

HABITAT REGULATIONS ASSESSMENT REPORT

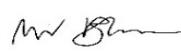
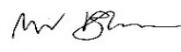
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U R B A N
G R E E N



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1 Introduction

1.1 Background to the Scheme

Urban Green have been appointed to produce a Habitat Regulations Assessment (HRA) report in consideration of the proposed development at Ormskirk Road, Knowsley.

This document provides information to assist the Local Planning Authority (LPA), Knowsley Council (KC), the 'Competent Authority', in carrying out a Habitats Regulations Assessment ('HRA') in accordance with Article 6(3) and 6(4) of the EU Habitats Directive (92/43/EEC). The primary aim is to provide information to assist the Competent Authority to determine whether or not the proposed development of the site would have a likely significant effect on those European conservation sites and Ramsar sites that fall within the zone of influence of the site, either alone or in combination with other plans or projects. Once these likely significant effects have been identified, an assessment of the impact of these effects will be carried out and any mitigation that is to be required will be detailed. This is equivalent to the requirements of Stage 1 and Stage 2 of the HRA process, following the procedures set out in European and current national guidance (European Commission, 2001; ODPM).

1.2 Site Context

The site is located at National Grid Reference SJ 43756 96752 and comprises a total area of approximately 4ha (see Figure 1).

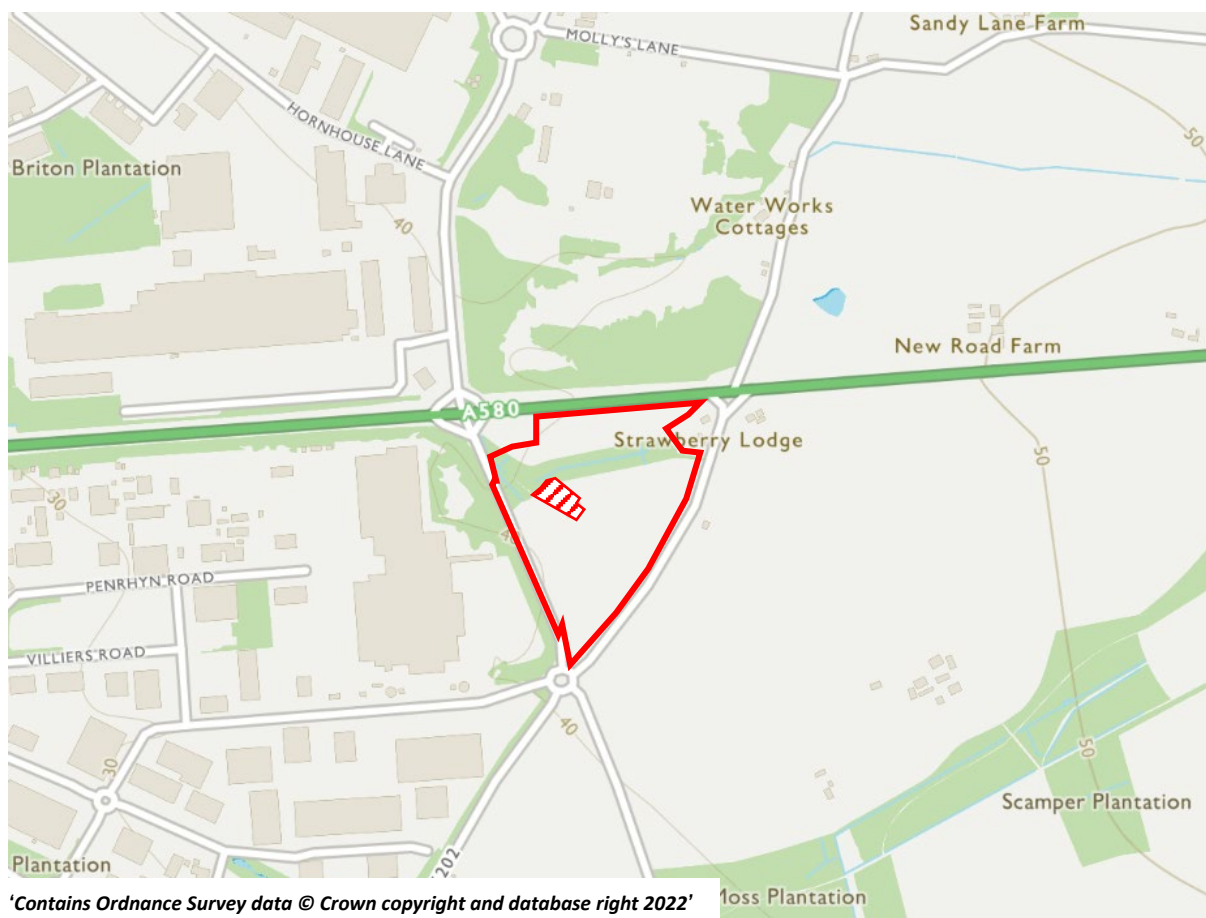


Figure 1 – Site Extent

The site is located upon the edge of an industrial estate approximately 450m north of Knowsley, and 10km to the north-east of Liverpool. The industrial estate is located within the urban rural fringe, with agricultural fields to the east and south, and industrial units to the west. Shared land use lies to the north, comprising both industrial and agricultural land. The A580 major road directly borders the site to the north beyond which lies a small area of woodland, whilst Ormskirk Road and the B5202 road directly borders the site to the south and west.

1.3 Project Description

Current plans for the site include the construction of three commercial buildings and associated access roads and car parking, bringing a total developable area of approximately 3ha. An area of wet meadow will be created in the western extent of the site as part of the drainage strategy for the site, and a section of woodland will be retained within the north west corner. The current site proposals are shown in Appendix 1.

1.4 Purpose and Scope of the report

The scope and approach taken in preparing the report to inform the HRA is summarised as follows:

- Describe the elements of the project that are likely to give rise to significant effects on the national site network sites;
- Set out the conservation objectives of the national site network sites;
- Describe how the project will affect the key species and key habitats of the national site network sites;
- Describe how the integrity of national site network sites is likely to be affected by the project;
- Identify likely significant affects that will require an appropriate assessment to be conducted.
- Conduct an appropriate assessment of the impact of the identified likely significant effects on the integrity of the national site network sites
- Detail any mitigation requirements that may be necessary to minimise these effects.

The approach taken in preparing this document is based on standard methods and current good practice guidance.

