapter, and its associated **Figures 11.1 to 11.23** and **Appendices 11.1 to 11.9**, is intended to be read as part of the wider ES with particular reference to the introductory Chapters of this ES (**Chapters 1 – 6**), as well as **Chapter 8: Transport**, **Chapter 10: Air Quality**, **Chapter 12: Hydrology, Flood Risk and Water Quality** and **Chapter 17: Landscape and Visual**. In particular, the changes to biological and morphological features and a decrease in water quality as a result of the runoff are reported in **Chapter 12: Hydrology, Flood Risk and Water Quality**.
- 11.5 In addition, this Chapter should be read in conjunction with **Chapter 19: Assessment of Cumulative Effects**.

Summary of Consultation

- 11.6 **Table 11.1** provides an overview of the consultation that has been undertaken to inform the EIA, including the consideration of likely significant effects and the methodology for assessment.

Table 11.1: Summary of Consultation

Body/ Organisation	Contact	Date/Form of Consultation	Summary of Consultation Outputs
Greater Manchester Ecology Unit (GMEU)	Principal Ecologist	19 th March 2024 - Teams Call	Provided briefing on the approach to surveying across the Project for Assessment area and the requirement for ‘high level assessments’ (assessment of local ecological records, review of aerial imagery and views from Public Rights of Way (PRoW) of the areas which access cannot be obtained for

Body/ Organisation	Contact	Date/Form of Consultation	Summary of Consultation Outputs
			and which will not form part of the planning application. Further detail on this is provided under 'Limitations and Assumptions', and illustrated on Figure 10.1. Update on initial 'worse case' BNG results; identifying potential for offsite land within the landowners ownership and possible land within council ownership (Figure 1.1).
GMEU	Principal Ecologist	13 th June 2024 - Email	Confirmation (and further detail) of the above survey scope (and limitations). Update on BNG, including the identification of an offsite BNG area within the landowners ownership.
RBC		21 st May 2024 - Email	Liaising with RBC to establish Tree Preservation Orders (TPO).
GMEU	Principal Ecologist	27 th June 2024 - Email	Further request to close out approach to surveying across the Project for Assessment. Update on BNG progress.
Natural England		9 th September 2024 - Email and Phone Call	Discretionary Advice Service application issued on this date; pertaining to approach and scope for designated sites and Habitat Regulations Assessment (HRA). During a follow-up phone call, Natural England concluded that significant effects on the Internationally Designated Sites within 10km of the Project for Assessment would be unlikely. Tyler Grange advised that the HRA would also include an assessment of Holcroft Moss SAC, despite being 20km distant from the Project for Assessment, in order to establish potential impacts arising from vehicular pollution during both the construction and operation phases. Natural England noted this and agreed it was an appropriate scope of assessment.

Body/ Organisation	Contact	Date/Form of Consultation	Summary of Consultation Outputs
Greater Manchester Ecology Unit & Planners at Rochdale Borough Council	Principal Ecologist	16 th October 2024 - Microsoft Teams Call	Discussing BNG strategy, including proposed areas of 'open space / BNG mitigation'. GMEU advised on their preference for the consolidation of large green infrastructure areas; accepting that the Proposed Scheme is an outline application and that details on phasing are not available at present, but the importance of providing / securing large mitigation areas as part of the design. Such areas are defined on Figures 4.1 and 5.1, showing areas described as Peripheral Landscape Buffer and Landscape Mitigation Areas. Provided overview of protected species surveys results from the completed survey season, specifically focusing on farmland bird species, including barn owl <i>Tyto alba</i> and associated mitigation principles. It was agreed that key foraging and commuting corridors for barn owl (Whittle Brook) shall be retained and enhanced and alternative nesting and roosting features should be adopted. The overall numbers of other farmland birds (skylark) <i>Alauda arvensis</i> were discussed, and concluded that skylark were present but in low numbers.
Environment Agency	Green Growth Team Project Manager	12 th November 2024, Response to EIA Scoping Report	Request for a Riverine Metric Assessment as part of BNG assessment. However, requirement for a River MoRPH assessment are only required if there are impacts within 10m of the bank top. The EIA Assessment Plan (Figure 4.1) show a buffer of ~50m. This is possibly with the exception of river crossings. However, there is insufficient information on design and location and it is considered that a conditioning assessment would be disproportionate for an outline application. Invertebrate surveys have not been undertaken as the Project for Assessment will retain the most valuable habitats for invertebrates (principally Whittle Brook) as shown on Figure 4.1. Road crossings over Whittle Brook may affect invertebrates. However, habitats can be safeguarded during

Body/ Organisation	Contact	Date/Form of Consultation	Summary of Consultation Outputs
			construction through best practice sensitive working methods which can be controlled through CEMPs, to be secured through planning conditions.
Environment Agency (EA)	Project Manager & Planning Advisor, Green Growth Team	Meetings, Various 2024 – 2025 in relation to the scope of the WFD Assessment	The EA welcome the production of WFD Assessments and encourage opportunities to contribute to WFD status increase. The EA recommend that appropriate survey work is undertaken to establish the ecological value of tributaries and enhancements are included that go above and beyond preventing deterioration. These comments have been addressed within Chapter 12: Hydrology, Flood Risk and Water Quality and the WFD Screening Assessment.

Scope of the Assessment

11.7 An EIA Scoping Report was submitted to BC and RBC on 17th October 2024, as presented as **Appendix 2.1**. A Scoping Opinion has not been received to date; however a number of consultation responses have been received and are provided in **Appendix 2.2**. A response to the comments in **Appendix 2.2** are provided in **Appendix 2.3**. This section provides an update on the scope of the assessment presented within this Chapter following submission of the EIA Scoping Report.

Effects Not Considered to be Significant

11.8 The following effects were not considered significant as part of the EIA Scoping Report and are not considered further in this Chapter:

- Loss of potential invertebrate habitat resulting from construction phase affecting invertebrate populations.

11.9 Following the EIA Scoping process the following additional effect(s) are now not considered significant and the evidence to support this determination is outlined below.

Degradation through recreational pressure to South Pennine Moors¹ Special Area of Conservation (SAC) and Special Protection Area (SPA); Holcroft Moss SAC and Site of Special Scientific Interest (SSSI) and Rochdale Canal SAC

11.10 Following the completion of the EIA Scoping Report (**Appendix 2.1**) for the Project for Assessment, a 'Draft South Pennine Moors Supplementary Planning Document (SPD)' was released (24th September 2024), in which Natural England has indicated that there is "no

¹ Also referred to as the Peak District Moors SPA/SAC.

credible risk to the habitats and species on the SAC and SPAs² from recreation impacts. Consequently, Natural England considers that new development within the Places for Everyone (PfE) area, specifically the three areas of Oldham, Tameside and Rochdale, does not need to provide mitigation in accordance with part 7c of JP-G5”.

- 11.11 The effects of recreational pressure on Holcroft Moss have also been scoped out following further review of the site. This is due to restricted access to the site. Therefore a potential increase in recreational pressure will not apply to Holcroft Moss SAC.
- 11.12 Following a detailed Shadow Habitat Regulations Assessment, conducted by Tyler Grange, effects of recreational pressure on the Rochdale Canal SAC are unlikely to be considered significant. The PfE HRA³ identifies potential impact pathways on floating water plantain to be related to increases in recreational boat traffic. The Project for Assessment does not propose changes or additions to boatmooring opportunities. Therefore, this impact pathway is considered unlikely.
- 11.13 Effects of recreational pressure on the South Pennine Moors Special SAC and SPA; Holcroft Moss SAC and SSSI; and Rochdale Canal SAC are unlikely to be considered significant and have therefore not been assessed within the ES.

Degradation through nitrogen deposition, air quality and dust pollution to Rochdale Canal SAC; Holcroft Moss SAC; South Pennine Moors SAC and SPA; and non-statutory nature conservation areas

- 11.14 **Chapter 10: Air Quality** has scoped out effects at sensitive ecological designations as a result of variations in traffic flows and dust pollution associated with the Project for Assessment. It is concluded that the Natural England (NE) and Institute of Air Quality Management (IAQM) guidance documents state that for individual planning applications, where European designations are a consideration, it is acceptable to adopt the assessment, reasoning, and conclusions of the Local Plan Habitat Regulations Assessment (HRA) that considers said application. The PfE Plan HRA concluded that a likely significant effect on the Rochdale Canal Special Area of Conservation (SAC), South Pennine Moors SAC and South Pennine Moors SPA could be ruled out.
- 11.15 **Chapter 10: Air Quality** has also scoped out dust from construction activities. Although impacts as a result of fugitive dust emissions during construction are not considered to be Significant, a Construction Dust Assessment was completed and is provided in **Appendix 10.2** to further evidence this and provide certainty on the mitigation that will be implemented. This mitigation will be incorporated into the Construction Environmental Management Plan (CEMP) summarised in **Volume 3: Environmental Management Plan**.
- 11.16 Therefore, degradation through nitrogen deposition, air quality and dust pollution to Rochdale Canal SAC; Holcroft Moss SAC; South Pennine Moors SAC and SPA; and non-statutory nature conservation areas are unlikely to be considered significant and have therefore not been assessed within the ES.

² The SPD only comments on South Pennine Moors SPA/SAC and Holcroft Moss SAC.

³ Habitat Regulations Assessment of the Places for Everyone Joint Development Plan, February 2022

Effects Considered Likely to be Significant

11.17 The following effects (**Table 11.2**) were considered likely to be significant and are reported within this Chapter. Scattered trees were not included in the initial EIA Scoping Report, as impacts at that stage were unknown. As details progressed and an Arboriculture Assessment (**Appendix 11.9**) was undertaken, Scattered Trees were including into the Ecological Assessment. Similarly, Wet Ditches have been included. Although Wet Ditches do not occur within the Application Boundary, they are known to be present within the wider Assessment Boundary. It was therefore considered appropriate to include Wet Ditches

Table 11.2: Effects Considered Likely to be Significant

Likely Significant Effect	Receptor(s)	Applicable Development Stage	Spatial Zone
Degradation through recreational pressure	Non-Statutory nature conservation sites within 2km surrounding Assessment Boundary (detailed under 'Baseline Condition'.)	Operation	2km from all spatial zones
Overall loss of habitat and degradation of retained habitat	Deciduous woodland (loss) Hedgerows (loss) Neutral grassland (loss) Ponds (loss) Scattered trees (loss) Wet ditches (loss)	Construction and Operation	All spatial zones
	Degradation (Whittle Brook corridor)	Operation	
Risk of killing/injury/ loss of habitat and disturbance to populations of wildlife	Amphibians, badgers, bats, birds [non breeding and breeding], brown hare, hedgehog, otter, water vole and reptiles within the Assessment Boundary and +250m surrounding Assessment Boundary in the case of Great Crested Newt/Amphibians	Construction and Operation	All spatial zones

Assessment Methodology

Legislative Framework, Policy and Guidance

11.18 The following legislation and policy has informed the assessment of effects within this Chapter:

Policy

- National Planning Policy Framework (NPPF, December 2024)¹;
- Places for Everyone (PfE) Joint Development Plan (Adopted March 2024)²;
- Bury Local Plan (Adopted March 2024)³; and

- Rochdale Local Plan (Adopted May 2024)⁴.

Legislation

- The Conservation of Habitats and Species and Planning (England and Wales) Regulations 2018 (as amended) (CHSR)⁵;
- The Wildlife and Countryside Act (WCA) 1981 (as amended)⁶;
- The Countryside and Rights of Way Act (CROW) 2000⁷;
- The Protection of Badgers Act (PBA) 1992⁸;
- The Natural Environment and Rural Communities (NERC) Act 2006⁹;
- The Hedgerows Regulations 1997¹⁰;
- The Wild Mammals (Protection) Act 1996¹¹;
- The Environment Act 2021¹²; and
- The Town and Country Planning Act 1981 (as amended)¹³.

11.19 The following guidance has informed the assessment of effects within this Chapter and is detailed further in **Appendix 11.1 to 11.9**:

- Natural England (2022) Badgers: surveys and mitigation for development projects, Natural England standing advice¹⁴;
- Bat Mitigation Guidelines (Reason, P.F. and Wray, S. (2023))¹⁵;
- Bat Workers Manual (Mitchell-Jones, A.J. & McLeish, A.P. (eds). (2004) 3rd Edition Bat Workers' Manual., JNCC, Peterborough, ISBN 1 86107 558 8)¹⁶;
- Bat Surveys for Professional Ecologists- Good Practice Guidelines 4th Edition (Collins, J. (ed.) (2023))¹⁷;
- Bird census techniques (Bibby, C.J., Burgess, N.D., Hill, D.A. and Mustoe, S.H. (2000))¹⁸;
- Bird Monitoring Methods: A Manual of Techniques for UK Key Species (Gilbert, G., Gibbons, D.W., & Evans, J. (1998))¹⁹;
- Great Crested Newt Mitigation Guidelines (English Nature (2001))²⁰;
- Standing advice on otters (Natural England)²¹;
- Reptile Survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation (Froglife (1999))²²;
- Reptiles: advice for making planning decisions (Natural England (2022))²³; and

- The Water Vole Mitigation Handbook (Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016))²⁴.

