NATURA IMPACT STATEMENT

In Accordance With the Requirements Of

ARTICLE 6(3)

Of The

EU HABITATS DIRECTIVE

For The

ASHTOWN/PELLETSTOWN

LOCAL AREA PLAN

FINAL VERSION (DECEMBER 2013)

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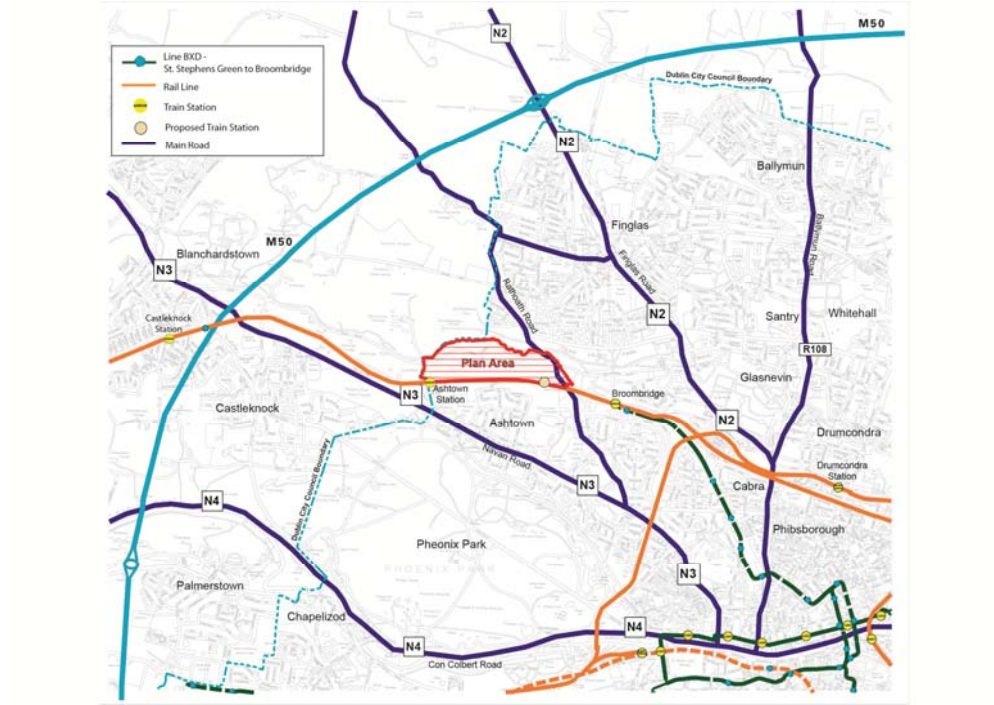
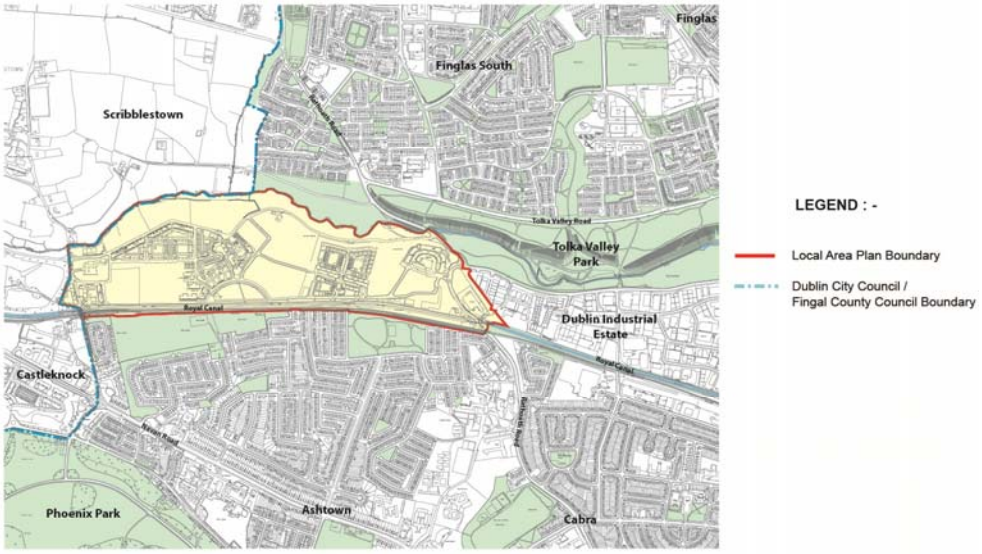


Map 2 - Ashtown/Pelletstown LAP Boundary & Local Context



1.0 Introduction

This Appropriate Assessment (AA) document is part of the Local Area Plan (LAP) making process and should be read in conjunction with the LAP and also the Strategic Environmental Assessment (SEA) for the Ashtown/Pelletstown area. The SEA and AA are complementary processes which overlap and afford opportunity for cooperation.

1.1 Requirement for Appropriate Assessment

Dublin City Council (DCC) has prepared a Local Area Plan (LAP), for Ashtown/Pelletstown (Map 1 & 2) 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. The purpose of this Report is to assess potential impacts of the LAP on Natura 2000 sites (Special Areas of Conservation and Special Protection Areas). This report refers only to potential impacts that may occur to any Natura 2000 site as a result of the implementation of the Local Area Plan itself and/or in combination with other plans and/or projects. 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. These sites are known as Special Protection Areas (SPA) and Special Areas of Conservation (SAC). Collectively these sites form part of the Natura 2000 Network. Any plan or project that is likely to impact on the integrity of a Natura 2000 site must undergo an Appropriate Assessment (AA) to determine impacts, and where necessary, devise appropriate measures to prevent or minimise any such impacts.

1.2 Objectives of the Habitats Directive

The requirements for an Appropriate Assessment are set out in the EU Habitats Directive, Articles 6(3) and 6(4) which state:

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"

Article 6(4) of the Habitats Directive states:

"If in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest".

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensation measures, as summarised below ;

(1) Firstly, a plan should aim to avoid any negative impacts on Natura 2000 sites by identifying possible impacts early in plan making, and writing the plan in order to avoid such impacts.

(2) Secondly, if adverse impacts cannot be avoided, mitigation measures may be applied during the AA process to the point where no significant adverse impacts on the site(s) remain.

(3) Thirdly, under a worst case scenario where even through the application of mitigation measures, significant adverse impacts on the integrity of the site cannot be ruled out, a project or plan may have to undergo an assessment of alternative solutions. Under this stage of the assessment, compensatory measures are required for any remaining adverse effects, but they are permitted only if a) there are no alternative solutions and b) the plan is required for ***imperative reasons of overriding public interest*** (the IROPI test). European case law highlights that consideration must be given to alternatives outside the plan boundary area in carrying out the IROPI test. It is a rigorous test which plans are generally considered unlikely to pass.

1.3 Stages of Appropriate Assessment

Stage One: Screening

The process which identifies the likely impacts upon a Natura 2000 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 Two: Appropriate Assessment

The consideration of the impact on the integrity of the Natura 2000 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.

Stage Three: Assessment of Alternative Solutions
The process which examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site.

Stage Four: Assessment of compensatory measures where adverse impacts remain
An assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed whether the project or plan should proceed.

1.4 Guidance Documentation

The following guidance was consulted in preparing this report:

- Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities Department of the Environment, Heritage and Local Government 2010.

- 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 Environment DG, 2000.

- Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/ EEC: European Commission, 2000.

- Greater Dublin Strategic Drainage Study - 2005 - River Tolka Flooding Study.

- Local Area Plans, Guidelines for Planning Authorities. Department of the Environment, Community and Local Government, 2013.

- Dublin City Development Plan 2011-2017

- Dublin City Biodiversity Plan 2008 - 2012

1.5 Integrating AA Into The Plan Making Process

Integration of Appropriate Assessment (AA) in the LAP making process safeguards against significant adverse effects upon Natura 2000 sites.

Ashtown/Pelletstown Local Area Plan & Appropriate Assessment Procedure

Local Area Plan (LAP) Process	**Appropriate Assessment (AA) Process**
LAP Issues Paper, Public display and consultation, (29th June – 10th August 2012)	Screening of general principles of development proposed
LAP Draft Formulated	Analysis of Policies & Objectives & preparation of Natura Impact Statement (NIS)
Public Display and consultation regarding Draft LAP (May 3rd – June 18th 2013)	Finalised NIS of draft LAP produced
Amendments to draft LAP made on foot of public, statutory and councillor submissions, observations and motions received following public display	Natura Inpact Report (NIR) of proposed amendments to draft LAP produced prior to 2nd September Dublin City Council meeting. This took the form of a combined NIR encompassing the screening of the Managers Report on Submissions and Managers Report on Councillors Motions.
Dublin City Council resolved to amend draft LAP as per Managers Report at City Council meeting held on the 2nd September 2013	NIR of proposed amendments to draft LAP produced following 2nd September Dublin City Council meeting with no changes made. (Managers Report was adopted without variation)
Public Display and consultation - proposed amendments to draft LAP and associated documents (September 23rd – October 21st 2013)	NIR of proposed alterations to the draft LAP produced of foot of submissions received
Adoption of LAP by Dublin City Council on 2nd December 2013	Final and updated NIS produced encompassing changes detailed in previous NIR's into final version.