2 Legislative and Policy Context

2.1 National Policy and Legislation

Article 6 (3) of the Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna) states:

‘Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.’

Article 6 (4) states: *‘If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.’*

The Conservation of Habitats and Species Regulations 2017 (as amended), hereafter referred to as the ‘Habitats Regulations’, implement the provisions of the Habitat Directive in UK law. The Habitats Regulations consolidate the Conservation (Natural Habitats &c.) Regulations 1994, and Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007. The Habitats Regulations were amended by the Conservation of Habitats and Species (Amendment) Regulations 2012. This provides for clearer transposition of the provisions of the Birds Directive into UK law, and revokes two Regulations (20 & 22) which duplicate measures to control potentially damaging activities on SSSIs. Regulation 9A sets out the duties of appropriate authorities and nature conservation bodies with respect to the Birds Directive. Regulation 9A (8) provides the legislative basis for considering pollution or deterioration of habitats inside or outside a designated site, transposing Article 4 (4) of the 2009 Birds Directive.

Regulation 61 (1) of the Habitats Regulations states:

‘A competent authority, before deciding to undertake, or give any consent, permission, or other authorisation for, a plan or project which-

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and

(b) is not directly connected with or necessary to the management of the site, must make an appropriate assessment of the implications for the site in view of that site’s conservation objectives.’

The ‘competent authority’ in this case is Knowsley Council as the LPA.

Following the exit of the UK from the European Union on January 1st, 2021, the Habitats Regulations were amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 to transfer the role of the European Commission to the appropriate Authorities in England. The 2017 Regulations (Regulation 9(1)), as amended by the 2019 Regulations, require the Secretary of State to secure compliance with the requirements of the Nature Directives. Any new powers in the 2019 Regulations must be exercised in line with the Directives and retained EU case law up to 1st January 2021.

European Sites in the UK

The National Site Network comprises Special Areas of Conservation (SAC) designated under the EU Habitats Directive (Council Directive 92/43/EEC), and Special Protection Areas (SPA) designated under the EU Birds Directive (Council Directive 2009/147/EC) within the UK.

Ramsar sites are wetland sites of international importance designated under the 1971 Ramsar Convention on Wetlands. Although not part of the National Site Network, the UK government has chosen to apply the same assessment procedures to plans and projects affecting Ramsar sites (ODPM, 2005 paragraph 6), and they therefore need to be considered in the HRA process.

2.2 Local Policy

Knowsley Council Local Plan Policy SD1 Sustainable Development

- 1) When considering development proposals, a positive approach will be taken, which reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. Work will be undertaken proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social, and environmental conditions in the area.
- 2) Planning applications that accord with the policies in this Local Plan (and any relevant policies in Neighbourhood Plans) will be approved without delay unless material considerations indicate otherwise.
- 3) Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then permission will be granted unless material considerations indicate otherwise – taking into account whether:
 - Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or
 - Specific policies in that Framework indicate that development should be restricted.

Knowsley Council Local Plan Policy CS8 Green Infrastructure.

Maintenance and Enhancement of Knowsley's Existing Green Infrastructure

- 1) Knowsley's existing Green Infrastructure and its beneficial functions 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.

2) To achieve the above, planning powers and other interventions will be used to:

- Protect and enhance strategically important areas of greenspace;
- Ensure an appropriate quantity and improved quality of locally important open spaces, including outdoor sports provision (and ancillary facilities of appropriate scale);
- Promote effective movement of wildlife through a network of strategic green links, by protecting, maintaining, and improving existing and new open spaces, water courses (including water quality) and biodiversity assets;
- Protect, enhance and/or introduce biodiversity into existing areas of Green Infrastructure, through integration into the design of new development and public realm projects;
- Improve accessibility for communities to greenspace offering leisure and recreation opportunities;
- Protect and where possible improve green paths and cycleways linking residential areas, existing strategic areas of greenspace, employment locations, local community services and leisure facilities;
- Work in partnership with other districts and relevant bodies at a landscape scale to minimise the impact of development upon Knowsley's existing biodiversity and geological assets, and sustain the protection afforded to internationally important sites, including supporting habitat, for biodiversity outside of the borough; and
- Deliver new integrated and functional Green Infrastructure that helps to mitigate and adapt to climate change, such as sustainable drainage systems, carbon capture and storage, soft landscaping, and green roofs.

3 Methodology and Scope

3.1 HRA Process Stages

Guidance on the Habitats Directive (European Commission, 2000). Managing NSN Sites: The Provisions of Article 6 of the ‘Habitats’ Directive 92/43/CEE sets out the step wise approach which should be followed to enable Competent Authorities to discharge their duties under the Habitats Directive and provides further clarity on the interpretation of Articles 6 (3) and 6 (4). The process used is usually summarised in four distinct stages of assessment:

- **Stage 1: Screening:** the process which identifies whether effects upon a NSN site of a plan or project are possible, either alone or in combination with other plans or projects; and considers whether these effects are likely to be significant.
- **Stage 2: Appropriate Assessment (AA):** the detailed consideration of the effect on the integrity of the NSN site of the plan or project, either alone or in combination with other plans or projects, with respect to the site’s conservation objectives and its structure and function.
- **Stage 3: Assessment of alternative solutions:** the process which examines alternative ways of achieving the objectives of the plan or project that avoid adverse effects on the integrity of the NSN site.
- **Stage 4: Assessment where no alternative solutions exist and where adverse effects remain:** an assessment of whether the development is necessary for IROPI and, if so, of the compensatory measures needed to maintain the overall coherence of the NSN network.

3.2 Potential Zone of Influence

3.2.1 Background

The ‘Zone of Influence’ (Zoi) for a project is the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries. The potential Zoi will vary for different ecological features depending on their sensitivity to an environmental change (CIEEM, 2018). The following has been taken into account for the Zoi:

- European sites within the UK that could potentially be affected within 10km of the development site (or further afield where there is a direct hydrological connection or where qualifying species could move between the European sites within the UK and the development site (e.g., birds);
- The characteristics of these European sites within the UK;
- Their conservation objectives; and
- Other relevant plans and projects.

3.2.2 Application to Stage One - Screening Report

It is the purpose of the HRA Screening Stage to determine, on a precautionary basis, whether a plan or project has the potential to cause a likely significant effect on one or more European designated sites. If a likely significant effect is identified, an appropriate assessment is required to determine whether it can be concluded that the plan alone, or in combination with other plans and projects, will not result in an adverse effect on the integrity of one or more European sites.

