

12. Ecology

Introduction

- 12.1 This chapter assesses the effects of the proposed development on ecology and nature conservation.
- 12.2 The chapter describes the methods used to assess the likely significant effects, the baseline conditions currently existing at the site and surroundings and the identified ecological receptors. The assessment describes the potential direct and indirect effects of the development, the mitigation measures required to prevent, reduce, or offset the identified significant effects and the residual effects. It has been written by ERAP (Consultant Ecologists) Ltd.
- 12.3 This Chapter is supported by the following appendices:
- Appendix 12.1: Ecological Survey and Assessment (ERAP (Consultant Ecologists) Ltd, March 2024)
 - Appendix 12.2: Summary of Features of Interest at Statutory Designated Sites and Conservation Objectives
 - Figure 12.1: Aerial Image of the Site and Nearby Statutory Designated Sites for Nature Conservation
 - Figure 12.2: Aerial Image of the Site and its Surroundings, Showing LWS in the Wider Area and LCREN CBA Grassland
 - Figure 12.3: Phase 1 Habitat Survey Map

Planning Policy Context

National Planning Policy

National Planning Policy Framework 2023

- 12.4 At a national context, planning policy is driven by the National Planning Policy Framework (NPPF). Paragraph 180 of the Framework sets out, amongst other points, how at an overview level the planning system should contribute to and enhance the national and local environment by:

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

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

“minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures”

- 12.5 Paragraph 186 of the NPPF provides a list of principles which local planning authorities should follow when determining planning applications, which include the following:

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

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

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

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

- 12.6 Paragraph 191, bullet point 'c' in Chapter 15 (conserving and enhancing the natural Environment) of the Framework states that development should:

"limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation."

Local Planning Policy

The Knowsley Local Plan Core Strategy (2016)

- 12.7 The Knowsley Local Plan Core Strategy (Knowsley Council, January 2016) was adopted in January 2016 and contains the following policies relating to nature conservation:

Policy CS8: Green Infrastructure

- 12.8 Relates to Knowsley's existing Green Infrastructure and its beneficial functions which will be protected, managed and/or enhanced, primarily to:
- Ensure more attractive and cleaner residential neighbourhoods;
 - Sustain and promote biodiversity (including designated sites, priority habitats and protected and endangered species) in accordance with importance and contribution to ecological networks;
 - Preserve the character and function of historic environments and valued landscapes;
 - Mitigate the effects of climate change and flood risk;
 - Mitigate air, water and noise pollution; Provide local opportunities for sport, recreation and allotments; and
 - Provide sustainable transport linkages between residential neighbourhoods and easy access to employment and services.
- 12.9 New development must be served by Green Infrastructure to meet the needs of residents and the local environment, in a manner which will:
- Contribute to the creation of a high quality residential environment;
 - Provide access to high quality open space for leisure and recreational purposes;
 - Seek to protect, maintain and where possible enhance biodiversity within and around new developments according to their designation and significance to provide space for nature; and
 - Provide adequate mitigation and/or, as a last resort, compensation for Green Infrastructure or biodiversity loss, in circumstances where harm resulting from the development is otherwise unavoidable.

Development Policies

The Saved Policies of the Knowsley Unitary Development Plan (2006)

Policy ENV3: Light Pollution

12.10 Where development requires external lighting, it must satisfy the following criteria:

- The lighting scheme proposed is the minimum required for security and working purposes to undertake the task;
- There would be no unacceptable impact on visual amenity in the surrounding area;
- The scheme will not have an unacceptable effect on road safety;
The scheme will not harm wildlife; and
- There will be no unacceptable loss of residential amenity.

Other Relevant Policy, Standards and Guidance

Legislation

Directive 2009/147/EC on the Conservation of Wild Birds (The 'Birds Directive')

12.11 EC Council Directive 2009/147/EC on the Conservation of Wild Birds (the 'Birds Directive') provides a framework for the conservation and management of wild birds in Europe by introducing a general framework of protection. The Directive additionally provides for the identification and classification of Special Protection Areas (SPAs) for rare or vulnerable species listed in Annex I of the Directive, and for regularly occurring migratory species.

EC Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (The 'Habitats Directive')

12.12 In 1992 the then European Community adopted Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, known as the 'Habitats Directive'. The main aim of this Directive is to promote the maintenance of biodiversity by requiring member states to introduce protection for these habitats and species of European importance. Included within the Directive is a requirement for the designation of Special Areas of Conservation (SAC), both for habitats listed under Annex I and for species listed within Annex II of the Directive. It also introduces a strict system of protection for species listed on Annex IV of the Directive (referred to as European Protected Species) irrespective of where they occur.

Conservation of Habitats and Species Regulations 2017, (The 'Habitats Regulations') (Great Britain, 2017)

- 12.13 In the UK, the 'Habitats Directive' was transposed into law by means of the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). The Regulations came into force on 30th October 1994, and have been amended several times. Subsequently the Conservation of Habitats and Species Regulations 2017 were made which consolidate all the various amendments made to the 1994 Regulations in respect of England and Wales and is commonly known as the 'the Habitats Regulations'. The Regulations contain five Parts and four Schedules, and provide for the designation and protection of 'European Sites', the protection of 'European Protected Species', and the adoption of planning and other controls for the protection of European Sites. This legislation is the principal means by which the Birds Directive and 'Habitats Directive' are implemented in the UK.

Wildlife and Countryside Act 1981 (as amended) (the WCA) (Great Britain, 1981)

- 12.14 The WCA is the major legal instrument for wildlife protection in the UK; however the original act has been subject to significant modification by subsequent legislation. The WCA is the means by which the Bern Convention and the 'Birds Directive' are implemented in Great Britain. The WCA protects the most important habitats as Sites of Special Scientific Interest (SSSIs). Wild animals listed in Schedule 5 of the Act are subject to specific protection under Section 9, which make the following an offence:

- Intentional killing, injuring and taking;
- Possession or control;
- Intentional or reckless damage to, destruction of, obstruction of access to any structure or place used by a scheduled animal for shelter or protection;
- Intentional or reckless disturbance of an animal occupying such a structure or place;
- Selling, offering for sale, possessing or transporting for the purposes of sale; and
- Advertising for buying or selling.

- 12.15 The WCA prohibits the intentional killing, injuring or taking of any wild bird (with certain exceptions) and the taking, damaging or destroying of a wild bird's nest or eggs. Special penalties are given for offences related to birds listed on Schedule 1. It also provides a level of protection to plants listed in Schedule 8 and makes it an offence to plant or otherwise cause to grow in the wild any plant that is included in Schedule 9 of the Act.

Countryside and Rights of Way (CROW) Act 2000 (as amended)

- 12.16 Part III of the CRoW Act deals specifically with wildlife protection and nature conservation. The CRoW Act amends the WCA, by strengthening the protection of designated SSSIs. In addition, it increases the legal protection of threatened species, by also making it an offence to 'recklessly' destroy, damage or obstruct access to a sheltering place used by an animal listed in Schedule 5 of the Act or 'recklessly' disturb an animal occupying such a structure or place.

Natural Environment and Rural Communities (NERC) Act 2006 (Great Britain, 2006)

- 12.17 The NERC Act created a new integrated agency, named 'Natural England', through the merger of the Countryside Agency's landscape, access and recreation functions, English Nature and part of the Rural Development Service (RDS) that dealt with nature conservation. Section 40 provides that every public authority, in exercising its functions, shall have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat. A public authority includes a Minister of the Crown. It also requires the Secretary of State to publish a list of living organisms and habitat types which in his or her opinion are of principal importance for the purpose of conserving biodiversity. Before publishing that list, the Secretary of State is obliged to consult Natural England.

Protection of Badgers Act 1992

- 12.18 The Protection of Badgers Act 1992 was specifically put in place to protect the welfare of badgers in the UK and protect them from persecution. The Act makes it an offence to:
- wilfully kill, take, possess or cruelly ill-treat a badger, or attempt to do so;
 - interfere with a sett by damaging or destroying it;
 - obstruct access to, or any entrance of, a badger sett; or
 - disturb a badger when it is occupying a sett.

Guidance

ODPM Circular 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact within the Planning System (Circular 06/05)

- 12.19 This Circular was prepared to support the now obsolete guidance within Planning Policy Statement 9 (PPS9) and provides administrative guidance on the application of the law relating to planning and nature conservation as it applies in England. This document is still of relevance under the NPPF. Of particular note, this document states:

“The potential effects of a development, on habitats or species listed as priorities in the UK Biodiversity Action Plan (BAP), and by Local Biodiversity Partnerships, together with policies in the England Biodiversity Strategy, are capable of being a material consideration in the preparation of regional spatial strategies and local development documents and the making of planning decisions.”

Other Relevant Documents / Recognised Standards

12.20 In addition to the above, the following relevant publications have informed this chapter:

- Barn Owl Conservation Handbook (Barn Owl Trust, 2012)
- Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment (Shawyer, 2011)
- Bat Mitigation Guidelines (Mitchell-Jones A. , 2004)
- Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, J. (ed), 2016)
- Bat Workers’ Manual 3rd Edition (Mitchell-Jones & Mcleish, 2004)
- Bats and lighting: Overview of current evidence and mitigation guidance (Stone, 2014)
- Birds of Conservation Concern 5: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. (Stanbury, et al., 2021)
- British Trust for Ornithology (BTO) Common Birds Census (Marchant, 1983)
- Encouraging Bats – A Guide for Bat-friendly Gardening and Living (Bat Conservation Trust, August 2015)
- Guidance Note 08/23: Bats and Artificial Lighting at Night (Institution of Lighting Professionals & Bat Conservation Trust, 2023)
- Guidelines for Preliminary Ecological Appraisal (CIEEM, December 2017)
- Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit. NCC (JNCC, 2010)
- Technical Guidance Series Competencies for Species Survey: Bats (CIEEM, 2013)
- The Hedgerows Regulations 1997 (H.M.S.O., 1997)
- UK Biodiversity Action Plan; Priority Habitat Descriptions. (Maddock, 2008)
- What features should be included in new urban residential developments to maximise the opportunity for a diversity of breeding birds? Ecology and Environmental Management – In Practice No. 43. (Land, 2004).

