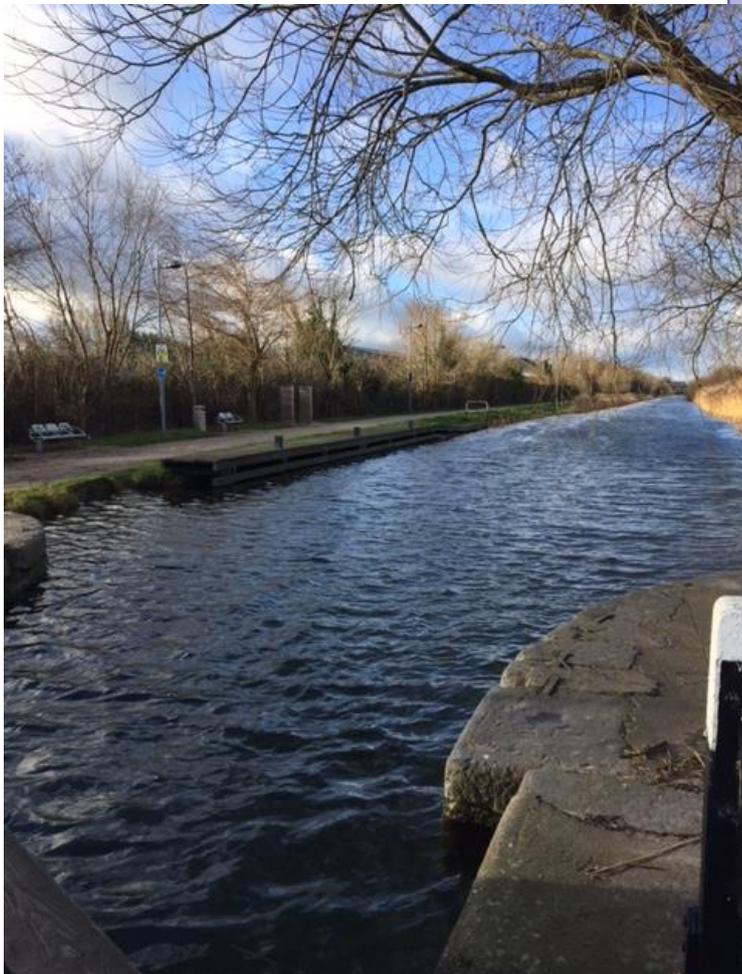


DRAFT PARK WEST – CHERRY ORCHARD

LOCAL AREA PLAN 2019

Appropriate Assessment Screening Report



Prepared by

Dublin City Council

Planning and Property

Development Department

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1. Introduction

Dublin City Council (DCC) is preparing a draft Local Area Plan (LAP) for Park West- Cherry Orchard under the Planning and Development Act 2000 (as amended). An LAP sets out planning policies and objectives for a specifically defined area over an initial 6-year period, which may be extended by the local authority, for a period of up to 10 years. As required by legislation, Appropriate Assessment must be carried out to assess the potential effects of the proposed plan, on its own or in combination with other plans or projects, on one or more Natura 2000 sites, also referred to as European sites.

The European sites network includes those sites of the highest biodiversity importance for rare and threatened habitats and species. To help tackle issues of habitat destruction and degradation with consequent loss of biodiversity, the EU introduced the Birds and Habitats Directives to help safeguard key sites. The aim of both of these directives is to maintain, and where possible restore the favourable conservation status of natural habitats and species across Europe. Europe's most important wildlife sites are referred to as Natura 2000 sites, and legislation ensures that strong measures are put in place to protect them. Within Ireland the Natura 2000 network comprises Special Areas of Conservation (SACs, including candidate SACs), and Special Protection Areas (SPAs, including proposed SPAs).

The Birds and Habitats Directives require EU Member States to consider the possible nature conservation implications of any plan or project on the Natura 2000 site network prior to making a decision to allow that plan or project to proceed. This process of consideration is referred to as appropriate assessment (AA). When putting forward a plan, the local authority is firstly charged with "screening" the proposal, i.e. determining, on the basis of a preliminary assessment and objective criteria, whether the proposed plan, both alone and in combination with other plans or projects; could have significant effects on a Natura 2000 site in view of the site's conservation objectives. If the Screening stage concludes that the proposed project could give rise to likely significant impacts on any Natura 2000 site, then subsequent stages of the AA process are required, including the delivery of a Natura Impact Statement. However if no likely significant effects are identified during Screening, then the assessment process goes no further.

This report is a documentary record of the Appropriate Assessment Screening undertaken by Dublin City Council, to assess the impacts of the proposed Draft Local Area Plan for Park West – Cherry Orchard, on local Natura 2000 European sites.

A separate Strategic Environmental Assessment (SEA) has been undertaken in tandem to assess the impacts of the Draft Local Area Plan on a number of environmental considerations including population, human health, biodiversity, flora, fauna, soil, water, air, climatic factors, cultural heritage, landscape, and interrelationship between these considerations, where applicable.

2. Legislative Context

Under the EU Birds (2009/147/EC) and Habitats (92/43/EEC) Directives, member states are required to designate sites of European Importance in order to protect certain habitats and species. In Ireland these sites are known as Special Protection Areas (SPA) and Special Areas of Conservation (SAC), and collectively they form part of the Natura 2000 Network. These sites are considered to be of exceptional importance in terms of rare, endangered or vulnerable habitats and species within the European Community.

Under Article 6(3) of the Habitats Directive an Appropriate Assessment must be undertaken for any plan or project that is likely to have a significant effect on the conservation objectives of a Natura 2000 site. An Appropriate Assessment is an evaluation of the potential impacts of a plan or project on the conservation objectives of a Natura 2000 site.

Article 6(3) of the Habitats Directive states:

“Any plan or project not directly connected with or necessary to the management of the [Natura 2000] 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.”

The requirement for Appropriate Assessment is integrated into Irish Planning law through the Planning and Development (Amendment) Act 2000, Part XAB. This Act requires the competent authority, in this case Dublin City Council, to avoid in a European site the deterioration of natural habitats and the habitats of species as well as the disturbance of the species for which the site has been designated (Section 177S).

Section 177U (1) of the Act has the following requirement:

- (1) *A screening for appropriate assessment of a draft Land use plan... shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Land use plan.., individually or in combination with another plan or project is likely to have a significant effect on the European site.*
- a. *A competent authority shall carry out a screening for appropriate assessment under subsection (1) before – (a) A Land use plan is made...*

This report is a documentary record of the screening process carried out under Section 177U of the Act.

3. Guidance Documentation

As part of the Appropriate Assessment process for the LAP, particular reference has been made to the following documents:

- *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities*. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin (2009, revised February 2010).
- Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. Circular NPWS 1/10 & PSSP 2/10.
- *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*, European Commission, (2001); hereafter referred to as the EC Article 6 Guidance Document. The guidance within this document provides a non-mandatory methodology for carrying out assessments required under Article 6(3) and (4) of the Habitats Directive.
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitat's Directive' 92/43/EEC*, European Commission (EC Environment Directorate-General, 2000); hereafter referred to as MN2000.
- Guidance Document on Article 6(4) of the 'Habitats Directive' 92/43/EEC. Clarification of the Concepts of Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence. Opinion of the European Commission (European Commission, January 2007).

Sources of information that were used to collect data on the Natura 2000 network of sites are listed below:

- Dublin City Development Plan 2016-2022 Appropriate Assessment (AA)
- Ordnance Survey of Ireland mapping and aerial photography available from www.osi.ie
- Online data available on Natura 2000 sites as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie
- Information on water quality in the area available from www.epa.ie
- Information on the River Basin Districts from www.wfdireland.ie
- Information on soils, geology and hydrogeology in the area available from www.gsi.ie
- Status of EU Protected Habitats and Species in Ireland. (National Parks & Wildlife Service, 2008)
- The Status of Birds in Ireland: An Analysis of Conservation Concern 2008-2013 (Lynas et al, 2007).
- Environmental Protection Agency (2011). EPA ENVision Service (internet -based environmental information portal). Available online at: <http://maps.epa.ie/internetmapviewer/mapviewer.aspx>
- Geological Survey of Ireland (2011). *GSI Datasets Public Viewer*. Available online at <http://www.gsi.ie/Mapping.htm>
- Dublin City Biodiversity Action Plan: 2015 –2020

4. Stages of Appropriate Assessment

Both Article 6(3) and 6(4) of the Habitats Directive, involve a number of steps and tests that need to be applied in sequential order when carrying out appropriate assessment. The results of each step must be documented and recorded carefully so there is full traceability and transparency of the decisions made. The first test is to establish whether, in relation to a particular plan or project, appropriate assessment is required. This is termed Appropriate Assessment screening.

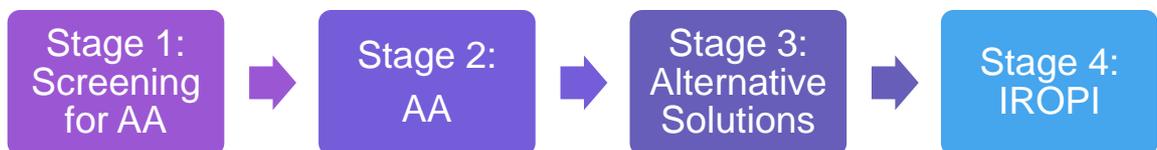
The European Commission Methodological Guidance document (2001) promotes a four-stage process to complete the Appropriate Assessment. An important aspect of the process is that the outcome of each successive stage determines whether a further stage in the process is required. The four stages are as follows: -

Stage 1: Screening for Appropriate Assessment: The process which identifies the likely impacts upon a European Site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant

Stage 2: Appropriate Assessment: The consideration of the impact on the integrity of the European Site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts. If adequate mitigation is proposed to ensure no significant adverse impacts on European Sites, then the process may end at this stage. However, if the likelihood of significant impacts remains, then the process must proceed to Stage 3. The report of this stage is known as a Natura Impact Statement (NIS).

Stage 3: Assessment of Alternative Solutions: The process which examines alternative ways of achieving the objectives of the project or plan that avoids adverse impacts on the integrity of the European Site.

Stage 4: IROPI (imperative reasons for overriding public interest): An assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.



5. Methodology

As noted above, the European Commission Methodological Guidance document (2001) promotes a 4-stage process to complete the Appropriate Assessment:

Stage 1: Screening for Appropriate Assessment

Stage 2: Appropriate Assessment

Stage 3: Assessment of Alternative Solutions

Stage 4: IROPI (imperative reasons for overriding public interest)

This report deals with Stage 1 only, i.e. screening for appropriate assessment.

The methodology followed in screening this project is that put forward by the then Department of the Environment, Community and Local Government in the 2009 publication, *Appropriate Assessment for Plans and projects in Ireland: Guidance for Planning Authorities*. It sets out 4 key steps:

Step I: Description of plan or project, and local site or plan area characteristics

Step II: Identification of relevant Natura 2000 sites, and compilation of information on their qualifying interests and conservation objectives

Step III: Assessment of likely effects – direct, indirect and cumulative – undertaken on the basis of available information as a desk study or field survey or primary research as necessary

Step IV: Screening statement with conclusions

Regard is also had to the guidance document ‘*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*’ (European Commission, 2001). This methodology for the AA process included one additional step in the screening process, to – *Determine whether the project or plan is directly connected with or necessary to the management of a Natura 2000 site.*

Such plans or projects that are directly connected with or necessary to the nature conservation management of a Natura 2000 site are essentially exempt from further consideration. The proposed Draft Cherry Orchard-Parkwest Local Area Plan is however not directly connected with or necessary to the management of any Natura 2000 site.

Circular NPW/ 1/10 from the Department of the Environment notes the need to apply the precautionary principle in making any key decisions in relation to the tests of AA, as confirmed by the European Court of Justice case law. Therefore where significant effects are likely, possible or uncertain at screening stage, AA will be required.

Figure 2: Cherry Orchard Aerial Map 2018



The Park West - Cherry Orchard developed area is characterised by three distinct land uses, in the form of office, residential and institutional, the latter comprising the Wheatfield and Cloverhill prisons and Courthouse and the Cherry Orchard Hospital. Located on the edge of the City Council administrative area the area is significantly surrounded by large scale industrial estates. This isolation is reinforced by a number of impenetrable barriers including the M50, the Canal and the railway line, and also the Hospital and the Prisons which together significantly impact on the permeability throughout the area.

The existing urban and residential typology differs between the two areas of Cherry Orchard and Park West. Cherry Orchard, developed predominantly in the 1960's to 1980's is largely characterised by 3-bed, two-storey terraced houses constructed around large open green spaces. Newer development at Cedar Brook in c. 2003/2004 introduced some variety in housing typology. South of the rail line the residential development at Park West is comprised solely of apartment developments in 6-8 storey residential blocks.

Adjoining the new residential development in Park West is a modern office development (of c. 80,000 sq.m. commercial floorspace). Developed between 2000 and 2008, the residential and commercial blocks are set out within a landscaped setting which incorporates numerous pieces of public art sculptures. The area also incorporates a water theme, carried through to the relationship with the Canal and the location of the landmark "wave" sculpture. Moving east the landuse changes to industrial uses, with both light and heavy industry present.

A number of supporting retail and community uses can be found in both Park West and Cherry Orchard with two distinct areas currently forming hubs of activity; one at the mixed-use neighbourhood centre in Park West and the second focusing on St. Ultans NS, the Orchard Community Centre and adjoining play and park facilities.

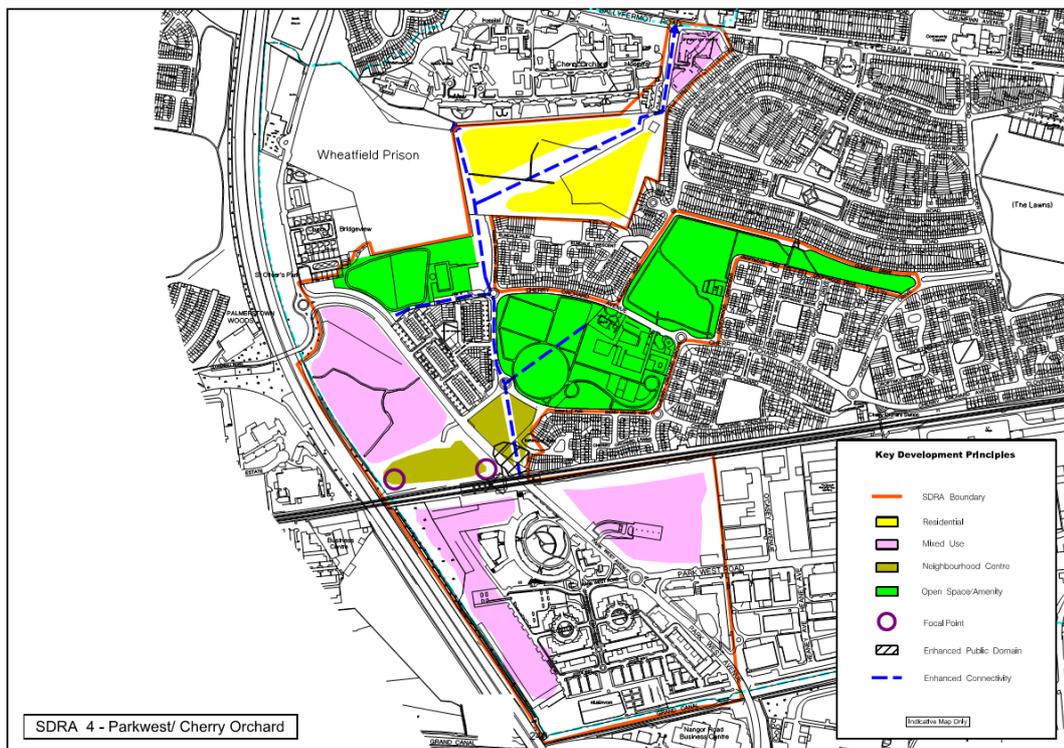
Within the LAP area there is approximately 46 hectares of undeveloped land available for development; c. 31.7 ha in Cherry Orchard and c. 14.3 ha in Park West. The lands within Cherry Orchard are currently all vacant sites under the ownership of Dublin City Council. The lands in Park West are largely vacant with some sites in use for car parking. These lands are also under a single ownership.

