

**CO2 CENTRAL DOCKS, LIVERPOOL
DOCKS, LIVERPOOL
PRELIMINARY ECOLOGICAL APPRAISAL**

A Report to: Romal Capital

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REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 “Biodiversity, Code of practice for planning and development”.

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The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client’s brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of 24 months from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.

NON-TECHNICAL SUMMARY

In August 2018, Middlemarch Environmental Ltd was commissioned by Romal Capital to carry out a Preliminary Ecological Appraisal at the site of a proposed residential development, boat mooring and public walkways in Central Docks, Liverpool. To fulfil this brief an ecological desk study and a walkover survey (in accordance with Phase 1 Habitat Survey methodology) were undertaken. This assessment was completed in support of a planning application. The project was subsequently delayed, during which time the overall development strategy for the wider Liverpool Waters area evolved. As such, this 'Rev A' version of the report has been completed to take into account these changes.

The ecological desk study revealed four European statutory sites within 5 km of the survey area, one UK statutory site within 2 km and three non-statutory sites within 2 km. The desk study also provided records of bats, birds and water vole.

The walkover survey was undertaken on 22nd August 2018 by Tom Docker, Ecological Impact Assessment Manager. The survey area forms part of West Waterloo Dock, located within the Central Docks complex in Liverpool. The site is currently occupied by a mosaic of hardstanding, short perennial vegetation on recently disturbed ground and standing water forming part of the West Waterloo Dock.

In order to ensure compliance with wildlife legislation and relevant planning policy, the following recommendations are made (please refer to Chapter 7 for full recommendation text):

- **Natura 2000 Sites:** An updated Shadow Habitat Regulations Assessment: Stage 2 Appropriate Assessment (refer to Report RT-MME-128844-02 Rev B) has been produced, which assesses the likelihood of any impacts on Natura 2000 sites and outlines mitigation measures. The report should be provided to Liverpool City Council to allow them to carry out an Appropriate Assessment in relation to the proposed development.
- **Habitat Loss and Enhancement:** In accordance with the provision of Chapter 15 of the National Planning Policy Framework (Conserving and Enhancing the Natural Environment) and Liverpool Unitary Development Plan, biodiversity enhancement measures should be incorporated into the landscaping scheme of any proposed works to maximise the ecological value of the site.
- **Protect Watercourse:** Environment Agency Pollution Prevention Guidelines should be adhered to throughout the works. Although formerly withdrawn in December 2015, the guidelines provide a framework for the design of working practices to avoid pollution and siltation. PPG5 (Environment Agency et al, 2007), relating to works and maintenance in or near water, is considered to be of relevance to the proposed project.
- **Nesting Birds:** Site clearance activities should be undertaken outside the nesting bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive (peak period March-August). If this is not possible then the areas to be removed or disturbed should be checked by an experienced ecologist for nesting birds immediately prior to works commencing. If birds are found to be nesting any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally, for example via the implementation of an appropriate buffer zone (species dependent) around the nest in which no disturbance is permitted until the nest is no longer in use.
- **Foraging/Commuting Bats:** Bats are likely to use the adjacent river for foraging and commuting. Therefore, any lighting, either temporary or permanent, along the site boundaries adjacent to the river should be kept to a minimum and directed away from the river to maintain 'dark' areas and corridors. The lighting strategy for any future development of the site should involve the use of low level and directional lighting, such as bollard lighting, to help to minimise light spill.
- **Marine Ecology:** Relevant recommendations from the marine ecological surveys completed by Ecospan Environmental Ltd should be adhered to.

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

In August 2018, Romal Capital commissioned Middlemarch Environmental Ltd to undertake a Preliminary Ecological Appraisal of the site of a proposed development at Plot C02 in Central Docks, Liverpool. This assessment was required to inform a planning application associated with a new residential development and creation of boat mooring areas and public walkways. The project was subsequently delayed, during which time the overall development strategy for the wider Liverpool Waters area evolved. As such, this 'Rev A' version of the report has been completed to take into account these changes.

To assess the existing ecological interest of the site an ecological desk study was carried out, and a walkover survey was undertaken on 22nd August 2018.

1.2 SITE DESCRIPTION AND CONTEXT

The survey area forms part of West Waterloo Dock, located within the Central Docks complex in Liverpool. It is centered at National Grid Reference SJ 33440 91329 and covers an area of 1.06 hectares.

The site is currently occupied by a mosaic of hardstanding, short perennial vegetation on recently disturbed ground and standing water forming part of the West Waterloo Dock. It is abutted to the west by the River Mersey, to the north by a combination of recently cleared land and an ongoing development, to the east by the East Waterloo Dock residential complex, and to the south by the remainder of the West Waterloo Dock and Princes Half Tide Dock.

The wider landscape comprises the Wirrall promontory on the far side of the River Mersey c. 1 km to the west, further dock complexes in various states of redevelopment to the north and south, and the urban expanse of central Liverpool to the east.

1.3 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.1.

Document Name / Drawing Number	Author
Proposed Residential Development C02 Central Dock, Liverpool	Ollier Smurthwaite Architects
Site Location Plan / A433_C02_P_100	Ollier Smurthwaite Architects
Proposed Ground Floor Plan / A476_P_101	Ollier Smurthwaite Architects
Liverpool Waters: Strategic Ecological Management Plan	Arup
Central Docks: Neighbourhood Ecological and Biodiversity Strategy	Arup

Table 1.1: Documentation Provided by Client

2. METHODOLOGIES

2.1 DESK STUDY

An ecological desk study was undertaken to determine the presence of any designated nature conservation sites and protected species in proximity to the site. This involved contacting appropriate statutory and non-statutory organisations which hold ecological data relating to the survey area. Middlemarch Environmental Ltd then assimilated and reviewed the desk study data provided by these organisations.

The consultees for the desk study were:

- Natural England - *MAG/C* website for statutory conservation sites;
- Biobank Merseyside; and,
- Record, The Biodiversity Information System for Cheshire, Halton, Warrington and Wirral.

The desk study included a search for European statutory nature conservation sites within a 5 km radius of the site (extended to 10 km for any statutory site designated for bats), UK statutory sites within a 2 km radius and non-statutory sites and protected/notable species records within a 2 km radius.

The data collected from the consultees is discussed in Chapter 4. Selected raw data are provided in Appendix 1. In compliance with the terms and conditions relating to its commercial use, the full desk study data is not provided within this report.

The desk study also included a review of relevant local planning policy with regard to biodiversity and nature conservation (see Chapter 3).

2.2 PHASE 1 HABITAT SURVEY

The walkover survey was conducted following the Phase 1 Habitat Survey methodology of the Joint Nature Conservation Committee (JNCC, 2010) and the Institute of Environmental Assessment (IEA, 1995). Phase 1 Habitat Survey is a standard technique for classifying and mapping British habitats. The aim is to provide a record of habitats that are present on site. During the survey, the presence, or potential presence, of protected species was noted.

Whilst every effort is made to notify the client of any plant species listed on Schedule 9 of the Wildlife and Countryside Act (1981, as amended) present on site, it should be noted that this is not a specific survey for these species.

Data recorded during the field survey are discussed in Chapter 5.

3. LEGISLATION AND POLICY

This chapter provides an overview of the framework of legislation and policy which underpins nature conservation and is a material consideration in the planning process in England. The reader should refer to the original legislation for the definitive interpretation.

3.1 GENERAL BIODIVERSITY LEGISLATION AND POLICY

Conservation of Habitats and Species Regulations (Amendment) 2019 (Habitats Regulations 2019)

The Habitats Regulations 2019 consolidate and update the Habitats Regulations 2017 (as amended) to enable the UK to continue to meet its international commitments should its EU membership status change. The Habitats Regulations 2017 are the principal means by which the EEC Council Directive 92/43 (The Habitats Directive) as amended is transposed into English and Welsh law.

The Habitats Regulations 2019 place duty upon the relevant authority of government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria are, in conjunction with the European Commission, designated as Sites of Community Importance, which are subsequently identified as Special Areas of Conservation (SAC) by the European Union member states. The regulations also place a duty upon the government to maintain a register of European protected sites designated as a result of EC Directive 79/409/EEC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, form a network of sites known as Natura 2000. The Habitats Directive introduces for the first time for protected areas, the precautionary principle; that is that projects can only be permitted having ascertained no adverse effect on the integrity of the site. Projects may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest.

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

The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Habitats Regulations 2017, offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs).

Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species.

The Countryside and Rights of Way (CROW) Act 2000

The CROW Act, introduced in England and Wales in 2000, amends and strengthens existing wildlife legislation detailed in the WCA. It places a duty on government departments and the National Assembly for Wales to have regard for biodiversity, and provides increased powers for the protection and maintenance of SSSIs. The Act also contains lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the NERC Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These lists superseded Section 74 of the CROW Act 2000.

The Hedgerow Regulations 1997

The Hedgerow Regulations make provision for the identification of important hedgerows which may not be removed without permission from the Local Planning Authority.

UK Post-2010 Biodiversity Framework

The UK Biodiversity Action Plan (BAP), published in 1994, was the UK Government's response to signing the Convention on Biological Diversity (CBD) at the 1992 Rio Earth Summit. The new UK Post-2010 Biodiversity Framework replaces the previous UK level BAP. The UK Post-2010 Biodiversity Framework covers the period 2011-2020 and forms the UK Government's response to the new strategic plan of the

United Nations Convention on Biological Diversity (CBD), published in 2010 at the CBD meeting in Nagoya, Japan. This includes five internationally agreed strategic goals and supporting targets to be achieved by 2020. The five strategic goals agreed were:

- Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society;
- Reduce the direct pressures on biodiversity and promote sustainable use;
- To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity;
- Enhance the benefits to all from biodiversity and ecosystem services; and,
- Enhance implementation through participatory planning, knowledge management and capacity building.