Assessment Methodology and Significance Criteria

Study Area

- 12.21 The proposed development site is within the redline boundary presented at drawing H9305-DWH-XX-XX-DR-UD-203002.
- 12.22 The ecological desk study considered the following study areas:
- Site and a 10 kilometre radius from the site boundary for European designated sites for nature conservation; and
 - Site and a 2 kilometre radius from the site boundary for protected species and all habitats, national and local statutory designated sites and local non-statutory designated sites for nature conservation.
- 12.23 The Extended Phase 1 Habitat Surveys covered the site as a study area.
- 12.24 Protected species surveys considered study areas relevant to individual species and survey guidelines, and the anticipated Ecological Zone of Influence, see below.

Ecological Zone of Influence

- 12.25 The Ecological Zone of Influence (EZoI) is the area within which there may be receptors subject to change as part of the proposed development. The EZoI is ascertained through considerations of the likely effects during construction and after completion of the proposed development / during operation of the proposed development, taking into account the desk study, an examination of mapping data, responses from consultees and records of protected species, and findings of the survey work.
- 12.26 The EZoI varies for each ecological receptor due to the varying mobility range of each species, and the spatial thresholds at which habitats are affected; therefore the EZoI for birds and bats (which are more mobile) will be greater than the EZoI for reptiles (which are less mobile). Similarly, the EZoI for habitats with greater hydrological connectivity will extend further than for those that have no connectivity out-with the site boundary.

Desktop Study

- 12.27 A desktop study and review of existing ecological information has informed this chapter. This has included:
- A review of records of legally protected and notable species, including bats, and records and citations of non-statutory sites designated for nature conservation value within a 2 kilometres (km) radius of the proposed development boundary as provided by the Merseyside BioBank;
 - A review of Natural England's Multi-Agency Geographic Information for the Countryside (MAGiC) web tool. MAGiC Maps has been consulted to determine the presence of statutory designated sites within 2km of the proposed development. This search extended to 10km for Natura 2000 sites such as Special Areas of Conservation (SAC) and Special Protection Areas (SPA) of European importance and internationally designated Ramsar sites.
 - The MAGiC Maps tool has also been used to compile information regarding Priority Habitats within 1 km and woodland and trees listed on the Ancient Woodland Inventory;
 - The Main River Map managed by the Environment Agency has been consulted.
 - The Liverpool City Region Ecological Network Explorer map was consulted.
 - The interactive map on the North Merseyside Local Sites Partnership was consulted.

- An Extended Phase 1 Habitat Survey report prepared for the site in 2014¹ was consulted for background information.
- Consultation of the Green Infrastructure map provided by Natural England².
- An Extended Phase 1 Habitat Survey Report³ and a Reptile Survey Report⁴ for a site at Whitefield Drive, Kirkby (Knowsley Council reference 20/00193/FUL) was consulted for background information.

Extended Phase 1 Habitat Survey / Protected Species Surveys

12.28 Comprehensive ecological surveys were carried out between November 2021 and March 2023. A summary of field survey methods is provided below. Detailed information including survey conditions, surveyors, methodologies and limitations is included in Appendix 12.1.

12.29 The scope of ecological survey has comprised:

- Phase 1 Habitat Surveys (November 2021, February 2023 and March 2023).
- Badger survey (November 2021, February 2023 and March 2023).
- Daylight licensed bat survey and assessment of buildings and trees (November 2021, February 2023 and March 2023).
- Breeding bird survey (July 2022).

12.30 Surveys were carried out in accordance with standard recognised guidelines. Any deviation from the guidelines are explained and fully justified within the relevant technical appendices. Survey limitations have been identified and efforts made to overcome a limitation have been described.

Tree Survey

12.31 A separate Arboricultural Impact Assessment and Method Statement has been prepared by SEED and is referred to in this chapter, as needed.

Sensitivity, Value or Importance

¹ (Barnes, J. 2014)

² <https://designatedsites.naturalengland.org.uk/GreenInfrastructure/Map.aspx>

³ e3p (January 2020)

⁴ e3P (January 2020)

- 12.32 The assessment of effects has been undertaken with reference to the CIEEM's guidelines on EclA (CIEEM, April 2022) with modifications to suit the briefing notes provided. These guidelines are widely accepted as the best practice standard for the preparation of Ecological Impact Assessment.
- 12.33 The assessment determines the ecological features to be assessed and considers the likely significant effects on these features. The assessment follows the process outlined below:
- Defines mitigation measures which are embedded into the scheme design and which seek to either avoid or minimise adverse effects / maximise beneficial effects;
 - Identifies and characterises the likely significant effects (describing their extent, magnitude, duration, reversibility, timing and frequency, as appropriate);
 - Defines additional mitigation measures and / or appropriate compensation measures to avoid, reduce and offset any likely significant effects;
 - Assesses the significance of any effects with the mitigation in place (residual effects);
 - Identify opportunities for ecological enhancement;
 - Reports on the residual effects following the adoption of compensation measures and/or enhancement; and
 - Outlines the need and implementation of any long-term monitoring of effects, as needed.
- 12.34 The Important Ecological Features (IEFs) have been determined with reference to Chapter 4 of the CIEEM's guidelines on EclA (CIEEM, April 2022). A level of importance has been assigned based on a defined geographical scale using the criteria in Table 12.1 below. Expert judgment is also required for the identification of IEFs, particularly where these may not be included in lists, designated sites or features, or highlighted in nature conservation policy.
- 12.35 In the assessment, sensitivity is synonymous with importance and is therefore defined according to the geographical scale in Table 12.1 with additional explanatory notes, as needed.

Table 12.1: Criteria for Assigning the Importance of Ecological Receptors

Value / Importance	Criteria
International / European	Habitats Internationally designated Sites or candidate Sites i.e. Special Protection Area (SPA), provisional SPA (pSPA), Special Areas of Conservation (SAC), candidate SAC (cSAC), Ramsar Site, World Heritage Site, or an area which meets the published selection criteria for such designation. A viable area of a habitat type listed in Annex I of the Habitats Directive, or smaller areas of such habitat essential to maintain the viability of a larger whole. Species Regularly occurring populations of an internationally important species, where: The loss of these populations would adversely affect the conservation status or distribution of the species at this geographic scale; or The population forms a critical part of a wider population at this scale; or The species is at a critical phase of its life cycle at this scale.
National	Habitats A nationally designated site i.e. Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR), Marine Nature Reserve, or an area, which meets the published selection criteria for national designation (e.g. SSSI selection guidelines). A habitat of principal importance including those published in accordance with Section 41 of the Natural Environments Rural Communities (NERC) Act (2006) or smaller areas of such habitat essential to maintain the viability of a larger whole. Areas of Ancient Woodland e.g. woodland listed within the Ancient Woodland Inventory. Species Resident, or regularly occurring, populations of species which may be considered at an International, European, UK or National level where: The loss of these populations would adversely affect the conservation status or distribution of the species at this scale; or The population forms a critical part of a wider population at this scale; or The species is at a critical phase of its life cycle at this scale. This may include regionally or county significant population / number of an internationally / nationally important species. A significant and regularly occurring population of a nationally important species which is threatened or rare in the region or county.

Value / Importance	Criteria
Regional	Habitats Areas of habitat identified in the Natural England North-West Natural Area Profile i.e. Sites which exceed the county-level designations but fall short of SSSI selection criteria. Species Resident, or regularly occurring populations of species which may be considered at an International, European, UK or National level where: The loss of these populations would adversely affect the conservation status or distribution of the species at this scale; or The population forms a critical part of a wider population at this scale; or The species is at a critical phase of its life cycle at this scale. This may include regularly occurring, locally significant population of a species listed as being nationally scarce which occurs in 16-100 10 km squares in the UK or in a Regional BAP. A regularly occurring, locally significant population / number of a regionally important species.
County	Habitats Designated Sites that are recognised by local authorities e.g. Local Wildlife Sites and County Sites that the designating authority / partnership has determined meet the published ecological selection criteria for designation, including Local Nature Reserves (LNR) in the county context. Areas which meet the published selection criteria for county Site designations but which are not themselves designated as such. A viable area of habitat identified in County / District BAP or in the relevant Natural England area profile. Species Resident, or regularly occurring populations of species which may be considered at an International, European, UK or National level where: The loss of these populations would adversely affect the conservation status or distribution of the species at this scale; or The population forms a critical part of a wider population at this scale; or The species is at a critical phase of its life cycle at this scale. This may include; Locally significant populations of species that is listed in a County / District BAP on account of its regional rarity or localisation. A regularly occurring, locally significant population of a county / district important species (particularly during a critical phase of its life cycle).

Value / Importance	Criteria
Local	Habitats Designated Sites including LNRs, trees protected by Tree Preservation Orders (TPOs), areas of habitat considered to appreciably enrich the habitat resource within the local context (e.g. native hedgerows, ponds etc.). It may also include Sites that retain other elements of semi-natural vegetation that due to their size, quality or the wide distribution of such habitats within the local area are not considered for local designations. Species Populations / assemblages of species that appreciably enrich the biodiversity resource within the local context.
Site	Habitats and / or species that are of limited ecological importance due to their size, species composition or other factors. Widespread and common.

12.36 A threshold value of local has been set and only ecological receptors within a relevant EZoI that are of local value or higher, or receptors that are considered to be an IEF for other reasons such as a feature that might also be important because they play a key functional role in the landscape as 'stepping stones' for migratory species to move during their annual migration cycle (as set out in Chapter 4 of the CIEEM guidelines (CIEEM, April 2022)), have been included for consideration within the EclA.

12.37 In addition, potential effects on all protected species will be considered in accordance with ODPM Circular 06/2005 (Biodiversity and Geological Conservation – Statutory Obligations and Their Impact Within the Planning System), which states:

"The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat."

Characterisation of Effect

12.38 The prediction of the magnitude of ecological impacts considers relevant aspects of ecosystem structure and function, including available resources, environmental and ecological processes,

anthropogenic influences, historical context, ecological relationships, ecological role or function, ecosystem properties and other environmental influences.