6.1.3 Designation and Guidance within the City Development Plan

The LAP is informed by, and in keeping with, the policy hierarchy of national, regional and City planning policy, including but not exclusive to the National Planning Framework: Ireland 2040 Plan, Regional Spatial and Economic Strategy 2019, Smarter Travel – A Sustainable Transport Future 2009-2020 and the Transport Strategy for the Greater Dublin Area 2016-2035. The overarching theme of these policy documents is the consolidation and sustainable use of land in urban areas, particularly urban environments well served by public transport. The Dublin City Development Plan 2016-2022 translates the policy and objectives of these plans into a Dublin City context. The Draft Park West – Cherry Orchard LAP sits under these plans, bringing the policies to a local level.

The Park West-Cherry Orchard LAP has been identified in the Dublin City Development Plan (DCDP) 2016-2022 as a Strategic Development and Regeneration Area (SDRA 4), capable of delivering a significant quanta of homes and employment, thus meeting the objectives for the City’s core strategy to create a compact, green, prosperous and sustainable city. Chapter 15 of the Dublin City Development Plan sets out guiding principles for the SDRAs; see below for those principles in relation to Park West – Cherry Orchard.

Figure 3: Outline of Strategic Development and Regeneration Area 4 (see also Chapter 15 of the Dublin City Development Plan , page 263)



The following **guiding principles** shall apply to the future development of the area:

1. To create a vibrant and sustainable new urban area with work, living and recreational opportunities, based around high-quality public transport nodes.
2. To create a place with distinctive urban character based on urban design principles with strong physical and psychological linkages to the city.
3. To provide for sufficient densities of development, to sustain public transport and a viable mix of uses.
4. To provide for an integrated public transport system, with bus and commuter rail as the main components.
5. To provide for the integration of the new community with the established community.
6. To provide for a balanced mix of residential tenure.
7. To develop a coherent spatial framework, incorporating the following elements:
 - Two axial routes, defined by buildings, providing the main structuring components, linking the proposed new rail station with Ballyfermot Road to the north and Park West Road to the south
 - A Main Street at the intersection of the two axial routes, providing a safe and vibrant mixed-use environment, incorporating provision of a supermarket and associated retail and service facilities.
 - A new civic space next to the main street, linking to the civic place adjacent to the rail station, creating a high profile for public transport and a strong sense of place for the local resident and working population⁸. To enhance the new identity of the area by providing for 2-3 mid-rise buildings at nodal spaces in the vicinity of the railway station or adjoining the M50 to act as place-markers.
9. That in the creation of the ‘new town’ in the Park West/Cherry Orchard area as a policy and priority that the key historic and existing deficits with regard to layout, community underdevelopment, policing, anti-social activity, lack of provision for childcare etc. be factored in to be provided for in the new proposed development and that a new charter for Cherry Orchard be articulated and become an integral part of the overall plans and initiatives for the area.
10. To provide for a supermarket and other local shopping

6.1.4 Draft Park West – Cherry Orchard Local Area Plan Strategy

The Draft L Local Area Plan sets out the following vision for the LAP area: -

Part West – Cherry Orchard will be an attractive and identifiable place with a vibrant and active community. A good mix of residential typologies will cater for people across all spectrums of their lifecycle, and residents will have the benefit from the provision of local shops, schools, parks and community and recreational facilities. New commercial and enterprise space will provide opportunities for local employment and both residents and workers will benefit from a high quality integrated public transport network system, and a permeable and safe pedestrian environment.

To help deliver this vision, the Plan sets out a range of objectives to be delivered over the lifetime of the Plan. Key to this process is the development of the vacant lands within the area. The Draft L Local Area Plan area contains c. 46 hectares of undeveloped land that is available for development. This is broken down into 8 “key development sites” and 2 no. “key amenity

sites”, (Fig 4 and 5 below) setting out development objectives and site specific guiding principles for each site.

Key Development sites:

1. Elmdale-Hospital Site
2. North of Cherry Orchard Avenue
- 3a. M50-Cloverhill Site (Local Enterprise Units)
- 3b. M50-Cloverhill Site (Housing Units)
4. M50-Cedarbrook Avenue Site
5. Barnville Neighbourhood Site
6. Park West Avenue/Road Site (formerly ‘Sector 3’)
7. M50-Park West Site (formerly ‘Sector 1A’)
8. M50-Park West Site (formerly ‘Sector 1B’)

Key Amenity sites:

- A. Cherry Orchard Park
- B. Gallenstown Waterworks /Canal Basin

The eight sites identified in the Plan have between them the capacity to deliver between 2,000-2,700 new residential units, ranging in heights from 2-storey to landmark buildings of up to c. 60 meters in height. The sites shall also provide new commercial and employment opportunities, in particular along the boundary with the M50 motorway and in the vicinity of the train station.

The development of the sites will place sustainability at their core in terms of design and construction. Streets will place a focus on pedestrian and cycle amenity encouraging more sustainable patterns of travel, and parks and open spaces will be linked by “green” routes. It is a key objective of the Plan to seek a strategic green route through the plan area, linking Le Fanu Park to the Canal, with a new pedestrian bridge in the location of the waterworks site.

The delivery of the objectives of the Local Area Plan is considered essential to meet the City’s great need for housing at present. Park West and Cherry Orchard has the capacity to provide over 2,000 new homes for people, in an areas served by public transport, with good access to parks and schools and along one of the City’s greatest amenities in the form of the Grand Canal. Delivering these objectives will be a key focus of Dublin City Council, as both the Planning Authority and as a key landowner in the area over the next 6-10 years of the Plan.

Fig 4: Key Development and Amenity Sites of the Draft LAP

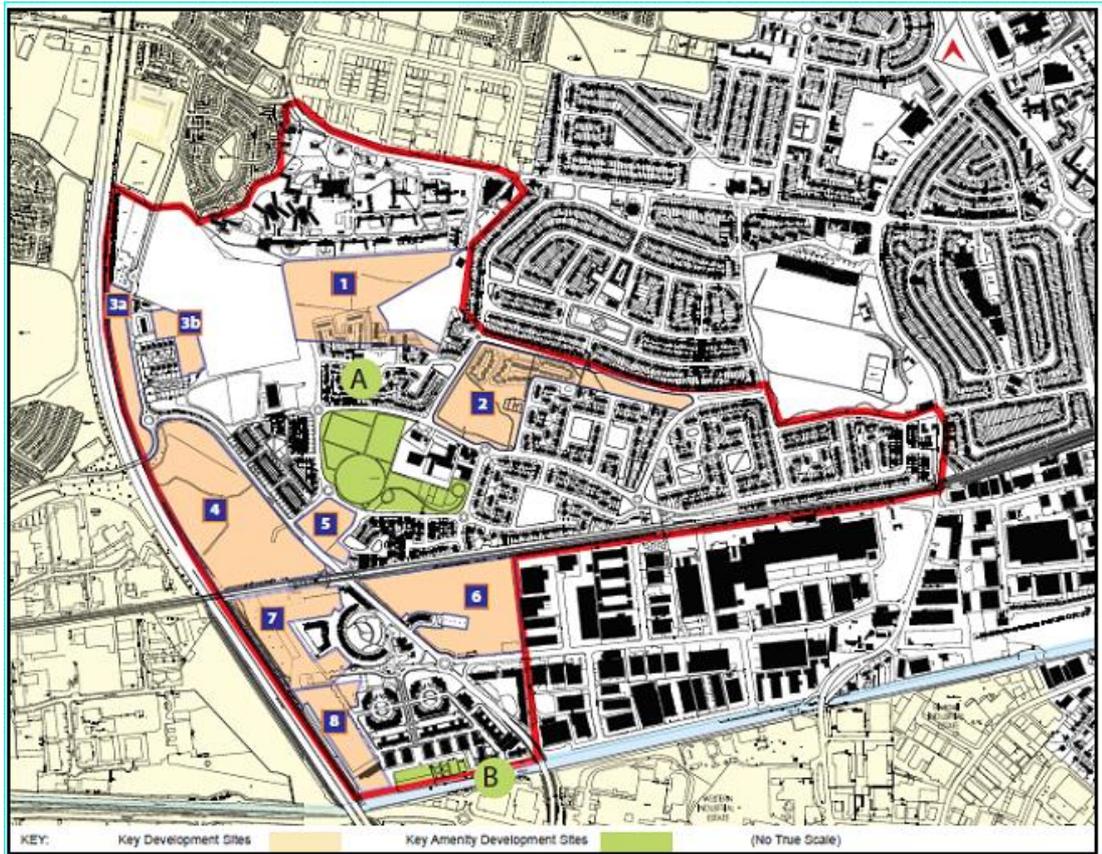
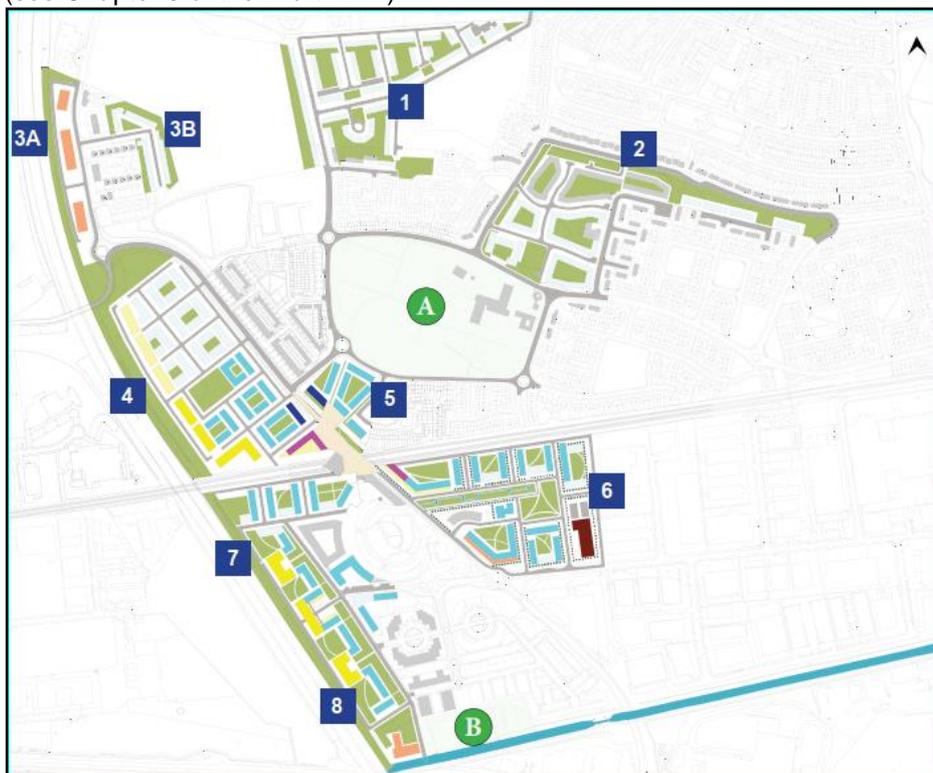


Fig 5: Indicative Block Layouts for the Key Development Sites
(see Chapter 5 of the Draft LAP).



6.1.5 Overview of the Receiving Environment

Surface Water

The majority of the LAP lands are located within the catchment of the River Camac, which rises in the Dublin Mountains, and runs in close proximity to the southern boundary of the lands, see Fig 6 below, before eventually joining the River Liffey close to Heuston Station. A small area near the northern boundary of the LAP lands (mainly the Cherry Orchard Hospital lands), and another small area near the eastern boundary of the lands north of the railway line and adjacent to Killeen Road are located within the Lower Liffey Lyreen Ryewater catchment (see Fig 7). In the Water Framework Directive status phase 2010-015 the Camac River is classified as 'at risk'. The ecological, biological and invertebrate status or potential are all classified as 'poor'.

A number of tributaries of the Camac River traverse the LAP lands. The Gallanstown stream rises west of the M50, is piped in a 1.7m diameter sewer beneath Hume Avenue in the Park West Business Park adjacent to the Grand Canal, and exits the LAP lands at Killeen Road at the south-east corner of the lands, where it meets with the piped Blackditch Stream. Once these two streams meet they are referred to as the Galback Stream (Fig 8).

The lands within the River Camac Catchment drain to a single outfall (Outfall A) at the south-eastern corner of the Park West Industrial lands. The entirety of the Park West area, south of the railway line, drains to the piped Gallanstown Stream, which exits the LAP lands at the south-east corner (Outfall A) and eventually drains to the Camac River. The majority of the Cherry Orchard area, north of the railway line, drains to the piped Blackditch stream, which also exits the LAP lands at their south-east corner (Outfall A) and eventually drains to the Camac River.

The two smaller areas of land which lie within the Lower Liffey Lyreen Ryewater Catchment drain to two separate outfalls; lands within the northern section of the LAP in the vicinity of the Cherry Orchard Hospital drains to (Outfall B) at Killeen Road while the smaller area of land within the eastern section of the LAP drains to (Outfall C) at Le Fanu Road (Fig 7 & 9).

A network of surface water sewers feed into this strategic network which is well developed in the built-out areas of the Park West Industrial Estate and Business Campus and the Cherry Orchard residential area (Fig 9), however there is a lack of existing drainage infrastructure in the vicinity of some of the proposed development sites, in particular in the vicinity of the M50 at the western boundary of the LAP lands.