The HRA screening stage has been characterised by the European Commission in the guidance documents “Assessment of plans and projects significantly affecting Natura 2000 sites: methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC” (the European Commission Guidance) as a four-step process. These steps are relevant within the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 as follows:

- Determining whether the project or plan is directly connected with or necessary to the management of the national site network site;
- Describing the project or plan and the description and characterisation of other projects or plans that in combination have the potential for having significant effects on the national site network site.
- Identifying the potential effects on the national site network site.
- Assessing the significance of any effects on the national site network site.

When each of these steps has been worked through there are two potential outcomes:

- One or more likely significant effects on designated features of national site network sites are identified and the project requires an appropriate assessment (Stage 2).
- No likely significant effects on designated features of national site network sites are identified as there is no pathway by which such effects could occur and therefore there is no requirement for an appropriate assessment. This is also known as ‘screening out’ the need for further assessment.

3.3 Method for Determining Likely Significant Effects

The HRA screening process uses the threshold of likely significant effects to determine whether effects on European sites should be the subject of further assessment. The Habitats Regulations do not define the term ‘likely significant effect.’ However, in the Waddenzee case (Case C-127/02) the European Court of Justice found that a likely significant effect exists if it cannot be excluded on the basis of objective information that the plan or project will have significant effects on the conservation objectives of the site concerned, whether alone or in combination with any other project. The Advocate General’s opinion of the Sweetman case (Case C-258/11) further clarifies the position by noting that for a conclusion of a likely significant effect to be made “there is no need to establish such an effect...it is merely necessary to determine that there may be such an effect”.

For the purposes of this report, a likely significant effect is defined as any identified effect that is capable of resulting in a change in the conservation status of one or more designated features of a European site after all aspects of the plan or project have been considered alone and in combination with other plans and projects.

A precautionary approach has been taken to the screening process (Stage 1). Only those designated features and European sites where it can be demonstrated that there is no likelihood of a significant effect occurring (based on the criteria and approach outlined above) have been screened out. This screening assessment does not consider any mitigation measures that are necessary to reduce or avoid likely significant effects on European sites. This follows the judgement of the Court of Justice of the European Union⁷ (CJEU) where it was concluded that the need for measures to avoid or reduce harmful effects presupposes that there is a likely significant effect, and consequently consideration at Stage 2 is required.

Where a potential effect has been identified but no likely significant effect is predicted the evidence and reason for reaching this conclusion is provided.

4 Ecological Baseline

4.1 Data Sources

The following documentation has been utilised in preparing the results section:

1. SAC/SPA Citation Documents (Natural England);
2. SAC/SPA Conservation Objectives Documents;
3. NATURA 2000 – Standard Data Form 2015, Joint Nature Conservation Committee.
4. Site Improvement Plans (SIP) – Natural England

4.2 European Sites within the UK

There is one SAC, three SPA's, and three Ramsar sites located within the ZoI of the site. Details of these sites, the features for which they are designated and threats/pressures facing these sites are provided in Table 2, 3, and 4, respectively.

Table 1 – Special Areas of Conservation (SAC) present within the ZOI of the site and their qualifying features, conservation objectives and pressures and threats.

Site	Distance and direction from Site	Description	Qualifying Features	Conservation Objectives	Pressures and threats (from relevant SIP)
Sefton Coast SAC	12.5km west	The Sefton Coast in north-west England displays both rapid erosion and active shifting dunes. The sequence of habitats from foredunes to dune grassland and dune slack is extensive, and substantial areas of open dune vegetation remain. There are large areas of semi-fixed and fixed dunes with herbaceous vegetation exhibiting considerable variation from calcareous to acidic. Despite some urban and recreational development, both successional and geomorphological processes are still active, and the structure and function of the site as a whole is still well conserved. Pools in the hollows and slacks amongst the more fixed dunes are the habitat of a large population of great crested newts <i>Triturus cristatus</i> .	Annex I habitat primary qualifying features • 2110 Embryonic shifting dunes • 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> • 2130 Fixed coastal dunes with herbaceous vegetation • 2170 Dunes with <i>Salix repens</i> • 2190 Humid dune slacks Annex II species primary qualifying features • Petalwort (<i>Petalophyllum ralfsii</i>)	Ensure integrity of site is maintained or restored as appropriate and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying features, by maintaining or restoring: - The extent and distribution of qualifying natural habitats and habitats of the qualifying species - The structure and function of qualifying natural habitats - The structure and function of the habitats of the qualifying features - The supporting processes on which the qualifying natural habitats and the habitats of the qualifying features rely - The population of each of the qualifying features - The distribution of the qualifying features within the site.	1. Coastal squeeze 2. Air pollution 3. Inappropriate scrub control 4. Invasive species 5. Hydrological changes 6. Public access/ disturbance 7. Inappropriate coastal management 8. Fisheries 9. Change to site conditions 10. Shooting/ scaring

Table 2 – Special Protection Areas (SPA) present within the Zol of the site, their qualifying features, conservation objectives and pressures and threats.

