

7. Ecology and Nature Conservation

7.1. Introduction

- 7.1.1. This Environmental Statement ("ES") has been prepared on behalf of Taylor Wimpey UK Limited (the "Applicant") in support of a planning application for a residential development (the "Proposed Development") on land at Fox Bank, Halsnead Garden Village, Phase 3, Knowsley (the "Application Site" or "Site").
- 7.1.2. This chapter has been written by The Environment Partnership Limited (TEP), with the purpose of assessing the likely significant effects of the Proposed Development on the environment in terms of ecology, arboriculture and nature conservation.
- 7.1.3. This chapter is supported by the following appendices and/or figures:
- **Appendix 7.1** Desk Study
 - **Appendix 7.2** Phase 1 Habitat Survey & Target Notes
 - **Appendix 7.3** Amphibian Survey
 - **Appendix 7.4** Bat Survey
 - **Appendix 7.5** Arboricultural Impact Assessment (AIA)
 - **Figure 7.1:** Phase 1 Habitat Survey;
 - **Figure 7.2:** Pond Location Plan and eDNA Results
 - **Figure 7.3:** Bat Transect Route and Static Detector Locations
 - **Figure 7.4:** Bat Transect Results – Visit 1
 - **Figure 7.5:** Bat Transect Results – Visit 2
 - **Figure 7.6:** Bat Transect Results – Visit 3
 - **Figure 7.7:** Tree Constraints Plan
 - **Figure 7.8:** Tree Works Plan (Known Effects)
 - **Figure 7.9:** Arboricultural Method Statement Heads of Terms Plan (Known Effects)
- 7.1.4. This chapter, and its associated appendices, is intended to be read as part of the wider Environmental Statement (ES) with particular reference to the introductory chapters (Chapter 1 to Chapter 4), as well as to Chapter 6 – Landscape & Visual and Chapter 12 – Water Resources.

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7.2. Assessment Approach

Survey Methodology

- 7.2.1. The following ecological surveys were undertaken in 2024 and 2025 to provide current ecological baseline data for the Application Site and immediate surrounds. Further details on the survey methods can be found within **Appendices 7.1–7.5**

Study Area

- 7.2.2. To inform the scope of the assessment, consideration has been given to the 'zones of influence' (ZOI) of the Proposed Development relevant to the identified ecological features. To identify the ZOI, consideration was given to potential direct and indirect impacts that may occur during the lifespan of the Proposed Development, including disturbance associated with artificial lighting, recreational activities of residents of the Proposed Development and any indirect hydrological impacts. Consideration was also given to conservation objectives of designated sites. The Study Area and ZOI vary depending on the level of designation, protected species required buffers and the requirements for priority species and habitats. Specific ZOIs are set out in **Appendices 7.1–7.5**.

Desk Study

- 7.2.3. A desktop study was originally undertaken in August 2024, and updated in January 2025, which comprised the gathering of records of information pertaining to protected and notable species and habitats and designated nature conservation sites from the local biological records centre (Merseyside Biobank) and from free online resources including the MAGIC (Multi-Agency Geographic Information for the Countryside) database. In order to gain adequate information on protected species records and local designations, information was requested from within a 2km buffer of the Site boundary. This search buffer was extended up to 10km for international designated sites and 5km for national designated sites. This is based on the ecological importance of the features and the radius at which it is considered an effect on these features could potentially occur. The desktop survey data is included within **Appendix 7.1**.

Limitations

- 7.2.4. Species records can provide a useful indication of the species present within the search area, although the absence of a given species from the dataset cannot be taken to represent actual absence.

Extended Phase 1 Habitat Survey

- 7.2.5. An extended Phase 1 habitat assessment of the Site was initially undertaken on 11th June 2024, and an updated walkover undertaken on 8th December 2025. All surveys were completed by experienced botanists, qualified as either Level 3 or Level 4 under the Field Identification Skills Certificate scheme (FISC). The methods employed were in accordance with the standard method set out in the Handbook for Phase 1 habitat survey JNCC (2010)¹ and the CIEEM

¹ JNCC (2010). Handbook for Phase 1 habitat survey – a technique for environmental audit. Joint Nature Conservation Committee, Peterborough.

Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017)². The survey included habitat assessments for protected and S41 priority species. The Phase 1 Habitat report is included at **Appendix 7.2**.

Limitations

- 7.2.6. No limitations to the Phase 1 survey were experienced. The initial survey was undertaken during the optimum survey season (mid-April to mid-October) and access was possible to all parts of the Site.

Amphibian Survey

- 7.2.7. The Amphibian Survey Report is included at **Appendix 7.3**. There are no ponds within the Site boundary and seven ponds within 250m of the Site (P2, P5, P10, P12, P13, P17 and P18). Within 250m of the Site boundaries, access was granted to survey all ponds, however it was found that ponds P2, P12, P13 and P17 were dry at the time of survey and so not suitable for further survey. **Figure 7.2** illustrates the location of these ponds and those within survey scope. It was found at the time of survey that ponds P5 and P10 are joined and so for the purposes of this assessment they have been combined and will be referred to as P5.
- 7.2.8. A review of mapping and satellite imagery identifies the M62 (south of the Site) as a barrier for amphibian dispersal and therefore any ponds south were discounted from the scope of surveys. Ponds within the 250 – 500m buffer were also included for survey. Eight ponds are present within this buffer (P1, P9, P14, P15, P16, P19, P23, P24). Of these ponds, six ponds were granted access by the landowners (with the exception of P9 and P14), but of these six a further two were confirmed unsuitable for survey. P1 is a SUDs pond and was dry at the time of survey and so considered unsuitable for amphibians; and P24 was dry at the time of survey.
- 7.2.9. In summary for all ponds within 500m of the Site, six ponds were found to be dry at the time of survey and therefore discounted from further survey (P1, P2, P12, P13, P17, P24); two ponds were not granted access to by landowners and so were not surveyed (P9 and P14) and; a total of six ponds were carried forward for further survey, as outlined below (P5, P15, P16, P18, P19 and P23).

Amphibian Survey – Habitat Suitability Index (HSI) Assessment

- 7.2.10. A GCN HSI assessment was carried out at the six off-Site ponds (P5, P15, P16, P18, P19 and P23) on 18th June 2024. The HSI index, based on Oldham et al. (2000)³ includes ten parameters and derives a score between 0 (unsuitable) to 1 (optimal) reflecting the suitability of the pond for breeding by GCN. HSI assessment is not a substitute for population surveys but can be a useful guide to indicate where GCN are likely to be present.

Amphibian Survey – GCN Presence/ Absence Surveys

- 7.2.11. Presence/ likely absence surveys for great crested newt (GCN) were undertaken at the six off-Site ponds located within 500m, with no dispersal barriers or access restrictions (P5, P15, P16,

² CIEEM (2017). Guidelines for Preliminary Ecological Appraisal (2nd edition, December 2017). Chartered Institute of Ecology and Environmental Management,

³ Oldham, R. S., Keeble, J., Swan, M. J. S. & Jeffcote, M. (2000) Evaluating the Suitability of Habitat for the Great Crested Newt (*Triturus cristatus*). The Herpetological Journal 10(4): 143 – 155

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P18, P19 and P23). The survey involved an Environmental DNA (eDNA) test undertaken by TEP on 18th June 2024. Sample kits and analysis was provided by ADAS.

Limitations

- 7.2.12. There were no limitations to the HSI or eDNA surveys encountered.

Bat Survey – Preliminary ground-level roost assessment of Trees

- 7.2.13. A preliminary ground-level roost assessment of trees within the Site was undertaken during the extended Phase 1 habitat survey on 11th June 2024, with an updated walkover undertaken on 8th December 2025, to identify any trees with potential bat roost habitat suitability. This survey was completed by TEP ecologists and trees were categorised with reference to the BCT Guidelines (Collins, 2023⁴).

Limitations

- 7.2.14. Optimal conditions for ground-level roost assessment of trees are often when trees are not in leaf, thus allowing optimal visibility of potential roost features (PRFs). However, due to the moderate size and relatively young age of the trees present within the Site, this was not considered a constraint as visibility was not impaired by foliage abundance.

Bat Survey – Night-time Bat Walkover and Static Monitoring

- 7.2.15. The Bat Activity Survey Report is included at **Appendix 7.4**. Bat activity surveys were undertaken seasonally throughout 2024, with three surveys undertaken in early June, August, and October.
- 7.2.16. Three walked NBW's have been completed across the Site in June, August and October. These comprised dusk visits. **Figure 7.3** illustrates the pre-defined walking routes walked on each survey visit.
- 7.2.17. Static remote monitoring bat detectors (Anabat Express, set to night mode) were deployed at one fixed location within the Site, commencing in June 2024 and deployed seasonally (August and October). The locations are described at **Figure 7.3**.

Limitations

- 7.2.18. It should be noted that as part of this survey the Phase 3 Site area was surveyed alongside another phase which is not being brought forward as part of this application. **Appendix 7.4** has been written to include assessment of both phase areas as surveys were undertaken alongside each other. However, the results pertaining to the other phase have been omitted from **Figures 7.4–7.6** and assessment pertinent solely to Phase 3 will be made within this Chapter.
- 7.2.19. The first survey was undertaken in early June, rather than May (Spring in line with the BCT 2023 Bat survey Guidelines), due to access issues and late commissioning. However, it is considered that the survey conditions are optimal at this time and similar to those that would be expected in May (Spring). Therefore bat activity levels recorded during the June survey are anticipated to be the same or similar to the expected activity levels during a May (Spring) survey. Sampling

⁴ Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn). The Bat Conservation Trust, London.

therefore likely reflects typical bat activity, and the seasonality is therefore not considered a constraint to the survey.

- 7.2.20. Some constraints regarding weather, moon illuminance and low activity levels were observed during the static monitoring periods. These are further detailed in **Appendix 7.3**. However, it was concluded that overall, any data loss as a result of the listed conditions represents only a small proportion of the overall survey effort and does not significantly impair confidence in the interpretation of the baseline data and is therefore not considered a constraint to the survey.

Tree Survey

- 7.2.21. An Arboricultural Impact Assessment (AIA) was undertaken on the Site in February 2026. Trees were assessed in accordance BS 5837:2012: Trees in relation to design, demolition and construction – Recommendations⁵. A schedule of all trees and tree groups including data on species, condition, age, management recommendations and BS 5837:2012 quality categories were compiled during the survey. A summary of the quality criteria for each category is provided in **Table 7.1**, further details can be found in the Arboricultural Impact Assessment (AIA) provided at **Appendix 7.5**.

Table 7.1: Summary of BS5837:2012 Tree Quality Categorisation Criteria

Tree Category	Description
Category A	Trees of high value including those that are particularly good examples of their species and/or those that have visual importance or significant conservation or other value
Category B	Trees of moderate value including those that do not qualify as Category A due to impaired condition and/or those that collectively have higher value than they would as individuals; also trees with material conservation or other value.
Category C	Trees of low value including those with very limited merit or impaired condition; trees offering transient or temporary landscape benefits.
Category U	Trees with irremediable defects and anticipated early loss due to collapse; dead trees or those in immediate decline and those with infectious pathogens that threaten other trees.

Limitations

- 7.2.22. No limitations to the AIA were experienced with access was possible to all parts of the Site.

Assessment Methodology

- 7.2.23. The assessment within this Chapter will be carried out with due consideration of the CIEEM Guidelines for EclA (2018)⁶. The guidelines provide a robust framework for EclA, which is then informed by the interpretation of contextual information and professional judgement. A

⁵ British Standards Institution (BSI) (2012). BS 5837:2012 – Trees in relation to design, demolition and construction. Recommendations. British Standards Institution, London.

⁶ CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management

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narrative description of each ecological feature and the predicted effects of the Proposed Development are provided to allow the decision-maker to reach a more fully informed decision.

Valuing Ecological Features

- 7.2.24. The CIEEM EcIA guidance (2018) confirms that detailed assessment of ecological features that are '*widespread, unthreatened and resilient to project impacts*' is not necessary. It is therefore necessary to determine which ecological features are sufficiently important (and potentially affected by the Proposed Development). Decisions on relative importance will be outlined in the assessment and consider quality, extent, rarity (including local rarity) and threats or declines of a feature. Relevant statutory and non-statutory designations, legislation and policies will be taken account of, although not all populations of legally protected species show the same rarity, so contextual information is vital. Importance could also relate to the supportive function of the feature (i.e. providing a buffer, connections or opportunities for expansion / climate change resilience of a neighbouring feature).
- 7.2.25. The importance of a feature is identified within a defined geographical context, the scales relevant to the Proposed Development and its ecological features are presented in **Table 7.2** below. These criteria provide a starting point for the assessment but specific site conditions together with information on the local and wider context may result in different criteria being applied.

Table 7.2 Evaluation of Ecological Features

Level of Importance	Example
International and European	Designated or proposed/candidate Special Areas for Conservation (SAC), Special Protection Areas (SPA) and Ramsar Sites and their qualifying features, some of which may depend on land outside the designation boundaries. Candidate or proposed designations are treated as of equal value to fully designated sites. These are known as National Sites Network sites. Under the NPPF, land that is set aside as compensation for adverse effects of Proposed Development on European Sites should also be regarded as of European value. Species populations or habitat areas (such as those listed in Annex I, II or IV of the Habitats Directive or Annex I of the Birds Directive) of international importance due to relative size, rarity or quality of the feature.
National	Designated or proposed SSSIs, NNRs and their qualifying features, some of which may depend on land outside the designation boundaries. A viable area of ancient semi-natural woodland (ASNW). Species populations or habitat areas (including legal protected or NERC Act S41 species or habitats) of national importance due to relative size, rarity or quality of the feature.

County i.e. valued at Merseyside Level	Designated or proposed Grade A Sites of Biological Importance (SBI) and their qualifying features where they occur within the designation boundaries. 'Important' hedgerows (as described under the Hedgerows Regulations 1997)⁷ where these occur as an extensive network. Species populations or habitat areas (including legally protected or NERC Act S41⁸) or Nationally Scarce species or habitats of district or county importance due to relative size, rarity or quality of the feature. Sites should comfortably exceed LWS criteria, but not meet SSSI selection criteria.
Local – i.e. valued at Local Authority level	Designated or proposed Grade B or C Local Wildlife Site (LWS) and their qualifying features where they occur within the designation boundaries. LNR unless also designated at a higher level, and other nature conservation designations (under local planning policies). Green infrastructure designations where these contribute to local landscape connectivity and/or buffer other ecological features valued at least this geographic scale. Species populations or habitat areas (including legally protected or NERC Act S41 species or habitats) of local importance due to relative size or quality. Features that appreciably enrich the local ecological resource, although these may themselves be common and widespread, such as long-established hedgerows, woodlands and ponds.
Immediate Zone of Influence	Species populations or habitat areas of value within the immediate ZoI, usually identified within or immediate to the Site (including legally protected species or habitats).
Negligible	Habitats of little or no ecological value or function e.g. densely urbanised environments, amenity grassland, hardstanding etc. Species which are unlikely to be present on the Site.

Characterisation of Impact

- 7.2.26. Although not necessary, it is good practice to describe potential impacts without and with mitigation. The proposals may result in multiple potential impacts on an important ecological feature. The CIEEM approach requires that only those that are likely to occur and have Significant impacts need be assessed, although a precautionary approach to scoping

⁷ The Hedgerows Regulations 1997 (SI 1997/1160). Hedgerows Regulations 1997: protection of important countryside hedgerows.

⁸ Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006

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potential impacts is recommended. The following characteristics are used to describe impacts (not all may be relevant in all cases):

- Positive or negative;
- Extent;
- Magnitude;
- Duration;
- Timing;
- Frequency; and
- Reversibility.

Likelihood of Effect

7.2.27. The following four-point scale has been used to express the degree of confidence in the prediction of impact significance, for residual impacts this scale will also indicate the reliability of mitigation proposals:

- Certain / near certain;
- Probable;
- Possible; and
- Extremely unlikely.
- *Temporal Duration and Reversibility of Effect*

7.2.28. The duration of effect refers to the period required for a given feature to return to baseline conditions (in contrast to the duration of impact which refers to the period of causative action). For example, the duration of habitat loss is the period that the habitat type, grassland, hedgerows, woodland and so forth take to re-establish a condition comparable to that of the baseline. The duration of the effect has been assessed as either 'short-term', 'medium-term' or 'long-term'. Short-term is considered to be up to 0 – 5 years, medium-term is considered to be between 5 and 10 years and long-term is considered to be greater than 10 years.

