Intermodal Logistics Park North Ltd

INTERMODAL LOGISTICS PARK NORTH (ILPN)

Intermodal Logistics Park North (ILPN) Strategic Rail Freight Interchange (SRFI)

Project reference TR510001

Preliminary Environmental Information Report (PEIR)

Chapter 11: Ecology and biodiversity

October 2025

Planning Act 2008

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

This document forms a part of a Preliminary Environmental Information Report (PEIR) for the Intermodal Logistics Park North (ILPN) project.

A PEIR presents environmental information to assist consultees to form an informed view of the likely significant environmental effects of a proposed development and provide feedback.

This PEIR has been prepared by the project promoter, Intermodal Logistics Park North Ltd. The Proposed Development is described in Chapter 3 of the PEIR and is the subject of a public consultation.

Details of how to respond to the public consultation are provided at the end of Chapter 1 of the PEIR and on the project website:

https://www.tritaxbigbox.co.uk/our-spaces/intermodal-logistics-park-north/

This feedback will be taken into account by Intermodal Logistics Park North Ltd in the preparation of its application for a Development Consent Order for the project.

Chapter 11 ◆ Ecology and biodiversity

INTRODUCTION

11.1 This chapter has been produced by FPCR Environment and Design Ltd. and assesses the likely significant effects of the Proposed Development. In particular it considers the likely significant effects of the Proposed Development on Important Ecological Features (IEFs) which include statutory and non-statutory designated sites of nature conservation value within the Zone of Influence (ZOI) of the Proposed Development, habitats with ecological value within the Main Site and Western Rail Chord, and protected and/or notable species with ecological value that may be present and supported by habitats at the Main Site and Western Rail Chord or within the ZOI of the Proposed Development.

11.2 This chapter has been prepared in general accordance with, and reference to, the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment (CIEEM, 2024). The chapter has been prepared by a FPCR Associate Ecologist with over 20 years' experience of environmental and ecological survey and assessment.

11.3 This chapter describes the methods used for assessment, a summary of third party desk study biological records and ecological information, a summary of baseline ecological conditions within the area of assessment at the time of survey and the surroundings, identification of potential IEFs, the likely effects from the Proposed Development on IEFs both directly and indirectly during construction and operation, proposed mitigation measures to avoid, minimise/mitigate, and where unavoidable compensate for likely significant adverse effects. This chapter also summarises the opportunities for potential significant beneficial effects of the Proposed Development provided within the design, habitat creation and other proposed enhancements to the baseline ecological conditions.

11.4 Unless stated otherwise, this chapter and the accompanying Technical Appendices provide the baseline conditions and assessment of impacts relating to the Main DCO Site and Western Rail Chord (as described fully in Chapter 2: Site Description) and the Northern Mitigation Area. The Main Site includes a roughly triangular area of land north of the Liverpool and Manchester Railway as well as a large area of land situated between the M6 in the west, Winwick Lane in the East and the Liverpool and Manchester Railway in the north. The Western Rail Chord includes the rail improvements up to Newton-Le-Willows Station, the Rail Chord that runs south from the Liverpool and Manchester railway Line and includes a proposed access road through the area of the former Parkside Colliery. The Northern Mitigation Area is land to the north of the railway line incorporating land for community use, BNG, public rights of way (ProWs), landscaping and soil management.

11.5 Land outside of the Main Site and Western Rail Chord that is included within the wider draft Order Limits relates to remote highways works, the Northern Mitigation Area (land to be used for habitat creation in relation to Biodiversity Net Gain (BNG) to the north of the Main Site),

soils reuse area to the east of Winwick Lane, and the Lane Head South Relief Road. Surveys are ongoing within these areas, all information available and relevant to the assessment of IEFs at the time of submission of the PEIR has been included in the assessment. Where possible, a reasonable estimate of likely findings and a worst case (precautionary) approach has been used where surveys are not yet complete. Information from surveys still ongoing and not available at the time of PEIR submission will be provided in the DCO submission to update the assessment.

11.6 BNG is not included in the ecological impact assessment within this chapter but will be summarised within this chapter separately. BNG has been considered in detail within a separate Biodiversity Impact Assessment (BIA) feasibility note provided as Technical Appendix 11.2.

RELEVANT LAW, POLICY AND GUIDANCE

National Policy

National Policy Statement for National Networks (2024)

11.7 The National Networks National Policy Statement (NPSNN) provides guidance on how decisions will be made relating to development consent orders for Nationally Significant Infrastructure Projects (NSIPs). The NPSNN recognises that some developments will have some adverse local impacts on noise, emissions, landscape/visual amenity, biodiversity, cultural heritage and water resources. The significance of these effects and the effectiveness of mitigation is uncertain at the strategic and non-locationally specific level of this NPS. Therefore, whilst applicants should deliver developments in accordance with government policy and in an environmentally sensitive way, including considering opportunities to deliver environmental benefits, some adverse local effects of development might remain.

11.8 Page 44 of the NPSNN provides guidance on how BNG should be assessed in relation to NSIP developments. The NPSNN States in paragraphs 4.23 -4.25 that:

'Biodiversity net gain should be applied in conjunction with mitigation hierarchy and does not change or replace existing environmental obligations. In addition to providing net gains for biodiversity, applicants should also identify and deliver appropriate opportunities for nature recovery and wider environmental enhancements

Applicants are encouraged to use the latest version of the biodiversity metric to calculate their biodiversity baseline and inform their biodiversity net gain outcomes, and should present this data as part of their application.

Biodiversity net gain can be delivered onsite or wholly or partially off-site and should also be set out within the application for development consent.'

11.9 Pages 63- 69 of the NPSNN relates to Biodiversity and Nature Conservation and these should be assessed for NSIP developments. Paragraphs 5.46-5.47 state:

'*The applicant should consider the potential direct and indirect impacts on ecosystems*

including the impacts on habitats and protected species and the interactions between these, and provide environmental information proportionate to the likely impacts of the infrastructure on biodiversity and nature.

The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests as well as consider how their proposal will deliver biodiversity net gain in line with the requirements in a Biodiversity Gain Statement.'

11.10 In relation to mitigation relating to impacts to biodiversity and nature conservation paragraph 5.48 of the NPS NN summarises the mitigation hierarchy as follows:

'To avoid direct and indirect harm or disturbance in line with the mitigation hierarchy the applicant should demonstrate that:

- *developments are designed to avoid the risk of harm, for example by minimising the footprint of the development and/or retaining the site's important habitat features*
- *developments are designed and landscaped to provide green corridors and minimise habitat fragmentation (for example using underpasses or green bridges to link habitats)*
- *during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works*
- *during construction and operation, best practice will be followed to ensure that risk of disturbance or damage to species or habitats follows the mitigation hierarchy (including as a consequence of transport access arrangements). For example, plan for construction work to be carried out at specific times to avoid sensitive times and location, such as the breeding season for wild birds and lifecycles of migratory fish'*

11.11 Paragraph 5.49 states that *'If avoidance or reduction of harm is not possible, applicants should include appropriate mitigation measures, in line with the mitigation hierarchy, as an integral part of their proposed development, including identifying where and how these will be secured in the long term'* this is followed by para. 5.50 which specifies that *'If avoidance or bespoke mitigation measures are insufficient or not possible, as a last resort, appropriate compensation measures should be sought and implemented.'*

11.12 Paragraphs 5.51 and 5.52 relate to provision of enhancements to biodiversity. Stating *'The applicant should not just look to mitigate direct harms but should show how the project has taken advantage of opportunities to conserve and enhance biodiversity, having due regard to any relevant local nature recovery strategies and species conservation strategies.'* And *'Wider ecosystem services and benefits of natural capital should also be considered when designing enhancement measures in order to maximise multifunctional benefits whilst minimising land take.'*

11.13 In relation to decision making by the Secretary for State, paragraphs 5.55-5.57 state:

'As a general principle, and subject to the specific policies below, development should, at first avoid significant harm to biodiversity and geological conservation interests, including through

consideration of reasonable alternatives. If avoidance is not possible, mitigation needs to be considered (as set out in paragraphs 5.48 to 5.52 above). Where significant harm cannot be avoided or mitigated it should be compensated for as a last resort, with on-site mitigation being considered prior to off-site. The Secretary of State will give significant weight to any residual harm.

In taking decisions, the Secretary of State should ensure that appropriate weight is attached to: designated sites of international, national, and local importance; irreplaceable habitats; protected species and habitats; other species of principal importance for the conservation of biodiversity; biodiversity and geological interests within the wider environment and to areas prioritised for nature's recovery in the relevant local nature recovery strategies.

The Secretary of State will need to take account of the advice provided to the applicant by Natural England and/or the Marine Management Organisation and/or the Environment Agency, as regards any necessary mitigation measures and whether these organisations have granted or refused, or intend to grant or refuse, any relevant licences or permit, including protected species mitigation licences. In advance of the formal submission, applicants are encouraged to use Natural England's Letter of No Impediment Approach and engage with Natural England'

11.14 The remainder of the Biodiversity and Nature Conservation section of the NPSNN provides guidance in relation to sites and features of nature conservation importance and how they should be assessed. Such features include designated sites at the international, national, regional and local scales, as well as irreplaceable habitats, biodiversity within and around developments and Habitats of Principal Importance (HPIs) and Species of Principal Importance (SPIs) which are listed in Section 41 of the NERC Act 2006.

National Planning Policy Framework (NPPF) (December 2024, as amended February 2025)

11.15 Guidance on nature conservation planning policy is provided in Chapter 15 Conserving and enhancing the natural environment of the NPPF.

11.16 Paragraph 187 sections a, b and d are relevant to biodiversity and state:

'Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland:…

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;…'

11.17 Paragraph 188 states:

'Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.'

11.18 Paragraph 192 states:

'To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.'

11.19 Paragraph 193 states:

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

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

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

Planning Practice Guidance (PPG)

11.20 Guidance on the application of the NPPF is provided in the 'Natural Environment' section of the PPG (UK Government Department for Levelling Up, Housing and Communities 2016). The

PPG has a section providing guidance on green infrastructure, and a section providing guidance on biodiversity, geodiversity, and ecosystems (which includes Biodiversity Net Gain).

Office of the Deputy Prime Minister (ODPM) Circular

11.21 Office of the Deputy Prime Minister Government Circular 06/2005: 'Biodiversity and geological conservation' provides administrative guidance on the application of the law relating to planning and nature conservation as it applies in England. It complements the policy in the NPPF and the PPG.

Local Policy

Local Planning Policy

11.22 The Draft Order Limits are located within the boundaries of three Local Planning Authority (LPA) areas; St. Helens Borough Council, Wigan Council and Warrington Borough Council. Wigan Council is also part of the Greater Manchester Combined Authority (GMCA) (a combination of the ten Greater Manchester Council and the Mayor). Adopted local planning documents relevant to this chapter include:

- St. Helens Borough Local Plan up to 2037 (adopted July 2022)
- St. Helens Borough Council Supplementary Planning Document: Biodiversity (adopted June 2011).
- The Places for Everyone Joint Development Plan Document (Greater Manchester Combined Authority, adopted March 2024)
- GMCA Holcroft Moss Planning Obligations Supplementary Planning Document (SPD) (adopted May 2025)
- Wigan Local Plan Core Strategy (adopted September 2013);
- Wigan Replacement Unitary Development Plan: Remaining Policies (April 2006)
- Warrington Local Plan (adopted December 2023)

11.23 Consideration has also been given to emerging plans and policies currently in consultation and which would be anticipated as coming into effect in the near future.

- Wigan Borough Local Plan – Initial Draft (April 2025)

11.24 A review of local and emerging planning policy documents is summarised below.

St. Helens Borough Local Plan up to 2037

11.25 Relevant planning policies from the Local Plan include:

- Policy LPC06 - Biodiversity and Geological Conservation

- Policy LPC07 - Greenways
- Policy LPC08 - Ecological Network
- Policy LPC10 - Trees and Woodland
- Policy LPA02 - Development Principles
- Policy LPA08 - Green Infrastructure
- Policy LPA09 – Parkside East
- Policy LPA10 – Parkside West

11.26 The Local Plan Policies Map identifies the western area of the Main Site and part of the Western Rail Chord as allocated 'Parkside East LPA09'.

11.27 The Local Plan Policies map also identifies the broadly triangular area of land in the north of the Main Site, land within the north of the Main Site between Highfield Farm and Highfield Moss SSSI, and the corridor of the M6 immediately south of the Main Site as Green Belt.

11.28 Also of note is that the Local Plan Policies map identifies the area surrounding the Western Rail Chord as allocated as 'Parkside West LPA10'.

11.29 Relevant supplementary planning guidance includes:

- Trees and Development SPD (June 2008)
- Biodiversity SPD (June 2011)

The Places for Everyone (PfE) Joint Development Plan Document (Greater Manchester Combined Authority)

11.30 Relevant planning policies from Places for Everyone include:

- Policy JP-P1 Sustainable Places
- Policy JP-G8 A Net Enhancement of Biodiversity and Geodiversity

Holcroft Moss Planning Obligations SPD

11.31 The SPD seeks to provide further guidance on how Criterion 17 (in particular) of Policy JP-C8 of the PfE Plan will be implemented. Criterion 17 seeks to ensure new development does not have an adverse impact on the protected habitats and species of Holcroft Moss, which is within the Manchester Mosses Special Area of Conservation (SAC).

Wigan Local Plan Core Strategy

11.32 Relevant planning policies from the Core Strategy include:

- Policy CP17 Environmental Protection.

Wigan Replacement Unitary Development Plan

11.33 Relevant remaining planning policies from the Unitary Development Plan include:

- Policy EV2C - Features of Major Importance to Nature Conservation and Wildlife Corridors.

Wigan Borough Local Plan – Initial Draft

- Policy EN1: Our natural environment
- Policy EN2: Development and Green Infrastructure
- Policy EN3: Blue Infrastructure Network
- Policy EN4: Nature recovery and improvement
- Policy EN5: Chat Moss
- Policy J6: Land West of Winwick Lane, Lowton

Warrington Local Plan

11.34 Relevant planning policies from the Core Strategy include:

- Policy DC3 Green Infrastructure Network
- Policy DC4 Ecological Network
- Policy ENV8 Environmental and Amenity Protection

Biodiversity Action Plans (BAPs)

11.35 The UK BAP was superseded by the NERC Act 2006, many of the previous BAP habitats and Species were transposed into Section 41 of the Act to become Habitats and Species of Principal Importance. Local BAPs remain in place and continue to provide lists of habitats and species important in local authority districts that should be considered within local plans and policies as well as when determining planning applications.

Greater Manchester Biodiversity Action Plan (GM BAP)

11.36 The GM BAP, updated in 2009, covers the districts of Greater Manchester including Wigan within which part of the Main Site is situated. The GM BAP identifies nine habitats and nine species as priorities in the district. These include the following habitats and species relevant to this assessment:

- grasslands;

- hedgerows;
- lowland mosslands;
- ponds and lodges;
- native woodlands;
- bats;
- farmland birds;
- great crested newts; and
- water vole.

Cheshire Region Biodiversity Action Plan

11.37 The Cheshire Region BAP includes the area of Warrington and part of the Main Site. The Cheshire Region BAP identifies a wide range of habitats and species as priorities in the district. A number of species and habitats within the BAP are relevant to this assessment.

Merseyside Biodiversity Action Plan

11.38 The Merseyside BAP was published in 2001 and reviewed in 2008; it includes the area of St. Helens which part of the Western Rail Chord is situated within. The Merseyside BAP identifies 28 priority species and 16 priority habitats. A number of species and habitats within the BAP are relevant to this assessment.

Legislation

Environment Act 2021

11.39 The act was passed on 10th November 2021 and covers a range of environmental protections and enhancements. It is enforced by an independent Office for Environmental Protection (OEP). In relation to nature and biodiversity, the act will deliver:

- Strengthened biodiversity duty.
- A requirement for developments to deliver at least 10% biodiversity net gain (does not yet apply to NSIPs but is anticipated to be brought into effect for NSIPs in May 2026).
- Local Nature Recovery Strategies.
- Protected Site Strategies and Species Conservation Strategies.
- Conservation Covenants.
- Strengthened woodland protection enforcement measures.

The Conservation of Habitats and Species Regulations (CHSR) 2017 (as amended)

11.40 The CHSR ratifies into UK law the "Habitats Directive" (92/43/EEC) and the "Birds Directive" (79/409/EEC).

11.41 The CHSR places a duty on the Secretary of State to propose a list of sites which are important for species listed in Annex I and II of the Habitats Directive respectively to the European Commission. The EU Member States designate these sites as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs, which are designated for birds).

11.42 The CHSR includes a list of animals and plant species taken from the Annex IV of the Habitats Directive that have a natural range in Great Britain. These are collectively known as European Protected Species (EPS). The regulations make it an offence to deliberately capture, kill, disturb, take or destroy eggs of, or damage or destroy a breeding or resting place of animals listed in Schedule 2 of the Regulations, and to pick, collect, cut, uproot or destroy wild plants listed in Schedule 5 of the Regulations. They also protect these species alive or dead and parts thereof from various forms of possession and trade.

Natural Environmental and Rural Communities (NERC) Act 2006

11.43 Section 40 of the NERC Act 2006 imposes a duty on every public authority to conserve biodiversity in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat.

11.44 Section 41 (S41) of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The list (including 56 habitats and 943 species) has been drawn up in consultation with Natural England and draws upon the UK BAP List of Priority Species and Habitats. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006.

The Animal Welfare Act 2006

11.45 The Animal Welfare Act 2006 is the principal law relating to animal welfare, it primarily focuses on the duty of care relating to owners and keepers of animals but has provisions that protect all vertebrate animals and prohibits forms of animal cruelty.

The Countryside and Rights of Way (CRoW) Act 2000

11.46 The CRoW Act 2000 strengthens the species enforcement provisions of the Wildlife and Countryside Act (WCA) 1981 (as amended) and makes it an offence to 'recklessly' disturb a protected animal whilst it is using a place of rest or shelter or breeding/nest site.

The Hedgerow Regulations 1997

11.47 The Hedgerow Regulations protect important countryside hedgerows in England and Wales

by requiring notification to the local planning authority before removal. The regulations provide criteria against which hedgerows can be assessed to determine whether they classify as "important" under the regulations.

Protection of Badgers Act 1992

11.48 Badgers and their setts are protected under the Protection of Badgers Act 1992. This act is based on the need to protect badgers from persecution by baiting and deliberate harm or injury. The act makes it an offence to:

- intentionally capture, kill or injure a badger;
- damage, destroy or block access to their setts;
- disturb badgers in setts;
- treat a badger cruelly;
- deliberately send or intentionally allow a dog into a sett; and
- bait or dig for badgers.

11.49 A sett is defined as: *'Any structure or place that displays signs indicating current use by a badger'.*

Wildlife and Countryside Act (WCA) 1981 (as amended)

11.50 The WCA 1981 (as amended) is the principal legislation providing protection for wildlife in the UK. It prescribes legislation for wild birds, other animals, wild plants and non-native species. In addition, it provides for the designation of Sites of Special Scientific Interest (SSSI) in England and empowers conservation bodies the ability to declare National Nature Reserves and provides mechanisms for management and protection of these sites.

Birds

11.51 The WCA as amended by Schedule 12 of the Countryside and Rights of Way Act 2000 makes it an offence (with exception to species listed in Schedule 2) to intentionally or recklessly:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built (also [take, damage or destroy the nest of a wild bird included in Schedule ZA1] under the Natural Environment and Rural Communities Act 2006); or
- take or destroy an egg of any wild bird.

11.52 For birds listed on Schedule 1 of the WCA, protection extends to offences relating to the intentional or reckless disturbance of these birds while at their nests or their dependent young.

Other Fauna

11.53 The WCA (as amended) makes it an offence to (subject to exceptions) intentionally or recklessly kill, injure or take wild animals listed on Schedule 5 of the Act. For some species, the protection extends to interference with places used for shelter or protection, or disturbing animals occupying or obstructing access to such places. These species are regarded as *'Fully protected*' and as well as European Protected Species include water vole *Arvicola terrestris*, pine marten *Martes martes* and red squirrel *Sciurus vulgaris* as well as selected others from a range of species groups including, fish, butterflies, hemipteran bugs, beetles, crickets, dragonflies, moths, spiders, crustaceans, sea-mats, molluscs, Annelid worms and sea anemones (and allies).

11.54 There are seven species on Schedule 5 of the Act that not fully protected but are still protected against killing and injuring these include the common reptile species slow worm *Anguis fragilis*, viviparous lizard *Lacerta vivipara*, grass snake *Natrix natrix* and adder *Vipera berus*.

11.55 The Act prohibits certain methods of killing, injuring, or taking wild animals, and numerous species are protected against sale only as well as other variations for example Atlantic stream (white-clawed) crayfish *Austropotamobius pallipes* are protected against taking and sale.

Flora

11.56 With regards to native flora the Act makes it an offence to (subject to exceptions) intentionally or recklessly pick, uproot or destroy any wild plant listed in Schedule 8. Similarly, the Act prevents the sale, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.

Invasive Non-Native Species (INNS)

11.57 The Act contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales.

Special Sites of Scientific Interest (SSSIs)

11.58 The Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs). These sites can be identified for their flora, fauna, geological or physiological interest. In England, the power to confirm an SSSI lies with Natural England.

11.59 Laws protecting areas designated as SSSIs are described in Sections 28 to 33 of Part 2 of the Wildlife and Countryside Act 1981 (as amended). SSSIs are the principle statutory designation of sites in the UK and offences are enforced through Natural England.

Technical Guidance

11.60 Table 11.1 below summarises the standards technical guidance relevant to the ecological assessment. All links to website-based information were accessed and checked on 28th July 2025, the below standards and guidance are not anticipated to change prior to Statutory Consultation.

Table 11.1 Ecological Standards and Guidelines

Standards and Guidance Documents	Relevance to Assessment
Ecological Impact Assessment (EcIA) Chartered Institute of Ecology and Environmental Management (CIEEM). 2020 Guidelines for accessing, using and sharing biodiversity data in the UK. Chartered Institute of Ecology and Environmental Management, Winchester. CIEEM. 2017 Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester. CIEEM. 2024. Guidelines for ecological impact assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. V. 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.	Relevant to the methods and process for Ecological Impact Assessment.
Habitats Butcher, B., Carey, P., Edmons, R., Norton, L. and Treweek, J. 2023. UK Habitat (UKHab) Classification Version 2.0 – Habitat Definitions DEFRA. 2024. *The Statutory Biodiversity Metric – Technical Annex 1: Condition Assessment Sheets and Methodology (v.1.0.2)*. Accessible at: https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides DEFRA. 2007. *The Hedgerow Survey Handbook: A standard procedure for local surveys in the UK.* DEFRA, London.	UKHab provides a standardised methodology for the classification of habitats in the UK. The DEFRA Statutory Biodiversity Metric Condition Assessment methodology provides a standardised method to assess the condition of natural habitats for BNG assessment and environmental/ecological audit. Provides guidance on undertaking

Standards and Guidance Documents	Relevance to Assessment
	and assessment of hedgerows including determining whether hedgerows are 'important'.
Floral/Botanical Species Stace, C. 2019. *New Flora of the British Isles (4th Edition).* C&M Floristics. Great British Non-Native Species Secretariat. Accessible at: https://www.nonnativespecies.org/	Standard nomenclature and descriptions for the identification of floral species in the UK. Database of information relating to non-native species legislation, identification, and management.
Faunal Species ***Protected Species*** UK Government. 2025. *Protected species and development: advice for local planning authorities*. Accessible at: https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications ***Bats*** Colins, J. (ed.). 2023. *Bat surveys for Professional Ecologists: Good Practice Guidelines (4th Edition).* The Bat Conservation Trust, London. Reason, P.F. and Wray, S. 2023. *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats.* Chartered Institute of Ecology and Environmental	Guidance on the methods for survey, assessment of population status and favourability, assessment of impacts, and methods of mitigation for faunal species.

Standards and Guidance Documents	Relevance to Assessment
Management, Ampfield. *UK Government. 2025. Bats: advice for making planning decisions. Accessible at:* https://www.gov.uk/guidance/bats-advice-for-making-planning-decisions ***Water Voles*** Strachan R. et al. Water Vole Conservation Handbook. 3rd. Ed. Wildlife Conservation Research Unit. University of Oxford. Dean, M. et al. 2016. *The Water Vole Mitigation Handbook. (Mammal Society Mitigation Guidance Series).* The Mammal Society, London. UK Government. 2025. *Water voles: advice for making planning decisions.* Accessible at: https://www.gov.uk/guidance/water-voles-advice-for-making-planning-decisions ***Otters*** Chanin, P. 2003. *Ecology of the European Otter. Conserving Natura 2000 Rivers, Ecology Series No. 10.* English Nature, Peterborough. UK Government. 2022. Otters: advice for making planning decisions. Accessible at: https://www.gov.uk/guidance/otters-advice-for-making-planning-decisions ***Badgers*** Harris S., Cresswell, P., Jefferies, D. (1989) *Surveying Badgers.* The Mammal Society, London. Andrews, R. 2013. *The Classification of Badger (Meles meles) Setts in the UK: A Review and Guidance for Surveyors.* CIEEM - In Practice 82: 27-31	

Standards and Guidance Documents	Relevance to Assessment
UK Government. 2025. *Badgers: advice for making planning decisions.* Accessible at: https://www.gov.uk/guidance/badgers-advice-for-making-planning-decisions ***Birds*** Bird Survey & Assessment Steering Group. 2025. *Bird Survey Guidelines for assessing ecological impacts.* Accessible at: https://birdsurveyguidelines.org/ UK Government. 2025. *Wild birds: advice for making planning decisions.* Accessible at: https://www.gov.uk/guidance/wild-birds-advice-for-making-planning-decisions ***Amphibians*** English Nature. 2001. *Great Crested Newt Mitigation Guidelines.* English Nature, Peterborough Langton, T.E.S., Beckett, C.L., and Foster, J.P. 2001. *Great Crested Newt Conservation Handbook.* Froglife, Halesworth ARG UK. 2010. *ARG UK Advice Note 5, Great Crested Newt Habitat Suitability*. Available at: https://www.arguk.org/info-advice/advice-notes/9-great-crested-newt-habitat-suitability-index-arg-advice-note-5/file Biggs, J. et. al. 2014. *Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt Triturus cristatus environmental DNA.* Freshwater Habitats Trust, Oxford. Baker, J. et al. 2011. *Amphibian Habitat Management Handbook.* Amphibian and Reptile Conservation, Bournemouth. UK Government. 2025. Great crested newts: advice for making planning decisions. Accessible at: https://www.gov.uk/guidance/great-crested-newts-advice-for-making-planning-decisions	

Standards and Guidance Documents	Relevance to Assessment
UK Government. 2025. *Great crested newts: district level licensing schemes for developers, ecologists and landowners.* Accessible at: https://www.gov.uk/government/publications/great-crested-newts-district-level-licensing-schemes-for-developers ***Reptiles*** Froglife 1999. *Advice Sheet 10. Reptile Survey: An introduction to planning conducting and interpreting surveys for snake and lizard conservation.* Froglife. Halesworth. Sewell, D. et. al. 2013. *Survey Protocols for the British Herpetofauna. V.1.0.* Amphibian and Reptile Conservation Trust, University of Kent, University of Sussex. Edgar, P. Foster, J. and Baker, J. 2010. *Reptile Habitat Management Handbook.* Amphibian and Reptile Conservation, Bournemouth. UK Government. 2025. *Reptiles: advice for making planning decisions. Available at: https://www.gov.uk/guidance/reptiles-advice-for-making-planning-decisions* ***Invertebrates*** Buglife. Good Practice Planning for Invertebrates. Accessible at: https://www.buglife.org.uk/resources/planning-hub/good-practice-planning-for-invertebrates/ Drake C.M., Lott, D.A., Alexander, K.N.A and Webb, J. 2007. *Surveying Terrestrial and Freshwater Invertebrates for Conservation and Evaluation.* Natural England Research Report NERR005. UK Government. 2025. Invertebrates: advice for making planning decisions. Accessible at: https://www.gov.uk/guidance/invertebrates-advice-for-making-planning-decisions	

CONSULTATION TO DATE

11.61 The table below sets out the EIA Scoping Opinion advice relevant to Ecology and Biodiversity and provides a summary of responses provided.