Site	Distance and direction from Site	Description	Qualifying Features	Conservation Objectives	Pressures and threats (from relevant SIP)
Mersey Narrows and North Wirral Foreshore SPA	11.8km west	Mersey Narrows and North Wirral Foreshore is located on the northwest coast of England at the mouths of the Mersey and Dee estuaries. The site comprises intertidal habitats at Egremont foreshore, man-made lagoons at Seaforth and the extensive intertidal flats at North Wirral Foreshore. Egremont is most important as a feeding habitat for waders at low tide whilst Seaforth is primarily a high tide roost site, as well as a nesting site for terns. North Wirral Foreshore supports large numbers of feeding waders at low tide and also includes important high tide roost sites.	The site qualifies under Article 4.1 of the Directive (2009/147/EC) as it is used regularly by 1% or more of the Great Britain populations of the bar-tailed godwit (<i>Limosa lapponica</i>) and common tern (<i>Sterna hirundo</i>). In addition, it is one of the most important locations in the UK for little gull and common tern. The site qualifies under Article 4.2 of the Directive (2009/147/EC) as it is used regularly by 1% or more of the biogeographical populations of knot which is a regularly occurring migratory species. The site qualifies under article 4.2 of the Directive (2009/147/EC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season:	Ensure integrity of site is maintained or restored as appropriate and ensure that the site contributes to achieving the aims of the Wild Birds Directive by maintaining or restoring: - The extent and distribution of habitats of the qualifying species - The structure and function of the habitats of the qualifying features - The supporting processes on which the habitats of the qualifying features rely - The population of each of the qualifying features -The distribution of the qualifying features within the site.	1. Public access/disturbance 2. Changes in species distributions 3. Invasive species 4. Climate change 5. Coastal squeeze 6. Inappropriate scrub control 7. Water pollution 8. Fisheries commercial, marine, and estuarine 9. Inappropriate coastal management 10. Overgrazing 11. Direct impact from third party 12. Marine litter 13. Predation 14. Planning Permission: general 15. Marine consents and permits 16. Wildfire/arson 17. Air pollution: impact of atmospheric nitrogen deposition 18. Transportation and service corridors 19. Physical modification
Liverpool Bay / Bae Lerpwl SPA (site code UK9020294)	10.9km west	A broad arc from approximately Morecambe Bay to east coast of Anglesey. SPA's seabed consists of a wide range of mobile sediments. Large areas of muddy sand stretch from Rossall Point to the Ribble Estuary and sand predominated in the	Supports 5.4% of the GB wintering red-throated diver (<i>Gavia stellata</i>). Supports 3.4% of the population of common scoter (<i>Melanitta nigra</i>).	Ensure integrity of site is maintained or restored as appropriate and ensure that the site contributes to achieving the aims of the Wild	1. Fisheries: commercial marine and estuarine 2. Transportation and service corridors 3. Fisheries: recreational marine and estuarine

Site	Distance and direction from Site	Description	Qualifying Features	Conservation Objectives	Pressures and threats (from relevant SIP)
		remaining areas, with a concentrated area of gravelly sand off the Mersey Estuary and a number of prominent sandbanks off the English and Welsh coasts. Tidal currents are generally weak which combined with a relatively large tidal range facilitates deposition of sediments	Supports an internationally important assemblage of birds during the non-breeding season.	Birds Directive by maintaining or restoring: - The extent and distribution of habitats of the qualifying species - The structure and function of the habitats of the qualifying features - The supporting processes on which the habitats of the qualifying features rely - The population of each of the qualifying features -The distribution of the qualifying features within the site	4. Extraction: non-living resources 5. Siltation 6. Water pollution

Site	Distance and direction from Site	Description	Qualifying Features	Conservation Objectives	Pressures and threats (from relevant SIP)
Mersey Estuary SPA	12.6km south west	A large, sheltered estuary which comprises large areas of saltmarsh and extensive intertidal sand- and mudflats, with limited areas of brackish marsh, rocky shoreline, and boulder clay cliffs, within rural and industrial environment. Intertidal flats and saltmarshes provide feeding and roosting sites for large populations of waterbirds. During winter, the site is of major importance for ducks and waders. During spring and autumn migration periods, the site is important for wader populations moving along the west coast of Britain.	This site supports 1% or more of the GB population of golden plover (<i>Pluvialis apricaria</i>), which is an annex 1 species, in any given season. The site also supports 1% or more of the following annex 1 migratory species: Redshank (wintering and in passage), shelduck, teal, pintail, dunlin, black-tailed godwit. This site also supports an assemblage of over 20,000 waterbirds in any given season.	Ensure integrity of site is maintained or restored as appropriate and ensure that the site contributes to achieving the aims of the Wild Birds Directive by maintaining or restoring: - The extent and distribution of habitats of the qualifying species - The structure and function of the habitats of the qualifying features - The supporting processes on which the habitats of the qualifying features rely - The population of each of the qualifying features -The distribution of the qualifying features within the site	1. Changes in species distributions 2. Invasive species 3. Public access/disturbance
Ribble and Alt Estuaries SPA	12.5km west	The Ribble and Alt Estuaries SPA lies on the coast of Lancashire and Sefton in northwest England. The SPA encompasses all or parts of Ribble Estuary SSSI and Sefton Coast SSSI. It comprises two estuaries, of which the Ribble is by far the larger, together with an extensive area of sandy foreshore along the Sefton Coast, and forms part of the chain of west coast SPAs that fringe the Irish Sea. Indeed, there is considerable interchange in the	The site qualifies under Article 4.1 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the GB populations of ruff (<i>Philomachus pugnax</i>), common tern, Bewick's swan, whooper swan, golden plover, and bar-tailed godwit.	Ensure integrity of site is maintained or restored as appropriate and ensure that the site contributes to achieving the aims of the Wild Birds Directive by maintaining or restoring:	1. Coastal squeeze 2. Air pollution 3. Inappropriate scrub control 4. Invasive species 5. Hydrological changes 6. Public access/ disturbance 7. Inappropriate coastal management 8. Fisheries 9. Change to site conditions

Site	Distance and direction from Site	Description	Qualifying Features	Conservation Objectives	Pressures and threats (from relevant SIP)
		movements of birds between this site and Morecambe Bay, Mersey Estuary, Dee Estuary and Martin Mere. A large proportion of the SPA is within the Ribble Estuary National Nature Reserve. The site consists of extensive areas of sand and mudflats and, particularly in the Ribble, large areas of saltmarsh. There are also areas of coastal grazing marsh. The intertidal flats are rich in invertebrates on which waders and some wildfowl feed. The highest densities of feeding birds are on the muddier substrates of the Ribble, though sandy shores throughout are also used. Saltmarshes and coastal grazing marshes support high densities of wildfowl and these, together with intertidal sand and mudflats throughout, are used as high tide roosts. The site supports internationally important populations of waterbirds in winter, including swans, geese, ducks, and waders. It is also of major importance during migration periods, especially for wader populations moving along the west coast of Britain. The larger expanses of saltmarsh and areas of coastal grazing marsh support breeding birds, including large concentrations of gulls and terns. These seabirds feed both offshore and inland, outside the SPA. Several species of waterfowl (notably Pink-footed Goose <i>Anser brachyrhynchus</i>) utilise feeding areas on agricultural land outside the SPA boundary.	The site qualifies under Article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of lesser black-backed gull, ringed plover, sanderling, redshank, pink-footed goose, shelduck, wigeon, teal, pintail, oystercatcher, grey plover, knot, dunlin, and black-tailed godwit. The qualifies under Article 4.2 of the Directive (79/409/EEC) as it used regularly by over 20,000 waterbirds, and by over 20,000 seabirds in any season.	- The extent and distribution of habitats of the qualifying species - The structure and function of the habitats of the qualifying features - The supporting processes on which the habitats of the qualifying features rely - The population of each of the qualifying features -The distribution of the qualifying features within the site	10. Shooting/ scaring

Table 3 – Ramsar sites present within the ZOI of the site, their qualifying features, conservation objectives and pressures and threats.