Fig 6: Camac River Catchment (from the Greater Dublin Strategic Drainage Study)

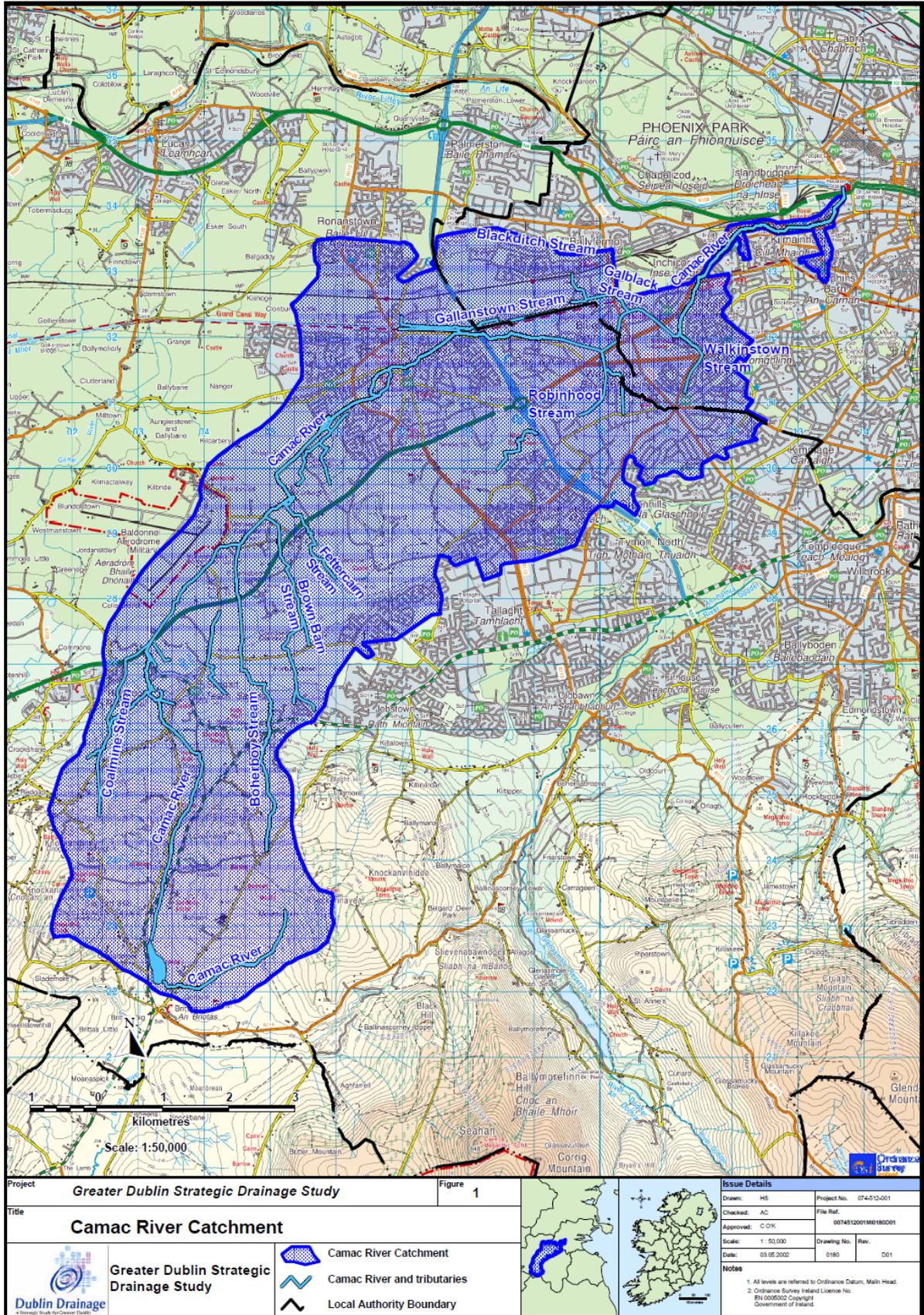


Fig 7: Existing Surface Water Catchments (ARUP Aug 2018)

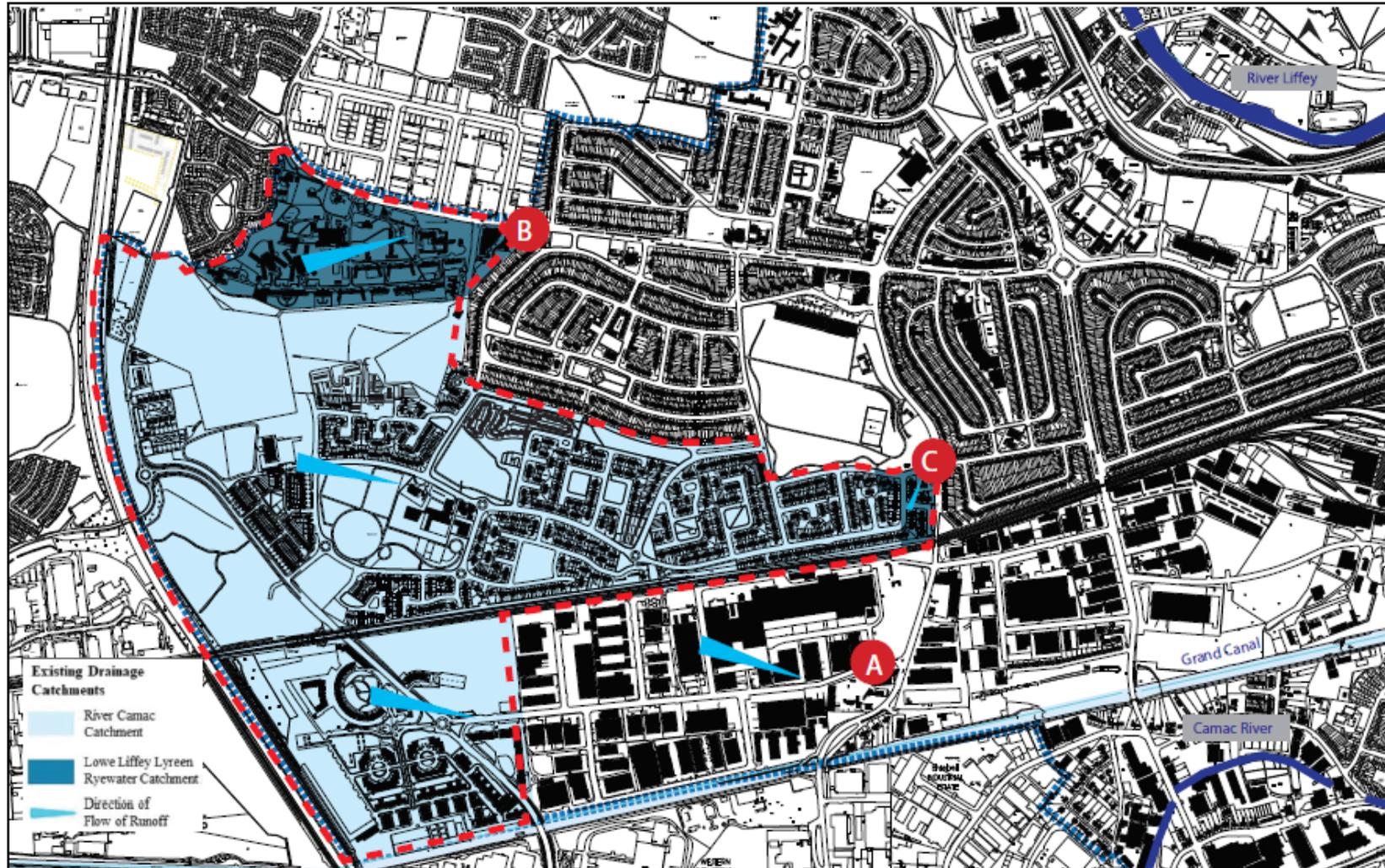


Fig 8: Existing Watercourses (ARUP Aug 2018)

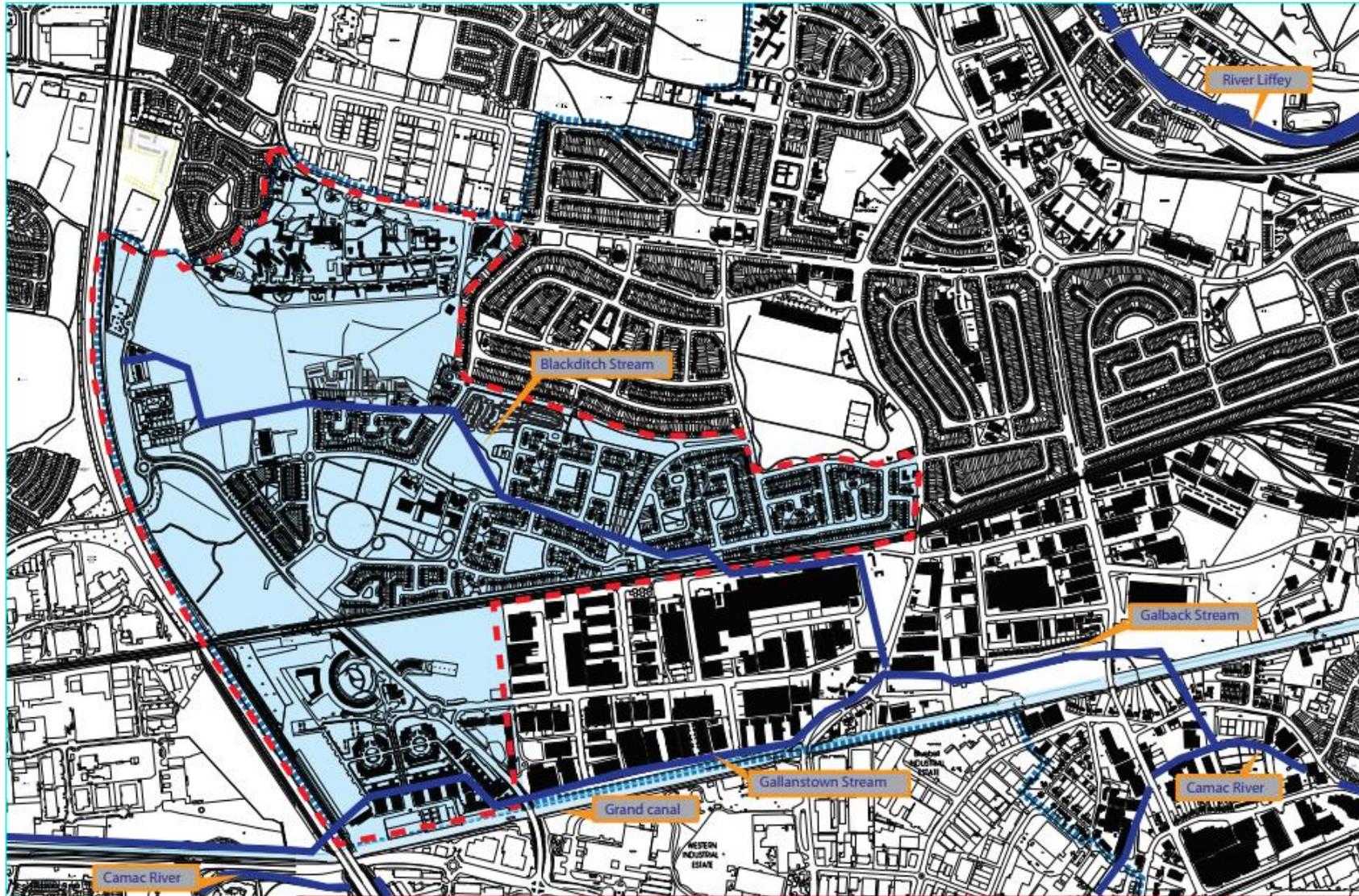
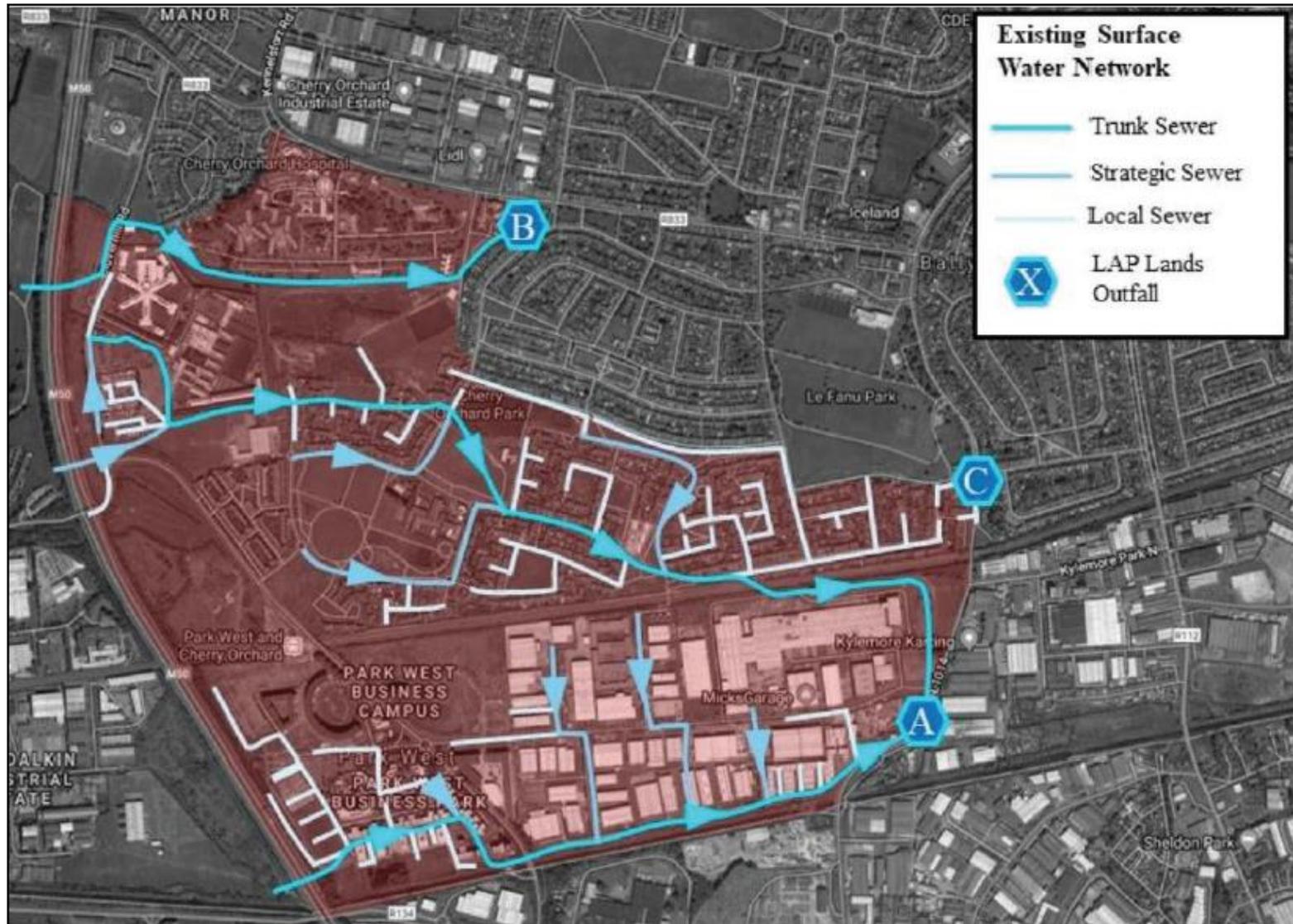


Fig 9: Existing Surface Water Network (ARUP Aug 2018)



Waste Water

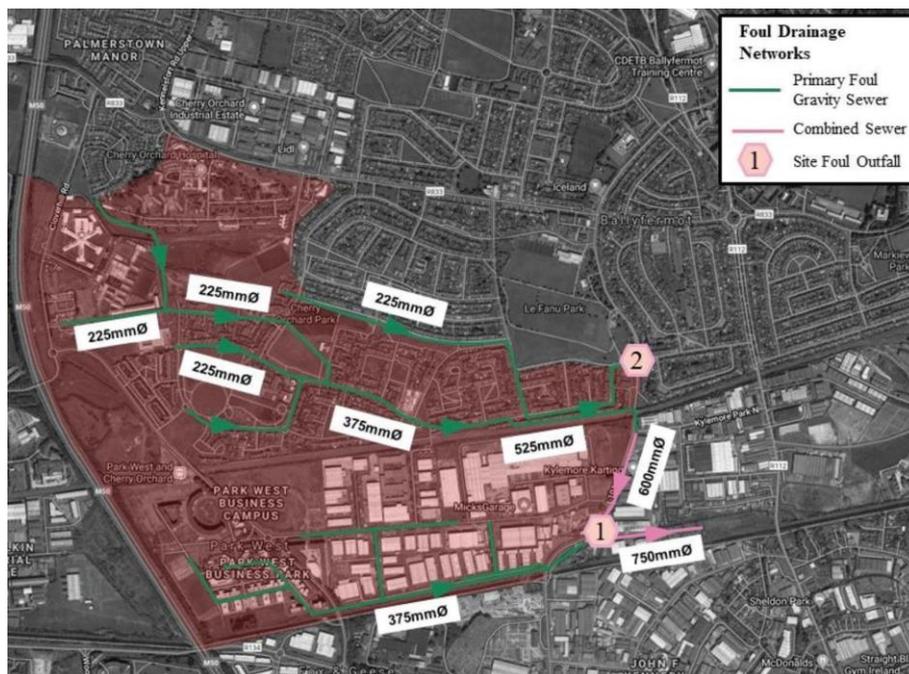
At a City level drainage services are close to capacity and Irish Water is progressing plans to upgrade and expand the Ringsend Wastewater Treatment Plant to meet future demand (i.e. increase capacity from 1.64 million PE to 2.1 million PE). On the 24th April 2019 An Bord Pleanála gave planning approval for a 10 year permission under section 37(E) of the Planning and Development Act (Strategic Infrastructure) for development at Ringsend Wastewater Treatment Plant and for a new Regional Biosoils Storage facility. This project on completion will represent a significant wastewater infrastructure development for the Greater Dublin Regional area, allowing it to cater for a growing population.