The Framework recognises that most work which was previously carried out under the UK BAP is now focused on the four individual countries of the United Kingdom and Northern Ireland, and delivered through the countries' own strategies. Following the publication of the new Framework the UK BAP partnership no longer operates but many of the tools and resources originally developed under the UK BAP still remain of use and form the basis of much biodiversity work at country level. In England the focus is on delivering the outcomes set out in the Government's 'Biodiversity 2020: a Strategy for England's Wildlife and Ecosystem Services' (DEFRA, 2011). This sets out how the quality of our environment on land and at sea will be improved over the next ten years and follows on from policies contained in the Natural Environment White Paper.

Species and Habitats of Material Consideration for Planning in England

Previous planning policy (and some supporting guidance which is still current, e.g. ODPM Circular 06/2005, now under revision), refers to UK BAP habitats and species as being a material consideration in the planning process. Equally many local plans refer to BAP priority habitats and species. Both remain as material considerations in the planning process but such habitats and species are now described as Species and Habitats of Principal Importance for Conservation in England, or simply priority habitats and priority species under the UK Post-2010 Biodiversity Framework. The list of habitats and species remains unchanged and is still derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006. As was previously the case when it was a BAP priority species hen harrier continues to be regarded as a priority species although it does not appear on the Section 41 list.

3.2 NATIONAL PLANNING POLICY FRAMEWORK AND PRACTICE GUIDANCE

In February 2019, the National Planning Policy Framework (NPPF) was updated, replacing the previous framework published in 2012 and revised in 2018. The government circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System, which accompanied PPS9, still remains valid. A presumption towards sustainable development is at the heart of the NPPF. This presumption does not apply however where developments require appropriate assessment under the Birds or Habitats Directives.

Chapter 15, on conserving and enhancing the natural environment, sets out how the planning system should contribute to and enhance the natural and local environment by:

- protecting and enhancing existing sites of biodiversity value;
- minimising impacts on and providing net gains for biodiversity; and,
- establishing coherent ecological networks.

If a proposed development would result in significant harm to the natural environment which cannot be avoided (through the use of an alternative site with less harmful impacts), mitigated or compensated for (as a last resort) then planning permission should be refused. With respect to development on land within or outside of a Site of Special Scientific Interest (SSSI) which is likely to have an adverse effect (either alone or in-combination with other developments) would only be permitted where the benefits of the proposed development clearly outweigh the impacts on the SSSI itself, and the wider network of SSSIs. Development resulting in the loss of deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused unless there are wholly exceptional reasons for the development, and a suitable compensation strategy is provided.

Chapter 15 identifies that development whose primary objective is to conserve or enhance biodiversity should be supported and opportunities to incorporate biodiversity improvements in and around development should be encouraged, especially where this can secure measurable net gains for biodiversity.

Chapter 11, making effective use of the land, sets out how the planning system should promote use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Substantial weight should be given to the value of using suitable brownfield land within settlements for homes and other identified needs. Opportunities for achieving net environmental gains, including new habitat creation, are encouraged.

In March 2014 the Department for Communities and Local Government released guidance to support the National Planning Policy Framework (NPPF), known as the National Planning Practice Guidance (NPPG). This has been produced to provide guidance for planners and communities which will help deliver high quality development and sustainable growth in England.

The guidance includes a section entitled 'Natural Environment: Biodiversity, geodiversity and ecosystems and green infrastructure', which was updated in July 2019. This document sets out information with respect to the following:

- the statutory basis for seeking to conserve and enhance biodiversity;
- the local planning authority's requirements for planning for biodiversity;
- what local ecological networks are and how to identify and map them;
- how plan-making bodies identify and safeguard Local Wildlife Sites, including Standard Criteria for Local Wildlife Sites;
- the sources of ecological evidence;
- the legal obligations on local planning authorities and developers regarding statutory designated sites and protected species;
- definition of green infrastructure;
- where biodiversity should be taken into account in preparing a planning application;
- how policy should be applied to avoid, mitigate or compensate for significant harm to biodiversity and how mitigation and compensation measures can be ensured;
- definitions of biodiversity net gain including information on how it can be achieved and assessed; and,
- the consideration of ancient woodlands and veteran trees in planning decisions and how potential impacts can be assessed.

The NPPG July 2019 issue also includes a section entitled 'Appropriate assessment: Guidance on the use of Habitats Regulations Assessment' which provides information in relation to Habitats Regulations Assessment processes, contents and approaches in light of case law. This guidance will be relevant to those projects and plans which have the potential to impact on European Sites and European Offshore Marine Sites identified under the Conservation of Habitats and Species Regulations 2017 (as amended).

3.3 LOCAL PLANNING POLICY – LIVERPOOL

Emerging Liverpool Local Plan

The Liverpool Local Plan includes both a document (the 'written statement') and a policies map. Together they make up the Liverpool Local Plan which will, once adopted, replace the Unitary Development Plan. Policies within the pre-submission draft of the Liverpool Local Plan of relevance to ecology are as follows:

Policy GI 1 Green Infrastructure Resources

The recreational function, visual amenity, historic and structural quality and value of the City's green infrastructure resource will be protected and enhanced. Specifically, protection will be afforded to:

- a. The Green Belt, and the Mersey Estuary SSSI/SPA/Ramsar Site;
- b. The Green Wedge;
- c. The City's network of Parks and Gardens;
- d. Biodiversity assets, including Local Wildlife Sites (LWS) and Local Nature Reserves (LNR);
- e. Regionally Important Geological/Geomorphological Sites (RIGS);
- f. Locally important open spaces including amenity spaces and allotments;
- g. Water spaces, including the Leeds Liverpool canal, park lakes and water courses.
- h. Playing fields and pitches; and

- i. Green Corridors, Recreational routes and the Public Rights of Way network.

Policy GI 4 – Water Spaces

1. The City Council will support proposals which increase access along the coast and which increase opportunities to allow for greater access to, interaction with, and recreational use of water spaces in the City, whilst ensuring the spaces and their settings are protected and enhanced.
2. Proposals for new development adjacent to a water space should demonstrate that account has been taken of its setting and should ensure that:
 - a. The design, detailing, materials, scale and massing of the development complements its location;
 - b. The site layout takes account of the relationship between the siting of buildings, parking and landscaping areas and the water space, to maximise the benefits of a waterside setting;
 - c. Public access to waterway corridors is maintained or enhanced where possible;
 - d. Opportunities are taken to create or enhance green infrastructure provision which contributes to enhancing visual amenity, biodiversity, and increased use of water spaces and their environs;
 - e. Any historical or industrial archaeological features relating to the water space are retained and restored;
 - f. Opportunities are taken to provide active frontages and provide uses linked to the use of the waterspace where possible;
 - g. The waterway corridor and its related infrastructure is conserved and enhanced; and
 - h. There are no negative consequences for, and where possible the development should enhance, the nature conservation value and water quality of the water space and surrounding environment.
3. For proposals involving dock spaces, in addition to the criteria set out above, development:
 - a. will not be permitted to infill dock water spaces or reduce the depth of dock water spaces to an extent that would limit the range of water vessels that could utilise these dock water spaces;
 - b. should avoid dominating the water spaces and maintain their importance as open water spaces that provide spacing between dockland buildings;
 - c. should demonstrate that there will be no adverse impact on residential amenity or existing businesses;
 - d. should make appropriate provision for the future management and maintenance of public realm, movement routes, dock water spaces and adjacent quaysides; and
 - e. should ensure protection of navigational routes.
4. Proposals in the City Centre should also meet the requirements of Policy CC 11.

Policy GI 4 – Water Spaces

1. Development which may result in a likely significant effect on an internationally important site must be accompanied by sufficient evidence to enable the Council to make a Habitats Regulations Assessment. Adverse effects should be avoided and/or mitigated to ensure that the integrity of internationally important sites is protected. Development which may adversely affect the integrity of internationally important sites will only be permitted where there are no alternative solutions and there are imperative reasons of overriding public interest and suitable compensatory provision is secured. This also applies to sites and habitats outside the designated boundaries that support species listed as being important in the designations of the internationally important sites
2. Development which may cause direct or indirect significant harm to other designated sites of nature or geological conservation importance, Priority Habitats, legally protected species and / or Priority Species will only be permitted on:
 - National sites (Mersey Estuary Ramsar site/Mersey Estuary Site of Special Scientific Interest (SSSI)): where there are no alternatives and where the reasons for and the benefits of development clearly outweigh the impact on the nature conservation value of the site and its broader contribution to the national network;
 - Local Sites (Local Nature Reserves (LNRs), Local Wildlife Site (LWS) and Regionally Important Geological/Geomorphological Sites (RIGS): where the reasons for and the benefits of development clearly outweigh the impact on the nature conservation value of the site and its broader contribution to the Liverpool City Region (LCR) Ecological Network;
 - Sites including Priority Habitats/ Irreplaceable habitats (including ancient woodlands and aged or veteran trees) unless the need for and the benefits of, the development on balance clearly outweigh the impact on the nature conservation value of the habitat and its broader contribution to the LCR Ecological Network.