Assessment of Significance Criteria

7.2.29. Once an impact has been described it is necessary to determine if the effect is 'Significant'. In the context of CIEEM EclA guidance, a Significant effect is one that either supports or undermines biodiversity conservation objectives for '*important ecological features*'. This can include impacts on the structure and function of Sites and habitats or the conservation status of habitats and species (i.e. whether or not the impact alters the extent, distribution or abundance of the feature). The decision on significance is made irrespective of the geographical scale of importance of the feature; if an effect is found not to be Significant at the level at which the receptor has been valued, it may be Significant at a more local level. A Significant negative effect is not necessarily one that would make the proposals unacceptable.

- 7.2.30. At this stage, to provide continuity with other Chapters, it is proposed to transpose the significance derived following CIEEM guidelines into the more traditional levels of significance seen in EIA based on the character of the remaining effects. **Table 7.3** shows how this will be achieved. The traditional description of significance will be shown in brackets after the CIEEM description of significance.

Table 7.3 Translation of CIEEM guidelines output to matrix output for significance

Scale of significance following CIEEM guidelines	Equivalent significance using the matrix approach
International, national	Major (adverse or beneficial)
County	Moderate (adverse or beneficial)
Local	Minor (adverse or beneficial)
Neighbourhood or Not Significant	Negligible

Consideration of Climate Change

- 7.2.31. European guidance requires that EIA considers the effects of projects on climate change and on biodiversity. The European Commission (EC) guidance indicates that impacts which are only likely to be experienced in the next 20 years should be based on current weather patterns or near-future projections if available and relevant. Beyond 20 years, identified potential impacts associated with operation of the Proposed Development may need to consider the projected climate. This has been taken into account in the assessment of operational effects.

Cumulative Effects

- 7.2.32. Cumulative effects can be generated at the construction stage if the Sites are in close proximity and construction periods are likely to overlap. However, most construction projects employ regulatory controls and good practice to minimise impacts occurring outside the Site boundary. It is assumed that standard best practice measures have been or will be employed on each cumulative development Site.
- 7.2.33. The effects of cumulative operational impacts can be varied and will depend on the scale, nature and processes / activities of the Proposed Development, the location of sensitive receptors, the surrounding developments and the immediate environs. The cumulative assessment assumes that the mitigation measures proposed throughout this ES will be or have been implemented.
- 7.2.34. Where possible, quantification of effects has been presented but where quantification has not been possible, the assessments have been made using professional opinion. Where detailed information about the additional schemes was uncertain or unavailable, reasonable but cautious assumptions have been made.

Legislative and Policy Framework

- 7.2.35. This section identifies the legislation and planning policies relevant to the ecological impact assessment of the Proposed Development.

International Legislation & Agreements

- 7.2.36. The key international legislation and agreements of relevance to nature conservation are summarised as follows:

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- Convention on Biological Diversity (CBD), which aims to prevent the further loss of biodiversity whilst using its components sustainably and sharing benefits equitably⁹;
- Bern Convention which aims to protect species and habitats of European importance¹⁰;
- Conservation of Populations of European Bats ('EUROBATS')¹¹;
- Directive 2009/147/EC on the Conservation of Wild Birds (Birds Directive)¹²; and
- Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive)¹³.

National Legislation

7.2.37. The principal national statutes relating to ecology and the Proposed Development are summarised as follows:

- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (the 2019 Regulations).
- The Wildlife & Countryside Act 1981 (as amended) conveys protection to certain native animals and plants and controls the release of certain non-native species.
- The Countryside & Rights of Way Act 2000 extends the protection of certain species in the Wildlife & Countryside Act to include reckless acts (i.e. not just intentional acts). Part III requires that government departments have regard for the conservation of biodiversity, something that is extended by the NERC Act 2000.
- The Natural Environment and Rural Communities (NERC) Act 2006 requires planning authorities to consider impacts on "species of principal importance for the conservation of biodiversity" when determining planning applications. Section 40 of the act has been amended by section 102 of the Environment Act 2021 with "the general biodiversity objective" being the conservation and enhancement of biodiversity in England through the exercise of functions. Section 41 (S41) provides for the establishment of a list of habitats and species considered to be of "principal importance for the purposes of conserving or enhancing biodiversity" and for which biodiversity conservation should be prioritised, irrespective of whether they are covered by other legislation.
- The Environment Act 2021 establishes the post-EU legislative framework for environmental protection in England, introducing legally binding environmental targets, environmental principles, mandatory 10% Biodiversity Net Gain for most developments, and strengthened environmental governance through the Office for Environmental

⁹ Convention on Biological Diversity, Rio de Janeiro, June 1992 <https://www.cbd.int/>

¹⁰ Convention on the Conservation of European Wildlife and Natural Habitats. Bern, 1979 <https://www.coe.int/>

¹¹ Agreement on the Conservation of Populations of European Bats <https://www.eurobats.org/>

¹² The Birds Directive https://environment.ec.europa.eu/topics/nature-and-biodiversity/birds-directive_en

¹³ The habitats Directive https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive_en

Protection, all of which are relevant to the assessment and mitigation of environmental effects within the EIA process.

- The Hedgerows Regulations 1997 provide protection to 'important' hedgerows from being uprooted or destroyed. Importance is determined based on criteria covering adjacent land use, age, historic value, and ecological value.
- The Protection of Badgers Act 1992 provides protection of badgers from killing, injury and certain acts of cruelty and protection of setts from damage, obstruction, or destruction.

National Policy

7.2.38. National Planning Policy Framework (NPPF)¹⁴ sets out the Government's planning policies for England and how these should be applied.

7.2.39. The NPPF Chapter 15: Conserving and Enhancing the Natural Environment (paragraphs 180 – 188) identifies the importance the Government places on development enhancing the natural environment by protecting and enhancing valued landscapes, geological conservation interests and soils. It recognises the wider benefits of ecosystems beyond their inherent value to wildlife. The NPPF emphasises the protection and enhancement of valued landscapes and sites of biodiversity or geological value. It also emphasises the principle that new development should minimise impacts and provide net gains for biodiversity, particularly by establishing coherent ecological networks that are more resilient to current and future pressures.

7.2.40. Other national policy which supports the NPPF of relevance to biodiversity include:

- Circular 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts on the Planning System remains in force as a statutory document accompanying the Framework. It outlines the legislative provisions relating to biodiversity and geological conservation which affect planning and development. The Circular provides guidance on the protection of designated international and national nature conservation sites, non-designated sites, the conservation of species, and advice on the related issues and statutory powers¹⁵.
- Making Space for Nature (Lawton, 2010)¹⁶ is an independent review of England's wildlife sites and the connections between them, which informed the subsequent White Paper (HM Government, 2011). This identified a number of recommendations to create a sustainable, resilient and more effective ecological network; and alongside this to maintain water-quality, manage inland flooding, deal with coastal erosion and enhance carbon storage.
- The Natural Environment White Paper (HM Government, 2011) was launched with the vision of repairing 'inherited' damage in the natural environment, leaving the natural environment

14 Ministry of Housing, Communities and Local Government, Ministry of Housing, Communities & Local Government (2018 to 2021) and Department for Levelling Up, Housing and Communities (December 2024) National Planning Policy Framework

15 Office of the Deputy Prime Minister (Circular 06/2005): Biodiversity and Geological Conservation – Statutory Obligations and their Impacts. London: The Stationery Office

16 Lawton, J. (2010). Making Space for Nature: A review of England's wildlife Sites and ecological network. DEFRA, London

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in fitter condition for future generations. The key aims of the White Paper can be summarised as a commitment to protect and improve the natural environment, to grow a green economy, to reconnect people and nature, and to international monitoring and reporting¹⁷.

- Following the White Paper, Biodiversity 2020: A strategy for England's wildlife and ecosystem services (DEFRA, 2011) was published to provide a comprehensive picture of how international commitments are being implemented. Four priority areas for action were identified including a more integrated large-scale approach to conservation on land and sea, and to reducing environmental pressures¹⁸.
- The National Pollinator Strategy: for bees and other pollinators in England (DEFRA, 2014) sets out a 10-year plan to help pollinating insects survive and thrive. DEFRA's vision is to see pollinators thrive, so they can carry out their essential service to people of pollinating flowers and crops, while providing other benefits for our native plants, the wider environment, food production and all of us¹⁹.
- Natural England and the Forestry Commission's²⁰ standing advice for ancient woodland and veteran trees sets out the requirements for these irreplaceable habitats, the need to protect them and how this can be done and where this is not possible, what mitigation is required.
- The Keepers of Time A Statement of Policy for England's Ancient and Native Woodland (DEFRA and Forestry Commission, 2005) sets out policy objectives to ensure ancient woodlands, veteran trees and other native woodlands are adequately protected, sustainably managed in a wider landscape context, and are providing a wide range of social, environmental and economic benefits to society²¹.

The Development Plan

7.2.41. The local development plan documents of relevance to the site comprise the Knowsley Core Strategy (2016), Knowsley Replacement Unitary Development Plan (2006) (saved policies), Local Plan Core Strategy Sustainability Appraisal (2012) and the Halsnead Garden Village Masterplan SPD (June 2017). The planning policies relevant for the Site are presented in the **Appendix 7.1** and summarised below.

7.2.42. Relevant policies from the Core Strategy are:

- Policy CS5: Green Belt;
- Policy CS8 Green Infrastructure

17 HM Government (2011) The Natural Choice: Securing the Value of Nature. London: The Stationery Office
 18 DEFRA (2011). Biodiversity 2020: A strategy for England's wildlife and ecosystem services. London: The Stationery Office

19 DEFRA (2014). National Pollinator Strategy: for bees and other pollinators in England. London: The Stationery Office

20 <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

21 DEFRA and Forestry Commission (2005). Keepers of Time A Statement of Policy for England's Ancient and Native Woodland

- Policy SUE2c Sustainable Urban Extension – South of Whiston and Land South of M62
- Policy CS21 Greenspaces and Trees

7.2.43. Relevant policies from the Unitary Development Plan that have been saved are:

- Policy DQ4 Trees and Development
- Policy ENV3 Light Pollution

Supplementary Development Plan

7.2.44. The Halsnead Garden Village Masterplan was published in June 2017 to provide additional guidance on the Halsnead Garden Village Sustainable Urban Extension.

7.2.45. Paragraph 1.2 states that *“In January 2017, Halsnead was announced as one of 14 proposed new Garden Villages nationally. The inclusion of Halsnead in this first tranche of Government-backed new Garden Villages reflects clear and consistent commitments at national, regional and local level to develop the site in a way which creates a distinctive, high-quality place”*.

7.2.46. The Vision Statement states that *“Halsnead’s signature will be the extent and quality of green infrastructure. This will create a unique backdrop and structure for development, including integration of a new Country Park proposed to the south of the M62. Attractive tree-lined streets, grass verges, accessible woodlands, water features, play areas, allotments, retained and enhanced planting, green lanes and drainage attenuation areas will all enhance the experiential quality and sense of place”*.

Other Guidance and Action Plans

7.2.47. The Biodiversity: Code of practice for planning and development provides standard recommendations on topics such as professional practices, proportionality, pre-application discussions, ecological surveys scope and method, adequacy of ecological information, reporting and monitoring. It cites the Chartered Institute of Ecology and Environmental Management (CIEEM) Ecological Impact Assessment (EclA) Guidelines as the acknowledged reference on EclA.

7.2.48. The 2001 North Merseyside Biodiversity Action Plan (BAP)²² aims to promote conservation, protection and enhancement of species and habitats of local importance requiring action to protect and conserve them. The habitat and species action plans of key relevance to this proposal are:

- Lowland mixed broadleaf woodland;
- Urban trees;
- Field boundaries;
- Great Crested newt;

²² <https://eas.merseysidebiobank.org.uk/merseyside-biodiversity-group/>

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- Bats;
- Brown hare;
- Lapwing;
- Skylark;
- Song thrush;
- Urban birds; and
- Bluebell.

7.2.49. The Birds of Conservation Concern 5 (BoCC) report (RSPB, 2021) splits UK birds into three categories of conservation importance – Red, Amber and Green²³. Red is the highest conservation priority, and includes species that are globally threatened, or have experienced historical UK population decline, a severe decline in UK breeding population, or a severe contraction of UK breeding range. Amber is the next most critical group, followed by Green, which includes birds whose populations are not currently at risk.

EIA Scoping Process

7.2.50. As discussed in Chapter 2, a request for a Scoping Opinion was submitted on behalf of the Applicant to Knowsley Metropolitan Borough Council (KMBC) on 30th January 2025, which set out the proposed scope of assessment (see **Appendix 2.1**). KMBC issued their Scoping Opinion on 27th March 2025 which is summarised in Chapter 2 and included in full at **Appendix 2.2**. At that time, the intention was to submit one planning application for 2 parcels of land, referred to as Phase 2b and Phase 3. However, the planning application, which this ES supports, is now seeking planning permission in relation to Phase 3 only at this time.

7.2.51. It is considered that the Scoping Opinion provides relevant information to ensure a robust assessment in relation to the Phase 3 Site and has therefore been used to guide the scope of this chapter and ES as a whole.

7.2.52. With regards to Ecology and Nature Conservation matters, relevant responses were received from the consultees including Merseyside Environmental Advisory Service (MEAS) and comments have been addressed accordingly, as follows in **Table 7.4** below.

²³ RSPB (2015). Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. RSPB

Table 7.4: Relevant EIA Scoping Consultation Comments

Consultee	Summary of Comment	Response or location within the ES where comments are addressed
MEAS	Why Old Wood North is included within application Site. Old Wood North and Old Wood South are the only remaining Ancient Woodland within the borough of Knowsley and are considered to be locally and nationally significant. Ancient woodland is also irreplaceable habitat that should be retained and a buffer of at least 15m around such woodland retained.	This area of woodland is no longer within the application boundary and a 15m buffer for the Proposed Development has been included within the plans
MEAS	The proposal may affect Priority Habitat hedgerow, ponds and arable field margins and these habitats are a material consideration. Proposals should be designed to incorporate the Priority Habitat to prevent harm.	No priority habitats hedgerows, ponds, arable field margins within the Site – outlined within Appendix 7.1 , and Ecology baseline section (paragraphs 7.3.13 – 7.3.24)
MEAS	Old Wood North (Ancient Woodland) is on Site and Old Wood South is 150m south. Whilst the motorway separates Old Wood South from the application Site, it is hydrologically connected to Old Wood North. The Site also lies within 1km of potential Ancient Woodland or Long-Established Woodland. The proposal has the potential to have direct impacts in the form of increased recreational pressure, lighting, cat predation and the potential for the introduction of garden escape species into the woodlands which will also need to be assessed and mitigated.	Old Wood North is no longer within the planning application boundary. Old wood North, Old Wood South and the Ancient Woodland adjacent to the Site are all assessed as part of the Ecology chapter (section 7.4),
MEAS	HRA Recreational pressure mitigation guidance with regards to the Mersey Estuary SPA/Ramsar.	An assessment has been made as part of the Ecology chapter (section 7.3 – Assessment of Likely Significant Effects – Operational) and the Ecology additional mitigation has addressed this (section 7.4)

Limitations to the Assessment

- 7.2.53. The assessment is made on the best available data, based on the information that has been gathered from data sources and the surveys undertaken. All surveys were completed within

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appropriate seasons over appropriate periods in accordance with industry standards for the specific survey. Nevertheless, the surveys will only identify habitats present at the Site at the time of surveys. Additionally, the species investigated are mobile and will move into and out of areas over time. For these reasons a precautionary approach has been taken in the prediction of impacts. Where there is any doubt, except where specifically noted, a species is assumed present and an impact is given the higher level of significance. Any limitations to the surveys undertaken are identified within the relevant sections within the Baseline Conditions.

- 7.2.54. It is assumed for the purposes of this ES that the current land uses adjacent to the Site will remain as they are at the time of the ES submission, except in cases where planning permission has already been granted for development. For consented developments, it is assumed that the developments will take place. These have been considered in the cumulative assessment.

Identifying Impact Pathways

- 7.2.55. As this is a hybrid planning application, detailed construction methods are currently unknown. Consequently, this ES has been completed prior to agreement and approval of specific construction programme and methods. However, where specific characteristics of a likely effect are currently uncertain, this assessment has been completed on the basis of a reasonable worst-case. Likely ecological effects described in subsequent sections and assessed in this Chapter are based on the description of the Proposed Development, the detailed application plans and the parameter plan presented in Chapter 2 of this ES.