An analysis of the existing foul drainage infrastructure within the LAP lands identifies two wastewater drainage sub-catchments, namely the 9B trunk sewer to the South and West and the City Centre sub-catchment to the North and East both of which are within the Ringsend WWTW Catchment.

The LAP area is constrained by a number of hard boundaries such as the M50, Canal and Railway Line which are physical barriers which constrain the delivery of new drainage infrastructure and new drainage outfalls. Irish Water have noted in their submissions to date that it is likely a new large capacity foul drainage outlet will be required to facilitate the development of the LAP lands. At present, the development of the LAP lands has the following known constraints: -

- The sewers in the area nearest the undeveloped land are generally small in size and may require upsizing
- The catchment is constrained by the capacity of the deep twin 300mm sewer crossing beneath the railway line; this is a critical crossing point
- Previous surveys have noted sewer surcharging in the Cherry Orchard Avenue area
- New model for the area draining to the 9B will be required to assess its development impact

Fig 10: Existing Foul Water Drainage within the LAP lands (ARUP Aug 2018)



Water Supply

Drinking water for the Dublin Region is currently finely balanced and there is a recognised need to identify a new major water supply to meet project demand in the long-term. Irish Water is pursuing a project of bringing water from the Parteen Basin, downstream of Lough Derg, (on the Shannon River), with water treatment nearby at Birdhill, and treated water distributed by a pipeline through the Midlands and Eastern Region, serving communities along the route to Dublin. This scheme is known as the Water Supply Project for the Eastern and Midlands Region (WSP) and is required to provide the GDA's water supply after 2025. Irish Water is proposing to submit a planning application for the WSP to An Bord Pleanála in 2019, with construction and commissioning commencing 2022-2025.

Until the WSP commences production (2025) the City is reliant on finite local sources of water, primarily from the River Liffey and the supply from the Varty. There is very modest headroom margin in the context of growth in demand (headroom of c. 2% which is not sufficient as noted during extreme emergency weather periods, such as Storm Emma, when the city experienced night time curtailments of service; 2018). As such Irish Water is targeting leakage savings in the short to medium term (7-10 years) to serve the development needs of the GDA region.

Drinking water quality in the City is monitored annually, and the 2018 results for the LAP area (Water Supply Zone; DCC Zone 1) are as follows: -

Table 1: Drinking Water Quality in the City, 2018

Parameter	Tests Undertaken	Exceedances	% of Tests within Exceedance Limit
Bacteria & Protozoa	968	1	99.90
Chemicals	635	0	100
Metals	796	5	99.37
Other	1961	121	93.83

For the 'other' parameter the exceedances related to 'Free Residual Chlorine' that was exceeded 87 no. times and 'Total Residual Chlorine' which was exceeded 34 no. times. There is no regulatory limit for chlorine, however the EPA have set a recommended level to disinfect / kill harmful bacteria.

An analysis of the existing water supply infrastructure within the LAP lands identifies that the LAP lands are currently served by the Ballymore Eustace supply via the Saggart reservoir and the Belgard reservoir. There are two main trunks serving the LAP lands. A 300mm Ductile Iron trunk main traverses the M50 at Coldcut Road, north of the LAP lands and continues along Ballyfermot Road along the northern boundary of the LAP lands. From the trunk main there is a 300mm asbestos main spur that branches off into the LAP lands west of Wheatfield and Cloverhill prisons, underneath Cloverhill road to serve the LAP lands.

In addition to the above, there is a 300mm trunk main traversing the M50 at Cloverhill Road, which connects to the 300mm asbestos main spur at the Cloverhill Road roundabout. From here a 450mm ductile iron main branches off and runs south along Park West Avenue, exiting the LAP lands at the southern boundary. Feedback from Irish Water indicates that some of the existing older watermains from the 1950s/ 1960s in the area may need upgrading.

in a safe and sustainable manner, having regard to the standards and requirements set out in EU and national legislation and guidance.

Flooding

As part of the preparation of the Local Area Plan for Park West – Cherry Orchard a Strategic Flood Risk Assessment has been prepared in tandem with the preparation of the Local Area Plan. The entire area is located within Flood Zone C.

6.2 Step II: Identification and Description of Relevant Natura 2000 sites

6.2.1 Identification of Natura 2000 Sites within 15km of LAP

There are no Natura 2000 Sites located within the LAP area.

There are eight Natura 2000 sites identified within the Plan's 'zone of influence', see Figure 12. The Zone of Influence (ZOI) is the 'effect area' over which changes could give rise to potentially significant impacts. The ZOI over which significant impacts may occur differs for sensitive ecological receptors depending on the pathway for potential impacts, as well as the specific nature of different habitats / species (e.g. their ability to move, disperse or absorb impacts). In accordance with guidance from the Department of Environment, Heritage and Local Government (2010) a distance of 15km was used as a starting point for identifying potential impacts. It was found that this 15km distance was more than adequate for capturing all potentially significant impacts within the ZOI of the Plan area.

Of the 8 Natura 2000 sites within the zone of Influence of the Park West – Cherry Orchard LAP, 5 are Special Areas of Conservation (SACs) and 3 are Special Protection Areas (SPAs), listed as follows:

Special Areas of Conservation (SACs):

1. North Dublin Bay cSAC
2. South Dublin Bay cSAC
3. Glenasmole Valley cSAC
4. Wicklow Mountains cSAC
5. Rye Water Valley/ Carton cSAC

Special Protection Areas

1. North Bull Island SPA
2. South Dublin Bay and River Tolka Estuary SPA
3. Wicklow Mountains SPA

The screening process undertaken involved identifying the proximity of the LAP to each of the Natura 2000 sites within the 'Zone of Influence' and identifying potential source-pathway-receptor linkages between them. This process is summarised in Table 2 below.

In addition to the European Sites within the Zone of Influence there are two Proposed Natural Heritage Areas (pNHAs) located within close proximity to the LAP area. The Grand Canal proposed Natural Heritage Area (Site Ref. 002104) runs to the south of the SDRA lands to the south of Park West lands, and to the north of the Plan area is the Liffey Valley pNHA (000128), with both having a hydrological link to the protected sites in Dublin Bay.

Figure 12– Natura 2000 sites within a 15km of the Proposed LAP boundary

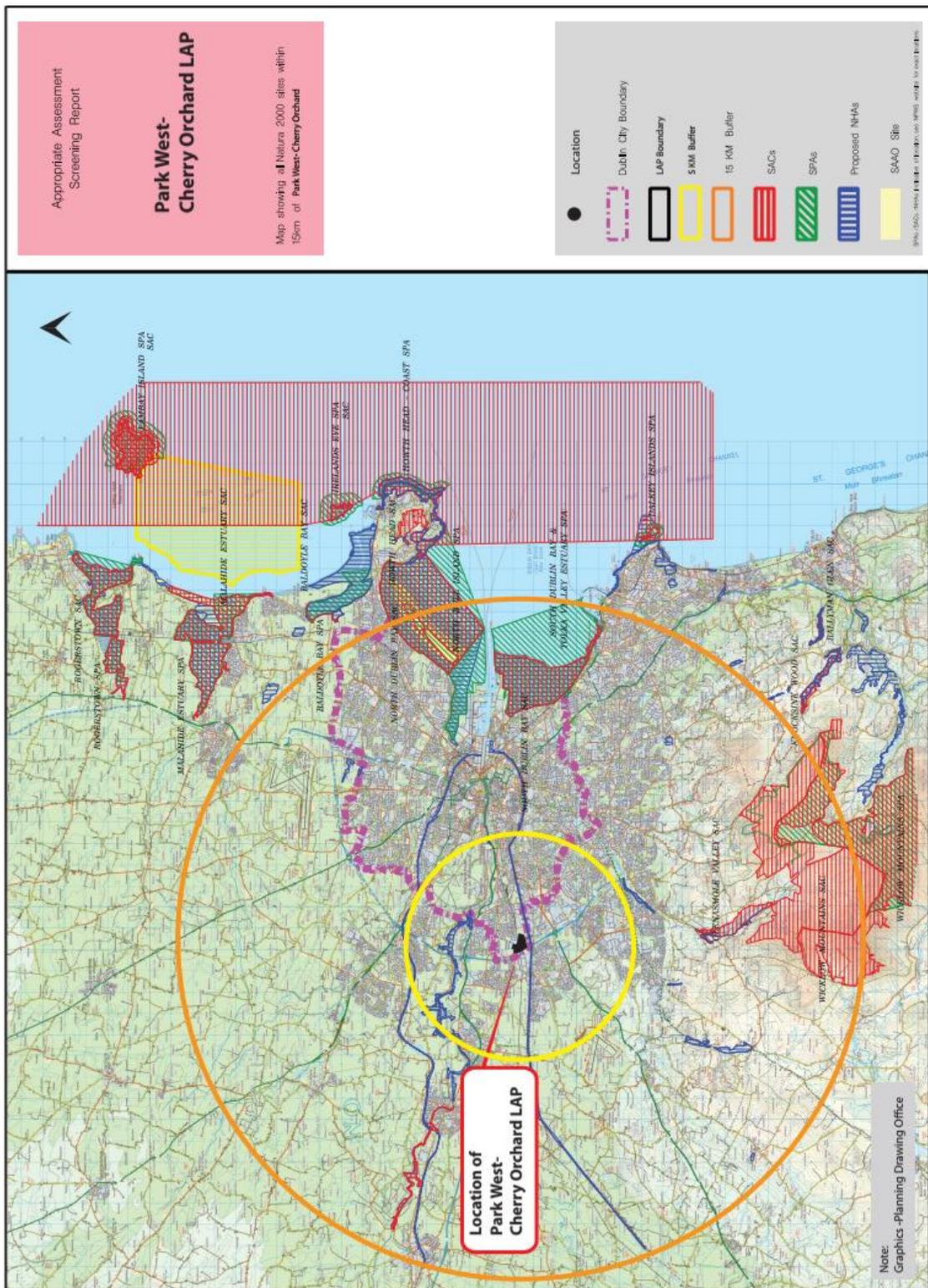


Table 2: Natura 2000 sites, their Qualifying Interests, and Potential Connections with the LAP, within a 15km radius of the Draft Plan.

Site Code	Site Name & Distance from LAP	Qualifying Interests of Natura 2000 Sites: (www.npws.ie)	Connectivity to LAP (in the form of water courses, drainage channels or other vectors) Likely Impacts
Special Areas of Conservation (SACs)			
Site Code 000206	North Dublin Bay cSAC 16.84 km North East of LAP	Features of Interest <ul style="list-style-type: none"> • Mudflats and sandflats not covered by seawater at low tide • Annual vegetation of drift lines • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>). • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) • Embryonic shifting dunes • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) • Fixed coastal dunes with herbaceous vegetation (grey dunes) • Humid dune slacks • <i>Petalophyllum ralfsii</i>, (Petalwort) 	Potential for impact The LAP area is hydrologically linked to Dublin Bay via (1) the Grand Canal (2) The Camac river and (3) the River liffey, which flows into Dublin Bay, and (4) effluent from the proposed plan area together with the Greater Dublin Area will be received by Ringsend WWTP and any excess outflow from the plant discharges into the Dublin Bay area. Potential for impacts via surface water runoff and waste treatment
Site Code 000210	South Dublin Bay cSAC 13.38 km East of LAP	Features of Interest <ul style="list-style-type: none"> • Mudflats and sandflats not covered by seawater at low tide • Annual vegetation of drift lines • Salicornia and other annuals colonising mud and sand • Embryonic shifting dunes 	Potential for impact The LAP area is hydrologically linked to Dublin Bay via (1) the Grand Canal (2) The Camac river and (3) the River liffey, which flows into Dublin Bay, and (4) effluent from the proposed plan area together with the Greater Dublin Area will be received by Ringsend WWTP and any excess outflow from the plant discharges into the Dublin Bay area. Potential for impacts via surface water runoff and waste treatment.
Site Code 001209	Glenasmole Valley cSAC 10.07 km South of LAP	Features of Interest <ul style="list-style-type: none"> • Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>) (*important orchid sites)* • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) • Petrifying springs with tufa formation (<i>Cratoneurion</i>)* 	Not connected The separation distance and the lack of any connectivity between the LAP lands and the cSAC prevents any likely significant impacts from occurring.

Site Code	Site Name & Distance from LAP	Qualifying Interests of Natura 2000 Sites: (www.npws.ie)	Connectivity to LAP (in the form of water courses, drainage channels or other vectors) Likely Impacts
Site Code 002122	Wicklow Mountains cSAC 15.0 km South of LAP	Features of Interest <ul style="list-style-type: none"> • Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) • Natural dystrophic lakes and ponds • Northern Atlantic wet heaths with Erica tetralix • European dry heaths • Alpine and Boreal heaths • Calaminarian grasslands of the Violetalia calaminariae • Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) • Blanket bogs (* if active bog) • Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) • Calcareous rocky slopes with chasmophytic vegetation • Siliceous rocky slopes with chasmophytic vegetation • Old sessile oak woods with Ilex and Blechnum in the British Isles • <i>Species:</i> • Lutra lutra , Otter 	Not connected The separation distance and the lack of any connectivity between the LAP lands and the cSAC prevents any likely significant impacts from occurring.
Site Code 001398	Rye Water Valley/ Carton SAC 12.48 km Distance North West of LAP	Features of Interest <ul style="list-style-type: none"> • Petrifying springs with tufa formation (Cratoneurion)* • Vertigo angustior (Narrow-mouthed Whorl Snail) • Vertigo moulinsiana (Desmoulin's Whorl Snail) 	Not connected The separation distance and the lack of any connectivity between the LAP lands and the cSAC prevents any likely significant impacts from occurring.

Site Code	Site Name & Distance from LAP	Qualifying Interests of Natura 2000 Sites: (www.npws.ie)	Connectivity to LAP (in the form of water courses, drainage channels or other vectors) Likely Impacts
Special Protections Areas (SPAs)			
Site Code 004006	North Bull Island SPA 12.54 km North East of LAP	Features of Interest <ul style="list-style-type: none"> • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) • Shelduck (<i>Tadorna tadorna</i>) • Teal (<i>Anas crecca</i>) • Pintail (<i>Anas acuta</i>) • Shoveler (<i>Anas clypeata</i>) • Oystercatcher (<i>Haematopus ostralegus</i>) • Golden Plover (<i>Pluvialis apricaria</i>) • Grey Plover (<i>Pluvialis squatarola</i>) • Knot (<i>Calidris canutus</i>) • Sanderling (<i>Calidris alba</i>) • Dunlin (<i>Calidris alpina</i>) • Black-tailed Godwit (<i>Limosa limosa</i>) • Bar-tailed Godwit (<i>Limosa lapponica</i>) • Curlew (<i>Numenius arquata</i>) • Redshank (<i>Tringa totanus</i>) • Turnstone (<i>Arenaria interpres</i>) • Black-headed Gull (<i>Larus ridibundus</i>) • Wetlands & Waterbirds 	Potential for impact The LAP area is hydrologically linked to Dublin Bay via (1) the Grand Canal (2) The Camac river and (3) the River liffey, which flows into Dublin Bay, and (4) effluent from the proposed plan area together with the Greater Dublin Area will be received by Ringsend WWTP and any excess outflow from the plant discharges into the Dublin Bay area. Potential for impacts arising from contaminated surface water runoff and waste treatment.
Site Code 004024	South Dublin Bay and River Tolka Estuary SPA 9.04 km East of LAP	Features of Interest <ul style="list-style-type: none"> • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) • Oystercatcher (<i>Haematopus ostralegus</i>) • Ringed Plover (<i>Charadrius hiaticula</i>) • Grey Plover (<i>Pluvialis squatarola</i>) • Knot (<i>Calidris canutus</i>) • Sanderling (<i>Calidris alba</i>) • Dunlin (<i>Calidris alpina</i>) • Bar-tailed Godwit (<i>Limosa lapponica</i>) • Redshank (<i>Tringa totanus</i>) • Black-headed Gull (<i>Croicocephalus ridibundus</i>) • Roseate Tern (<i>Sterna dougallii</i>) • Common Tern (<i>Sterna hirundo</i>) • Arctic Tern (<i>Sterna paradisaea</i>) • Wetlands & Waterbirds 	Potential for impact The LAP area is hydrologically linked to Dublin Bay via (1) the Grand Canal (2) The Camac river and (3) the River liffey, which flows into Dublin Bay, and (4) effluent from the proposed plan area together with the Greater Dublin Area will be received by Ringsend WWTP and any excess outflow from the plant discharges into the Dublin Bay area. Potential for impacts arising from contaminated surface water runoff and waste treatment.
Site Code 004040	Wicklow Mountains 13.69 km South of LAP	Features of Interest <ul style="list-style-type: none"> • Merlin (<i>Falco columbarius</i>) • Peregrine (<i>Falco peregrinus</i>) 	Not connected The separation distance and the lack of any connectivity between the LAP lands and the cSAC prevents any likely significant impacts from occurring.
Sites with Potential Connectivity to the LAP Lands.			