Site	Distance and direction from Site	Description	Qualifying Features	Conservation Objectives	Pressures and threats
Mersey Narrows and North Wirral Foreshore Ramsar	11.8km west	The site comprises intertidal habitats at Egremont foreshore on the south bank of the Mersey, man-made saline, and freshwater lagoons at Seaforth on the north bank and the extensive intertidal flats at North Wirral Foreshore. Egremont is most important as a feeding habitat for waders at low tide whilst Seaforth is primarily a high tide roost site. The two areas are separated by approximately 2km and have a constant exchange of bird populations. North Wirral Foreshore supports large numbers of feeding waders at low tide and also includes important high tide roost sites, it is an area of intertidal sands and mudflats with embryonic saltmarsh.	The site qualifies under Criterion 4 because it regularly supports plant and/or animal species at a critical stage in their life cycles or provides refuge during adverse conditions: During 2004/05 - 2008/09 the Mersey Narrows and North Wirral Foreshore Ramsar site supported important numbers of non-breeding little gulls and common terns. The site qualifies under Criterion 5 because it regularly supports 20,000 or more waterbirds: During the winters 2004/05 - 2008/09, the Mersey Narrows and North Wirral Foreshore Ramsar site supported an average peak of 32,402 individual waterbirds. The site qualifies under Criterion 6 because it regularly supports 1% of the individuals in the populations of the following species or subspecies of waterbird in any season: site During the winters 2004/05 - 008/09, the Mersey Narrows and North Wirral Foreshore Ramsar supported 2.4% of the islandic W Europe/Waddenzee/Britain/Ireland (non-breeding) population of knot	Ensure integrity of site is maintained or restored as appropriate by maintaining or restoring: - The extent and distribution of habitats of the qualifying species - The structure and function of the habitats of the qualifying features - The supporting processes on which the habitats of the qualifying features rely - The population of each of the qualifying features -The distribution of the qualifying features within the site.	Sand sedimentation at Egremont foreshore is increasing reducing the low tide feeding area (hard rocky substrates, boulder clay). Consequently, the build of beaches will increase recreation pressure both summer and winter overtime. The artificial replenishment of sand is likely to enhance this pressure. Recreation and levels of activity on North Wirral Foreshore are thought to be contributing to declines bird numbers and their usage of the site. Sedimentation and associated vegetation succession could result in changes to species of birds using the site.

Site	Distance and direction from Site	Description	Qualifying Features	Conservation Objectives	Pressures and threats
			and 2.8% of the lapponica subspecies W Europe/NW Africa (non-breeding) population of bar-tailed godwits.		
Ribble and Alt Estuaries Ramsar	4.5km north	A large area including two estuaries which form part of the chain of west coast sites which fringe the Irish Sea. The site is formed by extensive sand and mudflats backed, in the north, by the saltmarsh of the Ribble Estuary and, to the south, the sand dunes of the Sefton Coast. The tidal flats and saltmarsh support internationally important populations of waterfowl in winter and the sand dunes support vegetation communities and amphibian populations of international importance	This site supports up to 40% of the Great Britain population of natterjack toads <i>Bufo calamita</i>. As well as plant species: <i>Petalophyllum ralfsii</i> (Conservation status: European Red List: Vulnerable; EC Habitats Directive: Annex II). Species occurring at levels of international importance: black-tailed godwit, common redshank, dunlin, grey plover, red knot, ringed plover, sanderling, bar-tailed godwit, oystercatcher, teal, wigeon, pintail, pink-footed goose, tundra swan, and whooper swan.	Ensure integrity of site is maintained or restored as appropriate by maintaining or restoring: - The extent and distribution of habitats of the qualifying species - The structure and function of the habitats of the qualifying features - The supporting processes on which the habitats of the qualifying features rely - The population of each of the qualifying features -The distribution of the qualifying features within the site.	Coastal erosion is a factor at Formby Point with an estimated loss of 4 metres per year. It is a concern because pine woodland on the sand dunes is causing coastal squeeze and therefore preventing sand dune habitats from rolling back; as such dune slack habitats for natterjack toads are declining/being lost.

Site	Distance and direction from Site	Description	Qualifying Features	Conservation Objectives	Pressures and threats
Mersey Estuary Ramsar	6km south	A large, sheltered estuary which comprises large areas of saltmarsh and extensive intertidal sand- and mudflats, with limited areas of brackish marsh, rocky shoreline, and boulder clay cliffs, within rural and industrial environment. Intertidal flats and saltmarshes provide feeding and roosting sites for large populations of waterbirds. During winter, the site is of major importance for ducks and waders. During spring and autumn migration periods, the site is important for wader populations moving along the west coast of Britain.	This site supports 1% or more of the GB population of golden plover (<i>Pluvialis apricaria</i>), which is an annex 1 species, in any given season. The site also supports 1% or more of the following annex 1 migratory species: Redshank (wintering and in passage), shelduck, teal, pintail, dunlin, black-tailed godwit. This site also supports an assemblage of over 20,000 waterbirds in any given season.	Ensure integrity of site is maintained or restored as appropriate by maintaining or restoring: - The extent and distribution of habitats of the qualifying species - The structure and function of the habitats of the qualifying features - The supporting processes on which the habitats of the qualifying features rely - The population of each of the qualifying features -The distribution of the qualifying features within the site.	

Table 4: Pressures and Threats facing the identified European designated sites.