12.39 Potential effects arising from the construction and operational phases of development have been assessed and described in the following terms:

- Positive, neutral or negative effects: These will be determined according to whether the change is in accordance with nature conservation objectives and policy. A positive effect is a change that improves the quality of the environment and may include halting or slowing an existing decline in the quality of the environment. A negative effect is a change that reduces the quality of the environment;
- Extent: The spatial or geographical area over which the effect may occur;
- Duration: This is defined in relation to ecological characteristics (i.e. relative timeframes for a given species) in addition to human timeframes. Effects may be described as short, medium, long-term, permanent or temporary, as defined below;
- Frequency and timing: This will consider the number of times an impact will occur in a defined time period that may influence the resulting effect. The timing and frequency of an impact may result in an effect if it coincides with seasonal ecological elements (such as a protected species' breeding season);
- Reversibility: In line with the CIEEM guidelines, an irreversible effect is one from which recovery is not possible within a reasonable timescale, or there is no reasonable chance of action being taken to reverse it. A reversible effect is one from which spontaneous recovery is possible or which may be counteracted by mitigation; and
- Determining the magnitude of effect requires an understanding of how IEFs are likely to respond as a result of the development (both during construction and operation). Magnitude categories are defined in Table 12.2.

12.40 For the purposes of this EclA the words 'negative' and 'adverse' are synonymous, as are 'positive' and 'beneficial'.

Table 12.2: Magnitude Criteria

Magnitude	Definition
Major	These are changes that will almost always have an adverse effect on the integrity or conservation status of an ecological feature. They are usually long-term and often permanent / irreversible.

Magnitude	Definition
Moderate	These are adverse changes that may in some circumstances be considered to impact the integrity or conservation status of an ecological feature. They may be long-term but are potentially reversible.
Minor	These are adverse changes that do not usually change the integrity or conservation status of an ecological feature. They are often short-term and / or reversible.
Negligible	There is no perceptible change in the ecological feature.

Duration of Effect

12.41 For the purposes of EclA the duration of effect is defined in accordance with the following:

- 0 to 5 years = short term
- 6 to 15 years = medium term
- Over 15 years = long term

Significance Criteria

12.42 For the purposes of EclA, a significant effect is defined as an effect that either supports or undermines biodiversity conservation objectives, for IEFs or for biodiversity in general.

12.43 Where identified, significant effects have been qualified with reference to an appropriate geographic scale. It is important to note that the scale of the significance of an effect may not be the same as the geographic context in which the feature is considered important. This will enable consistency in scale when determining appropriate mitigation or compensation solutions.

12.44 For designated sites, it is necessary to assess whether or not an effect will alter the integrity of a site or ecosystem (and is therefore significant). This is achieved through understanding whether the changes arising from the development are likely to move the baseline conditions closer to, or further from, the condition which constitutes integrity for that specific site.

12.45 For habitats and species, consideration of conservation status is required to determine whether or not an effect on a habitat or species is likely to be significant.

- 12.46 For habitats, conservation status is determined by the sum of influences acting on the habitat that may affect its extent, structure and functions, in addition to its distribution and typical species composition within a given geographical area.
- 12.47 For species, conservation status is determined by the sum of influences acting on the species concerned, which may affect its abundance and distribution within a given geographical area. When assessing potential effects on the conservation status of a species, the known or likely background trends and variations in status are considered. Estimation is also given to the level of ecological resilience or conditions that would allow the population of a species or area of habitat to continue to exist at a given level, such as to increase along an existing trend or to reduce a decreasing trend.
- 12.48 Within this assessment, the significance of the potential effects on each identified IEF is determined by considering both the ecological importance of each feature (the sensitivity) and the degree to which it may be affected (the effect magnitude) by the development.
- 12.49 In accordance with the approach for the wider EIA the standardised criteria listed below have been applied.
- Major Beneficial
 - Moderate Beneficial
 - Minor Beneficial
 - Negligible
 - Minor Adverse
 - Moderate Adverse
 - Major Adverse
- 12.50 For the purpose of EcIA, 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features'. In EIA terms an effect above major adverse is considered to be significant in this instance.

Assumptions/Limitations

- 12.51 The comprehensive baseline data have been collated between November 2021 and March 2023. Any survey limitations experienced during the baseline surveys are identified and described in Appendix 12.1.
- 12.52 The identified survey limitations have been addressed by modifications to the survey approach. No significant survey limitations that would affect this EcIA have been experienced.

Consultation

EIA Scoping Opinion

- 12.53 The ecology section of the scoping opinion response provided by Knowsley Council dated October 2022 is presented below:

"On the information submitted, the Council disagrees that Ecology should be scoped out of the ES. Ecology should form a chapter within the ES.

Section 10.4 of the ES Scoping Report states that a Phase 1 Habitat Survey has been carried out for the site which has not identified any potentially significant issues from an ecological perspective. The ecological appraisal is required to be submitted for review prior to accepting that ecology can be scoped out of the EIA.

Regarding Biodiversity Net Gain, although not yet mandatory, due to the potential extent of habitat loss it is advised that the applicant considers facilitating the use of the Defra Metric v3.1 to assess biodiversity loss and to identify suitable mitigation for the loss of habitat. This should be submitted prior to determination of any future planning application.

Designated Sites

The following national and international designated sites are easily accessible (by car and public transport) from the development site and Local Plan Core Strategy policy CS8 applies:

- *Mersey Estuary SPA (12.8km south);*
- *Mersey Estuary Ramsar (12.8km south);*
- *Sefton Coast SAC (10km west);*
- *Ribble and Alt Estuaries SPA (9.3km west);*

- *Ribble and Alt Estuaries Ramsar (9.3km west).*

The proposal is for 720 net residential units, this will result in increased visits (recreational pressure) to the sites listed above. This may result in significant effects on habitats and species for which these sites have been designated.

Recreational pressure from residential development has been identified as a Likely Significant Effect alone and in-combination within the Liverpool City Region. Recreational pressure is recognised in the formal statutory Conservation Advice Packages and Site Improvement Plans as Medium-High risk to qualifying features of the national and international sites.

The applicant must demonstrate how increased recreational pressure will be avoided or mitigated to enable the LPA to undertake HRA prior to determination of any future planning application. Due to the scale of the development it is highly likely a commuted sum will be required.

Examples of mitigation measures which could form part of a bespoke mitigation package are listed below. Following the Sweetman ruling¹, a clear distinction must be made between essential features of the development and additional mitigation measures needed to protect the national and international sites:

- *Provision of public open space within the development boundary;*
- *Improving access to and promoting use of Suitable Alternative Natural Greenspaces (SANG) (including contributions to management);*
- *Provision of information in sales packs and on information boards, informing residents of the importance of the national and international sites, and responsible user code and the location of SANGs; and*
- *Financial contributions to the management of national and international sites and SAMM (Strategic Access Management & Monitoring).*

Incorporation of these measures may enable the LPA to conclude that there are no adverse effects on the integrity of the SACs, SPAs and Ramsar sites."

12.54 At an early point of determining the scope of ecological survey required at the site the following consultation was carried out.

Table 12.3: Consultation

Consultee	Date	Comments	Actions
Sophie Leadsom Merseyside Environmental Advisory Service (MEAS)	October 2021	ERAP (Consultant Ecologists) Ltd advised MEAS of the range of habitats present at the site, its urban location and its position / distance from the European designated sites in the wider area. ERAP (Consultant Ecologists) Ltd sought clarification / confirmation of MEAS's position that the site is not likely to be functionally-linked land relevant to the qualifying bird species at the designated sites in the wider area and, as such sought clarification that wintering bird surveys could be scoped out of the assessment.	MEAS agreed that the site is regularly walked by dog walkers and motorbikes and in the absence of a food source (i.e. the site does not support an arable field), the presence of scrub and the surrounding network that the site is not likely to provide functionally-linked land and it was agreed that wintering bird surveys were not required to inform the ecological assessments.

Baseline Conditions

12.55 A detailed description of baseline conditions is presented in Appendix 12.1. A summary is presented below.

Desktop Study

Statutory Designated Sites for Nature Conservation

12.56 The site and adjacent land have no statutory designation for nature conservation

12.57 The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for the following statutory designated site for nature conservation, hereafter referred to as the 'statutory designated sites' (refer to **Figure 12.1**):

- Liverpool Bay Special Protection Area (SPA), located 8.76 kilometres to the north-west of the site

- Mersey Narrows & North Wirral Foreshore SPA and Ramsar and Mersey Narrows SSSI located 9.04 kilometres to the west of the site
- Ribble & Alt Estuaries Ramsar located 9.6 kilometres to the north of the site
- Ribble & Alt Estuaries SPA located 9.6 kilometres to the north of the site
- Sefton Coast SSSI located 9.6 kilometres to the north-west of the site;
- Sefton Coast SAC located 9.63 kilometres to the north-west of the site; and
- Mersey Estuary SPA, Ramsar site and SSSI located 12.83 kilometres to the south of the site.

12.58 Appendix 12.2 presents a summary of the features of interest at the relevant designated sites and their conservation objectives.

12.59 The SSSI Impact Risk Zone requires the Local Planning Authority to consult with Natural England on likely risks from the following development categories⁵:

- Airports, helipads and other aviation proposals.
- Solar schemes with footprint greater than 0.5ha, all wind turbines.
- Livestock and poultry units with a floorspace greater than 500m², slurry lagoons and digestate stores greater than 4000m².
- General combustion processes greater than 50 megawatts energy input. Includes energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis / gasification, anaerobic digestion, sewage treatment works and other incineration / combustion.
- Landfill. Includes inert landfill, non-hazardous landfill and hazardous landfill.
- Any discharge of water or liquid waste of more than 20m³ per day to ground (i.e. to seep away) or to surface water, such as a beck or stream.

12.60 The proposals do not match any of the development categories which would require further consultation with Natural England in relation to potential risks to the statutory designated sites from the proposed development.

Non-statutory Designated Sites for Nature Conservation

12.61 The site has no non-statutory designation for nature conservation.

⁵ (Ordnance Survey, 2024)

- 12.62 Meadow, Kirkby (Mill) Brook, South of Old Hall Lane Local Wildlife Site (LWS) lies within 30 metres of the north-western site boundary and Kirkby Brook LWS (a continuation of the above LWS) lies 50 metres to the south-west of the site (refer to **Figure 12.2**). Both sites are designated for the presence of 'good water vole habitat'.
- 12.63 All other LWS are located over 150 metres from the site boundary and considered to be outside the zone of potential influence of the proposed development.