Of the 8 sites outlined above located within the 15km zone of influence, it is considered that there is scope for potential impacts, arising from proximity and hydrological linkages on four of the Natura 2000 sites, namely:-

- North Dublin Bay cSAC
- South Dublin Bay cSAC
- North Bull Island SPA
- South Dublin Bay and River Tolka Estuary SPA.

Further details on each of these four sites are provided in Appendix 1, including a description of each site and overall conservation objectives. (Information on sites is derived from the NPWS website, www.npws.ie/protected-sites).

The habitats of Dublin Bay comprise substantial areas of coastal estuarine and marine habitat. The National Parks and Wildlife Service has specific conservation objectives for marine habitats, which include objectives for estuarine Mudflats and Sandflats. The ecological communities of these areas are sensitive to the anthropogenic impacts of water pollution, sedimentation and nutrient enrichment. Due to the qualifying interests of the sites, it is considered that deterioration in the water quality status within the drainage catchment area could have potential adverse effects on the integrity of the listed Natura 2000 sites at Dublin Bay.

6.3 Step III: Assessment of Likely Effects – Direct, Indirect and Cumulative

This screening assessment process identifies whether the changes brought about by the Draft Local Area Plan are likely to cause any direct, indirect or secondary impacts (either alone or in combination with other plans or projects) on European Sites. During this assessment, a number of factors were taken into account including the sites' conservation objectives and known threats.

The overall aim of the assessment is to attempt to predict the consequences that can be reasonably foreseen by implementation of a policy or objective. It should be noted that the objectives that make up the Draft LAP are strategic in nature and therefore the impact assessment can at best be generalised. The overall aim of the Draft LAP is to set out a framework for the physical development of the Park West - Cherry Orchard area so that growth may take place in a coordinated, sensitive and orderly manner, while at the same time being sensitive to the environment.

6.3.1 Potential Direct Impacts on Natura 2000 Sites

Direct impacts refer to habitat loss or fragmentation arising from land-take requirements for development. Direct impacts can also be as a result of a change in land use or management, i.e. removal of agricultural practices that prevent scrub encroachment.

No Natura 2000 sites lie within the boundary of the Draft LAP lands, therefore no direct impacts will occur through land take or fragmentation of habitats.

Increased development and construction of residential and commercial units will lead to increased demand for potable water and increased pressure on existing and future waste water treatment systems.

In terms of water supply for the Park West - Cherry Orchard area there are no particular constraints in terms of supplying water to future development within the Draft LAP lands. Any medium to large

scale development in the area may be required to upgrade sections of the existing network to ensure adequate security of supply as deemed necessary by Irish Water, which will not result in any direct or indirect impacts on the Natura 2000 sites.

Increased development will lead to greater sewerage flows, which will need to be treated at the Ringsend Waste Water Treatment Plant. It is an objective of the Council to facilitate Irish Water in ensuring that all wastewater generated is collected, treated and discharged after treatment in a safe and sustainable manner, having regard to the standards and requirements set out in EU and national legislation and guidance.

Complying with the standards and requirements set out in EU and national legislation will ensure that sewage will be treated to an appropriate standard such that it will not impact on receiving waters, and therefore, will not result in any indirect impacts on the Natura 2000 sites.

6.3.2 Potential Indirect Impacts on Natura 2000 sites

Indirect impacts occur where the cause and effect relationship are potentially more challenging to establish and assess. Deterioration in water quality, for example, can occur as an indirect consequence of development through water discharge from development which, in turn, can change the aquatic environment and reduce its capacity to support certain plants and animals. The distances over which water-borne pollutants are likely to remain in sufficient concentrations to have a significant impact on receiving waters is difficult to quantify and highly site-specific. Evidently, it will depend on volumes of discharged waters, concentrations and types of pollutants, volumes of receiving waters, and sensitivity of receiving waters. The introduction of invasive species can also be defined as an indirect impact, which may result in the transfer of alien species from one area to another.

Potential indirect linkages have been identified for the Local Area Plan in the form of hydrological connections, between the LAP lands and Dublin Bay, which can occur via surface water (including the Grand Canal) and waste water connections (see Table 2 above). Natura 2000 sites with potential for impact include those located in Dublin Bay, notably North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA and South Dublin Bay, all located downstream of the subject site, where the River Liffey enters the Irish Sea. There is potential for indirect impacts, through the transfer of pollutants via overland flow into the Grand Canal and surface water connections and continuing downstream into Dublin Bay. There is also potential for impacts from the treatment of wastewater for the area which is transferred to the City's Wastewater treatment plant at Ringsend, where any excess outflow is discharged into the Dublin Bay area.

The potential linkages and impacts of the LAP have therefore being assessed under the headings of:

- A: Waste Water Treatment
- B: Surface Water Linkages

A: Waste Water Treatment

The development of the "key development sites" in Park West - Cherry Orchard has the potential to provide a significant increase in residential population. The identified sites have the potential to deliver approximately between 2,000 to 2,700 new residential units plus an increase in commercial floor space. This will place an added pressure on the existing Wastewater Treatment Plant

The design capacity and operational efficiency of the sewage infrastructure and the capacity of the municipal wastewater treatment facility at Ringsend on the Poolbeg peninsula is a primary determinant of the water quality in Dublin Bay. In this regard treated effluent from Ringsend wastewater treatment is discharged to the Liffey Estuary east of the Poolbeg generating station. The potential implications of an increased operational load arising from the key sites within Park West - Cherry Orchard, has therefore been assessed with reference to the potential adverse effects on the Natura 2000 sites at Dublin Bay.

The entire lands within the Park West - Cherry Orchard LAP ultimately discharge to the Regional Wastewater Treatment Plant at Ringsend; a Plant which is currently overloaded. The existing treatment works at this Plant have a capacity of 1.65 million population equivalent (PE) but it is currently receiving and treating a daily load of approximately 1.75 million PE. To increase the treatment works capacity to accommodate current loads and to allow for future growth of the Dublin region it is necessary to increase the capacity to at least 2.1 million PE. In addition to an increase in capacity, the treatment works must also be upgraded to treat effluent to a higher standard than the original design. On the 24th April 2019 An Bord Pleanála granted planning permission for a 10 year permission under section 37(E) of the Planning and Development Act (Strategic Infrastructure) for development at Ringsend Wastewater Treatment Plant and for a new Regional Biosoils Storage facility. This project on completion will represent a significant wastewater infrastructure development for the Greater Dublin Regional area, allowing it to cater for a growing population.

B: Surface Water Linkages

Whilst in general there is well developed infrastructure in the area, in order to service the identified development sites additional surface water infrastructure will be required in order to convey runoff from these sites to the existing surface water sewer network and connect to existing outfalls. A survey should be carried out to determine if the existing surface water infrastructure is adequate to serve the both the existing and future surface water volumes. Development within the LAP lands must take cognisance of the impact on downstream receiving watercourses, the Camac River and the River Liffey, which discharges into Dublin Bay. It may be necessary to carry out upgrades of the existing surface water drainage network, pending a more detailed assessment of the capacity and condition of the existing infrastructure.

River Camac Drainage Catchment

As noted previously, the majority of the LAP lands fall within the River Camac Drainage Catchment. Dublin City Councils Environmental Services section are currently examining the River Camac under the Water Framework Directive as part of implementing the Camac Greenway. There is an objective of DCC to improve its status from "Poor Status" up to "Good Status". DCC WFM Strategy provides the following guidelines for developments proposals within the Camac Catchment.

Sites directly on the Camac River or tributaries must demonstrate how they are alleviating the confirmed pressures on the Camac Catchment:

- i.** Hydromorphological interventions: 'daylighting' of culverts; renaturalising river banks, including providing space for river widening and channel re-profiling; re-establishing natural river floodplains; augmentation of riparian corridor; all and any natural water retention measure deemed necessary to manage flood risk within the catchment etc.
- ii.** Water quality: directing discharges to the river to a minimum of two stages of Sustainable Drainage Systems (SuDS) treatment prior to discharge to tackle diffuse urban pollution including road run-off)... in addition to existing surface water management policies
- iii.** Green infrastructure to slow flows and maximise presence of natural land cover
- vi.** Possible groundwater monitoring: water quality and seasonal variations, where appropriate

Sites in the Camac River Valley (within 200m of the Camac River or tributaries:

- vii.** Green infrastructure to address road run-off (and other diffuse urban run-off)
- viii.** Possible groundwater monitoring: water quality and seasonal variations, where appropriate
- ix.** Tagging proposed gullies with "Camac Valley"

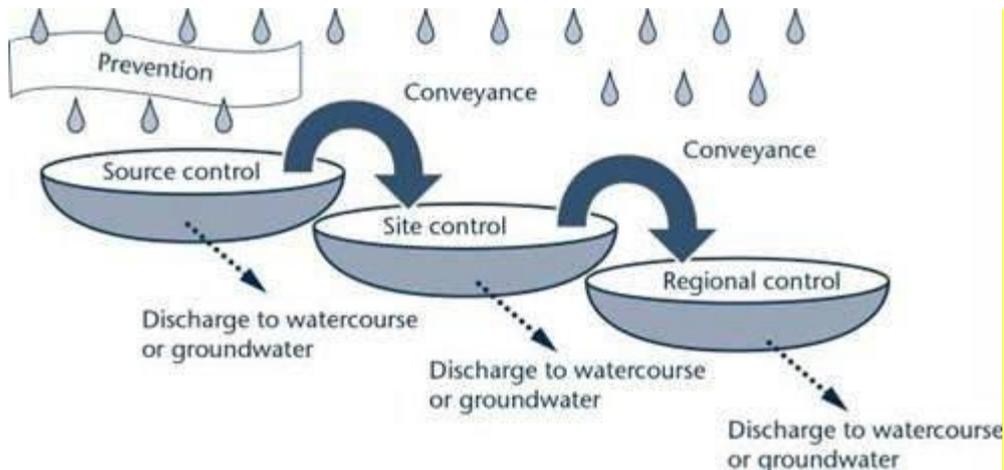
It is an objective of the LAP to support the implementation of the Water Framework Directive to improve the status of the Camac, through implementing best practice SuDS and potential works to streams as part of any future development within the LAP area and to support and facilitate the upgrade of existing surface water infrastructure where possible.

SuDS Infrastructure

The development of the LAP lands affords the opportunity to implement best practice SuDS features in order to reduce the volume and increase the quality of outflow from the public open spaces and roads. One of the guiding objectives of the proposed Park West - Cherry Orchard Local Area Plan is "to create a vibrant and sustainable new urban area". The implementation of SuDS principles within the LAP lands will support this vision, ensuring that surface water is managed in a positive and sustainable manner within the lands, reclaiming water as an asset for the area. SuDS approaches are holistic in their management of surface water, considering not only the volume of water to be accommodated, but also the quality of this water as well as the amenity and habitat functions that these features can often perform.

A core objective of the strategy is to manage surface water in a sustainable way, ensuring there is no unacceptable residual risk of flooding to the LAP lands as well as ensuring no increased flood risk up or downstream of the lands. A fundamental pillar of the strategy is the provision of adequate levels of treatment of the surface water as it is proposed to discharge to existing watercourses. Surface water discharges shall be limited to 2l/s/ ha for proposed development. With the above objectives in mind, it is recommended that a SuDS treatment train approach be implemented across the LAP lands.

Figure 13: SuDS Management Train



DCC requires this softer engineered approach to be used to manage surface water at source as it is a greener, more environmentally effective approach for managing stormwater on developed lands. Over ground soft engineering solutions are necessary and a minimum 2-staged treatment approach in accordance with best SuDS practice would be the preferred. Management of surface water at source is the priority and ideally, only overflow in extreme weather events shall be directed to main surface water infrastructure.

Sustainable Urban Drainage Systems (SUDS) measures shall, where feasible be incorporated into new developments in line with appropriate sustainable drainage practices, and including the following options:

- Infiltration systems including infiltration trenches, infiltration basins, permeable paving, soakways, green roofs and green gardens,
- Filtration systems, including swales, bio retention systems and filter strips,
- Retention systems including retention swales,
- Detention systems including underground tanks, underground attenuation, detention basins and filter drains
- In addition to the above, in extreme storm events, flood waters can be accommodated by designing landscaped areas to flood temporarily and thus control the rate of outflow from the site.

For smaller developments the following drainage requirements are sought:

- Permeable paving
- Rainwater harvesting
- Use of appropriately designed soakaways.

Potential SuDS Locations

Based on the SuDS strategy outlined above, the topography of the LAP lands, the flood risk identified within the LAP lands and the ground conditions encountered during the ground investigations which have been carried out within the LAP lands, the following areas have been identified as appropriate for SuDS features within public realm areas. The final location and design of these features will require further geotechnical assessment:

1. Public Road Cross-Sections

A number of existing roads within the LAP area, particularly the Park West Business Park and Industrial areas have cross sections which include trees and grassed verges and this provides the opportunity to implement SuDS features such as tree pits, street planters and swales as a source control measure whilst improving the landscape and amenity value of these areas.

The introduction of such features into the existing roads in the area which are wide such as Cherry Orchard Avenue shall also be explored as along with reducing the volume and increasing the quality of runoff they would greatly help improve the landscape and visual amenities of these areas.

2. Public Open Spaces

SuDS features should also be incorporated within public open spaces where appropriate to reduce the volume and increase the quality of runoff from these areas, as well as to improve their landscape and amenity value. A number of public open spaces exist within the LAP lands, in particular within the Cherry Orchard residential area. These public open spaces afford the opportunity to implement further SuDS features within the LAP lands.

Two significant public open spaces exist within the LAP lands, namely Cherry Orchard Park and Old Cherry Orchard Park. These areas afford the opportunity to implement larger SuDS features such as detention basins to collect runoff from public roads and public open spaces. Based on site specific investigation, infiltration trenches and basins could also be implemented in locations where the required infiltration rates can be achieved as well as swales to convey runoff through the open spaces.

There is an existing SuDS feature Within Cherry Orchard Park which currently provides compensatory flood volume storage relating to the Cedarbrook development. The draft LAP proposes to relocate this flood storage area to allow for the provision of community and sporting facilities within the Park, for example through the provision of a swale along the southern end of the park, or to an underground storage facility. The Making Cherry Orchard Better Action Area Plan has previously identified this site location for the provision of proposed community and social enterprise hub as part of creating a new town centre area. This matter shall be subject to detailed assessment as part of any future redesign of Cherry Orchard Park and/or as part of a more detailed review of surface water drainage network in the area.