7.3. Baseline Conditions

Site Description and Context

- 7.3.1. The Site is centred at National Grid reference SJ 34732 38986 and is bound to the north by Halsnead Caravan Park, beyond lies a field and the under construction Land south of Lickers Lane residential scheme (under planning application reference 20/00399/OUT). To the east, the Site is bound by the consented and under construction Fox's Lane residential scheme under planning application reference 20/00417/FUL, beyond which lies Fox's Bank Lane and Blundell's Hill Golf Club.
- 7.3.2. The M62 Motorway bounds the south of the Site, beyond which lies Symmetry Park. To the west, the Site is bound by an area of woodland (with an associated pond known as 'Big Water'), beyond which lies the consented and under construction land north of M62 motorway residential scheme under planning application reference 18/00283/HYB, with Windy Arbor Road and the M62 Motorway further west.
- 7.3.3. The wider area beyond the Site is predominantly residential in nature, further characterised by pockets of woodland, industrial development, the local and strategic road network, and open fields.
- 7.3.4. The Site itself is a disused arable field, now consisting of tall ruderal growth and modified neutral grassland in the north. Treelines and scattered broadleaf trees are present along the south and western boundaries with an area of semi-natural broadleaved woodland present in the southwest of the Site.
- 7.3.5. The surrounding habitat consists of the woodland to the west, known as Old Wood, as well as the large fishing lake that lies directly adjacent to the Site in the west, Big Water.

Baseline Survey Information

- 7.3.6. This section identifies the current baseline conditions (i.e. current ecological conditions) of each ecological feature, based on the most recent survey data supported by desk study information, for those ecological features to be assessed in this Chapter.

Nature Conservation Designations

- 7.3.7. Full details of the desk study and specifically the international, national and local designations area presented in **Appendix 7.1** and summarised below.

Internationally designated sites

- 7.3.8. A data search for international designed sites was undertaken within 10km of the Site.
- 7.3.9. Mersey Estuary Ramsar/ SPA is located 6.4km south of the Site. The estuary consists of large areas of intertidal sand and mudflats and saltmarsh. These provide feeding and roosting sites for large populations of waterfowl. The main plant communities consist of: *Spartina anglica* saltmarsh (SM6), *Puccinellia maritima* saltmarsh (SM13), Transitional low-marsh vegetation with *Puccinellia maritima*, *Salicornia* species and *Suaeda maritima* (SM10), *Honkenya peploides*–*Cakile maritima* strandline community (SD2), *Typha latifolia* swamp (S12), *Phragmites australis*–*Urtica dioica* tall-herb fen (S26). Bird species utilising the Mersey estuary Ramsar/ SPA occurring at levels of national importance include ringed plover *Charadrius hiaticula*, Eurasian curlew *Numenius arquata*, Spotted redshank *Tringa erythropus*, Common greenshank *Tringa nebularia* and Eurasian wigeon *Anas penelope*.

Nationally designated sites

- 7.3.10. A data search for nationally designated sites was undertaken within 5km of the Site, which found there was no nationally designated sites within the search radius.

Locally designated sites

- 7.3.11. A data search for statutory locally designated sites was undertaken within 2km of the Site, which found there was no statutory locally designated sites within the search radius.

Non-statutory Local Sites

- 7.3.12. 13 Local Wildlife Sites (LWS) are located within 1km of the Site. A summary of each of these and their proximity to the Site are provided in **Table 7.5**.

Table 7.5: Local Wildlife Sites

Site Name	Citation	Location
The Old Wood	Merseyside Ancient Woodland Inventory	Adjacent to the west of phase 3 (Old Wood North) and 0.2km south of the Site (Old Wood South)
The Old Wood, North	Knowsley LWS	Adjacent to the west of phase 3

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Big Water and Big Water Wood, Halsnead	Knowsley LWS	Adjacent to the west of phase 3
Lickers Lane Wood	Knowsley LWS	Approx 0.5km north of the Site
Woodland, Sandfield Park	Knowsley LWS	Approx 0.5km north of the Site
The Old Wood, South	Knowsley LWS	Approx 0.2km south of the Site
Parrens Covert	St Helens LWS	Approx 0.2km north of the Site
Blundell Hills Golf Course	St Helens LWS	Approx. 0.3km east of the Site
Land, e of Fox's Bank Brook	Knowsley LWS	Approx 0.4km southeast of the Site
Strettles Bog, Tarbock	Knowsley LWS	Approx. 0.5km south of the Site
Mine Waste, Cronton	Knowsley LWS	Approx. 0.5km south of the Site
Daggers Bridge Wood	Knowsley LWS	Approx. 0.4km south of the Site
Stadt Moers Q4	Knowsley LWS	Approx 0.7km northwest of the Site
Ochre Brook, Tarbock	Knowsley LWS	Approx 1km southwest of the Site

Habitats and Flora

- 7.3.13. The extended Phase 1 habitat survey and survey map is presented in **Appendix 7.2** and **Figure 7.1**. The habitats within the Proposed Development are summarised below.

Semi-natural broadleaved Woodland

- 7.3.14. There is a small area of semi-natural broadleaved woodland in the northwest corner of the Site, which extends beyond the Site boundary. This extends into an area of ancient woodland known as Old Wood (LWS). Tree species include sycamore *Acer pseudoplatanus*, English oak *Quercus robur*, goat willow *Salix caprea* and small leaved lime *Tilia cordata* with hawthorn *Crataegus monogyna*, holly *Ilex aquifolium*, and elder *Sambucus nigra* forming the understorey. Woodland flora such as wood avens *Geum urbanum* were also noted.

Dense/continuous Scrub

- 7.3.15. Along the northern boundary of the Site, adjacent to Halsnead residential park, lies a boundary of scattered scrub and scattered trees as well as some areas of dense/continuous scrub. As this backs onto the residential gardens there are more ornamental species found here such as

cherry laurel *Prunus laurocerasus*, Lawson cypress *Chamaecyparis lawsoniana*, privet and spruce *Picea sp.* as well as some English oak trees, privet *Ligustrum ovalifolium*, dog rose *Rosa canina* and goat willow in the northeast corner. There is also a patch of dense/continuous bramble *Rubus fruticosus* agg scrub present in the northeast corner of the Site within the modified neutral grassland area and a patch of dense/continuous mixed willow *Salix sp.* scrub in the south.

Scattered Trees

- 7.3.16. To the west and south of the area of woodland lies a line of scattered trees present on the western boundary of the Site consisting of sycamore, silver birch *Betula pendula*, hazel *Corylus avellana*, ash *Fraxinus excelsior* and black poplar hybrids *Populus nigra*. The understorey mainly consists of bramble, with other species such as broad-buckler fern *Dryopteris dilatata* and cow parsley *Anthriscus sylvestris* also present.
- 7.3.17. Along the southern boundary of the Site is another tree line, bordering the M62 motorway embankment. This treeline is made up of a similar species composition to that on the western boundary with the addition of goat willow, elder, rowan *Sorbus aucuparia* and aspen *Populus tremula*. Blackthorn *Prunus spinosa* is also present in the understorey as well as horsetail *Equisetum sp.* and oxeye daisy *Leucanthemum vulgare*.
- 7.3.18. Tree cover associated with the Site is exclusively at the boundaries and much of it is outside the application area. There is continuous canopy cover along the southern and western boundaries and scattered trees along the northern boundary. Woodland W1 in the south-west corner of the Site, known as Old Wood, is Ancient Semi-Natural Woodland with an oak, lime and sycamore dominated canopy and understorey of elder, hawthorn and holly. G1 forms a long linear group screening the Site from the motorway to the south and an additional linear group G2 forms the boundary with Big Water to the west.

Modified neutral grassland

- 7.3.19. The Site is made up of one field, although there is a distinctive split in the habitats present. In the north of the field there is modified neutral grassland, and, in the south, the majority of the Site is made up of tall ruderal growth.
- 7.3.20. The modified neutral grassland consists of abundant Yorkshire fog *Holcus lanatus* and frequent perennial rye-grass *Lolium perenne* and includes other species such as creeping thistle *Cirsium arvense*, willowherb species *Epilobium sp.*, broad-leaved dock *Rumex obtusifolius*, white clover *Trifolium repens*, Fox-and-cubs *Pilosella aurantiaca* and herb-Robert *Geranium robertianum*.

Tall ruderal

- 7.3.21. The remainder of the Site consists of tall ruderal herbs such as creeping thistle, knapweed *Centaurea nigra*, spear thistle *Cirsium vulgare*, common ragwort *Jacobaea vulgaris*, fleabane *Pulicaria dysenterica*, teasel *Dipsacus fullonum*, nettle *Urtica dioica* and self-set willow saplings *Salix sp.* A small area of tall ruderal is also present in the northeast of the Site with similar species composition to the above.

Invasive Plant species

- 7.3.22. Invasive species *Rhododendron ponticum* was noted within the woodland to the north and west of Site. Variegated yellow archangel *Lamium galeobdolon* subsp. *argentatum* was noted on the

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northern boundary of the Site, in the northwest, near to the Woodend track as shown on **Figure 7.1**.

- 7.3.23. There was also a small stand of Japanese knotweed *Reynoutria japonica* recorded approximately 130m from the northeastern border of the Site, adjacent to P18.

Protected plant species

- 7.3.24. Notable flora English bluebell, protected under Schedule 8 of the Wildlife and Countryside Act 1981, were noted adjacent to the Site, within the woodland to the west.

Fauna

- 7.3.25. It should be noted that this Site does not provide suitable habitat for otter *Lutra lutra* nor water vole *Arvicola amphibius* as there are no watercourses, stream or ditches present. Although records were returned for both species within 2km of the Site, these records were all situated south of the M62 at Ox Lane Wood, Tarbock LWS, over 1km away from the Site. However, land adjacent to the Site, the woodland and lake does provide suitable habitat, but the connectivity to other habitats is limited and so therefore, it is unlikely that these species will be present within these habitats or within the Site, and as such they are not considered further in this assessment.

Amphibians

- 7.3.26. Full details of the amphibian survey results are provided at **Appendix 7.3**. The Amphibian survey results are shown in **Figure 7.2**.

- 7.3.27. Existing records for a range of amphibian species were obtained from the local records centre within 2 km of the Site. There were nine records of great crested newt (GCN) *Triturus cristatus*, all returned south of the M62 motorway which acts as a barrier for amphibian movement. Records of common toad *Bufo bufo*, common frog *Rana temporaria* and smooth newt *Lissotriton vulgaris* were also identified within 2km. No records for granted species licences, class licence returns or pond survey data was returned within 2km.

Great Crested Newt

- 7.3.28. **Table 7.6** provides a summary of the amphibian survey results. HSI scores range from 'Good' through to 'Poor', in terms of the pond's potential to support GCN. All ponds surveyed were returned negative for GCN.

Table 7.6: Amphibian survey results

Pond ID	Location	HSI Score	eDNA Results 2024
P1	468m west	N/A	N/A- dry SUDs Pond
P2	91m west	N/A	N/A - dry
P5	Adjacent to the west	Poor	Negative
P9	361m east	N/A	N/A – no access

P10	Adjacent to the west – linked to P5	Poor	Negative
P12	76m north	N/A	N/A – dry
P13	225m east	N/A	N/A – dry
P14	496m east	N/A	N/A – no access
P15	295 east	Good	Negative
P16	415m east	Average	Negative
P17	84m north	N/A	N/A – dry
P18	110m northeast	Poor	Negative
P19	370m northeast	Poor	Negative
P23	419m north	Poor	Negative
P24	416m north	N/A	N/A – dry

7.3.29. As the eDNA survey results returned all negative results, and there are no ponds on Site the Site is deemed unsuitable for a GCN mitigation licence. However, a further walkover of the Site and surrounding area identifies a 3m stone wall that follows the length of Fox's Bank Lane, along the eastern boundary of the first phase of development, currently under construction. This separates the inaccessible ponds from the Site. These are likely dispersal barriers for any GCN present in waterbodies east of Fox Bank Lane specifically P14.

7.3.30. Given this, the lack of records in the area, and that no licence returns, or mitigation licence records have been returned within the Site vicinity (including for the first phase of this development to the south of the Site which proceeded with a mitigation licence), it is assumed highly unlikely that GCN will be present on the Site. As GCN are not considered further within this assessment.

Common amphibians

7.3.31. However, there are numerous waterbodies within 250m of the Site which are suitable to support other breeding common amphibians such as common toad or smooth newt. The nearest pond to Site is directly adjacent to the Site in the west. Full amphibian surveys were not carried out on ponds and so the status of other amphibians could not be fully ascertained.

7.3.32. In addition, the grassland, tall ruderal and scattered scrub on Site, offer suitable foraging and commuting habitat for a range of other common amphibians. The Site also offers some hibernation potential, within the root systems of all mature/semi-mature trees, both within the tree lines and woodland habitats, and any scattered scrub areas on Site.

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Badgers

- 7.3.33. The desk study returned 21 badger records within 2km of the Site in the last 10 years, one of which is located within a woodland area, 150m east of the Site boundary, within Phase 1 of the Fox Wood Garden Village development area.
- 7.3.34. No evidence of badger was recorded within the Site or within 30m of the Site boundary during the Phase 1 habitat survey. The habitats on Site (modified neutral grassland and tall ruderal) provide some foraging and ranging opportunities for badger and the woodland on and adjacent to the Site provides suitable habitat for sett building.

Bats

- 7.3.35. The desk study returned numerous records of bats from within 2km of the Site comprising the following species:
- Common Pipistrelle *Pipistrellus pipistrellus* (WCA5, EPS, LBAP) – 18 records;
 - Daubenton's Bat *Myotis daubentonii* (WCA5, EPS, LBAP) – 1 record;
 - Leisler's bat *Nyctalus leisleri* (EPS, WCA5, LBAP) – 1 record.
 - Noctule Bat *Nyctalus noctula* (WCA5, EPS, LBAP, SPI) – 10 records;
 - Pipistrelle sp. *Pipistrellus* sp. (WCA5, EPS, LBAP, SPI) – 5 records;
 - Soprano Pipistrelle *Pipistrellus pygmaeus* (WCA5, EPS, LBAP) – 11 records; and
 - Unidentified bat species Chiroptera sp. (EPS, LBAP) – 5 records;
- 7.3.36. Two Natural England mitigation licences for bats have been identified within 2km of the Site. The closest lies 1.6km northeast of the Site beyond Blundells Hill Golf Club, the other lies to the south, beyond the M62 motorway.

Roosting bats

- 7.3.37. The Ground-Level Tree Assessment (GLTA) conducted at the same time as the Phase 1 habitat survey, found two trees present on Site with Potential Roost Features (PRFs). The locations of these two trees are displayed in **Figure 7.1**.
- 7.3.38. Tree descriptions and roost suitability categorisations assigned from the GLTA are summarised in **Table 7.7** below. Trees T1 and T3 (as numbered within the Arb Tree Constraints Plan **Figure 7.8**) were assessed as having PRF-M suitability. All other trees were assessed as having negligible suitability to support roosting bats.

Table 7.7: GLTA Survey Results

Tree Ref	Description	Photograph	Suitability
T1 – SJ46999 89821	An English oak tree situated on the western boundary of the Site adjacent to pond P5. The north side of the main stem is heavily fire damaged with a large wound present. The wound extends upwards with cavities present suitable for roosting bats.		PRF-M
T3 – SJ47049 89896	A large English oak tree situated on the northern boundary of the Site within the woodland in the northwest. It lies next to the Woodend. The tree has some broken branches and hollow limbs, and also a hollow main stem, suitable to support multiple roosting bats. The tree is also heavily ivy clad which could be obscuring further bat roosting features.		PRF-M

Commuting and Foraging bats

- 7.3.39. The tree lines and areas of woodland, as well as scrub and grassland areas on Site offer suitability for commuting and foraging bats within the Site. The Site was subject to bat activity surveys as a result of this. Detailed methodology and results of these surveys are provided within **Appendix 7.4.**
- 7.3.40. Three NBW surveys recorded common pipistrelle, soprano pipistrelle, noctule in single numbers using the Site for both foraging and commuting, with no bats recorded on the Site during the June (first) visit. This suggests that the importance of the Site for the local bat population varies throughout the seasons but is overall of less than county level. The majority of the activity during these surveys was restricted to areas off-Site, in particular the woodland to the west and the area around pond P18 to the northeast of the Site.
- 7.3.41. Static monitoring surveys also recorded the same three species, with the addition of very low numbers of brown long-eared bat and myotis species. Two and three single passes of each species respectively were recorded across the three survey visits. The static monitoring

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surveys showed that bat activity was significantly higher during the August visit, than the June and October visits, likely as a result of general local bat activity levels being heightened in the summer months due to the good weather conditions.

- 7.3.42. During these surveys, very few social calls were recorded which indicates that only individual bats, or small numbers of bats, are utilising the Site for foraging and commuting.