3. Where it has been demonstrated that significant harm cannot be avoided, appropriate mitigation, replacement or other compensatory provision may be required, to accord with the hierarchy of sites. The location of appropriate mitigation, replacement or other compensatory measures will be targeted, using a sequential approach as follows:
 - On site;
 - Immediate locality and / or within the Core Biodiversity Area;
 - LCR Nature Improvement Area within the City; and lastly,
 - LCR Nature Improvement Area outside the City.
4. Where significant harm resulting from development cannot be avoided, adequately mitigated or, as a last resort, compensated, then planning permission will be refused
5. Development proposals which affect sites of nature conservation importance, priority habitats, legally protected species or priority species must be supported by an Ecological Appraisal and include details of avoidance, mitigation and /or compensation where appropriate.
6. The policy applies where development proposals in Liverpool may directly or indirectly affect sites with known conservation value in a neighbouring authority area.
7. This policy will apply to other sites recognised during the Plan period as being of nature conservation importance, including land provided as compensation.

Policy GI 7 – New Planting and Design

1. All new development should make provision on site for the planting and successful growth of new trees and landscaping, including any replacement planting provided as compensation for loss due to development. It should be demonstrated that:
 - a. New planting is sustainable for the long-term, fit for purpose, and species selection has had regard to international, national, sub-regional and local biodiversity initiatives. Plant selection must provide a high quality landscape and make a positive contribution to the landscape character of the site and surrounding area.
 - b. Consideration has been given to locational challenges, including within the City Centre or more heavily urbanised parts of the City. On sites with limited space for planting, alternative planting surfaces and innovative green infrastructure solutions such as green roofs and walls should be considered. Planting should where possible consist of more than just Sedum species.
 - c. Opportunities for the creation of new habitats has been taken.
 - d. The use of stock size in planting schemes is appropriate to the site. To minimise the risk of importing plant pest and diseases into the country from the continent, stock should be sourced from within the UK from a reputable nursery that can demonstrate: a nursery benchmark; an audit trail; and a recognised and implemented bio-security policy.
 - e. Plant selection and design of the planted area has wherever possible contributed to rainwater management of the site by minimising surface run off and maximising surface infiltration.
 - f. All planting will be implemented in accordance with the latest BS4428: Recommendations for General Landscape Operations and all tree planting conforms with the latest BS8545: Trees: from nursery to independence in the landscape; and
 - g. Trees form part of a comprehensive landscaping scheme to maximise their amenity value. In order to ensure that landscaping is integral to the development, a full landscaping scheme will be required as part of the planning application. The scheme should include the following:
 - A plan showing the landscape structure for the site as a whole and the detailed treatment of individual areas or elements.
 - Proposed planting details including the correct botanical name, number and stock size (pot size/cm girth) to be planted of all trees, shrubs and herbaceous plants. Total numbers must be clearly identified on the plan(s).
 - Retained trees on the planting plan.
 - Hard landscape details including design and construction of walls, fences and railings, paths and hard surfaced areas.
 - A maintenance schedule and where appropriate long term management proposals.
2. Proposals should meet the City Council's requirements for the provision of new trees. The Council will seek provision for the planting and successful growth of new trees, normally on the basis of at least one tree per dwelling in residential developments, and one tree per car space in other forms of development. If tree planting cannot be reasonably be located on site, then the City Council may require funding from the developer for off-site planting in the locality.

3. Developers will be required to ensure the establishment of the planting proposals by replacing all dead, dying or diseased stock for a period of five years from the date of completion of development.
4. Selection of vigorous coniferous species, such as Leyland Cypress, are discouraged unless planted as a deliberate screen for example to screen unsightly buildings and suitable provision is made for future maintenance; and planting schemes must not consist of entire blocks of shrub mass unless sufficient justification for this is provided.
5. Tree planting proposals in soft landscaped areas must include the following details in plan and elevation where appropriate:
 - a. Planting pit;
 - b. Soil;
 - c. Root barriers where relevant;
 - d. Drainage;
 - e. Tree support/anchorage;
 - f. Irrigation and aeration;
 - g. Species and planting size;
 - h. Tree guards where appropriate; and,
 - i. Tree surround and surfacing.
6. Tree planting in hard landscaped areas must utilise a load bearing modular soil containment system, provide appropriate soil volume based on freely available calculators and must be a minimum of 7 m³.

Policy GI 9 Green Infrastructure Enhancement

1. Development proposals should be designed to incorporate new and/or enhanced green infrastructure of an appropriate type, standard, size and which reflects the needs of the area. This may include:
 - a. Integrating or enhancing biodiversity features.
 - b. Improving the recreational function of open spaces, particularly where it would assist in minimising recreational pressures on nationally and internationally designated sites both within and beyond the City boundary.
 - c. Providing or enhancing green infrastructure at key gateways to, and along, key corridors in the City.
 - d. Maintaining access to accessible open space.
 - e. Development of small-scale green infrastructure projects which meet identified needs of the area. This could include food growing, small community gardens or public art projects.
 - f. Contributing to effective water management through the use of permeable surfaces and/or Sustainable Urban Drainage Systems, and where possible and appropriate to do, the opening of culverted watercourses.
 - g. Improving or creating access to the Public Rights of Way network or other green routes, such as the Liverpool Loop Line or the Leeds Liverpool Canal, to encourage active and sustainable travel and recreation.
2. Development proposals which are located in close proximity to green corridor routes should contribute to the delivery of the City-wide "Green Web".
3. All development proposals, where possible, should contribute to ensuring a net gain in biodiversity in the City including, where relevant, contributing to the recovery of priority species and habitats.
4. Where on-site provision has been demonstrated not to be possible, or the council is satisfied that on-site provision is not beneficial or appropriate, financial contributions through an appropriate legal agreement will be sought towards the creation of new green infrastructure provision, or to enhance and improve existing provision off-site.

Policy R4 Coastal Protection

1. All development proposals must ensure that they do not:
 - a. increase the risk of tidal flooding or coastal erosion through their impact on coastal processes;
 - b. impair the capacity of the coast to form a natural sea defence or adjust to changes in conditions without risk to life or property; and
 - c. adversely affect the integrity of designated sites of European and/or International nature conservation importance, taking into account appropriate mitigation, or as a last resort, compensation in accordance with Policy GI 5.

2. Proposals which protect or enhance informal recreation, provide for new coastal flood defences, flood risk management measures, and essential landfall facilities for offshore installations will be supported, subject to other Plan policies.

Policy R5 Rivers, Canals, Watercourses, and Culverts

1. Planning permission will not be granted for development which would adversely affect the quality or supply of surface water or groundwater as a result of:
 - a. the nature of the surface or waste water discharge;
 - b. unsatisfactory arrangements for the disposal of foul sewage, trade effluent or surface
 - c. water;
 - d. the disturbance of contaminated land; or
 - e. the spillage or leakage of stored oil or chemicals.
2. Planning permission will not be granted for developments involving local abstraction of surface or ground water which, would:
 - a. increase requirements for water, unless an adequate water supply already exists or would be provided in time to serve the development, or
 - b. pose an unacceptable risk to the supply of water to its various users.
3. Culverting and diversion will not be permitted except to enable reasonable access over a watercourse.
4. Development will not be permitted where it would result in an unacceptable adverse impact on the water environment due to additional surface water run-off or have an adverse impact on ground stability.

Unitary Development Plan

The UDP was adopted in November 2002. It provides the statutory framework to guide development and protect and enhance the environment of the City. The policies of relevance to ecology are:

Policy OE5 Protection of Nature Conservation Sites and Features

1. The City Council will seek to protect the nature conservation interest of open land and the water environment in the City by not permitting development which would:
 - i. destroy, fragment or adversely affect directly or indirectly a designated or proposed Special Protection Area (SPA), Ramsar site, or Site of Specific Scientific Interest (SSSI), unless the City Council is satisfied that there is no alternative solution and there are imperative reasons of overriding public interest;
 - ii. destroy, fragment or adversely directly or indirectly affect a Site of Nature Conservation Value as identified by the City Council unless it can be clearly demonstrated that there are reasons for the proposal including benefits to the community, which outweigh the need to safeguard the substantive nature conservation value of the site;
 - iii. destroy, fragment or adversely affect, directly or indirectly, a Regionally Important Geological /Geomorphological Site (RIGS) unless it can be demonstrated that the benefits of the proposal to the community outweigh the need to safeguard the geological value of the site;
 - iv. have an adverse affect on legally protected wildlife species; or
 - v. destroy, fragment or adversely affect, indirectly or directly, sites with known conservation value in a neighbouring authority area.
2. In assessing criteria ii to iv full account will be taken of proposed mitigation measures.

Policy OE6 Development and Nature Conservation

In the circumstances where development is permitted on or adjacent to any sites covered by policy OE5, which in the case of the Mersey Estuary will be subject to the most rigorous examination, the City Council will seek to minimise potential damage by:

- i. requiring developers to undertake a site investigation to identify the nature conservation interest of the site;
- ii. requiring developers to set out proposals for the protection and management of the nature conservation value of the site; and
- iii. considering the use of conditions and/or planning obligations to safeguard the nature conservation interest and/or provide compensatory measures for any nature conservation interest damaged or destroyed during the development process.

Policy OE7 Habitat Creation and Enhancement

1. The City Council will seek to enhance the nature conservation interest of open land and water courses in the City by:

- i. supporting and initiating proposals for habitat creation and enhancement particularly within Sites of Nature Conservation Value and those other sites which, although do not meet the criteria required to be designated as an SNCV, are considered to be of value for nature conservation;
- ii. supporting proposals which strengthen and enhance wildlife corridors in the City;
- iii. managing its own land, and particularly the City's parks, in a manner more positively beneficial to wildlife and encouraging other landowners to do the same where appropriate;
- iv. encouraging the reopening of culverted water courses where opportunities arise and supporting the Alt 2000 initiative;
- v. encouraging developers to undertake landscaping in an ecologically sensitive manner; and,
- vi. encouraging and supporting community groups, schools and other organisations to work in partnership with the City Council on habitat creation and enhancement initiatives.