1.6 Dublin City Development Plan Mitigation Measures

Dublin City Council recognises that the protection and future conservation of designated sites under EU legislation is an important issue for the Local Authority to address, both directly and indirectly. As a result, a comprehensive set of policies and objectives are contained within the Dublin City Development Plan 2011-2017 in relation to the protection and preservation of designated sites under the EU Habitats Directive and the EU Birds Directive. These policies are as follows:

Policy GC26
To protect flora, fauna and habitats, which have been identified by the Habitats Directive, Birds Directive, Wildlife Act 1976 (as amended), the Flora Protection Order (S.I. no. 84 of 1999), and the European Communities (Natural Habitats) Regulations 1997 (S.I. no. 94 of 1997)

Policy GC27
To conserve and manage all Natural Heritage Areas, Special Areas of Conservation and Special Protection Areas identified and designated, or proposed to be designated, by the Department of Environment, Heritage and Local Government. These designations will allow for protection in the event of any approved boundary changes by the Department of Environment, Heritage and Local Government. The following policies, which are set out in the Development Plan, are aimed specifically at protecting the natural environment within the Dublin City Council administrative area, inclusive of the LAP area.

Policy GC28
To seek the conservation and management of areas of natural environmental value.

Policy GC29
To conserve priority species, habitats, and natural heritage features identified in the Dublin City Biodiversity Action Plan 2008 - 2012 for priority conservation measures.

Policy GC30
To have regard to the conservation and enhancement of significant non-designated areas of ecological importance in accordance with development standards set out in this plan.

2.0 Stage 1 Screening

2.1 Desk Study and Site Visit

The Screening process included a desktop study as well as a site visit in Summer 2012 by members of the City Council's Planning Department. The purpose of this was to gain a better understanding of proposed policies and objectives within LAP lands and how these could be incorporated into the plan whilst simultaneously ensuring no adverse impacts to the surrounding Natura 2000 Sites. Potential policies and objectives within the plan and background data including existing Environmental Impact Statements and a range of ecological studies were used to inform the AA.

2.2 Location of Ashtown/Pelletstown Local Area Plan Area

The Ashtown/Pelletstown LAP area is located some 4km northwest of Dublin's City Centre (see Map 1), between the Tolka River to the north and the Royal Canal to the south and immediately east of the administrative area of Fingal County Council. It occupies a strategic location in regard to the city and provides good public transportation links to the wider metropolitan areas including Dublin City Centre, Dublin Airport and M50. The LAP area would be located approximately 10km upstream, due northwest from Dublin Bay.

2.3 Overview of Ashtown/Pelletstown LAP

The Ashtown/Pelletstown LAP area comprises approximately 62 Ha of land, of which 21.3 hectares having been developed, 17.05 hectares undeveloped and the remainder encompassing Tolka Valley Park and Crescent Park. The majority of development on site is residential with associated retail provision. The vast majority of the lands are zoned Z14 "to seek the social, economic and physical development and/or rejuvenation of an areas with mixed use, of which residential and "Z6" would be the predominant uses. Z6 zoning aims 'to provide for the creation and protection of enterprise and facilitate opportunities for employment creation' and it should be noted that the 'Ormond' industrial site on the eastern side of the plan area is zoned Z6 only. This LAP builds on the Action Area Plan for Pelletstown (2000) that was drafted by the then Dublin Corporation and provides for the proper planning and sustainable development of the Ashtown/Pelletstown area for a duration of six years from the date of adoption. The aforementioned Action Area Plan envisaged a population of approximately 10,000 residents through the provision of sustainable density residential development. Having regard to the extent of available development lands and the density range outlined in the LAP, an estimated population of between 2490 - 3410 is envisaged and when added to the existing population of 3,777 would yield a population range of 6,267 – 7,187, equating to 6,300 – 7,200 when rounded up. (Figures taken from LAP Housing section).

2.4 Key elements of the Ashtown/Pelletstown LAP

The LAP sets out a progressive plan for physical, environmental and social infrastructure development. The key elements being addressed by this LAP include:

- Development of 2 Local Centres, west and east, at Ashtown and Royal Canal nodes.
- A new rail station at the eastern end of the Royal Canal development
- Development of cross site linkages.
- Provision of a mix of residential units with an expected population of 6,300 – 7,200.
- Implementation of sustainable urban drainage solutions (SUDS).
- Incorporation of existing biodiversity and develop strategic planting.
- Protection and preservation any significant archaeological remains.
- Development of a 'Green Infrastructure' network.
- Facilitation of the provision of a school.
- Compliance with the Greater Dublin Regional Code of Practice for Drainage works and should comply with the Greater Dublin Strategic Drainage Study (GDSDS).
- New layout, planting and paths in Tolka Valley park

The Ashtown/Pelletstown LAP area 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 Ashtown/Pelletstown Area, an outer urban area of Dublin City, within the context of the Dublin City Development Plan 2011-2017, the Regional Planning Guidelines for the Greater Dublin Area 2004 – 2016 and the National Spatial Strategy 2002 – 2020. All of these policy documents support urban regeneration and the minimisation of suburban sprawl. Planning and development issues of a regional and strategic nature, including, for example, wider wastewater treatment capacity, are assessed at a higher level of the planning hierarchy.

The Ashtown/Pelletstown LAP is part of the overall core strategy as set out in the Dublin City Development Plan 2011 - 2017. As part of this core strategy, Dublin City Council will prepare area specific plans for the key developing area (KDAs) and Key District Centres (KDCs), using appropriate mechanisms of local area plans and schematic master plans. The local area plans will be prepared for areas subject to large scale developments over the foreseeable future. Table 3.4 and Table 3.5, of Section 3.2.7 of the Dublin City Development Plan 2011-2017 sets out a schedule of the local area plans/statutory plans to deliver the core strategy.

The Dublin City Development Plan 2011 – 2017 designates 9 key developing areas, one of which is Ashtown/Pelletstown. Table 3.3 of section 3.2.3 of the Development Plan gives estimated residential capacity of the key developing areas. In total over the 9 KDAs, an estimated 31,680 new housing units are proposed, and 1,629 Ha of zoned commercial/employment lands. The estimates under the core strategy for Ashtown/Pelletstown is 1800 housing units, set within the Z14 'Regeneration' zoning, although this number is anticipated to be circa 1300 new housing units, following a re-examination of probable demand and type of unit desired by prospective buyers. There are 2121 units existing already. Census 2011 estimated the average household size in 'Ashtown A' Electoral District to be 2.7 persons and any population estimate would be a

combination of this figure times the number of housing units proposed. This entails a regenerative designation encompassing residential and enterprise development, facilitating a core population with associative employment opportunities. It should be noted that a separate Appropriate Assessment and Strategic Environmental Report was undertaken for the Dublin City Development Plan 2011-2017. Each Local Area Plan will be carrying out their individual Appropriate Assessment and Strategic Environmental Assessment screening reports.

2.5 Screening Steps for Appropriate Assessment

All land use plans or strategies that are not directly related to the management of Natura 2000 designated sites, such as this LAP, must be examined to ensure that there will not be any significant adverse effects on such designated sites. These particular sites are regarded to be of European importance and are part of the European Commission's (EC) Natura 2000 network of sites in Ireland. The Irish Government and local planning authorities have a legal obligation to protect these sites.

The process of assessing the Plan is a structured exercise with a series of steps. The overall purpose of the process is to ensure that the Plan, when implemented, does not result in adverse effects on the "integrity" of Natura 2000 sites. The overall process is termed "Appropriate Assessment", using the terms set out in the EC Habitats Directive Article 6(3). There are two distinct stages of the Appropriate Assessment process:

Stage 1 – Screening

Stage 2 – Appropriate Assessment (which results in the publication of the Natura Impact Report)

These two stages are within the overall "Appropriate Assessment Process". The first step is to look at the Plan in principle and to answer the questions: *is it likely that the implementation of this Plan could result in likely significant effects on Natura sites*? It does not matter where these sites may be – impacts can occur across administrative boundaries. This step is known as Screening for Appropriate Assessment.

If the screening stage results in a judgement that likely significant effects may occur or cannot be ruled out, then a more detailed 'Appropriate Assessment' (AA) is required. Whilst the structure of this assessment process is not specified in the legislation, there are guidance documents that are used to provide an indication of how this assessment may be carried out. (See Section 3.0)

The Screening Stage determined that due to the types of development that could arise as a result of implementing the Local Area Plan, significant effects could not be ruled out and that the Plan would need further assessment, that is, Stage 2 – Appropriate Assessment. Prior to this stage a scoping exercise was conducted that further examined that area where impacts could arise from. In this instance screening identified hydrology as the issue which could impact Natura 2000 sites and scoping determined that water borne pollutants/contaminants were the potential specific threat.

Stage 2 involved analysing the relationship between the proposed policies and objectives in the Local Area Plan and the sensitivities of the Natura 2000 sites. Where there was potential for an impact to occur then changes were made to policies and objectives of the Plan to avoid or mitigate the potential impact. These recommendations were integrated into the Draft Plan so that the implementation of the Final Plan will not result in any significant adverse effects on Natura 2000 sites.

2.6 Zone of Influence of Ashtown/Pelletstown LAP

A typical LAP will encompass an extensive physical area with ongoing, phased development over a sustained period of time. Such a scenario can have unforeseen impacts in ecological terms, i.e. increased danger of flooding due to laying of hard surfaces or pollution of existing water courses. Therefore it is necessary to screen for potential ecological impacts on sensitive nature sites that fall within the Zone of Influence (ZoI) of the project or plan.

The ZoI is the 'effect area' over which changes could give rise to potentially significant impacts, as per National Roads Authorities Guidelines for Assessment of Ecological Impacts of National Roads Schemes (NRA, 2009). The ZoI over which significant impacts may occur will differ for sensitive ecological receptors depending on the pathway for any potential impacts, as well as the specific nature of different habitats/species (e.g. 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, though this distance can be extended, if there are potential impacts that can range outside a 15 km area.

Hydrological linkages (e.g. rivers, groundwater flows) between impact sources and aquatic habitats and species often result in impacts occurring at significant distance from the source of impact. 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.