Defining the Study Area

- 11.20 The study area is illustrated on **Figure 11.1**. This was derived by establishing the 'Zone of Influence' (Zol) for the Assessment Boundary. Guidelines for ecological impact assessment⁴ describe the Zol as the "area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities". It is commonplace to establish a 10km Zol radius from the site boundary, however, due to the scale of the Project for Assessment, the study area comprises a 20km Zol.
- 11.21 The key factor in establishing a 20km study area was to incorporate potential effects on Manchester Mosses SAC, in particular the Holcroft Moss (SSSI) component (19km southeast). This is due to potential effects of traffic generated by the Project for Assessment, using the M62 between Manchester and Warrington/ Liverpool, at which Holcroft Moss is situated directly adjacent to. Other Internationally designated sites within the study area are Rochdale Canal Special Area of Conservation (SAC) 3.5km east, South Pennine Moors SAC and SPA 17km east. As detailed above, potential effects on all SPAs and SACs within 20km have been scoped out of the ES.
- 11.22 The study area for National statutory designated sites and non-statutory site designations (**Figure 11.2**) is set at 2km, with a 2km radius for all protected and priority species records.
- 11.23 The Project for Assessment boundary is shown on **Figure 1.1**, with the Proposed Scheme boundary shown in **Figure 1.2**.

Background Studies to Inform the ES / Establishing the Baseline

- 11.24 Tyler Grange undertook a suite of detailed ecological surveys for all species listed in **Table 11.3** below between 2021 and 2024, refer to the Survey Area Plan (**Figure 11.3**). However, this assessment describes in detail the results of the 2024 ecological surveys only (**Appendices 11.1 to 11.9**). This is due to the dynamic nature of ecology and biodiversity, whereby ecological data is outdated after 12-months and therefore cannot be accurately relied upon after this period. Therefore the 2021-2022 survey results are referred to, but not described in detail within the Appendices. Aquatic Invertebrate surveys were conducted in 2022, across all ponds and waterbodies within the Survey Area. The surveys returned no notable/ protected species and therefore aquatic invertebrates were scoped out for further assessment (refer to the Scoping Report, **Appendix 2.1**).
- 11.25 Tyler Grange undertook 'high level' surveys in the remaining areas of the Project for Assessment (i.e. all areas beyond the Application Boundary, but within the Project for Assessment boundary). This was largely due to these areas being inaccessible (i.e. no permission)).
- 11.26 High-level surveys within the Project for Assessment comprised a combination of desk-based data (ecological records, coupled with reviews of aerial imagery and field data taken from views from Public Rights of Way) carried out within the remaining areas of the Project for

⁴ Guidelines for Ecological Impact Assessment (EclA) Version 1.3, updated September 2024.
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Assessment which were inaccessible; see **Figure 11.3** for an illustration of where detailed surveys were undertaken.

11.27 **Table 11.3** summarises all surveys undertaken to inform the assessment presented within this Chapter. The table also provides a brief summary of historic surveys undertaken, although they do not form part of the detailed assessment as outlined above.

Table 11.3: Background Studies / Surveys / Evaluations /Analysis

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
Badger (Appendix 11.1, Figure 11.4)	Badger surveys across the Survey Area (Figure 11.3) have been completed in 2024. Surveys undertaken in the appropriate season to identify setts and areas of foraging. Historic Surveys/ Studies Badger surveys were undertaken in 2022 within the Survey Area.	June 2024 – November 2024
Bats (roosting and foraging) (Appendix 11.2, Figure 11.5 to 11.12)	Preliminary Bat Roost Assessment (PBRA) surveys of all buildings within the Survey Area (Figure 11.3) have been undertaken. Following this, further nocturnal surveys were undertaken in line with each building’s suitability for roosting bats. In addition, the accessible land was generally perceived to offer moderate habitat quality for bats owing to its predominant agricultural use. Certain areas (i.e. the Whittle Brook corridor) offer higher value, but in the general context of the Project for Assessment, an assessment of overall moderate habitat quality is considered proportionate. In line with this assessment, seasonal transect surveys of the Survey Area were undertaken in the appropriate season (Spring, Summer, Autumn) and supplemented by static automated detector deployments every month (April – October inclusively). PBRA’s of the onsite trees were not undertaken. Owing to the dynamic and transient nature of bat roosts in trees⁵, and the long term implications of the Project for Assessment (i.e. some phases may not ‘come forward’ for many years), a detailed assessment of all trees onsite was considered to be a disproportionate survey effort at this stage of the application. For example, trees which provide suitable bat roosting habitat in 2024, may not be	April 2024 – October 2024

⁵ Bat Roosts in Trees. Bat Conservation Trust [online, accessed 28/11/2024]: <https://www.bats.org.uk/about-bats/where-do-bats-live/bat-roosts/roosts-in-trees>

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
	suitable in future years, or may not be required for removal once detailed plans on tree losses come forward for the individual phases. Historic Surveys/ Studies A full suite of bat emergence surveys were undertaken in 2022. All of the buildings surveyed in 2024 were also surveyed in 2022.	
Birds (non-breeding and breeding) (Appendix 11.3, Figure 11.13)	Detailed bird surveys have been undertaken within the Survey Area (Figure 11.3). A full suite of breeding bird surveys, comprising a minimum of three early-morning visits have been undertaken, and including a fourth nocturnal visit, to assess for nocturnal and crepuscular species, in line with best practice guidance. A full suite of non-breeding bird surveys have been undertaken across the Survey Area, comprising a minimum of five early morning surveys and one nocturnal survey in the appropriate season, to establish presence of overwintering bird species. Historic Surveys/ Studies Both breeding and wintering (non-breeding) bird surveys have been undertaken by Tyler Grange between September 2021 and July 2022 within the Survey Area.	Non breeding birds: October 2023 – March 2024 Breeding birds: March 2024 - July 2024
Habitats (Appendix 11.4, Figure 11.15 and Figure 11.16)	A full 'Extended Phase 1' habitat survey and 'UK Habs' survey, along with a hedgerow assessment of each hedgerow has been undertaken within the Survey Area (Figure 11.3); this assessment also informs the Biodiversity Net Gain baseline calculations. Historic Surveys/ Studies A full Extended Phase 1 habitat survey was undertaken in 2022, which covered the Application Boundary and additional land to the south, which was not accessible in 2022.	June 2024 – October 2024
Amphibians (including Great Crested Newt) (Appendix 11.5)	Surveys for great crested newt have been undertaken at all ponds within the Survey Area (Figure 11.3) and in adjacent land within 250 m, of the Application Boundary, where access permits. Data received from Highways England and Rochdale Council has also been included in the aforementioned plan. All accessible ponds were subject to eDNA analysis. It is the intention	June 2022 & June 2024

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
	to opt into the District Level Licence (DLL) Route, and enquiries have been made with Natural England to this end. Historic Surveys/ Studies As described above, eDNA water samples were undertaken in 2022. Unlike other ecological data, GCN eDNA data is valid (for DLL purposes) for four years, and therefore relevant to this assessment.	
Brown hare	Desk based records for this species were included in the assessment, along with visual evidence noted during other protected species surveys such as wintering and breeding bird and badger surveys, where the Survey Area was covered during daytime and evening walkovers.	October 2023 – October 2024
Data Search/ Desk Study	A desk based assessment began in March 2024, analysing online resources to establish potential impacts on designated sites. Analysis of purchased local record centre data was also undertaken to establish the likely presence/ absence of protected and notable flora/ fauna within 2km of the Assessment Boundary.	April 2024 – May 2024
Hedgehog	Desk based records for this species have been included in the assessment, along with visual evidence noted during other protected species surveys such as wintering, breeding bird and badger surveys, where the Survey Area was covered during daytime and evening walkovers.	October 2023 – October 2024
Otter/Water Vole (Appendix 11.6, Appendix 11.8 and Figure 11.17)	Although it was acknowledged that Brightley Brook, Castle Brook and Whittle Brook will be retained in any event, proximate development or crossings (details unknown at this stage) could incur adverse impacts. For this reason, two surveys (one early season April – June and a second late season July – September) were undertaken on Castle Brook, Brightley Brook and Whittle Brook within and adjacent to the Proposed Scheme (see survey area on Figure 11.17.1). Historic Surveys/ Studies Detailed Otter and Water Vole surveys were undertaken on Brightley Brook, Castle Brook and Whittle Brook during 2022.	June 2024, September 2024

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
Reptiles (Appendix 11.7 and Figure 11.18)	Targeted surveys for reptiles were undertaken in a small number of suitable habitats across the accessible land within the Survey Area (Figure 11.3) Surveys did not apply to the majority of the Survey Area, which is predominantly species-poor agricultural land, providing unsuitable reptile habitat.	May 2024 – September 2024
Trees (Appendix 11.9)	A full BS5837 Tree Quality Survey has been undertaken within the Application Boundary, capturing trees measuring over 75mm at 1.3m, in addition to all hedgerows.	November 2024

Assessment Process

Desktop Study

11.28 A desktop study for the Assessment Boundary was carried out in March 2024, and included information from the following sources:

- The Multi-Agency Geographic Information for the Countryside website for details of protected sites;
- Rochdale Borough Council and Bury Metropolitan Borough Council website for details of submitted planning applications and biodiversity action plans in the vicinity of the Site;
- The Natural England ‘Nature on the Map’ website; and
- A data request was also made to Greater Manchester Local Record Centre (GMLRC) – for evidence of protected and notable species, habitats and species of biodiversity concern.

Extended Phase 1/ UK Habs Habitat Surveys

11.29 Owing to the size of the Survey Area (**Figure 11.3**), an Extended Phase I habitat surveys/ UK Habs survey was undertaken on numerous dates throughout spring and summer 2024, by experienced Tyler Grange ecologists (full details in **Appendix 11.4**), who are members of the Chartered Institute of Ecology and Environmental Management (CIEEM). The Survey Area was subsequently revisited during numerous ‘Phase II’ protected species surveys throughout 2024 (as described in **Table 11.3**). As discussed above and in **Appendix 11.4**, assumptions were made on habitats within the wider Project for Assessment area, derived from ‘high-level’ assessment, where detailed habitat surveys were not undertaken (for example, access was not permitted to Pike Fold Golf Course, and therefore assumptions were made on the habitat type within this area).

Detailed Surveys

11.30 The need for further surveys of protected and/ or priority species in / adjacent to the accessible land within the Project for Assessment were identified (**Figure 11.3**). Details, including full methodologies, of the surveys carried out by Tyler Grange are provided in the respective Appendices for each species, as follows:

- [Confidential] Badger Survey (**Appendix 11.1**);
- Bat Survey (**Appendix 11.2**);
- Bird Survey (**Appendix 11.3**);
- Extended Phase 1 / UK Habs Survey (**Appendix 11.4**);
- Great Crested Newt Survey (**Appendix 11.5**);
- Otter Survey (**Appendix 11.6**);
- Reptile Survey (**Appendix 11.7**);
- Water Vole Survey (**Appendix 11.8**); and
- Preliminary Arboricultural Impact Assessment (**Appendix 11.9**).

Reporting of the Environmental Effects and Significance Criteria

11.31 The following factors are considered when describing ecological impacts:

- Positive or negative – an impact can improve or reduce the quality of the environment, evaluated against nature conservation objectives and policy;
- Extent – this is the area over which an effect occurs;
- Magnitude – the size or amount of an effect, determined on a quantitative basis where possible;
- Duration – the time for which an effect is expected to last prior to recovery or replacement of the resource or feature;
- Timing and frequency – some effects are only likely if they happen to coincide with a critical life-stage or seasons. Others may occur if the frequency of an activity is sufficiently high; and
- Reversibility – an irreversible (permanent) effect is defined as one from which recovery is not possible within a reasonable timescale or for which there is no reasonable chance of action being taken to reverse it. A reversible (temporary) effect is one from which spontaneous recovery is possible or for which effective mitigation is both possible and enforceable.

11.32 The assessment of likely significant environmental effects as a result of the Project for Assessment has taken into account the construction and operational stage. The following sections define the approach adopted within the assessment for the determination of

sensitivity (or value/importance), magnitude of change (or impact), the level of effect and significance.

Determining Sensitivity of Receptor

11.33 The sensitivity (or importance) of affected receptors has been considered on a scale of **high, medium, low** or **negligible**.

11.34 The results of the field survey and ecological data gathered for the Project for Assessment and adjacent habitats were used to evaluate impacts in accordance with guidance provided by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018). This process included:

- Identifying those ecological features likely to be affected; and
- Evaluating the features to identify those of importance i.e. those which, if their integrity or conservation status were affected, national or local policies (or in some cases legislation) would be triggered.

11.35 Evaluation was based on various characteristics that can be used to identify ecological features likely to be important in terms of biodiversity. These include site designations (such as SSSIs), or for undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological feature. In terms of the latter, quality can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages.

11.36 The level of importance of specific ecological features was assigned using a geographic frame of reference, with 'international and European' being most important (Very High Sensitivity), and then:

- National (High sensitivity);
- Regional (north-west) (medium sensitivity);
- County (Greater Manchester) (Low sensitivity);
- Local/ District/ Region (Rochdale and Bury council) (Low sensitivity); and lastly
- Parish/ Very Local (Site and adjacent) (Very low sensitivity).