Table 11.2 Scoping and informal consultation summary

Consultee	Consultee comment	Response
EIA Scoping Consultation		
The Planning Inspectorate	The Scoping Report seeks to scope out effects on Manchester Mosses SAC and Rixton Clay Pits SAC on the basis of the distance from the Proposed Development and lack of impact-pathways. The Inspectorate notes that potential effects from combustion on Manchester Mosses SAC are scoped into the assessment of effects in Scoping Report Chapter 7 (Air Quality) but not Rixton Clay Pits SAC. The Inspectorate considers that there is potential for effects on Manchester Mosses SAC and Rixton Clay Pits SAC from air quality emissions associated with the Proposed Development. These sites cannot therefore be scoped out of the assessment at this stage. The ES should also ensure appropriate cross reference between the ecology assessment and other relevant aspect assessments to ensure consistency.	The Applicant has scoped potential impacts on Manchester Mosses SAC and Rixton Clay Pits SAC into the assessment, to be considered within the ES and PEIR. This will also include a screening for a Habitat Regulations Assessment, which will be produced separately to the ES/PEIR documents. The expectation is that potential impacts are limited to air quality emissions, primarily associated with a potential increase in HGV movement on the M62 in close proximity to the SAC designations. Note: The assessment of Manchester Mosses SAC relates primarily to potential Air Quality impacts and is assessed as part of the Air Quality Assessment (AQA). The results of the AQA related to ecology have been reviewed and included in this chapter.
The Planning Inspectorate	The Scoping Report seeks to scope out all other statutory designated sites from the assessment. The Applicant's attention is drawn to the Inspectorate's comments in relation to the extent of the Study Area in the scoping report in ID 3.5.7. As such, the	The Applicant will scope potential impacts on all other designated sites into the assessment, until such a time when the Study Area is discussed/confirmed with relevant consultation bodies.

Consultee	Consultee comment	Response
EIA Scoping Consultation		
	Inspectorate does not agree that other statutory designated sites can be scoped out of the assessment at this stage.	Discussion with relevant consultation bodies will include a review of any impact risk zones (IRZs) associated with statutory designations, and assessment undertaken if the development falls into part of the IRZs. Note: A search of the publicly available MAGiC Database was undertaken to identify the IRZs in relation to the Main Site and Western Rail Chords. The IRZs identified relate primarily to Highfield Moss SSSI and advice that Natural England should be consulted. Natural England have been consulted in this assessment.
The Planning Inspectorate	The Scoping Report seeks to scope out effects on agricultural land due to it being insignificant in terms of the habitat available in the wider locality. The Inspectorate notes that field surveys, including for breeding and wintering birds, have not yet been completed. The Inspectorate considers that arable land cannot therefore be scoped out of the assessment at this stage.	The Applicant disagrees on this point, and queries the necessity of scoping in arable land. The reasoning being this is that, since as a habitat, the arable land's value is limited to the value it provides for breeding and non-breeding birds, and any potential impacts on breeding/non-breeding birds have already been scoped in separately to this item.
The Planning Inspectorate	The Scoping Report seeks to scope out effects on otter and water vole on the basis of there being no	The Applicant disagrees on this point and queries the necessity of scoping in impacts to Otter and Water

Consultee	Consultee comment	Response
EIA Scoping Consultation		
	aquatic habitat within the area of the Proposed Development. The Inspectorate notes that field surveys of the Proposed Development have not yet been completed and notes within Scoping Report Chapters 13 and 14, reference to watercourses and ditches along the northern boundary of the Proposed Development with possible linkages to Highfield Moss Site of Special Scientific Interest (SSSI). The ES should be supported by appropriate baseline data and surveys and in the absence of agreement with relevant consultation bodies, the Inspectorate does not therefore agree this matter can be scoped out of the assessment at this stage.	Voles. The reasoning behind this being that, while a ditch is known to be present along the boundary with Highfield Moss SSSI, this ditch has been assessed during the UK Habitats survey as offering no suitability for water voles/otter, and furthermore the ditch will have a significant buffer from the development footprint due to the buffer that is already planned to be implemented for the Highfield Moss SSSI. Note: Biological records did return a result for water vole within Highfield Moss SSSI and a record relating to the boundary ditch. Water voles and otters have subsequently been scoped into the assessment and surveys have been undertaken to determine the presence or likely absence of these species.
The Planning Inspectorate	The Scoping Report seeks to scope out effects on reptiles due to a lack of suitable habitat within the Proposed Development. The Inspectorate notes that field surveys have not yet been completed for the whole of the Proposed Development to confirm all potential habitat for reptiles. Where a lack of suitable habitat for reptiles is confirmed through	The Applicant has scoped potential impacts on reptiles into the assessment, to be considered within the PIER and subsequent ES, although agrees with the inspectorate that effects can likely be ruled out within the ES following the collection of survey data within the areas not yet surveyed.

Consultee	Consultee comment	Response
EIA Scoping Consultation		
	further field survey, the Inspectorate agrees this matter does not require further assessment. This should however be confirmed in the ES through provision of appropriate evidence and/ or through evidence of agreement with relevant consultation bodies. The Inspectorate does not therefore agree this matter can be scoped out of the assessment at this stage.	
The Planning Inspectorate	Table 10.2 (scoping report) states that potential impacts to these sites are considered unlikely for construction and operation, although Table 10.2 also states that construction effects are scoped into the assessment while operation effects are scoped out using the same reasoning. In the absence of further evidence demonstrating there is no potential for significant effects, or clear agreement that this is the case with relevant consultation bodies, the Inspectorate does not agree to scope these matters out of the assessment. Accordingly, the ES should include an assessment of effects on non-statutory sites.	The Applicant has scoped potential impacts on non-statutory sites into the assessment, to be considered within the PEIR and subsequent ES. To confirm, while the scoping report states that potential impacts are 'considered unlikely', the report does already currently scope in potential impacts to this item.
The Planning Inspectorate	The Ecology and Biodiversity Scoping Report chapter does not consider the potential for effects from changes to air quality associated with the potential CHP plant, or rail and road emissions during	The Applicant agreed that the Ecology PEIR and ES Chapters will include an assessment of effects in association with air quality impacts. The production of this will involve liaison with air quality consultants to

Consultee	Consultee comment	Response
EIA Scoping Consultation		
	construction and operation of the Proposed Development. The ES should include an assessment of effects in conjunction with the assessment of air quality effects. The approach, Study Area and receptors for this assessment should be discussed and agreed with relevant consultation bodies.	identify all potential impacts on designated sites in relation to air quality/emissions. Relevant information from the AQA has been included within this assessment. Note: The Study Area has considered likely ecological receptors based on their sensitivity to air quality and potential for impacts as subsequently set out, up to 15km from Site.
The Planning Inspectorate	The Inspectorate considers that the proposed Study Area may therefore need to be extended beyond 2km to account for the wider scope of potential impact-pathways. The study areas should be based on appropriate published guidance and discussed and agreed with relevant consultation bodies. An assessment of effects on identified features should be provided in the ES, where significant effects are likely to occur.	The Applicant notes this comment. Discussions have been had with Natural England though the extent of the study area was not specifically agreed. Note: The Study Area has considered likely ecological receptors based on their sensitivity to air quality and potential for impacts as subsequently set out, up to 15km from Site.
The Planning Inspectorate	The proposed Construction Environment Management Plan (CEMP) should include control and management measures for other INNS in addition to Himalayan Balsam where these are	The proposed oCEMP includes considerations for other INNS as identified based on the results of further desk/field studies.

Consultee	Consultee comment	Response
EIA Scoping Consultation		
	identified through further desk and / or field-based studies	The oCEMP also includes measures to ensure any material brought in during the construction phase is appropriately screened for any INNS.
The Planning Inspectorate	The Scoping Report refers to effects on broadleaved woodland but it is not clear whether any woodland within the Proposed Development could be ancient woodland. This should be clarified in the ES through appropriate surveys. Tree surveys should also be carried out and identify whether any trees present could be veteran or ancient trees. An assessment of effects on these receptors should be provided where they are identified and where significant effects are likely to occur.	The Applicant agrees with and takes on board this statement. Surveys to date have not identified any veteran/ancient trees (or ancient woodland) within the Main Site or Western Rail Chord. An assessment of any ancient woodland or veteran trees identified across the DCO Site will be included within the PEIR/ES.
The Planning Inspectorate	Baseline survey scopes should include consideration of existing buildings or structures within the Proposed Development. The approach and methodology for surveys should be discussed and where possible agreed with relevant consultation bodies.	The survey scope for 2025 included an assessment of all existing buildings within the proposed development, including a preliminary bat roost assessment (PBRA) to identify roosting potential for bat species.
The Planning Inspectorate	Public bodies have a responsibility to avoid releasing environmental information that could bring about harm to sensitive or vulnerable ecological features.	The Applicant recognises the sensitivity of species groups such as badgers and rare birds/plants, and will

Consultee	Consultee comment	Response
EIA Scoping Consultation		
	Specific survey and assessment data relating to the presence and locations of species such as badgers, rare birds and plants that could be subject to disturbance, damage, persecution, or commercial exploitation resulting from publication of the information, should be provided in the ES as a confidential annex. All other assessment information should be included in an ES chapter, as normal, with a placeholder explaining that a confidential annex has been submitted to the Inspectorate and may be made available subject to request.	adhere to this comment. The Applicant will omit any information that may bring about harm to these species groups from all reports that are to be available within the public domain, with separate confidential report iterations and/or annexes made available to the Inspectorate outside the public domain.
Informal Consultation		
Lancashire Wildlife Trust (LWT)	Provided a comprehensive response and raised points on the following: • Specific measures to be provided within a CEMP • Details relating to the design of a protection area between the SSSI and the Proposed Development • Concerns regarding the hydrological and hydrogeological connectivity with the SSSI • Ensuring protection of the SSSI from drainage flows • Identification of the extent of peat soils within the DCO Site (Note: referring to the DCO Main Site)	The Applicant provided specific responses to each point made. It was noted that at the time of comment ecological surveys were still ongoing and final results would inform the identification of IEFs; designated sites, habitats, and faunal species. The Proposed Development will meet the statutory 10% biodiversity net gain requirements; initial calculations show that this may be exceeded but will be subject to the evolving design of the proposals. Habitat creation will be secured through a Habitat

Consultee	Consultee comment	Response
EIA Scoping Consultation		
	• Recommended that green space within the Proposed Development is used to compensate for loss of existing biodiversity before providing recreational provision • Recommend a Strategic Access Management and Monitoring Strategy (SAMMS) is implemented • Other Statutory Sites should not be scoped out from assessment • Recommend Biodiversity Net Gain is in excess of 10%. • Details of off-site habitat compensation and management to be provided • Identify farmland birds as a potential important ecological feature • Identify that priority species may be impacted by construction and operation • Recommend retaining habitats and connecting new habitats to the wider environment • Request trust is involved in further discussions.	Management and Monitoring Plan (HMMP). Hydrological investigations have since shown no significant hydrogeological or hydrological connectivity to the SSSI with no peat soils identified within the DCO Main Site. LWT have since been consulted with directly (see Table 11.3) and will be consulted further as appropriate to include discussions relating to the SSSI and habitat creation.
Leigh Ornithological Society	Provided a comprehensive response and raised points on the following: • Mossland network (SSSI, SACs in wider area) • Migratory birds • Importance of Highfield Moss SSSI • Concern over survey effort for birds (breeding, migration, wintering periods)	The Applicant provided specific responses to each point made. It was noted that at the time of comment ecological surveys were still ongoing and final results would inform the identification of IEFs; designated sites, habitats, and faunal species. Concerns over the bird survey timings and effort have

Consultee	Consultee comment	Response
EIA Scoping Consultation		
	• Request data sharing with local experts • Concern over impacts to farmland birds • Commitment to BNG and monitoring of habitats • Request to be added to stakeholders	been acknowledged. A comprehensive suite of surveys has been undertaken from 2024 through winter 2024/2025. Surveys were also carried out in spring 2025 through to October 2025 covering passage/migratory periods and the breeding bird season. Further surveys on the wider Draft Order Limits will continue through Winter 2025/2026.
St. Helens Council	St. Helens Council stated that they had reviewed the Topic Paper for Ecology and Biodiversity and generally agreed with the content of the paper. They stated that additional to the proposals within the Topic Paper; *'Depending on the timeline of the application, the LNRS may be in place by the time the DCO is submitted. The development should aim to support the delivery of LNRS priorities and measures, particularly where mapped opportunities for nature align with the development.'*	The Proposed Development will acknowledge and, where possible, look to support the delivery of Local Nature Recovery Strategy (LNRS) priorities and measures.

Consultee	Consultee comment	Response
EIA Scoping Consultation		
Warrington Borough Council (with input from Greater Manchester Ecology Unit)	The response included the following statements: • Impact on Highfield Moss SSSI – there is concern relating to the size of the landscape buffer and absence of green corridors. • It is also likely that a financial contribution towards the restoration of Holcroft Moss would be required. This is a requirement of Local Plan Policy ENV8 and the Planning Obligations SPD; however, as it appears that none of the built development would be in Warrington's borough, it may be more appropriate to secure such contribution through a S106 agreement with Wigan and in accordance with Wigan's policies and guidance. • Surveys – comprehensive mitigation plans will need to be prepared, if required, once all the survey work is complete. If notable species populations would be affected by the proposals, site and species-specific mitigation measures should be discussed • Biodiversity Net Gain – the commitment to a minimum of 10% BNG is welcomed. The submission will need to be accompanied by a baseline biodiversity metric and ideally by a biodiversity gain plan (with subsequent plans for each phase of the development). As it seems likely that off-site provision would be required to	The Applicant provided specific responses to each point made. All potential impacts to Highfield Moss SSSI will be assessed within the EcIA at PEIR and within the subsequent ES . It was acknowledged that a further contribution towards the restoration of Holcroft Moss may be required. Ecological surveys were carried out on areas of the Main Site and Western Rail Chord in 2024. A further comprehensive suite of ecological surveys has been undertaken in 2025 that will be used to support the EcIA for PEIR and within the subsequent ES that will accompany the DCO submission. The EcIA identifies IEFs, potential impacts, and has been used to develop mitigation (where required). A BNG report / Biodiversity Impact Assessment will be provided. This includes a baseline habitat survey and metric calculations. The results of this exercise will also be used to provide a Biodiversity Gain Plan upon granting of the DCO. Provision of BNG within the DCO Main site will be

Consultee	Consultee comment	Response
EIA Scoping Consultation		
	achieve the intended gain, it is advised that this be considered as soon as possible with the priority being to try to source biodiversity units locally where possible. A 30-year habitat management and monitoring plan will be required.	prioritised. In the event that off-site BNG compensation is required consideration will be given to off-site provision close to the DCO Main Site in accordance with the BNG hierarchy. The Northern Mitigation Area is located directly to the north of the Main Site and will be used to provide habitat creation for BNG to achieve at least 10% net gain. A HMMP will be produced that will detail how habitats will be established to achieve target conditions and maintained for a 30-year period. The HMMP will not be provided for inclusion with the PEIR but will be produced upon finalisation of design to include all BNG retained, enhanced and created habitats.
Wigan Council (with input from Greater Manchester Ecology Unit)	The response included the following statements: • We are concerned that, although a landscape buffer zone has been proposed between the SSSI and the development, this buffer zone is relatively narrow when seen in the context of the very large development site… • We would support the advice given in the Ecology Topic paper that the drainage design of the development must ensure there will be no adverse impact on Highfield Moss SSSI, and that where	The applicant provided specific responses to each point made. Further investigation into potential impacts to Highfield Moss SSSI will be assessed within the EcIA. The EcIA identifies IEFs, potential impacts, and has been used to develop mitigation (where required). A BNG report / Biodiversity Impact Assessment will be provided. This includes a baseline habitat survey and metric calculations. The results of this exercise will

Consultee	Consultee comment	Response
EIA Scoping Consultation		
	possible the drainage strategy should improve the hydrology supporting mossland (peat forming) habitats present… • Although a range of ecological surveys have been undertaken to inform the proposals, some surveys are yet to be completed, including bird surveys, reptile surveys, bat surveys and some amphibian surveys. Comprehensive mitigation plans for any possible effects of the development on notable species will need to be prepared, if required, when the species survey work is complete… • The consultation documentation commits the development to achieving an overall net gain in biodiversity exceeding 10%, and this is welcomed. The future submission will need to be informed by a baseline Biodiversity Metric and ideally by a comprehensive Biodiversity Gain Plan… • Although the majority of the habitat to be lost to the development is low ecological value agricultural land, this is a very large site and it therefore seems likely that there will be a significant loss in on-site area-based habitats. It is therefore likely that off-site provision will be required to achieve the intended Gain. I would advise that any need for off-site habitat creation and enhancement is considered as soon as possible within the scheme programme, with the priority being to try to source Biodiversity Units	also be used to provide a Biodiversity Gain Plan upon granting of the DCO. Provision of BNG within the DCO Main Site will be prioritised. In the event that off-site BNG compensation is required consideration will be given to off-site provision close to the DCO Main Site in accordance with the BNG hierarchy. The Northern Mitigation Area is located directly to the north of the Main Site and will be used to provide habitat creation for BNG to achieve at least 10% net gain. A HMMP will be produced that will detail how habitats will be established to achieve target conditions and maintained for a 30-year period. The HMMP will not be provided for inclusion with the PEIR but will be produced upon finalisation of design to include all BNG retained, enhanced and created habitats.

Consultee	Consultee comment	Response
EIA Scoping Consultation		
	locally wherever possible. • Any on-site habitats created or enhanced are likely to be considered to be significant because of the areas of habitat involved, and therefore these on-site habitats will need to be secured, managed and monitored in the long-term by the preparation and implementation of a 30-year Habitat Management and Monitoring Plan.	

11.62 Table 11.3 below provides an overview of other outline consultation undertaken to date.

Table 11.3 Other consultation

Consultee	Date	Consultee comment	Response
Natural England (NE)	03.02.25	ILP North Discretionary Advice Service (DAS) Meeting 2. Natural England (NE) Discussions focused on the potential impacts to Highfield Moss SSSI from air quality impacts, hydrological impacts, and other ecological impacts. NE stated mitigation for air quality should be informed by further assessment and guided by "Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations" for assessment of both road and rail emissions. NE requested further assessment of the hydrological regime in the land around the SSSI. It was stated that the SSSI receives inflow of water from the north via an inverted syphon under the existing Liverpool to Manchester railway. NE stated that peat is quite shallow across the area (c. 50cm) supported by a shallow groundwater system. NE noted that elevated calcium from runoff of railway ballast could be a potential impact to the SSSI.	NE agreed that no baseline air quality monitoring was necessary, and baseline information would be sourced via the APIS database/web resource. Further assessment of hydrological conditions has occurred since this meeting and identified no significant connectivity between the DCO Main Site and the SSSI. Drainage design will prevent any discharges from the Proposed Development into the SSSI. Design of habitats to be created in the Highfield Moss SSSI Protection Zone has been informed by this meeting, further discussion with Lancashire Wildlife Trust (see below), and ongoing ecological surveys. NE will be consulted further in Statutory Consultation and additional DAS meetings to refine the design and nature of the habitat creation. Provision for enhancements for marsh gentian will be made within the proposals.

Consultee	Date	Consultee comment	Response
		NE concerned that the SSSI may receive water inputs from sand lenses within the Proposed Development. NE to provide location of culverts and drains connected to the ditches and SSSI. NE stated that there is potential for fen/marsh/acid grassland on the eastern side of the SSSI. NE expressed concerns over woodland and scrub creation in the Highfield Moss Protection Zone which could lead to encroachment within the SSSI. At the time it was stated that further survey of the SSSI would be undertaken to further characterise the habitats for assessment. NE stated that public access could assist in maintaining marsh gentian and maintaining a balanced volume of public access would be beneficial.	
Lancashire Wildlife Trust (LWT)	09.06.25	Summary of MS Teams Meeting with Lancashire Wildlife Trust (LWT). LWT acknowledged that no peat was found in the Main Site area. Acknowledged ground conditions summary implied no hydrogeological or hydrological connectivity between the DCO Main	Provided summary of geological, hydrogeological and hydrological surveys to date. No peat was found within the Main Site. The south-west of the SSSI is underlain almost directly by free-draining sandstone,

Consultee	Date	Consultee comment	Response
		Site and Highfield Moss SSSI. LWT noted species and habitats within the moss should not be drowned out and do not want to dry out. The ditches on the edge of the moss are important for maintaining the hydrology. LWT stated that the pond within the moss has signs of nutrient enrichment. LWT suggested that the surrounding habitat creation areas should include wetland habitats (such as fen) and the ditches may require a header/reservoir system to maintain water levels. LWT discussed width of the proposed Highfield Moss Protection Zone. It was concluded that the average width of 50m was acceptable. LWT discussed public footpaths and public use of the SSSI. They commented that they would like to close footpaths within the SSSI to reduce recreational pressures. LWT confirmed that marsh gentian *Gentiana pneumonanthe* was not a specific concern.	the south-east is underlain by glacial till deposits. Hydrological investigations suggest the SSSI is a basin with water stored within the existing layers of peat with minimal inputs from outside sources other than rainfall. It was confirmed that no drainage flows from the Proposed Development will enter the ditches or the SSSI. Creation of extensive wetland areas was noted likely to be impracticable due to the ground conditions particularly the free draining areas in the south-west of the SSSI. Subsequent to the meeting it was identified that the area of the SSSI is also designated as common land and public rights of way cannot be closed in these areas. Additional public access footpaths are proposed within the DCO Main Site and will look to divert some public use away from the SSSI.

METHODOLOGY AND DATA SOURCES

Overview

11.63 The collection of baseline information, review of data, identification and evaluation of IEFs, and the assessment of potential impacts has been carried out in accordance with guidance provided by the CIEEM and includes:

- Guidelines for accessing, using and sharing biodiversity data in the UK (CIEEM, 2023);
- Guidelines for ecological report writing, Second Edition (CIEEM, 2017);
- Guidelines for Preliminary Ecological Appraisal, Second Edition (CIEEM, 2017); and
- Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3 (CIEEM, 2024).

Zone of Influence and Study Area

11.64 According to CIEEM guidelines, the 'zone of influence' for a development is the area over which ecological features may be affected by biophysical changes as a result of a proposed development and associated activities.

11.65 The zones of influence for impacts to habitats and species from the Proposed Development vary and are defined by the ecological sensitivity, vulnerability and ecological requirements of the feature rather than specific geographical areas or zones.

11.66 The Study Area focusses upon the Main Site and Western Rail Chord, as well as the anticipated zone of influence from the Proposed Development in regard to ecological features within the vicinity of the Main Site and Western Rail Chord. The Study Area includes:

- international sites designated for nature conservation within 15km of the Main Site and Western Rail Chord;
- national/regional sites designated for nature conservation within 2km of the Main Site and Western Rail Chord;
- county/district sites designated for nature conservation within 1km of the Main Site and Western Rail Chord; and
- protected and notable species recorded within 1km of the Main Site and Western Rail Chord and within 2km Main Site and Western Rail Chord for bat species.

Desk Study

11.67 A desk study was undertaken in July 2025 and included a review of the following data sources:

- Multi Agency Geographic information for the Countryside (MAGiC) database;

- Greater Manchester Ecology Unit (GMEU);
- Local Environmental Records Centre for Cheshire, Halton, Warrington & Wirral – RECORD;
- Merseyside Biobank (MB);
- Publicly available data sources; and
- Publicly available maps and aerial imagery.

11.68 Where biological records were identified only those related to protected and notable species recorded within the last 10 years (from 2015-2025) were considered directly relevant to inform this assessment.

Ecological Surveys

11.69 Ecological surveys have been undertaken at the Main Site and Western Rail Chord to define the baseline conditions and support the assessment of the likely significant effects of the Development.

Habitats

11.70 Preliminary habitat surveys were conducted on 20.03.25, 21.03.25 and followed up with more detailed survey between 14.05.25 – 16.05.25, in broad accordance with the UKHab Habitat classification methodology with assessment of habitat condition following the DEFRA Statutory Biodiversity Metric Condition Assessment Criteria. Surveys were conducted within optimal survey periods and undertaken by experienced habitat surveyors holding Field Identification Skills Certificate (FISC) Level 4. Surveys aimed to classify all habitat types within the survey area, identify the characteristics of species composition within habitats including the presence of indicator species, identify any invasive species and assess the condition of the habitats.

11.71 Hedgerow surveys were conducted on 24.04.25 in general accordance with the DEFRA Hedgerow Survey Handbook 2nd ed. 2007.

Fauna

Badgers

11.72 A badger survey was conducted on 21.03.25 in general accordance with Mammal Society guidance Surveying Badgers (1989). The Main Site and Western Rail Chord and accessible areas within 30m were surveyed for signs of badger activity (mammal runs, prints, hairs, latrines, feeding holes) and badger setts.

Bats

11.73 Ground based assessments of bat roost potential for trees and buildings were carried out in April 2025. Monthly night-Time Bat Walkover Surveys and Remote (Static) bat detector surveys are being conducted between April and October 2025. Where required aerial

assessment of trees has been carried out by Class 2 bat licenced ecologists. Where trees could not be aerially assessed nocturnal emergence surveys have been carried out in August 2025. Where buildings were identified to have bat roost potential nocturnal emergence surveys have been carried out in June, July, and August 2025. All bat surveys were conducted following guidance within the Bat Conservation Trust, Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed. 2024). Surveys were conducted by or supervised by Class 2 bat licenced ecologists.

Water voles

11.74 Two water vole surveys were conducted in accordance with guidelines provided by the Water Vole Conservation Handbook. Ponds and waterbodies (ditches) within the Main Site and extending from the Main Site were surveyed to identify field signs of water voles and determine the presence or likely absence of the species. Surveys were carried out on 15.05.25 and 02.07.25. Weather conditions were optimal for survey though antecedent dry weather had resulted in many of the ponds and water features within the Main Site and Western Rail Chord being dry at the time of survey.

Otters

11.75 Two Otter surveys were conducted broadly in accordance with guidelines provided by Chanin, P. (2003) Monitoring the Otter. Ponds and waterbodies (ditches) within the Main Site and extending from the Main Site were surveyed to identify field signs of otters and determine the presence or likely absence of the species. Surveys were carried out on 15.05.25 and 02.07.25, weather conditions were optimal for survey though antecedent dry weather had resulted in many of the ponds and water features within the Main Site and Western Rail Chord being dry at the time of survey.