2. In addition to the designation of Mull Wood Local Nature Reserve at Croxteth Park, the City Council will seek to designate further Local Nature Reserves (LNRs) in the City and secure appropriate management regimes with initial consideration being given to:

- Mill Wood
- Otterspool Gorge
- Childwall Woods and Fields
- Land adjacent to Garston Gas Works
- Hillfoot Road and Simpsons Pavilion
- Melrose Cutting
- Mersey Estuary
- Croxteth Country Park (extension to existing Local Nature Reserve)

Policy HD22 Existing Trees and Landscaping

1. In order to protect and integrate existing trees and landscape features within new developments, the City Council will:

- i. require the retention of key ecological and natural site features, such as trees, hedges, walls and ponds;
- ii. require the submission of a full independent tree survey to enable the effect of the proposal on the trees to be fully assessed;
- iii. refuse planning permission for proposals which cause unacceptable tree loss, or which do not allow for the successful integration of existing trees identified for retention following consideration of the tree survey;
- iv. require layouts to provide adequate spacing between existing trees and buildings, taking into account the existing and potential size of trees and their impact both above and below ground level; and
- v. require retained trees and woodland to be protected and managed during construction, preventing all site works within the branch spread of any retained tree.

2. The City Council will protect existing trees and woodland areas by:

- i. making tree preservation orders on trees or groups of trees, where appropriate;
- ii. only allowing the removal of any protected tree in exceptional circumstances, such as where the tree is a danger to public safety or is diseased, and on condition that appropriate replacement planting takes place;
- iii. ensuring the proper and beneficial management of trees and woodland areas in its ownership; and
- iv. carrying out a review of existing Tree Preservation Orders.

Policy HD23 New Trees and Landscaping

All new development proposals should make proper provision for the planting and successful growth of new trees and landscaping, including any replacement planting provided as compensation for the loss of any trees due to development and in particular should:

- i. provide high quality landscaping and boundary treatment including the submission of such details as part of any full planning application; and
- ii. promote nature conservation through the use of native species and the creation of wildlife habitats where appropriate.

4. DESK STUDY RESULTS

4.1 INTRODUCTION

The data search was carried out in August 2018 by Biobank Merseyside; and Record, The Biodiversity Information System for Cheshire, Halton, Warrington and Wirral. All relevant ecological data provided by the consultees was reviewed and the results from these investigations are summarised in Sections 4.2 to 4.4. Selected data are provided in Appendix 1.

4.2 NATURE CONSERVATION SITES

Statutory and non-statutory nature conservation sites located in proximity to the survey area are summarised in Table 4.1.

Site Name	Designation	Proximity to Survey Area	Description
European Statutory Sites			
Liverpool Bay Proposed Extension	SPA	Adjacent to western boundary	Liverpool Bay / Bae Lerpwl SPA encompasses marine areas supporting large aggregations of wintering red-throated diver <i>Gavia stellata</i> and common scoter <i>Melanitta nigra</i> as well as important marine foraging areas of little terns <i>Sternula albifrons</i> breeding within The Dee Estuary SPA, and foraging areas of common terns breeding at the Mersey Narrows & North Wirral Foreshore SPA. The proposed extension to the Liverpool Bay SPA is associated with the extension of the current SPA boundary to encompass areas known to support important populations of three seabird species: common tern <i>Sterna hirundo</i> , little tern and little gull <i>Hydrocoloeus minutus</i> .
Mersey Narrows and North Wirral Foreshore	RAMSAR/SPA	960 m west	The SPA is located at the mouths of the Mersey and Dee estuaries. The site comprises intertidal habitats at Egremont foreshore, man-made lagoons at Seaforth Nature Reserve 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 most notable feature of the site is the exceptionally high density of wintering turnstone <i>Arenaria interpres</i> . Mersey Narrows and North Wirral Foreshore has clear links in terms of bird movements with the nearby Dee Estuary SPA, Ribble and Alt Estuaries SPA, and (to a lesser extent) Mersey Estuary SPA.
Dee Estuary	SAC	3,680 m north-west	The estuary habitat includes mud flats, sand flats, lagoons (including saltwork basins) and salt marshes. The Dee Estuary is representative of pioneer glasswort <i>Salicornia</i> spp. saltmarsh in the north-west of the UK. It mainly occurs on the seaward fringes as a pioneer community, and moving landwards usually forms a transition to common saltmarsh grass <i>Puccinellia aritima</i> saltmarsh (SM10). There is also a low frequency of <i>Salicornia</i> spp. extending well inland. Associated species often include annual sea-blite <i>Suaeda maritima</i> and hybrid scurvy grass <i>Cochlearia x hollandica</i> . The saltmarsh is regularly inundated by the sea; characteristic salt-tolerant perennial flowering plant species include common saltmarsh-grass <i>Puccinellia maritima</i> , sea aster <i>Aster tripolium</i> , and sea arrowgrass <i>Triglochin maritima</i> . In a few areas there are unusual transitions to wet woodland habitats.

Table 4.1: Summary of Nature Conservation Sites (Continues)

Site Name	Designation	Proximity to Survey Area	Description
European Statutory Sites			
Mersey Estuary	RAMSAR/SPA	4,280 m south	The Mersey is a large, sheltered estuary which comprises large areas of saltmarsh and extensive intertidal sand- and mud-flats, with limited areas of brackish marsh, rocky shoreline and boulder clay cliffs, within a rural and industrial environment. The intertidal flats and saltmarshes provide feeding and roosting sites for large populations of waterbirds. During the winter, the site is of major importance for ducks and waders. The site is also important during the spring and autumn migration periods, particularly for wader populations moving along the west coast of Britain.
UK Statutory Sites			
Mersey Narrows	SSSI	960 m west	The Mersey Narrows is located at the mouth of the Mersey Estuary and comprises Seaforth on the north bank and Egremont Foreshore on the south. The two areas are separated by approximately 2 km, but considered to be an integral site on the basis of the constant interchange of bird populations. Whilst Egremont Foreshore is particularly important as a feeding site a low tide, Seaforth is particularly important as a high tide roost site, particularly during high spring tides. The site is notified for its large areas of intertidal sand and mudflats, which support internationally important populations of turnstone <i>Arenaria interpres</i> , redshank <i>Tringa tetanus</i> and nationally important populations of cormorant <i>Phalacrocorax carbo</i> . The sandstone outcrops are also favoured by a further species of local interest, purple sandpiper <i>Calidris maritima</i> .
Non-Statutory Sites			
Mersey Estuary	NIA	Adjacent west	No information provided.
Leeds-Liverpool Canal and adjacent sites	LWS	950 m north-east	The canal currently supports a limited range of aquatic plants with only yellow water-lily <i>Nuphar lutea</i> and common duckweed <i>Lemna minor</i> , as well as invasive species parrot's-feather <i>Myriophyllum aquaticum</i> and water fern <i>Azolla filiculoides</i> . Its marginal vegetation is mainly lesser reedmace <i>Typha angustifolia</i> , reed canary-grass <i>Phalaris arundinacea</i> and reed sweet-grass <i>Glyceria maxima</i> , which form several swamp habitats. The Canalside Park is mainly amenity grassland with some invasive Japanese knotweed <i>Fallopia japonica</i> and white poplar <i>Populus alba</i> . There are two wildflower meadows with species including cow parsley <i>Anthriscus sylvestris</i> and oxeye daisy <i>Leucanthemum vulgare</i> . The canal walls have not been surveyed for water voles but similar brick-constructed walls on the canal's Sefton sections have thriving populations. Many common waterbirds breed here as well as grey wagtail <i>Motacilla cinerea</i> . Wintering birds include kingfisher <i>Alcedo atthis</i> , great crested grebe <i>Podiceps cristatus</i> and goldeneye <i>Bucephala clangula</i> . A pair of peregrines <i>Falco peregrinus</i> have nested on the Tobacco Warehouse at Stanley Dock since 1980.

Table 4.1: Summary of Nature Conservation Sites (Continues)

Site Name	Designation	Proximity to Survey Area	Description
Everton Park and Nature Garden	LWS	1890 m north-east	No information provided.
Key: SAC: Special Area of Conservation SPA: Special Protection Area SSSI: Site of Special Scientific Interest RAMSAR: Site listed on The Convention on Wetlands of International Importance (Ramsar Convention) LWS: Local Wildlife Site NIA: Nature Improvement Area			

Table 4.1 (Continued): Summary of Nature Conservation Sites

The survey area falls within the SSSI Impact Risk Zone for Mersey Narrows and North Wirral Foreshore, which is located 960 m west.