Determining the Magnitude of Change

11.37 The magnitude of change has been considered as the change experienced from the current baseline conditions at the sensitive receptor and has been considered on a scale of:

- Large (total loss or major alteration to key elements/ features of the baseline conditions);
- Medium (loss or alteration to one or more key elements/ features of the baseline conditions);
- Small (a minor shift away from baseline conditions), and;

- Negligible (very little change from baseline conditions).

11.38 An assessment should consider impacts that could affect ecological features including: direct loss of wildlife habitats, fragmentation and isolation of habitats, disturbance / killing / injury of species, changes to key habitat features and changes to the local hydrology and / or water quality.

11.39 It should be noted that for species which could not be ruled out as likely absent from the wider Assessment Boundary, their sensitivity has been defined by how sensitive that specific species is to habitat change/ alteration. This applies to otter, water vole and reptiles; while they were considered likely absent from the Survey Area / Application Boundary, they could not be ruled out from the wider Assessment Boundary.

Determining the Level of Effect

11.40 The level of effect has been informed by the magnitude of change due to the Project for Assessment and the evaluation of the sensitivity of the affected receptor. The level of effect has been determined using professional judgement and **Table 11.4** has been a tool which has assisted with this process.

11.41 The EclA Guidance provides a complex framework for the consideration of impacts to ecological features and the reader is referred to the actual guidance for full details. However, in summary, greater levels of effect are generally ascribed to large impacts on features of higher ecological importance and lesser levels of effect are generally ascribed to small impacts on features of higher ecological importance, or larger impacts on features of lower ecological importance.

11.42 Whilst **Table 11.4** provides ranges, the level of effect is confirmed as a single level and not a range, informed by professional judgement. For each effect, it has been concluded whether the effect is '*beneficial*' or '*adverse*'.

Table 11.4: Matrix to Support Determining the Level of Effect

Magnitude of change (or impact)	Sensitivity (or value, importance, etc.)				
		High	Medium	Low	Negligible
Large		Major	Moderate to Major	Minor to Moderate	Negligible
Medium		Moderate to Major	Moderate	Minor	Negligible
Small		Minor to Moderate	Minor	Negligible to Minor	Negligible
Negligible		Negligible	Negligible	Negligible	Negligible

11.43 The following terms have been used to define the level of the effects identified and these can be '*beneficial*' or '*adverse*':

- **Major effect:** where the Project for Assessment / Proposed Scheme is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity;
- **Moderate effect:** where the Project for Assessment / Proposed Scheme is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability;
- **Minor effect:** where the Project for Assessment / Proposed Scheme is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity; or where the Project for Assessment / Proposed Scheme is likely to cause a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change or/and can recover from the change; and
- **Negligible:** where the Project for Assessment / Proposed Scheme is unlikely to cause a noticeable change at a receptor, despite its level of sensitivity or there is a considerable change at a receptor which is not considered sensitive to a change.

11.44 The duration of the effect has been assessed as either 'short-term', 'medium-term' or 'long-term'. Short-term is considered to be up to 1 year, medium-term is considered to be between 1 and 10 years and long-term is considered to be greater than 10 years.

Determining Significance

11.45 For each effect, a statement has been made as to whether the level of effect is '**Significant**' or '**Not Significant**'. This determination has been based on professional judgement and/or relevant guidance/legislation where applicable.

11.46 Significance has only been concluded for residual effects (i.e. following the identification of secondary mitigation).

Baseline Conditions

Designated Sites

11.47 There are four internationally designated sites within 20km of the Assessment Boundary (**Figure 11.1**):

- Rochdale Canal SAC; located 3.5km east of the Assessment Boundary. Designated for its important habitats for submerged aquatic plants and emergent vegetation, including extensive colonies of nationally scarce SAC species of floating water-plantain *Luronium natans*;
- South Pennine Moors SAC; located 17km east of the Project for Assessment boundary. Designated for its moorland habitat;
- South Pennine Moors SPA; Located 17km east of the Project for Assessment boundary. Designated for supporting a moorland breeding bird assemblage of national importance, including (inter)nationally important breeding populations of merlin *Falco columbarius*, curlew *Numenius arquata*, golden plover *Pluvialis aprocaria* and twite *Carduelis flavirostris*; and

- Manchester Mosses SAC (Holcroft Moss Component); located 19km southwest of the Assessment Boundary. Designated for 'mossland' habitat with raised bogs.
- 11.48 There are four Local Nature Reserves (LNR) of statutory designation, which are located within 2km of Assessment Boundary (**Figure 11.2**), which are Hollins Vale 60m west; Hopwood Woodlands 390m east; Alkrington Woods, 1km SE and Blackley Forest 1.9km south east.
- 11.49 There are eight non-statutory designated sites within 2km of the Assessment Boundary (**Figure 11.2**). They are all designated as 'Sites of Biological Importance' (SBI), and are listed below:
- Pilsworth (SBI); 0km (adjacent) north;
 - Hollins plantation (SBI); 336m west;
 - Hollins vale (SBI); 473m north west;
 - Railway cutting at Heywood SBI; 661m north east;
 - Hazlitt Wood (SBI); 900m south west
 - Heaton Park Reservoir (West and East) (SBI); 941m south west
 - Parr Brook (SBI); 1.2km west; and
 - Streams and Flushes Nera Bradley Hall Farm (SBI); 1.5km south.

Habitats

11.50 The Application Boundary supports the following habitats, with their ecological importance listed in brackets and reference made to Habitats of Principal Importance⁶. The ecological importance of each habitat is defined and discussed in detail in **Appendix 11.4**. Further details of arboriculture are provided in **Appendix 11.9**. The habitats within the Assessment Boundary comprise of:

- Artificial unvegetated surfaces (negligible);
- Buildings (negligible);
- Deciduous woodland (other woodland; broadleaved), (local), (Habitats of Principal Importance);
- Dense scrub (negligible);
- Hardstanding (negligible);
- Hedgerows (local), (Habitats of Principal Importance);
- Modified grassland (species-poor agricultural grassland) (negligible);

⁶ Section 41 of the Natural Environment and Rural Communities (NERC) Act.

- Neutral grassland (other neutral grassland), (local), (Habitats of Principal Importance);
- Ponds (standing open water), (local), (Habitats of Principal Importance);
- Rivers/ streams (local), (Habitats of Principal Importance); and,
- Scattered trees (local).

- 11.51 Invasive plant species, namely Himalayan Balsam *Impatiens glandulifera* was ubiquitous around the surveyable areas of the Project for Assessment (as shown on **Figure 11.3**), predominantly found on field boundaries, within woodland blocks, watercourse embankments and on road/ track verges. Himalayan Balsam was so widespread, it is not shown on the Habitat Features Plan (**Figures 11.15 and 11.16**) Japanese knotweed *Fallopia japonica* was found in more concentrated locations, for example a large stand is present to the south of Whittle Lane (as shown in **Figures 11.15 and 11.16**)
- 11.52 Habitats within the Project for Assessment (habitats beyond the Survey Area, but within the Assessment Boundary) were assessed through a ‘high-level’ assessment, as detailed above. The habitats within the Assessment Boundary were considered to be largely similar, often a continuation of habitat types, e.g. agricultural grassland fields. The only habitat present within the Assessment Boundary, which was not recorded in the Application Boundary were ‘wet ditches’. There are two wet ditches, with a combined length of 0.6 km, comprising the southern boundary of Pike Fold Golf Course, both ditches are fed by the southern extent of Castle Brook. Wet ditches are considered to be of local ecological importance. All other habitats recorded within the Application Boundary are present within the Project for Assessment.
- 11.53 For ease of reference, habitat types are described in detail in **Appendix 11.4**, and are shown on the Habitat Features Plans (**Figures 11.15 – 11.16**).

Fauna

- 11.54 Full details of relevant legislation, as well as survey methods and results are provided in the appendices for each species / species group; a summary of results is provided below. Records of protected species within 2 km of the Assessment Boundary were provided by GMLRC; these records are summarised under the relevant species / species group headings below.

Badgers

- 11.55 Full details of relevant legislation, as well as survey methods and results are provided in **Appendix 11.1**; survey results are also shown on **Figure 11.4**. Badger surveys were carried out in June and October 2024.
- 11.56 Two disused badger sett records were returned by GMLRC, the closest being 2km southwest of the Assessment Boundary from March 2021.
- 11.57 Two active badger main setts and three outlier entrances were recorded within the Application Boundary. Refer to Confidential **Appendix 11.1** for full details.
- 11.58 An active sett was also recorded marginally outside of the Application Boundary, but within the Assessment Boundary opposite Castle Brook. Mammal paths, badger footprints and foraging signs were identified across the Application Boundary, indicating that badgers use

the Application Boundary for breeding, foraging and commuting throughout the year. Badgers are known to be a transient species, so their presence elsewhere within the Assessment Boundary in the future cannot be ruled out.

- 11.59 The Project for Assessment and Proposed Scheme are considered to be of local ecological importance for badgers.

Bats

- 11.60 Full details of relevant legislation, as well as survey methods and results are provided in **Appendix 11.2**; survey results are also shown on **Figures 11.5 to 11.12**. Bat emergence surveys on buildings were carried out between May 2024 and September 2024, with bat activity surveys (including static deployment) being carried out between April 2024 and October 2024.
- 11.61 The data search returned three European Protected Species Licences (EPSL) within 2km of the Assessment boundary, with the nearest being a licence to permit the destruction of a common pipistrelle *Pipistrellus pipistrellus* resting place; this record was located 224m northeast. 37 records of bat activity was returned, with four of those being confirmed bat roosts, with the nearest bat roost being 2km southwest. The majority of bat records relate to common pipistrelle, soprano pipistrelle *Pipistrellus pygmaeus* and noctule *Nyctalus noctule*.

Bat Activity

- 11.62 The static location in which the most bat passes were recorded was Location 5 (**Figure 11.12**), which had a total of 32,868 recordings of bat passes across all three surveys. This location is situated centrally in the Survey Area adjacent to a well-established block of woodland, as well as being in close proximity to three ponds and an area of rough grassland. The central location means this static is far from any noise/light pollution, and the hedgerows and trees provide a well-established corridor for commuting bats. In addition to this, the presence of ponds and rough grassland provide some suitable habitat for insects, thus providing good foraging opportunities for commuting bats.
- 11.63 Location 12 recorded similarly high levels of activity with 28,530 bat passes. This static was located close to the brook in the northeast of the Survey Area, which is considered to provide a suitable commuting and foraging corridor.
- 11.64 For every static location, the overwhelming majority of species recorded was common pipistrelle, for example at Location 5, 30,891 of the total 32,868 representing common pipistrelle passes and Location 12 recorded 27,280 common pipistrelle passes (of the 28,530).
- 11.65 The walked transect results provided largely similar results to the static deployments; Transect 2 (**Figure 11.12**) recorded the highest number of bat passes, however this was a relatively low number of 62 combined for all three surveys. Transect 2 is located towards the north of the Survey Area and comprises areas of neutral/ rough grassland, hedgerows and trees which are considered to provide suitable foraging and commuting habitat. Transect 7 recorded the next highest amount of bat passes with 50 combined for all three surveys. This Transect follows the southern edge of both Castle and Whittle Brook, which are both considered to be suitable foraging and commuting habitats.

- 11.66 As with the static detectors, the overwhelming majority of recordings during the walked transects were from common pipistrelle, accounting for all of the recordings at Transect 6 and Transect 7 and accounting for over 95% for the remaining five Transects.
- 11.67 The static data results and walked transects results have shown that the Survey Area (and therefore the Proposed Scheme) does not meet the importance threshold for National importance (score of 15, **Table A11.2.28, Appendix 11.2**). Based on the species present, low activity levels recorded and overall score achieved, the assemblage of bats is considered to be of Regional ecological importance at most (threshold score of 12 – 14).
- 11.68 The habitats assessed through high-level assessment for the Project for Assessment were considered to be of similar suitability for bats as of the Proposed Scheme, as there are large expanses of modified grassland (agriculture grassland, golf course, amenity), hedgerows, broadleaved woodland, scattered trees and ponds which are considered to offer moderate suitability for foraging and commuting bats.
- 11.69 A total of 17 buildings were subject to bat emergence surveys across the Application Boundary (**Figure 11. 5 to 11.12**). Six of the 17 buildings were found to contain bat roosts, a summary is provided below:
- B2: a peak count of two common pipistrelle emergences recorded (anecdotally, surveys in 2022 recorded a peak of five common pipistrelle emergences);
 - B14: a peak count of one common pipistrelle emergence recorded (anecdotally, surveys in 2022 recorded a peak of one common pipistrelle emergence);
 - B24: a peak count of one common pipistrelle emerged from southern gable-end (anecdotally, surveys in 2022 also recorded a peak of one common pipistrelle emergence);
 - B21: a peak count of five common pipistrelle emerged from the open-fronted barn (anecdotally, surveys in 2022 also recorded a peak of one common pipistrelle emergence);
 - B22: a peak count of one common pipistrelle emerged from southern aspect (anecdotally, surveys in 2022 did not record an emergence); and
 - B37: a peak count of four common pipistrelle emerged from two locations on the eastern aspect.
- 11.70 All six buildings were therefore found to contain ‘small’ roosts of up to five individual common pipistrelle species.
- 11.71 The Project for Assessment and Proposed Scheme are considered to be of local ecological importance for roosting, foraging and commuting bats.