Birds

11.76 Breeding bird surveys were undertaken broadly based on the methodology of territory mapping used for the British Trust for Ornithology (BTO) Common Bird Census (CBC) methodology and in accordance with the Bird Survey & Assessment Steering Group. (2025). Bird Survey Guidelines for assessing ecological impacts. The surveys were carried out between April and June 2025.

11.77 Wintering bird surveys were carried out by Tyler Grange in Winter 2023/2024 and Winter 2024/2025. Only raw survey data was provided. Based on the information available the number of visits, timing of surveys and survey records are broadly in accordance with non-breeding survey requirements as provided by Bird Survey & Assessment Steering Group (2025) Bird Survey Guidelines for assessing ecological impacts.

11.78 Migratory bird surveys were conducted in Autumn 2025 and followed guidelines as provided by Bird Survey & Assessment Steering Group 2025. At the time of this PEIR submission, these surveys will be partially complete due to their specific seasonal requirements. All available and relevant information to inform an assessment of impacts to migratory birds is included in the PEIR.

11.79 A bird scoping survey is scheduled for winter 2025 to identify any significant assemblages of

winter birds associated with the Mersey Estuary SPA that may be using the DCO Site. This survey will look to determine whether further assessment is required for species for which the Mersey Estuary is designated due to those species travelling inland during times of high tides. and will follow guidelines as provided by Bird Survey & Assessment Steering Group 2025 Bird Survey Guidelines for assessing ecological impacts. The results of the surveys will be detailed within a separate Technical Appendix for the DCO submission.

11.80 A barn owl box was observed within Building B2, the barn associated with Highfield Farm in the north-central area of the Main Site. An incidental record was made during bat surveys of a barn owl entering the barn. A further survey to check the status and nature of the barn owl box is scheduled to be undertaken by a barn owl licenced ecologist and full results of the survey will be detailed within a separate Technical Appendix for the DCO submission. The survey of the barn owl box is not considered to be required to inform the EcIA but would be required to determine if a licence to disturb a barn owl nest is needed.

Amphibians

11.81 Great crested newt (GCN) habitat suitability index assessments for ponds, carried out on 15.04.25 following the methodology within the Amphibian and Reptile Groups of the UK Advice Note 5 Great Crested Newt Habitat Suitability Index (2010) and eDNA sampling of ponds within the Main Site and Western Rail Chord and within 250m of the Main Site and Western Rail Chord.

Reptiles

11.82 Reptile Surveys have been conducted over the period of April to July 2025 and September 2025 with methods used in accordance with guidance published by Froglife (1999) and the Amphibian and Reptile Conservation Trust (2013). Artificial reptile refugia were deployed across the Main Site in suitable habitats, particularly those with south facing aspects. Seven survey visits were scheduled to be undertaken to check for the presence of reptiles making observations of artificial refugia and habitats.

Invertebrates

11.83 Invertebrate Surveys have been carried out by Richard Wilson Ecology Ltd. between April 2025 and August 2025 four visits have been undertaken using a variety of invertebrate observation and collection methods during periods of suitable weather. Surveys are generally in accordance with Natural England (2007) and current Buglife guidance for invertebrate survey. The PEIR submission is scheduled for October 2025 at which time these surveys will be complete but analysis of samples is ongoing due to their specific seasonal requirements. All available and relevant information to inform an assessment of impacts to invertebrates is included in the PEIR. . Any additional results unavailable at the PEIR submission will be detailed within a separate Technical Appendix for the DCO submission.

Limitations and Assumptions

11.84 Data collected from static bat detectors during April 2025 was subsequently corrupted and was unable to be used for assessment. Night-Time Bat Walkover (NTBW) surveys during April 2025 were carried out successfully, during which no bats were encountered across the Main

Site and Western Rail Chord. During further surveys only low or moderate numbers of common and widespread species of bats have been identified. Data collected still provides a seasonal overview of bat activity at the Main Site and Western Rail Chord. Given the results of the April NTBW identified no bats and further activity surveys provide a monthly and seasonal overview of the Main Site and Western Rail Chord, no Annex II bat species, or bats in significant numbers would have been expected to be present in April. The loss of data for a single month is not considered to be significant to the assessment overall.

11.85 During reptile surveys on each occasion some of the artificial refugia mats were noted to have been moved, removed, or were damaged. The mats were replaced, and sufficient numbers of mats are considered to have been deployed such that it is considered that the absence of some mats (on some occasions) does not significantly reduce the overall effectiveness of the survey to determine the presence or likely absence of reptiles.

11.86 Ecological surveys have been carried out according to relevant methodologies and guidance. The surveys are considered to be sufficiently recent to provide information relevant to the current conditions within the area surveyed. Surveys were carried out to a level appropriate to determine major habitat classes, and the likely presence and absence of protected and notable species. However, species lists should not be considered to be exhaustive and the absence of evidence of a species does not necessarily mean that the species is absent from the survey area.

11.87 No access has been made to a small area of grassland located in the north-eastern corner of the Main Site (associated with the adjacent scrap yard/storage yard). The grassland has been viewed from the periphery of the area at distance and using aerial imagery. It is assumed that the grassland represents 'other neutral grassland' of a composition typical of that found elsewhere within the Main Site and in the locality. The condition of the grassland was unable to be assessed but is assumed to be moderate condition. The presence of domestic dogs using this area would limit the potential presence of protected and notable species and reduce the condition of the habitat. This habitat is not considered to be atypical of the area or would be expected to be identified as an IEF. Overall no access to this area is not considered to be a significant limitation to this assessment.

11.88 The biological records data collated within the desk study is derived from records submitted from various sources, including by members of the public and volunteer-based surveys. It does not represent a definitive list of species that may occur in the local area, and the absence of records does not necessarily imply absence of such species.

Identification and Assessment of Important Ecological Features

11.89 Based upon the findings of the ecological surveys and in line with the EIA Scoping Opinion, only those ecological features with significant ecological value have been included within this assessment and are identified as IEFs. Sites, habitats, or floral/faunal species/groups of 'negligible' ecological value, which may be widespread and/or unthreatened by the Proposed Development, or those that would remain viable and sustainable and are unlikely to be significantly adversely affected as a result of the development, have not been considered further.

11.90 According to the CIEEM Guidelines for EcIA (Section 4 paragraph 4.4) *'Ecologists may identify ecological features that are not included in lists of important sites or features, but are considered important on the basis of expert judgment e.g. because of their local rarity or because they enable effective conservation of other important features.'*

11.91 The CIEEM Guidelines for Ecological Impact Assessment (Section 4: Important Ecological Features, paragraphs 4.5 - 4.6) recognises that evaluation is a complex process and that a range of factors need to be considered in attributing value to ecological features. The following characteristics can be used to identify features that are likely to be important in terms of biodiversity:

- naturalness;
- animal or plant species that are rare or uncommon, either internationally, nationally or more locally;
- ecosystems and their component parts which provide the habitats required by the above species, populations and/or assemblages;
- endemic species or locally distinct sub-populations of a species;
- habitat diversity, connectivity and/or synergistic associations (e.g. networks of hedgerows and areas of species-rich pasture that provide important feeding habitat for a rare species, such as greater horseshoe bat);
- plant communities (and their associated animals) that are considered to be typical valued natural/semi-natural vegetation types – these will include examples of naturally species poor communities;
- species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change;
- species rich assemblages of plants and animals; and
- typical faunal assemblages that are characteristic of homogenous habitats.

11.92 For the purpose of this assessment, IEFs are defined as those features with significant ecological value, that are located within the zone of influence of, and may be affected by, the Proposed Development, comprising:

- statutory and non-statutory designated sites of nature conservation;
- habitats;
- floral species/groups; and
- faunal species/groups.

11.93 IEFs have been evaluated within a geographical framework, based upon the ecological

value/status of the features but also reflective of CIEEM and other guidance and legislation. Table 11.4 below provides an overview of the levels of ecological value.

Table 11.4 Geographical Level of Ecological Value

Geographic Level of Value	Examples
International and European	An internationally or European designated site or candidate site (Special Protection Area (SPA), proposed Special Protection Area (pSPA), Special Area of Conservation (SAC), candidate Special Area of Conservation (cSAC), proposed Special Area of Conservation (pSAC), Ramsar site, Biogenetic Reserve) or an area which meets the published selection criteria for such designation, irrespective of whether or not it has yet been notified.A viable area of a habitat type listed in Annex I of the Habitats Directive or smaller areas of such habitat which are essential to maintain the viability of a larger whole. Any regularly occurring population of an internationally important species, which is threatened or rare in the UK (i.e. it is a UK Red Data Book species or listed as occurring in 15 or fewer 10km Ordnance Survey grid squares in the UK) or of uncertain conservation status or of global conservation concern. A regularly occurring, nationally significant population/number of any internationally important species.
National	A nationally designated site (SSSI, National Nature Reserve (NNR), Marine Nature Reserve) or a discrete area, which meets the published selection criteria for national designation (e.g. SSSI selection guidelines) irrespective of whether or not it has yet been notified. A viable area of a priority habitat identified as a habitat of Principal Importance or smaller areas of such habitat which are essential to maintain the viability of a larger whole. Any regularly occurring population of a nationally important species which is threatened or rare in the region or county (local BAP). A regularly occurring, regionally or county significant population/number of any nationally important species.
Regional (North-West England)	Viable areas of key habitat identified in the Regional BAP or smaller areas of such habitat which are essential to maintain the viability of a larger whole. Viable areas of key habitat identified as being of Regional value in the

Geographic Level of Value	Examples
	appropriate Natural Area profile. Any regularly occurring, locally significant population of a species listed as being nationally scarce which occurs in 16-100 10km Ordnance Survey Grid squares in the UK, or in a Regional BAP or relevant Natural Area on account of its regional rarity or localisation. A regularly occurring, locally significant number of a regionally important species. Sites which exceed the County-level designations but fall short of SSSI selection guidelines, where these occur.
County	County/Metropolitan sites and other sites which the designating authority has determined meet the published ecological selection criteria for designation, including Local Nature Reserves (LNR) selected on County/Metropolitan ecological criteria (County/Metropolitan sites will often have been identified in local plans). A viable area of habitat identified in the County/Metropolitan BAP. Any regularly occurring, locally significant population of a species which is listed in a County/Metropolitan "red data book" or BAP on account of its regional rarity or localisation. A regularly occurring, locally significant number of a County/Metropolitan important species.
District/Borough	District/Borough sites and other sites which the designating local authority has determined meet the published ecological selection criteria for designation, including Local Wildlife Sites (LWS) or similar non-statutory designations. A viable area of habitat considered to appreciably enrich the habitat resource within the context of the District/Borough. LNRs or LWSs selected on District/Borough ecological criteria.
Local	Areas of habitat considered to appreciably enrich the habitat resource within the context of the local, parish, or neighbourhood (e.g. species-rich hedgerows). Species which may be widespread and abundant in a wider geographical context, but which may be important to and enrich the ecosystems of the

Geographic Level of Value	Examples
	local area or species, sufficient numbers of a species within the Site to influence the wider local population viability, or species which may be important due to being locally scarce. LNRs or LWSs selected on local, parish, or neighbourhood ecological criteria.
Site	Below local value. Habitats may present opportunities to support wildlife but likely to be limited in extent, connectivity, and quality therefore providing benefits at the level of the Site only. Species which may be present with a site but are sufficiently widespread and/or abundant at a wider geographic context such that they do not provide any significant ecological value outside of the site. Sufficiently low numbers of a species, usually which is widespread or abundant, that would not be significant to the continued viability of the local or wider populations.

Assessment Criteria

11.94 To determine whether any effects to IEFs are significant to the assessment it is necessary to determine whether there will be an impact upon the integrity or conservation status of the feature (designated site, habitat, or species). Integrity is taken to be the coherence of the ecological structure and function across a site that enables it to sustain the habitats and/or the levels of populations of species present. Changes to the nature, extent, structure, and function of habitats impact upon integrity. The conservation status is a measure of the health of the population of a species, favourable conservation status describes the minimum threshold at which a species is able to thrive sustainably throughout its natural range and its ability to continue to do so into the future. Changes to population size and viability of habitats to support species impact upon conservation status.

11.95 The level of significance is determined by the sensitivity of an IEF to change, and the magnitude of the change, where the resulting change produces an effect, that effect could be either adverse or beneficial.

Sensitivity

11.96 The sensitivity of an important ecological feature is determined based upon the extent, diversity, and rarity within a site and the surrounds, or within the ZOI of a development. A feature with a relatively high geographic value may, in the context of the potential effects of the development, have a lower level of sensitivity. Examples of sensitivity are provided in Table 11.5 below.

Table 11.5 Ecological Sensitivity

Sensitivity	Examples
High	The important ecological feature has little ability to absorb change without fundamentally altering its present character, or its international or national importance
Moderate	The important ecological feature has a moderate capacity to absorb change without significantly altering its present character, or is of high importance
Low	The important ecological feature is tolerant of change without detriment to its character, is of low or local importance.

Magnitude

11.97 The magnitude of impact to an IEF is determined by the size, extent, and duration of the impact. The criteria for determining the magnitude of impact are provided in Table 11.6 below.

Table 11.6 Magnitude of Ecological Impact

Magnitude	Examples
Major	Major impacts may include those that result in extensive, permanent changes to the baseline conditions of an ecological receptor and are likely to change its ecological integrity. These impacts are therefore likely to result in fundamental change to the conservation status of a species population or habitat type at the location(s) under consideration.
Moderate	Moderate impacts include moderate-scale permanent changes to an important ecological feature for example the loss or alteration to one or more key elements/features of the baseline conditions such that there would be material change to the baseline conditions post development. Moderate impacts also include larger-scale temporary changes in the conservation status of a population or habitat type at the location(s) under consideration, where the integrity of the feature is not affected in the long-term
Minor	A minor and discernible/detectable shift away from baseline conditions that is not material. Minor impacts may include those that are small in magnitude, have small scale temporary changes, and where integrity is not affected. These effects are unlikely to result in overall changes in the conservation status of a species population or habitat type at the location(s)

Magnitude	Examples
	under consideration, but do not exclude the possibility that mitigation or compensation would be required.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Significance of Effects

11.98 Significant effects may be either adverse or beneficial. The assessment of significant effects identifies the need for mitigation and identifies residual effects. The interaction of sensitivity and magnitude determines the level of significance of the effect.

11.99 Moderate and above effects would be considered to be significant effects, in environmental impact assessment terms, whilst minor or negligible effects will not be considered to be significant effects in environmental impact assessment terms for the purposes of this assessment.

11.100 An ecologically significant effect is an effect that causes a change in the integrity or conservation status of an important ecological feature. Where an effect would cause a change in integrity or conservation status more than a negligible level it will be considered further within the assessment of effects.

11.101 The CIEEM Guidelines for Ecological Impact Assessment discourage the use of a matrix approach to determining the significance of effects. As such, Table 11.7 below provides a guide for determining the level of significance, but the final level of significance determined will be based upon the specific details relating to the likely effect on the current status and conservation objectives of the ecological feature. Where subjective or qualitative evaluations of significance are used these have been clearly described within the assessment.

Table 11.7 Significance of Ecological Effects

Magnitude	Sensitivity		
	High	Moderate	Low
Major	Major Adverse/Beneficial	Major – Moderate Adverse/Beneficial	Moderate – Minor Adverse/Beneficial
Moderate	Major – Moderate Adverse/Beneficial	Moderate – Minor Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate – Minor Adverse/Beneficial	Minor Adverse/Beneficial	Moderate – Minor Adverse/Beneficial

Magnitude	Sensitivity		
	High	Moderate	Low
Negligible	Negligible	Negligible	Negligible

BASELINE CONDITIONS

Baseline environment

11.102 A summary of baseline ecological conditions is provided within Appendix 11.1 and are also presented below.

Designated Sites

11.103 Figures 11.1 and 11.2 show the location of designated sites within the Study Area whilst Table 11.8 Below provides a summary of their designations and importance.

Table 11.8 Designated Sites

Site	Designation	Distance from DCO Main Site and Western Rail Chord	Description
International Designations			
Manchester Mosses	Special Area of Conservation (SAC)	5.56km. South-east of the Main Site at the nearest location.	Manchester Mosses comprises three separate sites of former mossland. These are designated for Annex I habitats: Degraded raised bogs (still capable of natural regeneration)
Rixton Clay Pits	SAC	7.5km. South-east of the Main Site	Designated for the presence of great crested newt (Triturus cristatus) in over 20 ponds excavated in glacial boulder clay on the site of a disused brickworks.
Mersey Estuary	Ramsar Special	14km. South-west of the	The Ramsar and SPA designations state that the site has intertidal flats and saltmarshes that provide feeding and

Site	Designation	Distance from DCO Main Site and Western Rail Chord	Description
	Protection Area (SPA) Site of Special Scientific Interest (SSSI)	Western Rail Chord	roosting sites for large and internationally important populations of waterfowl. During the winter, the site is of major importance for ducks and waders. The site is also important during spring and autumn migration periods, particularly for wader populations moving along the west coast of Britain. The site lists Golden plover *Pluvialis apricaria*, Redshank *Tringa tetanus,* Shelduck *Tadorna tadorna*, Teal *Anas crecca*, Pintail Anas acuta, Dunlin *Calidris alpina alpina*, and Black-tailed godwit *Limosa limosa islandica.* Additionally the site qualifies as it is used regularly by over 20,000 waterbirds in any season.
National Designations			
Highfield Moss	SSSI	Immediately adjacent. North of Main Site	Designated for mixed valley mire communities on the peat with a watercourse and two pools, acidic marshy grassland on the glacial deposits and unimproved acidic grassland on the railway mound and cutting.
Risley, Holcroft & Chat Moss	National Nature Reserve (NNR)	Immediately adjacent. North of Main Site	A network of moss habitats on a number of sites between Cheshire and Greater Manchester includes Highfield Moss SSSI immediately adjacent to the north of the Main Site.
The Flashes of Wigan & Leigh	NNR	3km. North of Main Site	Designated for the mosaic of wetland habitats and post-industrial shallow open water bodies that developed as areas of mining related subsidence

Site	Designation	Distance from DCO Main Site and Western Rail Chord	Description
			flooded.
Hospital Wood (Red Brow Wood)	Ancient and Semi-Natural Woodland	1.5km. West of the Western Rail Chord.	An area of woodland on the ancient woodland inventory
Deciduous woodland	Priority Habitat Inventory	Within Western Rail Chord.	Potential Habitat of Principal Importance
County/District Designations			
Willows Park	LWS	120m North of Western Rail Chord.	The site contains a range of habitats including woodland, neutral grassland, marshy grassland, a stream and marginal vegetation. The park supports a number of nationally and locally important plants including English Bluebell and Ragged robin.
Newton Lake and southern woodland	LWS	245m. North of Western Rail Chord.	A large lake within Willow Park with associated fen and swamp habitats and a sandstone outcrop on the eastern shore. The woodland contains one of two known rookery sites within St Helens.
Castle Hill	LWS	720m. North of Western Rail Chord.	A sandstone hill which is an ancient motte site. The site is predominantly grassland with many orchids. At the foot of the hill a swamp area has developed which is dominated by Reed Canary grass.
Gallows Croft	LWS	340m. South of the Western Rail Chord.	Mature broad-leaved woodland on the banks of a stream. The woodland is dominated by oak and sycamore with ground flora including species such as

Site	Designation	Distance from DCO Main Site and Western Rail Chord	Description
			English bluebell, Creeping-jenny and moschatel.
Mesnes Park and Stream	LWS	560m North-west of the Western Rail Chord.	This site includes the stream area within Mesnes Park. This site contains a range of habitats including, scrub, neutral grassland and small areas of developing wet woodland beside the stream providing habitat for locally rare species.
Newton Brook	LWS	330m. North-west of the Western Rail Chord.	A section of Newton Brook with adjacent flood plain habitat. This section of the brook is diverse and includes stream, marginal vegetation, scrub and sandstone bank habitats. The site supports a number of nationally, regionally, and locally important plant species, as well as breeding water voles.

Species

11.104 Figure 11.3 shows records of protected and notable species of fauna (excluding birds) within the Study Area from the last 20 years. Figure 11.4 shows records of protected and notable bird species within the Study Area within the last 20 years. Where relevant, these records have been summarised in the appropriate species description sections below.

Surveyed Ecological Baseline

11.105 The baseline ecological conditions within the Main Site and Western Rail Chord are informed by walkover surveys conducted in March 2025 and subsequent detailed habitat surveys undertaken in May 2025. The surveys aimed to characterise the baseline ecological conditions, classify and map habitat types, assess the habitat condition, identify the likely presence or suitability for habitats to support protected and notable species, identify any invasive non-native species, and identify any other ecological constraints.

11.106 A walkover survey was conducted on the Northern Mitigation Area on 4th April 2025. The survey aimed to characterise the baseline ecological conditions, classify and map habitat types, assess the habitat condition, identify the likely presence or suitability for habitats to support protected and notable species, identify any invasive non-native species, and identify any other ecological constraints.

11.107 Table 11.9 below presents a summary of habitats present at the Site. A detailed description of habitats and habitat conditions is provided within PEIR Appendix 11.2: BIA Report.

Table 11.9 Habitat Summary

Habitat (UKHab categories)	Brief Description	IEF
Bramble Scrub	Scrub dominated by bramble *Rubus fruticosus agg.* Areas located on road verges in the Main Site and within clearings in the Western Rail Chord. Site level ecological value.	The habitat will not be considered further as an IEF.
Cropland Non-cereal crops Cereal crops	Predominately non-cereal agricultural cultivated land located across much of the Main DCO Site and almost all of the Northern Mitigation Area. Limited natural floral diversity, managed for cultivation of food or commercial crops. Limited intrinsic ecological value. Potential to support protected/notable species (birds) will be assessed separately within this chapter.	The habitat will not be considered further as an IEF.
Cropland: Arable margins	A single arable margin up to 5m wide in the north-west of the Main DCO Site along the north-western boundary of a field abutting woodland. Comprising a range of common grasses and some tall forbs. Limited in extent and connectivity considered to be of Site level ecological value only.	The habitat will not be considered further as an IEF.

Habitat (UKHab categories)	Brief Description	IEF
Ditches	Ditches are artificially created features less than 5m wide for the conveyance of water for drainage purposes wet for more than 4 months a year. Two interconnected ditches bound the north of the Main Site adjacent to Highfield Moss SSSI. A small ditch is present south of the scrap yard/storage yard in the north-east of the Main Site. A ditch also bounds the east of the Northern Mitigation Area. All the ditches were subject to significant drying up during the summer of 2025. None were noted to have aquatic vegetation. Only limited emergent and marginal vegetation was present. Site level ecological value.	The habitat will not be considered further as an IEF.
Hedgerows	Located across the Main Site hedgerows were considered mainly to be limited in diversity (predominately hawthorn *Crataegus monogyna*), and often gappy or lacking connectivity btu some sections were noted to be in good condition. All comprised of native species but none were considered to be "important" for ecological criteria under the Hedgerows Regulations 1997. All native hedgerows are classed as Habitats of Principal Importance under the NERC Act 2006. Therefore having some level of National level significance but considered to be of Local ecological importance in relation to connectivity and biodiversity/habitat resource in the local area.	**Hedgerows will be considered further as an IEF.**

Habitat (UKHab categories)	Brief Description	IEF
Individual Trees (Rural)	Individual trees that are established (no longer saplings) and are usually not associated with a hedgerow or woodland. Found across the Main Site and Western Rail Chord. Vary from small immature trees and shrubs to mature trees. None were considered to be ancient or veteran though some specimens are large and mature they do not present sufficient decay or other features to be considered veteran. Site level ecological value.	The habitat will not be considered further as an IEF.
Line of Trees	Established trees planted in a line often located on boundaries or adjacent to tracks and roads. Lines of trees were noted to be present on the boundary of the Main Site and in the North of the Main Site. These lines of trees do have some intrinsic ecological value but are limited in extent and connectivity and as such considered to be Site level ecological value.	The habitat will not be considered further as an IEF.

Habitat (UKHab categories)	Brief Description	IEF
Lowland Mixed Deciduous Woodland	A Habitat of Principal Importance (HPI) (also known as a "Priority Habitat") listed in the NERC Act 2006. Characterised by an established woodland community. The woodland surrounding "Moss Pits" in the central area of the Main Site was assessed to broadly meet the National Vegetation Classification (NVC) community W10 (Quercus robur – Pteridium aquilinum – Rubus fruticosus woodland. Oak, Bracken, and Bramble Woodland). And considered to meet the criteria for Lowland Deciduous Woodland. Although it was noted that this area was not shown on the Inventory for Priority Woodland (MAGiC Database). Other areas of woodland within the Western Rail Chord which were noted to be included on the inventory were assessed on the ground as not meeting the criteria for the HPI. The area of Lowland Mixed Deciduous Woodland identified was limited in extent and connectivity but is a HPI and as such considered at the National Level. The woodland is considered to represent Local ecological value as part of the wider woodland resource in the local vicinity.	**Lowland Mixed Deciduous Woodland will be considered as an IEF**
Mixed Scrub	Scrub including woody species up to 5m tall often with more than one species. In the Western Rail Chord scrub was adjacent to woodland areas and within the Main Site some scrub encroaches onto the boundaries. Site level ecological value.	The habitat will not be considered further as an IEF.

Habitat (UKHab categories)	Brief Description	IEF
Modified Grassland	Areas of heavily managed grassland, usually from repeated cutting or grazing leading to a limited sward of hardy grasses and a small number of forbs, often. Can also result from high levels of nutrients. Often seen on road verges and amenity grassland areas such as playing fields but some agricultural pastures can also become modified. Some road verges around the Main Site and areas of Kenyon Hall Farm Airstrip were noted to be maintained as modified grasslands. Site level ecological value only.	The habitat will not be considered further as an IEF.
Other Broadleaved Woodland	Broadleaved woodland that does not meet any specific/characteristic NVC community or community as defined in UKHab classification. Small areas of woodland are present within the Main Site and Western Rail Chord. Generally lacking wider interconnectivity and in poor condition with limited diversity and structure. Site level ecological value.	The habitat will not be considered further as an IEF.
Other Neutral Grassland	Less intensively managed areas of grassland without characteristic indicators of acid or calcareous grasslands, often with a wider range of grasses not planted for agricultural/amenity purposes and a greater diversity of forbs. Scattered areas of neutral grassland were identified across the Main Site and Western Rail Chord. None were of significant extent and did not exhibit particular botanical and structural diversity as well as lacking in connectivity to wider natural habitats. Site level ecological value.	The habitat will not be considered further as an IEF.