In order to understand the ZoI for this LAP in the context of Appropriate Assessment, it is useful to explain the hydrological interconnectivity. The River Tolka runs along the northern boundary of the LAP lands and is a tributary of the River Liffey which in turn flows into Dublin Bay. There are a number of Natura 2000 sites within Dublin Bay that therefore are hydrologically connected to the LAP area. These Natura 2000 sites are located some distance downstream from the LAP area yet fall within its identified potential zone of influence. The Royal Canal runs along the southern boundary adjacent to the rail line and links the midlands with the city and links with Dublin Bay through the Liffey at Docklands. It is designated as a proposed Natural Heritage Area (pNHA).

2.7 Identification of Natura 2000 Sites in Surrounding Area

For the purposes of this AA the 15km ZoI distance was deemed to be sufficient to cover all likely significant effects which may arise from the implementation of the LAP on Natura 2000 sites, inclusive of any new designations as of March 2013.

The Natura 2000 sites within a 15km radius of the LAP area are;

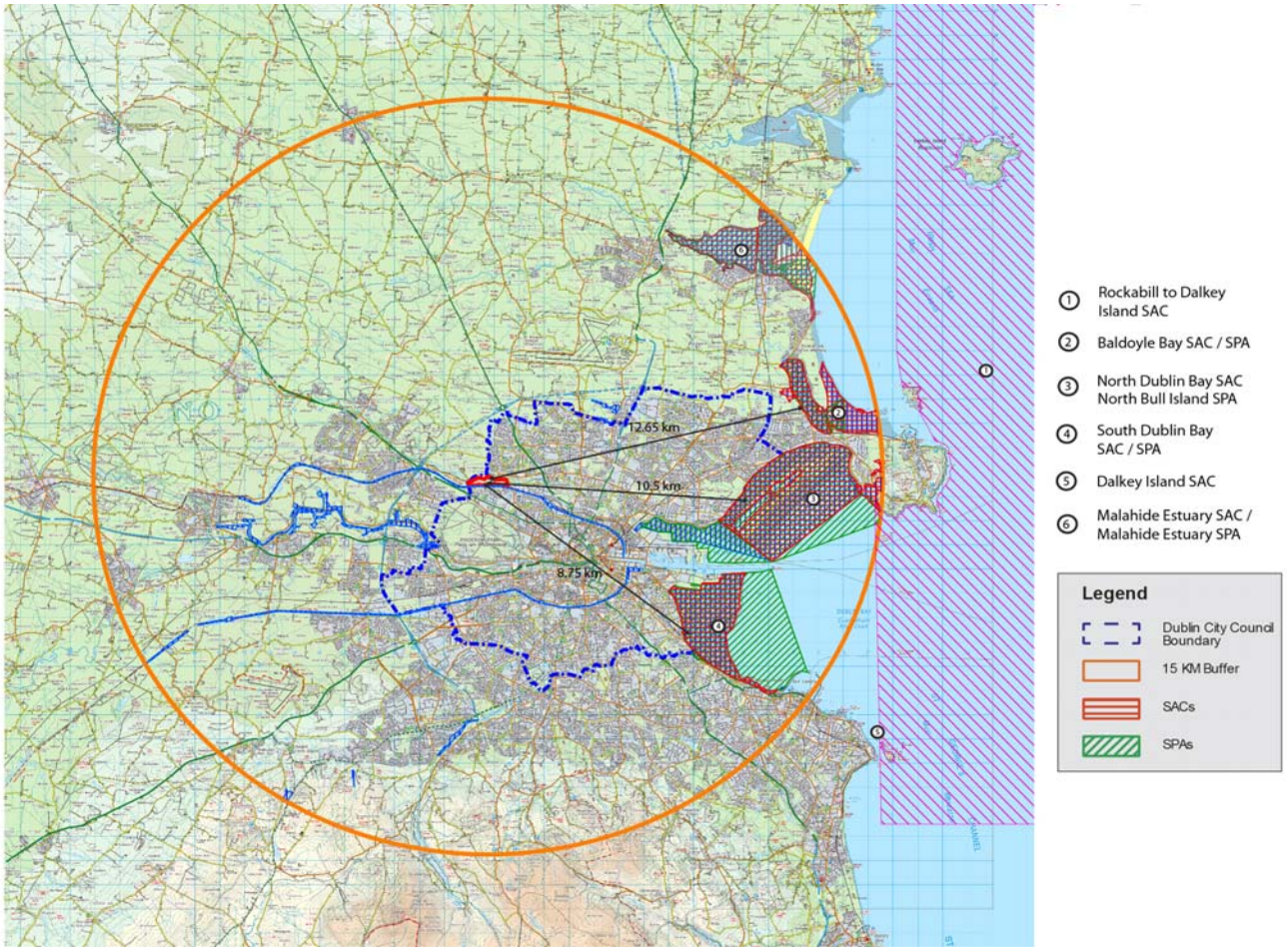
- North Bull Island SPA (IE004006)*
- South Dublin Bay & River Tolka Estuary SPA (IE004024)
- Baldoyle Bay SPA(IE004016)
- Dalkey Islands SPA (IE004172)
- Baldoyle Bay SAC (IE00199)
- North Dublin Bay SAC (IE00206)
- South Dublin Bay SAC (IE00210)
- Rockabill to Dalkey Island SAC (IE003000)
- Malahide Estuary SAC (IE000205)
- Malahide Estuary SPA (IE004025)

*****The number in brackets is the National Parks and Wildlife Service site code.(www.npws.ie, 2013)

In addition to the Natura 2000 Sites within the ZoI there are seven proposed Natural Heritage Areas (pNHAs) in and adjoining the LAP area. Although NHAs/pNHAs do not form part of the Natura 2000 network they have been included here for the potential support that they may provide to the Natura 2000 network.

- Royal Canal pNHA
- North Dublin Bay pNHA
- South Dublin Bay pNHA
- Dolphins pNHA, Dublin Docks (the term 'dolphins' refers to mooring devices located near Pigeon House Harbour and used by nesting terns)
- Baldoyle Bay pNHA
- Dalkey Coastal Zone and Killiney Hill pNHA
- Malahide Estuary pNHA

Map 3 – Location of Natura 2000 Sites



2.8 Linkages between LAP and Surrounding Natura 2000 Sites

There are many and varied potential threats to species and habitats contained within Natura 2000 sites, they may include but are not limited to;

- Activity, noise, light
- Increased traffic leading to increased air pollution
- Water quality and hydrological changes including increased use of water and increased run off of surface water
- Increased visits to the Natura 2000 sites, possibly with associated disturbance of fauna and impacts upon habitats
- Damage to undesignated land functionally linked to sites, e.g. roost sites and foraging areas used by SPA birds
- Wind energy development, e.g. collision mortality, disturbance and displacement.
- Disturbance to SPA species caused by the construction and operation of developments
- Land take for transport schemes and development

All Natura 2000 sites which fall within 15km of the LAP boundary are listed in Section 2.7 and are illustrated in Map 3. In order to identify those sites that could be potentially affected, it was necessary to describe the Natura 2000 site in the context of why it has been designated, otherwise know as its "Qualifying Interests" and the environmental and ecological conditions that maintain the condition of these features. The Qualifying Interests and threats to the sites were extracted from the NPWS website database (www.npws.ie, 2013) and are detailed in Table 1. Given that the LAP area has no direct links to the Natura 2000 sites and the nature of LAP area being non industrial and consisting of residential and commercial developments, the main indirect linkages are hydrological. These linkages/pathways are described below.

Tolka River

The Tolka River is the main hydrological link between the LAP area and the Natura 2000 sites located downstream, which are deemed to be within the Zol. The Tolka River rises east of Dunshaughlin, Co. Meath, and by-passes Dunboyne, from where it receives the Castle Stream tributary. From Clonee, where it is joined by the Clonee Stream, it flows into County Dublin. The river continues through Damastown and Mulhuddart, Blanchardstown, and Ashtown (south of Finglas), and then the north Dublin suburban districts of Glasnevin and Drumcondra where it comes closest to the Royal Canal near Binn's Bridge. At the southern side of Tolka Park it forms the border between Ballybough and Fairview, before entering Dublin Bay between East Wall and Clontarf.

The Tolka River floods infrequently. Notable floods occurred in October 1880, December 1954, November 1965, August 1986 (Hurricane Charlie), November 2000, November 2002, January and April 2005, August 2008 and October 2011; those of 1954 and 2002 were the most severe, (Water Pollution Control Unit, DCC). In November 2002, flooding caused extensive damage to residential areas along the Tolka banks. After this, much work was done to strengthen the river's flood defenses, and following heavy flooding in 2005, major works to deepen and widen the river were carried out on a number of stretches most notably at Glasnevin Woods and at Drumcondra Bridge.

In relation to water quality, the River Tolka near Ashtown/Pelletstown has poor status under Water Framework Directive, as measured against Water Framework Directive criteria, (Water Pollution Control Unit, DCC). This classification is based on poor status for fish and macroinvertebrates, and moderate status for general physicochemical parameters, (Water Pollution Control Unit, DCC). The principal pressures on the river at this location are upstream agricultural activities, discharges from combined sewer overflows on Blanchardstown and Abbotstown and urban runoff, (Water Pollution Control Unit, DCC). If the Ashtown/Pelletstown development is fully completed, there is risk that urban runoff from the site will significantly increase unless mitigation measures are provided.