Birds

- 7.3.43. Records of 19 species of Schedule 1 (WCA1) birds were identified within 2km of the Site. These are:

- Barn owl *Tyto alba* (WCA1) – 26 records
- Black tern *Chlidonias niger* (WCA1) – 2 records
- Black-tailed Godwit *Limosa limosa* (WCA1, SPI, BRd) – 17 records
- Brambling *Fringilla montifringilla* (WCA1) – 4 records
- Cetti's warbler *Cettia cetti* (WCA1) – 1 record
- Common scoter *Melanitta nigra* (WCA1, SPI, BRd) – 1 record
- Crossbill *Loxia curvirostra* (WCA1) – 2 records
- Fieldfare *Turdus pilaris* (WCA1, BRd) – 26 records
- Goshawk *Accipiter gentilis* (WCA1) – 1 record
- Greylag goose *Anser anser* (WCA1, BAm) – 4 records
- Hobby *Falco subbuteo* (WCA1) – 3 records
- Kingfisher *Alcedo atthis* (WCA1, BAm) – 37 records
- Long-tailed duck *Clangula hyemalis* (WCA1, BAm) – 4 records
- Marsh harrier *Circus aeruginosus* (WCA1, BAm) – 1 record
- Mediterranean gull *Ichthyophaga melanocephala* (WCA1, BAm) – 1 record
- Merlin *Falco columbarius* (WCA1, BRd) – 1 record
- Peregrine *Falco peregrinus* (WCA1) – 3 records
- Red kite *Milvus milvus* (WCA1) – 2 records
- Redwing *Turdus iliacus* (WCA1, BAm) – 26 records

- 7.3.44. In addition to schedule 1 bird records, there were 25 Species of Principal Importance (SPI) species, 26 BRd (Birds of Conservation Concern Red List) species and 9 BAm (Birds of Conservation Concern Amber List) species records returned. Some species have more than one allocation of conservation status so there is some overlap; there were 45 species of

conservation concern recorded in total. Mostly these were associated with the woodland and lake adjacent to the Site.

- 7.3.45. Only one bird species record was returned within or adjacent to the Site boundary – Starling *Sturnus vulgaris* (SPI, BRd).

Breeding birds

- 7.3.46. A breeding bird habitat assessment was undertaken in conjunction with the Phase 1 habitat survey. During the habitat assessment a transect was walked around the Site and surrounding land to assess its potential to support important numbers and species of breeding birds and to determine whether further breeding bird surveys were required to inform ecological assessment of this Site.

- 7.3.47. Due to the small size and scale of the Site; the ongoing development directly to the east of the Site, which will act as a disturbance; the limited amount of suitable habitat on the Site itself; and the Proposed Development plans reflecting that the majority of the more suitable habitats, namely the treelines and woodland, are to be retained; breeding bird surveys were not considered necessary.

- 7.3.48. Although a full suite of surveys was not undertaken, it should be noted that there is still suitable habitat for breeding birds present within the Site. The woodland area in the southeast corner, the tree lines on the south and western boundaries as well as the scattered scrub and trees are suitable to support a range of nesting and foraging species. The grassland area and tall ruderal habitat also provides some, albeit limited, suitability for ground nesting birds. Therefore, further consideration with regards to breeding birds is still required.

Wintering birds

- 7.3.49. The Site lies within 10km of the internationally designated Sites, The Mersey Estuary SPA and Ramsar which are designated for their key qualifying features of over-wintering bird populations and high bird assemblages.

- 7.3.50. The Mersey Estuary supports species such as redshank *Tringa totanus*, shelduck *Tadorna tadorna* and teal *Anas crecca* all of which require and have preference for open water habitats and large open fields for feeding and roosting, where the likelihood of predation is low, and where noise and visual disturbance is minimal.

- 7.3.51. A winter bird habitat assessment was undertaken by a TEP Principal Ornithologist on 12th September 2024. During the habitat assessment a transect was walked around the Site and surrounding land to assess its potential to support important numbers of birds during the winter period and to determine whether further winter bird surveys are required to inform ecological assessment of this Site.

- 7.3.52. The Site is bordered by woodland to the west limiting open sightlines within the Site. To the east of the Site are active construction works. The land therefore lacks the open sightlines necessary to support flocks of waders and wildfowl potentially associated with protected Sites in the wider area, and construction works will also make this area too disturbed, by both noise and visual activity, to be used by such birds.

- 7.3.53. The Site was found to support grassland and tall ruderal vegetation, with developing willow scrub, characteristic of arable land that is not currently under cultivation. This vegetation type is of low suitability for flocks of waders or wildfowl.

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- 7.3.54. Halsnead Residential Park to the north offers open views across the adjacent field; however the grassland in the north of the Site is narrow and subject to disturbance due to its immediate proximity to the residential park. A fishing lake is also adjacent to the west of the Site and was recorded supporting small numbers of waterbirds at the time of survey, including gadwall, mallard, coot, moorhen and a cormorant. The lake is surrounded by woodland using regularly for fishing. The lake is surrounded by woodland and is regularly used for fishing. Due to the presence of surrounding woodland and frequent human activity associated with fishing, it is unlikely that the lake supports significant numbers of waterbirds during the winter period, and any birds present are likely to be habituated to human disturbance.
- 7.3.55. There is no other suitable habitat for significant numbers of winter birds within 500m of the Site. Given the limited and disturbed nature of habitats within the Site, together with ongoing disturbance from the adjacent motorway, fishing lake, and Halsnead Residential Park, the Site is considered unsuitable to support flocks of waders or wildfowl associated with designated Sites in the wider area.
- 7.3.56. In conclusion, the Site has been assessed as unsuitable for wintering birds and therefore further consideration to these species is not required nor discussed further.

Other species

- 7.3.57. Within the 2km search radius, ten records of brown hare (SPI, LBAP) were returned. Brown hare favour a mosaic of arable fields, grassland and woodland edges. The Site is dominated by modified neutral grassland and tall ruderal habitat and lies adjacent to an area of woodland. There is therefore limited potential for brown hare to be present on Site, although none have been recorded during Site surveys.
- 7.3.58. The desk study identified 74 records of European hedgehog within 2km of the Site. Hedgehogs occupy a range of lowland habitats with enough cover to allow nesting. They are common in parks in urban and suburban environments, farmland and gardens. The grassland, scrub and woodland on Site provide opportunities for hedgehog foraging, and the woodland and scrub on Site may also provide opportunities for refuge and hibernation.
- 7.3.59. A hedgehog was recorded during one of the NBW bat surveys and given their prevalence in the data records and suitability of the habitat, it is likely that a hedgehog population is present on-Site.
- 7.3.60. The desk study returned numerous records of eight notable invertebrate species within 2km of the Site, including cinnabar *Tyria jacobaeae* (SPI), for which 2 records were recorded adjacent to the Site. Most of the Site comprises suitable habitat for invertebrates such as grassland, scrub and woodland however the lack of floristic diversity on Site limits the potential for the Site to support a wide variety of invertebrates.
- 7.3.61. No reptile species records were identified within the local record data. There is some possibility of reptile presence due to the cover provided by woodland and scrub, as well as the grassland on Site, however the likelihood of reptile presence on Site is low.

Future Baseline

- 7.3.62. To inform the assessment of the Proposed Development impacts, the future baseline scenario has been considered. This assumes a 'Without Development' assessment, whereby wider background growth and committed developments come forward, in the absence of the Proposed Development impact.

- 7.3.63. The ecology of the Site is the product of the managed landscape (previous agriculture use). There is no indication that, in the absence of development, the use and therefore management of the Site would alter. Therefore, in the absence of development, the ecological interest of the grassland, trees, scrub and trees would remain more or less at existing levels. However, the bat roosting potential of the mature trees is likely to increase further over time and, as the trees, grassland and scrub develop further, the availability of bird nesting sites may increase.

Important Ecological Features

- 7.3.64. This section summarises the potential ecological features that could be impacted by the Proposed Development and outlines the ecological value assigned to each feature.
- 7.3.65. Features which are not present, or are extremely unlikely to be present, or are accorded an ecological value of below Local have not been taken forward for assessment. However, some of these features which have been scoped out of the impact assessment, will still require mitigation as part of the Proposed Development on the basis of their legal protection, their implications on nature conservation policies and plans, or for animal welfare reasons.
- 7.3.66. **Tables 7.6, 7.7 and 7.8** detail the valuation of the potential ecological features that fall under the category of nature conservation designation outcomes, habitats and species.
- 7.3.67. The habitat areas have been taken from the Statutory Biodiversity Metric, produced by Tyler Grange, and submitted separately to the EIA as part of the planning application.

Table 7.6: Valuation of potential ecological features – nature conservation designations

Site Name	Distance from Site	Ecological Value	Inclusion of Ecological Feature for Further Assessment
Mersey Estuary Ramsar/SPA	6.4km to the south	International	Scoped In
The Old Wood, North LWS	Adjacent to the west of phase 3	County	Scoped In
Big Water and Big Water Wood, Halsnead LWS	Adjacent to the west of phase 3	County	Scoped In
Lickers Lane Wood LWS	Approx 0.5km north of the Site	County	Scoped in
Woodland, Sandfield Park LWS	Approx 0.5km north of the Site	County	Scoped In
The Old Wood, South LWS	Approx 0.2km south of the Site	County	Scoped In
Parrens Covert LWS	Approx 0.2km north of the Site	County	Scoped In
Blundell Hills Golf Course LWS	Approx. 0.3km east of the Site	County	Scoped In
Land, e of Fox's Bank Brook LWS	Approx 0.4km southeast of the Site	County	Scoped In
Strettles Bog, Tarbock LWS	Approx. 0.5km south of the Site	County	Scoped In

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Mine Waste, Cronton LWS	Approx. 0.5km south of the Site	County	Scoped In
Daggers Bridge Wood LWS	Approx. 0.4km south of the Site	County	Scoped In
Stadt Moers Q4 LWS	Approx 0.7km northwest of the Site	County	Scoped Out
Ochre Brook, Tarbock LWS	Approx 1km southwest of the Site	County	Scoped Out
The Old Wood Merseyside Ancient Woodland Inventory	Adjacent to the west of the Site	National	Scoped In

Table 7.7: Valuation of potential ecological features – habitats

Habitat Type	Area within Site	Ecological Value	Inclusion of Ecological Feature for Further Assessment
Semi-natural broadleaved Woodland	0.09ha	Local	Scoped In
Scattered Trees	Not applicable	Local	Scoped In
Dense/continuous Scrub	0.10ha	Negligible	Scoped Out
Modified neutral Grassland	4.45ha	Immediate Zone of Influence (IZoI)	Scoped Out
Tall ruderal	4.07ha	Immediate Zone of Influence	Scoped Out
Protected Plant Species (Bluebell)	Not applicable	Immediate Zone of Influence	Scoped Out
Invasive Plant Species	Not applicable	Immediate Zone of Influence	N/A

Table 7.8: Valuation of potential ecological features – species

Species/ Species Group	Ecological Value	Inclusion of Ecological Feature for Further Assessment
Other amphibians (excluding GCN)	Immediate Zone of Influence	Scoped Out
Bats	Local	Scoped In
Badger	Immediate Zone of Influence	Scoped Out
Breeding birds	Immediate Zone of Influence	Scoped Out
Reptiles	Immediate Zone of Influence	Scoped Out
Brown Hare	Immediate Zone of influence	Scoped Out
Hedgehog	Immediate Zone of Influence	Scoped Out
Invertebrates	Immediate Zone of Influence	Scope Out

- 7.3.68. Although habitats within the Application Site have been scoped out from the EIA, they have been considered within the Biodiversity Net Gain Assessment (submitted separately to the ES) due to the differing methods for assessment applied.

7.4. Assessment of Likely Significant Effects

- 7.4.1. This section sets out the potential effects of the Proposed Development on ecological features on the basis of the assessment parameters plan (Figure 4.1) and assumes the inclusion of embedded mitigation as set out in the following section 7.4 (Mitigation by Design) but in the absence of any additional mitigation measures.
- 7.4.2. Based on the results of the Ecology Desk Study and field surveys, described in Section 7.3, the distribution, function and value of ecological features present vary across the Site. Different ecological features could be affected by different components of the Proposed Development in different ways, during and post-construction. The following sections identify those activities with greatest potential to give rise to biophysical changes to valued ecological features (pathways of effects). Where pathways of effects are identified, the potential impact is subject to further assessment, using impact characterisation methods in accordance with CIEEM guidelines, to determine whether a significant ecological effect may result prior to mitigation. If no pathways of effects are identified, no further assessment is made.

Construction

- 7.4.3. The key construction activities which are likely to be required and have potential to affect the ecological features associated with the Site, include those activities listed in **Table 7.9**.

Table 7.9: Potential Construction activities resulting in potential change in ecological features

Construction Activity	Potential Ecological Effect
Vegetation and other Site clearance activities (e.g., installation of temporary compounds/offices)	Temporary/permanent habitat loss. Loss of species (killing and injury). Disturbance of species (physical). Disturbance of species (loss of or disruption to animal territories, severance, fragmentation or isolation). Disturbance of species (loss of foraging or shelter resources). Introduction/spread of invasive non-native or other undesirable species.
Topsoil stripping, bulk earthworks, soil storage and creation of new levels	Temporary/permanent habitat loss. Habitat degradation / disturbance (accidental damage, compaction). Loss of species (killing and injury).

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	Disturbance of species (physical). Disturbance of species (loss of or disruption to territories, severance, fragmentation or isolation). Disturbance of species (loss of foraging or shelter resources). Disturbance of species (noise and vibration). Introduction/spread of invasive non-native or other undesirable species.
Movement and operation of plant and machinery (including piling, if required) and construction traffic	Loss of species (killing and injury) Disturbance of species (noise and vibration). Introduction/spread of invasive non-native or other undesirable species.
Accidental spillages of fuels or chemicals	Habitat degradation (pollution). Possible loss of species (killing and injury).
Construction of buildings, roads, greenways and footpaths	Permanent/temporary habitat loss. Habitat degradation (accidental damage, compaction). Loss of species (killing and injury). Disturbance of species (physical). Disturbance of species (loss of foraging or shelter resources). Introduction/spread of invasive non-native or other undesirable species.
Landscaping and planting	Habitat creation. Habitat loss (permanent modification). Habitat degradation (accidental damage, compaction). Species gain (net gains foraging and shelter habitats as a consequence of net gains in scrub, trees and permanent grasslands). Species gain (strengthened ecological network as a consequence of improved habitat connectivity and diversity of habitats). Introduction/spread of invasive non-native or other undesirable species.

- 7.4.4. The potential for these construction activities to result in changes within the important ecological features which have been identified, are discussed in further detail in the following sections.

Nature Conservation Designations

Mersey Estuary SPA/RAMSAR

- 7.4.5. Due to the distance of these internationally designated sites (6.4km away) no direct or indirect impacts are anticipated on the designated wildlife sites, nor on the habitats or species the sites support during the construction phase of the Proposed Development. Therefore, there will be **no significant** effect on the Mersey Estuary SPA/Ramsar during the construction phase.

The Old Wood North LWS and The Old Wood South LWS

- 7.4.6. These two LWS's are hydrologically connected and The Old Wood North LWS lies adjacent to the Site in the west. A stand off of 15m minimum will be applied to Old Wood North LWS and so there will be no direct impacts during construction phase of the Proposed Development. However, these LWSs could be subject to indirect impacts during the construction phase such as airborne pollution, ground water contamination and sediment run off. Therefore, it is possible without additional mitigation measures that the Proposed Development will result in a **significant negative impact at Local level** during construction phase on these features.

The Old Wood Merseyside Ancient Woodland Inventory

- 7.4.7. Ancient woodland, identified as W1 in the Arboricultural Impact Assessment, is adjacent to the Site in the west. A 15m buffer in accordance with Natural England's Standing Advice has been applied to the application Site boundary therefore there will be no direct impact on the ancient woodland.

- 7.4.8. In addition, the nature of the proposals in this part of the Site are considered unlikely to have any indirect impact on the woodland due to the distance between the Proposed Development and the ancient woodland and therefore there will be **no significant effect**, on the ancient woodland during the construction phase of the Proposed Development.

Big Water and Big Water Wood Halsnead LWS

- 7.4.9. Big Water and Big Water Wood Halsnead LWS lies adjacent to the Site in the west. As above, a stand off of 15m minimum will be applied to the LWS and so there will be no direct impact during the construction phase of the Proposed Development. However, the LWS could be subject to indirect impacts during construction phase such as accidental encroachment, airborne pollution, ground water contamination and sediment run off. Therefore, it is possible without additional mitigation measures the Proposed Development will result in a **significant negative impact at Local level** during construction phase on this feature.