Liverpool City Region Ecological Network

- 12.64 Two areas at the north-western end of the site are annotated as Core Biodiversity Area (CBA) grassland (refer to **Figure 12.2**); these areas comprise '*designated sites and Priority Habitats*' in accordance with *Liverpool City Region Ecological Network Report - Final*⁶.
- 12.65 Land adjacent to the western site boundary lies within the River Alt and M57 Corridor Nature Improvement Area (NIA).

Priority Habitat Inventory and Ancient Tree Inventory

- 12.66 The Priority Habitats Inventory⁷ was checked via MAGiC Maps. No Priority Habitats are reported for the site.
- 12.67 No trees at the site are identified on the Ancient Tree Inventory.

Environment Agency Main River Map

- 12.68 Kirkby Brook located with 30 metres of the site boundary is identified as an Environment Agency Main River.

Natural England Green Infrastructure Map

- 12.69 No areas of the site are identified as 'Accessible Green Infrastructure' on Natural England's map.

Records of Protected and Notable Species

⁶ (Bennett, 2015).

⁷ A spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

- 12.70 Consultation with Merseyside BioBank reported a record of six common pipistrelle (*Pipistrellus pipistrellus*) for the site from 2010 (note that the record is also labelled as 'Kirkby Town Centre') and therefore may not be from the site itself). No known records of other protected species are reported for the site.
- 12.71 A summary of the records of protected species within a 2 kilometre radius of the site is presented at Appendix 12.1.

Vegetation and Habitats

- 12.72 The approximately 23.55 hectare site is located within a suburban area and comprises a plantation woodland, areas of scrub, lines of trees, coarse, infrequently mown grassland, regularly managed amenity grassland, hard standing with areas of colonising vegetation and an area of recently cleared ground at the south-eastern end of the site, which is recolonising to scrub and grassland. Buildings are also present within the site, located along Cherryfield Drive Road and at the north-western end of the site.
- 12.73 The northern site boundary is defined by Cherryfield Drive, beyond which lies Kirkby town centre. The eastern site boundary is partially defined by Cherryfield Drive and partially defined by fencing, playing fields and hard standing associated with Kirkby Leisure Centre. The southern site boundary is defined by fencing, beyond which lies Bewley Drive and the rear gardens of the housing associated with Whinberry Drive. The southern end of the western site boundary is defined by fencing, beyond which lies amenity grassland and scrub associated with Kirkby Brook. The northern end of the western site boundary is defined by fencing beyond which lies Valley Road.
- 12.74 Investigation of Google Earth historical imagery demonstrates that the site formerly supported Knowsley Community College – Kirkby Campus at its north-western end, residential dwellings at its northern end (associated with Cherryfield Crescent) and the former All Saints School at its south-eastern end; all of these developments were demolished between 2010 and the present day. Kirkby Leisure centre was constructed to the east of the site circa 2010.
- 12.75 A Phase 1 Habitat Survey map is appended at **Figure 12.3**. Photographs are presented in Appendix 12.1.
- 12.76 A summary of the broad habitat types at the site and the area covered is presented at Table 12.3 below.

Table 12.4 Summary of Habitat Types and Area Covered

Habitat Type	Brief Description	Phase 1 Habitat Survey Code	Priority Habitat / Conservation Status	Area (hectares)
Plantation Woodland	Single area of roadside structure planting on the north-western margin of the site with a canopy of frequent Ash with locally frequent Goat Willow, and Silver Birch.	A1.2 Plantation broadleaved woodland	None	0.39
Mixed scrub	Eight patches of mixed scrub characterised by native and non-native species	A2.1 Dense / continuous scrub	None	1.79
Bramble scrub	Three discrete areas of typically unmanaged Bramble scrub	A2.1 Dense / continuous scrub	None	0.58
Neutral grassland	Seven areas of unmanaged neutral grassland typically with abundant competitive broad-leaved grass species such as False Oat-grass, Cock's-foot and Common Couch-grass.	J5 Other coarse unmanaged grassland	None	8.42
Tall-herb vegetation	Stands of tall-herb vegetation including Common Nettle and Rosebay Willowherb	C3.1 Other tall-herb and fern – tall ruderal	None	0.47
Amenity / Modified grassland	Six areas of amenity grassland characterised by Perennial Rye-grass.	J1.2 Amenity grassland	None	5.74
Sparse vegetation colonising hard-standing	Three areas of sparsely vegetated land with ruderal / ephemeral vegetation	No equivalent habitat	None	3.6
Hard-standing	Areas of hard-standing that are devoid of vegetation	J4 Bare ground	None	2.46

Habitat Type	Brief Description	Phase 1 Habitat Survey Code	Priority Habitat / Conservation Status	Area (hectares)
Buildings	Buildings	J3.6 Buildings	None	0.10
TOTAL				23.55

- 12.77 Eight individual trees are present at the site and are characterised by Sycamore, Silver Birch, Goat Willow, Alder, Rowan and Pedunculate Oak. No veteran trees were recorded.
- 12.78 Other trees are described in the ecological survey and assessment at Appendix 12.1 as 'Lines of Trees' and comprise 13 lines of trees and shrubs characterised by Ash, Scot's Pine, Sycamore, Silver Maple, Grey Poplar, Goat Willow, Cherry, Leyland Cypress, Whitebeam species, Norway Maple and Crab Apple. The lines of trees attain a total length of 1.29 kilometres.
- 12.79 There are no watercourses within the site boundary.
- 12.80 No Japanese Knotweed is present at the site. As illustrated on **Figure 12.3** stands of Japanese Rose and Montbretia were detected within the site. These species are listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended); it is an offence to spread or cause their spread in the wild.
- 12.81 None of the habitats present are representative of semi-natural habitat or are an irreplaceable habitat. The National Vegetation Classification (NVC) communities present are typical of the geographical area and conditions present. All detected plant species are common and widespread across lowland Britain.
- 12.82 No Priority Habitats were identified within the site. A detailed assessment of the habitats has been carried out and, as described in Appendix 12.1, it is not considered that the areas of CBA grassland located at the north-western end of the site in accordance with the Liverpool City Region Ecological Network (or grasslands elsewhere at the site) are representative of any grassland Priority Habitat and they do not form part of or complement any designated site for nature conservation.

- 12.83 The areas of hard standing with colonising ruderal vegetation are not indicative of Open Mosaic Habitat on Previously Developed Land Priority Habitat (OMH); a full assessment of these areas of habitat in accordance with the OMH Priority Habitat assessment criteria is provided at Appendix 12.1.
- 12.84 In terms of each habitat's importance in a geographical context⁸, the plantation woodland, tree lines, scrub and areas of unmanaged grassland are considered to be of 'local' importance as they support habitats of value to nesting birds and foraging birds and bats, will contribute as wildlife links across the wider area, and contribute to the diversity of habitats within the local area. The areas of amenity grassland and vegetation colonising hard standing are of 'site' value only, and the areas of hard standing and buildings with no colonising vegetation are not considered to hold any importance in terms of a geographical context.

Protected Species and Animal Life

Great Crested Newt

- 12.85 There are no ponds within an unobstructed 500 metre radius of the site. In accordance with current Natural England guidance there has been no requirement to consider great crested newt and other amphibian species. Surveys for great crested newt and amphibian species have been reasonably scoped out of the assessment.

Water Vole and Otter

- 12.86 There are no water bodies or water courses within or adjacent to the site. At this stage there has been no requirement to consider water vole (*Arvicola amphibius*) or otter (*Lutra lutra*) as part of this assessment.
- 12.87 It is understood that the Drainage Strategy⁹ details the creation of a surface water outfall from the north-western corner of the site to Kirkby Brook. Kirkby Brook is a local wildlife site designated for the presence of water vole / habitats suitable for use by water vole. For the purposes of this chapter the presence of water vole is assumed and the impact assessment and mitigation strategy takes a precautionary approach (until the results of surveys to inform the installation of the outfall are available).

⁸ Refer to Table 12.2

⁹ 7778-SK04-1_C Drainage Levels Strategy sheets 1-4 (Coopers, 2023)

Badger, Barn Owl and Reptile Species

- 12.88 Comprehensive surveys and assessment in accordance with standard survey guidance have not identified use of the site by relevant protected species namely badger, nesting and roosting barn owl and reptile species (refer to Appendix 12.1). Adverse effects on these protected species and / or Priority Species are reasonably discounted, no further survey effort is necessary and these species are reasonably scoped out of the EclA.

Roosting Bats

Buildings

- 12.89 A daylight licensed survey and assessment of Buildings 1 to 5 and four structures (a metal shipping container, and dilapidated timber framed and brick structures) did not detect any evidence of the current or previous use of the buildings by roosting bats.
- 12.90 Building 1 (a sub-station) is assessed to be of 'low' suitability for use by roosting bats; this building will be retained by the proposals. All other buildings and structures were assessed to be of 'negligible' suitability for use by roosting bats.
- 12.91 Trees within Tree Lines D and G support mature trees with a dense cover of Ivy¹⁰. These trees are considered to be of 'low' suitability for use by roosting bats. No other trees within the site were assessed to support features suitable for use by roosting bats; all other trees are assessed to be of 'negligible' suitability.

Foraging Bats

- 12.92 The plantation woodland, scrub, tree lines and areas of unmanaged grassland are suitable for use by foraging bats, and the lines of trees and scrub provide habitat connectivity across the site.
- 12.93 The site is connected to the wider area via Kirkby Brook, which is located to the west of the site, and the habitats present are suitable for and are likely to contribute to the wider foraging area of common species of edge-feeding foraging bats, such as common pipistrelle (*Pipistrellus pipistrellus*). A diverse range of species is considered unlikely at the site owing to the urbanised nature of the site, however. The areas of hard standing and amenity improved grassland within the site are unlikely to provide an abundance or diversity of invertebrate prey, and are therefore considered to be of 'low' suitability for use by foraging bats. Overall the site is assessed to be of 'moderate' suitability for use by foraging and commuting bat due to the presence of a range of suitable habitats over an extensive area within the wider urban landscape.

Breeding Birds

¹⁰ It is recognised that Ivy is anecdotally thought to provide potential roosting habitat for low numbers / individual crevice dwelling bat species, however in accordance with *Bat Roosts in Trees - A Guide to Identification and Assessment for Tree-Care and Ecology Professionals* (BTHK, 2018) actual evidence of bat roosting behind Ivy is rare, with only two confirmed roosts known in the UK and suggests Ivy is not typically used by roosting bats.