Habitat (UKHab categories)	Brief Description	IEF
Ponds (non-priority habitats)	Ponds which do not meet the criteria for HPI. A number of ponds were identified within the Main Site and Western Rail Chord including natural/semi-natural ponds. All were noted to have limited or no aquatic, emergent and marginal vegetation. The potential to support protected and notable species will be assessed separately within this chapter. Site level ecological value.	The habitat will not be considered further as an IEF.
Ruderal/Ephemeral Vegetation	Areas comprising mainly of ruderal colonising species or of scattered ephemeral vegetation, commonly found in areas subject to regular disturbance or areas recently disturbed and left unmanaged where a natural plant community has not yet established. Small areas noted around the relatively recently constructed Parkside East Link Road (central south of the Main Site) on associated verges and around balancing ponds. Site level ecological value.	The habitat will not be considered further as an IEF.
Sustainable Urban Drainage Systems (SUDS)	Artificially created features to manage surface water drainage and reduce flooding. A small section of culvert opens into a basin to the south of “Moss Pits” in the central area of the Main Site and then returns to a culvert. This area has been considered to be a SUDS feature for the purposes of habitat classification (DEFRA BNG Metric and UKHab classification methods). It was noted to be very limited in extent with mainly bramble soft rush *Juncus effusus* and common reed *Phragmites australis* present. Site level ecological value.	The habitat will not be considered further as an IEF.

Habitat (UKHab categories)	Brief Description	IEF
Urban: Artificial Unsealed Surface	Includes areas such as farm tracks with bare ground or crushed aggregate hard core, yards and compounds with aggregate base or other unsealed surfaces. Negligible ecological value.	The habitat will not be considered further as an IEF.
Urban: Bare Ground	Areas where no vegetation is present, often from clearance, storage of materials, or continued use of the area by vehicles. Negligible ecological value.	The habitat will not be considered further as an IEF.
Urban: Built Environment	Seventeen (17no.) buildings of varied construction were identified across the Main DCO Site and Western Rail Chord (See Section 11.108 below) These buildings are considered to have negligible intrinsic ecological value as natural habitats/botanical interest. Potential to support protected/notable species (bats and birds) will be assessed separately within this chapter.	The habitat will not be considered further as an IEF.
Urban: Built Linear Features	Includes metalled roads and concrete tracks. Negligible ecological value.	The habitat will not be considered further as an IEF.

Urban: Built Environment (cont.)

11.108 A number of buildings are present within the Main Site in four distinct locations.

11.109 Highfield Farm comprised a detached two storey residence (Building B1) with a separate barn (Building B2), located in the north of the Main Site and south-west of Highfield Moss SSSI. The residence was noted to be a two-storey of brick construction with pitched tiled roof and gables on each side of the roof. The barn was of brick construction with a main building at two-storey height and an adjoining extension/annex at single storey. The barn has a pitched roof with corrugated profile metal sheeting.

11.110 Parkside Farm was observed to be a complex of residential buildings with associated barn and outbuildings located in the central western part of the Main Site directly north of Parkside

Road. The buildings comprise the following:

- Building B3 and B4: B3 was a brick-bult double garage with pitched tiled roof located adjacent to B4, a small brick built two-storey residence with a pitched tiled roof.
- Building B5: A large irregular shaped residential building with a number of extensions. The main part of the house was a two-storey brick-built with a pitched tiled roof but with tiled sections of roof also present over ground floor lean-to sections. Adjoining the main building southwards was a single storey extension with flat roof and pitched glass skylights.
- Building B6: A small brick built service building with pitched tiled roof.
- Building B7: A single-storey wooden outbuilding with pitched tiled and hipped roof.
- Building B8: A converted barn now a two-storey residence in an approximate T-shape. Of brick construction with three gable ends and a pitched tiled roof.
- Building B9: An agricultural barn building of steel frame with concrete block lower elevation and corrugated cement sheet upper elevation and roof.

11.111 A number of buildings are located in the far north-east of the Main Site associated with a scrap yard/storage yard. The buildings comprise:

- Building B10: A double height steel framed commercial building with pitched roof, walls and roof clad with single skin corrugated profile metal sheet.
- Building B11: A single-storey static caravan.
- Building B12, 13 and B15: ISO shipping containers.
- Building B14: A pre-fabricated temporary office building, single storey with flat roof and pebble dashed outer.
- Building B16: A single-storey wooden dog kennels building with open fronted kennels and barred doors, with a flat roof.

11.112 A small single storey brick-built structure (Building B17) with pitched corrugated profile metal sheet roof was located in the central area of the Main Site and at the time of survey was used as a storage and facilities building for a dog training and exercise company.

11.113 Kenyon Hall Farm Airstrip was located in the central of the Main Site and at the time of survey included a number of steel ISO shipping containers used for facilities and storage. These temporary buildings are noted to be present but have not been included in mapping of habitats.

Features of Botanical Interest

Maiden pink

11.114 A single specimen of Maiden Pink *Dianthus deltoides*, was identified within the area of the Western Rail Chord. According to the Botanical Society of Britian and Ireland (BSBI) species account Maiden Pink's distribution is scattered throughout the UK but is absent from south-west England, north and west Scotland and Ireland. It has a severely fragmented distribution and has seen a 39% decline since 1930. Some specimens are cultivated garden escapes. It prefers sunny, dry habitats on basic to mildly acid soils, flowering from June to September, reproducing by seed and also via creeping vegetative shoots. It is known to sometimes be found on old mine spoil such as the area of the Western Rail Chord.

11.115 Maiden Pink is classified as Nationally Scarce and as such will be considered further as an IEF.

Marsh gentian

11.116 Although not located within the DCO Main Site or associated with the citation for the adjacent SSSI, the marsh gentian *Gentiana pneumonanthe,* was reported to be present within the SSSI during discussions with Natural England and Lancashire Wildlife Trust. The plant is classified as nationally scarce and is listed on Schedule 8 of the WCA 1981 (As amended) which protects the plant from intentional destruction, sale, transport or possession.

11.117 Marsh gentian will be considered further as an IEF due to the potential to provide beneficial impact to this species within the Proposed Development design.

Invasive Non-Native Species (INNS)

11.118 Japanese knotweed *Reynoutria japonica* was noted to be present in the north of the area of the Western Rail Chord in a thin strip near to the M6 overpass of the Liverpool and Manchester Railway Line. The strand of knotweed in this area appeared to be somewhat fragmented but mature in growth.

11.119 Signs indicating Japanese knotweed has been treated in the area were noted adjacent to the trackway named Newton Park Drive in the west of the Western Rail Chord area. No new growth of knotweed was observed at the time of survey or on subsequent visits and as such it is likely to have been eradicated from this area but there still remains the possibility of regrowth.

11.120 Himalayan balsam *Impatiens glandulifera* was noted to be present in the woodland areas in the south of the Western Rail Chord, scattered throughout the woodland and in some areas dominating the ground flora.

11.121 Also within the shrub layer of the woodland in the south of the Western Rail Chord were a number of specimens of established Rhododendron (not identified to species level but considered likely to be *Rhododendron ponticum*). *Rhododendron ponticum, Rhododendron luteum* (yellow azalea or yellow rhododendron) and the hybrid *Rhododendron ponticum x maximum* are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) as invasive non-native species.

11.122 Giant hogweed *Heracleum mantegazzianum*, has been known to hybridise with common hogweed *Heracleum sphondylium*. In the west of the Main Site a number of large dead stems consistent with size of giant hogweed were noted on the edge of the woodland immediately to the west and north-west of the Main Site. These stems were suspected to be giant hogweed but not confirmed. On a subsequent survey a large hogweed plant was noted in the same vicinity which exhibited slightly jagged/pointed leaves resembling giant hogweed but not as characteristic as would be expected. As such, it is suspected that hybridised giant hogweed may be present in this western area on the boundary of the Main Site.

11.123 The presence of INNS will be considered further as IEFs.

Fauna

Badgers

11.124 Records of badgers are confidential due to the risk of persecution. As such, further assessment of badgers is presented in a Confidential Appendix to the PEIR (PEIR Appendix 11.4 Badger Report) and is not presented in this Chapter. The Confidential Appendix should be read in conjunction with this chapter.

Bats

11.125 Detailed results of bat surveys are presented within PEIR Appendix 11.3 Bat Report and should be read in conjunction with the following section of this Chapter.

Bat Roosts: Trees

11.126 Ground Based Tree Assessments (GBTA) undertaken on 22nd and 23rd April 2025 by suitably experienced bat ecologists identified several trees with potential features for roosting bats. Subsequent aerial assessment surveys by licenced bat ecologists were undertaken on 19th and 20th May, and 14th July 2025 that confirmed the presence of Potential Roost Features (PRF) classified as PRF-M (suitable to support multiple bats) or PRF-I (suitable for individual bats) trees across the Main Site and Western Rail Chord.

11.127 Thirty-one (31no.) trees were identified to have potential bat roost features during the GBTA, seven (7no.) of these could not be closely inspected by means of aerial assessment and an additional single tree (T8) was considered unsafe for further climbing after the initial aerial survey. Trees considered unsuitable for further aerial survey were subject to nocturnal bat emergence surveys.

11.128 No evidence of roosting bats in trees has been identified during any surveys and as such do not represent any significant constraint to the DCO application.

11.129 Trees with PRF-I features that requiring pre-felling inspections will be identified within the oCEMP (to be developed for the final DCO application submission).

Bat Roosts: Buildings

11.130 Preliminary Bat Roost Assessments (PBRA) were undertaken on all known buildings across the

Main Site and Western Rail Chord by licenced bat ecologists. A total of 17 buildings were assessed. Eight (8no.) buildings were found to have potential features for roosting bats (B1/B2/B3/B4/B5/B6/B8/B17) and were considered to support low or moderate bat roost potential.

11.131 Internal access was not possible for many of the buildings which were considered to support low bat roost potential during the external PBRA. As such, two (2no.) nocturnal emergence surveys have been carried out on these buildings (as a precaution) to confirm the presence / likely absence of roosting bats.

11.132 For buildings where internal access was possible, a single nocturnal survey was carried out for low potential buildings and two surveys for moderate potential buildings, in accordance with best practice guidelines.

11.133 A single bat emergence was recorded on 28th July 2025 at Building B2 (barn with sheet metal roof at Highfield Farm). The bat was identified as a common pipistrelle, emerging from under the eaves of the roof at around 22.00pm approximately 45 minutes after sunset. No other emergences were recorded from the building during either of the two surveys conducted and a further survey has been scheduled. The emergence indicates the presence of a bat roost (considered likely to be a day roost), and as such would be considered to be a roost of low conservation status and important only at the **Local level.**

Bat Activity

11.134 The habitats at the Main Site and Western Rail Chord were assessed as having no more than moderate suitability for bats overall, based on the foraging habitat available and potential commuting/flight paths between habitats across the Main Site and areas outside of the draft Order Limits.

11.135 Automated remote/static bat detectors and Night-Time Bat Walkovers (NTBWs) have been carried out on a monthly basis to provide a robust assessment of bat activity. Three transect routes (covering the entire Main Site and Western Rail Chord) have been undertaken per month and 11 static bat detectors deployed for a minimum of 5 days located to provide a general coverage of the Main Site and Western Rail Chord as well as coverage of the different habitats present at the Site.

11.136 No bat activity was recorded during the NTBW in April. Only low levels of bat activity were recorded in May and June, dominated by common pipistrelle *Pipistrellus pipistrellus*. Soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula*, brown long-eared *Plecotus auritus* and a myotis species *Myotis sp*. have also been recorded in lower numbers. Activity was very low towards the western and southern parts of the Main Site, with low to moderate common pipistrelle activity in the north-east of the Main Site, in the area to the south of Highfield Moss SSSI.

11.137 The results are consistent with previous survey work undertaken across parts of the Main Site and Western Rail Chord in 2024 (as reported by Tyler Grange in the ILPN Topic Paper).

11.138 The majority of bat activity was recorded in the areas immediately adjacent to the south of Highfield Moss SSSI, near to an individual mature oak tree south of Highfield Moss SSSI, and

in the vicinity of the small woodland stand around Moss Pits in the central area of the Main Site. Peak activity levels were noted in the middle of the night indicating foraging activity with some pipistrelle activity around the woodland continuing to around 5am on some occasions.

11.139 The Western Rail Chord was found to have only low levels of bat activity and timings consistent with foraging rather than commuting or nearby roosts.

11.140 No specific or significant commuting corridors or features have been identified though the existing railway line (Chat Moss Line) to the north of the Main Site, and hedgerows in the west of the Main Site offer some commuting habitat.

11.141 The activity recorded was considered to be predominately common and widespread bat species and is generally consistent with the levels of activity expected based on the suitability of habitats at the Main Site. The initial results would indicate that the Main Site and Western Rail Chord supports activity related to species and populations of bats important at no more than the **Local level.**

Otters

11.142 Focused surveys were undertaken on 15.05.25 and 02.07.25 to assess for the presence or likely absence of otters *Lutra lutra* within the Main Site and Western Rail Chord, as well as within the ditch extending north-west of the Main Site. The survey looked to identify any field signs that indicate the potential presence of otters including latrines, slides into waterbodies, couches/resting places, and potential holts.

11.143 At the time of the surveys all the ponds and ditches were noted to have either very low water levels or were dry. Although some of the ditches and ponds were noted to have suitable banks, habitats and marginal vegetation to support otters. However, no field signs were identified adjacent to or in the vicinity of any of the ponds or ditches at the Main Site and Western Rail Chord or extending from the Main Site.

11.144 The results of the surveys indicate that otters are likely absent from the Main Site and Western Rail Chord and the habitats extending immediately from the Main Site. As such, otters are not considered to be a constraint to the Proposed Development and are not considered further in this assessment.

Water Voles

11.145 Focused surveys for water voles *Arvicola terrestris* were undertaken 15.05.25 and 02.07.25 to assess for the presence or likely absence of water voles within the Main Site and Western Rail Chord, as well as within the ditch extending north-west of the Main Site. The survey looked to identify any field signs that indicate the presence of water voles including latrines, small mammal runs, feeding remains and cut vegetation, burrows and feeding stations.

11.146 At the time of both the surveys all the ponds and ditches were noted to have either very low water levels or were dry after a prolonged period of dry weather. Some of the ditches and ponds were noted to have suitable banks, habitats and marginal vegetation to support water voles. However, no field signs were identified adjacent to or in the vicinity of any of the ponds or ditches at the Main Site or the ditch extending from the Main Site to the north-east.

11.147 The results of the surveys indicate that water voles are likely absent from the Main Site and Western Rail Chord and also absent from the habitats extending immediately from the Main Site to the north-east. As such, water voles are not considered to be a constraint to the Proposed Development and are not considered further in this assessment.

Small Mammals

11.148 A search of biological records identified one record of European hedgehog *Erinaceus europaeus* located within west of the DCO Main Site within the fields to the south of Parkside Road and within the last 20 years. A further three records were identified from the past 20 years located within 1km north of the Main Site, and 15 records within 1km to the west and north-west of the Western Rail Chord and to the west of the M6.

11.149 Hedgehogs are widespread and have no specific protection in the UK. However, hedgehogs are designated as an SPI due to population declines and reductions in distribution. As such, hedgehogs will be considered further as an IEF.

Birds

11.150 Full details of bird surveys are presented in a summary report as PEIR Appendix 11.5. Further passage and tidal surveys are outstanding at the time of reporting although the majority of surveys are complete. Any relevant findings from subsequent surveys will be provided in an updated appendix and used to inform the final DCO application submission.

Wintering Birds

11.151 Wintering Bird surveys were conducted from November 2023 – February 2024 and again from December 2024 – March 2025.

11.152 The cultivated agricultural fields, areas of modified grassland (airfield and dog training areas) provided suitable foraging habitat for a range of farmland specialists. Notable species included lapwing *Vanellus vanellus*, skylark *Alauda arvensis*, and linnet *Linaria cannabina*, which on occasion were recorded in large numbers. Other farmland specialists recorded in small to moderate numbers included tree sparrow Passer montanus, golden plover *Pluvius apricaria*, yellowhammer *Emberiza citrinella*, reed bunting *Emberiza schoeniclus*, stock dove and meadow pipit *Anthus pratensis*. Farmland specialist recorded on a single survey occasion included brambling Fringilla montifringilla, snipe *Gallinago gallinago*, grey partridge *Perdix perdix* and a flock of 190 pink-footed goose *Anser brachyrhynchus*.

11.153 Analysis of county records indicate that individually, yellowhammer, tree sparrow and fieldfare were recorded in numbers of county importance. Notable species of local importance included lapwing, skylark, redwing, starling, golden plover, meadow pipit, reed bunting, and linnet. The diversity of the wintering farmland bird assemblage and the large numbers of some species represent an assemblage of ***County level importance***. However, it is also noted that those individuals represented in numbers considered to be county level importance will also adapt to woodland, scrub and hedgerow habitats as well as using cultivated farmland.

11.154 A range of generalist species were recorded in the hedgerows and small areas of semi-natural

habitat within the survey area, comprising woodland, scrub and rough grassland. Notable species included song thrush *Turdus philomelos*, mistle thrush *Turdus viscivorus*, dunnock *Prunella modularis*, bullfinch *Pyrrhula pyrrhula,* wren *Troglodytes troglodytes*, woodpigeon and redwing, recorded in small to moderate numbers typical of the habitats present. For this reason, the assemblage was considered of ***Local level importance,*** and individual species recorded were of no more than ***Local level importance***.

11.155 The waterbodies surveyed supported a limited range of species which included small numbers of mallard *Anas platyrhynchos* and moorhen *Gallinula chloropus*. This assemblage and individual species were considered of no more than ***Site level importance***.

11.156 In summary wintering birds presented assemblages of farmland specialist species of ***County level importance*** and generalist species of ***Local level importance*** and will be considered further as IEFs.

Breeding Birds

11.157 Breeding bird surveys were conducted between March 2025 and July 2025 and included one dusk survey. The surveys also assessed the Spring passage period and assessed the importance of the surveyed area and habitats to support Spring passage migrants.

11.158 The agricultural habitats, field margins and areas of modified grassland provided suitable breeding and foraging habitat for a range of farmland specialists. Notable species which were considered confirmed or probable breeders within the survey area included lapwing, skylark, yellow wagtail *Motacilla flava*, reed bunting, tree sparrow, grey partridge, yellowhammer and linnet. Notable specialists recorded in small numbers, on few survey occasions, and without evidence of breeding included meadow pipit, quail *Coturnix coturnix* and oystercatcher *Haematopus ostralegus*. Kestrel *Falco tinnunculus* was noted hunting in the arable fields and was considered a probable breeder with the survey area.

11.159 The diversity of the breeding bird farmland bird assemblage and the large numbers of some species represent an assemblage of ***County level importance***.

11.160 2.6 Analysis of county records indicate that individually, skylark, tree sparrow, yellow wagtail, and yellowhammer were recorded in numbers of ***County level importance***.

11.161 2.7 Notable individual species representing numbers of ***Local level importance*** included lapwing, reed bunting, and linnet.

11.162 Woodland, hedgerows, scrub and rough grassland (other neutral grassland and areas of tall forbs) provided breeding and foraging opportunities for a range of predominately generalist species. Notable species considered confirmed or probable breeders included whitethroat Sylvia communis, willow warbler *Phylooscopus trochilus*, greenfinch *Chloris chloris*, woodpigeon, mistle thrush, dunnock, stock dove, wren, song thrush, starling, stock dove and bullfinch. A single grasshopper warbler *Locustella naevia* was recorded on the majority of survey occasions defending a territory within rough grassland and scrub habitat in the west of the Main Site and was considered a probable breeder. A single spotted flycatcher *Muscicapa striata* was recorded on one survey occasion in woodland with no evidence of breeding. Notable species were recorded in small to moderate numbers typical of the habitats

present. For this reason, the assemblage was considered of local importance, and individual species were recorded of no more than ***Local level importance***.

11.163 The waterbodies surveyed supported a limited range of species which included small numbers of mallard (considered a probable breeder) and moorhen. This assemblage and these species were considered of no more than ***Site level importance***.

11.164 During the March survey occasion (spring passage period) a moderately large flock (89) of meadow pipit were recorded within the arable fields. Other small numbers of spring passage migrants recorded during the March and April survey occasions included wheatear *Oenanthe oenanthe* within the arable fields, a single wood warbler *Phylloscopus sibilatrix* within woodland, and teal *Anas crecca* on a waterbody (ditch) on the boundary between the Main Site and Highfield Moss SSSI. The numbers of ***meadow pipit were considered to be of County level importance***, whilst the other passage species were only recorded in small numbers of no more than ***Site level importance***.

11.165 Breeding birds and Spring passage migrants included individual species and assemblages of Site to County Level importance and will be considered further as IEFs.

Barn Owls

11.166 The biological records search did not return any records of barn owl within the last 10 years. However, historical records from between 2006 to 2010 provide seven (7no.) records of barn owls within 1km of the Main Site, located at Highfield Moss SSSI Farm approximately 550m north of the Main Site, and Lowton House Farm approximately 630m north of the Main Site.

11.167 A barn owl box was observed within Building B2, the barn at Highfield Farm in the northern central are of the Main Site and an incidental observation was made during a bat survey of a barn owl entering the barn. It is noted that the barn will be lost to the proposals.

11.168 Barn owls are listed on Schedule I of WCA 1981 (as amended) providing additional legal protection during breeding. For the purposes of this assessment, as a precautionary measure, it is assumed that barn owls are using Building B2 to breed and as such will be considered as an IEF. Further survey will be conducted and results presented in a Technical Appendix to the DCO submission.

Amphibians: Great created newt (GCN)

11.169 Full Details of surveys for great crested newt *Triturus cristatus (GCN)* are provided within PEIR Appendix 11.6 GCN report.

11.170 The Main Site and Western Rail Chord includes a number of natural ponds and recently constructed attenuation ponds as well as woodland and hedgerow habitats that are suitable to support GCN. There are no records of GCN located within the Main Site and Western Rail Chord.

11.171 The M6 to the south-west of the Main Site presents a major barrier to GCN dispersal Winwick Lane to the east and south-east of the Main Site is a busy road and is considered likely to limit the success of GCN dispersal but is not a complete barrier to GCN movement.

11.172 The biological records search identified four records of GCN within 1km of the Main Site and Western Rail Chord, the nearest record was 370m south-west of the Western Rail Chord, within the grounds of Willow Bank School, beyond Winwick Road. Two further records were identified in a complex of ponds approximately 650m south-east of the Main Site, beyond Winwick Lane. The fourth record was approximately 900m north of the Main Site associated with a pond on Lowton Heath.

11.173 A search of records held in the MAGiC database also identified a record from GCN survey licence returns located at Woodhead Farm approximately 520m south-east of the Western Rail Chord. A data point on the MAGiC database showed that an eDNA sample had been taken from the pond within Highfield Moss SSSI in 2018 but was found to be inconclusive.

11.174 The Main Site is partially situated within an amber GCN risk zone (as defined by the Natural England GCN District Level Licencing (DLL) Scheme) and the majority of the Main Site is covered by Natural England district level licencing for the Greater Manchester area.

11.175 Sampling of ponds and ditches with standing water within the Main Site and Western Rail Chord and within 250m of the Main Site and Western Rail Chord was carried out on 9th June 2025. Water samples were sent for laboratory analysis to test for the presence of GCN eDNA.

11.176 A detailed overview of the findings of the surveys is provided in two ponds, Pond P2 and Pond P3, tested positive for GCN eDNA. Pond P2 is an isolated pond surrounded by a small stand of woodland within a cultivated field to the south of Kenyon Hall Farm Airstrip. Pond P3 is a pond within a larger woodland stand which has a wider complex of ponds (named as Moss Pits on Ordnance Survey mapping) which become interconnected at times of high water levels. None of the other ponds within the Moss Pits complex tested positive for GCN.

11.177 It is considered that GCN are likely present in both of these ponds and may use the surrounding terrestrial habitats. Given ponds adjacent to Pond P3 within the Moss Pits pond complex did not test positive for GCN it is considered likely that any population present is small and relatively isolated. None of the ponds within the Main Site and Western Rail Chord had significant emergent vegetation or features considered suitable for egg laying. Further population size class assessment surveys were not conducted as the Site is situated within a Natural England DLL Scheme area and any mitigation required will be sought via a DLL.

11.178 None of the other ponds within the Main Site and Western Rail Chord, or within 250m tested positive for GCN and, as such, are considered to be likely absent of GCN.

11.179 Given that GCN are a European Protected Species they will be considered further in this assessment as an IEF.

Amphibians: Other species

11.180 No specific surveys were conducted for other amphibian species. The data search identified two records of common toads *Bufo bufo* within 1km of the Main Site. One record was in Highfield Moss SSSI directly adjacent to the north of the Main Site, and a second was in the area of scrub and woodland associated with the former Parkside Colliery adjacent to the Western Rail Chord.

11.181 Incidental observations of amphibians recorded during ecological surveys included four (4no.) individual common toads. All four toads were located in the vicinity of the Western Rail Chord associated with scrub and woodland habitats.

11.182 No other amphibians have been identified within the Main Site or Western Rail Chord although habitats including ponds, woodland, scrub, and to a lesser extent hedgerows, are considered suitable to support amphibians.

11.183 Common toad is a SPI listed on Section 41of the NERC Act 2006 and as such will be considered further as an IEF.

Reptiles

11.184 Full details of reptile surveys are provided within PEIR Appendix 11.7: Reptile Report.

11.185 The search of biological records identified twelve (12no.) records of common lizards *Zootoca vivipara* within 1km of the Main Site and Western Rail Chord within the last 20 years. Ten (10no.) of those records associated with Highfield Moss SSSI. One (1no.) record was identified approximately 510m north of the Main Site on the edge of arable land and residential gardens. One (1no.) record was identified approximately 815m south of the Main Site in agricultural land but beyond the M6 Motorway which is considered to be a major barrier to dispersal.

11.186 4.2 A single (1no.) record of grass snake *Natrix helvetica* was identified associated with Highfield Moss SSSI directly north of the Main Site

11.187 Reptile surveys undertaken in 2025 were targeted to habitats most suitable for reptiles (woodland edge, scrub, grassland and embankments), particularly habitats with south-facing aspects.

11.188 Common lizards were observed on three (3no.) out of nine (9no.) occasions (including incidental recordings). The peak count was of eight (8no.) adult common lizards on 12th August 2025. Previous observations on 30th April 2025 identified two (2no.) female common lizards considered to be gravid (pregnant) and implying a breeding population is present. All observations were made around artificial refugia deployed in tall, modified grassland to the south-east of Highfield Moss SSSI, in the central northern area of the Main Site.

11.189 No other reptiles were identified during surveys. Incidental observation of common toad, and a shrew *Sorex araneus* were reported during reptile surveys.

11.190 Overall a good population of common lizard is considered to be present in the area of grassland south-east of Highfield Moss SSSI and is likely to range through the grassland area and habitats within the SSSI. The population is considered to be of ***Local level importance***.

11.191 As common lizard are UK protected species and are present at the Main Site they will be assessed further as an IEF.

Invertebrates

11.192 Full details of invertebrate surveys are presented in PEIR Appendix 11.8: Invertebrate Report.

11.193 Invertebrate surveys were conducted between April and late June 2025 with further identification and analysis conducted up to September 2025.

11.194 The results from surveys indicated the invertebrate assemblages across the Main Site and Western Rail Chord are predominately of common species and species typical of the habitats present. The assemblage was considered to be of ***no more than district level nature conservation value*** but also considered to be impoverished and of a fauna that "could be anticipated in any moderately sized greenspace that has an element of grassland and scrub, with some canopy woodland within a peri-urban/ agricultural environment to be found within the National Character Area". As such it is proposed that the invertebrate assemblage as a whole is not taken forwards as an IEF.

11.195 It is noted here that the habitat creation within the Proposed Development is considered likely to provide improved opportunities for invertebrates through a greater range of habitats and habitats of improved habitat condition and suitability for invertebrates.