Some additional potential interventions/objectives

As discussed above there are a number of tributary streams that run through the LAP area which feed into the Camac river. In most instances, these streams are culverted through the LAP area. The LAP seeks to support opportunities to allow for Surface Water Management Protection of existing watercourses and the reopening (re-lighting) of covered or culverted watercourses as part of all new development e.g. Gallanstown Stream, Blackditch stream and Galback streams. There are significant potential benefits when daylighting streams especially within green corridors, allowing for the creation of ecological synergies between the fresh water systems within the LAP lands.

New planted edges and/or buffer treatments will be provided between contrasting land uses at part of new developments, for example, at established industrial areas and surrounding residential areas at Broomhill and Greenhills. These areas will emphasise enhancement of local biodiversity and local surface water management. They may also provide a visual, screening function. Surface water management will form part of a range of open spaces and green corridors which will form the green infrastructure strategy in the LAP area.

The development of the LAP lands also affords the opportunity to build further resilience into the surface water drainage network through the provision of an additional surface water sewer crossing under the railway tracks, or as may be required to support future developments subject to detail design.

Flood Risk Management

The requirements of 'The Planning System and Flood Risk Management – Guidelines for Planning Authorities' (2009), need to be taken into account in order to ensure that flooding within the Plan Lands does not impact on human health, property, the ability to meet the requirements of the EU Water Framework Directive, or the need to protect biodiversity.

The majority of the Park West – Cherry Orchard LAP area is located within the Camac River Catchment, with only a small area which includes Cherry Orchard Hospital within the Lower Liffey Lyreen Ryewater Catchment.

This LAP is accompanied by a Strategic Flood Risk Assessment which has been informed by the Strategic Flood Risk Assessment (SFRA) undertaken as part of the Dublin City Development Plan 2016 – 2022.

Any development must take cognisance of the impact on downstream receiving watercourses, i.e. the Camac River and the River Liffey. Seven of the proposed development sites are situated within the catchment of the River Camac which has been prioritised within the Eastern CFRAMS study due to known flood risk issues.

The LAP lands are not identified as areas at risk of flooding; Dublin City Council will adopt a risk-based sequential and balanced approach, with development proposals required to carry out to an appropriate level of detail, a Site-Specific Flood Risk Assessment (SSFRA) that complies with the 'Planning System and Flood Risk Management – Guidelines' and pays attention to site specific risks to ensure that flood risk can be managed to an acceptable level without increasing flood risk upstream or downstream as a result of development.

Construction Related Activities

Construction activities in developing sites within the LAP have the potential to cause contamination of surface water arising from materials used on the site as construction compounds will be exposed to rainfall and subsequently will produce runoff. This runoff has the potential to be mildly contaminated by silt, hydrocarbons, faecal coliforms and cement arising from activities on site, giving potential for contaminated runoff entering adjacent watercourses which discharge to Dublin Bay.

It is considered that these potential constructions related impacts can be easily mitigated through the application of standard best practice and mitigation measures.

In conclusion the infrastructural measures for surface water management during the construction and operational phases shall be designed to ensure that indirect or secondary potential significant adverse effects on the Natura 2000 sites are avoided. New schemes will be required to ensure substantial water quality and quantity control, including SUDS features, are in line with best practice guidance to meet legislative standards prior to discharge. In addition, individual projects arising from the LAP will also be required to submit individual Appropriate Assessment Screening. Therefore no likely significant indirect or secondary effects are predicted on the Natura 2000 sites.

The Grand Canal

The Grand Canal lies directly to the south of the LAP lands. The Grand Canal begins at the River Liffey in Grand Canal Dock and continues west across the country to the River Shannon. From Grand Canal Dock it passes through Ringsend and then traverses the southside, delineating the northern extremities of Ballsbridge, Ranelagh, Rathmines, Harold's Cross and Crumlin. This section is the Circular Line and has seven locks. At Inchicore can be seen the path of the original

main line to the Grand Canal Harbour, the City Basin (reservoir) and Guinness brewery. Most of the route of this line now runs alongside the Red Luas Line.

The Canal then heads west through the suburbs of Dublin West into Kildare. Further west it passes Edenderry, Tullamore and Rahan before it reaches Shannon at Shannon Harbour in County Offaly. In total the main line of the canal is 131 kilometres (81 miles) with 43 locks, five of which are double locks.

Waterways Ireland has responsibility for most inland navigable waterways including the Grand Canal.

Draft Local Area Plan Objectives:

The LAP contains the follow objectives within Chapter 4 of the Draft Plan:

It is an objective of Dublin City Council to:-

INF1 Support opportunities to upgrade the existing surface water and foul drainage systems to relieve potential constraints in the existing drainage systems and to future proof the drainage infrastructure required to support the full development of the LAP lands.

INF2 Support opportunities to upgrade the existing potable water supply network to future proof water supply to support the full development of the LAP lands.

INF3 Support the Water Framework Directive for the rehabilitation of the Camac River through implementation of best practice SuDS infrastructure throughout the LAP lands in order to improve quality and control of outflow to the river Camac from the LAP land.

INF4 Support opportunities to upgrade the existing combined drainage systems to provide separate storm and foul drainage networks.

GI1 To encourage the development of opportunities for green infrastructure, both within the LAP area and connecting to the surrounding lands.

GI2 To enhance the planting and biodiversity value of existing local parks.

GI3 To seek the provision of “Green Corridors” as per the Green Infrastructure Strategy of the LAP, notably:

- (i) Green link from Le Fanu park to the Grand Canal
- (ii) Along the northern boundary of the Grand Canal
- (iii) Along the boundary of the M50.

GI4 To enhance the biodiversity value of the local area by protecting habitats, in particular historic hedgerows and along the Canal, and create opportunities for new habitats through appropriate landscaping schemes to integrate the natural environment into the existing and future urban environment.

GI5 To work in collaboration with all stakeholders including the National Park and Wildlife Service, Waterways Ireland and South Dublin County Council to protect and enhance the Grand Canal Green Corridor which is designated as a proposed Natural Heritage area.

GI6 To ensure that all new streets are appropriately landscaped and tree lined and where feasible seek the upgrading of existing streets to incorporate landscaping, appropriate tree planting and SuDS features.

Based on the above provisions of the Draft LAP, all new developments will be required to ensure substantial water quality and quantity control, including SUDS features, are in line with best practice guidance to meet legislative standards prior to discharge. In addition, individual projects arising from the LAP will also be required to submit individual Appropriate Assessment Screening. Therefore it is considered that there are NO likely significant indirect or secondary effects are predicted on the Natura 2000 sites.

6.3.3 Potential cumulative effects of the LAP and Proposed Developments on Natura 2000 sites

Article 6(3) of the Habitats Directive requires an assessment of a plan or project to consider other plans or programmes that might, in combination with the plan or project, have the potential to adversely impact upon European Sites.

This step aims to identify at this early stage any possible significant in-combination or cumulative effects/impacts of the proposed Draft LAP with other such Plans and projects on the four Natura 2000 sites. Other Plans and projects specific to the relevant Natura 2000 sites are the following:

- Dublin City Development Plan 2016-2022
- South Dublin County Council Development Plan 2016-2022
- South Dublin County Council, Proposed Variation No. 3.
- Fingal County Development Plan 2017-2023
- National Planning Framework 2018 (NPF)
- Regional Spatial and Economic Strategy 2019
- The Transport Strategy for the Greater Dublin Area, 2016-2035
- National River Basin District Management Plan, 2018
- Water Services Strategic Plan , 2015
- CFRAMS Study
- Greater Dublin Drainage
- Eastern RBD Management Plan;

Each of these plans were subject to full SEA and AA and concluded that subject to full adherence and implementation of measures likely significant effects were not identified. No other pathway has been identified by which any of the Plans and programmes identified could have a significant 'in combination' effect on any of the Natura 2000 sites identified. In fact, the in combination effect of the above Plans and programmes would have positive effects on water quality resulting in positive indirect impacts on the coastal SACs and SPAs.

Dublin City Development Plan 2016-2022

The preparation of a Local Area Plan for Park West – Cherry Orchard is an objective of the Dublin City Development Plan 2016-2022. The DCDP is a statutory plan for deciding upon applications for development within the LAP area. The City Development Plan contains a number of policies regarding the consolidation and intensification of Dublin City. However it is noted that policies in relation to promoting a more compact consolidated higher density residential population, which could potentially impact on the water quality as the city's wastewater treatment infrastructure at Ringsend is at capacity, were screened out as part of the Natura Impact Report for the Plan, as these potential significant adverse impacts can be mitigated against with the development plan's policies to upgrade existing and provide a new regional wastewater treatment facility which will be capable of supporting the additional population.

The AA for the Development Plan has addressed many of the potential issues arising from the draft Local Area Plan. The implementation of the LAP will refer to the protective policies in the Development Plan as a form of mitigation of potential effects on the European Sites. Therefore assuming that both the City and the LAP are implemented in accordance with the policies and objectives in both plans then significant adverse effects on European sites will be avoided.

6.3.4 Conclusion of Likely Significant Effects

The likely changes that could arise from the implementation of the Draft Park West – Cherry Orchard LAP have been examined in the context of a number of factors that could potentially affect the integrity of the identified Natura 2000 site. It has been determined that no Natura 2000 site will be potentially impacted as a result of the Draft LAP.

The Appropriate Assessment Screening Report has considered the following factors in respect of the likely significant effects on Natura 2000 sites at Dublin Bay that could result from the LAP.

- 1) The proposed Park West – Cherry Orchard LAP will have no direct effects on the Natura 2000 sites or cause disturbance to wild birds due to the distance of the proposed development from the Dublin Bay Natura 2000 sites.
- 2) The site infrastructural measures for surface water management during the construction and operational phases are designed to ensure that indirect or secondary potential significant adverse effects on the Natura 2000 sites are avoided. Policies and objectives are contained within the Draft LAP and within the City Development Plan to ensure that new developments incorporate substantial water quality and quantity control, including SUDS features, in line with best practice guidance to meet legislative standards prior to discharge. Therefore no likely significant indirect or secondary effects are predicted on the Natura 2000 sites.
- 3) The design of the municipal wastewater treatment facility at Ringsend has been identified as currently operating at or near capacity for the treatment of trade effluents from both industry and other non-domestic users. Potential cumulative impacts have been identified, due to current deficiencies in the municipal wastewater treatment plant at Ringsend. These issues are currently being addressed by Irish Water through a series of enhancement works which will meet future needs of its catchment population.

Dublin City Council as Planning Authority has the responsibility to ensure that the lands at Park West – Cherry Orchard will be developed in accordance with the provisions of the relevant current Dublin City Development Plan with specific reference to the provision of infrastructural facilities to service the subject lands.

6.4 Step IV: Screening Statement with Conclusions

Having assessed the proposed development in terms of direct, indirect and cumulative impacts, it can be objectively concluded that there are not likely to be significant effects on any Natura 2000 sites.

The AA screening process has identified that there is **no potential for significant impacts** on Natura 2000 sites in the zone of influence of the proposed development. Accordingly, it is not considered that a Stage 2 Appropriate Assessment is required for this draft Local Area Plan.

The LAP and any developments arising within will be consistent with the Dublin City Development Plan in operation, which is also subject to Strategic Environmental Assessment and Appropriate Assessment during its preparation and adoption.

7. Finding of No Significant Effects Report Matrix

Table 3: Finding of No Significant Effects Matrix

Name of Project or Plan	Draft Park West – Cherry Orchard Local Area Plan
Name and location of Natura 2000 sites	<p>Special Areas of Conservation (SAC):</p> <ol style="list-style-type: none"> 1. North Dublin Bay cSAC 2. South Dublin Bay cSAC 3. Glenasmole Valley cSAC 4. Wicklow Mountains cSAC 5. Rye Water Valley/ Carton cSAC <p>Special Protection Areas (SPA)</p> <ol style="list-style-type: none"> 1. North Bull Island SPA 2. South Dublin Bay and River Tolka Estuary SPA 3. Wicklow Mountains SPA
Description of the project or plan	<p>The Park West – Cherry Orchard Local Area Plan sits within a hierarchy of land use plans and is intended to provide a localised and focused planning framework for the sustainable regeneration and development of the Park West – Cherry Orchard area, within the context of the Dublin City Development Plan 2016-2022, the Regional Economic and Spatial Strategy and the National Planning Framework. All of these higher level plans support urban regeneration and the consolidation of Dublin City.</p> <p>Development Strategy</p> <p>Chapter 3 of the Draft Local Area Plan sets out the overall vision and key principles for the LAP.</p> <p>The vision for Park West – Cherry Orchard is: -</p> <p><i>Part West – Cherry Orchard will be an attractive and identifiable place with a vibrant and active community. A good mix of residential typologies will cater for people across all spectrums of their lifecycle, and residents will have the benefit from the provision of local shops, schools, parks and community and recreational facilities. New commercial and enterprise space will provide opportunities for local employment and both residents and workers will benefit from a high quality integrated public transport network system, and a permeable and safe pedestrian environment.</i></p> <p>To deliver the vision a number of key principles have been set out in the Plan, which are set out below:</p>

	<p><i>Vacant Sites</i></p> <p>KP1 Develop the remaining vacant sites in the area in a sustainable manner to create a vibrant sustainable new (neighbourhood) Urban Area.</p> <p><i>Housing & Tenure Diversity</i></p> <p>KP2 Deliver new residential units in a mix of unit types and tenures to cater for people across all spectrums of their lifecycle, with higher densities sought in proximity to the railway station.</p> <p><i>Place making</i></p> <p>KP3 Create a local neighbourhood focal point within Cherry Orchard neighbourhood enhancing existing services and amenities.</p> <p>KP4 Create a new commercial destination in the vicinity of the train station, with landmark buildings and civic spaces.</p> <p>KP5 Improve the appearance and image of the area and create a content, caring and vibrant sustainable community which integrates the new community with the existing established community.</p> <p><i>Economic Development & Employment</i></p> <p>KP6 Facilitate the provision of local retail provision as part of enhancing the neighbourhood centre within Cherry Orchard.</p> <p>KP7 Create a new mixed use environment incorporating a supermarket and other commercial/employment opportunities in the vicinity of the train station.</p> <p>KP8 Support opportunities and initiatives which promote education and aim to address unemployment supporting economic activity through the provision of existing and future services and businesses in the area.</p> <p>KP9 Support and facilitate the provision of additional school places to serve the existing and emerging communities.</p> <p>KP10 Support and facilitate the development of a community and social enterprise hub.</p> <p>KP11 Support the provision of mixed-employment uses in proximity to the M50 boundary.</p>
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Open Space and Recreational Facilities

KP12 Consolidate and improve the existing sports and recreation facilities and promote the provision of new recreational facilities.

KP13 Enhance existing open space areas and develop a connected network of green spaces and green infrastructure to maximise their potential use by the existing and future generations.

Transport and Movement

KP14 Enhance accessibility and connectivity both within the Park West - Cherry Orchard area and to the surrounding areas to service the remaining development sites.

KP15 Promote sustainable modes of transport by making them convenient and attractive (including walking and cycling) through the implementation of a well connected, permeable, coherent street network with high levels of accessibility to an integrated public transport network with improved infrastructure to maximise its potential use.

Infrastructure Delivery and Implementation

KP16 Ensure timely provision and investment in infrastructure including water and drainage provision, public transport, telecommunications network etc.to support new development opportunities

KP17 Underground overhead ESB pylons where-ever possible to enhance the urban form of this part of the city.

Green Infrastructure & Biodiversity

KP18 To protect and promote the natural and built heritage of the area and provide a network of well maintained parks and civic spaces connected by tree lined streets taking the opportunity to incorporate best practice SuDS infrastructure as appropriate.

KP19 Support the aims and objectives of the Water Framework Directive for the Camac River Catchment, particularly in relation to hydromorphology and improvements in water quality and the streams that drain the LAP lands.