All other Local Wildlife Sites within 0.5km of the Site

- 7.4.10. All other Local Wildlife Sites (LWS) scoped in for assessment as per Table 7.7 are located within 0.5km of the Site. However, due to their distance from the sites being more than 300m away, and/or separated from the Site by other development (with regards to Parrens Covert LWS), there will be no direct impacts during construction phase of the Proposed Development. Indirect impacts such as airborne or ground water contamination are also unlikely given the distances

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between the Sites and the LWS's. Therefore, there will be **no significant effect** on these LWS's during the construction phase.

Habitats and Flora

Semi-Natural Broad-Leaved Woodland

- 7.4.11. There is a small area of woodland present in the north west corner of the Site which also extends off-Site. The majority of the woodland will be retained as part of embedded mitigation proposals. However, there will be a small element of permanent loss in order to facilitate the Proposed Development.
- 7.4.12. The direct, permanent loss of part of this habitat leads to a **significant negative effect at the IZol level** on this feature.
- 7.4.13. In addition, the woodland could also be subject to accidental impacts during the construction phase such root damage by construction vehicles. Additionally, indirect impacts such as airborne pollution or sediment runoff during construction could occur.
- 7.4.14. Therefore, it is possible that indirect impacts through vehicle movements and sediment/dust pollution could occur without additional mitigation measures, representing a **significant negative effect at the IZol level** on this feature.

Scattered Trees

- 7.4.15. Scattered and linear groupings of trees within the Application Site are present at the Site boundaries with the majority sitting outside the application boundary. These are identified within the Arboricultural Impact Assessment (**Appendix 7.5**). A small part of group G2 would be removed as part of the Proposed Development. This group is Category B and therefore moderate value. This loss represents a **significant negative effect at the IZol level** on this feature.
- 7.4.16. However, new native and ornamental tree planting in the form of street trees, trees in open space and within private gardens are included within the landscape masterplan. This will increase the provision of trees within the Application Site once established and so it is assessed there will be a **significant positive effect at the IZol level**.
- 7.4.17. Retained trees could also be subject to accidental direct impacts during construction phase such as root damage by construction vehicles, representing a **significant negative effect at the IZol level**.
- 7.4.18. Indirect impacts on retained trees through changes to hydrology could also occur without additional mitigation measures, representing a **significant negative effect at the IZol level**.

Bats – Roosting

- 7.4.19. The two trees within the Site with bat roost habitat suitability will be retained as part of the embedded mitigation of the Proposed Development. There will be no direct impacts on roosting bats and therefore **no significant effect** on roosting bats during the construction phase.
- 7.4.20. However, the retained trees could be subject to accidental direct impacts during construction phase such as via root damage by construction vehicles. Additionally, indirect impacts such as

disturbance from construction lighting or via noise disturbance during construction could occur. These impacts could result in a **significant negative effect at Local level**.

Bats – Foraging and Commuting

- 7.4.21. The bat assemblage recorded on Site is not considered to be of exceptional diversity and includes species which are widespread across the UK. Bat activity surveys confirmed that bat activity was greatest along the tree lines on the western border and around water features present adjacent to the Site.
- 7.4.22. Embedded mitigation retains the key tree line and scattered tree habitats, as well as off-Site water bodies which will not be directly affected by the Proposed Development. Losses of the grassland and the small area of woodland will occur during the construction phase however, which could disrupt bat foraging and commuting behaviour and will reduce habitat availability and potentially increase the energetic cost of foraging bats in the local area during construction. However, supplementary planting of scrub, trees and grassland habitats will strengthen retained foraging and commuting habitats around the edge of the Site, as well as the inclusion of SUDs features, which are all of benefit to foraging and commuting bats in the area and so it is assessed there will be a **significant positive effect at the IZol level**.
- 7.4.23. It is unlikely that significant construction activity between dusk and dawn during the main bat active period (May – October) will be required. However, there is occasionally the need for 24 hour activities and in these situations, any proposed construction lighting could potentially have a detrimental impact on bat foraging and commuting in the absence of additional mitigation. Artificial lighting has the potential to light up key commuting routes as well as foraging hotspots, disrupting normal behaviour and increasing energetic costs for bats. The potential impact of lighting on bat foraging and commuting is therefore considered to be a **significant negative effect at Local level** during the construction phase.

Table 7.10: Summary of Construction effects

Important Ecological Feature	Potential Effect(s) prior to Mitigation	Significance CIEEM
Mersey Estuary SPA/RAMSAR	None	Not significant
The Old Wood North and The Old Wood South LWS	Potential degradation through accidental encroachment and construction pollution events	Significant negative impact at Local level
The Old Wood Merseyside Ancient Woodland Inventory	None	Not significant
Big Water and Big Water Wood Halsnead LWS	Potential degradation through accidental encroachment and construction pollution events	Significant negative impact at Local level
All other Local Wildlife Sites within 0.5km of the Site	None	Not significant

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Semi-Natural Broad-Leaved Woodland	Small loss of woodland habitat	Significant negative impact at IZol level
Semi-Natural Broad-Leaved Woodland	Potential degradation through accidental encroachment and construction pollution events	Significant negative impact at IZol level
Scattered Trees	Loss of trees initially but with embedded replacement tree planting in landscape scheme	Significant positive impact at the IZol level
Scattered Trees	Potential degradation through accidental encroachment and construction pollution events.	Significant negative impact at the IZol level
Bats – Roosting	Trees with suitability for roosting bats retained within the design.	Not significant
Bats – Roosting	Potential disturbance of trees with suitability for roosting bats through lighting or noise during construction.	Significant negative impact at Local level
Bats – Foraging and Commuting	Loss of bat foraging/commuting routes initially but subsequent inclusion of trees, scrub and SUDs features within the landscape scheme	Significant positive impact at IZol level
Bats – Foraging and Commuting	Construction lighting impacts on bat foraging/commuting routes.	Significant negative impact at Local level

Operation

7.4.24. Operational activities which are likely to occur and their potential to give rise to biophysical changes, include those activities listed in **Table 7.11** below. If not specifically listed within this section, no additional operational impacts are anticipated on the ecological feature in question.

Table 7.11: Potential Operational activities resulting in potential change in ecological features

Operational Activity	Potential Ecological Effect
Increased public access and recreational pressures	Habitat degradation (soil compaction or erosion by trampling, accidental damage, direct interference, littering or tipping) Disturbance of species (behavioural changes, reduction in foraging, interruption to dispersal or breeding)

	Mortality of species (disturbance of critical life stages e.g. hibernating bats, direct interference, ingestion of or entrapment in litter objects) Introduction or spread of invasive or undesirable species
Traffic movements (residents and other visitors)	Noise and light pollution. Mortality of species. Disturbance of species.
Artificial lighting (street lights, lighting of footpaths and buildings)	Light pollution. Disruption to species (behavioural changes, changes in species abundance and dispersion patterns, reduction in foraging times of nocturnal species) Increased predation effects (mortality) in nocturnal species. Barrier effects for light sensitive species.
Presence of pets	Mortality of species Reduced breeding success of species.

Nature Conservation Designations

Mersey Estuary SPA/RAMSAR

- 7.4.25. The Mersey Estuary SPA/Ramsar lies 6.4km south of the Site. The Proposed Development comprising 190 residential units has the potential to have an indirect negative impact on the SPA/Ramsar through an increase in public pressure. An increase in public pressure could lead to disturbance of important bird assemblages (features of designation) that are overwintering on the Mersey Estuary²⁴.
- 7.4.26. A total of approximately 3.1ha of green infrastructure is proposed on Site as part of the embedded mitigation, with the majority of this being publicly accessible. This has been designed to be easily accessible from the residential part of the Proposed Development Site and provide pathways as well as open areas of grassland to promote recreational activities such as walking, jogging and walking dogs.
- 7.4.27. In addition to the onsite provision of open space, the Site forms part of Halsnead Garden Village. Part of the overall garden village proposals (detailed within the Garden Village Masterplan Supplementary Planning document (June 2017)) involves the creation of a new country park,

²⁴ [Recreation Mitigation Strategy – Merseyside Environmental Advisory Service](#)

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covering approximately 43ha, on the former Cronton Colliery and enhancement of pedestrian and cycling connection to the country park from the rest of the garden village.

- 7.4.28. It is currently unknown when the Cronton Colliery Country Park will open, but it is likely to be before or close to the time when the Proposed Development becomes fully operational, and works have already started across the Site including tree works and maintenance. This area will therefore provide a new area for walkers and dog walkers to use and for other recreational activities, diverting recreational pressure away from sensitive protected Sites.
- 7.4.29. Other local suitable alternative natural greenspaces (SANGs) which are present within 10km of the Site include:
- Stadt Moers Park (3.2km from Site)
 - Taylor Park (6.4km from Site)
 - Croxteth Hall and Country Park (10km from Site)
- 7.4.30. The driving distance from the Proposed Development to the Mersey Estuary SPA/Ramsar at its closest accessible point is approximately 10miles (16km approx., 25-minute drive). Based on an average house occupancy of 2.4 people (2021 census) for 190 dwellings the likely increase in population size for the area would be 456.
- 7.4.31. The average trip length for a day trip by people in the UK is 12.8 miles (20km approx.) (National Travel Survey, 2024²⁵). The Site lies 10miles at its closest point but spans almost 12 miles along the coastline. The size of the designated Sites means that any visits and recreational pressure is spread rather than concentrated on one small area of the Site. Surveys also indicate that local residents on short visits account for the majority of recreational use around the coast²⁶.
- 7.4.32. In a recent census, 69% of the UK population claim to spend free time outside in green and natural spaces at least once a week (People and Nature Survey, Natural England, 2025²⁷). However, only 29% of these claimed to visit beach or coastal areas each month over other green areas such as urban green spaces, woodlands, rivers, countryside and other nature reserves. Therefore, if all residents made visits to the Mersey Estuary SPA/Ramsar this would result in an increase of 133 people visiting this designated Site for recreational purposes each month.
- 7.4.33. Given that the Mersey Estuary SPA/Ramsar spans to both sides of the River, including the Wirral, the likelihood of recreational visits to that area of the Site are significantly reduced due to distance, travel time and cost of crossing the river via car (toll bridges or tunnels) and given the abundance of other similar sites in the surrounding 20km area such as the Liverpool Bay SPA, Mersey Narrows and North Wirral Foreshore SPA/Ramsar, The Dee Estuary SAC and the Sefton Coast SAC, and assuming that visits by people each month would be to only one of these other four protected Sites, this would reduce visit rates much further, approximately 27 more people visiting the Mersey Estuary SPA/Ramsar each month.
- 7.4.34. According to a study conducted in 2022²⁸ in the Liverpool City Region and West Lancashire it was estimated that more than 33,500 people were visiting the coastline, which includes the

²⁵ [Purpose of travel – GOV.UK](https://gov.uk/purpose-of-travel)

²⁶ [LCR RMS EvidenceReport_v24_Optv2.pdf](#)

²⁷ [The People and Nature Surveys for England – GOV.UK](https://gov.uk/people-and-nature-surveys-for-england)

²⁸ [LCR-and-West-Lancs-visitor-survey-report-final-v3-Report-Body.pdf](#)

designated sites listed above, each day. The approximate 27 extra visitors per month then accounts for less than 0.01% of visitors to the Mersey Estuary SPA/Ramsar Site, and therefore it is highly unlikely that this level of increase in recreational pressure would have a large significant effect on this designated site.

- 7.4.35. Taking into account the very small percentage increase in the public potentially using the SPA/Ramsar in conjunction with the provision of the informal open space, and creation of large areas of open space as a result of the wider garden village development conducive to recreation adjacent to the Proposed Development, there will be **no significant effect** on this feature although further additional mitigation will be included in order to further ensure there is no significant effect.

The Old Wood North and The Old Wood South LWS

- 7.4.36. Increased recreational pressure on these adjacent local wildlife sites has the potential to indirectly affect the sites in the operational phase of development. These sites are conveniently situated adjacent to the Proposed Development Site for public access, and the proposed GI for the Site incorporates public footpaths and cycleways that join those already present within these Local Wildlife Sites. Although the designated sites are already well used by local residents for dog walking and other outdoor activities an increase in the number of residential units adjacent to the designated sites will undoubtedly result in an increase in public recreational pressure through dog fouling, trampling and physical disturbance/erosion of habitats, where public access allows.
- 7.4.37. Furthermore, it is likely that the species that these local wildlife sites support may be affected by an increase in domestic pets, namely cats, once the Site is occupied. Increased predation of nesting birds will likely lead to a negative effect on bird populations within the local wildlife sites.
- 7.4.38. Therefore, there is considered to be a **significant negative effect at Local level** for the locally designated sites at the operational phase.

The Old Wood Merseyside Ancient Woodland Inventory

- 7.4.39. Increased recreational pressure on the ancient woodland has the potential to indirectly affect it in the operation phase of development. This would result from an increase in public recreational pressure through dog fouling, trampling and physical disturbance/erosion of habitats, where public access allows.
- 7.4.40. Increased recreational pressure on the adjacent ancient woodland has the potential to indirectly affect the habitat in the operational phase of development and therefore, there is considered to be a **significant negative effect at Local level** for the ancient woodland at the operational phase.

Big Water and Big Water Wood Halsnead LWS

- 7.4.41. Similarly to The Old Wood North and South LWS's, increased recreational pressure on this adjacent local wildlife site has the potential to indirectly affect the site in the operational phase of development. This site is conveniently situated adjacent to the Proposed Development Site for public access and the proposed GI for the Site incorporates public footpaths and cycleways that join those already present. Although the designated site is already well used by local residents for dog walking, fishing and other outdoor activities an increase in the number of residential units adjacent to the designated site will undoubtedly result in an increase in public recreational pressure

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7.4.42. Furthermore, it is likely that the species that this local wildlife supports may be affected by an increase in domestic pets, namely cats, once the Site is occupied. Increased predation of nesting birds will likely lead to a negative effect on bird populations within the local wildlife site.

7.4.43. Therefore, there is considered to be a **significant negative effect at Local level** for the locally designated site at the operational phase.

All other Local Wildlife Sites within 0.5km of the Site

7.4.44. The completed Proposed Development will not have a direct effect upon the habitat and species associated with these LWSs.

7.4.45. The completed Proposed Development, however, does have the potential to have an indirect negative impact on these LWSs through an increase in public pressure through dog fouling, trampling and physical disturbance/erosion of habitats, where public access allows. The provision of green infrastructure and publicly accessible open space as part of the development and the opening of the Cronton Colliery Country Park will serve to encourage new residents to stay on Site rather than travel to other areas in the locality. While small numbers may still visit these LWSs, it is probable that there will be **no significant effect** as a result of the completed development.

Habitats and Flora

Semi-Natural Broad-Leaved Woodland

7.4.46. There is the potential for the diversity and structure of any retained woodland to be degraded through a lack of management, vandalism, trampling of vegetation and an increase in dog fouling as a result of the increased use of the area during occupation.

7.4.47. Therefore, without additional mitigation measures, it is considered that this will result in **significant negative effect at the IZol level** on this feature.

Scattered Trees

7.4.48. The likelihood of negative effects on scattered trees during occupation is minimal with vandalism the only likely effect. Established trees are fundamentally resilient to these kinds of effects and so it is probable there will be **no significant effect** as a result of the completed Proposed Development.

Bats – Roosting

7.4.49. The two trees within the Site with bat roost habitat suitability will be retained as part of the embedded mitigation of the Proposed Development. As such it is not predicted that these features will be directly negatively impacted. It may be that non-detrimental light pruning will be required through ongoing operational Site management however; it is assumed there will be no direct impacts on the features which could support roosting bats or roosting bats themselves.

7.4.50. However, indirect impacts such as disturbance from street lighting could occur. These indirect impacts could result in a **significant negative effect at Local level**.

Bats – Foraging and Commuting

- 7.4.51. Although it was considered the Site provided limited foraging opportunity for bats, there is the potential that bats using the area for foraging and commuting could be disturbed or excluded by inappropriate street lighting, lighting around cycleways and footpaths, and where light spill occurs onto suitable habitats such as woodland edge habitat or areas of tree planting. Without additional mitigation measures, it is possible that this will lead to a **negative significant effect at the Local level**.