Royal Canal

The Royal Canal is a Proposed Natural Heritage Area (pNHA) under the 1976 Wildlife Act and is one of the principal water bodies within the LAP boundary. The Royal Canal is defined by the National Parks and Wildlife Service (NPWS) to include the central channel and adjoining banks, hedgerows, tow path, grassland, open water, related scrub and woodland features. Water quality is not affected by the current development due to the implementation of the range of SuDS initiatives that have been implemented as part of recent development. The results from the EPA 1998-2000 surveys showed that the water quality in both canals was good with low levels of conductivity and nutrients. Water quality in the Royal Canal was generally good during 2009 (EPA, 2013). www.epa.ie

2.9 Category of Impacts

With regard to the LAP, the issues listed below include those with potential to impact upon Natura 2000 Sites as described in Section 2.7. Given the hydrological linkages, water related issues are to the fore, although potential impacts on habitats and species also exist due to a potential increase in visitor numbers to the coastal areas via pedestrian and cycle pathways being constructed. (Highlighted sites, in purple, are those liable to impacts)

Table 1 - Natura 2000 Sites and Potential Impacts from LAP

Site Code	Site Name	Qualifying Interests (www.npws.ie)	Likely Impacts
IE000199	**Baldoyle Bay SAC** **12km (North East)**	Habitats listed on Annex I: Mudflats and sandflats not covered by seawater at low tide, *Salicornia* and other annuals colonizing mud and sand, Spartina swards (*Spartinion maritimae*), Atlantic salt meadows(*Glaucopuccinellietalia maritimae*), Mediterranean salt meadows (*Juncetalia maritimi*)	Effluent from the proposed LAP area together with the Greater Dublin Area will be received by Ringsend Waste Water Treatment Plan and any excess outflow from the plant discharges into the Dublin Bay area. Dublin Bay is hydrologically connected to the Baldoyle Bay SAC. However the Baldoyle Bay SAC is 12km north east of the plan area and this separation distance prevents the Local Area Plan from having a significant adverse impact on the qualifying interest habitats. Recreational pressure may increase due to advances in transport modes and routes however it is expected that active management of the SAC by NPWS and Fingal County Council will prevent significant impacts.
IE 000206	**North Dublin Bay SAC** **10.5km (East)**	Habitats listed on Annex I: Mudflats and sandflats not covered by seawater at low tide, Annual vegetation of drift lines, *Salicornia* and other annuals colonizing mud and sand, Spartina swards, (*Spartinion maritimae*), Atlantic salt meadows(*Glauco-uccinellietalia maritimae*),Petalwort *Petalophyllumralfsii*), Mediterranean salt meadows (*Juncetalia maritimi*), Embryonic shifting dunes, Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes), Fixed coastal dunes with herbaceous vegetation (grey dunes),Humid dune slackslines, *Salicornia* mud, Atlantic salt meadows, Mediterranean salt meadows	Effluent from the proposed Local Area 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. Dublin Bay is hydrologically connected to the North Dublin Bay SAC. Recreational pressure may increase due to advances in transport modes and routes. This may result in indirect impacts including increased levels of erosion or disturbance of qualifying interest habitats.

Site Code	Site Name	Qualifying Interests (www.npws.ie)	Likely Impacts
		and Tidal mudflats. Fixed dunes are listed with priority status.	
IE000210	**South Dublin Bay SAC** **8.75km (South East)**	Habitats listed on Annex I: Tidal mudflats and sandflats.	Effluent from the proposed Local 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. South Dublin Bay SAC is contained within Dublin Bay Recreational pressure may increase due to advances in transport modes and routes. This may result in indirect impacts including increased levels of disturbance of qualifying interest habitats.
IE004006	**North Bull Island SPA** **10.5km (North East)**	Species: Light-bellied Brent Goose, Shelduck, Pintail, Shoveler, Oystercatcher, Grey Plover, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit Redshank, Turnstone Teal, Ringed Plover, Golden Plover, Sanderling, Curlew, Black headed Gull and wetland & waterbirds	Effluent from the proposed Local Area 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. North Bull Island SPA.is contained within the Dublin Bay area. Recreational pressure may increase due to advances in transport modes and routes. This may result in indirect impacts including increased disturbance levels from recreational activities including dog walkers.
IE004016	**Baldoyle Bay SPA** **9km (North East)**	Species: Light-bellied Brent Goose, Ringed Plover and Bartailed Godwit, Shelduck, Golden Plover, Grey Plover and Wetlands.	Effluent from the proposed Local Area 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. Dublin Bay is hydrologically connected to the Baldoyle Bay SPA. However the Baldoyle Bay SPA is 9km north east of the plan area and this separation distance prevents the Local Area Plan from having a significant adverse impact on the qualifying interests. Recreational pressure may increase due to advances in transport modes and routes. This may result in indirect impacts including increased disturbance levels from recreational activities including dog walkers. However due to the distance of 9km between the two sites and active management of the Baldoyle Bay SPA by NPWS and Fingal County Council, any potential indirect impacts from recreational activities are considered unlikely to result in adverse impacts.
IE004024	**South Dublin Bay And**	Species: Light-bellied Brent Goose, Oystercatcher, Ringed Plover, Grey Plover, Knot,	Effluent from the proposed Local Area Plan area together with the Greater Dublin Area will be received by Ringsend WWTP and any excess outflow from the plant discharges

Site Code	Site Name	Qualifying Interests (www.npws.ie)	Likely Impacts
	River Tolka Valley Estuary SPA 1.7km (East)	Dunlin, Sanderling, Bar-tailed Godwit, Redshank, Black headed Gull, Roseate Tern, Common Tern, Arctic Tern and Wetland & Waterbirds	into the Dublin Bay area. Dublin Bay is hydrologically connected to the South Dublin Bay and River Tolka Valley Estuary SPA. Recreational pressure may increase due to advances in transport modes and routes. This may result in indirect impacts including increased disturbance levels from recreational activities including dog walkers.
IE004025	**Malahide Estuary SPA** **13km (North East)**	Species: Light-bellied Brent Goose, Golden eye and Black-tailed Godwit. Additional Special Conservation Interests include: Great Crested Grebe, Shelduck, Pintail, Red Breasted Merganser, Oystercatcher, Golden Plover, Grey Plover, Knot, Dunlin, Bartailed Godwit, Redshank and Wetland & Waterbirds	Effluent from the proposed Local Area 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. Dublin Bay is hydrologically connected to the Malahide Estuary SPA. However the Malahide Estuary SPA is 13km north east of the plan area and this separation distance prevents the Local Area Plan from having a significant adverse impact on the qualifying interest habitats. Recreational pressure may increase due to advances in transport modes and routes however it is expected that active management of the SPA by NPWS and Fingal County Council will prevent significant impacts. In addition the separation distance of 13km between the two areas will reduced the magnitude of any potential negative impacts on the SPA.
IE004172	**Dalkey Islands SPA** **12km (South East)**	Species: Roseate Tern, Common Tern, Arctic Tern.	Effluent from the proposed Local Area 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. Dublin Bay is hydrologically connected to the Dalkey Islands SPA. Due to the distance between the two sites and location offshore, no adverse impacts from the LAP area are envisaged.
IE000205	**Malahide Estuary SAC 13km (North)**	Habitats listed on Annex I: Fixed Coastal Dunes with Herbaceous Vegetation (Grey Dunes), Mudflats & Sand flats not covered by seawater at low tide, Atlantic Salt Meadows, Spartina Swards, Mediterranean Salt Meadows, Salicornia & other annuals colonising mud and sand and Shifting Dunnes along	Effluent from the proposed Local Area 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. Dublin Bay is hydrologically connected to the Malahide Estuary SAC. However the Malahide Estuary SAC is 13km north of the plan area and this separation distance prevents the Local Area Plan from having a significant adverse impact on the

Site Code	Site Name	Qualifying Interests (www.npws.ie)	Likely Impacts
		the shore line with Ammophila arenaria (White Dunes).	qualifying interest habitats. Recreational pressure may increase due to advances in transport modes and routes however it is expected that active management of the SAC by NPWS and Fingal County Council will prevent significant impacts. In addition the separation distance of 13km between the two areas will reduced the magnitude of any potential negative impacts on the SAC.
IE003000	**Rockabill to Dalkey Islands SAC** **9km (East)**	Annex I: reefs and Annex II Harbour Porpoise.	Effluent from the proposed Local Area 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. Dublin Bay is hydrologically connected to the Rockabill to Dalkey Islands SAC

2.10 Other Developments nearby which could lead to cumulative impacts

Article 6(3) of the Habitats Directive requires that in combination or cumulative effects with other plans or projects are considered. The relevant plans and projects that have been reviewed with potential to result in in-combination effects with the Local Area Plan are as follows:

- Eastern River Basin District Management Plan 2010
- Dublin City Development Plan 2011-2017
- Fingal Development Plan 2011 – 2017
- Grangegorman Strategic Development Zone, 2012 (SDZ)
- S2S Dollymount promenade and flood protection project, 2012
- Dublin City Biodiversity Action Plan 2012-2016
- The Dublin Waste to Energy facility
- Rathoath Road re-alignment & Royal Canal Overbridge
- Rail Station at Royal Canal Development
- Luas Cross City
- Ringsend Waste Water Treatment Plant, extension works
- Royal Canal Greenway (Fingal County Council Area)

Table 2 - In-combination Effects - Major Relevant Plans and Projects in Vicinity of Ashtown/Pelletstown LAP