- 12.94 The breeding bird survey carried out in July 2022 detected 26 bird species at the site and local area. Of these species, 20 bird species namely blackbird, blackcap, blue tit, carrion crow, chaffinch, chiff-chaff, coal tit, dunnock, goldcrest, goldfinch, great tit, house sparrow, long-tailed it, magpie, robin, treecreeper, whitethroat willow warbler, wood pigeon and wren, were recorded displaying behaviour indicative of breeding.
- 12.95 Of the species recorded breeding at the site (or nearby) two species (dunnock and house sparrow) are a Priority Species. A third Priority Species (herring gull) was recorded in flight or resting at the site only; habitats at the site are not suitable for use by nesting herring gull.
- 12.96 No Schedule 1 listed birds were recorded at the site.
- 12.97 The majority of the birds were associated with the plantation woodland, scrub and tree lines; these habitats provide suitable habitat for the species of foraging and nesting birds detected. The recorded bird species assemblage is typical of the urban location and habitats present at the site.
- 12.98 It is considered that the site does not provide favourable habitat ground nesting birds as it is too regularly disturbed by pedestrian access such as dog walkers and sporting activities.

Other Wildlife

- 12.99 Appendix 12.1 advises that the site supports suitable habitat for foraging and sheltering hedgehog (*Erinaceus europaeus*), a Priority Species associated with urban areas and detected within the wider area (as reported by the data search).

Identification and Sensitivity of Ecological Features

Statutory Designated Sites for Nature Conservation

- 12.100 The site lies within SSSI Impact Risk Zone for the Sefton Coast SAC and SSSI and the Ribble and Alt Estuaries SPA and Ramsar and the Ribble Estuary SSSI. The proposals do not match any of the development categories which would require further consultation with Natural England in relation to potential risks to the statutory designated sites from the proposed development¹¹.

¹¹ As detailed on MAGiC Maps

- 12.101 It is accepted that an increase in local population as a result of the residential development may increase the risk of recreational pressures at the relevant statutory designated sites and may present a risk of disturbance to the qualifying species at the designated sites.
- 12.102 Therefore, for the purpose of this chapter it is the indirect effects of recreational pressures at the designated sites that is taken forwards as an IEF valued at the county / importance / value (rather than a feature within the proposed development site that, if impacted could adversely and directly affect the integrity of the designated site valued at the international level). It is advised that the information presented in this chapter will also assist the LPA in the preparation of an Habitats Regulations Assessment (HRA) as needed.

Non-statutory Designated Sites for Nature Conservation

- 12.103 The proximity of the site to the Kirkby Brook LWS and Meadow, Kirkby (Mill) Brook, South of Old Hall Lane LWS and associated Nature Improvement Area (NIA) is recognised in this report and has informed the ecological guidance provided to the design team. The LWSs and the Kirkby Brook corridor is taken forwards as an IEF that is of county importance / value.
- 12.104 The proposed development is sufficiently distant to avoid a direct or indirect impact on the other identified non-statutory sites listed in Appendix 12.2; other non-statutory sites are reasonably scoped out of the assessment.

Vegetation and Habitats

- 12.105 Table 12.5 provides an evaluation of each of the habitats present and identifies habitats / ecological features which are considered to be IEFs.

Table 12.5: Ecological Evaluation and Identification of IEFs (Habitats)

Ecological Feature	Geographical Scale of Importance	Rationale	IEF
Plantation Woodland	Local	Not a Priority Habitat. Common and replicable habitats of low intrinsic ecological value.	Yes
Mixed scrub	Local	Not a Priority Habitat. Common and replicable habitats of low intrinsic ecological value.	Yes

Ecological Feature	Geographical Scale of Importance	Rationale	IEF
Neutral grassland	Local	Not a Priority Habitat. No current indication based on plant species composition, soil conditions and use of the area that enhancement or conversion to Priority Habitat would be achieved (or secured). Common and replicable habitats of low intrinsic ecological value.	Yes
Bramble scrub	Site	Not a Priority Habitat. Common and replicable habitats of low intrinsic ecological value.	No
Tall-herb vegetation	Site	Not a Priority Habitat. Common and replicable habitats of low intrinsic ecological value.	No
Amenity / Modified grassland	Site	Not a Priority Habitat. Common and replicable habitats of low intrinsic ecological value.	No
Sparse vegetation colonising hard-standing	Site	Not a Priority Habitat. Common and replicable habitats of low intrinsic ecological value.	No
Hard-standing	None	No ecological value.	No
Buildings	None	No ecological value.	No
Individual trees and lines of trees	Local	Not a Priority Habitat. Common and replicable habitats of low intrinsic ecological value.	Yes

12.106 None of the habitats at the site are assessed to be greater than 'local' importance and, as such, no individual habitats are taken forwards as an IEF. However, the collective function of the habitats and greenspace within the context of the urban area, particularly for the movement of wildlife and for use by foraging bats and nesting birds, and the proximity of the habitats to the Kirkby Brook LWS and NIA is recognised. For this reason 'urban greenspace and associated ecological function' is taken forwards as an IEF.

Species

12.107 Table 12.6 provides an evaluation of each of the habitats present and identifies habitats / ecological features which are considered to be IEFs.

Table 12.6: Ecological Evaluation and Identification of IEFs (Species)

Ecological Feature	Geographical Scale of Importance	Rationale	IEF
Breeding birds	Local	Site supports assemblage of breeding birds including two species of breeding Priority Species (albeit common species).	Yes
Water vole	Local	Off-site works at the Kirkby Brook LWS may adversely affect water vole and their habitats	Yes
Roosting bats	Local	Two lines of trees (D and G) support features of 'low' suitability for use by roosting bats.	Yes
Foraging bats		Habitats at the site likely to support foraging bats within the urban area. Habitats assessed to be of 'moderate' suitability for foraging bats.	Yes
Hedgehog	Site	Habitats suitable for use by sheltering and foraging hedgehog present throughout the site. This is addressed through the mitigation / best practice measures identified below.	No
Invasive plant species	Site	Isolated stands of two invasive species present. This is addressed through the mitigation / best practice measures identified below.	No

Embedded Mitigation

Site Design

12.108 Ecological guidance, based on the baseline surveys, has been provided to the design team throughout the preparation of the Overall Site Layout¹². This approach has sought to retain as many habitats as possible. However, owing to the need to maximise the development opportunities at the site, the approach to the application of the mitigation hierarchy has typically involved guidance in relation to the landscape planting proposals with the intention of providing habitat reinstatement and compensatory planting, where appropriate. This approach aims to seek compliance with the NPPF and Policy CS8 of the Knowsley Local Plan Core Strategy (Knowsley Council, January 2016). The proposals accommodate:

- Retention, and protection during construction, of the plantation woodland at the north-western corner of the site.
- Retention, and protection during construction, of the individual trees UT1 to UT8.
- Retention, and protection during construction, of tree lines A, F, part of G, H, I, L and M which is equivalent to 690 metres (i.e. over 50% of the baseline).
- Accommodation of an undeveloped buffer along the western boundary with the off-site public open space and NIA and Valley Park to the west. The buffer has been used to accommodate for complementary landscape planting and SuDS.
- Minimising the number of surface water outfalls to extend to Kirkby Brook (off-site) to one and focus of the location near to existing outfalls to minimise fragmentation effects.
- Maximised biodiversity value of the surface water drainage scheme (SuDS) with reference to the guidance and principles provided in Sustainable drainage systems. Maximising the potential for people and wildlife. A guide for local authorities and developers¹³.
- Provision of defined and maintained pathways and footpaths through and around the residential areas of the site with links to the public open space to the west (Valley Park) and will provide areas of multi-use recreational open space within the site to provide opportunities for dog walking that will act to detract from access to the designated sites in the wider area.
- Arrangement and alignment of properties to face and 'front on to' retained on-site (plantation woodland and tree lines) and off-site habitats (public open space at Valley Park to the west) to minimise the risk of post-development effects associated with garden extensions and fly-tipping.

¹² Cherryfield Drive, Kirkby. Overall Site Layout (DWH drawing H9305-203001 Rev N) dated 2024

¹³ (Graham, A., Day, J., Bray, B. and Mackenzie, S., December 2012).

- Maximised accommodation of new tree lines and linear habitats at the site via the landscape planting proposals to reinstate and create greenlinks and habitat connectivity through the site for use by mobile wildlife.
- Maximised specification of native species and species known to be of value for the attraction of wildlife in the landscape planting proposals. The landscape planting proposals include the planting of 368 trees. Native trees include Field Maple, Alder, Silver Birch, Hornbeam, Pedunculate Oak, Wild Cherry and Rowan with flowering non-native species including Amelanchier, Apple and Magnolia. A length of 820 metres of native hedgerows of Hazel, Hawthorn, Holly, Blackthorn, Guelder Rose and Dog-rose are specified.
- Accommodation of species such as *Hebe*, *Ceanothus*, *Lavandula* and *Viburnum* known to be of value for the attraction of fauna, including invertebrates in the landscaping planting proposals at the residential plots.

12.109 As the measures described above are detailed on the site layout they are regarded as 'embedded mitigation' and therefore taken into account in the initial assessment of effects.

12.110 Additional mitigation identified to be necessary to mitigate and, where necessary, compensate for any likely significant adverse effects on the IEFs (such as appropriate use of lighting, creation of gaps for hedgehog) are detailed in the 'Additional Mitigation' section of this chapter.

Construction

12.111 The construction phase of the proposed development will be undertaken in accordance with industry best-practice Considerate Constructor's Scheme.

Tree Protection

12.112 During the construction phase, temporary protective demarcation fencing will be used to protect the trees, lines of trees and plantation woodland that are to be retained. The fencing must extend outside the canopy of the retained trees and must remain in position until all plots have been developed to ensure protection is provided throughout the construction phase.

12.113 The fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012) and the Tree Survey Report¹⁴.

CEMP for Biodiversity

12.114 A Construction Environmental Management Plan (CEMP) for Biodiversity will be prepared for the proposed development. The scope for the CEMP for Biodiversity is outlined under 'Additional Mitigation'.