11.196 A single specimen of bleeding heart spider *Nigma puella,* was recorded during surveys on a bush within the garden of Highfield Farm in the northern, central area of the Main Site. This species is Nationally Scarce in the UK (but IUCN classified as Least Concern) and usually confined to the south of England, though according to the British Arachnological Society some individual records have been made as far north as Scotland. This species favours shrub habitats such as hedgerows, shrubs and scrub (including gorse scrub). It is considered likely that the range of this species is expanding due to climate change. This species has ecological value at the ***National level*** (as a nationally scarce species) and will also be considered at the ***Local level in the context of the DCO Site***. Given that this species is Nationally Scarce it will be considered for further assessment as an IEF.

A second, Nationally Scarce (Notable b), species *Glocianus punctiger* was recorded as a single specimen within the area of Newton Park Farm near the Western Rail Chord. Although Nationally Scarce this small weevil is widespread across England and Wales, often found in grasslands and disturbed areas where it is associated with plants in the Plantain family. The area of the former Parkside Colliery around Newton Park Farm will retain habitats suitable for this species. This species was not identified within the DCO draft order limits and as such will not be considered further as an IEF.

Important Ecological Features (IEFs)

11.197 The following IEFs have been identified and will be further assessed to determine likely impacts on those features due to the Proposed Development:

- Manchester Mosses SAC (International and National Designated Site of Conservation importance);
- Mersey Estuary SPA (International and National Designated Site of Conservation importance);
- Highfield Moss SSSI (Nationally Designated Site of Conservation importance);
- Lowland Deciduous Woodland (HPI NERC Act 2006);

- Maiden Pink *Dianthus deltoides* (Botanical Species: Nationally Scarce Species);
- Marsh gentian *Gentiana pneumonanthe* (Botanical Species: Nationally Scarce Species, Schedule 8 WCA 1981);
- Hedgerows (HPI NERC Act 2006);
- INNS: Japanese knotweed, Himalayan balsam, Giant hogweed, Rhododendron sp.;
- Bats: Roosts in trees (if found, surveys ongoing) (European Protected Species);
- Bats: Roosts in buildings (if found, surveys ongoing) (European Protected Species);
- Bats: Activity within the Site (European Protected Species);
- Badgers (UK Protected Species);
- European hedgehog (UK SPI NERC Act 2006);
- Birds: Farmland Birds (breeding and wintering, notable species);
- Birds: Generalist Species (breeding and wintering, notable species);
- Birds: passage/migrating species (notable species);
- Barn Owl (Annex I Species);
- Great Crested Newt (European Protected Species);
- Common Toad (UK SPI NERC Act 2006);
- Common Lizard (UK Protected Species); and
- Bleeding Heart Spider *Nigma puella* (Fauna, Araneae: Nationally Scarce Species).

EMBEDDED MITIGATION MEASURES

Outline Construction Environmental Management Plan (oCEMP): Ecology

11.198 An outline CEMP (oCEMP) will be developed for submission with the PEIR which will include measures to provide protection to identified IEFs during the construction phase of the Proposed Development. The oCEMP will be developed with more detailed provisions once details of construction have been finalised.

11.199 The measures to be included within the oCEMP will include the provision of Biodiversity Protection Zones (BPZ) to buffer both retained botanical and faunal IEFs from construction activities (where required). Further measures will provide species specific precautionary working practices to avoid injury or killing of faunal IEFS, or damage to important resting places of faunal IEFs.

11.200 The oCEMP will include the details of an appointed ecologist or Ecological Clerk of Works (ECoW). Their role will include advising and supervising pre-construction and construction activities as required across the DCO Site.

11.201 The oCEMP will be kept on-site throughout the construction works and held by the responsible party (anticipated as being the principal contractor, or equivalent). The oCEMP will be available to review by all Site personnel and any visiting personnel.

11.202 Measures that are provided within the oCEMP will include (but will not be limited to) the following:

- BPZs following the Root Protection Zone (RPZ) around retained hedgerows, woodland and individual trees, to be extended in areas where the ECoW determines is required (if necessary);
- BPZs around any identified active badger setts within 30m of construction activities should those activities be deemed to pose a risk to the sett;
- BPZs around any identified active bird nest within vegetation, on the ground, or within buildings which are to be cleared for construction. An appropriate BPZ would be determined by a suitably experienced ecologist or the appointed ECoW to ensure the protection of the feature until it is no longer active;
- appropriate BPZs would be provided around any identified bat roosts (within trees or buildings) to protect the feature from disturbance during construction;
- appropriate BPZs would be provided around any specimens of Maiden Pink identified for retention or translocation in order to protect the individual plants during construction or prior to being translocated;
- all BPZs would be identified within the oCEMP on clear and accurate location plans;
- best practice working methods for the stockpiling and storage of excavated material including appropriate distances of storage from sensitive IEFs such as the adjacent SSSI and measures to prevent the dispersal of material from wind or rain. Measures might include covering or capping stockpiles or damping down material, providing secondary containment or use of barriers such as silt fencing (as appropriate);
- best practice working methods to reduce the risk of environmental releases of stored chemicals, fuels and materials that might impact upon IEFs. This will include locating storage areas away from identified IEFs, use of secondary containment methods, and where possible storage of chemicals or fuels off-site;
- measures to ensure against the entrapment of wildlife (particularly badgers and other small mammals) within excavations or open pipework;
- timing of works to avoid or protect seasonally present IEFs (e.g. avoiding breeding bird season); and

- precautionary working methods including fingertip searches and supervised clearances of vegetation and other features (where determined to be necessary by the ECoW).

11.203 Appropriate measures will be provided in the oCEMP in dedicated sections to ensure that all relevant individual species, notable, or protected species are protected from harm during vegetation clearance, or other construction works where required.

11.204 Invasive Non-Native Species (INNS) management measures will implemented as part of the oCEMP, which would provide measures to ensure that no spread of INNS occurs within the Proposed Development or to areas outside the draft Order Limits. The INNS management measures will include (but may not be limited to) the following:

- clear and accurate plans showing the location of INNS within the construction area;
- provision of BPZs around areas of INNS to prevent disturbance during construction;
- information to be provided to construction personnel through toolbox talks and appropriate signage on fencing around BPZs for INNS;
- measures to remove, or treat INNS, with the aim to eradicate these species from the Main Site and Western Rail Chord; and
- measures to prevent the spread of INNS through transfer either within the construction area or draft Order Limits or to areas off-site outside the Draft Order Limits, should personnel/vehicles/plant come into contact with INNS or INNS contaminated soils/materials. Including the location of wash down areas and instructions for cleaning clothing, equipment and plant.

Habitat Management and Monitoring Plan (HMMP)

11.205 A HMMP (or a number of HMMP documents) will be developed (informed by the proposed habitat creation and BNG requirements) and provided for the final DCO application submission.

11.206 The HMMP/s will include all habitats retained, enhanced or created within the Main Site and draft Order Limits. The HMMP/s will follow the DEFRA template and provide details of roles and responsibilities (where identified) for the ongoing management and monitoring of the habitats retained, enhanced or created. The HMMP/s will provide detailed descriptions of the habitat type and character to be created and habitat condition targets to be met. Prescriptions for management and monitoring will be provided for at least 30 years.

Design

11.207 The design of green infrastructure, habitat creation and areas of public open space has considered ecological features and where possible has incorporated design features to compensate for habitat and ecological service losses, mitigate for impacts to important ecological features, and provide enhancements where possible.

Highfield Moss Protection Zone

11.208 The main designated features of Highfield Moss SSSI are the habitats present. A Protection Zone is proposed around Highfield Moss SSSI within the Main Site and will incorporate mitigation against impacts into the SSSI (noise, light, environmental releases) and also enhancement for other IEFs found within the Main Site. The width of the Protection Zone will vary from around 40m wide to over 95m wide with an average width of around 50m. This area will provide a buffer zone between the construction and operational activities at the Main Site and the adjacent Highfield Moss SSSI.

11.209 The Protection Zone will incorporate habitat creation which will complement the adjacent SSSI with areas of wet grassland and a strip of wet woodland planting (to be provided only on the south-eastern boundary at a distance considered sufficient to prevent encroachment of self-seeded trees into the SSSI).

11.210 The distance across the Protection Zone is considered adequate to provide attenuation of potentially disturbing elements (such as noise and light), though these would not be expected to affect any of the designated features of the SSSI. Sensitive lighting will ensure that the Protection Zone remains attractive to nocturnal wildlife as a dark corridor and will provide commuting/dispersal routes in this area.

11.211 The Protection Zone will incorporate a filter drain, on the southern boundary which will prevent any potential environmental releases or other contaminants which might enter the drainage of the Proposed Development from entering the SSSI. In addition, the drainage design will prevent any backflow of surface water or other discharges from entering the SSSI. Thus the Proposed Development has been designed to have no hydrological inputs into the SSSI.

11.212 Habitats within the buffer zone will in part compensate for some of the habitats lost within the Main Site and Western Rail Chord including areas of scrub, grassland, and areas of woodland (further detailed within the BIA).

11.213 Grassland areas will be designed to provide wet features such as shallow ponds and scrapes designed to be complementary to the adjacent SSSI. A bund is proposed in the south-west of the buffer zone which will be designed to provide enhancements for reptile species as well as reducing any potential visible impacts of the development which may affect wildlife within the SSSI. The habitats present will be suitable to support the bleeding heart spider, as well as a range of wildlife including badgers and hedgehogs. The habitats will increase the diversity for invertebrates and also improve foraging opportunities for wildlife such as bats, mammals, reptiles, and birds. The wet and damp habitats will also provide additional opportunities for amphibians.

11.214 The Protection Zone will take land adjacent to Highfield Moss SSSI out of agricultural usage. This will exclude any existing affects from agricultural overspray into the SSSI or the boundary ditch, potentially reducing some nutrient inputs and chemical impacts.

11.215 The Protection Zone will incorporate formal footpaths/routes for recreational use by the public and users of the Proposed Development. These routes are expected to reduce some recreational pressure from the SSSI.

11.216 The Highfield Moss Protection Zone will:

- provide an area of habitat creation complimentary to the moss providing enhanced habitats;
- attenuate (through distance, engineered features (bund) and planting) any impacts into the SSSI from noise, light and hydrological inputs;
- filter drains and drainage design will prevent hydrological impacts;
- habitats will provide some compensation for habitats lost to the development;
- habitats will provide opportunities and enhancements for a range of wildlife;
- eliminating agricultural practices adjacent to the SSSI would decrease any existing effects from overspray and nutrient inputs; and
- the Protection Zone will provide additional recreational opportunities for the public, likely reducing some usage of the SSSI.

Northern Mitigation Area

11.217 The Northern Mitigation Area is located beyond the Chat Moss Railway Line to the north of the Main Site and comprises agricultural cropland. This area has been allocated for habitat creation associated with BNG and species-specific mitigation measures, in particular grassland habitats suitable for farmland birds. This area will include the creation of areas of mixed scrub, lowland mixed deciduous woodland, other broadleaved woodland, other neutral grassland (both dry meadows and wet grassland), non-priority habitat ponds, traditional orchard, species rich native hedgerows, species rich native hedgerows with trees, and potentially a new drainage ditch.

11.218 The provision of habitat creation to the north of the Main Site and Highfield Moss SSSI will enhance natural habitats in the local area, increase habitat connectivity, take away agricultural activity and impacts directly into Highfield Moss SSSI and into drainage that flows into Highfield Moss SSSI, and provide complementary habitats to those found within the SSSI.

11.219 The habitat creation area will maintain public rights of way and provide alternative areas for pedestrians to access that may aid in reducing recreational pressure on Highfield Moss SSSI.

Sustainable Drainage Systems (SuDS)

11.220 SUDS will be provided throughout the DCO Site including attenuation ponds and the filter drains which will be located on the southern boundary of the Highfield Moss Protection zone. These features will drain towards the east and south-east of the Main Site away from Highfield Moss SSSI and will assist in preventing any potential environmental releases or potential contaminants (including additional nutrient inputs) from entering into the Main Site drainage, or from entering the SSSI.

11.221 Although the primary function of the SuDS features will be effective drainage for the Proposed Development, opportunities will be taken in and around SUDS to provide planting which is semi-natural and provides habitat and foraging opportunities for a range of invertebrates,

birds, bats, and potentially for amphibians and reptiles (where they may be present).

11.222 SuDS will:

- ensure no hydrological impacts to Highfield Moss SSSI; and
- increase opportunities for wildlife.

Northern Habitat Corridor

11.223 The design includes a continuous vegetated corridor (including the Highfield Moss Protection Zone) and areas for community/amenity use to the north of the railway line. This corridor will incorporate the existing railway and proposed new lines as well as adjacent habitat creation.

11.224 This northern corridor will enhance habitat connectivity for a range of faunal species in an east/west orientation.

11.225 Sensitive lighting will ensure nocturnal lighting will be reduced or avoided within the habitats on the northern boundary. Sensitive lighting will be as described in the Lighting Strategy. The northern corridor will provide ecological connectivity east/west, enhancing ecological connectivity across the Main Site and to areas outside the draft Order Limits.

Eastern Habitat Corridor

11.226 A corridor of green space will be located along the eastern Main Site boundary which will include a vegetated bund with tree and scrub planting. This area will provide a more formal landscape but will also retain ecological value and connectivity in a south-west/north-east orientation.

11.227 The habitats created will provide some compensation for habitats lost to the development.

11.228 Lighting will be limited to the areas of the corridor where formal paths and trails will be provided for cyclists and pedestrians.

11.229 The eastern corridor will:

- compensate for habitat losses; and
- provide south-west/north-east ecological connectivity (for habitats and fauna), enhancing ecological connectivity across the Main Site and to areas outside the draft Order Limits.

Parkside Road

11.230 A more formally landscaped corridor will be present along Parkside Road, but this will be designed to include verges of neutral grassland and individual tree planting providing some ecological value and connectivity. Measures will be used to reduce lighting of habitats set back from Parkside Road, in accordance with best practice and as set out in the Lighting Strategy.

11.231 Parkside Road will provide some ecological connectivity in a north-west/south-east orientation, enhancing ecological connectivity across the Site and to areas outside the draft Order Limits.

Western Habitat Corridor

11.232 The area between the West Coast Main Line (railway line) and the Western Rail Chord will be vegetated, with an area of grassland habitat retained, and the retention and some enhancement of existing areas of woodland. It is noted that tree planting will be limited due to the proximity of the railway lines and will only be used at appropriate distance from the lines.

11.233 The Western Habitat Corridor will maintain a level of ecological value and connectivity in a general north/south orientation on the western Main Site boundary.

Pedestrian Corridor

11.234 A corridor will be constructed from the eastern boundary to the Highfield Moss Protection Zone in the north-east of the Main Site allowing pedestrian and cycle access between the developed areas. This corridor, located to the north of proposed Unit 13 and south of proposed Units 14 and 15, will be more formally landscaped but will avoid the use of hard landscaping.

11.235 This area will be subject to planting of a large number of individual trees with intervening grassland, ornamental shrub and planting of other floral species. This area will be focused on amenity and public access but retain some ecological value, particularly of value to pollinating invertebrates, generalist bird species, and potentially for commuting/foraging generalist bat species less sensitive to light and development.

11.236 The pedestrian corridor will:

- provide additional diversity and opportunities for some species such as pollinators and generalist bird and mammal species; and
- provide some ecological connectivity between the Highfield Moss Protection Zone and the eastern habitat corridor, enhancing ecological connectivity.

Hedgerows

11.237 Some hedgerow creation within the Main Site will compensate for loss of hedgerows to the Proposed Development. Hedgerow creation will also look to enhance ecological connectivity where possible and provide habitat for reptiles, invertebrates and small mammals. Additional hedgerow creation will be provided in the wider draft Order Limits, particularly within the Northern Mitigation Area.

Northern Mitigation Area

11.238 The Northern Mitigation Area comprises approximately 46.7ha of land to the north of the railway line and will primarily be used to provide habitat compensation to meet BNG

requirements where habitats cannot be provided within the Main Site, Western Rail Chord, or the wider Draft Order Limits.

11.239 The area will include the provision of a strip of wet grassland including pond creation immediately north of the railway line and to the east of the northern section of Highfield Moss SSSI. This area is designed to complement the habitats of the SSSI providing ponds that will in the longer term develop into wetland habitats such as fen and potentially into raised bog.

11.240 Grasslands will be created that will look to be managed for botanical species diversity, with areas limited to public access in order to increase the ecological value of the habitats.

11.241 Woodland belts will be created that will increase the extent and ecological quality of local woodland resource, compensate for areas of woodland lost to the development, and provide connectivity in the local landscape for habitats and species. Woodland planting will also act to visually screen the Proposed Development from residences and other receptors to the north of the Main Site.

11.242 An area of mixed scrub will compensate for areas of scrub to be lost to the Proposed Development as well as providing habitat diversity and connectivity.

11.243 Hedgerows will be created that are species rich and where appropriate will incorporate hedgerow trees. These hedgerows will compensate for those lost to the Proposed Development as well as increasing ecological connectivity in the wider local landscape.

11.244 A drainage ditch will be created in the central part of the Northern Mitigation Area and will look to compensate in part of impacts to ditches from the Proposed Development as well as providing surface water drainage into the wet grassland and ponds proposed in the southern part of the Northern Mitigation Area.

11.245 Areas of the above habitats will be publicly accessible, and PRoWs will be retained across this area. The created habitats will provide additional amenity resource for local people and those visiting the area.

11.246 An area of traditional orchard will be created in the east of the Northern Mitigation Area which will provide diversity in habitats in the local landscape, additional food resources to local wildlife, and a feature of amenity value.

11.247 The creation of the Northern Mitigation Area will remove agricultural inputs from the area immediately adjacent to Highfield Moss SSSI and reduce any inputs into drainage which may flow into the SSSI. The areas of habitat and access through the Northern Mitigation Area may reduce the recreational use of parts of the SSSI.

11.248 The Northern Mitigation Area will:

- compensate for habitats lost due to the Proposed Development to provide at least a 10% net gain in biodiversity;
- provide increased and improved ecological connectivity in the wider area and with Highfield Moss SSSI;

- provide complementary habitats adjacent to Highfield Moss SSSI with the potential in the longer term to extend the wetland habitats of the moss;
- reduce the agricultural inputs (from overspray and nutrients) into Highfield Moss SSSI;
- reduce recreational use of areas within Highfield Moss SSSI by providing alternative areas and routes;
- provide visual screening (see LVIA for details); and
- provide areas of amenity resource.

Species

Bats

11.249 The oCEMP provides measures to reduce risks and disturbance to bats during construction.

11.250 The design incorporates habitat creation that will provide higher suitability habitats for bats across the Site, including additional opportunities for foraging and commuting.

11.251 Provision of artificial bat boxes on retained mature trees and well as incorporated within buildings (where possible and appropriate) will provide additional roosting resources for widespread species of bats.

Badgers

11.252 Any mitigation appropriate to badgers is presented in the Confidential PEIR Appendix 11.4: Badger Report

11.253 The oCEMP provides appropriate precautionary working measures to prevent harm to badgers (should they be present) during construction.

Other Mammals

11.254 Designed habitat creation will maintain suitable habitats for hedgehogs (and other small mammals) with inclusion of hedgerows, areas of woodland, scrub and grassland with varied structures.

11.255 Inclusion of log piles and a number of artificial hedgehog houses within areas of habitat creation will provide additional opportunities for foraging, shelter, and potentially hibernation.

Birds

11.256 The oCEMP provides measures to prevent harm to breeding/nesting birds during construction.

11.257 Habitat creation will be provided within the Northern Mitigation Area to provide grassland habitats optimal for farmland breeding birds and wintering farmland birds. These areas will

include planting of appropriate species to provide additional forage resources in winter and will be managed to allow farmland bird species to use habitats for breeding during spring and summer.

11.258 Additional land management will be provided within the wider DCO Site that will provide "skylark plots" to compensate, in part, for breeding habitat losses for farmland birds.

11.259 The proposed creation of areas of scrub and traditional orchard within the Northern Mitigation Area and across the DCO Site will provide species with fruits, nuts and berries creating additional forage and habitat resource opportunities for birds throughout the year.

11.260 Designed habitat creation will also provide opportunities for a range of generalist and urban fringe bird species for foraging, commuting, roosting and nesting.

11.261 Provision of artificial bird nest boxes on retained mature trees and well as incorporated within buildings (where possible and appropriate) will provide additional nesting resources for generalist species.

Reptiles

11.262 The oCEMP provides measures to avoid harm to reptiles during construction.

11.263 Habitats within the Highfield Moss Protection Zone will be designed such that opportunities for reptiles will be enhanced. Inclusion of wet grassland with structural diversity, scrapes, shallow ponds, and an embankment with scrub and opportunities for reptile basking will increase the quality and extent of habitat suitable for reptiles.

11.264 Inclusion of log piles within design of habitat creation areas will increase opportunities for reptile foraging and refugia.

11.265 The Northern Mitigation Area will include habitat creation not aimed at, but suitable for reptiles, particularly the wet grassland area. This will increase the extent of suitable reptile habitat in the local area providing additional resource and opportunities to reptiles.

Amphibians

11.266 GCN were identified as present within two ponds within the Main Site. The area is located within a Natural England DLL zone and a DLL will be applied for to mitigate for impacts to GCN. DLL is an alternative to traditional mitigation licencing and aims to enhance GCN conservation through targeted habitat creation and improvements within a district rather than at the level of a development site.

11.267 The implementation of a DLL will negate the requirement for any specific/targeted mitigation for GCN within the Main Site. However, the oCEMP provides general measures to reduce risks to amphibians including GCN and common toad during construction.

11.268 Design proposals will retain and include the creation of habitats suitable for GCN, and other amphibians (including common toad). Suitable habitats will be included in the Highfield Moss Protection Zone such as the areas of wet grassland, scrapes, shallow ponds, and wet

woodland. Across the wider Main Site hedgerows and scrub will provide suitable terrestrial habitat.

11.269 The proposed designed SUDS features across the Main Site will not be specifically managed for amphibians, although proposed habitats are likely to provide suitable habitats for amphibians, potentially providing opportunities for foraging and breeding.

11.270 Log piles provided in designed habitat creation areas will provide additional opportunities for amphibians to forage and shelter, potentially as hibernacula.

11.271 The wet grassland and ponds proposed in the Northern Mitigation Area will increase opportunities for amphibians.

Invertebrates

11.272 Habitat creation within design will maintain habitats that support typical invertebrate assemblages and potentially provide greater diversity of habitats for invertebrates.

11.273 Scrub and hedgerow habitats will be maintained within design, and provided at greater habitat condition, which would be suitable for invertebrates including the bleeding heart spider.

POTENTIAL EFFECTS PRIOR TO ADDITIONAL MITIGATION

Designated Sites

Manchester Mosses SAC

11.274 The Manchester Mosses include a number of sites within 10km of the Proposed Development designated for Annex I habitats: Degraded raised bogs.

11.275 **Given the distances to these sites (5.5km to the nearest site) no direct impacts are expected as a result of the Proposed Development**.

11.276 However, Holcroft Moss is located approximately 6.3km south-east of the Site directly adjacent to south of the M62 motorway and has additional local policy provision. The Holcroft Moss Planning Obligations SPD states: *'As set out in Policy JP-C8 of the PfE Plan, where planning applications are required to be accompanied by a Transport Assessment, they will need to consider air quality impacts on Holcroft Moss, within the Manchester Mosses Special Area of Conservation (SAC)'.*

11.277 Given the distance to the Proposed Development from Holcroft Moss any **impacts are not expected to be significant (for EIA) during the construction phase however this will be confirmed by the AQA**. During the operational phase the Proposed Development could result in increased traffic on the M62 which may impact upon the site through reduction in air quality or inputs from airborne pollutants. **This is not anticipated to be a significant impact (for EIA) but needs to be confirmed through the ongoing AQA and consultation with Greater Manchester Combined Authority**.

11.278 It is expected that an appropriate financial contribution will be agreed with Greater Manchester Combined Authority to provide improvements to the SAC. It is assumed that the financial contribution will ensure that **any impacts are mitigated to a Negligible level of effect**. No agreement has been made at the time of PEIR submission (subject to further assessment and discussion).

Rixton Clay Pits SAC

11.279 Rixton Clay Pits SAC is located 7.5km to the south-east of the Proposed Development (beyond the M62 motorway and adjacent to the A57 main road) and is designated for populations of GCN. Due to the distance from the Proposed Development and intervening land-use and habitat no direct impacts are expected, and in particular **no impacts are expected to occur that would change the conservation status of the designated features (GCN) as a result of the Proposed Development, and this site will not be considered further in this assessment.**

Mersey Estuary Ramsar/SPA/SSSI

11.280 The Mersey Estuary is 14km south of the Proposed Development at its nearest point. The Estuary is designated for its assemblage of passage and overwintering birds including nationally significant numbers of specific species listed in the designation citation.

11.281 Given the distance to the Proposed Development and intervening land-use and habitats it is considered unlikely that the species that use the Mersey Estuary also use the DCO Site in any significant way that would be considered to be "functionally linked land", land that plays an important role in the maintenance of the conservation status of those species and the population levels present at the Mersey Estuary.

11.282 ***It is anticipated that the impacts to the Mersey Estuary will not be significant (for EIA),*** however further survey is required to confirm this. Further survey will be undertaken during Autumn and Winter of 2025 to identify whether any of the species designated for the Estuary use the DCO Site at times of high tides (when the habitats at the Estuary are inundated and not available). These results of these surveys will not be available for PEIR submission, full details of the results of these surveys will be provided in a Technical Appendix to the DCO submission and will be presented in a Habitats Regulations Screening Assessment Report. Should the results of the surveys show that the DCO Site provides functionally linked land for species associated with the Mersey Estuary the impacts to the Estuary will be further assessed with the DCO submission and within a shadow Appropriate Assessment/Habitats Regulations Assessment (HRA). Should such an assessment be required appropriate mitigation would be sought in order to avoid, minimise or compensate for impacts to the Mersey Estuary.

Highfield Moss SSSI

11.283 Highfield Moss SSSI is located directly north of the Proposed Development and is designated for its habitat features including degraded raised bog.

11.284 In any areas where the draft Order Limits might encroach onto the SSSI the habitats present will be retained with no anticipated losses.

11.285 The habitats within the SSSI are sensitive to changes in hydrology and require wet and damp

conditions. A ground investigation was conducted by BWB in 2025 to determine the geological, hydrogeological and hydrological baseline conditions within the DCO Site. The results of the investigation are provided in Chapter 14 of the PEIR. The results showed that the DCO Main Site is unlikely to be in hydrogeological or hydrological connectivity with the DCO Main Site. As such, the Proposed Development is designed to avoid any impact on the hydrological regime of the SSSI and no impact to the designated habitats is expected from the construction of the Proposed Development (including any excavations and drainage within the Main Site and Western Rail Chord during construction). Drainage within the Main Site during construction and operation will drain away from the SSSI towards the east/south-east.

11.286 The proposed oCEMP contains measures that would reduce any potential impacts to the SSSI during construction (such as environmental releases) to an overall **Negligible level of effect at a National Level and is not considered to be significant**.