Plan or Project	Status	Overview	Possible significant impacts from plan or project	Possible significant impacts in-combination effects	Is there a risk of significant "in-combination" effects with the Local Area Plan
Eastern River Basin District(ERBD) Management Plan 2010	Published	The ERBD Management Plan describes the actions that are proposed to ensure the necessary protection of our waters over the coming years.	No Appropriate Assessment carried out	No Screening for potential impacts under Habitats Directive Article 6 process is put in place once details of the implementation of the Programme of Measures (POMs) under the ERBD are known	The actions and objectives in relation to the Water Framework Directive and the ERBD Management plan are to protect and restore Protected Areas.
Dublin City Development Plan 2011 -2017	Published	The Dublin City Development Plan sets out policies and objectives for Dublin City. This plan guides how and where development will take place in the city over the next 6 years.	No Appropriate Assessment carried out	No Potential impacts are to be avoided through mitigatory policies in the Plan	Major projects within the Dublin City Development plan will be subject to the relevant environmental assessments.
Fingal Development Plan 2011 -2017	Published	The Fingal Development Plan sets out policies and objectives for Fingal. This plan guides how and where development will take place in the city over the next 6 years.	No Appropriate Assessment carried out	No Potential impacts are to be avoided through mitigatory policies in the Plan	Major projects within the Fingal County Development plan will be subject to the relevant environmental assessments.
Grangegorman Strategic Development Zone (SDZ)	Published	Grangegorman SDZ sets out the policies and objectives for a 29Ha site	No Appropriate Assessment carried out	No Potential impacts are to be avoided through mitigatory policies in the Plan	Major wastewater and drainage infrastructure on site and capacity enhancement at Ringsend treatment plant will be required as the project is developed
S2S – Dollymount promenade and flood protection	Approved	The Dollymount Promenade and Flood Protection Project (DPFPP) is a dual purpose	No Appropriate Assessment	No Mitigation policies put in place to minimise impacts	The proposed project has identified a number of potential impacts to the North Bull Island SPA and the South Dublin Bay & River Tolka Estuary SPA. The Appropriate Assessment report has

project		scheme: 1. Provide promenade and cycleway connecting existing sections to complete 8km promenade and cycleway in North Dublin Bay and contribute to the overall aim of providing 22km in Dublin Bay. 2. Provide flood defence between the Wooden Bridge and Causeway Road for residences along Clontarf Road and James Larkin Road.	carried out		proposed a number of mitigation measure in relation to the proposed scheme and has concluded on the basis of these that there will be no impact on the integrity of the Natura 2000 sites.
Dublin City Biodiversity Action Plan 2011-2016	Published	The Biodiversity Action Plan is in place to aid with the objectives of the Dublin City Development Plan relating to quality of life, greenspace and amenity provision, planning development, and the protection of natural heritage in the city.	No	No	The purpose of this plan is to aid objectives of the Dublin City Development Plan relating to the protection of natural heritage in the city. The plan will not have any adverse impact on the Natura 2000 sites.
The Dublin Waste to Energy Facility project	Approved	The Environmental Protection Agency have issued a licence to DCC to operate a non hazardous waste to energy facility. The proposed Dublin Waste to Energy (DWtE) facility will be located on the Poolbeg Peninsula in Dublin.	No	No	There are no significant impacts envisaged on any of the Natura 2000 sites as a result of the DWtE facility. Any impacts on water quality have the potential to interfere with the key relationships and structure of the SPA as the majority of qualifying features are aquatic ecosystem based. However, during construction any discharge will be in accordance with DCC requirements and during operation the cooling water will be discharged into Dublin Bay in accordance with the EPA Waste Licence (0232-01) for the facility. There is the potential for disturbance to the Arctic and common

					terns nesting on the 'Dolphin' moorings during the breeding season (May to August) during the construction phase, however mitigation will be put in place to reduce this impact.
Rathoath Road re-alignment &Royal Canal Rail overbridge	Pending (awaiting receipt of planning application as of April 2013)	Provide greater connection via sustainable means from the area to the wider city and region	Relevant environmental assessment to be carried out	No Potential impacts are to be avoided through mitigatory policies in the Plan	The purpose of the project is to provide infrastructure that will aid objectives of the Dublin City Development Plan relating to the provision of sustainable modes of transport. The project will not have any adverse impact on the Natura 2000 sites.
Rail Station at Royal Canal development	Pending (awaiting receipt of planning application as of April 2013)	Provide greater connection via sustainable means from the area to the wider city and region	Relevant environmental assessment to be carried out	No Potential impacts are to be avoided through mitigatory policies in the Plan	The purpose of the project is to provide infrastructure that will aid objectives of the Dublin City Development Plan relating to the provision of sustainable modes of transport. The project will not have any adverse impact on the Natura 2000 sites.
Luas Cross City	Railway order issued by RPA in 2012. Works scheduled to commence later in 2013.	Provide greater connection via sustainable means from the area to the wider city and region	Relevant environmental assessment to be carried out	No Potential impacts are to be avoided through mitigatory policies in the Plan	The purpose of the project is to provide infrastructure that will aid objectives of the Dublin City Development Plan relating to the provision of sustainable modes of transport. The project will not have any adverse impact on the Natura 2000 sites.
Ringsend Waste Water Treatment Plant (WWTP) expansion works in line with implementation of the Greater Dublin Strategic Drainage Study (GDSDS)	Ongoing works to extend capacity to equivalent population of 2.1m by 2015	Ringsend WWTP expansion is part of the GDSDS project necessary to expand infrastructure in line with population growth	No AA & SEA conducted	No The only possibility of a negative impact would be where the works are not completed and there is overloading of capacity.	The Ringsend WWTP will ensure the population increase envisaged by the LAP will have no detrimental impact downstream on water quality.

Royal Canal Greenway Plan (Fingal County Council Area)	Planning application to be lodged in 2013	Outlines measures for the enhancement of the canal from Ashtown to Castleknock	No AA and SEA carried out	No Potential impacts are to be avoided through mitigatory actions	The primary objective of the plan is to provide a premium quality cyclist and pedestrian route.

2.11 Stage One Screening – Conclusion

There are a number of Natura 2000 Sites (5) within Dublin Bay that have potential to be indirectly, significantly impacted upon due to the proposed LAP, as set out in Section 2.9. These are: North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA, South Dublin Bay/River Tolka Estuary SPA and Rockabill to Dalkey SAC. Potential threats to these Natura 2000 Sites include increased population, which is likely to result in increased recreational activity, potential construction impacts and potentially increased amounts of effluent which will be discharged into Dublin Bay via Ringsend WWTP. These threats have potential to result in a deterioration of water quality and disturbance to the qualifying interests of Natura 2000 Sites. These threats, in-combination with other plans and/or projects have potential to result in adverse impacts on Natura 2000 Sites and their qualifying interests. Accordingly, a Stage 2 Appropriate Assessment is required.

3.0 Stage Two: Appropriate Assessment

3.1 Assessment Methodology

The overall aim of the Habitats and Birds Directives is to maintain or restore the favourable conservation status of habitats and/or species of community interest. Site specific conservation objectives aim to define favourable conservation condition for particular habitats or species for that site. Further details on these sites are contained in Appendix 3.

According to the European Commission interpretation document 'Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC', paragraph 4.6(3):
"The integrity of a site involves its ecological functions. The decision as to whether it is adversely affected should focus on and be limited to the site's conservation objectives."

Within this stage of the AA process often referred to as "Stage 2 of the Appropriate Assessment", the potential impacts of the proposed development on the integrity of the surrounding Natura 2000 Sites are examined with respect to the conservation objectives of each European Site and to its general structure and function.

3.2 Natura 2000 Sites

Each Natura 2000 Site "screened in" during the Screening Stage was analysed in Section 2.9 with specific threats to each site discussed, including specific elements of the LAP

deemed to pose likely significant effects to the relevant Natura 2000 sites. In total 5 sites were “screened in” for potential adverse impacts:

- North Bull Island SPA (IE004006)
- South Dublin Bay & River Tolka Estuary SPA (IE004024)
- North Dublin Bay SAC (IE00206)
- South Dublin Bay SAC (IE00210)
- Rockabill to Dalkey Islands SAC (IE003000)

3.3 Potential Impacts of the LAP on Natura 2000 Sites

3.3.1 Category of Impacts

1) Direct Impacts – refers to habitat loss or fragmentation arising from land-take requirements for development or agricultural purposes. Direct impacts can also be as a result of a change in land use or management *e.g.* removal of agricultural practices that prevent scrub encroachment.

2) Indirect and secondary impacts – which do not have a direct cause and effect relationship and are potentially more challenging to assess, ensuring that all the possible indirect impacts of the plan in combination with other plans and projects have been established. Deterioration in water quality for example can occur as an indirect consequence of development which in turn changes the aquatic environment and reduces its capacity to support certain plants and animals. The introduction of invasive species for example can also be defined as an indirect impact, which may result in the transfer of alien species from one area to another.

It is this category of indirect and secondary impact that will be most relevant to this particular assessment given that all the Natura 2000 areas are off-site and there could be ‘downstream’ effects related to construction impacts, transportation requirements or even omissions. Disturbance to fauna can arise directly through the loss of habitat (*e.g.* bat roosts) or indirectly through noise, vibration and increased activity associated with construction and operation of developments or other activities.

All Natura 2000 Sites and Qualifying Interests affected are listed below each relevant Indirect Impact.

3.3.2 Direct Impacts

<u>None</u>
As indicated in earlier sections, there are no Natura 2000 sites within the LAP area.

3.3.3 Indirect Impacts

<u>Population</u>

The LAP provides a framework for sustainable planning and development of the study area and this would lead to increased population. The LAP will promote a more compact, consolidated, higher density city area to accommodate additional residential population,

encourage economic growth and development in Dublin City. However, as further discussed below, the City is at capacity / very close to capacity with regard to its wastewater infrastructure. As noted effluent, from the proposed LAP area will be received and treated by Ringsend WWTP with discharged into Dublin Bay. This may result in decreased water quality within Dublin Bay and the Natura 2000 sites it hosts which could potentially be significant and adverse. Potential threats from depreciation in water quality will be mitigated against with the Dublin City Development Plan's policies to upgrade existing, and provide a new regional, wastewater treatment infrastructure which will be capable of supporting additional population and economic growth in the City. Furthermore, with increased population levels in the study area, potential for disturbance of species and/or erosion of habitat could result as more people seek to visit and / or take part in a wide range of land and water-based recreational activities on, or close to, the identified Natura 2000 Sites including North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA, South Dublin Bay & Tolka Valley Estuary SPA and Rockabill to Dalkey Island SAC.