Birds

- 11.72 Full details of relevant legislation, as well as survey methods and results are provided in **Appendix 11.3**; survey results are also shown on **Figure 11.13 to 11.14**.

- 11.73 The data search returned 31 records of protected and priority bird species. In context to the Proposed Scheme (agricultural grasslands with river/ brook corridors), the most notable records were: skylark *Alauda arvensis* (55 records), Kingfisher *Alcedo atthis* (3 records), curlew *Numenius Arquat* (29 records), lapwing *Vanellus Vanellus* (512 records), barn owl *Tyto alba* (58 records) and tree sparrow *Passer montanus* (33 records).
- 11.74 Four breeding bird surveys were conducted across the Application Boundary between April 2024 and July 2024. A headline of the results is provided below, and focuses on bird Species of Principal Importance (SoPI)⁶, Schedule 1⁷ bird species and species which are often associated with agricultural habitat, which the vast majority of the Proposed Scheme comprises.
- 11.75 There was a peak count of 12 individual Skylark; all 12 were observed to be singing, and therefore considered to be holding territories. This number remained constant throughout the survey period, with 11 or 12 territories recorded on each visit, apart from the final survey in early July where only 2 skylark were observed to be singing across the Proposed Scheme.
- 11.76 Lapwing (SoPI) were recorded fairly sporadically, always located to the north of the Proposed Scheme / Project for Assessment (**Figure 11.14**), with a peak count of 14 lapwing in April, but dropping down to 5 individuals during the two May surveys. No nests or chicks were observed onsite.
- 11.77 Barn owl (Schedule 1) were observed on every breeding bird survey, and were often recorded during bat emergence surveys at the barns located across the Application Boundary. Over the course of breeding bird and bat emergence/ activity surveys season, barn owl were observed roosting/ emerging from buildings B2, B10, B21, B25, B32 and B53, however, confirmed evidence of nesting was only recorded in B32, where a chick was observed within a barn owl nest box. Barn owl were frequently recorded foraging within the Whittle Brook corridor, where the grass sward is more dense and varied.
- 11.78 Tree sparrow (SoPI) were recorded in low numbers (fewer than five individuals) on April, May and July surveys. Yellowhammer (SoPI) were recorded once (one individual), during the second May survey and no curlew or kingfisher were observed.
- 11.79 Six wintering bird surveys were undertaken within the Survey Area between October 2023 and March 2024. Common and widespread wintering bird species, such as redwing *Turdus iliacus* and fieldfare *Turdus pilaris* were observed during all the wintering bird surveys. There was a peak count of approximately 150 redwing, foraging within the Whittle Brook corridor (close proximity to Thurston Fold Farm) during the first over-wintering bird survey (October 2023); however, numbers of redwing and fieldfare dropped as the survey season progressed. This result could indicate that the Whittle Brook corridor is utilised by migrating redwing and fieldfare, as a 'stop-off'/ intermediary location, as they migrate through the UK.
- 11.80 No larger over-wintering species, such as pink-footed geese *Anser brachyrhynchus* were recorded, or were observed flying over.
- 11.81 The Project for Assessment and Proposed Scheme are considered to be of local ecological importance for breeding and over-wintering birds.

⁷ Wildlife and Countryside Act 1981: Schedule 1: Protection of wild birds, their nests and eggs.

Great Crested Newt (GCN)/ Amphibian Surveys

- 11.82 Full details of relevant legislation, as well as survey methods and results are provided in **Appendix 11.5**; survey results are also shown on **Figure 11.18**.
- 11.83 The data search returned six granted European Protected Species Licences within 2km of the Assessment boundary, with the nearest being 72m south. GMRC returned 130 records of GCN within 2km of the Project for Assessment. There were 15 records of toad *Bufo Bufo* (UK BAP⁸ species) within the last 20 years.
- 11.84 Tyler Grange undertook eDNA surveys at ponds across the Application Boundary, and within 250m, in June 2022 and June 2024.
- 11.85 Records from Highways England and RBC were also included in this assessment. The records from Highways England comprised multiple ponds within proximity to works at Simister Island, and therefore comprised ponds within Pike Fold Golf Course. These were carried out in 2021. Data obtained from Rochdale Council included ponds within proximity to Heywood Distribution Park and were carried out in 2021 and 2022.
- 11.86 A total of 5 ponds returned positive results for GCN across the Project for Assessment (**Figure 11.18**). The habitats of suitability for GCN in their terrestrial stage are fairly limited to field boundaries, woodland blocks, stream/ brook corridors and small areas of neutral grassland. A single GCN was recorded during the reptile surveys, within dense scrub/ neutral grassland habitat within the centre of the Proposed Scheme. However, the overwhelming majority of the Project for Assessment comprises managed modified grassland, which is largely unsuitable for GCN in their terrestrial stage.
- 11.87 The Project for Assessment and Proposed Scheme are considered to be of local ecological importance for GCN.
- 11.88 It should be noted here that a District Level License (DLL) has been pursued, and the licence is intended to cover the Application Boundary (and 250m beyond) only. At this stage of the Project for Assessment, there is too much uncertainty on the design/ layout beyond the Application Boundary to provide Natural England with sufficient enough information to accurately establish the correct level of mitigation through the DLL process.

Otter

- 11.89 Full details of relevant legislation, as well as survey methods and results are provided in **Appendix 11.6**; survey results are also shown on **Figure 11.17**.
- 11.90 GMRC returned no records of otter within 2km of the Project for Assessment.
- 11.91 Otter and water vole surveys were conducted in unison, in June 2024 and September 2024, within Brightley Brook, Castle Brook and Whittle Brook (see **Figure 11.17** for survey extent). No evidence of otter was recorded during the surveys. The Project for Assessment and Proposed Scheme are therefore considered to be of negligible ecological importance for otter.

⁸ UK Biodiversity Action Plan: JNCC [online, accessed 28/11/2024]: <https://jncc.gov.uk/our-work/uk-bap-priority-species/>

Reptiles

- 11.92 Full details of relevant legislation, as well as survey methods and results are provided in **Appendix 11.7**; survey results are also shown on **Figure 11.23**.
- 11.93 GMRC returned no records of reptiles within 2km of the Project for Assessment.
- 11.94 Reptile surveys were undertaken in targeted locations across the Survey Area (Figure 11.23). Surveys were conducted monthly across spring / summer 2025. No reptiles, or evidence of, were recorded during the surveys. The Project for Assessment and Proposed Scheme are therefore considered to be of negligible ecological importance for reptiles.

Water vole

- 11.95 Full details of relevant legislation, as well as survey methods and results are provided in **Appendix 11.8**; survey results are also shown on **Figure 11.22**.
- 11.96 GMRC returned no records of water vole within 2km of the Project for Assessment.
- 11.97 Otter and water vole surveys were conducted in unison, in June 2024 and September 2024, within Brightley Brook, Castle Brook and Whittle Brook. No evidence of water vole was recorded during the surveys. The Project for Assessment and Proposed Scheme are therefore considered to be of negligible ecological importance for water vole.

Other Fauna

- 11.98 GMRC returned three records of brown hare *Lepus europaeus* and 43 records of hedgehog *Erinaceus europaeus* within 2km for the Project for Assessment.
- 11.99 No hedgehog were observed during the protected species surveys. Brown hare were recorded twice during the breeding bird surveys; the first being a single hare, during early May, located close to the Whittle Brook corridor, to the south of the Proposed Scheme; the second being two hares recorded during early July, located approximately 500m northwest of the first sighting.
- 11.100 The Project for Assessment and Proposed Scheme are therefore considered to be of local ecological importance for other fauna, such as hedgehog and brown hare.

Future Baseline

- 11.101 Without the implementation of the Project for Assessment, the existing baseline would continue to remain one of predominantly species-poor modified grassland (in the form of agricultural fields, golf course and amenity grasslands). Furthermore, as the majority of the Project for Assessment comprises agricultural fields, modifications and changes to the baseline habitats could occur through changes in farming practices. This could result in adverse impacts to the existing habitats (for example, the removal of hedgerows and trees; adoption of more intensive farming and/ or pesticides etc.).

Primary and Tertiary Mitigation

Construction Stage

- 11.102 The following describes the primary and tertiary mitigation which has been evaluated as part of the construction stage assessment, and is described below and summarised in **Table 11.5**.

11.103 Primary mitigation to reduce the effects of biodiversity include the retention of habitat areas such as the Whittle Brook corridor, Pilsworth Clough corridor and Brightley Brook corridor, as illustrated on **Figure 4.3** and **4.3**.

11.104 A CEMP will be implemented during the construction stage of the Project for Assessment. The following measures within the CEMP relevant to biodiversity include:

- Best practice air and dust pollution prevention measures, to safeguard retained and adjacent habitats and statutory and non-statutory designated sites;
- Safeguarding retained habitats and protected and notable species through buffering and fencing-off;
- Incorporation of best practices pollution prevention measures to avoid pollution (such as run-off) entering retained and adjacent habitats;
- Removal of invasive and non-native species; and
- Clearance of habitat which could contain breeding birds would be timed to avoid the bird breeding season wherever possible (i.e. conducted between September and February). Where this cannot be achieved, habitat clearance would need to be preceded by a check for active nests by a suitably qualified ecologist (SQE). Where an active nest is found, a suitable exclusion zone (commensurate with species concerned, tolerance of disturbance and stage of nesting) would be set up and left undisturbed until dependent young have fledged and a the SQE confirms the nests are no longer active. It should be noted that some species of bird (i.e. pigeons/doves) can nest year-round and the legislation afforded to wild bird nests is applicable year-round as well. Whilst there isn't a requirement for ecological supervision for vegetation clearance outside of the 'core' nesting season, due diligence should be shown by contractors for all vegetation clearance and if an active nest is suspected, work in the area should stop and advice sought from the SQE.

Table 11.5: Primary and Tertiary Mitigation to Inform Assessment of Construction Effects

Mitigation	Relevant to	
	Project for Assessment	Proposed Scheme
Implementation of a Construction and Environmental Management Plan (CEMP) (Volume 3: EMP) with measures detailed above.	✓	✓
Retention and protection of habitats within areas outside of the excavation extents as shown on Figure 4.3 and Figure 5.3: EIA Project for Assessment – Excavation, Retention and Demolition	✓	✓
Protection of existing vegetation within the Landscape Mitigation Area (North West)	✓	✓

Mitigation	Relevant to	
	Project for Assessment	Proposed Scheme
including the Whittle Brook, Brightley Brook and Pilsworth Brook Corridors (as shown on Figure 4.1, 4.3, 5.1 and 5.3).		
Protective fencing/hoarding will be installed around retained features, in accordance with BS5837:2012.	✓	✓

11.105 For the Proposed Scheme, the works will be managed through the Parameter Plans and pre-commencement condition. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas.

Operational Stage

11.106 The following tertiary mitigation which has been evaluated as part of the operational stage assessment is outlined in the table below.

Table 11.6: Primary and Tertiary Mitigation to Inform Assessment of Operational Effects

Mitigation	Relevant to	
	Project for Assessment	Proposed Scheme
Retention of existing trees and hedgerows (as shown on Figures 4.3 and 5.3) and enhancement of Perimeter Landscape Buffers as shown on Figure 4.1 .	✓	✓
Enhancement of retained Landscape Mitigation Area (North West) (as shown on Figure 4.1)	✓	✓
Enhancement of brook corridors (including Whittle Brook corridor); and Wetland Habitat Corridors (Figure 4.1)	✓	✓
Mandatory design code measures: Provision of tree lined streets (CODE S9-1); Primary Open Space to comprise ecological areas (CODE O1-1(a)); Provision of native and climate resilient species to enhance biodiversity (CODE O2-2(a)); and Blue infrastructure to enhance habitat for aquatic species (CODE O3-2(b)). Sensitive Plot Lighting to reduced light spill into ecologically sensitive areas as outlined in Chapter 4 and 5 .	✓	✓

11.107 For the Proposed Scheme, the works will be managed through the Parameter Plans and Design Code. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment as defined on the Assessment Plans, although this will be a matter for when planning applications are made for those relevant areas..

Assessment of Effects, Secondary Mitigation and Residual Effects

Construction Stage

Overall loss of habitat (of local ecological importance) - Broadleaved woodland

11.108 Broadleaved woodland is considered to be of local ecological importance and is a Priority habitat. There are areas of broadleaved woodland which shall be partially or wholly lost during construction, to facilitate the development footprint. Based on the EIA Assessment Plans (**Figure 4.1** and **4.3**) approximately 4.82 ha of broadleaved woodland shall be lost across the Project for Assessment.. The loss of woodland through construction activities is therefore considered to be permanent and adverse at a local level.