11.287 The embedded Proposed Development design includes the Highfield Moss Protection Zone, an area of habitat creation which averages around 50m in width along the southern boundary of the SSSI and which buffers the SSSI from the development areas. The width of habitat creation and the embedded design of drainage and other features within is considered sufficient to mitigate any potential environmental release during the Operational Phase of the Development. The embedded design of the Protection Area will also ensure there are no potential significant impacts from noise, and light to the SSSI during the operational phase (although impacts from noise and light would not be expected to change the favourable conservation status of the designated habitats in any case).

11.288 The AQA (Chapter 8 of this PEIR) has determined that air quality impacts to Highfield Moss SSSI are not significant.

11.289 The Proposed Development would involve the closure of the eastern level crossing over the Liverpool and Manchester Railway but maintain a public right of way with a diversion to Winwick Lane to the north of the railway line and returning through the northern habitat corridor within the Main Site. The operational phase of the Proposed Development could lead to an increase in recreational use of public rights of way in the area from employees within the Main Site. The embedded design of the Proposed Development includes the Highfield Moss Protection Zone, northern habitat corridor, eastern habitat corridor, and the pedestrian corridor which all offer recreational opportunities within the Main Site. Although public access to the SSSI will not be restricted and there may be additional pedestrians in the area due to the Proposed Development the increased and more formal recreational opportunities within the Main Site are considered likely to mitigate any increase in numbers of people using the SSSI and any impact would be considered to be of overall **negligible level of effect and not considered to be significant**.

11.290 Overall with the inclusion of embedded mitigation within design potential impacts to the SSSI are expected to be reduced to a **negligible level of effect at a National Level** during the operational phase with no additional mitigation proposed and **not considered to be significant.**

Risley, Holcroft & Chat Mosses NNR

11.291 The NNR includes a number of sites within 10km of the Proposed Development, including Highfield Moss SSSI directly adjacent to the north of the Main Site which is assessed above, and also overlaps with areas designated as part of the Manchester Mosses SAC

11.292 The nearest area is 4.8km to the south-east of the Main Site, given this distance and intervening land-use and habitats it is considered unlikely that the Proposed Development would lead to any impacts on this site or others at greater distance. Overall, given the above assessment for Highfield Moss SSSI and the distance to the other sites included in the NNR the impact to this designated site would be considered to have **negligible effect at the National level at both the construction and operational phases of the Proposed Development and not considered to be significant.**

11.293 However, Holcroft Moss will be subject to further assessment as it is also a SAC and included in local policy (see Section 11.274 - 11.278 above).

Local Wildlife Sites

11.294 The Proposed Development is not anticipated to have any direct impacts on LWSs due to distance from the Proposed Development and intervening land-use.

Habitats

Lowland Deciduous Woodland (Habitat of Principal Importance)

11.295 Approximately 3,655m^2 (0.3655ha) of Lowland deciduous woodland will be lost to the development, located in the area around Moss Pits, a complex of ponds in the central area of the Main Site isolated from other woodland by agricultural land and modified grassland. This habitat is a UK Habitat of Principal Importance (Section 41, NERC Act 2006) and its loss is a material consideration in planning decisions.

11.296 This area of woodland is notable in that it has a number of large and very large mature oak trees (none are considered to be ancient or veteran, though some present with minor decay features), as well as some woodland indicator species, though much of the ground flora at the time of survey was noted to dominated by bramble scrub and ruderal species such as common nettle. The woodland represents a habitat that is atypical of other woodland blocks within the Main Site (being more mature and established).

11.297 It is also noted that this area of woodland is not on the Natural England Priority Woodland Inventory whilst other areas within the Main Site are on the inventory but were surveyed and considered to not meet the criteria for Lowland deciduous woodland. There are many small areas of woodland on the Priority Woodland Inventory within 2km of the DCO Site.

11.298 In the absence of additional mitigation, the loss of this relatively small area of woodland, lacking in ecological connectivity would be considered to be a **minor adverse effect at the National level** (in respect to the habitat being a UK Habitat of Principal Importance) due to the minor magnitude of the impact on a national scale and **would not be considered to be significant**.

11.299 Given the quality and type of habitat present the woodland is also important at the Local level

as part of the network of woodland in the Local area on the priority habitat inventory. The loss of the woodland would be considered to be a ***moderate adverse effect at the Local level and would be considered to be significant at the Local level in the absence of additional mitigation.***

Hedgerows

11.300 All hedgerows at the DCO Site are native and therefore Habitats of Principal Importance under the NERC Act. None of the hedgerows were considered to be important under the Hedgerows Regulations 1997 although many were found to be in good habitat condition using the DEFRA BNG condition assessment criteria. The majority of hedgerows present within the DCO Site will be lost to the Proposed Development.

11.301 Where possible embedded design of habitats within the Proposed Development will retain existing hedgerows and seek to enhance them through additional planting (where appropriate). Exact design for location and nature of hedgerows has not yet been confirmed and is still evolving at the time of writing.

11.302 Retained hedgerows would be protected during construction via appropriate biodiversity protection zones detailed within the oCEMP. As such, construction impacts to retained hedgerows would be considered to have ***negligible effect at both the National (impact to HPI) and the Local Level (Local hedgerow network) and not considered to be a significant effect.***

11.303 As a precautionary approach it is assumed that even with retention of some hedgerows and on-site hedgerow creation there could be a net loss in the length of hedgerow present. Although the specific length of hedgerow loss cannot be completely determined at this stage, in the absence of additional mitigation, it is unlikely that this would constitute more than a ***minor adverse effect at the National (impacts to HPI) and Local Levels (local hedgerow network) and not considered to be a significant effect.*** Additional mitigation will include the creation of hedgerows within the Northern Mitigation Area.

Botanical Species of Interest

Maiden Pink

11.304 A single specimen of maiden pink, a nationally scarce plant, was identified in the area of the Western Rail Chord. Although it is widespread the species has seen declines in numbers and is nationally scarce. The plant is perennial and likely to regrow year on year but is the only individual noted during detailed habitat surveys. It is considered likely that the construction of the Western Rail Chord would lead to the loss of this individual plant and the loss of the species at the DCO Site. It is notable that maiden pink is not listed on Schedule 8 of the WCA 1981 (as amended) and not afforded additional protection from intentional picking or destruction.

11.305 A mitigation strategy for maiden pink will be outlined within the oCEMP and would look to protect individual specimens (if identified) from damage or loss. The measures will include the implementation of BPZs around any identified specimens and should those specimens be unable to be retained, careful removal of the specimen (and if necessary, also soils and

substrate) for translocation or cultivation of plants to be reseeded/translocated. Details of areas/habitats where the species could be translocated to are not confirmed at this time. There is the potential that translocation and cultivation could fail and result in the loss of this species from the Main Site and Western Rail Chord.

11.306 Mitigation will be provided within the embedded oCEMP, however given that there has been only a single specimen of the species identified there remains a risk that measures to protect and retain the species may fail. The loss of an individual specimen of this nationally scarce species and loss of the species from the Main Site and Western Rail Chord is considered to be a ***minor adverse effect at the national level*** due to the minor level of magnitude of the impact and ***which would not be considered to be a significant effect.***

Marsh Gentian

11.307 During consultation with Natural England and Lancashire Wildlife Trust it was stated that some areas of the SSSI (mainly located to the north of the Liverpool to Manchester Railway Line) include specimens of marsh gentian. The plant favours nutrient poor mainly acidic soils over glacial drift, sands and clays with a high-water table.

11.308 The embedded habitat design within the Proposed Development includes areas in the Highfield Moss Protection Zone and the Northern Mitigation Area that will be suitable to support this species and may be suitable for seeding of or translocation of individual marsh gentians. Further discussion with Natural England and Lancashire Wildlife Trust will identify opportunities to harvest seeds or identify opportunities for translocation of plants.

11.309 Although, the species has not been identified within the Main Site and is not a specific species cited for the designation of the SSSI, inclusion of marsh gentians within the wet grassland areas of habitat creation of the Proposed Development will help to conserve the species at the local scale. The magnitude of impact would be considered minor due to the likely low numbers of individual and limited extent and would provide a ***minor beneficial effect*** to a nationally scarce species at the national scale ***which would not be considered to be a significant effect***.

Faunal Species

Bats

Trees

11.310 No roosts within any trees within the Main Site or Western Rail Chord. Some trees with features assessed to be PRF-I (suitable for individual bats) will require a pre-felling check prior to removal. It is considered highly unlikely that any roosts of high conservation value would be identified during pre-fell checks as only common and widespread species have been identified in any significant numbers during bat activity surveys.

11.311 Should any roosts be identified in trees these would be considered most likely to be small or individual transitional or day roosts but which still hold importance for the local bat population with few suitable alternative locations in the immediate locality. The loss of these roosts would be considered to be of ***minor adverse effect to the bat population at a Local***

level in the absence of additional mitigation and which would not be considered to be a significant effect.

11.312 Should a roost be identified in a tree the level of mitigation required would be subject to the nature of the roost such as the number of bats using the roost, the species present, and how the roost is used (e.g. a day roost is less sensitive than a maternity roost). The specifics of mitigation and compensation would be determined by a European Protected Species Mitigation Licence (EPSML) granted by Natural England. Typical mitigation would include precautionary measures to prevent injury to individual bats whilst felling the tree and provision of compensatory artificial roost features (bat boxes) in appropriate locations as close to the lost habitat as possible prior to felling.

Buildings

11.313 Surveys to date have identified a single roost within one (1no.) building within the Main Site, Building B2 the barn at Highfield Farm. The emergence observed included a single common pipistrelle from the eaves of the metal sheet roof. This roost is considered to be a day roost and of low conservation importance at the Local level. Pipistrelle species often have a number of other day roosts available in the wider area and the loss of a single day roost is unlikely to represent the loss of the entirety of roosting opportunities in the area. **The loss of the roost, in the absence of additional mitigation would be considered to be *minor adverse at the Local level* and not significant to the favourable conservation status of the local bat population.**

11.314 However, the loss of any resting place of a bat requires further consideration and licencing under the WCA 1981 (as amended) and a Natural England EPSML will be applied for and will include additional mitigation to compensate for the loss of this roost (see Proposed Additional Mitigation Measures below).

Bat Activity

11.315 Surveys have identified only low or moderate bat activity, localised around the central, northern area of the Main Site (edges of the SSSI, around Highfield Farm, and near to the woodland at Moss Pits). The majority of recorded calls and observations during survey have been of pipistrelle species with low numbers of other bat species considered to be typical of the habitats found at the Main Site.

11.316 No significant commuting features with connectivity have been identified, in particular no commuting features through the Main Site in a southward direction. Habitats along the northern boundary of the Main Site will continue to be provide connectivity within the Proposed Development design. Additional habitat creation embedded in the design will create higher quality connective habitats along the eastern boundary of the Main Site, connecting through the Proposed Development, and along Parkside Road and Link Road.

11.317 Habitats used by bats include foraging on the edge of the SSSI (ditches, grassland, adjacent hedgerows and line of trees), foraging around individual trees and the woodland at Moss Pits, and foraging in the gardens at Highfield Farm. Habitat creation embedded within the Proposed Development design will provide additional opportunities for foraging bats including higher diversity grasslands, scrub, hedgerows, woodland, and attenuation ponds

within the Highfield Moss Protection Zone, and habitats within the green infrastructure corridors in the east and through the central areas of the Main Site.

11.318 During construction the oCEMP will provide measures to reduce impacts to bat commuting and foraging including the use of BPZs to limit or prohibit activities in sensitive areas, measures to reduce disturbance from noise and light, and retention of habitats known to be used by bats (where possible). There will be temporary loss of foraging habitats that will be compensated for during later habitat creation. Overall during construction, with the embedded mitigation of the oCEMP the impact on bat activity is considered likely to be a ***minor adverse effect at the Local level which is not considered to be a significant effect..***

11.319 There will be a temporary impact on the Local level bat population at the construction phase due to the loss of some foraging habitats (likely to be ***minor adverse temporary at the local level***) but which will mitigated by embedded habitat creation. At the operational phase, once habitat creation is established there will be an increase in connective habitats and foraging habitats through the Main Site. Overall the impact to bat activity at the operational phase is considered to be ***minor beneficial in the absence of any additional mitigation at the Local level which is not considered to be a significant effect.***

11.320 Habitat creation in the Northern Mitigation Area will be assessed as additional mitigation.

Badgers

11.321 See Confidential PEIR Appendix 11.4: Badger Report.

Hedgehogs

11.322 Construction impacts to hedgehogs will be managed via the embedded mitigation of the oCEMP and will include precautionary working methods that will protect individual hedgehogs during clearance and construction and impacts during the Construction Phase would be considered to be of ***negligible effect at the local level which is not considered to be a significant effect.***

11.323 Hedgehogs have been historically recorded within the Main Site and within 1km of the Main Site. Hedgehogs are mobile animals and there are suitable opportunities in the wider landscape. Losses of suitable habitat within the Main Site are unlikely to prevent continued breeding and presence of hedgehog in the local area.

11.324 The loss of terrestrial habitats is considered likely to lead to a minor adverse effect at the local level. However, the loss of habitat will be mitigated by the embedded design of habitat creation proposals which will provide suitable high quality terrestrial habitats (grasslands, scrub, woodland and hedgerow). Considering the embedded mitigation, but in the absence of any additional mitigation, the overall impact on hedgehogs during the Operational Phase is considered likely to be a ***negligible effect at the local level which is not considered to be a significant effect***

Birds

Wintering Birds

11.325 The wintering assemblage of farmland birds was considered to be of County level importance. Embedded habitat creation will not target habitats specifically suitable for these species but some areas of grassland creation within the Main Site and Western Rail Chord may have a very small mitigating effect on the loss of agricultural land. In the absence of additional mitigation the loss of agricultural habitat due to the Proposed Development is likely to create a ***moderate adverse effect on wintering farmland birds at the County level and is considered to be a significant effect in the absence of additional mitigation.***

11.326 Additional mitigation will include habitat creation and habitat management within the Northern Mitigation Area and the wider DCO Site suitable for wintering farmland birds.

11.327 The assemblage of wintering generalist bird species (using woodland, scrub, grassland) was considered to be of Local level importance. Although there will be loss of habitat during construction phase the habitat creation within embedded design (within the Main Site and Western Rail Chord and the Northern Mitigation Area) will provide new areas of scrub, wet grassland, grassland, woodland and hedgerow. Overall, without additional mitigation but accounting for embedded habitat creation, there would be some reduction in available habitat, but the impact would be considered to be no more than a ***minor adverse effect on generalist wintering birds species at the Local level and not considered to be significant.***

Breeding Birds

11.328 The breeding assemblage of farmland birds was considered to be of County level importance. In the absence of additional mitigation the loss of agricultural habitat due to the Proposed Development is likely to create a ***moderate adverse effect on breeding farmland birds at the County level and is considered to be a significant effect in the absence of additional mitigation.***

11.329 Additional mitigation will include habitat creation and habitat management within the Northern Mitigation Area and the wider DCO Site suitable for breeding farmland birds.

11.330 The assemblage of breeding generalist bird species (using woodland, scrub, grassland) was considered to be of Local level importance. Although there will be loss of habitat during construction phase the habitat creation within embedded design will provide new areas of scrub, wet grassland, grassland, woodland and hedgerow. Overall, without additional mitigation but accounting for embedded habitat creation, there would be some reduction in available habitat, but the impact would be considered to be no more than a ***minor adverse effect on generalist breeding birds at the Local level and not considered to be significant.***

Passage/Migrating Birds

11.331 Surveys are on-going for Autumn passage/migrating birds and will not be complete at the time of PEIR submission. Surveys to date indicate an autumn passage assemblage and individual species of no more than local level importance. In the absence of mitigation it is considered that there would be a loss of potential foraging habitat for autumn passage birds but given that no significant numbers have (to date) been identified using the DCO Site this is considered likely to be of only ***minor adverse effect at the Local level.***

11.332 Spring passage survey identified meadow pipit to be of County importance. Meadow pipit will

use a range of habitats with preference for farmland, grasslands, heath and moor and wetlands. The loss of habitat to forage on agricultural arable land is likely to be a ***minor adverse effect at the County level (for this individual species) and not considered to be significant*** though additional mitigation for the wider assemblage of wintering and breeding farmland birds would also apply to this species (see Proposed Additional Mitigation Measures below).

HRA Bird Assemblages

11.333 Surveys (as detailed within Appendix 11.5) are still ongoing at the time of publishing PEIR. However, surveys to date indicate that species designated for the Mersey Estuary SPA do not use the DCO Site in sufficient numbers and on a regular basis for the DCO Site to be considered functionally linked land or for the Proposed Development to represent a significant effect on the SPA. As such, unless subsequent survey should provide alternative evidence, it is considered that no Habitat Regulations Assessment (HRA) would be required in relation to the Proposed Development impacts on the Mersey Estuary SPA, any impacts to designated species or assemblages from the Proposed Development would be expected to be negligible.

Barn owls

11.334 A single barn owl was incidentally observed entering the barn (Building B2) at Highfield Farm. A barn owl box is located within the barn.

11.335 Further barn owl survey is required to determine the nature of the use of the barn and box. The survey is not considered to be required for PEIR submission as the confirmation of the presence of barn owls is sufficient to make an assessment of potential impacts. Further survey will be undertaken and will be completed prior to DCO submission and for licencing requirements (if necessary).

11.336 As a WCA 1981 (as amended) Schedule I species, barn owls are afforded additional protection whilst nesting. The worst-case scenario is that barn owls have used and continue to use the barn for breeding and nesting. Demolition of the building has the potential therefore, to impact upon nesting barn owls.

11.337 In the worst case, the demolition of the barn will result in the loss of barn owl breeding habitat, and a Natural England Barn Owl Licence would be sought as additional mitigation and would include measures to protect barn owls during demolition and construction as well as a strategy providing compensation for the loss of breeding habitat (see Proposed Additional Mitigation Measures below).

11.338 The oCEMP will also provide embedded mitigation to protect barn owls during demolition/construction and will include a pre-demolition check of potential nesting/breeding. Should barn owl be present no demolition would be undertaken until the owl/s were no longer within the box/barn. Direct impacts to barn owls ***during construction would be expected to be only a negligible effect and is not considered to be significant*** with the implementation of the embedded oCEMP.

11.339 In the absence of any additional mitigation the loss of barn owl breeding habitat would be considered to be a ***moderate adverse effect at the Local Level and is considered to be a***

significant effect.

11.340 Additional mitigation (if necessary) will include the provision of suitable artificial barn owl nesting habitats (barn owl boxes) with a minimum of at least two (2no.) boxes located as close as possible to the location to be lost.

Amphibians

Great Crested Newt (GCN)

11.341 Two (2no.) ponds within the Main Site tested positive for GCN eDNA. The majority of the Main Site and the area of the ponds are located within a Natural England DLL Area.

11.342 Mitigation for the presence of GCN will be through acquisition of a DLL which would remove the requirement to undertake any traditional mitigation measures and ***as such no additional mitigation for GCN is proposed***. Granting of a DLL would be expected to compensate for any losses of GCN habitats or individual GCN and as such the impacts would be considered to have a ***negligible effect at the District Level and would not be considered to be significant***. The DLL is considered to be embedded mitigation as it would remove the need for additional traditional forms of mitigation such as exclusion fencing, trapping, and translocation.

11.343 Additionally, the embedded mitigation of the oCEMP provides measures to account for unexpected finds of GCN. Although the DLL would mean that no additional mitigation would be required, there is a risk that individual GCN may still be present and could be encountered unexpectedly. Should any GCN be encountered during clearance and construction the Ecological Clerk of Works or a licenced ecologist would be contacted for further advice and the individual GCN/s would be translocated safely and with care into the closest suitable habitat outside of the construction area (likely to be within Highfield Moss SSSI or other suitable created habitat within the Main Site).

11.344 The embedded design of habitat creation will create terrestrial habitats suitable for GCN including wet grassland areas, hedgerows, woodland, and scrub. The proposed SUDS ponds may also provide breeding habitat, but this cannot be guaranteed. Should GCN remain present in the wider landscape the proposals would be expected to provide a ***minor beneficial effect to the GCN population at the Local level which is not considered to be a significant effect.***

Common Toad

11.345 Construction impacts to common toad will be managed via the embedded mitigation of the oCEMP including precautionary working methods that will protect individual toads during clearance and construction and impacts during the Construction Phase would be considered to be of ***negligible effect at the local level which is not considered to be a significant effect.***

11.346 The ponds within the Main Site and Western Rail Chord have not been confirmed to support common toad; however, they have some potential to do so. Toads were recorded incidentally within the area of the Western Rail Chord and records exist on Highfield Moss SSSI directly north. As such, there are opportunities for common toad in the wider landscape and losses of habitat within the Main Site are unlikely to prevent continued breeding and presence of

common toad in the local area.

11.347 The loss of terrestrial habitats and ponds will be mitigated by the embedded design of the habitat creation proposals which will provide suitable high quality terrestrial habitats (wet grasslands, scrub, woodland and hedgerow) as well as potential breeding habitats within SUDS ponds. Considering the embedded mitigation, but in the absence of any additional mitigation, the overall impact on common toad during the Operational Phase is considered likely to be a ***negligible effect at the Local level which is not considered to be a significant effect*.**

Reptiles

Common Lizard

11.348 Biological records indicate that common lizard have been recorded within the Main Site adjacent to Highfield Moss SSSI, and within the adjacent Highfield Moss SSSI. Two (2no.) individual female common lizard were identified during reptile surveys to date, in habitats adjacent to Kenyon Hall Farm Airstrip and Highfield Moss SSSI. No reptiles have been identified in other areas of the Main Site. Surveys are on-going but low numbers of common lizard have already been identified and would be expected to be found in habitats on the Main Site boundary adjacent to Highfield Moss SSSI.

11.349 Construction impacts to common lizard will be managed via the embedded mitigation of the oCEMP with a section provided within the oCEMP dedicated to mitigation for reptiles. Any individual common lizards encountered and able to be captured would be translocated safely to suitable habitat within Highfield Moss SSSI to the north of the Main Site.

11.350 It is anticipated that the embedded design within the oCEMP would reduce the potential impact of ***construction on common lizards to a negligible level of effect at the Local which is not considered to be a significant effect..***

11.351 Embedded habitat design will increase the extent and availability of suitable habitat for common lizard through the creation of wet grassland, scrub, and embankment with basking opportunities within the Highfield Moss Protection Zone. Additionally, enhancement features such as log piles and rock piles would be provided in suitable locations offering refugia and potential hibernation opportunities. These habitats will also have increased habitat suitability for common lizards. Additional habitat enhancement features such as log piles will provide enhancements for common lizards.

11.352 No additional mitigation is proposed for common lizards and the overall impact on this species at the Operational Phase would be expected to be ***minor beneficial at a Local level which is not considered to be a significant effect***.

Invertebrates

Bleeding heart spider

11.353 A single specimen of bleeding heart spider, a nationally scarce species not previously recorded in the county of the DCO Site, was identified on an ornamental shrub within the garden area

of Highfield Farm. The habitat within the garden will be lost to the Proposed Development.

11.354 Embedded mitigation in the form of the oCEMP will provide measures (if possible) to mitigate any impact to individual specimens during vegetation clearance. These measures will be further developed with the entomologist for inclusion in the oCEMP but may include a pre-clearance search of suitable vegetation for specimens of the spider (and possibly spider eggs) that can be translocated to suitable habitats to be retained within or located adjacent to the Main Site. Impacts due to construction would therefore be mitigated as far as possible by the oCEMP and would be expected to be of ***negligible effect at both the National Level (given this is a Nationally Scarce species) and Local Level (given only a single specimen has been identified in the locality) and overall the effects would not be considered to be significant.***

11.355 The embedded habitat creation within the Proposed Development will include habitats suitable to support this species and habitats that will have greater connectivity and diversity. As such, impacts at the operational phase are considered to be ***negligible effect at the National Level (given this is a Nationally Scarce species) but of minor beneficial effect at the Local Level on this species however this may be subject to change and will be confirmed upon completion of ongoing survey and reporting. Overall the effects would not be considered to be significant.***

PROPOSED ADDITIONAL MITIGATION MEASURES

Designated Sites

Highfield Moss SSSI

11.356 Habitat creation within the Northern Mitigation Area has the potential to enhance habitats complementary to those present within Highfield Moss SSSI as well as reducing impacts from agricultural activities and recreation on the SSSI.

11.357 An area of wet grassland with a swale, scrapes, and ponds (partially fed by a proposed drainage ditch) will be created to the east of the northern parcel of the SSSI. This area will provide wetland habitats complementary to those present within the SSSI and in the longer term the ponds would be expected to succeed into wetland fen and bog habitats. The ponds will be designed to have deep areas and lined to ensure that water will be retained and will be present throughout much of the year though some drying may occur. As such, the ponds are expected to be rainwater fed and would not influence the hydrological regime of the SSSI significantly.

11.358 The Northern Mitigation Area will change land management on land directly adjacent to the SSSI and is expected to reduce agricultural inputs from overspray and leached nutrient loads which would improve the habitat condition of habitats present within the SSSI.

11.359 The Northern Mitigation Area will provide opportunities for local amenity use including retaining the existing PRoWs, increasing habitat areas available for use (rather than the existing agricultural land), and providing an area of orchard. These are expected to result in some reduction of recreational use of the SSSI, particularly the main SSSI habitats south of the

railway line.

11.360 The Northern Mitigation area will extend and improve habitat connectivity to and from the SSSI into the area to the north.

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11.361 No additional mitigation measures are proposed.

Habitats

Lowland Mixed Deciduous Woodland

11.362 The loss of a small, isolated area of Lowland Mixed Deciduous Woodland is difficult to compensate for, and it is unlikely that compensation will be possible within the Main Site or Western Rail Chord. However, the Proposed Development is committed to providing a Biodiversity Net Gain of at least 10% and to meet the trading rules of the DEFRA Statutory Biodiversity Metric and additional mitigation of compensatory habitat creation will be provided to meet these obligations within the Northern Mitigation Area (or if required the wider area within the Draft Order Limits).

11.363 The loss of this habitat will be compensated for with the creation of a larger area of Lowland Mixed Deciduous Woodland outside of the Main Site and Western Rail Chord, this is likely to be within land purchased and brought into the draft Order Limits (within the Northern Mitigation Area). The area to be provided will be determined by the requirements of the BNG calculation and trading rules within the DEFRA metric. However, given that the woodland will take time to establish into the proposed habitat type and condition management will also be secured through the implementation of a HMMP which will prescribe management and monitoring for at least 30 years.

11.364 The created woodland would look to establish into a community characteristic of the NVC Community W10 and achieve at least a moderate habitat condition. In addition the created woodland will be designed to provide increased habitat connectivity in the local area. Full details of the compensatory woodland creation will be provided in the separate BIA Technical Appendix 11.2

11.365 The additional compensatory habitat creation would be expected to result in a small increase of in the amount of Lowland Mixed Deciduous Woodland at the National Level but an appreciable increase at the Local Level.

Hedgerows

11.366 Loss of hedgerows will be compensated through hedgerow creation within the DCO Site. There will be a net gain in hedgerows through hedgerow creation as detailed within the BIA (PEIR Appendix 11.2). The establishment of new hedgerows would be secured through the implementation of a HMMP which will prescribe management and monitoring for at least 30 years.

11.367 The additional compensatory habitat creation would be expected to result in a small increase

of in the number of native species rich hedgerows at the National Level. It is considered that there will be an appreciable increase at the Local Level but also additional enhancements to the species richness of hedgerows and habitat connectivity in the wider local landscape.