Water Quality and Infrastructure Issues

Water Framework Directive (WFD) – Tolka River Overview

The Water Framework Directive (2000/60/EC) is a European Union (EU) directive which commits EU member states to achieve good qualitative and quantitative surface water status for their water bodies by 2015. To achieve 'Good Surface Water Status, both the ecological status and the chemical status of a surface water body must be at least good. The LAP area is located within the Tolka Water Management Unit (WMU) in the Eastern River Basin District. A WMU is a geographic area primarily defined by similar hydrology and topography. The River Status in the Tolka Lower when it enters Dublin City is classified as 'Poor' and not favourable for fish or macroinvertebrates as determined by the Environmental Protection Agency (EPA) using hydrology, water quality, ecology and morphology monitoring data.

The main problems identified in this WMU are high nutrients (phosphorous and ammonia) oxygen demand, low ecological rating, and a heavily modified channel. In the Tolka catchment the principle pressures in the upper catchments are from agriculture and wastewater and industrial discharge. In the lower catchment, i.e. when it enters Dublin City Council and Fingal, the principle pressures are combined sewer overflows (wastewater discharge) and foul sewers from houses and business misconnected to rivers. It may not be possible to achieve all core objectives by 2015, and in this water management unit, the main pressures preventing achievement of 'Good Status' by 2015 is diffuse agricultural and urban diffuse pollution and this could be exacerbated by any spillage from additional development in Ashtown/Pelletstown. For the Tolka catchment, the target is to achieve 'good status' by 2027. In relation to groundwater there is a continued need for improved protection of groundwater, especially in the context of achieving the WFD objectives of good status for all waters by 2015. Potential therefore exists for impacts upon Natura 2000 sites downstream of the River Tolka and River Liffey which discharge into Dublin Bay. A reduction in water quality has potential to impact upon the quality of the qualifying interest habitats contained within Dublin Bay and its Natura Sites, and their supporting fauna, upon which other qualifying interests such as wintering birds depend (qualifying interests of North Bull Island SPA and South Dublin Bay And River Tolka Valley Estuary SPA).

Ringsend Waste Water Treatment Plant

As previously highlighted above, Ringsend WWTP has limited resources for additional acceptance of effluent for treatment. In November 2012, Dublin City Council, received planning consent from An Bord Pleanala for the Ringsend Waste Water Treatment Works extension project (Anticipated completion date of 2015). The Plant will be extended to achieve the maximum capacity possible on the existing site. Its current capacity is 1.6 million population equivalent (P.E) and extension would aim to raise this by a further 500,000 to 2.1 million P.E. while still producing treated water of adequate standard. The Plant will use less energy, fewer chemicals, and produce less sludge to be treated and disposed. As a result, greenhouse gas emissions will be reduced. The outfall discharge will also be future-proofed in terms of sea level rise over the WWTP projected 100 year life.

There is a commitment under the Dublin City Development Plan 2011 – 2017 to which the LAP must be consistent to provide additional and improved wastewater treatment capacity by the upgrading of the Ringsend Waste Water Treatment Plant (Objective S145). The Ashtown/Pelletstown LAP includes a phasing programme which will ensure that development will only be carried out when the Water Services Authority is satisfied that capacity is available at the Ringsend Plant, and also due to the requirements of Trade Effluent Licences, in line with the upgraded operation of the wastewater treatment plant to ensure that the water quality of the Natura 2000 sites will not deteriorate as a result of LAP development. The implementation of the LAP, with its specific policies and objectives, for surface and foul waste water treatment, together with the proposed increased capacity of the Ringsend Treatment Plan by 2015 to cater for effluent discharge, is likely to improve the existing water quality entering Dublin Bay. Consequently the proposed upgrade and LAP policies will reduce potential threats to the Natura 2000 sites and their qualifying interests located within or off-shore of the Dublin Bay area.

Discharge and Overflow Arrangement

In relation to sewerage infrastructure there are a number of sewer overflows upstream of Ashtown/Pelletstown (one in Abbotstown and 3 near Mill Road, Blanchardstown) outside of the City Council's administrative area which activate during periods of heavy rainfall. Their activation would have a temporary negative impact on water quality in the River. There are three surface water discharges from the Ashtown/Pelletstown development. The first is located a short distance downstream of Ashtown Bridge. The second is located midway along the development, discharging from the development via two sewers under River Road into an open channel in the new Cardiffsbridge Park. The third discharges near Rathoath Road. There is a pumping station on the foul network in the site of the development that has an overflow to the River Tolka. Floodwaters from the Royal Canal will be intercepted by the surface water drainage network within the development with a direct discharge to the open channel in Cardiffsbridge Park. (i.e. Bypassing the pumping station attenuation tanks). Such discharges and overflows, alone and/or in combination with other water quality threats discussed in this section, have potential to reduce water quality and negatively impact upon the qualifying interests and their supporting environmental conditions downstream.

Invasive Species

Invasive species including Japanese Knotweed *Fallopia japonica*, Giant Hogweed *Heracleum mantegazzianum* and or Himalyan Balsam *Impatiens Gladulifera* have been recorded along the Tolka Valley and in areas of disturbed ground (DCC, 2010) Japanese Knotweed and Giant Hogweed Heracleum mantegazzianum are present along the Tolka River and in areas of disturbed ground (DCC, 2010).

Invasive species of plants should be controlled as recommended in the Management Guidelines Irish National Biodiversity Plan 2012 included in the LAP and supplemented with education programmes for the community. Exceptions may be made for certain non-native (but not invasive) species specifically known to be beneficial for wildlife such as high nectar plants and which are not listed on the Third Schedule of the Birds and Habitats Regulations 2011. Sites located downstream that have potential to be impacted upon include North Bull Island SPA, South Dublin Bay & River Tolka Estuary SPA, North Dublin Bay SAC and South Dublin Bay SAC.

Construction and Operational Impacts

During the construction phase of development there is potential for an increase in siltation and runoff which may contain polluting substances, which could enter the River Tolka and finally discharge into Dublin Bay. Best practice measures, appropriate mitigation measures and environmentally assured construction methods will ensure that there are no significant impacts on Natura 2000 Sites, this is particularly important as construction will likely be on a phased basis over an extended period of time. There is also the potential, for invasive species such as Japanese Knotweed to be spread downstream during onsite works, incidental infilling, gardening and other landscaping works.

Development works on undeveloped sites could impact on water quality during the construction and operational phases, which could have a potential adverse effect on the chemical water quality and biological water quality. Again uncontrolled or untreated surface water discharges and run-off including pollution incidents and non-attenuation of surface water drainage during construction could adversely impact on downstream Natura 2000 sites.

As previously described there is an ongoing upgrade of Ringsend Waste Water Treatment Plant to raise the operational capacity from 1.6m population equivalent to 2.1m population equivalent. The completion date for these upgrade works are 2015. The LAP area is also adjoining the Maynooth rail line, and occupies a strategic location on a gateway point into the city, providing good public transportation links to the wider metropolitan areas including Dublin City Centre and Dublin Airport. There will also be an expansion of Green Infrastructure routes through the area, including cycling routes. Both transport initiatives increase the number of patrons/visitors in the area. Disturbance impacts from increased visitors to the area combined with potential water quality issues have potential to result in adverse impacts on the integrity of Natura 2000 sites downstream including *North Dublin Bay SAC, South Dublin Bay SAC, North Bull Island SPA, South Dublin Bay & Tolka Valley Estuary SPA and Rockabill to Dalkey Islands SAC.*

Indirect Impact Summary

In summary the main potentially significant indirect impacts of the Ashtown/Pelletstown LAP on surrounding Natura 2000 Sites, include:

1) Possible impacts during the construction and operational phases of developments, which could have potential adverse effects on water quality (e.g. release of silt and/or pollutants).

2) Impact of Infrastructural Deficiencies e.g. incapacity of municipal wastewater infrastructure to cater for additional load.

3) Spread of invasive species during construction and operation phases.

4) Increase in population and infrastructural links may result in increased recreational pressures, including disturbance and on coastal and marine Natura 2000 Sites.

The Ashtown/Pelletstown LAP has taken these potential impacts into consideration during the development of the LAP and design of policies and objectives. To ensure the protection of Natura 2000 Sites and avoidance of significant impacts, mitigatory policies were devised and included within the LAP.

Cumulative Impacts

Having regard to Section 2.10, it is considered that, with mitigation in place, significant in-combination or cumulative effects on Natura 2000 sites are considered unlikely, in relation to the Local Area Plan.

3.4 Implementation of Mitigation Policies and Objectives

The screening process undertaken in Stage 1 includes the determination of whether or not each objective has a potential impact on the integrity of the Natura 2000 Sites, and the reasons for this determination. The majority of objectives were deemed not to have an impact or were themselves of a mitigatory nature. As noted, protective, mitigatory measures were devised and included within the LAP. Together with the mitigatory policies of the Dublin City Development Plan 2011-2017, (Section 1.6), these protective objectives in the Local Area Plan will be used to avoid or reduce the potential for significant impacts on the integrity of identified Natura 2000 sites.

The responsibility for implementing the LAP lies with the Planning Authority through the Planning consent process. Applicants who intend to develop within the LAP area are obliged to ensure that their application is consistent with the objectives of the LAP. If it cannot be shown conclusively that the criteria outlined in the mitigation objective can be met, planning permission will not be granted.

3.4.2 LAP Policy and Objective Mitigation Measures

Table 3, below includes the policies and objectives which were screened in for Appropriate Assessment following Stage 1 of the AA process. The table demonstrates the role in which specific mitigatory policies play in counteracting policies 'screened in', i.e. having potentially significant impacts on Natura 2000 Sites.