Assessment of Likely Significant Effects

Construction

Potential Pathways / Sources of Impacts

12.115 The potential sources of impacts to the IEF during the construction period are listed below:

- Habitat loss to the development.
- Damage/Injury/Mortality to wildlife, particularly protected species and Priority Species, during the earthworks and operation of machinery.
- Effects on water quality (at the off-site Kirkby Brook) during earth works.
- Risk of spread of invasive plant species.

¹⁴ SEED, 2021

- Dust and sedimentation/siltation of surface waters may arise as a result of the disturbance of the soil and import of and storage of loose materials.
- Pollution of the soil and water environment owing to chemical and fuel spillages from construction plant and material.
- Disturbance to wildlife owing to an increase in use of vehicles, excessive noise, artificial lighting and human presence at the site.

Statutory Designated Sites for Nature Conservation

12.116 The off-site statutory designated sites will not be directly affected by the development. The site does not provide a functionally-linked land role that supports the off-site designated sites. There is no direct hydrological connectivity between the site and the statutory designated sites in the wider area.

12.117 The proposed construction site will not create a barrier to any bird movements over the site nor create additional hazards nor cause fragmentation. Significant adverse effects at all scales / levels are reasonably discounted at the construction phase.

Non-Statutory Designated Sites for Nature Conservation / Kirkby Brook LWS

12.118 Long-term adverse effects at the off-site Kirkby Brook and the integrity of the off-site LWS are avoided by the conservation of this habitat with an appropriate undeveloped buffer as part of the inherent design of the site layout.

12.119 Earthworks required to prepare the site may cause the sedimentation of the water and temporary reductions in water quality as a result of increased turbidity. There is also a risk of pollution / oil spills as a result of the operation of machinery close to the watercourse. In the absence of mitigation and given the distance between the LWS and the site this is assessed as a temporary adverse, direct effect of a moderate magnitude that is not likely to be significant at the county level.

12.120 The installation of a surface water outfall at Kirkby Brook and water vole associated with the Kirkby Brook are discussed below.

Habitats

Plantation Woodland, Individual Trees and Tree Lines (Scheduled to be Retained)

- 12.121 Direct and indirect adverse effects at the woodland plantation, individual trees and tree lines scheduled to be retained are avoided by the conservation of this habitat with an appropriate undeveloped buffer as part of the inherent design of the site layout.
- 12.122 In the presence of protective mitigation measures the risk of accidental damage to the woodland, trees and relevant tree lines is avoided. The effect is negligible and not likely to be a significant effect at the local scale.

Mixed Scrub, Neutral Grassland and Lines of Trees (Scheduled to be Removed) and Associated Ecological Function

- 12.123 Activities during the construction phase will result in the loss of all areas of mixed scrub (1.79ha), neutral grassland (8.72ha) and 1.29 kilometres of lines of trees. The associated ecological functions (habitat connectivity, opportunities for breeding, foraging and sheltering wildlife) provided by these habitats will also be removed.
- 12.124 The loss of the habitats as detailed above is a permanent adverse, direct effect of a moderate magnitude that is significant at the local level.

Species**Breeding Birds**

- 12.125 Activities during the construction phase, including the removal of vegetation, particularly trees and scrub, to facilitate the development, has the potential to represent a direct effect on breeding and nesting birds in contravention of the *Wildlife and Countryside Act 1981* (as amended). This is mitigated for by the implementation of the embedded mitigation i.e. compliance with relevant wildlife legislation.
- 12.126 The embedded mitigation / landscape planting proposals will ensure opportunities for nesting passerine birds are retained at the site and new habitats will be created, all of which are suitable for use by the nesting bird species recorded at the site at the baseline (including Priority Species dunnock and house sparrow). This is a temporary adverse, direct effect of a minor magnitude over the short term. Until the habitats re-establish this is a significant effect at the local scale in the short term. This is not a significant effect at the local scale in the long-term.

Water Vole and Kirkby Brook LWS

- 12.127 In the absence of mitigation the installation of the surface water outfall at Kirkby Brook has the potential to cause harm to individual water vole and their habitats. The installation of an outfall and headwall will result in the permanent loss of a section of bank which may be suitable for use by water vole. This is a temporary adverse, direct effect of a minor magnitude that this not significant at the local level.

Roosting Bats

- 12.128 The scheduled removal of lines of tree D and part of tree line G with 'low' suitability for use by roosting bats will be carried out. No bat roost has been confirmed at the trees and, as such, this is a permanent adverse, direct effect of a negligible magnitude that is not significant at the local level.

Foraging Bats

- 12.129 Activities during the construction phase, including the removal of vegetation and the reduction in cover of trees and lines of trees is likely to reduce the suitability of the site for the attraction of foraging bats. This is assessed as a temporary adverse, direct effect of a minor magnitude that is not significant at the local level.

The Completed and Operational Development

- 12.130 The sources of impact at the operational stage on the IEFs that remain present at the site following the construction phase are related to recreational pressures (off-site) and disturbance (i.e. lighting, noise, vibration), human activity and mortality of wildlife as a result of the presence of roads and vehicles.

Statutory Designated Sites for Nature Conservation

- 12.131 Direct impacts on the identified statutory designated sites in the wider area as a result of operation of the site are reasonably scoped out.
- 12.132 The development of the site will result in the loss of a significant area of accessible urban greenspace and will increase the numbers of properties in the local area / the local population. It is recognised that this will increase the risk of recreational pressures at the relevant statutory designated sites and may present a risk of disturbance to the qualifying species at the designated sites.
- 12.133 Embedded mitigation to avoid a significant impact as a result of recreational pressures will be achieved as part of the design of the proposed development. For example, the proposed development does not intend to increase the accessibility of pedestrians and vehicles to the designated sites in the wider area. The use of the site for recreation is not lost entirely by the development and the proposals accommodate defined and maintained pathways and footpaths through and around the residential areas of the site with links to the public open space to the

west (Valley Park) and will provide areas of multi-use recreational open space within the site to provide opportunities for dog walking that will act to detract from access to the designated sites in the wider area. In the absence of further mitigation the risk of increased recreational pressures on the relevant designated sites and the risk of the disturbance of and direct impacts on the qualifying features of interest is assessed as a permanent adverse indirect effect of a minor magnitude that is significant at the local level.

Non-Statutory Designated Sites for Nature Conservation / Kirkby Brook LWS

12.134 Operation of the residential site will direct the surface water to Kirkby Brook and there is a risk of pollution. As the uncontrolled discharge of surface water and risk of pollution will affect the integrity of the Kirkby LWS (and associated water vole) this is a permanent direct effect of a moderate magnitude that has the potential to be significant at the local level (in the absence of mitigation).

Habitats

12.135 All habitats with the exception of the plantation woodland will have been removed by the construction phase.

12.136 No significant / perceivable effects on the plantation woodland at the operational phase are predicted. A negligible magnitude of impact of no significant effect is considered.

Species

Breeding Birds

12.137 It is considered that habitats suitable for all bird species recorded at the site during the baseline surveys will continue to be available at the site at the operational phase (once established). Specific bird species are unlikely to be further displaced from the site as a result of the occupation of the properties; a negligible magnitude of impact of no significant effect is considered.

Water Vole

12.138 Once the outfall is in place (construction phase) any long-term effects during the operation of the site on water vole are assessed to be a negligible magnitude of impact of no significant effect.

Roosting Bats

- 12.139 Any long-term effects during the operation of the site on roosting bats are assessed to be a negligible magnitude of impact of no significant effect.

Foraging Bats

- 12.140 The potential effect of mortality as a result of bat and traffic collisions is considered to affect bats at a negligible magnitude which is not considered to be significant at the local scale.
- 12.141 In the absence of a detailed lighting design at this stage a realistic worst-case assessment has been undertaken. On a worst case basis the effects will be a permanent adverse, direct effect of a moderate magnitude as bats may be deterred from the habitats which will affect the overall biodiversity value. This could be significant at the local level.

Additional Mitigation / Enhancement Measures**Construction****Protection of Existing Features and Construction Environment Management Plan (CEMP) for Biodiversity**

- 12.142 The working methods and best practice measures described below will be incorporated within the construction phase to reduce the negative effects of the development as a whole.
- 12.143 These best practice working methods will be detailed within a CEMP for Biodiversity and will include the following sections:

Protection of Nesting Birds

- 12.144 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. It is advised that any works such as vegetation clearance that will affect habitats suitable for use by nesting birds are scheduled to commence outside the bird nesting season. Commencement of works in the nesting season must be informed by a pre-works nesting bird survey, carried out by a suitably experienced ecologist. The bird breeding season typically extends between March to August inclusive.

- 12.145 If breeding birds are detected the ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. This may involve cordoning off an area of the site until the young birds have fledged.

Tree Protection

- 12.146 During the construction phase, temporary protective demarcation fencing will be used to protect the trees, lines of trees and plantation woodland that are to be retained. The fencing must extend outside the canopy of the retained trees and must remain in position until all plots have been developed to ensure protection is provided throughout the construction phase.
- 12.147 The fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012) and the Tree Survey Report.

Pollution Prevention Guidelines and Control of Sediment

- 12.148 Water and environmental quality at Kirkby Brook, adjacent to the site, will be protected during the construction through implementation of best practice and the appropriate method statements. In the absence of any updated Environment Agency guidance, the following Pollution Prevention Guidelines (PPG) will be adhered to:
- PPG1: Basic good environmental practices (Environment Agency, 2013);
 - PPG5: Works in, near or over watercourses (Environment Agency, 2014);
 - PPG6: Construction and demolition sites (Environment Agency, 2012); and
 - PPG7: Operating refuelling sites (Environment Agency, 2011).

Invasive Plant Species

- 12.149 It is advised that the methods for the eradication / control of Japanese Rose and Montbretia within the site is included in the CEMP for Biodiversity.

Construction Lighting

- 12.150 Any lighting to be used at the site during construction must be directional and screened where possible to avoid in appropriate illumination of sensitive habitats such as Kirkby Brook corridor, the margins of the retained plantation woodland and all areas of habitat creation, including SuDS, and landscape planting.

Precautionary Actions in Relation to Bats and Tree Felling / Arboricultural Works

12.151 The methods described in Appendix 12.1 for the protection of bats at the trees identified to have 'low' suitability for use by roosting bats will be detailed in the CEMP for Biodiversity and must be applied.

12.152 In addition to the felling method statement three bat boxes will be installed on the retained trees in the line of trees to compensate / mitigate for the loss of potential opportunities for use by roosting bats at the section of tree line G to be partially removed.