Botanical Interest

Maiden Pink

11.368 The nationally scarce maiden pink was identified as a single specimen within the Western Rail Chord. Embedded mitigation within the oCEMP will look to retain the species or if not possible remove for translocation or cultivation and translocation of seedlings. It is possible that translocation may not be successful, and the species would be lost from the DCO Site.

11.369 Additional mitigation would include translocation or planting of maiden pink within the DCO Site. Maiden pink seeds and plug plants are also available commercially in the true wild (native UK) form. Additional mitigation will include the propagation or purchase of individual plants and planting within suitable retained habitats within the area of the Western Rail Chord with restricted public access. This species will not tolerate wet conditions in winter and suitable habitat will be designed to accommodate the species within an area of grassland or within open scrub within the Western Rail Chord or Northern Mitigation Area. Replanting would be undertaken on an annual basis until establishment of a viable presence of the species within the habitats created.

11.370 Provisions for ongoing management and monitoring would be included within a HMMP covering at least a 30-year period.

Marsh Gentian

11.371 Similar to the maiden pink (above) seeds and plug plants are also available commercially in the true wild (native UK) form. Additional mitigation will include the propagation or purchase of individual plants and planting within suitable created habitats within the Highfield Moss Protection Zone and areas of the wider draft Order Limits (e.g. Northern Mitigation Area which is outside of the Main Site and Western Rail Chord and outside of the assessment area at this time). Replanting would be undertaken on an annual basis until establishment of a viable presence of the species within the habitats created.

11.372 Provisions for ongoing management and monitoring would be included within a HMMP covering at least a 30 year period.

Faunal Species

Bats

Bat Roosts: Trees

11.373 No bat roosts have been identified trees and no additional mitigation is proposed unless a roost is identified in pre-fell checks. It is considered likely that any roost identified would be a day or transitional roost of relatively low ecological value to the Local bat population as a whole.

11.374 Mitigation for the loss of any roosts identified would be through a EPSML granted by Natural England. The EPSML would determine precautionary measures to protect individual bats from harm when the tree is felled and removed. Compensation would be typically provided through installation of an appropriate number of artificial roost features (bat boxes) in suitable locations as close to the habitat lost as possible.

Bat Roosts: Buildings

11.375 A Natural England EPSML will be sought to allow for the demolition of the barn (Building B2) at Highfield Farm, which will result in the loss of a common pipistrelle roost (likely to be classified as a day roost with a single bat). The licence will detail additional mitigation including appropriate methods to protect any bats that might be present within the building (e.g. timing of works to take place when bats are less likely to be present and works to be supervised by a bat licenced ecologist) as well as a mitigation strategy that will provide suitable compensation for the loss of the roost (usually through the provision of bat boxes nearby). Natural England would be consulted at an early stage and an application filed so as to secure a resolution to grant a licence (letter of comfort) prior to the submission of the DCO application.

Bat Enhancements

11.376 A scheme of artificial bat box provision will be implemented throughout the Main Site. Boxes will be installed on retained mature existing trees and on or within buildings (where possible). The exact number, location and type of boxes will be determined in part by the final results of ongoing bat surveys and by the evolving design of the Proposed Development.

Badgers

11.377 See Confidential Appendix 11.4 Badger Report.

Hedgehogs

11.378 No additional mitigation is proposed for hedgehogs.

Birds

Wintering Birds: Farmland species

11.379 Loss of agricultural land reduces the availability of forage and shelter to farmland birds during the winter.

11.380 Embedded habitat creation may have some small mitigating effects through creation of grassland areas and other foraging habitats within the Main Site.

11.381 Additional mitigation includes the habitat creation within the Northern Mitigation Area specifically targeted to provide additional forage resources for wintering birds. This will include selection of appropriate species to be included within habitats that will provide fruits, nuts and berries suitable for wintering birds including farmland specialists. It is considered that the area and complement of habitats to be provided will be sufficient to mitigate for loss

of wintering bird forage.

Wintering Birds: Generalist species

11.382 A scheme of bird box installation will be provided throughout the Main Site and Western Rail Chord which will allow additional opportunities for wintering generalist species to shelter and as such reduce some impact of habitat losses.

11.383 Habitat creation within the Northern Mitigation Area will provide additional opportunities for foraging and sheltering wintering generalist bird species.

Breeding Birds: Farmland species

11.384 Loss of agricultural land reduces the availability of breeding habitat and forage to farmland birds during the spring/summer breeding season. Embedded habitat creation may have some small mitigating effects through creation of suitable grassland areas within the Main Site but will not be sufficient to account for the large area of agricultural land lost.

11.385 Additional mitigation will include selection of species to be included in habitat creation within the Northern Mitigation Area as well as appropriate management of habitats to provide optimal farmland breeding bird habitats that will in part mitigate for loss of breeding habitats. It is considered that habitats within the Northern Mitigation Area would be of a greater habitat suitability for breeding birds than the baseline habitats that would be lost.

11.386 Further additional habitat management will be undertaken on land within the wider DCO draft Order Limits that will be retained in agricultural cultivation or brought into optimal grassland management allowing for the provision of “skylark plots” or suitable habitats sufficient to provide compensation for loss of breeding habitat.

Breeding Birds: Generalist species

11.387 A scheme of bird box installation will be provided throughout the Main Site and Western Rail Chord which will allow additional opportunities for breeding generalist species to shelter and as such reduce some impact of habitat losses.

11.388 Habitat creation within the Northern Mitigation Area will provide additional opportunities for breeding generalist bird species.

Passage Migratory Birds

11.389 Surveys for autumn passage/migration are ongoing though to date assemblages and species considered to be of only local level importance have been identified. Spring surveys identified only meadow pipit to be of County level importance.

11.390 Mitigation for farmland wintering and breeding birds would also be expected to apply to spring passage migrants and the meadow pipit. Additional habitat creation in the Northern Mitigation Area would provide compensatory shelter and forage opportunities.

Barn Owls

11.391 A pre-demolition check will be conducted to determine whether barn owls are using the barn (Building B2) and the barn owl box within and if so in what capacity. Should barn owls be found to be breeding/nesting, a Natural England Barn Owl Development licence would be sought. Should this be prior to the DCO submission a resolution to grant a licence (letter of comfort) would be sought from Natural England. The licence would provide a specific mitigation strategy to ensure the protection of barn owls during demolition and compensation measures to replace lost breeding habitat (likely to be in the form of barn owl boxes provided on retained mature trees or pole mounted in nearby suitable habitat).

11.392 Should the check determine that barn owls are not nesting or breeding within Building B2 no licencing would be required and measures to protect barn owl would be covered by the embedded mitigation of the oCEMP.

11.393 It is proposed, as enhancement, to provide at least two (2no.) barn owl nesting boxes/features (over and above any required for licencing) which would compensate for and provide additional roosting/nesting habitat for barn owls. These may include barn owl boxes on retained existing trees, pole mounted boxes, or suitable access to void spaces created within proposed structures (as yet to be determined). Consideration will be given to locating boxes as near to the location of the lost habitat as possible, with regard to the location of suitable habitats and also to potential risks to barn owl (such as the M6 motorway and main roads in the vicinity).

11.394 The additional mitigation through licencing would be expected to reduce any potential impacts on nesting barn owls to a negligible level of effect, the additional provision of barn owl boxes (over and above licencing requirements), would be expected to further enhance opportunities for barn owls.

Amphibians

Great crested newt

11.395 No additional mitigation is proposed for great crested newt as a DLL will be sought as embedded mitigation.

Common toad

11.396 No additional mitigation is proposed for common toad. Although habitat creation within the Northern Mitigation Area, although not specifically targeted towards this species, would be expected to provide some additional opportunities and benefits to this species.

Reptiles

Common Lizard

11.397 No additional mitigation is proposed for common lizard. Although habitat creation within the Northern Mitigation Area, not specifically targeted towards this species, would be expected to provide some additional opportunities and benefits to this species.

Invertebrates

Bleeding heart spider

11.398 No additional mitigation is proposed for bleeding heart spider. Although habitat creation within the Northern Mitigation Area, not specifically targeted towards this species, would be expected to provide some additional opportunities and benefits to this species.

RESIDUAL ENVIRONMENTAL EFFECTS

Designated Sites

Manchester Mosses SAC

11.399 The Air Quality Assessment (AQA) and further consultation with Greater Manchester Combined Authority will determine whether any financial contribution is required in regard to Holcroft Moss. The provision of a financial contribution would be expected to be used to improve the SAC and be sufficient to reduce any impacts to a ***residual negligible effect which would not be considered to be significant.***

Mersey Estuary Ramsar/SPA/SSSI

11.400 The Mersey Estuary SPA is over 14km south-west of the DCO Site. Tidally timed bird surveys are still outstanding for assessment of the potential impacts to the Mersey Estuary SPA. However, to date survey results indicate that species designated for the Mersey Estuary do not use the DCO Site in sufficient numbers and on a regular basis for the DCO Site to be considered functionally linked land. As such, unless subsequent surveys show otherwise the ***residual impact to the designated features of the Mersey Estuary impacts as a result of the Proposed Development are considered to be negligible and not significant.*** See also HRA Bird Assemblage below.

Highfield Moss SSSI

11.401 Impacts will be mitigated through embedded design. Additional habitat creation in the Northern Mitigation Area has the potential to provide beneficial impacts to the SSSI.

11.402 It is difficult to quantify any potential benefits to habitats within the SSSI from the additional habitat creation in the Northern Mitigation Area. The existing railway line may limit some of the benefits from reductions in agricultural inputs and runoff. However, it is estimated that the effect of additional mitigation from habitat creation in the Northern Mitigation Area would be at least ***minor beneficial at the National level and not considered to be significant.***

Risley, Holcroft & Chat Mosses NNR

11.403 No additional mitigation is to be provided. Considered to have a ***residual negligible effect at the National level at both the construction and operational phases of the Proposed Development and not considered to be significant.***

Habitats

Lowland Mixed Deciduous Woodland

11.404 Overall the provision of additional compensatory habitat creation is considered to ***reduce impacts in the absence of mitigation to a negligible level of effect at both the National and Local Levels and would not be considered to be significant.***

Hedgerows

11.405 Overall the provision of additional compensatory habitat creation is considered to reduce impacts in the absence of mitigation to a ***residual negligible level of effect at the National Level*** and would be expected to provide a ***residual minor beneficial effect at the Local Level which is not considered to be a significant effect.***

Botanical Interest

Maiden Pink

11.406 Including additional mitigation would eliminate the impact of potentially losing the species from the Main Site and Western Rail Chord and would be considered to provide a ***minor beneficial effect at the National Level*** by securing a viable population of this nationally scarce species within the DCO Site. Although the effect would be beneficial it ***is not considered to be a significant effect*** due to the relatively low magnitude of the impact.

Marsh Gentian

11.407 Including additional mitigation would provide further enhancement for this species which would continue to be a ***minor beneficial effect at the National Level*** by securing a viable population of this nationally scarce species within the Main Site or Northern Mitigation Area. Although the effect would be beneficial it ***is not considered to be a significant effect*** due to the relatively low magnitude of the impact.

Faunal Species

Bats

Bat Roosts: Trees

11.408 No bat roosts have been identified in trees. There exists a small possibility of identifying a roost during pre-felling checks that may require a Natural England EPSML. With the implementation of an EPSML and provision of compensatory features the impact on roosting bats would be expected to be reduced to a ***residual negligible effect which is not considered to be significant at the Local level.***

Bat Roosts: Buildings

11.409 A single low conservation roost will be lost from the barn at Highfield Farm. The implementation of measures detailed in the EPSML would be expected to reduce any impacts to bats roosting in the building to a ***residual negligible level of effect on bats at the Local Level which is not considered to be a significant effect.***

Bat Population: General, including Activity, Foraging and Commuting

11.410 Although habitat creation within the Northern Mitigation Area is not targeted at bats specifically, the habitats created would provide some benefits to bats through increased habitat connectivity, and increases suitable foraging habitats including additional habitats suitable to support invertebrate prey species.

11.411 Provision of bat boxes is seen as an enhancement in roost opportunities within the Main Site and would be expected to provide a ***residual minor beneficial effect to the bat population at the Local Level which is not considered to be a significant effect.***

Badgers

11.412 Provisions as set out in Confidential PEIR Appendix 11.4: Badger Report would be expected to result in a ***residual effect of negligible or at most minor adverse for the badger population at the local level*** and would not be considered to be significant***.***

Hedgehogs

11.413 No additional mitigation is proposed for hedgehogs. Overall there is considered to be a ***residual negligible effect at the local level which is not considered to be a significant effect.***

Birds

Wintering Birds: Farmland species

11.414 Proposed additional mitigation including habitat creation and management within the DCO Site will be provided at a level sufficient to reduce any impact from loss of agricultural forage land ***to a residual effect of at most minor adverse for wintering bird species at the County Level and not considered to be significant.***

Wintering Birds: Generalist species

11.415 Overall with the inclusion of additional habitat creation and management within the DCO Site the impact on generalist wintering bird species is considered likely to remain at a ***residual minor adverse effect at the Local level and not considered to be significant.***

Breeding Birds: Farmland species

11.416 Proposed additional mitigation including habitat creation and management within the DCO Site will be provided at a level sufficient to reduce any impact from loss of agricultural breeding land to a ***residual level of effect of at most minor adverse for breeding bird species at the County Level which is not considered to be a significant effect.***

Breeding Birds: Generalist species

11.417 Overall with the inclusion of additional habitat creation and management within the DCO Site the impact on generalist breeding bird species is considered likely to remain at a ***residual minor adverse effect at the Local level and not considered to be significant.***

Passage Migratory Birds

11.418 With the inclusion of additional mitigation residual **negligible level of effect at the County Level which is not considered to be a significant effect.**

HRA Bird Assemblages

11.419 As per the assessment for the Mersey Estuary SPA/SSSI above. Tidally timed bird surveys are still outstanding for assessment of the potential impacts to the Mersey Estuary SPA. However, to date survey results indicate that species designated for the Mersey Estuary do not use the DCO Site in sufficient numbers and on a regular basis for the DCO Site to be considered functionally linked land. As such, unless subsequent surveys show otherwise the ***residual impact to the designated features of the Mersey Estuary impacts as a result of the Proposed Development are considered to be negligible and not significant.***

Barn Owls

11.420 Mitigation would be provided through licencing should a barn owl nest be present. Enhancements to surrounding habitats and provision of barn owl boxes would be beneficial to the species. Overall there is considered to be a ***residual minor beneficial effect at the Local Level which is not considered to be a significant effect.***

Amphibians

Great crested newt

11.421 No additional mitigation is proposed for great crested newt as a DLL will be sought as embedded mitigation. Further embedded and additional habitat creation, although not specifically targeted at this species, is considered likely to provide incidental benefits to the species in the local area. Overall there is considered to be a ***residual minor beneficial effect to the GCN population at the Local level which is not considered to be a significant effect.***

Common toad

No additional mitigation is proposed for common toad. Overall there is considered to be a ***residual negligible effect at the local level which is not considered to be a significant effect.***

Reptiles

Common Lizard

11.422 No additional mitigation is proposed for common lizard. Overall there is considered to be a ***residual minor beneficial at a Local level which is not considered to be a significant effect***.

Invertebrates

Bleeding heart spider

11.423 No additional mitigation is proposed for bleeding heart spider. Overall there is considered to be a ***residual negligible effect at the National Level (given this is a Nationally Scarce species)***

and would not be considered to be significant.

CUMULATIVE AND IN-COMBINATION EFFECTS

11.424 Table 11.10 provides a description of projects that may lead to cumulative and in-combination effects as a result of the Proposed Development. NSIPs within 10 km, planning allocations within 5 km and planning applications within 2 km of the DCO Main Site and Western Rail Chord or the Proposed Lane Head South Relief Road have been included in the assessment for ecology and biodiversity. The location of the proposed developments included in assessment is shown on Figures 20.3 – 20.6.

Table 11.10 Cumulative Developments

Ref.	Proposed Cumulative / In-combination Developments	Distance from DCO Site	Potential Impacts in Isolation	Potential Cumulative or In-combination Effects
EN060006	Hynet North West Hydrogen Pipeline 125km of underground high pressure steel pipeline with associated user connection spurs, together with a number of Hydrogen Above Ground Installations along the route of the pipeline.	6.7km south of the DCO Main Site.	NSIP at scoping stage for DCO. The pipeline will be underground and as such may present some temporary loss of habitats and disturbance to faunal species but in the longer term habitats would be expected to be restored and operational phase would be expected to have no significant disturbance.	None expected due to the nature of the pipeline development and distance
8EA	Parkside West, Newton-le-Willows Allocated employment land (B2 and B8 uses)	Partly within the Western Rail Chord and directly adjacent to the Western Rail Chord	The future development of this area would result in the loss of areas of woodland, mixed scrub, bramble scrub, and grassland.	In-combination loss of woodland habitat, some listed as Habitat of Principal Importance would be expected to be minor adverse at the local level and not significant. Compensation would be expected via target for 10% BNG. Impacts to habitats after mitigation would likely remain Minor adverse at the Local Level and not significant.

Ref.	Proposed Cumulative / In-combination Developments	Distance from DCO Site	Potential Impacts in Isolation	Potential Cumulative or In-combination Effects
5HS	Land to the West of Winwick Road and East of Wayfarers Drive, Newton-le- Willow Housing allocation for 191 dwellings	Approximately 30m west of the Western Rail Chord, beyond the West Coast Main Line railway and Mill Lane A49	Loss of approximately 6.7ha of arable cropland. This field is somewhat isolated by the adjacent woodland, road, railway and residential developments but could still be used by farmland birds. Some impact to farmland birds through the loss of breeding and wintering habitat might be expected. Recreational impacts to Highfield Moss SSSI are not expected given distance via public footpaths and intervening land-use of railways and the M6 motorway.	In-combination loss of farmland bird habitat would likely increase the effect of the Proposed Development on farmland birds at the **County Level** but not significantly. Likely to remain at minor adverse effect in the absence of mitigation. Off-site compensatory measures for farmland birds would be expected to reduce the impact to a minor adverse effect at the County level which would not consider to be significant.
7HA	Land West of the A49 Mill Lane and to the East of the West Coast Mainline railway line, Newton-le-Willows Housing allocation for 140 dwellings	Approximately 150m south-west of the Western Rail Chord, beyond the A49.	3.72ha of predominately brown-field site with former residential properties adjacent to a school and playing fields with some areas of agricultural grassland/pasture. Buildings on this area may include bat roosts important to the local bat populations. Habitats are limited in	In-combination loss of farmland bird habitat would likely increase the effect of the Proposed Development on farmland birds at the **County Level** but not significantly. Likely to remain at minor adverse effect in the absence of mitigation.

Ref.	Proposed Cumulative / In-combination Developments	Distance from DCO Site	Potential Impacts in Isolation	Potential Cumulative or In-combination Effects
			distinctiveness and connectivity, but some loss of grassland, individual trees and hedgerows would be expected. Recreational impacts to Highfield Moss SSSI are not expected given distance via public footpaths and intervening land-use of railways and the M6 motorway.	Off-site compensatory measures for farmland birds would be expected to reduce the impact to a minor adverse effect at the County level which would not consider to be significant.
4HS	Land East of Newlands Garage (former Vulcan works) and West of the West Coast mainline, Newton-le-Willows Housing allocation for 355 dwellings	Approximately 630m south-west of the Western Rail Chord, beyond A49 and West Coast Main Line	13.51ha of arable agricultural land. Loss of cropland, potential impacts to farmland bird breeding and wintering habitat. Recreational impacts to Highfield Moss SSSI are not expected given distance via public footpaths and intervening land-use of railways and the M6 motorway.	In-combination loss of farmland bird habitat would likely increase the effect of the Proposed Development on farmland birds at the **County Level** but not significantly. Likely to remain at minor adverse effect in the absence of mitigation. Off-site compensatory measures for farmland birds would be expected to reduce the impact to a minor adverse effect at the County level which would not consider to be significant.

Ref.	Proposed Cumulative / In-combination Developments	Distance from DCO Site	Potential Impacts in Isolation	Potential Cumulative or In-combination Effects
JPA 33	Pocket Nook Mixed use with 600 dwellings	Approximately 1.2km north-east of the DCO Main Site. Adjacent to the north of the Proposed Bypass and beyond the A580	Loss of cropland, potential farmland bird breeding and wintering habitat. Potential recreational impact upon Highfield Moss SSSI from walkers and dog exercise. Highfield Moss would be approximately 2km (at the nearest point) via public footpaths. The route would include crossing the A580, Kenyon Lane and Winwick Lane which would be expected to deter a significant proportion of prospective recreational walkers.	In-combination loss of farmland bird habitat would likely increase the effect of the Proposed Development on farmland birds at the **County Level** but not significantly. Likely to remain at minor adverse effect in the absence of mitigation. Off-site compensatory measures for farmland birds would be expected to reduce the impact to a minor adverse effect at the County level which would not consider to be significant. Recreational impacts to Highfield Moss SSSI may be increased in-combination with the Proposed Development, however the increase would be expected to be negligible, and the impact would remain a minor beneficial effect at the national level due to habitat creation within the draft DCO Order Limits.

Ref.	Proposed Cumulative / In-combination Developments	Distance from DCO Site	Potential Impacts in Isolation	Potential Cumulative or In-combination Effects
2ES	Land to the East of M6 Junction 23 (South of Haydock racecourse), Haydock Safeguarded allocated employment land	2.25km north-west of DCO Main Site, beyond the A580. Adjacent to east of proposed highways improvements.	42.31ha predominately arable cropland. Loss of cropland, potential farmland bird breeding and wintering habitat. Safeguarded Land is not allocated for development in the current St Helens Local Plan period up to 2037.	In-combination loss of farmland bird habitat would likely increase the effect of the Proposed Development on farmland birds at the **County Level** but not significantly. Likely to remain at minor adverse effect in the absence of mitigation. Off-site compensatory measures for farmland birds would be expected to reduce the impact to a minor adverse effect at the County level which would not consider to be significant. No other in-combination effects expected due to nature of the development, distance from the Proposed Development and intervening land-use.
4EA	Land South of Penny Lane, Haydock Allocated employment land (B2, B8)	3.15km north-west of the Main DCO Site, beyond the M6 and A580. Adjacent to west of proposed	Relatively small site comprising 2.16ha of predominately agricultural pasture grassland isolated by the M6 to the east, commercial development to the west and north	In-combination effects are not expected due to nature of the development, distance from the Proposed Development and intervening land-use.

Ref.	Proposed Cumulative / In-combination Developments	Distance from DCO Site	Potential Impacts in Isolation	Potential Cumulative or In-combination Effects
		highways improvements.	and the A580 to the south. Some small loss of grassland habitats and potentially hedgerow and ditch habitats.	
5EA	Land to the West of Haydock Industrial Estate, Haydock Allocated employment land (B2, B8)	Approximately 4.7km north-west of the Western Rail Chord.	7.75ha comprising a single field of agricultural cropland, bound by industrial/commercial development to the south. Loss of farmland bird breeding and wintering habitat would be expected to be minor adverse at the County level.	In-combination loss of farmland bird habitat would likely increase the effect of the Proposed Development on farmland birds at the **County Level** but not significantly. Likely to remain at minor adverse effect in the absence of mitigation. Off-site compensatory measures for farmland birds would be expected to reduce the impact to a minor adverse effect at the County level which would not consider to be significant. No other in-combination effects expected due to nature of the development, distance from the Proposed Development and intervening land-use.

Ref.	Proposed Cumulative / In-combination Developments	Distance from DCO Site	Potential Impacts in Isolation	Potential Cumulative or In-combination Effects
6EA	Land West of Millfield Lane, South of Liverpool Road and North of Clipsley Brook, Haydock Allocated employment land (B2, B8)	Approximately 4.8km north-west of the Western Rail Chord.	20.58ha comprising a single large field of agricultural cropland. The A58 is located to the north with further agricultural land beyond. Loss of farmland bird breeding and wintering habitat would be expected to be minor adverse at the County level.	No other in-combination effects expected due to nature of the development, distance from the Proposed Development and intervening land-use.
2HA	Land at Florida Farm (South of A580), Slag Lane, Blackbrook. Housing development of 522 dwellings.	Approximately 5km north-west of the Western Rail Chord	23.19ha cropland isolated by the A580 to the north and the residential area of Haydock to the east, south and west. Given the surrounding land-use the use of the agricultural area by farmland birds would be expected to be somewhat less than more open agricultural habitats though some loss of farmland bird breeding and winter habitat would be expected with impacts likely to be minor adverse at the Local level.	In-combination loss of farmland bird habitat would likely increase the effect of the Proposed Development on farmland birds at the **County Level** but not significantly. Likely to have an in-combination impact of a minor adverse effect at the County Level in the absence of mitigation. Off-site compensatory measures for farmland birds would be expected to reduce the impact to a minor adverse effect at the County level which would not consider to be significant.