Table 3 – LAP Policy and Mitigation Matrix

Policy/Objective giving rise to potential impact on the integrity of the identified Natura 2000 sites within Dublin Bay	**Specific Mitigation (Policies) Including within LAP to address these potential impacts**
LUS1 To actively pursue completion of development on remaining lands, predominantly for residential uses and related services, with regard to planned infrastructural improvements and the need for improved connectivity and integration with both existing adjoining development and also the wider city.	See policies and objectives contained in the LAP IW1, IW2, IW3, IW4, IW5, IWO1, IWO2, IWO3,IWO4,IWO7, IWO5,IWO6, ES1, ES2,ES3,ES4,ES5,ES7,GI1,GI4, GI5, GI01, GI02, Dublin City Development Plan 2011-2017 Policies GC26, GC27, GC28, GC29, GC30, SI43, SI44, SI45, SI46, SI51, SI52 Dublin City Development Plan 2011-2017 Objectives SIO72, SIO73,SI074, SIO75, SIO76
MA1 To improve accessibility throughout the plan area, facilitate the completion of a hierarchical road infrastructure network, and encourage links to existing and proposed public transport nodes both within and beyond the LAP boundary.	See policies and objectives contained in the LAP IW1, IW2, IW3, IW4, IW5,IWO1,IWO2,IWO3,IWO4, IWO5,IWO6, IWO7, ES1,ES2,ES3,ES4,ES5,ES7,GI1, ,GI01, GI02, Dublin City Development Plan 2011-2017 Policies GC26, GC27, GC28, GC29, GC30, SI43, SI44, SI45, SI46, SI51, SI52 Dublin City Development Plan 2011-2017 Objectives SIO72, SIO73,SI074, SIO75,SIO76, UDO10
MA3 To promote increased cycling and pedestrian activity through the development of a network of routes that connect to public transport routes, centres of employment, amenities, and community and retail destinations	See policies and objectives contained in the LAP IW1, IW2, IW3, IW4, IW5,IWO1,IWO2,IWO3,IWO4, IWO5,IWO6,IWO7, ES1,ES2,ES3,ES4,ES5,ES7,GI1, ,GI01, GI02, Dublin City Development Plan 2011-2017 Policies GC26, GC27, GC28, GC29, GC30, SI43, SI44, SI45, SI46, SI51, SI52 Dublin City Development Plan 2011-2017

	Objectives SIO72, SIO73,SI074, SIO75,SIO76
MAO1 To implement an improvement scheme for River Road by 2017 in accordance with objective SI038 of the Dublin City Development Plan 2011-17 that provides for (i) safe movement of traffic, (ii) pedestrian routes along and across the road, and (iii) cycle connections. The eventual design will incorporate a two-way section on the western (Ashtown) side, and a one-way eastbound section on the remainder, connecting with Ratoath Road. This design shall be the subject of detailed study. Interim road safety measures will also be carried out.	See policies and objectives contained in the LAP IW1, IW2, IW3, IW4, IW5,IWO1,IWO2,IWO3,IWO4, IWO5,IWO6,ES1, ES2, ES3, ES4, ES5, ES7, GI1, GI01, GI02, Dublin City Development Plan 2011-2017 Policies GC26, GC27, GC28, GC29, GC30,SI43, SI44, SI45, SI46, SI51, SI52 Dublin City Development Plan 2011-2017 Objectives SIO72, SIO73,SI074, SIO75, SIO76, UDO10,
MAO4 To deliver an integrated road network of primary and secondary routes involving a series of transverse road routes running north/south across the plan area and connecting to existing and proposed east-west routes. This will provide a permeable street network, allowing for balanced dispersal of traffic and serving both existing and new developments.	See policies and objectives contained in the LAP IW1, IW2, IW3, IW4, IW5,IWO1,IWO2,IWO3,IWO4, IWO5,IWO6, ES1,ES2,ES3,ES4,ES5,ES7,GI1, ,GI01, GI02, Dublin City Development Plan 2011-2017 Policies GC26, GC27, GC28, GC29, GC30, SI43, SI44, SI45, SI46, SI51, SI52 Dublin City Development Plan 2011-2017 Objectives SIO72, SIO73,SI074, SIO75, SIO76, UDO10,
MAO6 In accordance with objective SI038 of the City Development Plan, to seek the delivery of the proposed re-alignment of the Ratoath Road including a new bridge across the railway and canal and a new junction with Ballyboggan Road (expected completion date end 2014)	See policies and objectives contained in the LAP IW1, IW2, IW3, IW4, IW5,IWO1,IWO2,IWO3,IWO4, IWO5,IWO6, ES1, ES2, ES3, ES4, ES5, ES7,GI1, ,GI01, GI02, Dublin City Development Plan 2011-2017 Policies GC26, GC27, GC28, GC29, GC30, SI43, SI44, SI45, SI46, SI51, SI52 Dublin City Development Plan 2011-2017 Objectives SIO72, SIO73,SI074, SIO75, SIO76, UDO10,
HO1 To encourage the sustainable development of approximately 920-1270 residential units on remaining developable lands in the LAP area	See policies and objectives contained in the LAP IW1, IW2, IW3, IW4, IW5,IWO1,IWO2,IWO3,IWO4, IWO5,IWO6, ES1,ES2,ES3,ES4,ES5,ES7,GI1, GI01, GI02,

	Dublin City Development Plan 2011-2017 Policies GC26, GC27, GC28, GC29, GC30, SI43, SI44, SI45, SI46, SI51, SI52 Dublin City Development Plan 2011-2017 Objectives SIO72, SIO73,SI074, SIO75, SIO76, UDO10,
IW1 To actively seek the funding and delivery of key infrastructure including water supply and waste water for the Dublin Region to enable development in the Ashtown – Pelletstown area.	See policies and objectives contained in the LAP IW1, IW2, IW3, IW4, IW5,IWO1,IWO2,IWO3,IWO4, IWO5,IWO6, ES1,ES2,ES3,ES4,ES5,ES7,GI1,GI01, GI02, Dublin City Development Plan 2011-2017 Policies GC26, GC27, GC28, GC29, GC30, SI43, SI44, SI45, SI46, SI51, SI52 Dublin City Development Plan 2011-2017 Objectives SIO72, SIO73,SI074, SIO75,SIO76
GI1 to encourage the development of opportunities for green infrastructure, both within the plan area and connecting to surrounding lands.	See policies and objectives contained in the LAP IW1, IW2, IW3, IW4, IW5,IWO1,IWO2,IWO3,IWO4, IWO5,IWO6, ES1,ES2,ES3,ES4,ES5,ES7,GI4,GI5, GI01, GI02, Dublin City Development Plan 2011-2017 Policies GC26, GC27, GC28, GC29, GC30, SI43, SI44, SI45, SI46, SI51, SI52 Dublin City Development Plan 2011-2017 Objectives SIO72, SIO73,SI074, SIO75, SIO76

3.5 Monitoring the Implementation of Policies and Objectives

Monitoring will be undertaken through the Development Plan and Development Management processes within the Planning Department and also through Drainage Section programme of the Eastern River Basin Management Plan programme. Any mitigation failure would be identified and addressed through Planning Enforcement as identified in the Planning and Development Act 2010.

3.6 Appropriate Assessment Conclusion

This AA process identified hydrological linkages between the LAP area and Natura 2000 Sites which in turn has informed the preparation of the LAP so that it can be implemented successfully without having adverse effects on the integrity of Natura 2000 sites. The process of appropriate assessment has continued throughout the review period of the draft plan. It has been necessary to screen and analyse amendments to policies and objectives as a result of the stages of plan preparation. Where necessary as a result of amendments to the draft plan as it has progressed, recommendations for changes to policies/objectives and/or inclusion of additional mitigation measures have been made to ensure a lack of adverse effects on the integrity of Natura 2000 sites.

This Natura Impact Report has determined that, assuming the successful implementation of the policies and objectives contained within the Local Area Plan, there will be no adverse effects on the integrity of Natura 2000 sites arising from the plan in isolation or in combination with other plans and projects in the same area. Therefore, Stage 3 (Assessment of Alternative Solutions) and stage 4 (where no alternatives exist, an assessment of compensatory issues) are not considered necessary.

Appendix 1

Reference List

In preparing this Appropriate Assessment Screening regard has been had to the following documents:

National Parks & Wildlife Service (2008) The Status of EU Protected Habitats and Species in Ireland

European Commission (2000) Managing Natura 2000 Sites. The provision of Article 6, of the Habitats Directive 92/43/EEC

European Commission (2001) Assessment of Plans and Projects significantly affecting Natura 2000 sites, Methodological guidance on the provision of Article 6(3) and (4) of the Habitats Directive 92/43/EEC

Department of the Environment Heritage and Local Government (DEHLG) Circular Letter SEA 1/08 & NPWS 1/08 , dated 15.2.2008

Department of the Environment Heritage and Local Government (DEHLG) Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities 2009, Updated and published in February 2010

Department of the Environment Heritage and Local Government (DEHLG) Circular Letter NPWS 1/10 and PSSP 2/10 dated 11th March 2010

Planning and Development (Amendment) Act , 2010

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Appendix 2

Assessment of LAP Policies/Objectives

Table 4 – Assessment of Ashtown/Pelletstown Local Area Plan Policies and Objectives

Note: The following contains a full set of final policies and objectives contained in the LAP.