Table 7.12: Summary of Operational effects

Important Ecological Feature	Potential Effect(s) prior to Mitigation	Significance CIEEM
Mersey Estuary SPA/RAMSAR	Potential increase in public pressure on site	Not significant
The Old Wood North and The Old Wood South LWS	Potential increase in public pressure on sites Higher risk of predation for fauna species associated with the LWS due to domestic pets increase	Significant negative impact at Local level
The Old Wood Merseyside Ancient Woodland Inventory	Potential increase in public pressure on site	Significant negative impact at Local level
Big Water and Big Water Wood Halsnead LWS	Potential increase in public pressure on site Higher risk of predation for fauna species associated with the LWS due to domestic pets increase	Significant negative impact at Local level
All other Local Wildlife Sites within 0.5km of the Site	None	Not significant
Semi-Natural Broad-Leaved Woodland	Degradation through public pressure (trampling, litter, dog fouling)	Significant negative impact at IZol level
Scattered Trees	None	Not significant
Bats – Roosting	Potential indirect disturbance of roosting bats through street lighting	Significant negative impact at Local level
Bats – Foraging and Commuting	Disturbance to foraging and commuting bats from light spill	Significant negative impact at Local level

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7.5. Mitigation, Enhancement and Residual Effects**Mitigation by Design**

- 7.5.1. This section describes those mitigation measures which have been 'embedded' into the Proposed Development through an interactive process of assessment and redesign. In particular, this section reflects measures that have been incorporated into the parameters plan or other assessment parameters that will be automatically incorporated into any forthcoming planning permission by way of the approval of submitted plans.
- 7.5.2. Standard pollution prevention controls and maintenance of run off rates will be committed to as part of the drainage strategy for the Site and are further detailed in **Chapter 12**. The drainage strategy will include a surface water drainage management strategy for construction and operation of the Proposed Development. The surface water drainage management strategy will include the early provisioning of temporary and permanent Sustainable Drainage System (SuDS) infrastructure during the construction of each phase of the Proposed Development. SuDS will include attenuation ponds and swales within the Site to slow the transportation of surface water and to store surface water in high intensity rainfall events. SuDS will also improve runoff water quality by reducing contaminants through settlement or biological breakdown of pollutants, improving the water quality of the watercourses in the vicinity of the Site.
- 7.5.3. Green infrastructure (GI) principals have been integrated into the design strategy, with consideration to the retention, protection and enhancement of existing landscape features, in particular hedgerows, trees and an area of green space to the south of the Site. This area will form a strategic green corridor from the east to the west of the Site.
- 7.5.4. The Proposed Development will also look to incorporate strategic public open spaces (POS) throughout the Site to provide a break in the built form and offer habitat for local wildlife and visual amenity. Strategic greenways including footpaths and cycleways will also be incorporated around Proposed Development parcels. Where possible, loss of modified neutral grassland habitat will be offset through incorporation of diverse grassland habitat within areas of strategic POS and GI.
- 7.5.5. A green buffer providing at least 15 m stand off from the ancient woodland/semi-natural broad-leaved woodland in the west has been provided through the omission of this area from the application boundary. Additional buffer zones in the form of POS have been included in parts that will ensure the quality of the habitat is retained.
- 7.5.6. Tree loss will be minimised as far as possible, with the design retaining the majority of existing trees. Where trees are retained, they will be protected by a buffer at least adhering to the required root protection area. Where trees require removal, replacement planting will be incorporated within the Site to offset any tree loss.
- 7.5.7. Of the two trees identified with bat roost suitability, both will be retained within the Site design and will therefore maintain bat roosting opportunities in the future. Provision of the GI and POS areas across the Site, the grassland and SUDs features in the south of the Site and the connecting treelines, will provide connectivity for foraging and commuting bats between the open landscape to the east and across the Site to the woodland and waterbodies to the west.
- 7.5.8. Retention of trees, and provision of GI and POS areas across the Site will also maintain and enhance nesting and foraging habitat for urban and farmland birds within the Site locality; and will provide inter-connectivity for a range of other species (including common amphibians, invertebrates and terrestrial mammals).

Additional Mitigation

- 7.5.9. This section describes the measures which are proposed to mitigate any significant environmental effects. It is anticipated that the delivery of these measures will be secured by way of appropriate planning conditions or obligations.
- 7.5.10. Mitigation or compensation is required for each ecological feature which experiences negative significant effects, in order to reduce or offset the specific impacts of the Proposed Development on that feature. This section sets out the ecological mitigation measures that will be delivered as part of the planning applications for the Proposed Development. They are additional to the embedded mitigation measures and any mitigation required by other disciplines and as part of the overall scheme design.
- 7.5.11. In considering the effectiveness of different mitigation measures, the time required for the mitigation to become effective is an important factor; works such as planting, for example, require an establishment period and a maturation period before they have the potential to replace mature and structured habitats that might be damaged or lost during the construction phase. In some instances, though, mitigation measures would have an immediate effect. Time periods are considered as follows:
- Immediate – effective immediately;
 - Short term – effective within 2 years;
 - Medium term – effective within 2 – 5 years; and
 - Long term – effective within 5 – 10 years.
- 7.5.12. For legally protected species within the Proposed Development, any specific legal requirements for works affecting them would be met in addition to the proposed mitigation measures for the reduction of effects.
- 7.5.13. The mitigation hierarchy requires that adverse impacts are first avoided then where this is not possible, mitigated and as a last resort compensated (off-set). Mitigation measures are discussed with respect to demolition and construction and operation below.

Standard Construction Mitigation Measures

Construction Environmental Management Plan (CEMP)

- 7.5.14. All mitigation measures outlined within the ES to address significant construction effects will be included within the Construction Environmental Management Plan (CEMP), which will be conditioned within the planning permission and used to inform detailed phased CEMPs. Pre-construction surveys will be carried out to ensure baseline ecological data remains up to date.
- 7.5.15. The CEMP will include an Emergency Spill Response Plan and Dust Management Plan and associated monitoring. Those measures to be implemented prior to or during construction that are relevant to the ecological constraints identified are detailed below.
- 7.5.16. The CEMP will ensure a demarcation of the working areas (including storage areas and accesses), using appropriate fencing, to protect retained habitats and features. This mitigation measure will be effective immediately.

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- 7.5.17. The effects of construction will be minimised by preventing runoff and works pollution from entering watercourses in the wider landscape by identifying any specific requirements to ensure protection of the waterbodies to the west of the Site. This will be achieved through the use of bunds to catch and divert runoff, drip trays to prevent any oil and fuel spillages spreading. Windblown dust will be minimised by using wheel washing and damping down, while net fencing will catch windblown rubbish. This mitigation measure will be effective immediately.
- 7.5.18. Appropriate tree protection measures will be implemented, where required when works are in close proximity to retained trees and hedgerows and will be included in an Arboricultural Method Statement (AMS) appended to the CEMP. These measures will accord with BS 5837:2012. All tree and hedgerow works will comply with BS 3998:2010 'Tree Work – Recommendations'. These measures will minimise incidental damage and disturbance to the habitats and the species they support. All other retained habitats will also be appropriately protected to minimise incidental damage and disturbance. This mitigation measure will be effective immediately.
- 7.5.19. Site-wide tree protection measures will be required during construction to deliver the tree and hedgerow retention proposed. This will include temporary protective barrier fencing to demarcate a Construction Exclusion Zone (CEZ) around retained trees and hedges. This information will be detailed in an Arboricultural Method Statement (AMS).
- 7.5.20. To restrict spread of tree pathogens, all equipment and machinery and vehicles used for tree, hedge and shrub removal will be cleaned, disinfected and used in accordance with current Forestry Commission biosecurity guidance and the ECoW will advise on whether each working area requires 'red' or 'amber' level biosecurity precautions.
- 7.5.21. Any tree, scrub and other vegetation removal, will take place outside the bird nesting season (avoiding the period March to August inclusive). For small vegetation patches where this timing may not be achievable, removal/demolition will only be allowed on confirmation by an ecologist that no nesting birds are present. This mitigation measure will be effective immediately.
- 7.5.22. A Precautionary Working Measures Method Statement (PWMMS) will be required during vegetation clearance and will be implemented to ensure killing or injury to species such as common amphibians, badger, reptiles, brown hare and any hedgehog that may be present will be avoided. This will take the form of staged vegetation clearance, to include strimming of vegetation to 150 mm, 24 hours before clearance/ground level works, followed by a hand search to move animals which are still present when clearance/ground level works are commenced. This mitigation measure will be effective immediately.
- 7.5.23. An Invasive Non-native Species Management Plan will be required to ensure appropriate removal and management of variegated yellow archangel, as well as rhododendron and Japanese knotweed adjacent to the Site, and that appropriate biosecurity measures are undertaken to prevent their spread in accordance with current guidelines.
- 7.5.24. An ecological watching brief will be implemented prior to and throughout the construction period, including landscaping and landscape enabling works. The watching brief will be performed by an Ecological Clerk of Works (ECoW), whose role will be to:
- Confirm/identify ecological constraints on the ground;
 - Review and update ecological surveys and method statements;
 - Ensure compliance with method statements, plans and specification and with legislation, licences and planning conditions;

- Implement or supervise ecological method statement, mitigation compensation and enhancement works;
- Deliver toolbox talks and relevant training;
- Investigate incidents relating to ecological features;
- Document and maintain records of ecological measures undertaken; and
- Liaise with client, contractor and third parties.

Landscape Strategy for Proposed Development

- 7.5.25. A landscape strategy for the Proposed Development will act to create a naturalistic planting scheme with ecological enhancement in mind in order to maximise the ecological value of the Site. This will include bands of grassland planting in the south and west of the Site, acting as a buffer to the tree lines and woodland to the west. The landscape strategy will also include areas of native shrub and tree planting, hedgerow planting, diverse grassland seeding, and the provision of swales to be designed and managed for wildlife. These mitigation measures will be effective in the medium to long-term.
- 7.5.26. New tree planting within the Proposed Development, will use locally appropriate species and be incorporated into the retained green corridors throughout the Site. This mitigation measure will be effective in the long-term.

Specific Ecological Mitigation Measures during Construction

Bats – Foraging and Commuting

- 7.5.27. With respect to the loss of foraging and commuting habitat for bats, the landscape strategy for the Proposed Development will include bands of woodland buffer planting in the west of the Site, thereby protecting edge habitat used by bats. The landscape strategy will also include areas of native shrub and tree planting, diverse grassland seeding, and provision of swales, enhancing foraging and commuting habitat for use by bats within and around the Site. These mitigation measures will be effective in the medium to long-term.
- 7.5.28. The use of/need for construction lighting will be minimal. Any necessary lighting will be directed away from trees, woodland blocks and hedgerows to avoid the possibility of deterring bat activity. Temporary construction lighting methods will be bat sensitive and will be set out within the Sensitive Lighting Strategy.
- 7.5.29. Where there is connectivity between foraging and commuting habitat within the Site and to the wider landscape, this will be protected during construction through protection of retained woodland and trees and implementation of the Sensitive Lighting Strategy.

Standard Operational Measures

- 7.5.30. Much of the mitigation identified for the operational phase has been designed into the proposed scheme as embedded mitigation, during the iterative design process, in order to avoid effects wherever possible.

Ecology

Habitat Management and Monitoring Plan (HMMP)

7.5.31. A Habitats Management and Monitoring Plan (HMMP), secured alongside the BNG which has been assessed separately to the EIA, will be produced which will set out the long-term management and monitoring objectives for both the retained and newly created habitats. The HMMP will include ecological requirements as well as other discipline's requirements. These ecological requirements will include the following:

- Management objectives;
- Key management prescriptions;
- Acceptable thresholds and/or targets, if relevant;
- Work schedules with timetables for management operations;
- Management roles and responsibilities; and, ideally
- Financial budgets.

7.5.32. The 30-year HMMP will be periodically reviewed and implemented by a management company.

Homeowners' Pack/Advisory Leaflet

7.5.33. To address the potential risk of an increased recreational pressure on internationally designated Sites in the wider area and Local Wildlife Sites in close proximity to the Site (The Old Wood North, The Old Wood South and Big Water and Big Water Wood Halsnead), it is recommended that an advisory leaflet is distributed in the sale pack of the properties. The leaflet will provide the following guidance taken from the MEAS recreation mitigation strategy²⁹:

- Advise that the properties and Site are within proximity to the Internationally protected sites but clearly set out the value, importance and sensitivity of the areas, identify the potentially damaging operations and also outline a 'responsible user code' such as advising the need to keep dogs on leads and keeping to the footpaths, for example.
- Identify other areas for recreation / dog walking, including Accessible Green Infrastructure (as identified by MEAS), away from the sensitive areas and the public footpaths, with maps, webpage links / QR codes and walking distances, as needed.
- It should also include guidance on domestic pet predation, in particular cats, and can provide advice such as using a bell on their collar to reduce the impact on bird populations in the adjacent local wildlife sites.

Signage

7.5.34. In addition to the leaflet, and to ensure the continuation of advice to the occupiers, it is advised that signage / information boards are installed at the POS and pedestrian exits from the Site, in particular where paths enter into the adjacent LWS's. The signs and boards will present the same

²⁹ [lcr_leaflet_knowsley.pdf](#)

information as outlined above for the advisory leaflets as well as specific LWS guidance such as dogs on leads, sticking to designated paths and cleaning up dog waste.

Specific Ecological Mitigation Measures during Operation

Bats – Roosting and Foraging and Commuting

7.5.35. A Sensitive Lighting Strategy will set out the lighting proposals during both construction and operation to ensure potential adverse effects on bats are avoided. The Sensitive Lighting Strategy will address four design principles and would be effective immediately:

- Unnecessary lighting will be avoided – this applies to both existing and proposed habitat features of value to bats.
- Spatial spread of lighting will be minimised – the horizontal and vertical spread of artificial light will be limited and take into account both primary and reflected light sources. Directional lighting can be achieved by angle and orientation of beam, use of a cowl, louvre or other light shield, or a combination of these.
- Considered timing and duration of lighting – timers and bespoke dimming regimes may be used to ensure that luminaires are reduced at times of predicted low use. These can be set to change with the seasons and therefore reflect the shifting time of dusk and dawn throughout the year. Motion sensors provide further control to ensure that areas are illuminated only when required.
- Intensity and colour of lighting will be limited – light intensity will be designed to be as low as possible whilst meeting the objectives of the intended function. The colour of lighting will need to take into account the sensitivity of the ecological features on Site. Light sources selected should emit zero ultra-violet light wherever possible. Bat Conservation Trust (2016) guidance recommends that white and blue spectrum light should be avoided or where white lights are required these should be of warm/neutral colour and have a peak wavelength above 550 nanometres. Narrow spectrum light sources will be used to lower the range of species affected by lighting.

Enhancements

Biodiversity Enhancement Plan

7.5.36. A range of bat and bird boxes will be installed within the Proposed Development. These will be installed on mature trees, and where possible onto the built residential units, with a minimum equivalent of one box per residential unit. The boxes will be positioned to face onto vegetated habitats around the periphery of the Site that represent retained or newly created potential foraging and commuting habitats, and bat boxes will be located away from permanent security or street lighting. Hedgehog highways, amphibian and reptile hibernacula/log piles, bug hotels and bee bricks will also be incorporated into the design.

Table 7.13: Mitigation Summary

Ref	Measure to avoid, reduce or manage any adverse effects and/or to deliver beneficial effects	How measure would be secured		
		By Design	By S.106	By Condition
1	Drainage strategy to avoid run-off and wastewater pollution	X		X
2	15m buffer from adjacent ancient woodland and green corridor maintained	X		
3	Additional habitat provision and green infrastructure, including tree and shrub planting, wildflower planting, , formal hedging of native and ornamental species and POS areas.	X		
4	Pollution prevention measures detailed within a CEMP			X
5	Tree and hedge protection measures detailed within an AMS			X
7	General animal welfare measures detailed within a PWMS			X
8	Habitat management measures detailed within a HMMP			X
9	Light disturbance prevention through designing a Sensitive Lighting Strategy for bats			X
10	Homeowner packs and signage to reduce effects on nature designated sites			X
11	Biodiversity Enhancement Plan incorporating bat and bird box, hedgehog highways, hibernacula, bug hotels and bee bricks			X

Residual Effects

- 7.5.37. This section summarises the significance of the anticipated residual environmental effects, which are those that remain after all proposed mitigation measures are implemented. The assessment of effects of an impact after mitigation measures have been applied is described as the residual impact.

Construction

Nature Conservation Designations

- 7.5.38. For locally designated sites (LWS), in the presence of the correct implementation of actions as detailed within the CEMP, there will be no significant effects and therefore the residual effect is **not significant (Negligible)**.

Semi-Natural Broad-Leaved Woodland

- 7.5.39. Due to the lack of specific woodland planting within the landscape masterplan this residual effect on retained semi-natural broad-leaved woodland remains a **significant negative effect at IZol level (Negligible)**.

- 7.5.40. In the presence of the maintenance of the tree protection measures throughout the construction phase the residual effect on retained semi-natural broad-leaved woodland is assessed as **not significant (Negligible)**.