	<p>Development Capacity</p> <p>Within the LAP area there is approximately 46 hectares of undeveloped land available for development – 31.7 ha in Cherry Orchard and 14.3 ha in Park West. These vacant lands are categorised into eight key development sites which between them have the capacity to deliver between 2,000-2,700 new residential units alongside new commercial and employment opportunities, in particular along the boundary with the M50 motorway and in the vicinity of the train station.</p> <p>Existing Environment</p> <p>Surface Water</p> <p>The majority of the LAP lands are located within the catchment of the River Camac, while a small area near the northern boundary of the LAP lands, and another small area near the eastern boundary north of the railway line are located within the Lower Liffey Lyreen Ryewater catchment . Both discharge into the River Liffey and then to Dublin Bay. In the Water Framework Directive status phase 2010-015 the Camac River is classified as ‘at risk’. The ecological, biological and invertebrate status or potential are all classified as ‘poor’.</p> <p>A number of tributaries of the Camac River traverse the LAP lands, notably the Gallanstown and Blackditch Stream stream, which together meet downstream of the LAP and form the Galback Stream before entering the Camac. These tributaries are largely culverted.</p> <p>A network of surface water sewers feeds into this piped network which is well developed in the built-out areas of the Park West and Cherry Orchard, however there is a lack of existing drainage infrastructure in the vicinity of some of the proposed development sites, in particular in the vicinity of the M50 at the western boundary of the LAP lands.</p> <p>Waste Water</p> <p>At a City level drainage services are close to capacity and Irish Water is progressing plans to upgrade and expand the Ringsend Wastewater Treatment Plant to meet future demand (i.e. increase capacity from 1.64 million PE to 2.1 million PE). On the 24th April 2019 An Bord Pleanála gave planning approval for a 10 year permission under section 37(E) of the Planning and Development Act (Strategic Infrastructure) for development at Ringsend Wastewater Treatment Plan and for a new Regional Biosoils Storage facility. This project on completion will represent a significant wastewater infrastructure development for the</p>
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	<p>Greater Dublin Regional area, allowing it to cater for a growing population.</p> <p>An analysis of the existing foul drainage infrastructure within the LAP lands identifies two wastewater drainage sub-catchments, namely the 9B trunk sewer to the South and West and the City Centre sub-catchment to the North and East both of which are within the Ringsend WWTW Catchment.</p> <p>The LAP area is constrained by a number of hard boundaries such as the M50, Canal and Railway Line which are physical barriers which constrain the delivery of new drainage infrastructure and new drainage outfalls. Irish Water have noted in their submissions to date that it is likely a new large capacity foul drainage outlet will be required to facilitate the development of the LAP lands. At present, the development of the LAP lands has the following known constraints: -</p> <ul style="list-style-type: none"> • The sewers in the area nearest the undeveloped land are generally small in size and may require upsizing • The catchment is constrained by the capacity of the deep twin 300mm sewer crossing beneath the railway line; this is a critical crossing point • Previous surveys have noted sewer surcharging in the Cherry Orchard Avenue area • New model for the area draining to the 9B will be required to assess its development impact <p>The existing foul & surface water drainage network is generally adequate to satisfy current demand and small infill growth. More detailed investigations would, however, have to be carried out on the capacity of the network for any proposal which would have a significant impact on the drainage network. Any network improvements required to address deficiencies identified by these investigations shall be addressed by Irish Water. It is an objective of the Council to facilitate Irish Water in ensuring that all wastewater generated is collected, treated and discharged after treatment in a safe and sustainable manner, having regard to the standards and requirements set out in EU and national legislation and guidance.</p> <p>Water Supply</p> <p>Drinking water for the Dublin Region is currently finely balanced and there is a recognised need to identify a new major water supply to meet project demand in the long-term. Irish Water is pursuing a project of bringing water from the Parteen Basin, downstream of Lough Derg, (on</p>
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	<p>the Shannon River), to Dublin. This scheme is known as the Water Supply Project for the Eastern and Midlands Region (WSP) and is required to provide the GDA's water supply after 2025. Irish Water is proposing to submit a planning application for the WSP to An Bord Pleanála in 2019, with construction and commissioning commencing 2022-2025. Until the WSP commences production (2025) the City is reliant on finite local sources of water.</p> <p>An analysis of the existing water supply infrastructure within the LAP lands identifies that the LAP lands are currently served by the Ballymore Eustace supply via the Saggart reservoir and the Belgard reservoir. There are two main trunks serving the LAP lands.</p> <p>Feedback from Irish Water indicates that some of the existing older watermains from the 1950s/ 1960s in the area may need upgrading.</p> <p>Flooding</p> <p>As part of the preparation of the Local Area Plan for Park West- Cherry Orchard, a Strategic Flood Risk Assessment has been prepared in tandem with the preparation of the Local Area Plan. The entire LAP lands are within Flood Zone C.</p>
Is the project or plan directly connected with or necessary to the management of the site (provide details)?	No
Are there other projects or plans that together with the project or plan being assessed could affect the site (provide details)?	No
The Assessment of Significance of Effects	
Describe how the project or Plan (alone or in combination) is likely to affect the Natura 2000 site.	The proposed development is not likely to affect Natura 2000 sites
Explain why these effects are not considered significant.	<p>It is Dublin City Council policy to protect, conserve and enhance the natural heritage and environment within and adjacent to Park West – Cherry Orchard.</p> <p>Dublin City Council is committed to protecting and enhancing the conservation status of these SACs and SPAs, and has specific policies relating to their protection and maintenance, as appropriate.</p> <p>In particular, it is an objective of the Council to ensure that all plans and projects in the City which could, either</p>

	<p>individually or in combination with other plans and projects have significant effects on a Natura 2000 site(s) will be subject to Appropriate Assessment Screening. Further, it is an objective of the Council to ensure the implementation of the European Communities Birds and Natural Habitats Regulations 2011 (S.I. No. 477 of 2011). No Natura 2000 site lies within the boundaries of the Draft LAP lands, therefore no direct impacts will occur through land take or fragmentation of habitats.</p> <p>Increased development and construction of residential and commercial units will lead to increased demand for potable water and increased pressure on existing and future waste water treatment systems.</p> <p>There are no particular constraints in terms of supplying water to future development within the Draft LAP lands. Any medium to large scale development in the area may be required to upgrade sections of the existing network to ensure adequate security of supply as deemed necessary by Irish Water, which will not result in any direct or indirect impacts on the Natura 2000 sites.</p> <p>Increased development will lead to more sewage, which will be treated at the Ringsend Waste Water Treatment Plant.</p> <p>It is an objective of the Council to facilitate Irish Water in ensuring that all wastewater generated is collected, treated and discharged after treatment in a safe and sustainable manner, having regard to the standards and requirements set out in EU and national legislation and guidance.</p> <p>Complying with the standards and requirements set out in EU and national legislation will ensure that sewage will be treated to an appropriate standard such that it will not impact on receiving waters, and therefore, will not result in any indirect impacts on the Natura 2000 sites.</p> <p>Dublin City Council is committed to protecting the watercourses within the boundaries of the Draft LAP. To this regard there are policies and objectives within the City Development Plan and the LAP which focus on maintaining and protecting the natural character and ecological value of these watercourses.</p> <p>Furthermore, it is an objective of the Council to facilitate compliance with the requirements of the EU Water Framework Directive and any relevant legislation. In this regard, the Council will facilitate compliance with the relevant objectives and measures for individual water bodies set out in the Eastern River Basin Management Plan and associated Programme of Measures, where relevant.</p> <p>These policies to protect the natural character and ecological value of these watercourses will also ensure</p>
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	that the receiving North Dublin Bay cSAC, South Dublin Bay cSAC, North Bull Island SPA and South Dublin Bay and River Tolka Estuary SPA are protected, and therefore, will not result in any indirect impacts on these Natura 2000 sites.
List of agencies consulted: provide contact name and telephone or email address.	N/A
Response to consultation.	N/A
Data Collected to Carry out Assessment	
Who carried out the assessment	Dublin City Council
Sources of data	NPWS database Internal departments Dublin City Council
Level of assessment completed	Desktop
Where can the full results of the assessment be accessed and viewed?	Dublin City Council Planning Department
Overall Conclusion	Stage 1 Screening indicates that the proposed Draft LAP will not have a significant negative impact on the Natura 2000 network. Therefore, a Stage 2 'Appropriate Assessment' under Article 6(3) of the Habitats Directive 92/43/EEC is not required.

Appendix 1: Description of Relevant Natura 2000 sites

This appendix provides further detailed information in relation to those Natura 2000 sites closest to the LAP:

- North Dublin Bay SAC
- South Dublin Bay SAC
- North Bull Island SPA
- South Dublin Bay and River Tolka Estuary SPA.

Description of the Natura 2000 Sites		
Name	Natura 2000 Designation	Basis
North Dublin Bay SAC	Special Area of Conservation (SAC 000206)	EU Habitats Directive (92/43/EEC)
Site Description	<p>North Dublin Bay</p> <p>This site covers the inner part of north Dublin Bay, the seaward boundary extending from the Bull Wall lighthouse across to the Martello Tower at Howth Head. The North Bull Island is the focal point of this site.</p> <p>The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):</p> <p>[1140] Tidal Mudflats and Sandflats [1210] Annual Vegetation of Drift Lines [1310] <i>Salicornia</i> Mud [1330] Atlantic Salt Meadows [1410] Mediterranean Salt Meadows [2110] Embryonic Shifting Dunes [2120] Marram Dunes (White Dunes) [2130] Fixed Dunes (Grey Dunes)* [2190] Humid Dune Slacks [1395] Petalwort (<i>Petalophyllum ralfsii</i>)</p> <p>North Bull Island is a sandy spit which formed after the building of the South Wall and Bull Wall in the 18th and 19th centuries. It now extends for about 5 km in length and is up to 1 km wide in places. A well-developed and dynamic dune system stretches along the seaward side of the island. Various types of dunes occur, from fixed dune grassland to pioneer communities on foredunes. Marram Grass (<i>Ammophila arenaria</i>) is dominant on the outer dune ridges, with Lyme-grass (<i>Leymus arenarius</i>) and Sand Couch (<i>Elymus farctus</i>) on the foredunes. Behind the first dune ridge, plant diversity increases with the appearance of such species as Wild Pansy (<i>Viola tricolor</i>), Kidney Vetch (<i>Anthyllis vulneraria</i>), Common Bird's-foot-trefoil (<i>Lotus corniculatus</i>), Common Restharrow (<i>Ononis repens</i>), Yellow-rattle (<i>Rhinanthus minor</i>) and Pyramidal Orchid (<i>Anacamptis pyramidalis</i>). In these grassy areas and slacks, the scarce Bee Orchid (<i>Ophrys apifera</i>) occurs.</p> <p>About 1 km from the tip of the island, a large dune slack with a rich flora occurs, usually referred to as the 'Alder Marsh' because of the presence of Alder trees (<i>Alnus glutinosa</i>). The water table is</p>	

very near the surface and is only slightly brackish. Saltmarsh Rush (*Juncus maritimus*) is the dominant species, with Meadowsweet (*Filipendula ulmaria*) and Devil's-bit Scabious (*Succisa pratensis*) being frequent. The orchid flora is notable and includes Marsh Helleborine (*Epipactis palustris*), Common Twayblade (*Listera ovata*), Autumn Lady's-tresses (*Spiranthes spiralis*) and Marsh Orchids (*Dactylorhiza* spp.).

Saltmarsh extends along the length of the landward side of the island. The edge of the marsh is marked by an eroding edge which varies from 20 cm to 60 cm high. The marsh can be zoned into different levels according to the vegetation types present. On the lower marsh, Glasswort (*Salicornia europaea*), Common Saltmarsh-grass (*Puccinellia maritima*), Annual Sea-blite (*Suaeda maritima*) and Greater Sea-spurrey (*Spergularia media*) are the main species. Higher up in the middle marsh Sea Plantain (*Plantago maritima*), Sea Aster (*Aster tripolium*), Sea Arrowgrass (*Triglochin maritima*) and Thrift (*Armeria maritima*) appear. Above the mark of the normal high tide, species such as Common Scurvygrass (*Cochlearia officinalis*) and Sea Milkwort (*Glaux maritima*) are found, while on the extreme upper marsh, the rushes *Juncus maritimus* and *J. gerardi* are dominant. Towards the tip of the island, the saltmarsh grades naturally into fixed dune vegetation.

The habitat 'annual vegetation of drift lines' is found in places, along the length of Dollymount Strand, with species such as Sea Rocket (*Cakile maritima*), Oraches (*Atriplex* spp.) and Prickly Saltwort (*Salsola kali*).

The island shelters two intertidal lagoons which are divided by a solid causeway. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. The north lagoon has an area known as the "Salicornia flat", which is dominated by *Salicornia dolichostachya*, a pioneer glasswort species, and covers about 25 ha. Beaked Tasselweed (*Ruppia maritima*) occurs in this area, along with some Narrow-leaved Eelgrass (*Zostera angustifolia*). Dwarf Eelgrass (*Z. noltii*) also occurs in Sutton Creek. Common Cordgrass (*Spartina anglica*) occurs in places but its growth is controlled by management. Green algal mats (*Enteromorpha* spp., *Ulva lactuca*) cover large areas of the flats during summer. These sediments have a rich macrofauna, with high densities of Lugworms (*Arenicola marina*) in parts of the north lagoon. Mussels (*Mytilus edulis*) occur in places, along with bivalves such as *Cerastoderma edule*, *Macoma balthica* and *Scrobicularia plana*. The small gastropod *Hydrobia ulvae* occurs in high densities in places, while the crustaceans *orophium volutator* and *Carcinus maenas* are common. The sediments on the seaward side of North Bull Island are mostly sands. The site extends below the low spring tide mark to include an area of the sublittoral zone.

Three rare plant species which are legally protected under the Flora (Protection) Order, 1999 have been recorded on the North Bull Island. These are Lesser Centaury (*Centaureum pulchellum*), Red Hemp-nettle (*Galeopsis angustifolia*) and Meadow Saxifrage (*Saxifraga granulata*). Two further species listed as threatened in the Red Data Book, Wild Clary/Sage (*Salvia verbenaca*) and Spring Vetch (*Vicia lathyroides*), have also been recorded. A rare liverwort, *Petalophyllum ralfsii*, was first recorded from the North

	<p>Bull Island in 1874 and has recently been confirmed as still present. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive. The North Bull is the only known extant site for the species in Ireland away from the western seaboard.</p> <p>North Dublin Bay is of international importance for waterfowl. During the 1994/95 to 1996/97 period the following species occurred in internationally important numbers (figures are average maxima): Brent Goose 2,333; Knot 4,423; Bar-tailed Godwit 1,586. A further 14 species occurred in nationally important concentrations - Shelduck 1505; Wigeon 1,166; Teal 1,512; Pintail 334; Shoveler 239; Oystercatcher 2,190; Ringed Plover 346; Grey Plover 816; Sanderling 357; Dunlin 6,238; Black-tailed Godwit 156; Curlew 1,193; Turnstone 197 and Redshank 1,175. Some of these species frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes (mostly Brent Goose, Oystercatcher, Ringed Plover, Sanderling and Dunlin).</p> <p>The tip of the North Bull Island is a traditional nesting site for Little Tern. A high total of 88 pairs nested in 1987. However, nesting attempts have not been successful since the early 1990s. Ringed Plover, Shelduck, Mallard, Skylark, Meadow Pipit and Stonechat also nest. A well-known population of Irish Hare is resident on the island.</p> <p>The invertebrates of the North Bull Island have been studied and the island has been shown to contain at least seven species of regional or national importance in Ireland (from the Orders Diptera, Hymenoptera and Hemiptera).</p> <p>The main land uses of this site are amenity activities and nature conservation. The North Bull Island is the main recreational beach in Co. Dublin and is used throughout the year. Much of the land surface of the island is taken up by two golf courses. Two separate Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrounding intertidal flats. The site is used regularly for educational purposes. North Bull Island has been designated a Special Protection Area under the E.U. Birds Directive and it is also a statutory Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve and a Special Area Amenity Order site.</p> <p>This site is an excellent example of a coastal site with all the main habitats represented. The site holds good examples of nine habitats that are listed on Annex I of the E.U. Habitats Directive; one of these is listed with priority status. Several of the wintering bird species have populations of international importance, while some of the invertebrates are of national importance. The site contains a numbers of rare and scarce plants including some which are legally protected. Its proximity to the capital city makes North Dublin Bay an excellent site for educational studies and research.</p>
<p>Qualifying Interests (Habitats)</p>	<p>Habitat types (as in Annex 1 of the Habitats Directive), [Codes]</p>
	<p>Mudflats and sandflats not covered by seawater at low tide [1140] Annual vegetation of drift lines [1210] Salicornia and other annuals colonising mud and sand [1310] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330]</p>