4.3 PROTECTED / NOTABLE SPECIES

Table 4.2 and the following text provide a summary of protected and notable species records within a 2 km radius of the study area. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Species of Principal Importance?	Legislation / Conservation Status
Mammals- bats					
Common pipistrelle <i>Pipistrellus pipistrellus</i>	35	2016	640 m north	-	ECH 4, WCA 5, WCA 6
Noctule <i>Nyctalus noctula</i>	1	2016	640 m north	✓	ECH 4, WCA 5, WCA 6
Pipistrelle <i>Pipistrellus</i> sp.	3	2015	1,450 m south-east	#	ECH 4, WCA 5, WCA 6
Unidentified bat <i>Chiroptera</i> sp.	1	2007	1,740 m south-west	#	#
Daubenton's bat <i>Myotis daubentonii</i>	1	2010	Potentially within 2 km radius*	-	ECH 4, WCA 5, WCA 6
Brown long-eared bat <i>Plecotus auritus</i>	2	1991	Potentially within 2 km radius*	✓	ECH 4, WCA 5, WCA 6
Mammals- other					
Hedgehog <i>Erinaceus europaeus</i>	13	2017	280 m north	✓	WCA 6
Grey seal <i>Halichoerus grypus</i>	1	1996	620 m south	-	ECH 2, ECH 5
Common porpoise <i>Phocoena phocoena</i>	10	2012	890 m south	✓	ECH 2, ECH 4, WCA 5, WCA 6
Water vole <i>Arvicola amphibius</i>	2	2015	Potentially within 2 km radius*	✓	WCA 5
Bottle-nosed dolphin <i>Tursiops truncatus</i>	1	2000	Potential within 2 km radius*	✓	ECH 2, ECH 4, WCA 5, WCA 6
Amphibians					
Common frog <i>Rana temporaria</i>	1	2000	1,720 m south-east	-	WCA 5 S9(5)
Smooth newt <i>Lissotriton vulgaris</i>	3	2004	1,910 m east	-	WCA 5 S9(5)
Bony fish					
European eel <i>Anguilla anguilla</i>	8	2016	1,030 m south-east	✓	-
Whiting <i>Merlangius merlangus</i>	333	2012	1,200 m north	✓	-

Table 4.2 : Summary of Protected/Notable Species Records Within 2 km of Survey Area (Continues)

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Species of Principal Importance?	Legislation / Conservation Status
Cod <i>Gadus morhua</i>	190	2011	1,200 m north	✓	-
Plaice <i>Pleuronectes platessa</i>	5	2006	Potential within 2 km radius*	✓	-
Birds					
Little ringed plover <i>Charadrius dubius</i>	3	2003	Potentially on site ⁺	-	WCA1i
Black redstart <i>Phoenicurus ochuros</i>	4	2016	560 m north	-	WCA1i
Peregrine <i>Falco peregrinus</i>	7	2016	740 m north-east	-	WCA1i
Key: #: Dependent on species. *: Grid reference provided was six figures and as such, the record may be located within 100 m of the study site. *: Grid reference provided was four figures only. ECH 2: Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation. ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest in need of strict protection. PBA: Protection of Badgers Act 1992. WCA 1i: Schedule 1 Part 1 of Wildlife and Countryside Act 1981 (as amended). Birds protected by special penalties at all times. WCA 5: Schedule 5 of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). WCA 5 S9(5): Schedule 5 Section 9(5) of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). Protection limited to selling, offering for sale, processing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from, such animal. WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods. Species of Principal Importance: Species of Principal Importance for Nature Conservation in England. Note. This table does not include reference to the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats), the Bonn Convention on the Conservation of Migratory Species of Wild Animals or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).					

Table 4.2 (Continued): Summary of Protected/Notable Species Records Within 2 km of Survey Area

Birds

The desk study provided six records of bird species listed Species of Principal Importance within a 2 km radius of the survey area. These comprised herring gull *Larus argentatus*, house sparrow *Passer domesticus*, lapwing *Vanellus vanellus*, linnet *Linaria cannabina*, skylark *Alauda arvensis* and starling *Sturnus vulgaris*.

The desk study also provided one record of lesser black-backed gull *Larus fuscus* within a 2 km radius of the survey area which is listed on the RSPB Amber list.

Invertebrates

The desk study provided three records of invertebrate species listed as Species of Principal Importance within a 2 km radius of the survey area. These comprised small heath butterfly *Coenonympha pamphilus*, wall butterfly *Lasiommata megera* and white-letter hairstreak butterfly *Satyrion w-album*.

Plants

The desk study provided two records of plant species listed as Species of Principal Importance within a 2 km radius of the survey area. These comprised water germander *Teucrium scordium* and cornflower *Centaurea cyanus*.

4.4 INVASIVE SPECIES

Table 4.3 provides a summary of invasive species records within a 2 km radius of the study area. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Study Area	Legislation / Conservation Status
Japanese knotweed <i>Fallopia japonica</i>	2	2015	Potentially within a 2 km radius*	WCA 9
Key: *: Grid reference provided was four figures only. WCA9: Schedule 9 of Wildlife and Countryside Act 1981 (as amended). Invasive, non-native, plants and animals.				

Table 4.3: Summary of Invasive Species Records Within 2 km of Survey Area

5. PHASE 1 HABITAT SURVEY

5.1 INTRODUCTION

The results of the Phase 1 Habitat Survey are presented in the following sections. An annotated Phase 1 Habitat Survey Drawing (Drawing C128844-01-01) is provided in Chapter 8. This drawing illustrates the location and extent of all habitat types recorded on site. Any notable features or features too small to map are detailed using target notes. Photographs taken during the field survey are presented in Chapter 9.

The survey was carried out on 22nd August 2018 by Tom Docker, Ecological Impact Assessment Manager. Table 5.1 details the weather conditions at the time of the survey.

Parameter	Condition
Temperature (°C)	21
Cloud (%)	100
Wind (Beaufort)	F2-3
Precipitation	Nil

Table 5.1: Weather Conditions During Field Survey

5.2 SURVEY CONSTRAINTS AND LIMITATIONS

No constraints were experienced on site during the field survey.

5.3 HABITATS

The following habitat types were recorded on site during the field survey:

- Ephemeral/short perennial;
- Hardstanding; and,
- Standing water.

These habitats are described below. They are ordered alphabetically, not in order of ecological importance.

Ephemeral/short perennial

Two distinct areas of ephemeral / short perennial vegetation were recorded on site: one abutting the northern edge of the proposed development area and the other a linear parcel of vegetation forming part of the southern region of the proposed development area. Both areas consisted of pioneer plant species which had colonised recently disturbed ground, and both areas had a substrate formed from rubble, gravel and other remnant types of made ground (Plates 9.1 and 9.2). Plant species recorded within these areas included petty spurge *Euphorbia peplus*, scarlet pimpernel *Anagallis arvensis subsp. arvensis*, black medick *Medicago lupulina*, creeping bent *Agrostis stolonifera*, pineappleweed *Matricaria discoidea*, common bird's-foot trefoil *Lotus corniculatus*, common mallow *Malva sylvestris*, Canadian fleabane *Conyza canadensis*, smooth sow-thistle *Sonchus oleraceus*, creeping thistle *Cirsium arvense*, groundsel *Senecio vulgaris*, dove's-foot cranesbill *Geranium molle*, scentless mayweed *Tripleurospermum inodorum*, bittersweet *Solanum dulcamara*, red goosefoot *Chenopodium rubrum* and black nightshade *Solanum nigrum*. Bare patches and evidence of recent vehicle disturbance were frequent within both areas, and pockets of locally dominant bramble *Rubus fruticosus* agg., biting stonecrop *Sedum acre* and moss were also observed. Occasional young butterfly bush *Buddleja davidii* was also beginning to colonise in places.

Hardstanding

The southern region of the proposed development footprint contains a linear concrete jetty structure interspersed with metal mooring posts and disused concrete lampposts (Plate 9.3 and 9.4). Within this jetty, which is raised c. 3-4 m above the water level within the dock, are scattered pockets of loose substrate vegetated with pioneer ephemerals such as mugwort *Artemisia vulgaris*, weld *Reseda luteola*, Canadian fleabane, biting stonecrop and tufted vetch *Vicia cracca*. In addition, scattered common polypody *Polypodium vulgare* plants were noted growing from cracks within the eastern vertical wall.

Standing water

The proposed development footprint was dominated by open water, forming the western half of West Waterloo Dock (Plate 9.5 and 9.6). This area appeared subject to very limited disturbance, e.g. by boat traffic, and as a result extensive algal bloom has developed on and beneath the surface.

The northern boundary of the proposed development area occurs where the standing water meets a c. 45° slope of disturbed ground vegetated with ephemeral species and scattered butterfly bush plants. The standing water also abuts a further slope of disturbed ground with similar vegetation in the southwestern region of the development footprint, and abuts a 90° concrete wall that forms part of the aforementioned jetty feature.

5.4 FAUNA

During the survey field signs of faunal species were recorded. The time of year at which the survey is undertaken will affect species or field signs directly recorded during the survey.

Birds

The following bird species were observed on site during the field survey: lesser black-backed gull *Larus fuscus*, black headed gull *Chroicocephalus ridibundus*, starling *Sturnus vulgaris*, feral pigeon *Columba livia*, cormorant *Phalacrocorax carbo*, Canada goose *Branta hutchinsii*, pied wagtail *Motacilla alba* and goldfinch *Carduelis carduelis*.

Old nests indicative of Canada goose were observed within some of the short perennial vegetation to the north and south of the site during the field survey.

Mammals

Brown rat *Rattus norvegicus* was observed on site during the field survey.

5.5 INVASIVE PLANT SPECIES

No invasive plant species were observed on site during the field survey.

6. DISCUSSIONS AND CONCLUSIONS

6.1 SUMMARY OF PROPOSALS

The proposals for the site comprise:

Full planning consent for residential development consisting of 538 apartments with 298sqm of commercial floorspace, with associated partial dock infill of West Waterloo Dock, access, parking, servicing, soft and hard landscaping and public open space including a waterside walkway.

6.2 NATURE CONSERVATION SITES

The desk study exercise identified four European statutory sites within 5 km of the survey area, one UK statutory sites within 2 km and three non-statutory sites within 2 km. The site is not located within 10 km of a statutory site designated for bats. The significance of these sites to the proposed development is discussed below.

European and UK Statutory Sites

Liverpool Bay SPA Proposed Extension is located adjacent to the survey area. The second closest European Statutory site is Mersey Narrows and North Wirral Forshore SPA and RAMSAR located 960 m west. The Mersey Narrows SSSI also has a similar geographical boundary to this site. A further two Natura 2000 sites (Dee Estuary SAC and Mersey Estuary SPA/RAMSAR) are also located within a 5 km radius of the survey area. Given the hydrological connections between these sites and the survey area there is potential for the construction and operational phases of the proposed development to impact these sites. Potential impacts include changes to hydrological and coastal processes, direct disturbance to qualifying bird species and various potential pollution types.