Project for Assessment

11.109 The sensitivity of broadleaved woodland is considered to be low. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Proposed Scheme

11.110 The effects for broadleaved woodland is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.111 The Project for Assessment and Proposed Scheme will need to mitigate for the loss of deciduous woodland during the construction stage through the creation of new woodland within Development Plots where possible, within Landscape Mitigation Areas/Buffer and the Wetland Habitat Corridor (**Figure 4.1**) and Potential Offsite Ecological Mitigation areas (see **Figure 1.1**). The creation of woodland could provide a beneficial change and the requirements of the Statutory Biodiversity Metric (SBM) mandate that woodland loss is compensated for on a like-for-like basis, which will ensure that replacement woodland is at a larger quantum than that to be lost to development. The specifics regarding the exact quantum of woodland loss are not known at this stage for either the Project for Assessment or Proposed Scheme, so the quantum of replacement planting required is also unknown. The detail regarding the quantum of woodland compensation will be detailed as part of a Biodiversity Gain Plan, which will be attached as a condition to any planning permission.

11.112 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas.

11.113 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.7: Summary of Secondary Mitigation for Construction Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Creation of new native species woodland and Arboricultural Method Statement	Applicant	Planning Condition and discharge of Biodiversity Gain Plan		✓
	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.114 The sensitivity of broadleaved woodland is considered to be low. The magnitude of change, following secondary mitigation, is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, beneficial residual effect which is considered to be negligible to minor.

Proposed Scheme

11.115 The effects for broadleaved woodland is the same as that reported for the Project for Assessment.

Significance

11.116 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Overall loss of habitat (of local ecological importance) - Hedgerows

11.117 There are hedgerows which shall be partially or wholly lost during construction, to facilitate the development footprint and access. Hedgerows are considered to be of local ecological importance and are a Priority habitat. Based on the EIA Assessment plans (**Figure 4.1 and 4.3**) approximately 12.15 km of hedgerow shall be lost across the Project for Assessment.

11.118 The loss of hedgerows through construction activities is considered to be permanent and adverse at a local level.

Project for Assessment

11.119 The sensitivity of hedgerows is considered to be low. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be Minor.

Proposed Scheme

11.120 The effects for hedgerows is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.121 The Project for Assessment and Proposed Scheme will need to mitigate for the loss of hedgerows during the construction phase through the creation of new hedgerows within Development Plots boundaries, within Landscape Mitigation Areas/Buffer and the Wetland

Habitat Corridor (**Figure 4.1**) and Potential Offsite Ecological Mitigation areas (see **Figure 1.1**) The creation of hedgerows could provide a beneficial change and the requirements of the Statutory Biodiversity Metric (SBM) mandate that hedgerow loss is compensated for on a like-for-like basis, which will ensure that replacement hedgerow is at a larger quantum than that to be lost to development. The specifics regarding the exact quantum of hedgerow loss are not known at this stage for either the Project for Assessment or Proposed Scheme, so the quantum of replacement planting required is also unknown. The detail regarding the quantum of hedgerow compensation will be detailed as part of a Biodiversity Gain Plan, which will be attached as a condition to any planning permission.

11.122 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas..

11.123 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.8: Summary of Secondary Mitigation for Construction Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Creation of new, native species, species-rich hedgerows	Applicant	Planning Condition and discharge of Biodiversity Gain Plan		✓
	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.124 The sensitivity of hedgerows is considered to be low. The magnitude of change, following secondary mitigation, is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, beneficial residual effect which is considered to be negligible to minor.

Proposed Scheme

11.125 The effects for hedgerows is the same as that reported for the Project for Assessment.

Significance

11.126 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Overall loss of habitat (of local ecological importance) – Neutral grassland

11.127 Neutral grassland is considered to be of local ecological importance and is a Priority habitat.

11.128 There are areas of neutral grassland which shall be partially or wholly lost during construction, to facilitate the development footprint, access and infrastructure. Based on the Parameters Plans (**Figure 5.1 to 5.3**) approximately 10.18 ha of neutral grassland shall be lost

across the Project for Assessment. However, at this stage, the actual quantum of neutral grassland loss within the Project for Assessment is unknown, but the same principles regarding magnitude of impact still applies across both the Proposed Scheme and Project for Assessment.

11.129 The loss of neutral grassland through construction activities is therefore considered to be permanent and adverse at a local level.

Project for Assessment

11.130 The sensitivity of neutral grassland is considered to be low. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Proposed Scheme

11.131 The effects for loss of neutral grassland during construction is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.132 Both the Project for Assessment and Proposed Scheme can mitigate for the loss of neutral grassland during the construction phase through the creation of new neutral grassland areas within Development Plot boundaries, within Landscape Mitigation Areas/Buffer and the Wetland Habitat Corridor (**Figure 4.1**) and Potential Offsite Ecological Mitigation areas (see **Figure 1.1**). The creation of neutral grassland could provide a beneficial change and the requirements of the Statutory Biodiversity Metric (SBM) mandate that neutral grassland loss is compensated for on a like-for-like basis, or habitat of higher distinctiveness (as per trading rules), which will ensure that replacement is at a larger quantum than that to be lost to development. The specifics regarding the exact quantum of neutral grassland loss are not known at this stage for either the Project for Assessment or Proposed Scheme, so the quantum of replacement planting required is also unknown. The detail regarding the quantum of neutral grassland compensation will be detailed as part of a Biodiversity Gain Plan, which will be attached as a condition to any planning permission.

11.133 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas..

11.134 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.9: Summary of Secondary Mitigation for Construction Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Creation of neutral grassland habitat (either onsite, offsite or a combination)	Applicant	Planning Condition and discharge of Biodiversity Gain Plan		✓
	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.135 The sensitivity of neutral grassland is considered to be low. The magnitude of change, following secondary mitigation, is considered to be small. There is likely to be a direct, permanent, long-term, beneficial residual effect which is considered to be negligible to minor.

Proposed Scheme

11.136 The effects for neutral grassland is the same as that reported for the Project for Assessment.

Significance

11.137 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Overall loss of habitat (of local ecological importance) – Standing water/ Ponds

11.138 Ponds are considered to be of local ecological importance and the ponds across the Project for Assessment are considered to be a Priority habitat, largely due to their suitability for breeding GCN. There are 42 ponds across the Project for Assessment (23 of which are located within Pike Fold Golf course).

11.139 Parameters Plans (**Figure 5.1 to 5.3**) shows most ponds to be lost during construction, to facilitate the development footprint and access. However, at this stage, the actual quantum of pond loss within the Project for Assessment is unknown, but the same principles regarding magnitude of impact still applies across both the Proposed Scheme and Project for Assessment. The loss of ponds through construction activities is considered to be permanent and adverse at a local level.

Project for Assessment

11.140 The sensitivity of ponds is considered to be low. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Proposed Scheme

11.141 The effects for ponds is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.142 Both the Project for Assessment and Proposed Scheme can mitigate for the loss of ponds during the construction phase through the creation of ponds within Development Plot boundaries, within Landscape Mitigation Areas/Buffer and the Wetland Habitat Corridor (**Figure 4.1**) and Potential Offsite Ecological Mitigation areas (see **Figure 1.1**) . The creation of ponds could provide a beneficial change and the requirements of the Statutory Biodiversity Metric (SBM) mandate that pond loss is compensated for on a like-for-like basis, which will ensure that replacement is at a larger quantum than that to be lost to development. The specifics regarding the exact quantum of pond loss are not known at this stage for either the Project for Assessment or Proposed Scheme, so the quantum of replacement pond creation required is also unknown. The detail regarding the quantum of pond compensation will be detailed as part of a Biodiversity Gain Plan, which will be attached as a condition to any planning permission.

11.143 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas..

11.144 It must be noted here that the provision of offsite ponds will not mitigate for loss of amphibian habitat (for example toads, frogs *Rana temporaria*, smooth newt *Lissotriton vulgaris*), which is covered in further detail below, under the species receptors.

11.145 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.10: Summary of Secondary Mitigation for Construction Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Creation of ponds	Applicant	Planning Condition and discharge of Biodiversity Gain Plan		✓
	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.146 The sensitivity of ponds is considered to be low. The magnitude of change, following secondary mitigation, is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, beneficial residual effect which is considered to be negligible to minor.

Proposed Scheme

11.147 The effects for ponds is that same as that reported for the Project for Assessment.

Significance

11.148 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Overall loss of habitat (of local ecological importance) – Scattered trees

11.149 There are scattered trees which shall be lost during construction, to facilitate the development footprint and access. Scattered trees are considered to be of local ecological importance. The loss of scattered trees through construction activities is considered to be permanent and adverse at a local level. However, at this stage, the actual quantum of tree loss within the Project for Assessment is unknown, but the same principles regarding magnitude of impact still applies across both the Proposed Scheme and Project for Assessment.

Project for Assessment

11.150 The sensitivity of scattered trees is considered to be low. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Proposed Scheme

11.151 The effects for Scattered trees is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.152 The Project for Assessment and Proposed Scheme can mitigate for the loss of scattered trees during the construction phase through the planting of native species trees within Development Plot boundaries, within Landscape Mitigation Areas/Buffer and the Wetland Habitat Corridor (**Figure 4.1**) and Potential Offsite Ecological Mitigation areas (see **Figure 1.1**). The creation of scattered trees could provide a beneficial change and the requirements of the Statutory Biodiversity Metric (SBM) mandate that scattered trees loss is compensated for on a like-for-like basis, which will ensure that replacement is at a larger quantum than that to be lost to development. The specifics regarding the exact quantum of scattered tree loss are not known at this stage for either the Project for Assessment or Proposed Scheme, so the quantum of replacement tree creation required is also unknown. The detail regarding the quantum of tree compensation will be detailed as part of a Biodiversity Gain Plan, which will be attached as a condition to any planning permission.

11.153 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas.

11.154 The creation of scattered trees during construction, could provide the Project for Assessment and Proposed Scheme with a minor benefit in scattered trees.

11.155 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.11: Summary of Secondary Mitigation for Construction Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Creation of trees Arboricultural Method Statement	Applicant	Planning Condition and discharge of Biodiversity Gain Plan		✓
	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.156 The sensitivity of scattered trees is considered to be low. The magnitude of change, following secondary mitigation, is considered to be small. Therefore, there is likely to be a direct,

permanent, long-term, beneficial residual effect which is considered to be negligible to minor.

Proposed Scheme

11.157 The effects for scattered trees is that same as that reported for the Project for Assessment.

Significance

11.158 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Overall loss of habitat – Wet Ditches

11.159 The only habitat which was considered to be present within the wider Project for Assessment, but not present within the Proposed Scheme was wet ditches. Wet ditches are considered to be of local ecological importance. The few ditches within the Project for Assessment (located to the south of Pike Fold Golf course), shall be partially lost (approximately 0.19 km of the overall 0.6 km). However, at this stage, the actual quantum of ditch loss within the Project for Assessment is unknown.

Project for Assessment

11.160 The sensitivity of habitats of wet ditches is considered to be low. The magnitude of change is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible to minor.

Proposed Scheme

11.161 There are no effects on wet ditches for the Proposed Scheme.

Secondary Mitigation or Enhancement

11.162 Although there are no wet ditches within the Proposed Scheme, the Project for Assessment can mitigate for the loss of wet ditches during the construction phase through the creation of ditches within Development Plot boundaries, within Landscape Mitigation Areas/Buffer and the Wetland Habitat Corridor (**Figure 4.1**) and Potential Offsite Ecological Mitigation areas (see **Figure 1.1**). The creation of ditches could provide a beneficial change and the requirements of the Statutory Biodiversity Metric (SBM) mandate that loss to ditches is compensated for on a like-for-like basis, which will ensure that replacement is at a larger quantum than that to be lost to development. The specifics regarding the exact quantum of ditches are not known at this stage for the Project for Assessment, so the quantum of replacement habitat creation required is also unknown. The detail regarding the quantum of compensation will be detailed as part of a Biodiversity Gain Plan, which will be attached as a condition to any planning permission.

11.163 Whilst the creation of wet ditches could occur within the footprint of the Proposed Scheme, this will be a matter for when planning applications are made for those relevant areas.

11.164 The creation of ditches during construction, could provide the Project for Assessment and Proposed Scheme with a minor benefit in ditches.

Table 11.12: Summary of Secondary Mitigation for Construction Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Creation of Ditches	BC/RBC	Future applications	✓	X

Residual Effect

Project for Assessment

11.165 The sensitivity of wet ditches is considered to be low. The magnitude of change, following secondary mitigation, is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, beneficial residual effect which is considered to be negligible.

Proposed Scheme

11.166 The effects for wet ditches is that same as that reported for the Project for Assessment.

Significance

11.167 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/injury/ loss of habitat and disturbance to – Amphibians

11.168 eDNA surveys have been undertaken across the Proposed Scheme (and within 250m) by Tyler Grange, with eDNA data from third parties (refer to **Appendix 11.5**) utilised for ponds within the wider Assessment Boundary (and within 250m), where access permitted.

11.169 Great crested newt have been confirmed to be present both within the Proposed Scheme and Project for Assessment. GCN are a European Protected Species.

11.170 Detailed amphibian surveys for common and widespread amphibians such as frog and smooth newt were not undertaken. However, individual toads were recorded during the reptile surveys. In the absence of further data, it is considered likely that common and widespread amphibians, including common toad (UK BAP⁸) are present across the Project for Assessment, and is of local ecological importance for amphibians.