Pressure/Threat	Effects
Public access/Disturbance	Direct disturbance to birds as a result of public access and recreational activities (including dog walking, kite surfing, sand yachting, parascending, hovercrafts etc.) is a concern.
Changes in species distribution	Petalwort (<i>Petalophyllum ralfsii</i>) is at high risk as a consequence of sub-optimal habitat conditions in the dune systems where it occurs on the Welsh side of the Dee Estuary SAC. Dune creation and restoration work is required to remedy the situation
Invasive species	Terrestrial and freshwater invasive non-native species are affecting the site and include (not exhaustive): Crassula helmsii, Giant hogweed (<i>Heracleum mantegazzianum</i>), Himalayan balsam (<i>Impatiens glandulifera</i>), Japanese knotweed (<i>Reynoutria japonica</i>), and clematis (<i>Clematis</i> sp.). There is also a threat from the spread and increase in density of marine invasive non-native animal species such as the Mitten crab (<i>Eriocheir sinensis</i>), Asian shore crab (<i>Hemigrapsus sanguineus</i>), Pacific oyster (<i>Crassostrea gigas</i>), slipper limpet (<i>Crepidula fornicata</i>), and Wireweed (<i>Sargassum muticum</i>).
Climate change	Higher tidal surges and changes to beaches/geomorphology of the estuary are damaging dune systems and threatening nesting tern colonies (via mortality and loss of suitable nesting sites). There is a change in particle size on the intertidal areas as a result of higher energy storms and the erosion of saltmarsh and mudflats features in some areas. The Estuary is filling with sand as a result of natural coastal processes (this is exacerbated by coastal development) such that there is saltmarsh encroachment onto sand and mud flat areas. There may also be potential impacts on the life cycle of fish features arising from increases in water temperature and changes in rainfall.
Coastal squeeze	There are a number of hard defences encroaching onto the foreshore. Moreover, the threat of future development, combined with sea level rise may reduce the intertidal habitat and the ability to achieve a succession of the intertidal habitats (roll back). As a result, supporting SAC habitats and habitats used by SPA bird features are at risk. There are localised instances of coastal squeeze on the estuary.
Inappropriate scrub control	Scrub invasion on the dune systems is suppressing beneficial mobility of the dunes and affecting diversity within the vegetation communities
Water pollution	The Dee Estuary may be nutrient enriched (there are currently failures for dissolved inorganic nitrogen and macro algae) and is affected by both diffuse and point sources. The Lower River Dee may also be nutrient enriched, with high phosphate levels and possibly elevated nitrate levels (associated with agricultural sources). There are a number of outfalls (stormwater and industrial overflows) within the vicinity of this site which could have an impact on the site. Industrial sites (including historic sites) surrounding the Estuary pose a risk of diffuse and point source pollution. There is also a risk from unregulated activity which is not fully understood. Moreover, historic waste sites including former collieries, landfills etc are releasing leachate and waste and require action to prevent further pollution. Some of the extent/severity of impacts require further quantification.

Fisheries: Commercial marine and estuaries	There are a variety of sea fisheries activities occurring in the Estuary which could have an impact on site features. There have been separate risk-based assessments of commercial fishing activities for England and Wales, which have identified the actions below. In Welsh waters, the NRW Strategic Review of Fishing Issues, which was completed in November 2014, identified commercial fishing impacts and prioritised agreed actions for each Welsh Natura 2000 site. In English waters, commercial fishing activities categorised as 'amber or green' under Defra's revised approach to commercial fisheries in European marine sites are being assessed by the North Western IFCA to determine whether management is required. For activities categorised as 'green,' these assessments should take account of any relevant in-combination effects with other fishing activities. Intertidal hand working (English side only) from vessels and land, crab tiling and bait digging with forks have been identified as possible fisheries activities requiring an appropriate assessment level review across all European Sites. The North Western IFCA are currently undertaking an activity review to inform all assessments which will look at both recreational and commercial activity.
Inappropriate coastal management	In some locations the inappropriate removal of strand line material, vegetation and raking is considered to be affecting or reducing the potential formation of embryonic dunes and vegetated strandlines.
Overgrazing	The issue on the site is inappropriate grazing (stock type and/or timing of grazing). Parts of the site are managed for both SAC and SPA features and where these have different sward height preferences it causes a conflict in terms of the level of grazing deemed appropriate for the area. Increased grazing pressure caused by Canada geese (<i>Branta canadensis</i>), in combination with grazing sheep, could result in overgrazing in parts of the site.
Direct impact from third party	There is a risk that the hand gathering of glasswort (<i>Salicornia europaea</i>) could increase significantly, resulting in gathering on a commercial scale.
Marine litter	Marine litter originating from both the River Dee and the wider environment, accumulates in the Estuary. Litter can smother habitats and plant species and act as an abrasive. It can also entangle or be digested by birds.
Predation	Ground and avian predators have an adverse impact upon the site's fragile tern populations.
Planning permission general	At a strategic planning level, there is a concern that the assessment of cumulative, in-combination and off-site impacts on sensitive bird species and other habitats and species may be inadequate given the range of planned developments (including direct land take, impact of discharges relating to development (air & water), transport and infrastructure provision (transportation and service corridors). There may also be inadequate provision of suitable and sufficient avoidance, mitigation, and compensation measures.
Marine consent permits	There are a variety of consented marine activities on the site. Consents may be reviewed at regular points of renewal and/or if new evidence becomes available. In particular, there is new evidence on increased turbidity on feeding SPA birds in the area.
Wildfire/arson	Deliberate fires regularly occur on dune areas and in the upper saltmarsh of the site.
Air pollution: impact of atmospheric nitrogen deposition	There are a variety of sources of air pollution including from the industrial areas adjacent the Estuary. Nitrogen deposition exceeds site relevant critical loads.
Transportation and service corridors	There is potential for a significant increase in current levels of vessel activity (e.g., as a result of the servicing of offshore windfarms) and this has potential to cause disturbance to SPA features.
Physical modification	A reduced level of freshwater input flushing into and through the Estuary from the River Dee could potentially be impacting the features however more investigation of this issue is needed.

Given the location and type of development no likely significant effect on the protected sites is expected as a result of:

- Public access/ disturbance
- Invasive Species
- Climate change
- Coastal squeeze
- Inappropriate Scrub Control
- Water pollution
- Fisheries: Commercial marine and estuarine
- Inappropriate coastal management
- Overgrazing
- Direct impact from third party
- Predation
- Marine consent permits
- Wildfire/ arson
- Air Pollution: impact of atmospheric nitrogen deposition
- Transportation and service corridors
- Physical modification

5 Stage 1A – Potential Risks and Threats to Designated Sites

The following section outlines the potential risks that could be posed to the designated sites identified in Table 1 as direct and indirect consequences of construction or operational phase actions of the proposed development.

5.1 Direct Impacts on European Sites within the UK

5.1.1 Loss of functionally linked habitat / Changes in species distribution

Risks

Loss of functionally linked habitats for mobile qualifying species attributed to the designation of the Mersey Narrows and North Wirral Foreshore SPA and Ramsar, Mersey Estuary SPA and Ramsar, Ribble & Alt Estuaries SPA and Ramsar, and the Liverpool Bay SPA.