Protection of General Wildlife Including Hedgehog

12.153 The CEMP will include reasonable avoidance measures in a method statement to be applied for the protection of general wildlife, including hedgehog.

Water Vole Mitigation Strategy

- 12.154 To inform the installation of the surface water outfall at Kirkby Brook a pre-works updated water vole survey of the working area will be required.
- 12.155 Following the updated survey the works will be undertaken under a method statement. If needed the works will be undertaken under a Natural England licence to displace water vole (CL31).

General Best Practice Measures

- 12.156 The CEMP for Biodiversity will outline general best practice measures (with reference to the main CEMP) in relation to the minimisation of impacts / risk of harmful factors such as dust and noise and environmental incidents (for example, spills).
- 12.157 No additional mitigation measures are required / proposed during the construction period.

The Completed and Operational Development

- 12.158 The additional mitigation measures and features that aim to provide enhancement for biodiversity / additionality in accordance with the Biodiversity Net Gain: Good Practice Principles for Development¹⁵ are detailed below.

Homeowners' Pack / Advisory Leaflet

- 12.159 To address the potential risk of an increased recreational pressure on European protected sites in the wider area and a zone of potential influence, it is recommended that an advisory leaflet is distributed in the sale pack of the properties. The leaflet will provide the following guidance:
- Advise that the properties and site are within proximity to the European 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.

¹⁵ CIEEM, 2016

- Identify other areas for recreation / dog walking, including Accessible Green Infrastructure (as identified by Natural England¹⁶), away from the sensitive areas and the public footpaths, with maps, webpage links / QR codes and walking distances, as needed.

¹⁶ <https://designatedsites.naturalengland.org.uk/GreenInfrastructure/Map.aspx>

Signage

12.160 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. The signs and boards will present the same information as outlined above for the advisory leaflets.

Lighting Design

12.161 The lighting scheme to be implemented at the developed site must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over any retained habitats, Kirkby Brook LWS and any proposed ecological enhancements and landscape planting, as lighting overspill may deter use by wildlife such as foraging bats.

12.162 The lighting scheme will be designed with reference to current guidance, namely:

- Guidance Note 08/23: Bats and Artificial Lighting at Night (Institution of Lighting Professionals & Bat Conservation Trust, 2023);; and
- *Bats and lighting: Overview of current evidence and mitigation guidance* (Stone, 2014).

Additional Provisions for Roosting Bats and Nesting Birds

12.163 As outlined in Appendix 12.1 the following recommendations are made:

- Installation of bat access panels at the new dwellings.
- Installation of bat boxes at the retained trees.
- Installation of opportunities for nesting birds, including Priority Species such as house sparrow, and current conservation targets such as swift at the new dwellings.

Gaps for Hedgehog

12.164 As detailed in Appendix 12.1 to ensure the developed site and garden habitats are accessible to hedgehog and other wildlife, the development plot boundaries will be installed to accommodate gaps for access by hedgehog and other fauna.

Long-term Landscape and Habitat Management Plan

12.165 To ensure the long-term conservation of the retained, enhanced and created habitats a 'Long-term Landscape and Habitat Management Plan' will be prepared for the site and the surrounds.

12.166 The scope of the 'Long-term Landscape and Habitat Management Plan' will encompass:

- Monitoring and management of the retained habitats.
- Specification of an appropriate cutting / grazing management of grassland areas.
- The monitoring of the establishment of landscape planting.
- Aftercare of landscape planting.
- Monitoring and aftercare of bat and bird boxes outside of private residences.
- Monitoring and treatment of invasive species as needed; and
- Maintenance of a SuDS and associated marginal habitats (excluding the actual drainage system).

12.167 The Plan will be a reviewable document that will be informed by the results of the site monitoring activities and amended as required. Confirmation of the commitment to implement and fund the management will be required.

12.168 The Long-term Habitat Creation and Landscape Management Plan (or similar) to be prepared for the site will include specifications for the implementation of remedial actions, if required, during the operation of the site.

Residual Effects

12.169 The significance of effects of residual impacts of the scheme following the implementation of mitigation, enhancement and best practice measures are discussed below and summarised in Table 12.7.

Construction

Statutory Designated Sites

12.170 Significant adverse effects at all scales / levels are reasonably discounted.

Non-Statutory Designated Sites for Nature Conservation / Kirkby Brook LWS

12.171 In the presence of the correct implementation of actions as detailed in the CEMP for Biodiversity this is assessed as a negligible magnitude over the short term (construction period only). This is not a significant effect at the county scale.

Plantation Woodland, Individual Trees and Relevant Tree Lines

- 12.172 In the presence of the maintenance of the tree protection measures throughout the construction period the residual effect is assessed as a negligible magnitude that is not significant at the local level.

Mixed Scrub, Neutral Grassland and Lines of Trees (Scheduled to be Removed) and Associated Ecological Function

- 12.173 Following a period of establishment of the vegetation and secured long-term management the residual effect is assessed as a permanent direct adverse effect of a minor magnitude that is not significant at the local level.

Breeding Birds

- 12.174 The landscape planting and provisions for nesting birds, including Priority Species, to be installed at the new properties during the construction period will provide compensatory habitats for nesting birds. This is a negligible residual effect that is not significant at the local level.

Water Vole

- 12.175 In accordance with the embedded mitigation and the CEMP for Biodiversity, the works to install the surface water outfall at Kirkby Brook will be informed by an updated water vole survey and the works will be completed under a method statement and an appropriate Natural England licence, if needed. The headwall will be of a suitable size to carry a surface water soil pipe and is not anticipated to be significant in size and the vegetation removed from the working area will recolonise. The residual effect is assessed as negligible and not significant at the local level.

Roosting Bats

- 12.176 The works at Tree Lines D and G will be carried out in accordance with method statements as outlined in the CEMP for Biodiversity. This includes the installation of bat boxes to ensure no net loss of opportunities for use by roosting bats. The residual effect is assessed as negligible and not significant at the local level.

Foraging Bats

12.177 The construction site is unlikely to be operational during the main bat activity periods (i.e. dusk and beyond and two hours before sunrise in the spring, summer and early autumn months) and the timing of construction activity can be controlled by planning condition where necessary. Any residual effects as a result of lighting are assessed as a negligible magnitude and are not considered to be significant at the local scale in the short-term.

Operation

Statutory Designated Sites for Nature Conservation

- 12.178 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 advised that the residual effect is negligible and not significant at any level.

Non-Statutory Designated Sites for Nature Conservation / Kirkby Brook LWS

- 12.179 Secured and appropriate long-term management and maintenance of the surface water drainage system will ensure any residual effects are negligible and not significant at any level.

Breeding Birds

- 12.180 Implementation of the specifications of the additional mitigation will ensure the creation of habitats suitable for use by nesting birds including Priority Species e.g. dunnock, song thrush and house sparrow. The habitat enhancement works at the ponds may also provide opportunities for the attraction of other conservation target species such as swift.
- 12.181 The development will secure the management of the retained and created habitats in accordance with conservation objectives in the long-term and will accommodate additional provisions for nesting (and feeding) birds within the built environment.
- 12.182 On balance, the overall residual effect on nesting birds is assessed as a negligible generally and not significant, and beneficial for some species as opportunities for all the bird species recorded to be residential at the site in the baseline surveys will be conserved and opportunities suitable for new species will be created, but the reduction in area of habitat may affect the abundance of some bird species (particularly during the nesting period as some bird species are territorial).

Roosting Bats and Foraging Bats

- 12.183 A sensitive lighting strategy for the proposed development will be designed pursuant to the requirements of Planning Conditions. 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 parameter s the residual effect is reduced to negligible and not significant.

Table 12.7: Residual Effects Summary

Description of Effect	Embedded Mitigation	Potential Effect (inc. Significance)	Further Mitigation	Residual Effect (inc. Significance)
Construction				
Direct impacts on the designated sites and their qualifying features.	The off-site statutory designated sites are located over 8 kilometres from the site and will not be directly affected by the development. The site does not provide a functionally-linked land role. There is no direct hydrological connectivity between the site and the statutory designated sites in the wider area. The proposed construction site will not create a barrier to any bird movements over the site nor create additional hazards nor cause fragmentation.	Significant adverse effects at all scales / levels are reasonably discounted.	None	Significant adverse effects at all scales / levels are reasonably discounted.

Description of Effect	Embedded Mitigation	Potential Effect (inc. Significance)	Further Mitigation	Residual Effect (inc. Significance)
Direct impacts on Kirkby Brook LWS due to risk of sedimentation and pollution.	Distance between site and the off-site Kirkby Brook LWS is over 50 metres.	Temporary adverse, direct effect of a moderate magnitude over the short term that is not likely to be significant at the county level.	Implementation of actions as detailed in a CEMP for Biodiversity, including pollution prevention measures.	Negligible magnitude over the short term (construction period only). Not significant at the county level.
Plantation woodland, individual trees and relevant tree lines	Habitats scheduled to be retained and accommodated by the proposals. Tree protection measures in accordance with BS5837:2012 to be implemented.	Negligible. Not significant effect at the local scale.	Maintenance of tree protection measures throughout the construction period.	Negligible. No significant effect at the local level.
Removal of all mixed scrub, neutral grassland, relevant tree lines and associated ecological function	Compensatory landscape planting proposed to create new habitats of trees, tree lines and areas of grassland. Linear planting to create green links and habitat connectivity through the site.	Permanent adverse, direct effect of a moderate magnitude. Significant at the local level.	Quality of compensatory new habitats to be secured by Long-term Landscape and Ecological Management Plan.	Permanent adverse, direct effect of a minor magnitude. No significant effect at the local scale.

Description of Effect	Embedded Mitigation	Potential Effect (inc. Significance)	Further Mitigation	Residual Effect (inc. Significance)
Direct effects on nesting birds during vegetation clearance.	Compliance with relevant wildlife legislation. Habitat resource for use by nesting birds is not lost from the local area entirely. Birds will be displaced from the site to retained off-site habitats in Valley Park, for example.	Temporary adverse, direct effect of a minor magnitude that is significant over the short term.	Works to be informed by actions as outlined in CEMP for Biodiversity. Reinstatement of landscape planting and installation of bird boxes, including provisions for Priority Species, at the properties during the construction period. Quality of compensatory new habitats to be secured by Long-term Landscape and Ecological Management Plan.	Negligible. No significant effect at the local level.
Direct effects on water vole and their habitats as the surface water outfall at Kirkby Brook is installed.	Compliance with relevant wildlife legislation. Working area limited to the installation of one outfall with a relatively small working area.	Temporary adverse, direct effect of a minor magnitude that this not significant at the local level.	Works to be informed by actions as outlined in CEMP for Biodiversity. Appropriate Natural England licence to be in place, as needed.	Negligible. No significant effect at the local level.