Scattered Trees

- 7.5.41. There will be loss of scattered trees. New tree planting is proposed throughout the Site that will effectively mitigate for this loss and provide a **significant positive impact at the IZol level (Negligible)**.

- 7.5.42. In the presence of the maintenance of the tree protection measures, as outlined in the AMS, throughout the construction phase the residual effect on retained scattered trees is assessed as **not significant (Negligible)**.

Bats – Roosting

- 7.5.43. Any residual effects on bat roosting as a result of disturbance from construction activities will be mitigated for by a Sensitive Lighting Strategy and CEMP and is therefore assessed as **not significant (Negligible)**.

- 7.5.1. With the installation of bat boxes across the Site, and in time the maturation of newly planted trees roosting bats will benefit from an increased range of roosting opportunities, leading to a **significant positive effect at the IZol level (Negligible)**.

Bats – Foraging and Commuting

- 7.5.2. Any residual effects as a result of lighting are assessed as negligible with implementation of a Sensitive Lighting Strategy and throughout the construction phase the residual effect is assessed to be **not significant (Negligible)**.

- 7.5.3. With the provision of GI across the Site, and in time the maturation of newly planted trees and habitats, foraging and commuting bats will benefit from an increased range of foraging and commuting opportunities, leading to a **significant positive effect at the IZol level (Negligible)**.

Operational

Nature Conservation Designations

- 7.5.4. In the presence of the additional mitigation measures including the preparation and distribution of a Homeowners' Pack / Advisory Leaflet and signage to advise residents of the value of the designated sites, a 'responsible user code' and to advise on alternative areas for dog walking and recreation it is considered that the residual effect is negligible and therefore **not significant (Negligible)**.

Ancient Woodland

- 7.5.5. In the presence of the additional mitigation measures including the preparation and distribution of a Homeowners' Pack / Advisory Leaflet and signage to advise residents of the value of the ancient woodland, a 'responsible user code' and to advise on alternative areas for dog walking and recreation it is considered that the residual effect is negligible and therefore **not significant (Negligible)**.

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Semi-Natural Broad-Leaved Woodland

- 7.5.6. In the presence of the management, maintenance and monitoring measures outlined within the HMMP, to be followed throughout the operational phase the residual effect for retained woodland is assessed as negligible and therefore is **not significant (Negligible)**.

Bats – Roosting

- 7.5.7. In the presence of the preparation and implementation of a Sensitive Lighting Strategy, prepared in accordance with current guidelines, with particular regards to the existing bat roost potential trees, as well as any bat roost boxes to be installed as mitigation, the residual effect on bat roosting is reduced to negligible and therefore is **not significant (Negligible)**.

Bats – Foraging and Commuting

- 7.5.8. In the presence of the preparation and implementation of a Sensitive Lighting Strategy, prepared in accordance with current guidelines, and the long-term management and maintenance of lighting strategy parameters the residual effect on bat foraging and commuting is reduced to negligible and therefore is **not significant (Negligible)**.

7.6. Climate Change

- 7.6.1. This section focusses on the effects of climate change on biodiversity. Impacts brought about by the Proposed Development with respect to emissions and traffic are discussed in Chapter 9 (Transport and Access) and Chapter 10 (Air Quality).
- 7.6.2. EU guidance (2013) requires that EIA considers the effects of projects on climate change and on biodiversity. The EU guidance indicates that effects which are only likely to be experienced in the next 20 years should be based on current weather patterns or near-future projections if available and relevant. In relation to biodiversity, all significant effects of the Proposed Development are experienced in this timeframe. The assessment of residual effects finds that affected habitats and species are adequately mitigated. However, there are three material considerations pertinent to climate change and biodiversity that the assessment of longer-term effects must take into account.
- 7.6.3. Firstly, how projects might be assessed in terms of their effects on the 'manageability' of the Natura 2000 network (2013). With respect to the Site, two National Site Network sites are located within 10km; the Mersey Estuary SPA/Ramsar site 6.4km south of the Site. However, no significant impacts on these sites have been identified as part of the ecological impact assessment and these distances are considered large enough that no impacts are predicted upon National Site Network sites with respect to climate change. Therefore, development of the Site will not contribute to existing pressures on National Site Network sites, affect the ability for site managers to maintain dialogue with a range of stakeholders, constrain the possibility of adaptive management plans for the sites themselves, or constrain future monitoring of climate change effects on biodiversity within these sites.
- 7.6.4. Secondly, the EIA Guidance requires developers to ensure that their designs and mitigation measures are resilient to projected climate change. For the Site, approximately 3.1ha of Green Infrastructure has been proposed, incorporating provision of wildflower grassland, attenuation ponds with marginal vegetation planting, tree and hedgerow planting will maintain network connectivity and increase opportunities for biodiversity to thrive in the long term. The tree planting, hedgerows and other new landscapes will be planted in accordance with guidance set

out by Forestry Commission's UK Forestry Standard concerning Forests and Climate Change (2011).

- 7.6.5. Thirdly, the EU guidance in regards to assessing the impact of development on the manageability of National Site Network sites is transferable to a consideration of the impact on general manageability of biodiversity in the area of the Site. This can be assessed in terms of management of the network of designated sites, bearing in mind Government commitments to maintain SSSIs in favourable condition and for the majority of local wildlife sites to be actively managed. No direct or indirect residual effects of the Proposed Development are predicted for the surrounding designated sites. The Proposed Development will not contribute to existing pressures on these sites. No constraints to information-sharing and the ability for site managers to maintain dialogue with a range of stakeholders will occur.
- 7.6.6. Climate change may cause changes in distribution of fauna with certain species moving north as temperatures warm, as is being seen with certain species such as the Dartford warbler. Provision of the public open space and additional tree, hedgerow, grassland and attenuation habitat within the Site will ensure migration corridors are available along which fauna can move.
- 7.6.7. The potential long-term effects of the Proposed Development, taking into account all design and mitigation by design, have been considered as to whether they are resilient in a changing climate with respect to biodiversity. In summary, the Proposed Development will be constructed and created/ enhanced habitats established within 10 to 15 years of commencement and managed for 30 years as part of the Biodiversity Net Gain (BNG) commitment (assessed separately to the EIA). The replacement habitat designs will utilise species which take account of climate change predictions and therefore the mitigation by design is likely to be resilient in the long term.

7.7. Cumulative and In-Combination Effects

- 7.7.1. The following section provides an overview of the potential cumulative effects from different developments, in combination with the Proposed Development. The list of cumulative developments is provided in Chapter 2 and the location of these developments is shown in **Figure 2.1**.
- 7.7.2. Cumulative effects have been assessed in terms of the additional and combined effects. No significant habitat/species residual impacts are anticipated as a result of the Proposed Development. On this basis, it is assumed that for potential cumulative impacts to occur with regard to impacts on habitats and species, the application would need to be relatively close. Small developments, i.e. residential applications of 10 units or under, single agricultural buildings, certain change of land use applications, have been scoped out. The assessment of cumulative effects focussed on the remaining identified applications and allocations within 5 km of the Proposed Development. **Table 7.14** lists the committed and reasonably foreseeable projects considered and provides commentary on the potential for cumulative effects, when considered alongside the Proposed Development.

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Table 7.14: Summary of Cumulative Effects

Scheme Name and Planning Reference	Description	Direction and Approximate Distance from the Site	Planning Status	Scoped In/Out	Comments
Fox's Bank, Halsnead Garden Village, Land West of Fox's Bank Lane and North of M62, Whiston, Knowsley, L35 3SS Applicant Taylor Wimpey 20/00417/FUL	Residential development comprising the erection of 350 dwellings together with the construction of vehicular access off Fox's Bank Lane, and supporting infrastructure.	Adjacent to the east	Consented 9th February 2022 Construction underway	Scoped Out	Construction of the development is well underway, it is likely that works will be complete before development commences on the Proposed Development. On the basis of the available information, no cumulative effects would be predicted to arise from this application in combination with the Proposed Development.
Land South of Lickers Lane and Site of Former Saunder's Nursery, Windy Arbor Road, Halsnead Garden Village, Whiston Applicant: Nuvu/Your Housing 20/00399/OUT Varied under 23/02755/FUL RM 23/02378/REM	Outline application for Proposed Residential Development of up to 277 Dwellings and an Apartment Development of up to 100 units for over 50s and supporting infrastructure and associated works.	C 150m to the north of the Site	Consented August 2023 RM for 239 dwellings granted 26th January 2024	Scoped Out	No ecological impacts were anticipated as a result of this proposed development. On the basis of the available information, no cumulative effects would be predicted to arise from this application in combination with the Proposed Development.
Land North of M62 Motorway off Windy Arbor Road (Halsnead) Whiston Knowsley L35 1RB	Hybrid Application comprising full details for 123 dwellings and supporting infrastructure and works; outline application for 237	C. 100m to the west of the Site	Consented 17th March 2021	Scoped Out	No ecological impacts were anticipated as a result of this proposed development. On the basis of the available information, no cumulative effects would be predicted to arise from

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Applicant Bloor 18/00283/HYB RM 22/00213/REM	dwelling, car park and associated works		Full 123 dwellings under construction RM for 208 dwellings granted 10 th May 2023		this application in combination with the Proposed Development.
Land to the South of Lickers Lane, Halsnead Garden Village, Whiston, Knowsley Applicant Vistry 22/00600/FUL	Erection of 120 dwellings with 1 vehicular access off Lickers lane and other associated works.	C 300m to the north of the Site	Approved (30 th May 2024)	Scoped In	Several residual adverse significant impacts are identified for this development proposal. Those which may have a cumulative effect with this development include adverse direct impacts on priority woodland habitat (semi-natural broad-leaved woodland) and increased recreational pressure on LWS network. With respect to loss of woodland habitats, while there is likely to be a cumulative impact between the two developments, however it is not considered that this will increase the significance of the impact above IZol, given that woodland loss on the Site is so small. With respect to increased recreational pressure on the LWS network, the CEMP and Homeowner packs for the adjacent LWS's will ensure that effects on the LWSs are reduced and no cumulative impact will occur.
Former Site of Cronton Colliery Cronton Road Halsnead Garden Village Knowsley	Hybrid Application comprising: full application for 161,900 sqft of storage and distribution floorspace and associated infrastructure and works; outline application for the	Adjacent to the south of the M62, c. 100m south of the Site	Consented 4 th March 2022	Scoped In	Several residual adverse significant impacts are identified for this development proposal. Those which may have a cumulative effect with this development include adverse impacts on

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Applicants Tritax Symmetry Huyton Ltd (Symmetry Park) 20/00494/HYB RM applications: 22/00162/REM 23/01949/REM 24/00145/REM	development of up to 838,100 sqft of storage and distribution floorspace and supporting infrastructure		Full consented section complete RM 22/00162/REM 23/01949/REM consented June 2023 and March 2024 24/00145/REM awaiting decision.		broad-leaved woodland and direct impacts on LWS, The Old Wood South. With respect to adverse impacts on woodland habitats. While there is likely to be a cumulative impact between the two developments, it is not considered that this will increase the significance of the impact above IZol, given that woodland loss on the Site is so small. With respect to direct impact on the LWS network, the CEMP and Homeowners Packs for the adjacent LWS's will ensure that effects on the LWSs are reduced and no cumulative impact will occur. It should be noted that this development is commercial and for employment and so less likely impacts on the LWS as a result of increased pressure is anticipated.
Land to the North of Cronton Road and South of the M62, Cronton, Knowsley (known as Mercury 62) Applicant: Maro Developments 22/00587/FUL	Erection of 1 no. commercial unit (312,000 sq ft use class b8) with ancillary offices and outbuildings together with access works, landscaping, service yard, car parking, servicing and other associated works	420m to the south-west of the Site	Consented 18th March 2025	Scoped Out	No ecological impacts were anticipated as a result of this proposed development. On the basis of the available information, no cumulative effects would be predicted to arise from this application in combination with the Proposed Development.
Land at Windy Arbor Brow / Windy Arbor Road Whiston Knowsley Applicant Forth Homes 20/00329/FUL	Erection of a residential development of 43 dwellings	600m to the west of the Site	Consented 8th December 2021 S73 application	Scoped In	Residual adverse significant impacts are identified for this development proposal with regards to recreational pressure on the Mersey Estuary SPA/Ramsar. This therefore has the possibility to be a cumulative effect between

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S73 Application (23/01417/FUL)			awaiting determination		the two developments although it is unlikely to increase the effect to a significant level. Mitigation within the assessed Proposed Development including homeowners packs, will ensure effects are reduced and there will be no cumulative impact.
Parcel C at Prescott Cables Site Prescot Park Way Knowsley Prescot L34 1AH 15/00022/OUT 20/00767/REM	Application for Approval of Reserved Matters Pursuant to Outline Planning Permission 15/00022/OUT (Outline Application for mixed use development comprising up to 750 dwellings, and up to 929 sqm of commercial / industrial buildings (use classes B1/B2/B8). Approval sought for appearance, access, layout and landscaping for the erection of 53 dwellings	1.7km to the north-west of the Site	Consented 12th August 2021 Under construction with majority of the site built out.	Scoped Out	Construction of this development is well underway; it is likely that works will be complete before development commences on the Proposed Development. On the basis of the available information, no cumulative effects would be predicted to arise from this application in combination with the Proposed Development.
Land East of Prescott Park Way Prescot Cables Prescot L34 1AH 20/00789/FUL	Erection of 28 no. dwellings (use class c3) together with access and associated works	1.5km to the north-west of the Site	Consented 1st March 2022. Under Construction.	Scoped Out	Construction of this development is well underway, it is likely that works will be complete before development commences on the Proposed Development. On the basis of the available information, no cumulative effects would be predicted to arise from this application in combination with the Proposed Development.

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South of Whiston/Land north of the M62 SUE, 'Halsnead Park' (allocated within the Knowsley Local Plan Core Strategy)	Notional capacity: 1,503 dwellings plus 22.5ha employment and country park	Covers the Site and its surroundings,	Adopted in current local plan	Scoped Out	No information is available on likely residual impacts of this development. However, based on the nature of the project, for which the proposed development is included within, there is the potential for new residents to visit the LWS's, leading to increased recreational pressure on habitat features. However, the CEMP, Homeowner Packs as well as embedded and additional mitigation will ensure appropriate management of habitats and visitors and therefore this increase is not likely to significantly change the outcome of the assessment with respect to cumulative effects.
Disused Railway Line Extending from M62 Motorway Extending North Through Halsnead Park And to Rear of Cronton Avenue, Whiston, Knowsley 19/00651/FUL	Construction of Multi Use Path and Associated Groundworks	430m to the west of the Site	Consented March 2021 Construction has not yet commenced.	Scoped Out	No ecological impacts were anticipated as a result of this proposed development. On the basis of the available information, no cumulative effects would be predicted to arise from this application in combination with the Proposed Development.
Former Site of Cronton Colliery Cronton Road Cronton Knowsley L35 1QR 20/00578/FUL (This planning application is related to 20/00494/HYB above).	Construction of a new country park comprising the creation of sculpted landscape, habitat/wetland creation, associated works and infrastructure. This planning application also comprises the erection of a single storey visitor centre including reception, education space and	500m to the south-west of the Site	Awaiting decision	Scoped In	Several residual adverse significant impacts are identified for this development proposal. Those which may have a cumulative effect with this development include adverse impacts on broad-leaved woodland With respect to adverse impacts on woodland habitats, while there is likely to be a cumulative impact between the two developments, it is not considered that this will increase the significance of the impact above Local, given

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	outdoor classroom and access into the Site.				the very small amount of woodland loss on the current Site. With respect to the creation of a country park this is likely to have beneficial significant effects on the LWS network.
From Fox's Bank Lane Following the Northern Boundary of Agricultural Land South of Penny Lane to Opposite Oak Lodge 22/00195/KMBC1	Construction of a multi user route for pedestrians, cyclists and equestrians including a new equestrian, cyclist and pedestrian crossing on Fox's Bank Lane, installation of 2 no. k-barriers and access gates, regrading of land, landscaping, boundary treatments, signage and other associated works to connect Fox's Bank Lane at Halsnead Park to the existing Penny Lane highway	750m to the south-east of the Site	Consented 27th January 2023 Construction has not yet commenced.	Scoped Out	Following correct mitigation, no ecological impacts were anticipated as a result of this proposed development. On the basis of the available information, no cumulative effects would be predicted to arise from this application in combination with the Proposed Development.
20/00767/REM	Application for approval of reserved matters pursuant to outline planning permission 15/00022/OUT; 53 dwellings	2km to the north of the Site	Consented	Scoped Out	Construction of this development is well underway, it is likely that works will be complete before development commences on the Proposed Development. On the basis of the available information, no cumulative effects would be predicted to arise from this application in combination with the Proposed Development.