Impact Risk Assessment

The development site is adjacent to farmland which provides functionally linked land for the internationally designated sites within the ZOI of this site, as listed above.

Additionally, fields north of the development, adjacent to Coopers Lane (north of the A580), have also been identified as functionally linked habitats of these European designated sites.

It is therefore considered likely that mobile qualifying species of these European designated sites could either be present on site or on the adjacent land and are therefore at risk of disturbance as a result of the development.

It is of note that none of the qualifying habitats of either the Dee Estuary SAC or Ribble & Alt Estuaries SAC have been identified on-site.

The site lies adjacent to industrial developments and a major road (A580), whilst the site itself provides limited suitable foraging and roosting habitat for the qualifying species of the protected sites and, therefore, wintering bird surveys were undertaken to assess current use.

There is potential for a likely significant adverse effect on the European sites and potential loss of functionally linked land.

5.2 Indirect Impacts on European Sites within the UK

Due to the distance of the site from the identified nationally and European designated sites, the nature of the proposed development, and the lack of hydrological connections between the site and designated sites, it is not considered likely that indirect impacts will cause a significant effect on the integrity of the identified designated sites.

6 Stage 1B – Combined Effects

6.1 Assessment of In-Combination Effects

In addition to assessing likely significant effect of the proposed development on European sites within the UK, as part of stage 1B of the HRA assessment it is also necessary to assess potential for the development to have a likely significant effect in combination with other plans and projects. This also addresses the identified pressure/threat in relation to planning permission (as detailed in Table 2).

The closest planning application to the development site is located approximately 600m west of the site, relating to the erection of an industrial/logistics building and ancillary offices (REF: 22/00099/FUL). This site is located on previously developed land, and although no ecology report was submitted along with the application, it is considered likely that the site holds minimal value to qualifying features of the designated sites due to its urban location and likely high levels of anthropogenic development present.

The land present to the immediate east of the development is designated as greenbelt, whilst the proposed development site is designated as a sustainable urban extension. No planning applications that could therefore act in combination with the proposed development being considered within this report were found.

It is therefore considered that there is no potential for a likely significant effect to occur due to in-combination effects with other plans and projects.

7 Stage 2 – Appropriate Assessment

The competent authority will be required to carry out an appropriate assessment to determine whether the development would adversely affect the integrity of the identified designated sites. The precautionary principle has been applied when considering the potential implications of the development.

7.1 Changes in Species Distribution

7.1.1 Construction

Surveys to assess the value of the site towards over wintering or migratory birds were undertaken between September 2021 and March 2022. The site was visited once per month, comprising six survey visits in total. The surveys entailed a watch over of the site throughout the tidal range i.e., before high tide until after high tide, with the aim being to ascertain if the site holds value for roosting waders and gulls which would be impacted upon by construction or operation of the proposed development, thus depleting the bird's energy reserves.

Full details of the survey results are presented in Whitfield Ecological Services (2022); however, a summary is provided here.

No species listed as qualifying features of the European designated sites within the ZOI of the site were identified as using the site or adjacent land. No species listed as qualifying features of the European designated sites within the ZOI were recorded in passage over the site. All bird species that were recorded using the site are common and widespread of arable habitats, with the majority of the species identified on site being listed on the Birds of Conservation Concern (2021) Green List, except wren that was recorded on six of the seven survey visits and is listed on the Birds of Conservation Concern (2021) Amber list. Wren is included on this list as a result of “moderate non-breeding decline over 25 years”. The majority of birds seen utilising the site were observed within the peripheral hedgerows present surrounding the site. Species observed within the site comprised robin, jay, wren, jackdaw, blue tit, great tit, common chaffinch, pheasant, and common chaffinch.

Surveys to assess the value of the site as a nesting and breeding resource were undertaken in May and June 2021. The site was visited once per month, comprising two survey visits. Comprising a walked transect through the survey area, paying particular attention to features and habitats most likely to be used by birds, such as hedgerows and woodland. The locations and behaviours of birds on the site and adjacent were recorded and species recorded on site were classified as either non-breeding, possible breeding, probably breeding, and confirmed breeding.

Full details of the survey results are presented in the Breeding Bird Survey Report (Urban Green, 2022); however, a summary is provided here.

The surveys conducted at the site found it to support a variety of mostly common and widespread passerine bird species, with 26 bird species in total recorded at the site, with one species (blackbird *Turdus merula*) confirmed to be breeding on site. Nine species in total were observed to be probably breeders, and twelve species were assessed as possibly breeding on site. Three notable species were recorded on site, comprising dunnoek (*Prunella modularis*), house sparrow (*Passer domesticus*), song thrush (*Turdus philomenos*) which are all listed on Section 41 of the Natural Environment and Rural Communities Act (2006). None of these species is listed as a qualifying feature for which the European designated sites within the vicinity of the site are designated for.

The site is therefore considered to be of negligible value to qualifying features of the identified European designated sites and the assemblage recorded on site is not of significance.

A draft construction schedule indicates that the works likely to be of highest disturbance to wintering bird assemblages present using adjacent land are likely to be carried out and completed before the peak winter period starts. No further mitigation with regards to timing of works is considered necessary.

7.1.2 Operation

The site is present adjacent to a significant road which carries a high level of freight and commercial vehicles for the wider Knowsley industrial park, of which this site will form part of. Transport modelling conducted for the site indicates that the site is expected to generate 32 trips (including 9 HGV's) in the AM peak and 28 trips (including 6 HGVs) in the PM peak. It is therefore considered that due to the size of this development, it will not lead to a significant increase in levels of traffic around the site above the current levels.

The land present immediately adjacent to the east of the site and to the north of the site, past the A580 has been identified as Functionally Linked Land for the European Designated sites within the ZOI of the site. To minimise disturbance to these identified land parcels, the following landscape elements are to be implemented (Urban Green, 2022):

- Trees along the northern border are to be retained and the area of scrub is to be enhanced to provide a more effective barrier.
- Hedgerows along the south western and south eastern borders are to be retained and will be enhanced through the planting of trees along both borders to provide an increased level of visual and acoustic screening.

In addition to the landscape elements proposed, the south eastern boundary of the site will partially be lined with acoustic fencing, ranging from 1.8m to 2.5m in height (detailed location specification provided in the Landscape General Arrangement Plan; Urban Green, 2022).

7.1.3 Conclusion

It is therefore considered that no significant effects will occur to the identified designated sites due to changes in species distribution as a result of this development.