	<p>Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Humid dune slacks [2190] <i>Petalophyllum ralfsii</i> (Petalwort) [1395]</p>
Conservation Objectives	
<p>Conservation Objectives</p>	<p>To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in North Dublin Bay SAC To restore the favourable conservation condition of Annual vegetation of drift lines in North Dublin Bay To restore the favourable conservation condition of <i>Salicornia</i> and other annual colonizing mud and sand in North Dublin Bay SAC To maintain the favourable conservation condition of Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) in North Dublin Bay SAC To maintain the favourable conservation condition of Mediterranean salt meadows (<i>Juncetalia maritimi</i>) in North Dublin Bay SAC To restore the favourable conservation condition of Embryonic shifting dunes in North Dublin Bay SAC To restore the favourable conservation condition of Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) in North Dublin Bay SAC To restore the favourable conservation condition of Fixed coastal dunes with herbaceous vegetation (grey dunes) in North Dublin Bay SAC To restore the favourable conservation condition of Humid dune slacks in North Dublin Bay SAC To maintain the favourable conservation condition of Petalwort in North Dublin Bay SAC</p>

Source: NPWS website

Description of the Natura 2000 Sites		
Name	Natura 2000 Designation	Basis
South Dublin Bay SAC	Special Area of Conservation (SAC 000210)	EU Habitats Directive (92/43/EEC)
Site Description	<p>South Dublin Bay</p> <p>This site lies south of the River Liffey in Co. Dublin, and extends from the South Wall to the west pier at Dun Laoghaire. It is an intertidal site with extensive areas of sand and mudflats. The sediments are predominantly sands but grade to sandy muds near the shore at Merrion Gates. The main channel which drains the area is Cockle Lake.</p> <p>The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):</p> <p>[1140] Tidal Mudflats and Sandflats [1210] Annual vegetation of drift lines [1310] Salicornia and other annuals colonising mud and sand [2110] Embryonic shifting dunes</p> <p>The bed of Dward Eelgrass (<i>Zostera noltii</i>) found below Merrion Gates is the largest stand on the east coast. Green algae (<i>Enteromorpha</i> spp. and <i>Ulva lactuca</i>) are distributed throughout the area at a low density. Fucoid algae occur on the rocky shore in the Maretimo to Dún Laoghaire area. Species include <i>Fucus spiralis</i>, <i>F. vesiculosus</i>, <i>F. serratus</i>, <i>Ascophyllum nodosum</i> and <i>Pelvetia canaliculata</i>.</p> <p>Several small, sandy beaches with incipient dune formation occur in the northern and western sectors of the site, notably at Poolbeg, Irishtown and Merrion/Boosterstown. The formation at Boosterstown is very recent. Drift line vegetation occurs in association with the embryonic and incipient fore dunes. Typically drift lines occur in a band approximately 5 m wide, though at Boosterstown this zone is wider in places. The habitat occurs just above the High Water Mark and below the area of embryonic dune. Species present are Sea Rocket (<i>Cakile maritima</i>), Frosted Orache (<i>Atriplex laciniata</i>), Spear-leaved Orache (<i>A. prostrata</i>), Prickly Saltwort (<i>Salsola kali</i>) and Fat Hen (<i>Chenopodium album</i>). Also occurring is Sea Sandwort (<i>Honkenya peploides</i>), Sea Beet (<i>Beta vulgaris</i> subsp. <i>maritima</i>) and Annual Sea-blite (<i>Suaeda maritima</i>). A small area of pioneer saltmarsh now occurs in the lee of an embryonic sand dune just north of Boosterstown Station. This early stage of saltmarsh development is here characterised by the presence of pioneer stands of glassworts (<i>Salicornia</i> spp.) occurring below an area of drift line vegetation. As this is of very recent origin, it covers a small area but ample areas of substrate and shelter are available for the further development of this habitat.</p> <p>Lugworm (<i>Arenicola marina</i>), Cockles (<i>Cerastoderma edule</i>) and annelids and other bivalves are frequent throughout the site. The</p>	

	<p>small gastropod <i>Hydrobia ulvae</i> occurs on the muddy sands off Merrion Gates.</p> <p>South Dublin Bay is an important site for waterfowl. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. The principal species are Oystercatcher (1215), Ringed Plover (120), Sanderling (344), Dunlin (2628) and Redshank (356) (average winter peaks 1996/97 and 1997/98). Up to 100 Turnstones are usual in the south bay during winter. Brent Goose regularly occur in numbers of international importance (average peak 299). Bar-tailed Godwit (565), a species listed on Annex I of the E.U. Birds Directive, also occur.</p> <p>Large numbers of gulls roost in South Dublin Bay, e.g. 4,500 Black-headed Gulls in February 1990; 500 Common Gulls in February 1991. It is also an important tern roost in the autumn, regularly holding 2000-3000 terns including Roseate Terns, a species listed on Annex I of the E.U. Birds Directive. South Dublin Bay is largely protected as a Special Protection Area.</p> <p>At low tide the inner parts of the south bay are used for amenity purposes. Baitdigging is a regular activity on the sandy flats. At high tide some areas have windsurfing and jet-skiing.</p> <p>This site is a fine example of a coastal system, with extensive sand and mudflats, and incipient dune formations. South Dublin Bay is also an internationally important bird site.</p>
<p>Qualifying Interests (Habitats)</p>	<p>Habitat types (as in Annex 1 of the Habitats Directive), [Codes]</p>
	<p>1140] Tidal Mudflats and Sandflats [1210] Annual vegetation of drift lines [1310] Salicornia and other annuals colonising mud and sand [2110] Embryonic shifting dunes</p>
<p>Description of Conservation Objectives</p>	
<p>Conservation Objectives</p>	<p>To maintain the favourable conservation condition of Mudflats and sandflats not covered by seawater at low tide in South Dublin Bay SAC: Mudflats.</p>

Source: NPWS website.

Description of the Natura 2000 Sites		
Name	Natura 2000 Designation	Basis
North Bull Island SPA	Special Protection Area (SPA 004006)	EU Birds Directive (79/409/EEC)
Site Description	<p>North Bull Island SPA</p> <p>This site covers all of the inner part of north Dublin Bay, with the seaward boundary extending from the Bull Wall lighthouse across to Drumleck Point at Howth Head. The North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5 km long and 1 km wide and runs parallel to the coast between Clontarf and Sutton. Part of the interior of the island has been converted to golf courses.</p> <p>Saltmarsh extends along the length of the landward side of the island and provides the main roost site for wintering birds in Dublin Bay. The island shelters two intertidal lagoons which are divided by a solid causeway. These lagoons provide the main feeding grounds for the wintering waterfowl. The sediments of the lagoons are mainly sands with a small and varying mixture of silt and clay. Green algal mats (<i>Ulva</i> spp.) are a feature of the flats during summer. These sediments have a rich macro-invertebrate fauna, with high densities of Lugworm (<i>Arenicola marina</i>) and Ragworm (<i>Hediste diversicolor</i>).</p> <p>The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Light-bellied Brent Goose, Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone and Black-headed Gull. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.</p> <p>The North Bull Island SPA is of international importance for waterfowl on the basis that it regularly supports in excess of 20,000 waterfowl. The site supports internationally important populations of three species, Light-bellied Brent Goose (1,548), Black-tailed Godwit (367) and Bar-tailed Godwit (1,529) - all figures are mean peaks for the five winters between 1995/96 and 1999/2000. The site is one of the most important in the country for Light-bellied Brent Goose. A further 14 species have populations of national importance – Shelduck (1,259), Teal (953), Pintail (233), Shoveler (141), Oystercatcher (1,784), Grey Plover (517), Golden Plover (2,033), Knot (2,837), Sanderling (141), Dunlin (4,146), Curlew (937), Redshank (1,431), Turnstone (157) and Black-headed Gull (2,196). The populations of Pintail and Knot are of particular note as they comprise 14% and 10% respectively of the all-Ireland population totals. Other species that occur regularly in winter include Grey Heron, Little Egret, Cormorant, Wigeon, Goldeneye, Red-breasted</p>	

	<p>Merganser, Ringed Plover and Greenshank. Gulls are a feature of the site during winter and, along with the nationally important population of Black-headed Gull (2,196), other species that occur include Common Gull (332) and Herring Gull (331). While some of the birds also frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes, the majority remain within the site for much of the winter. The wintering bird populations have been monitored more or less continuously since the late 1960s and the site is now surveyed each winter as part of the larger Dublin Bay complex.</p> <p>The North Bull Island SPA is a regular site for passage waders, especially Ruff, Curlew Sandpiper and Spotted Redshank. These are mostly observed in single figures in autumn but occasionally in spring or winter.</p> <p>The site formerly had an important colony of Little Tern but breeding has not occurred in recent years. Several pairs of Ringed Plover breed, along with Shelduck in some years. Breeding passerines include Skylark, Meadow Pipit, Stonechat and Reed Bunting. The island is a regular wintering site for Short-eared Owl, with up to 5 present in some winters.</p> <p>The North Bull Island SPA is an excellent example of an estuarine complex and is one of the top sites in Ireland for wintering waterfowl. It is of international importance on account of both the total number of waterfowl and the individual populations of Light-bellied Brent Goose, Black-tailed Godwit and Bar-tailed Godwit that use it. Also of significance is the regular presence of several species that are listed on Annex I of the E.U. Birds Directive, notably Golden Plover and Bar-tailed Godwit, but also Ruff and Short-eared Owl. North Bull Island is a Ramsar Convention site, and part of the North Bull Island SPA is a Statutory Nature Reserve and a Wildfowl Sanctuary.</p>
<p>Qualifying Interests (Species)</p>	<p>Species with Code identified under the EU Birds Directive</p>
<p>Site is selected for:</p>	<p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Shelduck (<i>Tadorna tadorna</i>) [A048] Teal (<i>Anas crecca</i>) [A052] Pintail (<i>Anas acuta</i>) [A054] Shoveler (<i>Anas clypeata</i>) [A056] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Golden Plover (<i>Pluvialis apricaria</i>) [A140] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Dunlin (<i>Calidris alpina</i>) [A149] Black-tailed Godwit (<i>Limosa limosa</i>) [A156] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Curlew (<i>Numenius arquata</i>) [A160] Redshank (<i>Tringa totanus</i>) [A162] Turnstone (<i>Arenaria interpres</i>) [A169] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Wetland and Waterbirds [A999]</p>
<p>Conservation Objectives</p>	

<p>Conservation Objectives</p>	<p>To maintain the favourable conservation condition of Light-bellied Brent Goose, Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Turnstone, Black-headed Gull, in North Bull Island SPA</p> <p>To maintain the favourable conservation condition of wetland habitat in North Bull Island SPA</p>
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Source: NPWS website

Description of the Natura 2000 Sites		
Name	Natura 2000 Designation	Basis
South Dublin Bay and River Tolka Estuary SPA	Special Protection Area (IE0004024)	EU Birds Directive (79/409/EEC)
Site Description	<p>South Dublin Bay and River Tolka Estuary SPA</p> <p>This site comprises a substantial part of Dublin Bay. It includes virtually all of the intertidal area in the south bay, as well as much of the estuary of the River Tolka to the north of the River Liffey. A portion of the shallow marine waters of the bay is also included.</p> <p>In the south bay, the intertidal flats extend for almost 3 km at their widest. The sediments are predominantly well-aerated sands. Several permanent channels exist, the largest being Cockle Lake. A small sandy beach occurs at Merrion Gates, while some bedrock shore occurs near Dun Laoghaire. The landward boundary is now almost entirely artificially embanked. There is a bed of Dwarf Eelgrass (<i>Zostera noltii</i>) below Merrion Gates which is the largest stand on the east coast. Green algae (<i>Enteromorpha</i> spp. and <i>Ulva lactuca</i>) are distributed throughout the area at a low density. The macroinvertebrate fauna is well-developed, and is characterized by annelids such as Lugworm (<i>Arenicola marina</i>), Nephthys spp. and Sand Mason (<i>Lanice conchilega</i>), and bivalves, especially Cockle (<i>Cerastoderma edule</i>) and Baltic Tellin (<i>Macoma balthica</i>). The small gastropod Spire Shell (<i>Hydrobia ulvae</i>) occurs on the muddy sands off Merrion Gates, along with the crustacean <i>Corophium volutator</i>.</p> <p>The site is an important site for wintering waterfowl, being an integral part of the internationally important Dublin Bay complex. Although birds regularly commute between the south bay and the north bay, recent studies have shown that certain populations which occur in the south bay spend most of their time there. An internationally important population of Brent Goose occurs regularly and newly arrived birds in the autumn feed on the eelgrass bed at Merrion. The site supports nationally important numbers of a further six species: Oystercatcher, Ringed Plover, Knot, Sanderling, Dunlin and Bar-tailed Godwit. Other species which occur in smaller numbers include Great Crested Grebe, Grey Plover, Curlew, Redshank and Turnstone. South Dublin Bay is an important site for wintering gulls, especially Black-headed Gull, Common Gull and Herring Gull. It is also the premier site in Ireland for Mediterranean Gull, with up to 20 birds present at times. These occur through much of the year, but especially in late-winter/spring and again in late summer into winter.</p> <p>The south bay is an important tern roost in the autumn (mostly late July to September). The wintering birds within this site are now well-monitored.</p> <p>The main threat to this site is further reclamation for industrial and/or infra-structural purposes. The intertidal areas receive water that is somewhat polluted though there are no apparent impacts on the associated flora and fauna. Owing to its location</p>	

	<p>in Dublin Bay, pollution such as oil spillages from Dublin Port and shipping is a threat. Commercial bait digging may be a problem - this causes disturbance to wintering birds. Disturbance to birds is also caused by walkers and dogs.</p> <p>Sandymount Strand/Tolka Estuary SPA is of high ornithological importance, being of international importance for Brent Goose and of national importance for six waterfowl species. As an autumn tern roost, it is also classified as of international importance. All of the tern species using the site are listed on Annex I of the E.U. Birds Directive, as are Bartailed Godwit and Mediterranean Gull.</p>
Qualifying Interests (Species)	Species with Code identified under the EU Birds Directive
Site is selected for:	<p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Ringed Plover (<i>Charadrius hiaticula</i>) [A137] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Knot (<i>Calidris canutus</i>) [A143] Sanderling (<i>Calidris alba</i>) [A144] Dunlin (<i>Calidris alpina</i>) [A149] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Redshank (<i>Tringa totanus</i>) [A162] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] Roseate Tern (<i>Sterna dougallii</i>) [A192] Common Tern (<i>Sterna hirundo</i>) [A193] Arctic Tern (<i>Sterna paradisaea</i>) [A194] Wetland and Waterbirds [A999]</p>
Conservation Objectives	
Conservation Objectives	<p>To maintain the favourable conservation condition of the following species in South Dublin Bay and River Tolka Estuary SPA: Light-bellied Brent Goose, Knot, Sanderling, Bar-tailed Godwit, Redshank, Roseate Tern, Common Tern, Arctic Tern, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Dunlin, Blackheaded Gull.</p> <p>To maintain the favourable conservation condition of the wetland habitat in South Dublin and River Tolka Estuary SPA as a resource for the regularly occurring migratory waterbirds that utilise it.</p>

Source: NPWS website