Middlemarch Environmental Ltd has updated the Shadow Habitat Regulations Assessment: Stage 2 Appropriate Assessment (refer to Report RT-MME-128844-02 Rev B). A recommendation regarding this assessment has been made within Section 7.1.

Non-Statutory Sites

The closest non-statutory site is Mersey Estuary (Nature Improvement Area) which is located adjacent to the western boundary of the study site. Provided that the recommendation relating to Natura 2000 sites is adhered to, no direct or indirect adverse impacts on this site are anticipated.

The remaining sites are located in excess of 950 m and due to the large intervening distance between the site and the lack of connectivity due to the built environment, the potential impacts on these nature conservation sites are considered negligible. Therefore, no further recommendations are made.

6.3 HABITATS

The ecological importance of the habitats present on site is determined by their presence on the list of Habitats of Principal Importance in England and on the Local BAP. It also takes into account the intrinsic value of the habitat. Those habitats which are considered to be of intrinsic importance and have the potential to be impacted by the site proposals are highlighted as notable considerations.

A discussion of the implications of the site proposals with regard to the habitats present on site is provided in the text below. A separate discussion of the value of the habitats on site to protected or notable species is provided in Section 6.4.

Ephemeral/short perennial

The example of habitat on site is less than 0.25 ha and therefore does not classify as 'Open Mosaic on Previously Developed Land' Habitat of Principal Importance. It does however provide an important nectar resource for invertebrates and therefore this habitat should be replicated within the soft landscaping scheme to mitigate for the loss of this habitat type (please refer to Section 7.2).

Hardstanding

This habitat is well represented locally, has low species diversity, and can be easily recreated post development. Loss of this habitat will have minimal impact on the ecology of the local area and therefore hardstanding is not considered to be a notable consideration.

Standing water

'Standing water' can classify as a Habitat of Principal Importance, however the example on site is considered to be of low ecological value. This is due to the heavily engineered concrete sides and extensive algal bloom that had developed on the water surface. It is understood that this habitat will be directly impacted through the partial infilling of the dock basin.

6.4 PROTECTED/NOTABLE SPECIES

The following paragraphs consider the likely impact of the site proposals on protected or notable species. This is based on those species highlighted in the desk study exercise (Chapter 4) and other species for which potentially suitable habitat occurs within or adjacent to the survey area.

Mammals

Bats

The desk study provided 43 records of at least four species of bat within a 2 km radius of the study area. The closest records are common pipistrelle and noctule which are located 640 m north. The site has no bat roosting potential and is fairly isolated by the built environment to the east and the expanse of the River Mersey to the west. However, there may be some potential for use as a foraging resource by more light-tolerant species such as pipistrelles. Therefore, a precautionary lighting recommendation is made in Section 7.3.

Badger

The desk study provided no record of badger within a 2 km radius of the study area. No evidence of badger such as setts, latrines or prints was noted on site during the field survey. The habitats on site are considered unsuitable to support badger and therefore no recommendation is made.

Hedgehog

The desk study provided 13 records of hedgehog within a 2 km radius of the study area. The site provides limited foraging habitat for hedgehog and is isolated by the built environment and the River Mersey. Therefore, no recommendation is made.

Water vole

The desk study provided 2 records of water vole within a 2 km radius of the study area. The heavily urbanised nature of the site and the presence of sheer concrete walls around the dock makes it unsuitable to support water vole. Therefore, no recommendation is made.

Amphibians

The desk study provided four records of two species of amphibian within a 2 km radius of the study area. The rubble and associated vegetation on site provides potential terrestrial habitat for amphibians including great crested newt. However, the site provides no suitable aquatic habitat for common amphibians or great crested newt and is isolated by the built environment and the River Mersey. Therefore, no recommendation is made.

Reptiles

The desk study provided no record of reptiles within a 2 km radius of the study area. The site provides a small amount of suitable habitat in the form of ephemeral/short perennial, however this vegetation has developed relatively recently and there are no obvious pathways through which reptile species could have colonised the site. Therefore, no recommendation is made.

Invertebrates

Aquatic invertebrates

The desk study provides no record of white-clawed crayfish within a 2 km radius of the study area. The presence of brackish water, sheer concrete walls around the docks and absence of banks for burrowing

means there is no suitable habitat for crayfish. Therefore, white-clawed crayfish are not a notable consideration in relation to the site and no recommendation is made.

Terrestrial invertebrates

The desk study provided three records of invertebrate species listed as Species of Principal Importance. The assemblage of pioneer species in the ephemeral/ short perennial habitat is likely to be of value to invertebrate species. To mitigate the loss of this habitat, a recommendation is made in Section 7.2 regarding the use of native and wildlife friendly planting.

Birds

The desk study provided 14 records of three bird species listed as Schedule 1, six records of bird species listed as Species of Principal Importance and one record of bird species listed on the RSPB amber list. Eight species of bird were observed on site during the field survey. The site was used by common urban and coastal bird species, and generally offers little suitable nesting habitat. An exception is the evidence of past nesting by Canada goose in close proximity to the site, however this species is not of conservation concern and the development of the site would not have an adverse impact on its favorable conservation status. A precautionary recommendation is made in Section 7.3. Potential site enhancements for birds are detailed in Section 7.2.

Marine Ecology

The desk study provided a single record of bottle-nosed dolphin, ten records of common porpoise and a single record of grey seal. Several records of notable fish species were also provided. The proposed dock infilling works have the potential to affect the marine ecology of the dock itself and any connecting marine environments. A recommendation has therefore been made within Section 7.3.

Ecospan Environmental Ltd has been appointed to complete a series of marine surveys and assessments for the project, to include production of a Marine Ecology ES chapter and separate report as part of the planning application.

Summary

Species considered to be of relevance to the proposed development are summarised in Table 6.2.

Species / Species Group	Species of Principal Importance?	Summary of Potential Impacts
Bats	#	Disturbance of commuting routes
Marine ecology	#	Direct harm/injury, habitat loss
Terrestrial invertebrates	#	Loss of suitable habitat
Birds	#	Loss of suitable habitat, direct harm or injury
# Species dependent		

Table 6.2: Summary of Potential Impacts on Notable Species

6.5 INVASIVE PLANT SPECIES

The desk study provided two records of Japanese knotweed within a 2 km radius of the survey area however no invasive plant species was recorded on site during the field survey. Therefore, no recommendation is made.

7. RECOMMENDATIONS

All recommendations provided in this section are based on Middlemarch Environmental Ltd's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

The ecological mitigation hierarchy should be applied when considering development which may have a significant effect on biodiversity. The ecological mitigation hierarchy, as set out in the National Planning Policy Framework (NPPF), and the National Planning Practice Guidance (NPPG) should follow these principles:

- **Avoidance** – development should be designed to avoid significant harm to valuable wildlife habitats and species.
- **Mitigation** – where significant harm cannot be wholly or partially avoided, it should be minimised by design or through the use of effective mitigation measures.
- **Compensation** – where, despite whatever mitigation would be effective, there would still be significant residual harm, as a last resort, compensation should be used to provide an equivalent value of biodiversity.

7.1 NATURE CONSERVATION SITES

The following recommendation is made regarding nature conservation sites:

- R1 Natura 2000 Sites:** An updated Shadow Habitat Regulations Assessment: Stage 2 Appropriate Assessment (refer to Report RT-MME-128844-02 Rev B) has been produced, which assesses the likelihood of any impacts on Natura 2000 sites and outlines mitigation measures.

The report should be provided to Liverpool City Council to allow them to carry out an Appropriate Assessment in relation to the proposed development.

7.2 HABITATS

The following recommendations are made regarding the habitats present on site:

- R2 Habitat Loss and Enhancement:** In accordance with the provision of Chapter 15 of the National Planning Policy Framework (Conserving and Enhancing the Natural Environment) and relevant policies detailed in the emerging Liverpool Plan and the Liverpool Unitary Development Plan, biodiversity enhancement measures should be incorporated into the landscaping scheme of any proposed works to maximise the ecological value of the site. This will involve, for example:
- Planting of habitats which will be of value to wildlife, such as:
 - native seed/fruit bearing species
 - nectar-rich species to attract bees and butterflies
 - species which attract night flying insects which will be of value to foraging bats, for example: evening primrose *Oenothera biennis*, goldenrod *Solidago virgaurea*, honeysuckle *Lonicera periclymenum* and fleabane *Pulicaria dysenterica*.
 - Provision of nesting/roosting habitat, such as installation of nest boxes for species such as house sparrow, dense scrub or native thicket for species such as song thrush, and bat boxes for species such as pipistrelle.
 - In order to replicate the loss of the ephemeral/ short perennial habitat some alpine areas or areas with loose friable substrate, that could be allowed to colonise naturally, should be created.

A Landscape and Ecological Management Plan (LEMP) should be produced, to ensure that the long-term biodiversity value of habitat features is maximised, and parties responsible for the implementation of the management proposals are identified. The content of this document should be agreed with Liverpool City Council prior to the commencement of works.

- R3 Protect Watercourse:** Environment Agency Pollution Prevention Guidelines should be adhered to throughout the works. Although formerly withdrawn in December 2015, the guidelines provide a

framework for the design of working practices to avoid pollution and siltation. PPG5 (Environment Agency et al, 2007), relating to works and maintenance in or near water, is considered to be of relevance to the proposed project.