11.171 Although amphibians are highly sensitive to changes in habitat quality and type given their restricted terrestrial range from breeding ponds, and therefore highly sensitive to potential impacts arising from the construction stage, the assemblage within the Application Boundary and 250m beyond, was considered to be of local ecological importance at most. The Project for Assessment assumes the majority of ponds to be lost, many of which are located within Pike Fold Golf Course, therefore the magnitude of change is considered to be large.

Project for Assessment

11.172 The sensitivity of GCN/ Amphibians is considered to be low. The magnitude of change is considered to be large. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor to moderate.

Proposed Scheme

11.173 The effects for GCN and amphibians is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.174 It is recommended that Project for Assessment and Proposed Scheme applies to the District Level Licencing (DLL) scheme. DLL allows for the destruction of GCN breeding ponds, under Natural England licence, while receiving compensation in return, to provide high quality GCN habitat within the County/ Borough of the application.

11.175 It is noted, however, that this would not directly provide mitigation for other species of amphibian. Ponds specifically designed for great crested newt and amphibians (i.e. in addition to Sustainable Urban Drainage Systems (SuDS)) will also be incorporated into detailed landscape designs within Development Plots themselves. The Parameters Plans and Assessment Plans (**Figures 4.1 and 5.1**) also define large areas of green infrastructure adjacent to the brook corridors. The soft landscape design of these areas will also account for specific wildlife pond provision to provide mitigation for common amphibians, and ponds will be replaced per Development Plot at a 2:1 ratio given their status as a priority habitat. Whilst some of this provision is considered to be acceptable off-site at any receptor site identified for BNG purposes, such a provision wouldn't necessarily benefit the local populations of amphibians, so there should still be a target to provide as many compensatory ponds within the Assessment Boundary as possible.

11.176 Mitigation and enhancement of amphibian's terrestrial habitat will also be incorporated into detailed landscape designs within the Development Plots themselves. The landscape design should allow for 'green corridors' which link up to neighbouring plots and in-turn, to the Landscape Mitigation Areas (**Figures 4.1 and 5.1**) and retained brook corridors, thus allowing for the permeability of amphibians through the landscape, providing continued access to terrestrial and breeding habitats.

11.177 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas.

11.178 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.13: Summary of Secondary Mitigation for Construction Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
District Level Licensing Scheme	Natural England, Local Authority/ Owners of compensatory pond	Licencing/ Planning Condition		✓

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Creation of amphibian-specific ponds	Applicant for future phases	Planning Condition		✓
Creation of suitable amphibian terrestrial habitats within plot boundaries, to allow for species permeability throughout the plots	Applicant of each Plot	Planning Condition		✓
District Level Licensing Scheme	BC/RBC	Future applications	✓	
Creation of amphibian-specific ponds	BC/RBC	Future applications	✓	
Creation of suitable amphibian terrestrial habitats within plot boundaries, to allow for species permeability throughout the plots	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.179 The sensitivity of GCN and amphibians is considered to be low. The magnitude of change, following secondary mitigation, is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term, beneficial residual effect which is considered to be minor.

Proposed Scheme

11.180 The effects for GCN and amphibians is that same as that reported for the Project for Assessment.

Significance

11.181 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/injury/ loss of habitat and disturbance to – Bats

11.182 A total of 17 buildings were subject to bat emergence surveys across the Application Boundary. Six of the 17 buildings were found to contain bat roosts. All six bat roosts were 'small' roosts of up to a maximum of five individual common pipistrelle species.

11.183 The Project for Assessment and Proposed Scheme includes the removal/ demolition of all six buildings with confirmed bat roosts. Although buildings outside of the Proposed Scheme were not subject to detailed emergence surveys, the characteristics of the buildings in the wider Project for Assessment are considered to be similar and potentially providing bat

roosting opportunities of similar conservation status and as a precaution it is assumed that roosts of greater conservation status (i.e. maternity roosts) may be present in the Project for Assessment area, but not within buildings within the Proposed Scheme.

- 11.184 As discussed in **Appendix 11.2**, detailed surveys of trees were not undertaken. Due to the transient nature of bat tree roosts it was considered disproportionate to undertake Ground Level Tree Assessments on all trees, in-leu of more detailed tree loss information. The general roosting potential for trees across the Project for Assessment is considered to be moderate. There are mature trees throughout the woodland blocks, within hedgerows and making up field boundaries which are likely to provide suitable bat roosting habitats.
- 11.185 Overall, the habitats within the bat activity survey area (**Figure 11.5 - 11.13, Appendix 11.2**) were considered to be of moderate suitability for bats, due to the large expanses of open grassland (largely unsuitable), with areas of higher quality bat foraging habitat restricted at boundary edges, woodland blocks and brook corridors.
- 11.186 The results of the bat activity surveys concluded that the field boundaries, woodland blocks and brook corridors represent the key foraging and commuting locations within the Survey Area; with Location 5 recording the highest level of bat activity (**Figure 11.12**) which is toward the centre of the Survey Area, along a woodland edge and adjacent to Pond 18 (**Figure 11.17**) and an areas of neutral rough grassland. The Transect results showed that the Whittle Brook corridor was a key commuting and foraging feature, recording the second highest amount of bat passes. In contrast, there were notifiable fewer bat passes/ species recorded in open-grassland habitat. Based on the species present, activity levels recorded and overall score achieved, the assemblage of bats is considered to be of Regional ecological importance at most (threshold score of 12 – 14).
- 11.187 Although habitats outside of the bat activity survey area were not subject to detailed activity surveys, the characteristics of the habitats in the wider Project for Assessment are considered to be similar and therefore likely to provide bat foraging and commuting opportunities of bat species of a similar conservation status.
- 11.188 Although bat roosts comprised common and widespread species only (common pipistrelle), bats are highly sensitive to changes in lighting in particular and faithful to known roost sites. Bat activity levels were recorded as being of regional importance at most, therefore the overall assemblage of bats is considered to be of regional importance and therefore of medium sensitivity. The proposals relate to loss of all buildings with confirmed roosts, however, the roosts present were recorded as being 'small' roosts of common and widespread species.

Project for Assessment

- 11.189 The sensitivity of bats is considered to be medium. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be moderate.

Proposed Scheme

- 11.190 The effects for bats is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.191 Loss of confirmed bat roosts is anticipated, due to the removal of the all buildings during the construction phase and loss of trees (yet to be determined). The following mitigation measures are recommended:

- A European Protected Species Licence application to Natural England, prior to the commencement of the construction phase (i.e. licences need to be in place prior to demolition) and update surveys in the year of the application will need to be undertaken; and
- Replacement bat roosts to be designed into the detailed design, prior to the demolition of the buildings with confirmed roosts (as detailed in **Appendix 11.2**). This shall comprise artificial bat boxes, ideally located within close proximity to where the original structures were – in locations such as adjacent retained trees (if applicable), integrated into the fabric of the proposed buildings, or pole-mounted. The provision of additional roosting opportunities can provide a beneficial effect for roosting bats across the Project for Assessment and Proposed Scheme.

11.192 In addition to roosting resources, mitigation for the loss and severance of commuting and foraging habitat needs to be considered and incorporated into the landscape design of each Development Plot (for example, Development Plots covering or within the vicinity of Static Locations 5 and 2, where bat activity was recorded utilising the ‘fingers’ of woodland extending north-south through the Proposed Scheme). All future Development Plots should have boundaries planted with suitable commuting features (hedgerows, lines of trees, watercourses etc.), which should be interconnected with other future Development Plots, retained habitats and Landscape Mitigation Areas (**Figure 4.1 and Figure 5.1**) within the wider Project for Assessment in order to maintain and create commuting and foraging habitats.

11.193 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas.

11.194 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.14: Summary of Secondary Mitigation for Construction Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
European Protected Species Licence	Natural England	Natural England		✓
Alternative bat roosts designed and installed into the scheme prior to demolition.	Applicant	Planning Condition		✓

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Creation of suitable bat foraging and commuting habitats within landscaped boundaries of future plots	Applicant of each plot	Planning Condition		✓
European Protected Species Licence	BC/RBC	Future applications	✓	
Alternative bat roosts designed and installed into the scheme prior to demolition.	BC/RBC	Future applications	✓	
Creation of suitable bat foraging and commuting habitats within landscaped boundaries of future plots	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.195 The sensitivity of bats is considered to be medium. The magnitude of change, following secondary mitigation, is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, beneficial residual effect which is considered to be minor.

Proposed Scheme

11.196 The effects for bats is that same as that reported for the Project for Assessment.

Significance

11.197 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/injury/ loss of habitat and disturbance to – Badgers

11.198 Two active badgers main setts and three outlier entrances were recorded within the Application Boundary. The Project for Assessment is considered to be important in maintaining the local badger population, although badgers are offered protection for welfare reasons, under the Wildlife and Countryside Act, and not of conservation concern.

11.199 The wider Project for Assessment has not been assessed for badgers. The habitats are considered to be largely similar to that present within the Proposed Scheme and therefore considered likely that there will be badger setts located within the wider Project for Assessment, and it is equally important at a local level for maintaining local badger populations.

11.200 Badgers are not overly sensitive to change and will readily excavate new setts, but faithful to long-established main setts and territorial. The sensitivity of badgers is therefore considered to be low. The proposal relate to the removal of both main setts and outliers, and therefore the magnitude of change is considered to be large. Although badgers are not of conservation concern, their sett are protected under the Protected of Badgers Act 1992⁹

Project for Assessment

11.201 The sensitivity of badgers is considered to be low. The magnitude of change is considered to be large. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor to moderate.

Proposed Scheme

11.202 The effects for badgers is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.203 The badgers setts will need to be closed under Natural England licence (refer the **Figure 11.4** for locations). There are different requirements for the closure of main and outlier setts, however, both require mitigation/ further works during the post-consent/ during construction phase. They are:

11.204 Main setts require sett monitoring in winter (prior to construction), to (re)determine classification. An artificial sett is required per main sett; which needs to be built and evidenced to be in use during the construction phase (post-consent, but 1 year prior to demolition of the sett).

11.205 Outlier setts will be monitored over four visits in a period of 28 days to inform a Natural England licence application to close the outlier. The sett will then be gated and closed down resulting in the loss of one place of rest for badgers.

11.206 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas.

11.207 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.15: Summary of Secondary Mitigation for Construction Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Closure of X 2 main setts under NE licence	Ecologist	Planning Condition/ Natural England		✓
Closure of X3 outlier setts under NE licence	Ecologist	Planning Condition/ Natural England		✓

⁹ Protection of Badgers Act 1992 [online] <https://www.legislation.gov.uk/ukpga/1992/51/contents>

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Badger bait marking surveys	Ecologist	Planning Condition / Natural England		✓
Closure of X 2 main setts under NE licence	BC/RBC	Future applications	✓	
Closure of main / outlier setts under NE licence	BC/RBC	Future applications	✓	
Badger bait marking surveys	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.208 The sensitivity of badgers is considered to be low. The magnitude of change, following secondary mitigation, is considered to be negligible. Therefore, there is likely to be a direct, temporary, short-term, adverse residual effect which is considered to be negligible.

Proposed Scheme

11.209 The effects for badgers is the same as that reported for the Project for Assessment.

Significance

11.210 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/ injury/ loss of habitat and disturbance to populations of wildlife – Birds

11.211 The vast majority of the Project for Assessment and Proposed Scheme comprises species-poor agricultural grassland and managed modified grassland (e.g. Pike Fold Golf Course), which is generally considered to be unsuitable for breeding birds and wintering birds.

11.212 Ground nesting birds which can utilise grassland habitats were found to be present, but in low numbers (skylark and lapwing recorded in low numbers, no curlew recorded). Habitats of higher value for common and widespread breeding birds (such as Brightley, Castle and Whittle Brook Corridors) shall be retained as defined in **Figures 4.1 and 5.1**. Similarly with wintering birds, no species which would otherwise require large expanses of open land (for their functionality or as mitigation) were recorded, such as over-wintering geese. Common and widespread wintering species were recorded within woodland, hedgerows and scattered trees.

11.213 The Project for Assessment and Proposed Scheme is therefore considered to be of local ecological importance for breeding and over-wintering birds.

11.214 It is considered that impacts arising from the construction phase will still have adverse impacts on Species of Principle Importance (SoPI), such as barn owl, skylark, dunnock *Prunella modularis*, tree and house sparrow *Passer domesticus*, lapwing, song thrush *Turdus philomelos*.