8 Conclusion

This report is to inform an HRA Appropriate Assessment, based on ecological information and project details provided, indicates that the proposed development has no significant risk of having a negative effect on the qualifying features of the Mersey Narrows and North Wirral Foreshore SPA/Ramsar, Liverpool Bay SPA, Mersey Estuary SPA/Ramsar, Ribble & Alt Estuaries SPA/Ramsar, Dee Estuary SAC, and Sefton Coast SAC

It was identified that without mitigation there was an increased risk of changes in species distribution as a result of the proposed development.

Section 7 of this report has shown that the described mitigation measures for these impacts are recognised industry standard practices and are therefore deliverable, recognised to be effective and are considered to reduce any effects on the integrity of the identified designated sites.

No other likely significant effects have been identified as a result of the proposals, either alone or in combination with other plans or projects.

The development has been considered in terms of its scale, nature, and location in relation to adjacent European designated sites. The ecological requirements and key vulnerabilities of qualifying features have been considered and assessed against the potential ecological impacts of the development to determine whether or not there would be a likely significant effect.

9 References

- AECOM. *Habitats Regulations Assessment of the Wirral Local Plan 2020-2035: Issues and Options Consultation Document* (2019). Project number: 60610735.
- Bagmoor Wind: UK courts Bagmoor Wind v The Scottish Ministers, Court of Session [2012] CSIH 93
- Bonner, C. & A. D. Q. Agnew (1983) Soil phosphorous as an indicator of canine faecal pollution in urban recreation areas. *Environmental Pollution (Series B)*, 6, 145-156.
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.
- English Nature (2005) Dogs, access, and nature conservation. Report number 649.
- European Communities (2000). Managing Natura 2000 (MN2000) Sites: The Provisions of Article 6 of the 'Habitats' Directive 92/43/CEE.
- Habitat's regulations assessments: protecting a European site. Defra and Natural England. 24 February 2021. <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site> [Last accessed 15th October 2021]
- JNCC. Special Areas of Conservation under the EC Habitats Directive (includes candidate SACs, Sites of Community Importance, and designated SACs). Dee Estuary/Aber Dyfrdwy. Available URL: <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0030131.pdf> [Last accessed: 29th July 2021].
- JNCC. Special Protection Areas (SPAs) classified under Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version), also known as the 'Birds Directive' and Special Areas of Conservation under the EC Habitats Directive (includes candidate SACs, Sites of Community Importance, and designated SACs). Liverpool Bay / Bae Lerpwl. Available URL: <https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9020294.pdf> [Last accessed: 29th July 2021].
- JNCC. Special Protection Areas under the EC Birds Directive. Mersey Estuary (UK9005131) (2015). Available URL: <https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9005131.pdf> [Last accessed: 29th July 2021].
- JNCC. Special Protection Areas under the EC Birds Directive. Mersey Narrows and North Wirral Foreshore (UK9020287) (2015). Available URL: <https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9020287.pdf> [Last accessed: 29th July 2021].
- Lowe, Christopher Nathan, Williams, Karl S, Jenkinson, Stephen and Toogood, Mark (2014) Environmental and social impacts of domestic dog waste in the UK: investigating barriers to behavioural change in dog Walkers, *International Journal of Environment and Waste Management*, 13 (4). pp. 331-347.
- Merseyside Environmental Advisory Service (2021). *Towards a Liverpool City Region European Sites Recreation Mitigation & Avoidance Strategy – Evidence Report (Version 24)*.
- Sweetman: European Court C – 258/11 Sweetman 11th April 2013, reference for a preliminary ruling from the Supreme Court of Ireland

Taylor, K., Anderson, P., Taylor, R. P., Longden, K. & Fisher, P. (2005). Dogs, access, and nature conservation. Research Report. English Nature, Peterborough.

Tyldesley, D. and Chapman, C., (2013) The Habitats Regulations Assessment Handbook, 2013 edition UK: DTA Publications Limited.

Urban Green (2022) Breeding Bird Survey Report of Ormskirk Road. Ref: UG_45_ECO_BBSR_02.

Waddenzee: European Courts C-127/02 Waddenzee 7th September 2004, reference for a preliminary ruling from the Raad van State.

Appendix 1 – Illustrative Masterplan



KEY

Hard Works

Vehicular macadam
to vehicular areas. Black colour.

Pedestrian macadam
to pavements. Black colour.

Concrete block paving
to parking bays. Charcoal colour.

Concrete block paving
to pavements. Natural granite colour.

Crushed gravel
to PFI/FF footpaths. Natural colour.

Acoustic fencing, 1.8m high
To engineer's specification.

Acoustic fencing, 2.0m high
To engineer's specification.

Acoustic fencing, 2.5m high
To engineer's specification.

Timber post and rail fencing, 1.1m high
To engineer's specification.

Paladin fencing, 2.4m high
To engineer's specification.

Metal pedestrian gate,
to match fence height
To engineer's specification.

Metal vehicular gate,
to match fence height
To engineer's specification.

Retaining Wall
To engineer's specification.

Timber bench
Specification to.

Amenity Seating/Tables
Specification to.

Cycle storage
To architect's specification.

Bin store
To architect's specification.

Soft Works

Existing trees and hedges
to be retained.

Proposed avenue tree planting
Heavy standard.

Proposed native tree planting
Select standard.

Proposed multistem tree planting
Standard. Ornamental species.

Proposed climbing plant
to acoustic fences.

Proposed native tree &
shrub mix planting.

Proposed native hedgerow
planting.

Ornamental shrub mix planting.

Enhanced native scrub planting
Existing scrub area to be retained and enhanced.

Proposed ornamental groundcover
mix planting.

Proposed marginal planting
to pond area.

Proposed wet meadow
seed mix.

Proposed seeded grass
to amenity areas.

Proposed species-rich
grassland seed mix.

Proposed seasonal bulb planting
Planted in amenity grass.

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Notes:-

P04	30/05/22	Layout updated	RS	SA
P03	29/04/22	Benches added and layout updated	RS	SA
P02	29/03/22	Trees added and layout updated	RS	SA
P01	15/03/22	Draft planning issue	RS	SA
REV.	DATE	DESCRIPTION	DRAWN	CHK'D

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Drawn:	RS	Checked:	SA
Project:	UG45	Scale @ A0:	1:500
Dwg No:	UG_45_LAN_GA_DRW_01	Date:	15/03/22
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