Description of Effect	Embedded Mitigation	Potential Effect (inc. Significance)	Further Mitigation	Residual Effect (inc. Significance)
Direct effect on roosting bats during removal of trees at tree lines D and part of G.	No bat roost has been confirmed at the trees. Some of the trees at Tree Line G will be retained.	Permanent adverse, direct effect of a negligible magnitude that is not significant at the local level.	Works to be informed by actions as outlined in CEMP for Biodiversity. Actions include installation of bat boxes to ensure no net loss of opportunities for use by roosting bats.	Negligible. No significant effect at the local level.
Vegetation removal and reduction in cover of trees will reduce the suitability of the site for use by foraging bats.	Compensatory landscape planting proposed to create new habitats of trees, tree lines and areas of grassland. Linear planting to create green links and habitat connectivity through the site.	Temporary adverse, direct effect of a minor magnitude that is not significant at the local level.	Implementation of appropriate lighting strategy during construction period. Quality of compensatory new habitats to be secured by Long-term Landscape and Ecological Management Plan.	Negligible. No significant effect at the local level.
Operation				

Description of Effect	Embedded Mitigation	Potential Effect (inc. Significance)	Further Mitigation	Residual Effect (inc. Significance)
Recreational pressures on the off-site statutory designated sites and their features of special interest in the wider area.	The site is located over 8 kilometres from all statutory designated sites for nature conservation. The proposals do not facilitate recreational access to the off-site designated sites. Proposals accommodate defined and maintained pathways and footpaths through and around the residential areas of the site with links to the public open space to the west (Valley Park) and will provide areas of multi-use recreational open space within the site to provide opportunities for dog walking that will act to detract from access to the designated sites in the wider area.	Permanent adverse indirect effect of a minor magnitude that is significant at the local level.	Additional mitigation to include 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.	Negligible. No significant effect at any level.

Description of Effect	Embedded Mitigation	Potential Effect (inc. Significance)	Further Mitigation	Residual Effect (inc. Significance)
Operation of the residential site will direct the surface water to Kirkby Brook and there is a risk of pollution.	Discharge at greenfield runoff rate; accommodate runoff in SuDS features to attenuate water and allow for pollution incidents to be reported. Installation of hydrocarbon interceptors as needed.	Permanent direct effect of a moderate magnitude that has the potential to be significant at the local level.	Drainage system to be maintained appropriately.	Negligible. No significant effect at any level.
Disturbance of habitats used by nesting birds owing to inappropriate behaviour such as dogs off leads. Increase in area / length of hedgerows, shrubs and trees suitable for use by passerine bird species.	Compensatory landscape planting proposed to create new habitats of trees, tree lines and areas of grassland. Linear planting to create green links and habitat connectivity through the site.	Negligible magnitude of impact of no significant effect.	Increased diversity of habitats for use by nesting birds, including availability of opportunities for species such as swift (not available at the baseline). Secured application of appropriate management of habitats for nesting birds.	Beneficial effects for specific species owing to an increase in habitat availability as a result of embedded mitigation

Description of Effect	Embedded Mitigation	Potential Effect (inc. Significance)	Further Mitigation	Residual Effect (inc. Significance)
Adverse effects on roosting bats / suitability of habitats for use by roosting bats owing to inappropriate lighting strategy.	Retention of the trees at Tree Line G.	Any long-term effects during the operation of the site on roosting bats are assessed to be a negligible magnitude of impact of no significant effect.	Preparation and implementation of a sensitive lighting strategy, prepared in accordance with current guidelines. Installation of bat access panels at the new dwellings.	Negligible. Not significant. Beneficial effects for roosting bats as a result of creation of opportunities for roosting.
Risk of bat mortality as a result of traffic collisions owing to increased cover of new roads. Adverse effects on foraging bats / suitability of habitats for use by foraging bats owing to inappropriate lighting strategy.	Implementation of tree planting and greenlinks through the site to provide opportunities for foraging bats.	Adverse, direct effect of a moderate magnitude as bats may be deterred from the habitats which will affect the overall biodiversity value. This could be significant at the local level.	Preparation and implementation of a sensitive lighting strategy, prepared in accordance with current guidelines. Long-term management and maintenance of lighting strategy parameters. Quality of compensatory new habitats to be secured by Long-term Landscape and Ecological Management Plan.	Negligible. Not significant. Beneficial effects for roosting bats as a result of creation of opportunities for roosting.

12.184 In the presence of the appropriate mitigation none of the residual effects on the IEFs are assessed to be significant.

Conclusions

12.185 It is concluded that residential development can be achieved at the site with no significant adverse effect on designated sites for nature conservation and ecologically valuable habitats, including Priority Habitat and irreplaceable habitats.

12.186 Adverse effects on protected species are reasonably discounted and measures for the protection of bats, nesting birds and hedgehog during the construction period can be achieved by the implementation of actions as outlined in the CEMP for Biodiversity.

12.187 By protection of existing habitats and the creation of new and diverse habitats, the proposed development achieves compliance with the requirements of the NPPF and policies CS8 of the Knowsley Local Plan Core Strategy.

12.188 The proposed development will secure management in the long-term of all retained and created habitats in accordance with conservation objectives. Mitigation to address identified potential indirect adverse effects on off-site statutory designated sites as a result of recreational pressures and the risk of adverse effects on the features interest at the nearby Kirkby Brook LWS is feasible and will be secured via planning obligations, as needed.

12.189 In addition to the landscape planting, the proposed development will secure beneficial measures within the built environment for breeding and feeding birds and roosting bats.

12.190 Collectively and in the long-term it is concluded that the proposed development will deliver measurable gains and additionality for biodiversity, particularly for Priority Species and bird species of conservation targets, in accordance with the principles of the NPPF.

Assessment of Cumulative Effects

Approach

12.191 The list of sites to be considered under cumulative effects was provided by Egniol Consulting Limited. The sites are listed and discussed in Table 12.8.

Table 12.8: Cumulative Sites

Site Ref.	Application No.	Distance and Direction	Proposal	Scoped-in / Scoped-out	Justification
1.	20/00193/FUL	500m southwest	266no. Residential dwellings	Scoped-in	Development proposal is relevant to the assessment of potential effects on the statutory designated sites in the wider area. Any Habitats Regulations Assessment (HRA) will need to consider this development as part of assessment of in-combination effects.
2.	20/00124/FUL	2km northeast	Erection of B8 Warehouse and distribution centre	Scoped-out	Proposed development lies outside of the EZol of the proposed development and the IEF. Will not result in increased recreational pressures on the statutory designated sites for nature conservation in the wider area (i.e. development proposal will not have a similar effect on the European designated sites).
3.	19/00337/OUT	1.5km northeast	Industrial led mixed use development	Scoped-out	Proposed development lies outside of the EZol of the proposed development and the IEF. Will not result in increased recreational pressures on the statutory designated sites for nature conservation in the wider area (i.e.

Site Ref.	Application No.	Distance and Direction	Proposal	Scoped-in / Scoped-out	Justification
					development proposal will not have a similar effect on the European designated sites).

Likely Residual Cumulative Effects and their Significance

Construction

- 12.192 No likely residual cumulative effects are predicted at the construction phase. This is a negligible magnitude of impact of no significant effect.

The Completed and Operational Development

- 12.193 It is accepted and recognised in this chapter that an increase in local population as a result of the residential development at the site could increase the effects of recreational pressures on the relevant statutory designated sites in the wider area. The relevant scope of mitigation is proposed to reduce the effect to not significant when considered alone.
- 12.194 It is a requirement of Habitats Regulations Assessment that they take into account possible 'in-combination' (cumulative) effects on European protected sites that could arise from other relevant developments. It is possible that a number of small impacts, while not considered to cause harm when assessed in isolation, could combine to cause a more significant effect. For the purposes of completeness and to assist the LPA in the preparation of a HRA, if needed, the in-combination effects are discussed below.
- 12.195 The scoped-in site is under construction and proposes 266 residential dwellings. A HRA was prepared for this project by the Merseyside Environmental Advisory Service (MEAS). The HRA advises and concludes:

"A residents information pack should be included in the sales packs of the proposed dwellings that will inform residents of the presence and importance of European sites and how they can help to protect them. It will identify suitable alternative greenspaces (SANGs) for recreation such as dog walking and include details of a 'responsible user code'."

"Provided that the awareness raising information pack is secured by a suitably worded planning condition, adequate mitigation will be provided and there will be no adverse effect on the integrity of the European sites."

12.196 As the project level HRA for the 266 dwellings has encompassed protective and preventative measures to avoid an adverse impact on the European protected site it is reasonably concluded that there is no risk of an in-combination / cumulative adverse effect on the integrity of the European protected sites and their conservation objectives.

12.197 All other IEFs are scoped out of the cumulative effects assessment.

Other Information

List of Tables

Table 12.1: Criteria for Assigning the Importance of Ecological Receptors

Table 12.2: Magnitude Criteria

Table 12.3: Consultation

Table 12.4: Summary of Habitat Types and Area Covered

Table 12.5: Ecological Evaluation and Identification of IEFs (Habitats)

Table 12.6: Ecological Evaluation and Identification of IEFs (Species)

Table 12.7: Residual Effects Summary

Table 12.8: Cumulative Sites

List of Figures

Figure 12.1: Aerial Image of the Site and Nearby Statutory Designated Sites for Nature Conservation

Figure 12.2: Aerial Image of the Site and its Surroundings, Showing LWS in the Wider Area and LCREN CBA Grassland

Figure 12.3: Phase 1 Habitat Survey Map

List of Appendices

Appendix 12.1: Ecological Survey and Assessment (ERAP (Consultant Ecologists) Ltd, March 2024)

Appendix 12.2: Summary of Features of Interest at Statutory Designated Sites and Conservation Objectives