- 11.215 To mitigate these impacts, primary mitigation in the form of habitat retention, most notably the Whittle Brook corridor, where barn owl were frequently observed foraging, have been committed to as part of the Parameter Plans and assumed as such with the Assessment Plans (**Figures 4.1-3 and 5.1-3**). This will allow the continued movement through the landscape and access to foraging habitat which will be located within the brook corridors, landscape buffers, Development Plot boundaries and Landscape Mitigation Areas (**Figure 4.1 and Figure 5.1**).
- 11.216 Most bird species are sensitive to disturbance from human activity; but may be accustomed to some level of disturbance at a Site level due proximity of motorways, PRoW's, agricultural practices, golf course, etc. Species will readily occupy suitable habitat if free from disturbance by humans. The magnitude of change is considered to be medium, as higher value habitats are being retained, however there will be a moderate loss of woodland, hedgerows, scattered trees and grassland. No mitigation, other than tertiary mitigation (in the form of safeguarding retained habitats and avoiding habitat clearance during the breeding season, detailed within the CEMP), is proposed for the construction phase.
- 11.217 Clearance of habitat which could contain breeding birds would be timed to avoid the bird breeding season wherever possible (i.e. conducted between September and February). Where this cannot be achieved, habitat clearance would need to be preceded by a check for active nests by a suitably qualified ecologist (SQE). Where an active nest is found, a suitable exclusion zone (commensurate with species concerned, tolerance of disturbance and stage of nesting) would be set up and left undisturbed until dependent young have fledged and a the SQE confirms the nests are no longer active. It should be noted that some species of bird (i.e. pigeons/doves) can nest year-round and the legislation afforded to wild bird nests is applicable year-round as well. Whilst there isn't a requirement for ecological supervision for vegetation clearance outside of the 'core' nesting season, due diligence should be shown by contractors for all vegetation clearance and if an active nest is suspected, work in the area should stop and advice sought from the SQE.
- 11.218 Detailed surveys within the wider Project for Assessment were not undertaken. However, the habitats are considered to be largely similar, so it is considered that species recorded within the Proposed Scheme are likely to also be present within the wider Project for Assessment area. Anecdotally, barn owl have been recorded within barns south of Whittle Brook, during previous surveys in 2021 and access from publicly open spaces. Habitats of high value within the Project for Assessment are considered to be Castle Brook corridor (due to retention), broadleaved woodland blocks and ponds and ditches at Pike Fold Golf Course.
- 11.219 Potential impacts during construction include loss of habitat, which also has the potential risk of killing and/ or injury to this species group.
- 11.220 The above potential Impacts to breeding and over-wintering birds during construction are mitigated for through Primary (habitat creation and enhancement) and Tertiary (safeguarding retained habitats) mitigation, as detailed above.

Project for Assessment

- 11.221 The sensitivity of birds is considered to be low. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Proposed Scheme

11.222 The effects for breeding and over-wintering birds is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.223 Replacement barn owl nesting opportunities will be designed into the detailed design, prior to the demolition of the buildings with confirmed barn owl nests (as detailed in **Appendix 11.3**). This shall comprise artificial barn owl boxes, ideally located within close proximity to where the original structures were – in locations such as adjacent retained trees (if applicable), integrated onto/into the proposed buildings, or pole-mounted. The provision of additional barn owl nest boxes could provide a beneficial effect for barn owl across the Project for Assessment and Proposed Scheme.

11.224 Additional bird boxes can be designed into the detailed design, for other species such as house sparrow and swift *Apus apus*.

11.225 In addition to nesting resources, mitigation for the loss and severance of habitat needs to be considered and incorporated into the landscape design of each Development Plot. All future Development Plots should have boundaries planted with suitable bird foraging features (neutral grassland, hedgerows, lines of trees, watercourses etc.), which should be interconnected with other future Development Plots, retained habitats and Landscape Mitigation Areas (**Figure 4.1** and **Figure 5.1**) within the wider Project for Assessment in order to maintain and create commuting and foraging habitats.

11.226 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas.

11.227 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.16: Summary of Secondary Mitigation for Construction Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Bird boxes designed and installed into the scheme prior to demolition.	Applicant	Planning Condition		✓
Creation of suitable bird foraging and commuting habitats within landscaped boundaries of future plots	Applicant of each plot	Planning Condition		✓
Bird boxes designed and installed into the scheme prior to demolition.	BC/RBC	Future applications	✓	
Creation of suitable bird foraging and commuting habitats within landscaped boundaries of future plots	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.228 The sensitivity of birds is considered to be low. The magnitude of change, following secondary mitigation, is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, beneficial residual effect which is considered to be negligible.

Proposed Scheme

11.229 The effects for birds is the same as that reported for the Project for Assessment.

Significance

11.230 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme

Risk of killing/injury/ loss of habitat and disturbance to – Otter

11.231 Detailed otter surveys were conducted on Castle, Brightley and Whittle Brook (see **Appendix 11.6** for further details). No evidence of otter was recorded during the surveys.

11.232 The Brooks within the wider Project for Assessment area are considered to provide similar habitat (some are brooks within the Project for Assessment are continuations of surveyed watercourses, i.e. Castle Brook) and therefore likely to provide negligible ecological importance for otter.

Project for Assessment

11.233 The sensitivity of otters is considered to be medium. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible.

Proposed Scheme

11.234 The effects for otters is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.235 No secondary mitigation or enhancement is required.

Residual Effect

11.236 In the absence of secondary mitigation the residual effects for otter is the same as that reported in the pre-mitigation scenario.

Significance

11.237 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/injury/ loss of habitat and disturbance to – Other fauna

11.238 Potential impacts during construction include disturbance to species, particularly hedgehog and brown hare, using retained and adjacent habitats resulting from increased noise, traffic movement and human activity, which also has the potential risk of killing and/ or injury.

11.239 The above Impacts to 'other fauna', most notably hedgehog and brown hare during construction are mitigated for through Primary and Tertiary mitigation, as detailed above.

Project for Assessment

11.240 The sensitivity of other fauna is considered to be medium. The magnitude of change is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Proposed Scheme

11.241 The effects for other fauna is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.242 No secondary mitigation or enhancement is required/has been identified.

Residual Effect

11.243 In the absence of secondary mitigation the residual effects for other fauna is the same as that reported in the pre-mitigation scenario.

Significance

11.244 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/injury/ loss of habitat and disturbance to – Reptiles

11.245 Detailed reptile surveys were undertaken in targeted locations across the Proposed Scheme. No evidence of reptiles were recorded. No records of reptiles were returned during the data search.

11.246 Habitats within the wider Project for Assessment offer limited suitability for reptiles, such as the open expanses of managed modified grassland. It is therefore considered likely that the wider Project for Assessment would also be of negligible ecological importance for reptiles.

Project for Assessment

11.247 The sensitivity of reptiles is considered to be high. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible.

Proposed Scheme

11.248 The effects for reptiles is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.249 No secondary mitigation or enhancement is required.

Residual Effect

11.250 In the absence of secondary mitigation the residual effects for reptiles is the same as that reported in the pre-mitigation scenario.

Significance

11.251 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/injury/ loss of habitat and disturbance to – Water voles

11.252 Detailed water voles surveys were undertaken for Brightley, Castle and Whittle Brook within the Proposed Scheme. No evidence of water voles were recorded. No records of water voles were returned during the data search.

11.253 The Brooks within the wider Project for Assessment area are considered to provide similar habitat types to that of the Proposed Scheme (some of the brooks within the Project for Assessment are continuations of surveyed watercourses found within/ bordering the Proposed Scheme, i.e. Castle Brook). In the absence of data, it is considered unlikely that there would be populations of more than local ecological importance, as there's an absence of local record centre data and it is assumed that were there to be large populations of water vole, evidence would have been found within the surveyed watercourses.

Project for Assessment

11.254 The sensitivity of water voles is considered to be medium. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible.

Proposed Scheme

11.255 The effects for water voles is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.256 No secondary mitigation or enhancement is required.

Residual Effect

11.257 In the absence of secondary mitigation the residual effects for water vole is the same as that reported in the pre-mitigation scenario.

Significance

11.258 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Operational Stage

Degradation through recreational pressure – Non-statutory designated sites

11.259 SBIs are designated on the basis that they meet selection criteria for sites of nature conservation importance at a county level and are therefore of county ecological importance. Sites of Biological Interest cover a broad range of ecological receptors and habitats and cannot be readily replaced in the short term but most are achievable long-term.

11.260 Although the proposals for the Project for Assessment and Proposed Scheme are employment-lead, recreational impacts were scoped in due to the scale of the proposals, with the potential for employees to utilise designated sites.

11.261 The nearest SBI to the proposals is Pilsworth SBI, adjacent to the north. Pilsworth currently has no public access, and is controlled by Pilsworth Fisheries. It is also largely designated for the open-water habitat, which would unlikely to be adversely effected through recreation, even with access being permitted. All other SBI's are located 336m, or further, from the Assessment Boundary. It is considered unlikely that employees during the operational phase would travel such distances for recreation.

Project for Assessment

11.262 The sensitivity of non-statutory designated sites is considered to be low. The magnitude of change is considered to be negligible. Therefore, there is likely to be an indirect, permanent, long-term adverse effect which is considered to be negligible.

Proposed Scheme

11.263 The effects for non-statutory designated sites is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.264 No secondary mitigation or enhancement is required/has been identified.

Residual Effect

11.265 In the absence of secondary mitigation the residual effects non-statutory designated sites is the same as that reported in the pre-mitigation scenario.

Significance

11.266 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Degradation of retained and created habitats

11.267 There are broadleaved woodland, hedgerows, neutral grassland, ponds, scattered trees and habitats within Brightley, Castle and Whittle Brook corridors which shall be retained as defined in **Figures 4.1-5.1**. The Landscape Mitigation Areas will also provide areas of created habitats. It is also anticipated that there will be habitats on the boundaries of Development Plots and phases which shall be subject to habitat creation.

11.268 Retained and created habitats have the potential to be adversely affected through degradation due to increased levels of human activity during the operational phase.

Project for Assessment

11.269 The sensitivity of retained and created habitats is low. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Proposed Scheme

11.270 The effects for retained and created habitats is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.271 These habitats should be subject to a Landscape Ecological Management Plan (LEMP). The LEMP will also contain measures to prevent degradation of retained habitats such as, broadleaved woodland, trees, hedgerows and water courses (all retained brook corridors) during site management and from human activity and to further enhance their value with the adoption of a LEMP.

11.272 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas.

11.273 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.17: Summary of Secondary Mitigation for Operational Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Adoption of a LEMP	Applicant	Planning Condition		✓
	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.274 The sensitivity of retained and created habitats is considered to be low. The magnitude of change, following secondary mitigation, is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, beneficial residual effect which is considered to be negligible.

Proposed Scheme

11.275 The effects for retained and created habitats is the same as that reported for the Project for Assessment.

Significance

11.276 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/ injury/ loss of habitat and disturbance to populations of wildlife – Amphibians

11.277 There are known populations of GCN and notable amphibians across the Project for Assessment and Proposed Scheme. Retained ponds will be provided with secondary mitigation, and be conditioned through a LEMP, to safeguard from operational impacts. However, there is still a risk of disturbance and killing/ injury of amphibians whilst they move through the operational site, however this risk is considered to be small in magnitude.

Project for Assessment

11.278 The sensitivity of amphibians is considered to be high. The magnitude of change is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor to moderate.

Proposed Scheme

11.279 The effects for amphibians is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.280 Adoption of a LEMP and in order to mitigate for incidental injury/mortality to amphibians which may disperse through the Project for Assessment and Proposed Scheme during its operation, it is recommended that wildlife-friendly kerbs are installed around gully pots. Such kerbs are designed to minimise the likelihood of amphibians becoming trapped in gully pots. It is also recommended that any pond/SuDS maintenance is timed to avoid the breeding period for amphibians (i.e. February – August inclusive).

11.281 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas.

11.282 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.18: Summary of Secondary Mitigation for Operational Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Installation of wildlife-friendly kerbs around gulley pots	Developer	Planning Conditions		✓
Adoption of a LEMP	Owner	Planning Conditions		✓
Pond and SuDS maintenance is timed to avoid breeding periods (i.e. February – August inclusive).	Owner	Planning Conditions / LEMP		✓
Installation of wildlife-friendly kerbs around gulley pots	BC/RBC	Future applications	✓	
Adoption of a LEMP	BC/RBC	Future applications	✓	
Pond and SuDS maintenance is timed to avoid breeding periods (i.e. February – August inclusive).	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.283 The sensitivity of amphibians is considered to be high. The magnitude of change, following secondary mitigation, is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse residual effect which is considered to be negligible.

Proposed Scheme

11.284 The effects for amphibians is that same as that reported for the Project for Assessment.

Significance

11.285 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/ injury/ loss of habitat and disturbance to populations of wildlife – Badgers

11.286 Once operational, newly created badger setts (as part of mitigation licencing works) and retained badgers setts may be subject to disturbance resulting from increased noise, traffic movement and human activity. This impact is considered to be significant at a local level (low sensitivity), as badger are relativity tolerant to disturbance.

Project for Assessment

11.287 The sensitivity of badgers is considered to be low. The magnitude of change is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible to minor.

Proposed Scheme

11.288 The effects for badgers is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.289 Management of habitats could result in killing / injury of badgers; retained habitats shall be safeguarded through a LEMP.

11.290 Once the Proposed Scheme is operational and construction works ended potential impacts relate to inappropriate management and increased risk of road traffic incidents through new roads in proximity to the retained/ newly created setts and along known badger dispersal corridors. Mitigation for the potential increase in road traffic incidents could be achieved through the installation of badger signs at strategic locations to indicate the risk of encountering badgers, along with speed restrictions across the infrastructure network.

11.291 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas.