7.3 PROTECTED/NOTABLE SPECIES

To ensure compliance with wildlife legislation and Liverpool Unitary Development Plan, the following recommendations are made:

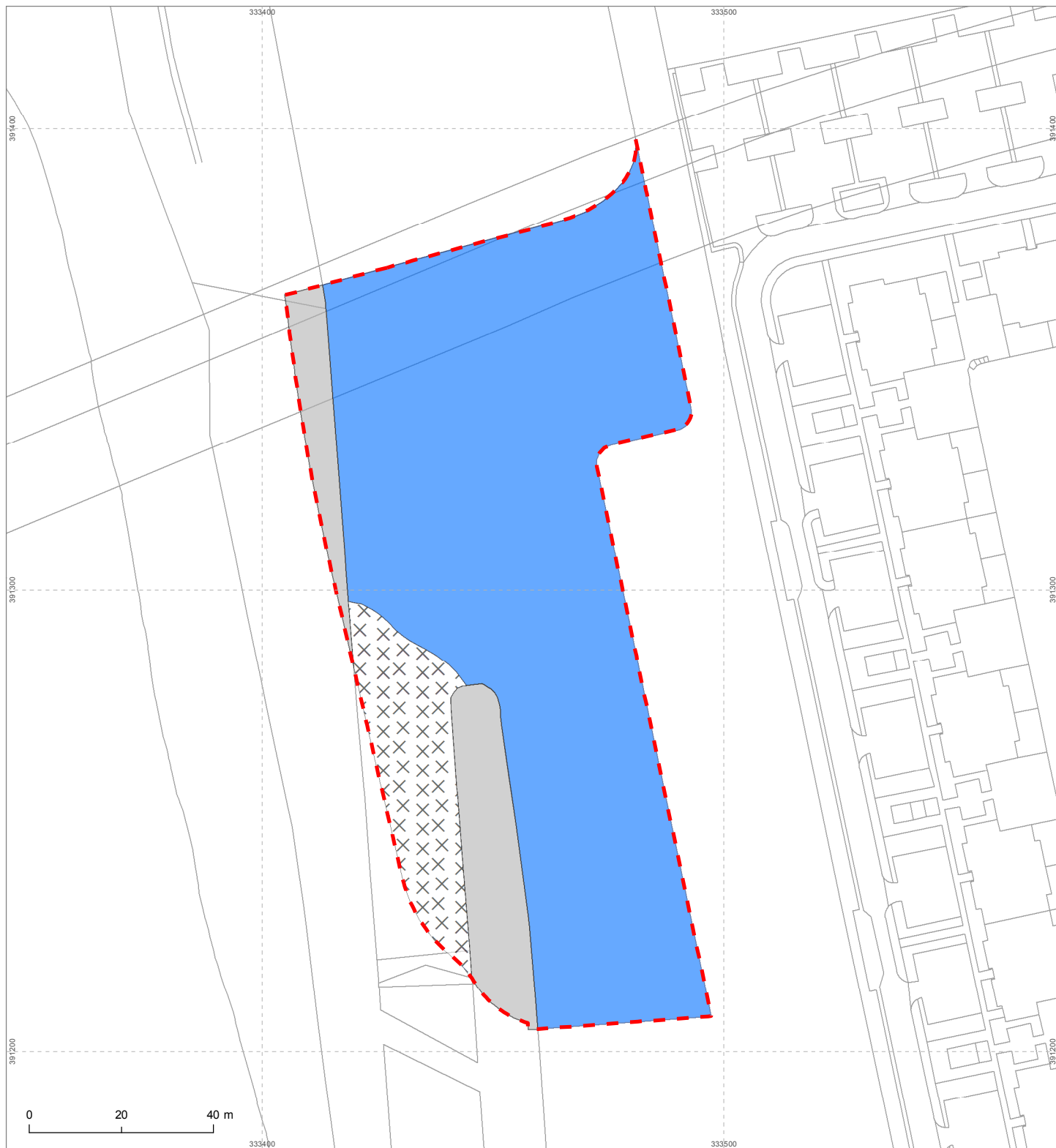
- R4 Nesting Birds:** Site clearance activities should be undertaken outside the nesting bird season. The nesting bird season is weather dependent but generally extends between March and September inclusive (peak period March-August). If this is not possible then the areas to be removed or disturbed should be checked by an experienced ecologist for nesting birds immediately prior to works commencing. If birds are found to be nesting any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally, for example via the implementation of an appropriate buffer zone (species dependent) around the nest in which no disturbance is permitted until the nest is no longer in use.
- R5 Foraging/Commuting Bats:** The lighting strategy for the proposed development should be designed to maintain dark areas that can be used by foraging and commuting bats. This may be achieved, for example, through the use of low level and directional lighting.
- R6 Marine Ecology:** Relevant recommendations from the marine ecological surveys completed by Ecospan Environmental Ltd should be adhered to.

7.4 INVASIVE PLANT SPECIES

No recommendations are made regarding invasive plant species.


8. DRAWINGS

Drawing C128844-01-01 – Phase 1 Habitat Map



Legend

- - - Site boundary
- X X X X Ephemera/short perennial
- Hardstanding
- Standing water

Project		Plot C02, Central Docks, Liverpool	
Drawing		Phase 1 Habitat Map	
Client		Romal Capital	
Drawing Number	C128844-01-01	Revision	00
Scale @ A4	1:1,200	Date	August 2018
Approved By	TD	Drawn By	GP
<div style="text-align: center;">  <p>MIDDLEMARCH ENVIRONMENTAL</p> </div> <p>Triumph House, Birmingham Road, Allesley, Coventry CV5 9AZ T:01676 525880 F:01676 521400 E:admin@middlemarch-environmental.com</p>			
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C128844-01-01



9. PHOTOGRAPHS



Plate 9.1: Ephemeral/short perennial



Plate 9.2: Ephemeral/short perennial



Plate 9.3: Hardstanding



Plate 9.4: Hardstanding



Plate 9.5: Standing water



Plate 9.6: Standing water

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APPENDICES

APPENDIX 1: Summary of Statutory Nature Conservation Sites

APPENDIX 2: Overview of Relevant Species Specific Legislation

APPENDIX 1

Summary of Statutory Nature Conservation Sites

EU

Site Check Report Report generated on Thu Sep 20 2018

You selected the location: Centroid Grid Ref: SJ33459122

The following features have been found in your search area:

Ramsar Sites (England)

Name

MERSEY NARROWS & NORTH WIRRAL FORESHORE

Reference

UK11042

Hectares

2078.63

Name

MERSEY ESTUARY

Reference

UK11041

Hectares

5023.35

Special Areas of Conservation (England)

Name

DEE ESTUARY

Reference

UK0030131

Hectares

8282.47

Hyperlink

<http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?eucode=UK0030131>

Special Areas of Conservation (Wales)

Name

Dee Estuary / Aber Dyfrdwy (England)

Reference

UK0030131

Marine

y

Date Notified

10/12/2009

Cartesian Area (Ha)

8255.387931

Special Protection Areas (England)

Name

MERSEY NARROWS & NORTH WIRRAL FORESHORE

Reference

UK9020287

Hectares

2078.63

Name

MERSEY ESTUARY

Reference

UK9005131

Hectares

5023.35

Special Protection Areas (Wales)

Name

Liverpool Bay / Bae Lerpwl (England)

Reference

UK9020294

Special Areas of Conservation (Marine Components GB)

UK Site Code

UK0030131

Site Name

Dee Estuary/ Aber Dyfrdwy

Site Status

SAC

Status

Designated

Country

England inshore & Wales inshore

CP2 Region

Irish Sea

Area (Ha)

15805.27

Longitude

-3.216111

Latitude

53.328333

Consultation Date

Candidate SAC Date

01-08-2007

Site of Conservation Importance Date

01-12-2008

Designation Date

01-12-2009

Agency

NE and NRW

WDPA Code

555536021

Special Protection Areas (Marine Components GB)

UK Site Code

UK9020294

Site Name

Liverpool Bay

Site Status

SPA

Status

Classified

Country

England inshore & England offshore & Wales inshore

CP2 Region

Irish Sea

Area (Ha)

252756.391805

Longitude

-3.422112

Latitude

53.610098

Consultation Date

18/10/2016

Classification Date

31/10/2017

Responsible Agency

NE, NRW and JNCC

WDPA Code

555541883

UK Site Code

UK9005131

Site Name

Mersey Estuary

Site Status

SPA

Status

Classified

Country

England inshore

CP2 Region

Irish Sea

Area (Ha)

1848.124741

Longitude

-2.854554

Latitude

53.318662

Consultation Date

Classification Date

01/12/1995

Responsible Agency

NE

WDPA Code

555541775

UK Site Code

UK9020287

Site Name

Mersey Narrows and North Wirral Foreshore

Site Status

SPA

Status

Classified

Country

England inshore

CP2 Region

Irish Sea

Area (Ha)

1788.425503

Longitude

-3.146891

Latitude

53.417965

Consultation Date

Classification Date

01/07/2013

Responsible Agency

NE

WDPA Code

555577866

Proposed Ramsar Sites (England)

No Features found

Ramsar Sites (Wales)