Ref.	Proposed Cumulative / In-combination Developments	Distance from DCO Site	Potential Impacts in Isolation	Potential Cumulative or In-combination Effects
				No other in-combination effects expected due to nature of the development, distance from the Proposed Development and intervening land-use.
CS1	P/2023/0341/RES Reserved matters application for access, landscaping and layout for three employment units	Directly adjacent to the south of the Western Rail Chord.	Relates to the southern part of the proposed Parkside Colliery West development allocated as 8EA (see above). The future development of this area would result in the loss of areas of woodland, mixed scrub, bramble scrub, and grassland.	In-combination loss of woodland habitat, some listed as Habitat of Principal Importance would be expected to be minor adverse at the local level and not significant. Compensation would be expected via target for 10% BNG. Impacts to habitats after mitigation would likely remain Minor adverse at the Local Level and not significant.
CS2	P/2024/0419/HYEIA Hybrid application for former Parkside Colliery Phase 2 - comprising site wide earthworks to create development platforms,	Directly adjacent to the east of the Western Rail Chord	Relates to the southern part of the proposed Parkside Colliery West development allocated as 8EA (see above). The future development of this area would result in the loss of areas of	As per allocation 8EA above In-combination loss of woodland habitat, some listed as Habitat of Principal Importance would be expected to be minor adverse at

Ref.	Proposed Cumulative / In-combination Developments	Distance from DCO Site	Potential Impacts in Isolation	Potential Cumulative or In-combination Effects
	details of strategic landscaping, planting, ecological and noise mitigation, drainage and ground works		woodland, mixed scrub, bramble scrub, and grassland.	the local level and not significant. Compensation would be expected via target for 10% BNG. Impacts to habitats after mitigation would likely remain Minor adverse at the Local Level and not significant.
CS3	P/2018/0249/FUL Scheme Single carriageway link road between A49 Winwick Road (WA12 8EF) and A573 Parkside Road	Directly adjacent to the south of the Western Rail Chord	This road scheme has been constructed though is not yet online at the time of assessment. The creation of the road led to the loss of habitats including some agricultural cropland, woodland, mixed scrub, bramble scrub, and grassland habitats.	Cumulative loss of habitats is considered to be Minor adverse at the Local level and not significant
CS4	P/2023/0619/FUL Residential development for 99 residential units	30m west of the Western Rail Chord beyond A49	Associated with an area of agricultural cropland. The proposed development would result in the loss of agricultural cultivated land. This field is somewhat isolated by the adjacent woodland, road,	In-combination loss of farmland bird habitat would likely increase the effect of the Proposed Development on farmland birds at the **County Level** but not significantly. Likely to remain at minor adverse effect in the

Ref.	Proposed Cumulative / In-combination Developments	Distance from DCO Site	Potential Impacts in Isolation	Potential Cumulative or In-combination Effects
			railway and residential developments but could still be used by farmland birds. Some impact to farmland birds through the loss of breeding and wintering habitat might be expected. Recreational impacts to Highfield Moss SSSI are not expected given distance via public footpaths and intervening land-use of railways and the M6 motorway.	absence of mitigation. Off-site compensatory measures for farmland birds would be expected to reduce the impact to a minor adverse effect at the County level which would not consider to be significant.
CS5	A/23/95513/MAJOR Residential development of 236 residential	Approximately 2.18 km from the DCO Main Site and Western Rail Chord. Approximately 620m north-east of the Proposed Bypass	Loss of agricultural grassland/pasture no priority habitats identified.	Loss of habitat in-combination with the proposed development is considered to be only minor adverse at the local level and not significant.
CS6	2023/00204/FULM Residential development of 154 houses	Approximately 780m south-west of the DCO Main Site	Under construction at the time of this assessment. Approximately 6 ha of agricultural cropland has been lost to the	In-combination loss of farmland bird habitat would likely increase the effect of the Proposed Development on farmland birds at the **County Level** but not significantly. Likely to remain at

Ref.	Proposed Cumulative / In-combination Developments	Distance from DCO Site	Potential Impacts in Isolation	Potential Cumulative or In-combination Effects
			development	minor adverse effect in the absence of mitigation. Off-site compensatory measures for farmland birds would be expected to reduce the impact to a minor adverse effect at the County level which would not consider to be significant.
CS7	P/2022/0213/HYBR Scheme comprises of hybrid planning application seeking - full planning permission and permission for demolition in a conservation area for demolition of the public toilet and commercial building in the corner of market square and site preparation works, and - outline planning permission for development of a proposed covered market hall	Approximately 1.66km west of the Western Rail Chord.	No significant natural habitats or features likely to support protected species.	No in-combination effects are expected.
CS8	A/24/98015/MAJOR Construction of a two-	Approximately 2 km north of the DCO Main Site	Limited habitat impacts, loss of some individual trees and scrub on the	No in-combination effects are considered likely given the nature of the proposed development

Ref.	Proposed Cumulative / In-combination Developments	Distance from DCO Site	Potential Impacts in Isolation	Potential Cumulative or In-combination Effects
	platform rail station, including pedestrian lift and bridge with associated works across the railway line and the formal creation of recreation provision in the field south of St Thomas Church of England Primary School, Church Street, Golborne		railway sides. Increased recreational provision on an existing area of modified amenity grassland may have some beneficial effect.	and distance from the DCO Main Site.

11.425 It is anticipated that for all proposed developments considered as part of this cumulative assessment, mitigation measures both embedded as design or within plans, or additional mitigation would be in place to reduce any adverse effects on nature conservation and biodiversity. It is assumed that any adverse effects arising from these developments would be reduced to acceptable levels through appropriate design, with mitigation and compensatory measures where necessary, and in some cases providing biodiversity enhancements.

11.426 On the assumption that each approved or anticipated forthcoming development therefore incorporates appropriate mitigation to reduce its own effects, overall effects will be no greater than any individual effect identified for this Proposed Development and would be unlikely to result in any long-term significant harm for the vast majority of receptors.

11.427 However, a number of the above applications and allocations include the loss of agricultural cropland likely to be used by farmland birds. When considered as a whole the Proposed Development and the applications and allocations would result in the loss of a large area of agricultural cropland in the Local area which would be considered to represent a ***moderate-major adverse effect to farmland breeding birds at the Local level in the absence of mitigation.*** The Proposed Development will be subject to off-site compensation for loss of farmland breeding bird habitat, and it is anticipated that all or the majority of the above applications and allocations would also include compensation for losses of farmland bird habitats. Considering the proposed and likely compensation to be provided the combined cumulative effect is considered to be reduced to a ***minor adverse effect at the Local level and would not be considered to be significant.***

IMPLICATIONS OF CLIMATE CHANGE

11.428 Predicting potential impacts on habitats, species and ecosystems arising from climate change with any certainty is difficult because of the complexity, and dynamic nature of existing relationships between species and their habitats, and the adaptability of some species to general change. This is compounded further by the interaction with climate change of non-climatic processes such as habitat loss and fragmentation, water abstraction, nutrient enrichment and pollution, which reduce the resilience of species and ecosystems

11.429 Increased temperature and changes in precipitation levels have the potential to alter habitats with habitats suited to warm dry conditions advancing northwards and habitats of cooler and wetter conditions retreating northwards. Generally, there will be a consequent adaptation of species associated with those habitats, and species will correspondingly move with this habitat shift. However, loss of some species is likely, particularly when climatic conditions for species become unfavourable irrespective of habitat shift. In terms of overall biodiversity this may not necessarily result in a reduction of biodiversity with new arrivals and subsequent expansion of species adapted to warm conditions. Within the lifetime of the Proposed Development, these effects are unlikely to be discernible at a local level and unlikely to significantly alter the ecological baseline. This is due to the absence (both pre and post development) of habitats on-site that are most at risk from climate change including montane, coastal, peat bog and other wetland habitats and their associated species.

11.430 A key consideration identified as being important to assist the resilience of biodiversity

features to climate change is the development and maintenance of a functional network of linked habitats at a landscape level to aid species movement in response to climate change. This will be achieved at the Site by a variety of means: protection of existing habitats (where possible), enhancement of habitat diversity, and the creation of new habitats to provide habitat corridors and 'stepping stones' between important habitats for species.

11.431 The Proposed Development will result in the loss of areas of woodland within the Main Site and Western Rail Chord. Proposed habitat design within the Main Site and Western Rail Chord will include areas of woody habitat creation (scrub and some areas of woodland planting) although this will not by itself compensate for the loss of woody habitat within the area. As such, areas of woodland and scrub creation are proposed within land to the north that will be brought into the draft Order Limits (and assessed in full for the DCO submission). Further details are provided in the BIA. The overall increase in woody species cover is considered likely to increase carbon sequestration with a subsequent contribution to broader climate change targets.

11.432 The proposed habitat creation and enhancement also provides extensive opportunities for species which are currently represented within the Main Site and Western Rail Chord (with the exception of some farmland bird species) as well as providing opportunities for additional species to colonise. The creation of extensive, connected and robust habitats for a range of species will help negate some negative impacts of climate change in wider locality beyond the boundaries of the DCO Site..

11.433 Existing and proposed ditches and ponds may be susceptible to changes in hydrological regimes due to climate change. Potential increases in summer drought conditions could lead to periodic drying out of ditches, ponds and other wetland features. Where appropriate the design of these features will look to minimise complete drying out and effects of reduced oxygen by creating features of sufficient size and depth.

11.434 Whilst it is recognised that climate change will impact biodiversity including species distributions, migration patterns and life-cycle timing, the effects are complex and interrelated. The HMMP will stipulate that the management of the created / enhanced habitats across the DCO Site are regularly reviewed and adapted to ensure the establishment of healthy robust habitats. For example, newly planted hedgerows and trees may require more or less watering during establishment than standard guidelines advise. In addition, projected changes in rainfall will need to be taken into consideration during the detailed design of attenuation basins to prevent flooding and also to provide water supplies in drought conditions. In a warmer climate the maintenance of aquatic habitats within the Site may become more important for species if natural water sources in the wider landscape become scarcer.

11.435 It is noted that a single specimen of bleeding heart spider *Nigma puella* (a nationally scarce species), was recorded on a bush within the garden area of Highfield Farm within the north-central area of the Main Site. Although the species is widely distributed throughout Europe with records in Ireland, France, Germany and Switzerland, this species is nationally scarce in the UK and its distribution is predominantly within the south and south-east of the England with only a few scattered records within the midlands and north of England. It is considered likely that the presence of this species is due to increasing range due climate change allowing

conditions to be more favourable. This species occurs on low broad-leaved bushes and shrubs within hedgerows and gardens, habitat creation for the Proposed Development will include scrub, hedgerows and shrubs considered to be suitable to support this species in the future.

11.436 The provision and ongoing management of robust connected habitats will provide opportunities for a range of species and allow natural colonisation and changes in distribution to occur. Regular management reviews will be undertaken to ensure resilient habitats and ecosystems on the Main Site and within areas of habitat creation across the DCO Order Limits which will enable species to naturally adapt to climate change. It is therefore not considered that the species or habitats identified on the Main Site are particularly susceptible to the effects of climate change or would be substantially impacted by or vulnerable to such changes.

SUMMARY AND CONCLUSIONS

11.437 The ecology chapter assesses the likely significant effects of the Proposed Development in terms of ecology and nature conservation. The assessment is based on existing information regarding the Site collated through a desk study and a series of habitat and species surveys undertaken by FPCR in 2025, wintering bird surveys undertaken by Tyler Grange in 2023-2025 and invertebrate surveys undertaken by Richard Wilson Ecology Ltd. in 2025.

11.438 The desk study returned several designated sites within the Study Area, including sites of note Manchester Mosses SAC, Mersey Estuary Ramsar/SSSI/SPA, Highfield Moss SSSI and Risley, Holcroft & Chat Moss NNR which are located immediately adjacent to the north of the Main Site. Risley, Holcroft & Chat Moss NNR is designated for its network of moss habitat and includes Highfield Moss SSSI. All of the above sites have been considered within the proposals and mitigation applied where appropriate.

11.439 The habitat surveys established that the majority of the Main Site supported agricultural land with associated hedgerows and mature trees and grassland margins. Other habitats exclusive to the Main Site include modified grassland, Lowland Mixed Deciduous Woodland (Habitat of Principal Importance), and a number of ponds and ditches. Also present is urban development including buildings with roads and hardstanding, an airstrip, and scrap/storage yard. Additional habitats associated with the Western Rail Chord include other neutral grassland, mixed scrub and pockets of other broadleaved woodland.

11.440 Of particular note during the habitat surveys was the presence of Maiden pink *Dianthus deltoides* (a Nationally Scarce plant) and Marsh gentian *Gentiana pneumonanthe* (also Nationally Scarce and protected under the Wildlife and Countryside Act). These plants will be translocated into areas habitat creation resulting in a likely beneficial outcome post development.

11.441 Species of note recorded within the Site during the assessment included;

- A small assemblage of bats are present within the site of which common pipistrelle was the most frequently recorded (which is typical of the habitats present). Activity was localised around the central and northern areas of the Main Site (edges of the SSSI,

around Highfield Farm, and near to the woodland at Moss Pits). To date a single bat roost has also been identified in a building at Highfield Farm. This will be mitigated for through acquisition of a European Protected Species Mitigation Licence (EPSML) granted by Natural England. No trees have been identified to support a bat roost; however tree surveys are currently ongoing.

- No active badger setts have been identified within the Main Site or Western Rail Chord; however, this species is present within the area. The site provides suitable foraging and sett building habitat for this species.

- An assemblage of wintering and breeding bird species (including farmland and generalist species) were identified which were considered to be of County level importance. Mitigation for these species will include embedded habitat creation as well as additional habitat creation and habitat management targeted towards these species within the wider DCO Site as well as provision of bird boxes across the DCO Site.

- A single barn owl was observed entering a barn at Highfield Farm. Further survey work is required to determine the use of the barn and box.

- Two ponds within the Main Site tested positive for GCN eDNA. Mitigation for the presence of GCN will be through acquisition of a District Level Licence.

- Common toad were observed during surveys and will be considered throughout construction with impacts mitigated through the oCEMP.

- A population of common lizards was identified during the reptile surveys in habitats adjacent to Kenyon Hall Farm Airstrip and Highfield Moss SSSI. No reptiles have been identified in other areas of the Main Site. The oCEMP will mitigate impacts during construction. Embedded habitat creation is expected to provide some benefits and additional habitat creation although not targeted to common lizards is expected to provide further benefits.

- Invertebrate assemblages typical of the habitats present have been recorded. However, a single specimen of bleeding heart spider, a nationally scarce species not previously recorded in the County was identified on an ornamental shrub within the garden area of Highfield Farm. Species specific mitigation will be provided for this species within the oCEMP to mitigate for any impacts if possible. Embedded habitat creation will ensure suitable habitats for this species are provided.

11.442 Following review of the ecological baseline, the potential impacts which may arise through the loss of habitats were identified and reviewed, with the aim of, where possible, avoiding potential impacts through alterations to design, layout or working methods and incorporated into the project design.

11.443 The majority of the development is to be located on areas of arable land which are highly disturbed habitats of negligible ecological value. Some loss of hedgerows will occur.

11.444 The design of green infrastructure and habitat creation has considered ecological features and where possible has incorporated design features to compensate for habitat and

ecological service losses, mitigate for impacts to important ecological features, and provide enhancements where possible. The creation of areas of native scrub planting, wildflower and wet grassland habitat, tree planting and Sustainable Drainage Systems (SuDs), which in addition to the enhancement of the retained habitats would be subject to long-term management to maximise their wildlife value. The following would also be prepared:

11.445 An outline Construction Environmental Management Plan (CEMP) which will include:

- adoption of best practice methods in relation to dust control and pollution prevention;
- implementation of a strategy to avoid disturbance to nesting birds, by wherever possible, undertaking vegetation removal or management outside of the breeding season, or where this is not possible, implementing pre-works survey checks by an ecologist;
- implementation of a strategy to avoid harm to common lizard and reptile species;
- implementation of a strategy to avoid harm to badgers (should they be present);
- implementation of a strategy to eradicate invasive species from the DCO Site;
- incorporation of pollution control measures in the Proposed Development sustainable drainage scheme which will reduce any not significant effects concerned with pollution during the operational phase to negligible;
- the creation of appropriate root protection areas.
- the long-term sympathetic management of retained and created habitats would be encompassed within a HMMP for the Proposed Development.
- provision of a sensitive lighting scheme for bats;
- Sustainable Urban Drainage Scheme; and
- bat, bird and hedgehog boxes for increased roosting/nesting opportunity and hibernacula/log piles to create an enhancement for reptile species.

11.446 Much of the habitat creation within the Proposed Development greenspace including the Main Site, Western Rail Chord and Northern Mitigation Area, represents improvement as it is above and beyond the required mitigation and compensation required to avoid significant adverse effects on important ecological features.

11.447 Following the provision of the above measures and once the habitats have matured, there would be **no significant adverse impacts overall**, and long-term beneficial effects at a local level on a number of habitats and species, including native species planting, hedgerows waterbodies, trees, bats, reptiles and for the general breeding bird assemblage. Table 11.11 summarises the topic effects resulting from the Proposed Development.

In conclusion, on the basis of the current evidence (some surveys are still ongoing as

highlighted above), there are no overriding ecological reasons why the Proposed Development could not proceed. All likely significant adverse effects (able to be assessed at the time of PEIR) on habitats and species of ecological interest are considered to be avoided or mitigated either through the design of the Proposed Development, (which also affords ecological enhancements), or where necessary additional proposed mitigation.

Table 11.11 Summary of effects

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Main Site and Western Rail Chord						
Construction Phase						
Manchester Mosses SAC: Holcroft Moss	International	Further assessment ongoing None expected due to distance	None expected	None expected	Further assessment ongoing. Likely negligible	Further assessment ongoing Not significant
Mersey Estuary Ramsar/SPA/SSSI: Designated birds and bird assemblages	International	Further assessment ongoing	Potential to impact "functionally linked land/habitats" associated with designated bird assemblages	Further assessment ongoing	Further assessment ongoing	Further assessment ongoing
Highfield Moss SSSI	National	Negligible/Minor adverse	Environmental releases into SSSI Light disturbance	oCEMP (embedded) Habitat creation (embedded)	Negligible	Not Significant

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
			Beneficial habitat creation increasing connectivity and reductions in external inputs	Sensitive lighting design (Embedded) Habitat creation (Additional in Northern Mitigation Area)		
Risley, Holcroft & Chat Mosses NNR	National	Negligible	None expected	None proposed	Negligible	Not Significant
Lowland Deciduous Woodland: Habitat of Principal Importance	National (HPI) Local (Woodland habitat resource)	Minor (National) Moderate (Local)	Loss of habitat to Proposed Development	Compensatory habitat creation (Additional in Northern Mitigation Area)	Negligible (National and Local)	Not Significant
Hedgerows	National (HPI) Local (Hedgerow network)	Negligible (construction National and Local)	Direct physical damage during construction Loss of small areas for the Proposed Development	oCEMP (Embedded)	Negligible	Not Significant

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Maiden pink: nationally scarce	National	Minor adverse	Loss of single specimen (nationally scarce) to the Proposed Development	Translocation of plants (Additional) Propagation and seeding/planting within habitat creation areas including Northern Mitigation Area if appropriate. (Embedded and Additional)	Minor beneficial	Not Significant
Marsh gentian: nationally scarce	National	Minor beneficial	Beneficial expansion of area colonized increased numbers in local area	Propagation and seeding/planting within habitat creation areas both within embedded design areas of the Main Site and Western Rail Chord and Northern Mitigation Area (Additional/Enhancement)	Minor beneficial	Not Significant
Bat Roosts: Trees	Local	Further assessment ongoing. No roosts identified to date.	Loss of bat roosts if present. Disturbance to bats roosts if present	Mitigation determined through granting of EPSML by Natural England. (Additional) Precautionary measures	Further assessment ongoing	Not Significant

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
				and replacement roost likely if bats found.		
Bat Roosts: Buildings	Local	Minor adverse (Assessment ongoing)	Loss of common pipistrelle day roost from B2 (low conservation value)	Mitigation determined through granting of EPSML by Natural England. (Additional) Precautionary measures and replacement roost likely if bats found.	Minor adverse (Local)	Not Significant
Bats: Activity	Local	Minor adverse	Temporary loss of foraging and commuting habitat Potential light and noise disturbance	oCEMP (Embedded) Sensitive lighting design (Embedded) Habitat creation and increase in connective and foraging habitat through Main Site and Northern Mitigation Area (Embedded and Additional)	Minor adverse	Not Significant

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Badgers (confidential)	Local	Negligible (Minor adverse if badgers found in construction zone during pre commencement checks)	Displacement of badger Temporary loss of foraging and commuting habitat	oCEMP (Embedded) Habitat Creation (Embedded)	Negligible (Local)	Not Significant
Hedgehogs	Local	Negligible	Loss of terrestrial habitat	oCEMP (Embedded) Habitat Creation (Embedded)	Negligible (Local)	Not Significant
Great crested newt	District	Minor adverse	Two ponds positive for GCN eDNA. Loss or disturbance of individuals during clearance. Loss of breeding and foraging habitat.	Acquisition of District Level Licensing (DLL) oCEMP (Embedded) Habitat Creation (Embedded)	Negligible (Local)	Not Significant
Common Toad	Local	Minor adverse	Loss or disturbance of individuals during	oCEMP (Embedded) Habitat Creation including	Negligible (Local)	Not Significant

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
			clearance. Loss of terrestrial and breeding habitat.	Northern Mitigation Area (Embedded and Additional)		
Common Lizard	Local	Minor adverse		oCEMP (Embedded) Habitat Creation (Embedded)	Negligible (Local)	Not Significant
Birds: Wintering (Farmland)	County	Moderate adverse	Loss of agricultural land (breeding habitat) Reduction in available land	oCEMP (Embedded) Habitat Creation including Northern Mitigation Area (Embedded and Additional) Off-site (outside DCO Site) bird mitigation/compensation agreement (Additional).	Minor adverse	Not Significant
Birds: Wintering (Generalist)	Local	Minor adverse	Loss of breeding and foraging habitat	oCEMP (Embedded) Habitat Creation including	Minor adverse	Not Significant

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
				Northern Mitigation Area (Embedded and Additional)		
Birds: Breeding (Farmland)	County	Moderate adverse	Loss of breeding and foraging habitat	oCEMP (Embedded) Habitat Creation including Northern Mitigation Area (Embedded and Additional) Off-site (outside DCO Site) bird mitigation/compensation agreement (Additional).	Minor adverse	Not Significant
Birds: Breeding (Generalist)	Local	Minor adverse	Loss of breeding and foraging habitat	oCEMP (Embedded) Habitat Creation including Northern Mitigation Area (Embedded and Additional)	Minor adverse	Not Significant
Birds: HRA Bird Assemblage	International	Further assessment ongoing	Loss of functionally linked habitat leading to reduction in numbers of important	Further assessment ongoing	Further assessment ongoing	Further assessment ongoing

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
			assemblages of birds			
Barn owls	Local	Further assessment ongoing Likely Negligible	Potential loss of nesting habitat Loss of barn owl roosting habitat	Licencing: mitigation and compensation with barn owl boxes (Additional) Enhancement with Barn owl boxes (Embedded)	Negligible	Not Significant
Invertebrates	Further assessment ongoing Likely Local	Further assessment ongoing Likely Minor adverse	Loss of habitat (agricultural land)	oCEMP (Embedded) Habitat Creation including Northern Mitigation Area (Embedded and Additional)	Future assessment ongoing Likely Minor Adverse	Not Significant
Bleeding Heart Spider: Nationally scarce	National	Further assessment ongoing Likely Minor adverse	Loss of habitat	oCEMP (Embedded) Habitat Creation including Northern Mitigation Area (Embedded and Additional)	Future assessment ongoing Likely Minor Adverse (National)	Not Significant
Operation Phase						

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
Manchester Mosses SAC: Holcroft Moss	International	Further assessment – AQA and consultation	Air quality impact from increased traffic	Financial contribution towards management activities (Additional)	Further assessment – AQA and consultation Negligible	Further assessment ongoing Likely not significant
Mersey Estuary Ramsar/SPA/SSSI: Designated birds and bird assemblages	International	Further assessment ongoing None expected	None expected – impacts at construction stage	Further assessment ongoing None expected	Further assessment ongoing	Further assessment ongoing
Highfield Moss SSSI	National	Minor adverse	Recreational impacts to the SSSI habitats Agricultural inputs of nutrients, chemical overspray etc. Light disturbance Beneficial habitat creation increasing connectivity and reductions in external	Habitat creation (Embedded) Habitat creation in Northern Mitigation Area (Additional) Sensitive lighting design (Embedded)	Some ongoing assessment Likely Minor beneficial	Likely not significant

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
			inputs			
Risley, Holcroft & Chat Mosses NNR	National	Negligible	None expected	None proposed	Negligible	Not Significant
Lowland Deciduous Woodland	National (HPI) Local (Woodland habitat resource)	Minor beneficial (National) Moderate beneficial (Local)	No adverse expected – impacts at construction stage Beneficial impacts from woodland creation in Northern Mitigation Area and other areas of draft Order Limits	Habitat Creation in Northern Mitigation Area (Additional)	Negligible (National and Local)	Not Significant
Hedgerows	National (HPI)	Negligible (National) Minor Beneficial	No adverse expected – impacts at construction stage	Habitat Creation in Northern Mitigation Area (Additional)	Negligible (National) Minor Beneficial	Not significant

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
	Local (Hedgerow network)	(Local)	Beneficial impacts from hedgerow creation in Northern Mitigation Area and other areas of draft Order Limits		(Local)	
Maiden pink	National	None expected	None expected – impacts at construction stage.	None proposed at operational	Minor beneficial	Not Significant
Marsh gentian	National	Minor beneficial	Additional beneficial expansion of area colonized increased numbers in local area	Propagation and seeding/planting within habitat creation areas in Northern Mitigation Area (Additional)	Minor beneficial	Not Significant
Bat Roosts: Trees	Local	Further assessment ongoing Likely negligible (no roosts) Minor Adverse (if	Light disturbance	Sensitive lighting design (Embedded) Habitat creation in Main Site and Northern Mitigation Area (Embedded and	Further assessment ongoing Likely Negligible (Local)	Not Significant

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
		roosts present)		Additional) Provision of additional roost features (bat boxes)		
Bat Roosts: Buildings	Local	None expected	None expected (impacts during construction)	EPSML at construction stage. Provision of additional roost features. (Additional/Enhancement)	Further assessment ongoing Likely Negligible (Local)	Not Significant
Bats: Activity	Local	Negligible	Light disturbance Beneficial impacts from hedgerow and habitat creation to improve connectivity and foraging habitat	Sensitive lighting design (Embedded) Habitat creation in Main Site and Northern Mitigation Area (Embedded and Additional)	Further Assessment ongoing Likely Minor beneficial (Local)	Not Significant
Badgers (confidential)	Local	Negligible (Minor adverse if badgers found in construction	Disturbance to existing setts.	Habitat creation in Main Site and Northern Mitigation Area (Embedded and	Minor Adverse (Local)	Not Significant

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
		zone during pre-commencement checks)		Additional)		
Hedgehogs	Local	None expected	None expected – impacts at construction stage	Habitat Creation including Northern Mitigation Area (Embedded and Additional) Provision of hedgehog boxes (Additional/Enhancement)	Negligible (Local)	Not Significant
Great crested newt	Local	None expected	None expected – impacts at construction stage	DLL at construction stage	Minor beneficial (Local)	Not Significant
Common Toad	Local	None expected	None expected – impacts at construction stage	Habitat Creation including Northern Mitigation Area (Embedded and Additional)	Negligible (Local)	Not Significant
Common Lizard	Local	None expected	None expected – impacts at construction stage	Habitat Creation including Northern Mitigation Area (Embedded and	Minor beneficial (Local)	Not Significant

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
				Additional)		
Birds: Wintering (Farmland)	County	None expected – impacts at construction stage.	None expected – impacts at construction stage	Off-Site mitigation provided (Additonal)	Negligible (County)	Not Significant
Birds: Wintering (Generalist)	Local	Minor adverse	Reduction in suitable habitat.	Habitat Creation including Northern Mitigation Area (Embedded and Additional) Enhancement – bird boxes provided across the Proposed Development	Minor adverse (Local)	Not Significant
Birds: Breeding (Farmland)	County	Minor adverse	Reduction in available habitat	Off-Site mitigation provided (Additional)	Negligible (County)	Not Significant
Birds: Breeding (Generalist)	Local	Minor adverse	General disturbance and loss of habitat Beneficial effect from bird boxes	Habitat Creation including Northern Mitigation Area (Embedded and Additional) Enhancement – bird	Minor Adverse (Local)	Not Significant

Receptor	Receptor sensitivity	Magnitude of effect	Description of potential impact	Proposed mitigation	Residual effect	Significant / not significant
				boxes provided across the Proposed Development		
Barn owls	Local	Further assessment ongoing None expected	None expected – impacts at construction stage	None expected Barn owl box provided if required.	Minor beneficial (Local)	Not Significant
Invertebrates	Local	Assessment ongoing Likely - None expected	None expected – impacts at construction stage	Habitat creation including Northern Mitigation Area (Embedded and Additional)	Assessment ongoing. Likely Minor adverse (Local)	Not Significant
Bleeding Heart Spider: Nationally scarce	National	Assessment ongoing. Likely - None expected	None expected – impacts at construction stage	Species targeted habitat creation within DCO site including Northern Mitigation Area (Embedded and Additional)	Assessment ongoing. Likely Negligible (National) Minor beneficial (Local)	Not Significant