Ecology

Land North of Cable's way adjacent to Carr Lane and Cable's Way, Prescott, Knowsley 20/00576/FUL	Full planning permission for a new foodstore, employment development, access, landscaping and provision of associated infrastructure. Outline planning permission for a mixed-use development comprising a drive thru restaurant, drive thru coffee shop and public house together with associated parking and landscaping	2.5km to the north of the Site	Consented 28th November 2023	Scoped In	Several residual adverse significant impacts are identified for this development proposal. Those which may have a cumulative effect with this development include adverse impacts on woodland habitat (semi-natural broad-leaved woodland) and foraging and commuting bats. With respect to adverse impacts on woodland habitats. While there is likely to be a cumulative impact between the two developments, it is not considered that this will increase the significance of the impact above Local, given the very small amount of woodland loss on the current Site. With respect to foraging and commuting bats, the lighting strategy within the Site will reduce effects and the lack of connectivity between the two sites will ensure that no cumulative impact will occur.
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7.8. Summary

Introduction

- 7.8.1. The Ecological Impact Assessment (EclA) and Arboricultural Impact Assessment (AIA) have been prepared on behalf of Taylor Wimpey UK Limited in support of a planning application for a residential development on Land at Halsnead Garden Village, Knowsley, known as Phase 3 ('the Site'). This chapter has been written by The Environment Partnership Limited (TEP), with the purpose of assessing the likely significant effects of the Proposed Development on the environment in terms of ecology and arboriculture.
- 7.8.2. The EclA of the proposals upon identified ecological features have been undertaken with reference to the Ecological Impact Assessment Guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018). The EclA has:
- Established a robust and accurate ecological baseline for the Site;
 - Identified and evaluated the nature conservation/biodiversity interest present;
 - Identified any potential effects arising from the Proposed Development (construction and operational stages, including any relevant effects as a result of climate change);
 - Established the character and significance of those identified effects;
 - Identified mitigation measures to address the significant effects;
 - Assessed residual effects and the need for any compensation; and,
 - Assessed cumulative effects from other surrounding developments.

Baseline Conditions

- 7.8.3. Internationally designated sites Mersey Estuary Special Protection Area (SPA)/Ramsar designated for estuarine habitats and important bird assemblages lie 6.4km south of the Site. No nationally designated sites were identified within 5km of the Site. Thirteen non-statutory designated Local Wildlife sites lie within 1km of the Site, one of these sites is also considered to be ancient woodland.
- 7.8.4. The Site comprises a large disused arable field with with a small woodland block present in the north west corner of the Site. The field consists of modified neutral grassland and tall ruderal and a line of trees lies along the southern boundary of the Site and along the western boundary of the Site. Scattered scrub and trees lie on the northern boundary of the Site, adjacent to the residential park.
- 7.8.5. The Old Wood North LWS and Big Water and Big Water Wood LWS lie adjacent to the Site in the west. Halsnead Residential Park lies north of the Site and borders the Site perimeter and the M62 motorway borders the Site in the south. The immediate surrounding landscape is predominantly residential development with the M62 acting as a key wildlife barrier to the south of the Site.
- 7.8.6. Tree cover associated with the Site is exclusively at the boundaries and much of it is outside the application area. There is continuous canopy cover along the southern and western boundaries and scattered trees along the northern boundary. Woodland W1 in the south-west

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corner of the Site, known as Old Wood, is Ancient Semi-Natural Woodland with an oak, lime and sycamore dominated canopy and understorey of elder, hawthorn and holly. G1 forms a long linear group screening the Site from the motorway to the south and an additional linear group G2 forms the boundary with Big Water to the west.

- 7.8.7. Protected plant bluebell is present within woodland habitat adjacent to the Site. Invasive plant species variegated yellow archangel is present on Site, while Japanese knotweed is present adjacent to the Site in the north east and rhododendron is present off-Site in adjacent woodland to the west.
- 7.8.8. There are no ponds on Site, but 15 ponds are present within 500m of the Site, not separated by buffers for amphibian dispersal. Of these 15 ponds, seven were found to be suitable for eDNA survey, others were found to be dry or not permitted access for survey. The onsite ponds were assessed to have poor to good suitability for great crested newts. eDNA results confirmed that all ponds were negative for great crested newts.
- 7.8.9. Two trees on Site were assessed to have PRF-M potential to support roosting bats. Desktop study identified records for various species of bat within the 1km search area. The woodland edge habitat provides good foraging and commuting potential for bats with the boundary tree habitat associated with the southern and western boundaries also providing some foraging and commuting potential.
- 7.8.10. Multiple records were returned for a range of birds, including Schedule 1 birds. Although no full suite of breeding bird surveys was completed, due to the limited habitat present on the Site and limited complexity of the Site there is potential for common and widespread nesting birds to be present within the woodland, scrub and trees present on Site. No wintering wader or wildfowl which are qualifying features of the Mersey Estuary SPA or Mersey Estuary Ramsar were recorded during the wintering bird assessment and the Site is considered to be sub-optimal for wintering birds, due to high disturbance levels, lack of sightlines on Site and small size of the Site.
- 7.8.11. No signs of badger were recorded on Site or within the vicinity of the woodland, although the habitats on Site were assessed to have some suitability for them.
- 7.8.12. The habitats on Site and in the adjacent landscape were assessed to have some suitability for brown hare, hedgehogs, reptiles and invertebrates. However, there were no incidental observations of these species during other survey work.
- 7.8.13. The features taken forward for further assessment were:
- Mersey Estuary Ramsar/ SPA;
 - The Old Wood North LWS and The Old Wood South LWS
 - The Old Wood Ancient Woodland Inventory
 - Big Water and Big Water Wood LWS
 - All other Local Wildlife Sites within 0.5km;
 - Semi-natural broad-leaved woodland;
 - Scattered Trees; and

- Bats

Likely Significant Effects

Construction phase

- 7.8.14. The internationally designated sites and majority of LWS, including the Old Wood Merseyside Ancient Woodland inventory, are considered to be far enough from Site to avoid any direct or indirect impacts resulting from construction activities. Therefore, **no significant effect** has been assessed to occur on the Mersey Estuary, the Old Wood Ancient Woodland, or All other Local Wildlife Sites within 0.5km of the Site.
- 7.8.15. Without additional mitigation measures it has been assessed that a **significant negative effect at Local level** due to degradation of retained habitats as a result of accidental encroachment and pollution during construction activities could occur to the following features:
- The Old Wood North and The Old Wood South LWS; and
 - Big Water and Big Water Wood LWS.
- 7.8.16. Without additional mitigation measures it has been assessed that a **significant negative effect at the Local level** due to disturbance via lighting at the construction phases, could occur to the following features:
- Roosting bats; and
 - Foraging and commuting bats,
- 7.8.17. Without additional mitigation measures it has been assessed that **significant negative effect at the Local level** due to removal of habitats on Site and due to degradation of retained habitats as a result of pollution during construction activities, or could occur to the following features:
- Semi-natural broad-leaved woodland; and
 - Scattered trees.

Operational phase

- 7.8.18. Due to the provision of ample Public Open Space as part of the Proposed Development and that proposed as part of the wider Halsnead Garden Village (along the M62 corridor), **no significant effect** has been assessed to occur on the Mersey Estuary or all other Local Wildlife Sites within 0.5km of the Site as a result of the operational phase of the completed development.
- 7.8.19. Without additional mitigation measures it has been assessed that a **significant negative effect at the Local level** due to increased recreational pressures during operation could occur to the following features:
- The Old Wood North and South LWS;
 - The Old Wood Ancient Woodland Inventory; and
 - Big Water and Big Water Wood LWS.

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7.8.20. Without additional mitigation measures it has been assessed that a **significant negative effect at the Local level**, due to disturbance via street lighting, could occur to the following features during the operational phase of the Proposed Development:

- Roosting bats; and
- Foraging and commuting bats.

7.8.21. Without additional mitigation measures it has been assessed that a **significant negative effect at the IZol level**, due to degradation of habitat and associated species as a result of increased disturbance, and lack of management and maintenance, could occur to the following features during the operational phase of the Proposed Development:

- Semi-natural broad-leaved woodland.

Mitigation and Enhancement

Mitigation by design

7.8.22. Key existing habitats of value, including broad-leaved semi-natural woodland and trees are retained with appropriate landscaping.

7.8.23. A minimum 15m buffer has been applied to the ancient woodland to the west of the Site that is omitted from the application boundary. This will ensure no development takes place within close proximity to the protected habitats.

7.8.24. Habitat creation forms part of the design of the Proposed Development. This includes provision of native shrub and tree planting, wildflower meadow grassland planting and provision of attenuation ponds with permanent standing water and marginal vegetation planting. Substantial levels of ornamental planting are also included within the design which can still have value for wildlife.

Additional Mitigation Measures

7.8.25. A Construction Environmental Management Plan (CEMP) detailing measures that will be followed to avoid potential impacts from both windborne and run-off related pollution during the construction phase will be produced and adhered to.

7.8.26. An Arboricultural Method Statement (AMS) detailing measures to be implemented to ensure protection of retained trees and hedges during construction will be produced and adhered to.

7.8.27. Precautionary Working Method Statement (PWMS) detailing measures that will be implemented during the construction phase to ensure no harm to amphibians, nesting birds, badger, reptiles, brown hare or hedgehog during construction will be produced and adhered to.

7.8.28. A bat and bird box plan will be produced and adhered to; this will identify where additional bird nesting and bat roosting habitat will be incorporated into the Proposed Development.

7.8.29. A Habitat Management and Monitoring Plan (HMMP) will be produced and adhered to. The HMMP will detail measures that will be implemented during the initial stages of habitat establishment and also outline ongoing management requirements to ensure strengthening and functionality of created habitats. It will include measures to ensure retained habitat is managed to promote

an increase in biodiversity and management of bat and bird boxes to ensure nesting or roosting provision remains viable.

- 7.8.30. A Sensitive Lighting Strategy detailing measures to be incorporated into lighting design will be produced and adhered to. This will ensure features suitable for bat foraging, commuting and roosting are protected from disturbance from light spill.
- 7.8.31. Homeowner's packs will be produced and given to residents at the point of sale to include information about the internationally designated Sites, as well as the local wildlife Sites. Signage will be included at the exits of the Site detailing similar information in order to reduce recreational pressure on those Sites.

Residual Likely Significant Effects

- 7.8.32. Taking the above mitigation measures into account, the Proposed Development will have **no significant residual effects (Negligible)** on the features taken forward as part of this assessment, with the exception of semi-natural broad-leaved woodland where a residual effect of **significant at the IZol level (Negligible)** remains.
- 7.8.33. Although semi-natural broad-leaved woodland has been identified as having a residual **significant negative effect at the IZol level (Negligible)** as a result of habitat loss, Biodiversity Net Gain (BNG), assessed separately to this EIA, will compensate for these losses and secure an overall net gain in biodiversity at the Site.
- 7.8.34. The above mitigation measures and further enhancements will also lead to a **medium to long term significant positive effect at IZol level (Negligible)** for scattered trees, roosting bats and foraging and commuting bats.

Conclusion

- 7.8.35. The Proposed Development at the Application Site, with implementation of the proposed mitigation would be subject to **Negligible** effect, in EIA terms, for all of the features taken forward for assessment,
- 7.8.36. **Table 7.15** provides a summary of effects, mitigation and residual effects.

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Table 7.15: Summary of Effects, Mitigation and Residual Effects

Receptor / Receiving Environment	Description of Effect	Nature of Effect	Sensitivity Value	Magnitude of Effect	Geographic Importance	Significance of Effects	Mitigation / Enhancement Measures	Residual Effects
Construction								
Mersey Estuary Spa/Ramsar	Direct impacts of habitat loss/Indirect impacts of habitat degradation	Direct and Indirect	N/A	N/A	International	Not Significant (Negligible)	None required	Not Significant (Negligible)
The Old Wood North and The Old Wood South LWS	Degradation of habitat through encroachment/pollution	Indirect	N/A	N/A	County	Significant negative impact at Local level (Minor Adverse)	CEMP, AMS	Not Significant (Negligible)
The Old Wood Ancient Woodland Inventory	Degradation of habitat through pollution	Indirect	N/A	N/A	National	Not Significant (Negligible)	None required	Not Significant (Negligible)
Big Water and Big Water Wood LWS	Degradation of habitat through pollution/run-off	Indirect	N/A	N/A	County	Significant negative impact at Local level (Minor Adverse)	CEMP, AMS	Not Significant (Negligible)
All LWS's within 0.5km	Direct impacts of habitat loss/Indirect	Direct	N/A	N/A	County	Not Significant (Negligible)	None required	Not Significant (Negligible)

	impacts of habitat degradation							
Semi-natural Broad-leaved Woodland	Loss of habitat	Direct	N/A	N/A	Local	Significant negative impact at IZol level (Negligible)	No woodland planting provided in Landscape Design	Significant negative impact at IZol level (Negligible)
Semi-natural Broad-leaved Woodland	Degradation of habitats due to accidental encroachment or pollution/run-off	Indirect	N/A	N/A	Local	Significant negative impact at IZol level (Negligible)	CEMP, AMS	Not Significant (Negligible)
Scattered Trees	Loss of habitat	Direct	N/A	N/A	IZol	Significant positive impact at IZol level (Negligible)	CEMP, AMS, HMMP, Landscape Masterplan (new tree planting)	Significant positive impact at IZol level (Negligible)
Scattered Trees	Degradation of habitats due to accidental damage or pollution/run-off	Indirect	N/A	N/A	IZol	Significant negative impact at IZol level (Negligible)	CEMP and AMS	Not Significant (Negligible)
Bats – Roosting	Potential loss of trees, but retained within embedded design	Direct	N/A	N/A	Local	Not Significant (Negligible)	Bat box enhancement Plan	Significant positive impact at IZol level (Negligible)

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Bats – Roosting	Disturbance due to construction lighting and noise	Indirect	N/A	N/A	Local	Significant negative impact at Local level (Minor Adverse)	CEMP, Sensitive Lighting Strategy	Not Significant (Negligible)
Bats – Foraging and Commuting	Potential loss of foraging / commuting habitat, but retained with design along with additional embedded landscape planting	Direct	N/A	N/A	Local	Significant positive impact at IZol level (Negligible)	None required	Significant positive impact at IZol level (Negligible)
Bats – Foraging and Commuting	Disturbance due to construction lighting	Indirect	N/A	N/A	Local	Significant negative impact at Local level (Minor Adverse)	CEMP, Sensitive Lighting Strategy	Not Significant (Negligible)
Operation								
Mersey Estuary Spa/Ramsar	Increased public recreational pressure/ disturbance on associated habitats and species	Direct	N/A	N/A	International	Not Significant (Negligible)	POS, Open Space, Homeowner Packs and Signage	Not Significant (Negligible)

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The Old Wood North and South LWS	Increased public pressure / disturbance on associated habitats and species	Direct	N/A	N/A	County	Significant negative impact at Local level (Minor Adverse)	POS, Open Space Homeowner Packs and Signage	Not Significant (Negligible)
The Old Wood Ancient Woodland Inventory	Increased public pressure / disturbance on associated habitats and species	Direct	N/A	N/A	National	Significant negative impact at Local level (Minor Adverse)	POS, Open Space Homeowner Packs and Signage	Not Significant (Negligible)
Big Water and Big Water Wood LWS	Increased public pressure / disturbance on associated habitats and species	Direct	N/A	N/A	County	Significant negative impact at Local level (Minor Adverse)	POS, Open Space Homeowner Packs and Signage	Not Significant (Negligible)
All LWS within 0.5km	Direct habitat degradation	Direct	N/A	N/A	County	Not Significant (Negligible)	None required, although POS, Open Space Homeowner Packs and Signage still beneficial	Not Significant (Negligible)
Semi-natural Broad-leaved Woodland	Degradation of woodland habitat though public	Direct	N/A	N/A	Local	Significant negative impact at	HMMP	Not Significant (Negligible)

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	pressure and lack of management					IZol level (Negligible)		
Scattered Trees	Degradation of scattered trees though public pressures and lack of management	Direct	N/A	N/A	Local	Not Significant (Negligible)	None required	Not Significant (Negligible)
Bats – Roosting	Disturbance of existing trees and bat boxes through street lighting	Indirect	N/A	N/A	Local	Significant negative impact at Local level (Minor Adverse)	Sensitive Lighting Strategy	Not Significant (Negligible)
Bats – Foraging and Commuting	Disturbance of foraging and commuting routes through lighting	Indirect	N/A	N/A	Local	Significant negative impact at Local level (Minor Adverse)	Sensitive Lighting Strategy	Not Significant (Negligible)