No Features found

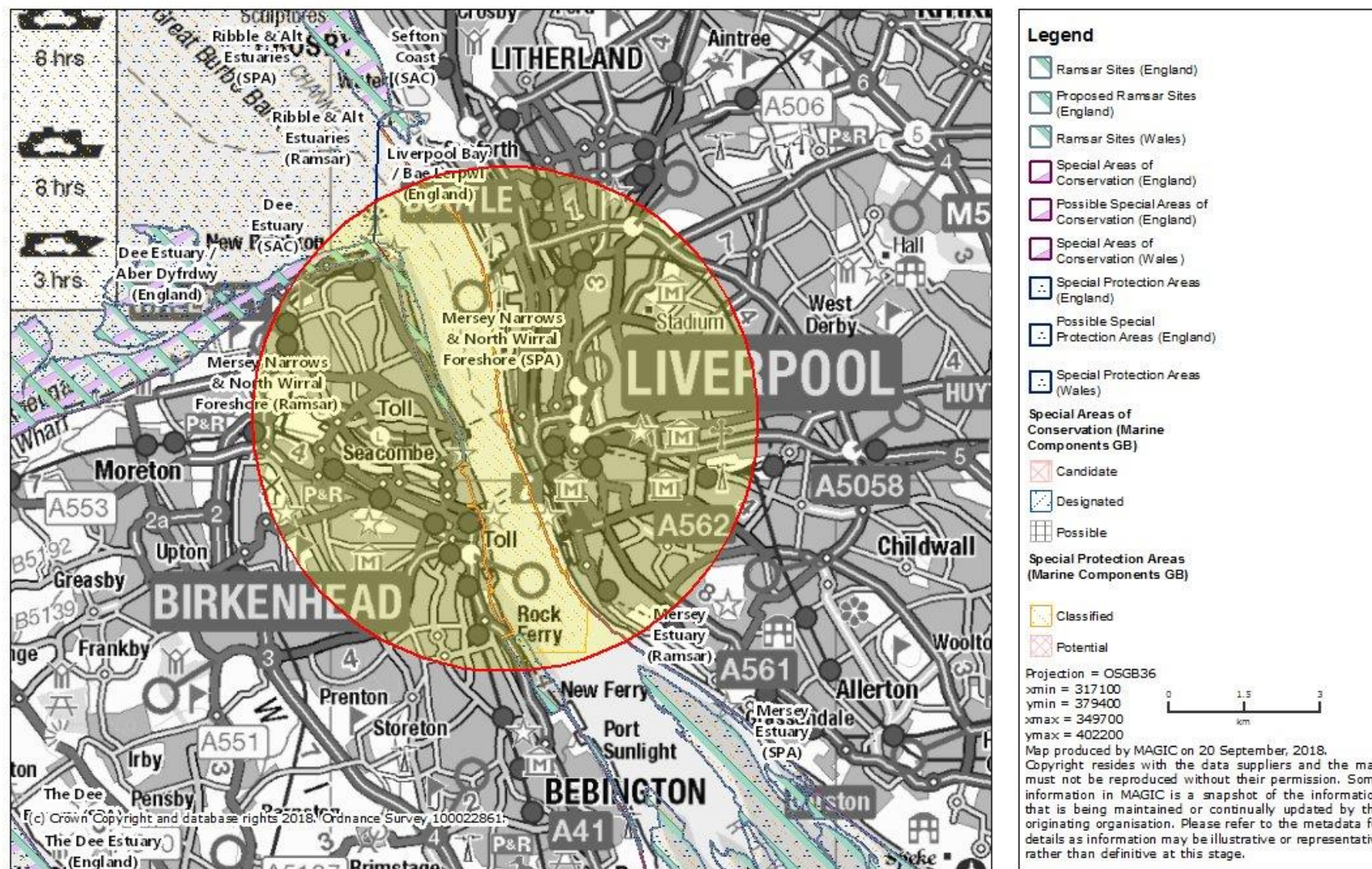
Possible Special Areas of Conservation (England)

No Features found

Possible Special Protection Areas (England)

No Features found

MAGiC European Statutory Sites within a 5 km radius



UK

Sites of Special Scientific Interest (England)

Name

Mersey Narrows SSSI

Reference

1007659

Natural England Contact

C2L Innovation & Support Team

Natural England Phone Number

0845 600 3078

Hectares

116.34

Citation

2000436

Hyperlink

<http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s2000436>

Ancient Woodland (England)

No Features found

Local Nature Reserves (England)

No Features found

National Nature Reserves (England)

No Features found

SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?

2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications

ALL PLANNING APPLICATIONS - EXCEPT HOUSEHOLDER APPLICATIONS.

Infrastructure

Wind & Solar Energy

Minerals, Oil & Gas

Rural Non Residential

Residential

Rural Residential

Air Pollution

Combustion

Waste

Composting

Discharges

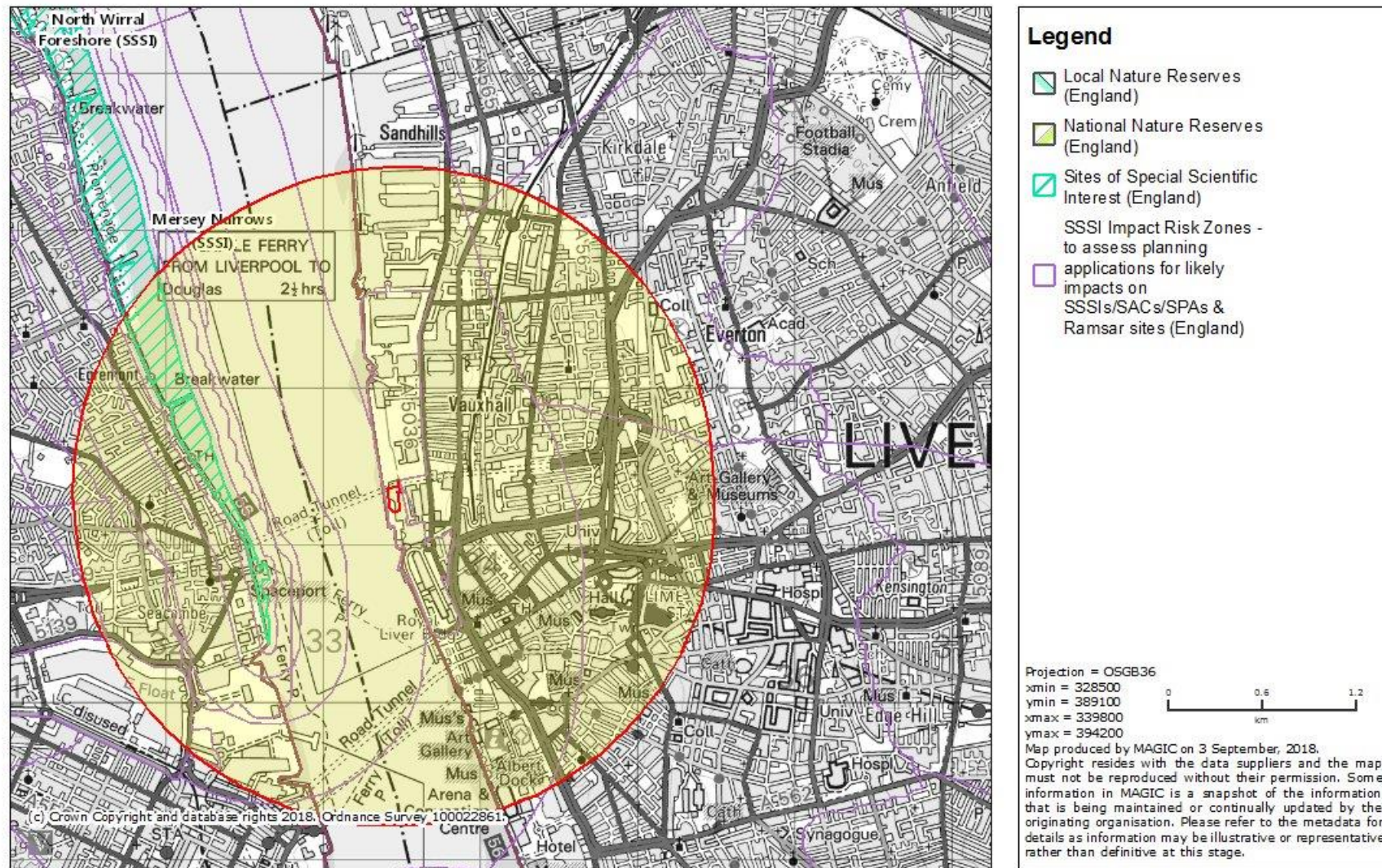
Water Supply

Notes

GUIDANCE - How to use the Impact Risk Zones

[/Metadata for magic/SSSI IRZ User Guidance MAGIC.pdf](#)

MAGiC UK statutory sites with 2 km of the study site



APPENDIX 2

Overview of Relevant Species Specific Legislation

Birds

The Conservation of Habitats and Species Regulations 2019 places a duty on public bodies to take measures to preserve, maintain and re-establish habitat for wild birds.

Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended).

Subject to the provisions of the act, if any person intentionally:

- kills, injures or takes any wild bird;
- takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- takes or destroys an egg of any wild bird, he shall be guilty of an offence.

Some species (listed in Schedule 1 of the WCA) are protected by special penalties. Subject to the provisions of the act, if any person intentionally or recklessly:

- disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturbs dependent young of such a bird, he shall be guilty of an offence.

Several bird species are Species of Principal Importance for Nature Conservation in England, making them capable of being material considerations in the planning process.

Bats

Bats and the places they use for shelter or protection (i.e. roosts) receive European protection under The Conservation of Habitats and Species Regulations 2019 (Habitats Regulations 2019). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2019, states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats; or
- damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2019 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, or *obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection*.

*Reckless offences were added by the Countryside and Rights of Way (CRoW) Act 2000.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The following bat species are Species of Principal Importance for Nature Conservation in England: Barbastelle Bat *Barbastella barbastellus*, Bechstein's Bat *Myotis bechsteinii*, Noctule Bat *Nyctalus noctula*, Soprano Pipistrelle *Pipistrellus pygmaeus*, Brown Long-eared Bat *Plecotus auritus*, Greater Horseshoe Bat *Rhinolophus ferrumequinum* and Lesser Horseshoe Bat *Rhinolophus hipposideros*.