11.292 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.19: Summary of Secondary Mitigation for Construction Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Badger road signs, speed restrictions	The Application	Planning Conditions		✓
Adoption of a LEMP	Owner	Planning Conditions		✓
Badger road signs, speed restrictions	BC/RBC	Future applications	✓	
Adoption of a LEMP	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.293 The sensitivity of badgers is considered to be low. The magnitude of change, following secondary mitigation, is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse residual effect which is considered to be negligible.

Proposed Scheme

11.294 The effects for badgers is that same as that reported for the Project for Assessment.

Significance

11.295 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/ injury/ loss of habitat and disturbance to populations of wildlife – Bats

11.296 Bats are highly sensitive to changes in lighting in particular and faithful to known roost sites. There is potential for the disturbance of foraging and commuting bats resulting from increased lighting and disturbance to new roost sites (as described in the Construction Mitigation section, as part of low impact licencing works) resulting from increased lighting, as a result of the operational development. These impacts are considered to be adverse at the local level. The Design Code includes the requirement for directional lighting, reducing light spill into ecologically sensitive areas and warm colour temperatures to reduce wildlife disruption. However, more specific measures will be adopted through secondary mitigation.

Project for Assessment

11.297 The sensitivity of bats is considered to be medium. The magnitude of change is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Proposed Scheme

11.298 The effects for bats is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.299 Retained and created habitat of value for commuting and foraging bats shall be safeguarded during the operation through secondary mitigation in the form of a LEMP.

11.300 To mitigate for potential impacts through increased and insensitive lighting on the local bat population, a sensitive lighting scheme should be implemented which will ensure that favourable habitat/new roost sites are not subject to lighting levels above 1 lux, as per guidance¹⁰.

11.301 In addition, the lighting strategy should include unlit areas within Development Plot boundaries, within Landscape Mitigation Areas/Buffer and the Wetland Habitat Corridor (**Figure 4.1**); therefore providing dark corridors and dark spaces allowing connectivity and permeability of species dispersal across the wider landscape.

¹⁰ Bat Conservation Trust; Artificial Lighting Guidance [online] [accessed 27/11/2024]
<https://www.bats.org.uk/our-work/buildings-planning-and-development/lighting>

Table 11.20: Summary of Secondary Mitigation for Operational Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Sensitive lighting strategy	The Applicant	Planning Conditions		✓
Adoption of a LEMP	Owner	Planning Conditions		✓
Sensitive lighting strategy	BC/RBC	Future applications	✓	
Adoption of a LEMP	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.302 The sensitivity of bats is considered to be medium. The magnitude of change, following secondary mitigation, is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse residual effect which is considered to be negligible.

Proposed Scheme

11.303 The effects for bats is that same as that reported for the Project for Assessment.

Significance

11.304 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/ injury/ loss of habitat and disturbance to populations of wildlife – Birds

11.305 Potential impacts during operation include disturbance to species using retained and adjacent habitats resulting from increased noise, traffic movement and human activity, and management of habitats during the bird nesting season could contravene wildlife legislation.

Project for Assessment

11.306 The sensitivity of birds is considered to be low. The magnitude of change is considered to be medium. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Proposed Scheme

11.307 The effects for birds is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.308 Retained and created habitat of value for birds shall be safeguarded during the operation through secondary mitigation in the form of a LEMP.

11.309 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas.

11.310 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.21: Summary of Secondary Mitigation for Operational Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Adoption of a LEMP	Owner	Planning Conditions		✓
	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.311 The sensitivity of birds is considered to be low. The magnitude of change, following secondary mitigation, is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, adverse residual effect which is considered to be negligible.

Proposed Scheme

11.312 The effects for breeding and over-wintering birds is the same as that reported for the Project for Assessment.

Significance

11.313 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/injury/ loss of habitat and disturbance to – Otter

11.314 Otter were considered to be likely absent.

Project for Assessment

11.315 The sensitivity of otters is considered to be medium. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible.

Proposed Scheme

11.316 The effects for otter is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.317 No secondary mitigation or enhancement is required.

Residual Effect

11.318 In the absence of secondary mitigation the residual effects for otter is the same as that reported in the pre-mitigation scenario.

Significance

11.319 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/injury/ loss of habitat and disturbance to – Other fauna

11.320 Potential impacts during operation include disturbance to species using retained and adjacent habitats resulting from increased noise, traffic movement and human activity, and management of habitats during the bird nesting season could contravene wildlife legislation.

Project for Assessment

11.321 The sensitivity of other fauna is considered to be medium. The magnitude of change is considered to be small. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be minor.

Proposed Scheme

11.322 The effects for other fauna is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.323 Retained and created habitat of value for other fauna shall be safeguarded during the operation through secondary mitigation in the form of a LEMP.

11.324 Therefore, for the Proposed Scheme, the mitigation will be managed through the planning conditions. It is assumed that the same or similar mitigation will apply to the wider Project for Assessment, although this will be a matter for when planning applications are made for those relevant areas.

11.325 A summary of the proposed secondary mitigation is provided in the table below.

Table 11.22: Summary of Secondary Mitigation for Operational Stage

Mitigation	Person Responsible	Secured by	Relevant to	
			Project for Assessment	Proposed Scheme
Adoption of a LEMP	Owner	Planning Conditions		✓
	BC/RBC	Future applications	✓	

Residual Effect

Project for Assessment

11.326 The sensitivity of other fauna is considered to be medium. The magnitude of change, following secondary mitigation, is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse residual effect which is considered to be negligible.

Proposed Scheme

11.327 The effects for other fauna is the same as that reported for the Project for Assessment.

Significance

11.328 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/injury/ loss of habitat and disturbance to – Reptiles

11.329 Reptiles were considered to be likely absent.

Project for Assessment

11.330 The sensitivity of reptiles is considered to be high. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible.

Proposed Scheme

11.331 The effects for reptiles is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.332 No secondary mitigation or enhancement is required.

Residual Effect

11.333 In the absence of secondary mitigation the residual effects for reptiles is the same as that reported in the pre-mitigation scenario.

Significance

11.334 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Risk of killing/injury/ loss of habitat and disturbance to – Water voles

11.335 Water voles were considered to be likely absent.

Project for Assessment

11.336 The sensitivity of water voles is considered to be medium. The magnitude of change is considered to be negligible. Therefore, there is likely to be a direct, permanent, long-term, adverse effect which is considered to be negligible.

Proposed Scheme

11.337 The effects for water voles is the same as that reported for the Project for Assessment.

Secondary Mitigation or Enhancement

11.338 No secondary mitigation or enhancement is required.

Residual Effect

11.339 In the absence of secondary mitigation the residual effects for water vole is the same as that reported in the pre-mitigation scenario.

Significance

11.340 This effect is considered to be **Not Significant** for the Project for Assessment and the Proposed Scheme.

Limitations and Assumptions

11.341 Limitations with respect to survey effort are described in detail within the respective Appendices, but are summarised below. There were no limitations with respect to the EIA process:

11.342 Bats:

- Bat surveys are subject to numerous variables. The echolocation calls of species such as brown long-eared bat *Plecotus auritus* are of low amplitude and may not always be

picked up on bat detectors. Survey results represent a sample of bat activity during the surveys. It is possible that bats may use the site at other times;

- Bat calls cannot always be identified to species level, either due to distant contacts or the similarity between some types of bats. Where this occurs, it is recorded as 'unidentified bat species' (Unid) or will show which bat species it is likely to be (e.g. Pipistrelle sp. / Myotis sp.). Bat calls have been analysed using British Trust for Ornithology (BTO) Acoustic Pipeline before being assessed by a CoBAA ecologist. The auto-analysis has analysed calls to a species level however, this cannot be fully relied upon, particularly for Myotis species;
- Direct evidence of use by bats such as deposition of droppings in attic spaces is typically only conspicuous when void dwelling species are present. Cavity dwelling species are often found under roof tiles and in gaps and cavities in walls and potential for these species to be present is assessed by the presence of these features;
- Bats use a variety of roosts, ranging from maternity, mating or swarming and hibernation roosts, containing many individuals, to mating or night-time feeding roosts containing few individuals or single animals. Bats also tend to be nomadic (although are faithful to certain favoured roosting sites), spending variable lengths of time in a variety of roosts. Thus, even with considerable survey effort it is possible that small transient roosts of bats may have been missed, although these tend to be less important to bats and so this should not affect the evaluation and recommendations made;
- A number of the static detectors did not record for the full 5 nights of survey. Although this is a limitation, it is considered that the number of static detectors across the entire site was in line with guidance. Furthermore, most of the detectors recorded a full-five night data set in the core activity season and/ or had full data sets from at least three deployments. Therefore, an adequate and large data set was gathered throughout the seasons, and the conclusions of the surveys can be validated; and
- PBRA's of the onsite trees were not undertaken. Owing to the dynamic and transient nature of bat roosts in trees, and the long term implications of the Project for Assessment (i.e. some phases may not 'come forward' for many years), a detailed assessment of all trees onsite was considered to be a disproportionate survey effort at this stage of the Application. For example, trees which provide suitable bat roosting habitat in 2024, may not be suitable in future years, or may not be required for removal once detailed plans on tree losses come forward for the individual phases.

11.343 Birds:

- Some areas of the survey area did not have access during the breeding bird surveys, however, surveyors recorded any bird species displaying breeding behaviours from adjacent accessible areas;
- For visit 3 on transect route 5, the survey was undertaken at two weeks after the other transect route surveys, however this is still within the optimum breeding bird season it is not considered a limitation to the surveys; and

- During visit 2, transect 6 had livestock present in the southern field, however the field could be surveyed from a distance so the results for the transect is not limited.

11.344 Amphibians:

- Ponds P36, P37, P42, P44 and P43 were not accessible during the eDNA surveys and therefore results from these pond were not obtained.

Summary

11.345 **Table 11.23** provides a summary of the effects, receptors, residual effects and conclusions of significance considered within the Chapter, with reference to both the Project for Assessment and Proposed Scheme.

11.346 The table only provides a summary of the residual effects identified within the assessment. Details of all primary, secondary and tertiary mitigation that has been taken into account is summarised within **Volume 3: Environmental Management Plan**.

Table 11.23: Summary of Residual and Significant Effects for the Project for Assessment and Proposed Scheme

Effect	Receptor	Project for Assessment		Proposed Scheme	
		Residual Effect	Is the Effect Significant?	Residual Effect	Is the Effect Significant?
Construction Stage					
Overall loss of habitat and degradation to retained habitats	Broadleaved woodland	Minor to negligible Beneficial	NO	Minor to negligible Beneficial	NO
	Hedgerows	Minor to negligible Beneficial	NO	Minor to negligible Beneficial	NO
	Neutral grassland	Minor to negligible Beneficial	NO	Minor to negligible Beneficial	NO
	Standing water/ ponds	Minor to negligible Beneficial	NO	Minor to negligible Beneficial	NO
	Scattered trees	Minor to negligible Beneficial	NO	Minor to negligible Beneficial	NO
	Wet ditches	Negligible Beneficial	NO	N/A	N/A
Risk of killing/ injury/ loss of habitat and disturbance to populations of wildlife	Amphibians	Minor Beneficial	NO	Minor Beneficial	NO
	Bats	Minor Beneficial	NO	Minor Beneficial	NO
	Badgers	Negligible Adverse	NO	Negligible Adverse	NO
	Birds (breeding and over-wintering)	Negligible Beneficial	NO	Negligible Beneficial	NO
	Otter	Negligible Beneficial	NO	Negligible Beneficial	NO
	Other Fauna	Minor Adverse	NO	Minor Adverse	NO
	Reptiles	Negligible Adverse	NO	Negligible Adverse	NO

Effect	Receptor	Project for Assessment		Proposed Scheme	
		Residual Effect	Is the Effect Significant?	Residual Effect	Is the Effect Significant?
	Water voles	Negligible Adverse	NO	Negligible Adverse	NO
Operational Stage					
Degradation through recreational pressure	Non-statutory designated sites	Negligible Adverse	No	Negligible Adverse	No
Overall loss/ degradation of retained and created habitats	Retained and created habitats	Negligible Beneficial	NO	Negligible Beneficial	NO
Risk of killing/ injury/ loss of habitat and disturbance to populations of wildlife	Amphibians	Negligible Adverse	NO	Negligible Adverse	NO
	Badgers	Negligible Adverse	NO	Negligible Adverse	NO
	Bats	Negligible Adverse	NO	Negligible Adverse	NO
	Birds (breeding and over-wintering)	Negligible Adverse	NO	Negligible Adverse	NO
	Otter	Negligible Adverse	NO	Negligible Adverse	NO
	Other Fauna	Negligible Adverse	NO	Negligible Adverse	NO
	Reptiles	Negligible Adverse	NO	Negligible Adverse	NO
	Water voles	Negligible Adverse	NO	Negligible Adverse	NO

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- ² Greater Manchester Combined Authority (2020) Places for Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan – 2022 to 2039 (2024)
- ³ Bury Council (2024). Bury Local Plan.
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- ⁵ GOV.UK (2018). The Conservation of Habitats and Species and Planning (Various Amendments) (England and Wales) Regulations 2018. <https://www.legislation.gov.uk/uksi/2018/1307/made>
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