Land Use Strategy - Policies	**Potential likely significant impact on the integrity of Natura 2000 Site**	**Reason for potential likely significant impact**
LUS1 To actively pursue the completion of development on remaining lands, predominantly for residential uses and related services, with regard to planned infrastructural improvements and the need for improved connectivity and integration with both existing adjoining development and also the wider city.	Yes	Potential for construction related impacts for any development/construction works due to potential for silt and/or pollutants to enter the surface water network during works. In the absence of knowing where the exact locations are for invasive species, all major development has the potential to spread invasive species by construction work, for any works in areas where invasive species are know to occur. Potential for additional loadings from foul effluent and/or surface waters during operation at Ringsend which is currently operating at capacity.
LUS2 In support of residential development, to seek appropriate mixed use development in selected areas, the protection and enhancement of green areas and amenities, and to allow for the sustainable development of community/ educational uses.	No	No potential negative impacts - Will ensure that development is compatible with residential living and this will reduce the likelihood of development that has potential for negative impacts on European sites.
Land Use Strategy - Objectives	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
LUSO1 To promote the development of an urban community plaza adjoining the entrance to the proposed new train station, and framed by mixed uses. A playground and community garden will be integrated with this plaza	No	No potential impacts

LUSO2 To promote the provision of a widened berthing area at the Royal Canal and adjacent to the community plaza. Associated with this will be related services focused around the immediate area, and supplementing mixed uses around the community plaza (see above)	No	No potential impacts
Economic Development Strategy - Policies	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
ED1 To encourage employment-generating sustainable developments at the eastern and western nodes as part of mixed-use developments, benefitting from planned improvements in infrastructure and public transport. In particular, small-scale offices, business services and local level retailing will be encouraged.	No	No potential impacts
ED2 To foster linkages with existing and emerging employment areas, including those at Finglas, Ashtown, and Broombridge/Dublin Industrial Estate, in order to maximise employment-generating potential.	No	No potential impacts
ED3 To promote the provision of employment-generating small-scale retailing and services in tandem with new residential developments in this Key Developing Area.	No	No potential impacts
ED4 To adopt a flexible approach towards appropriate temporary/short-term uses on vacant and/or underutilised lands and buildings as an interim solution, whilst ensuring that any such uses will not preclude the realisation of the longer term economic vision for the area.	No	No potential impacts– Will restrict what uses are allowed on a temporary basis and ensure that such uses are compatible with longer term objectives in line with the vision of the area
Economic Development Strategy - Objectives	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
EDO1 To promote the sustainable economic role of the area around the eastern node, encompassing Royal Canal Park and the areas around the proposed train station and Ratoath Road, as an area for new investment and employment as part of an integrated mixed use environment at this gateway location. Uses encouraged include a mix of smaller-scale office uses, small-scale enterprise, local-level retailing and local/community services.	No	No potential impacts
EDO2 To encourage the provision of sustainable employment-generating local services, local retailing, and small-scale enterprise adjoining main pedestrian thoroughfares and urban squares in conjunction with the urban design strategy	No	No potential impacts

EDO3 To encourage development of small-scale canal-side services which enhance public appreciation of the Royal Canal and its amenities. Any such proposals will necessarily consider impacts on existing and planned residential amenities.	No	No potential impacts as Royal Canal is not a Natura 2000 site
EDO4 To promote appropriate employment-generating uses for the vacant Ormond Printworks site, which occupies an important transitional area between established industrial lands and the emerging mixed-use environment at the eastern extremity of the LAP lands.	No	No potential impacts
Movement & Transport Strategy - Policy	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
MA1 To improve accessibility throughout the plan area, facilitate the completion of a hierarchical road infrastructure network, and encourage links to existing and proposed public transport nodes both within and beyond the LAP boundary.	Yes	Increased infrastructural linkages will increase access to the coast which may result in increased recreational pressures including disturbance and erosion of qualifying interests of Natura 2000 Sites.
MA2 In tandem with new public transport service delivery, to sustain and build upon the existing high percentage (40%) of residents using public transport and soft modes (10%).	No	No Potential Impacts
MA3 To promote increased cycling and pedestrian activity through the development of a network of routes that connect to public transport routes, centres of employment, amenities, and community and retail destinations.	Yes	Increased infrastructural linkages will increase access to the coast which may result in increased recreational pressures including disturbance and erosion of qualifying interests of Natura 2000 Sites.
Movement & Transport Strategy – Objectives	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
MAO1 To implement an improvement scheme for River Road by 2017 in accordance with objective SI038 of the Dublin City Development Plan 2011-17 that provides for (i) safe movement of traffic, (ii) pedestrian routes along and across the road, and (iii) cycle connections. The eventual design will incorporate a two-way section on the western (Ashtown) side, and a one-way	Yes	Increased infrastructural linkages will increase access to the coast which may result in increased recreational pressures including disturbance and erosion of qualifying interests of Natura

eastbound section on the remainder, connecting with Ratoath Road. This design shall be the subject of detailed study. Interim road safety measures will also be carried out.		2000 Sites.
MAO2 In association with MAO1, to deliver a series of visible and safe pedestrian/cycle crossing points across River Road to interconnect key routes with access gates to Tolka Valley Park.	No	No Potential Impacts
MAO3 To facilitate the delivery of a second train station close to Ratoath Road, incorporating a pedestrian and cycle bridge over the canal and rail line.	No	No Potential Impacts
MAO4 To deliver an integrated road network of primary and secondary routes involving a series of transverse road routes running north/south across the plan area and connecting to existing and proposed east-west routes. This will provide a permeable street network, allowing for balanced dispersal of traffic and serving both existing and new developments.	Yes	Increased infrastructural linkages will increase access to the coast which may result in increased recreational pressures including disturbance and erosion of qualifying interests of Natura 2000 Sites.
MAO5 To require the preparation of a phasing programme with all proposed large-scale developments, to include *(inter alia*) clear reference to the intended roll-out of transportation infrastructure on the site. This programme shall also refer to planned improvements in connectivity for pedestrians, cyclists and motorists in the area, taking account of existing infrastructure and current barriers to movement.	No	No Potential Impacts
MAO6 In accordance with objective SI038 of the City Development Plan, to seek the delivery of the proposed re-alignment of the Ratoath Road including a new bridge across the railway and canal and a new junction with Ballyboggan Road (expected completion date end 2014)	Yes	Increased infrastructural linkages will increase access to the coast which may result in increased recreational pressures including disturbance and erosion of qualifying interests of Natura 2000 Sites.
MAO7 To encourage and facilitate, in cooperation with Fingal County Council and Iarnrod Eireann, the replacement of the existing manually operated rail level crossing at Ashtown Road, with a suitably designed alternative. The eventual design shall have regard to both existing and proposed developments in the immediate vicinity of the plan area and provide for high quality pedestrian and cycle facilities linking with existing and proposed pedestrian and cycle networks both within and surrounding the LAP area.	No	No Potential Impacts
MAO8 To provide for adequate car parking provision for new developments within the LAP area that promotes sustainable modes of transport, discourages casual park and ride, whilst also catering for the needs of car	No	No Potential Impacts

storage and commercial and community activities, as per section 4.3.4 of this plan.		
MAO9 To promote appropriate temporary uses on existing surface car parking areas associated with former marketing suites in the LAP area, pending proposals for more permanent development.	No	No Potential Impacts
MAO10 To seek the provision of new cycle parking facilities in tandem with new development, including community, residential, commercial and public transport developments. As part of such provision, the Planning Authority will seek secure cycle parking provision at the specific locations illustrated in map 4.7 .	No	No Potential Impacts
MAO11 Within the plan period, to seek the achievement of a target of target 50% of journeys by public transport modes combined (based on means of travel to work/school/college)	No	No Potential Impacts
MAO12 All planned infrastructural improvements (including widening berthing areas at the Royal Canal bridge crossings etc) shall ensure that the requirements of the EIA, Habitats, Water Framework and Floods Directives respectively are taken into account where appropriate	No	No Potential negative Impacts – Reiterates the statutory safeguards applicable for such infrastructure development
MAO13 To maintain ongoing contact with Fingal County Council in relation to traffic issues and transport-related objectives or works that may impact on the delivery of the planned transportation network in the LAP area.	No	No Potential Impacts - Ensures that all such transboundary development in relation to traffic and transport is co-ordinated.
MAO14 To review existing signage both (a) on the adjacent main roads, and (b) within the LAP area,.. with the intention of providing new directional signage to encourage a sense of place for people to work and live in the area.	No	No Potential Impacts
Urban Form & Design Strategy – Policies	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
UD1. To ensure that all future development delivers a high quality, attractive and robust public realm, that will provide a pleasant setting for new residential communities, support biodiversity and ensure public safety.	No	No Potential Impacts
UD2 To require that new development delivers the structuring principles of the LAP, as outlined in Section 4.5.3, so that an integrated, permeable and pleasant	No	No Potential Impacts

environment is provided capitalising on the assets of the area and fully integrating with the existing build areas.		
UD3 To ensure that all new buildings are designed and finished to a high standard using finishes that are lasting, easily maintained and attractive, and that the designs chosen enhance the character of residential areas, fully address the street, and through finish and elevations integrate well with existing development, without seeking to imitate.	No	No Potential Impacts
UD4 All development will be required to comply with the height strategy for the LAP area outlined in Section 4.5.4 and Map 4.5.4, and for all areas excluding the three identified locations for some height, the Development Plan standards regarding height shall apply.	No	No Potential Impacts
Urban Form & Design Strategy – Objectives	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
UDO1 To require that new development facing the Crescent is designed and scaled appropriately to ensure that the Crescent is an area of character and distinctiveness, providing a strong elevation and passive supervision to the park, and to support the role of the Crescent Park as an area of relaxation, play and biodiversity enhancement.	No	No potential Impacts.
UDO2 To ensure the completion of the linear park on the Royal Canal towpath for the full extent of the LAP area, with a minimum width of 10 metres from the Canal edge to park railing and to seek an increase in future sections of park of access points to the towpath park to improve permeability and safety.	No	No Potential Impacts
UDO3 To seek the completion of a main boulevard through the LAP area, providing an attractive tree lined route through the lands with a strong emphasis on walking and cycling connections, creating links between the towpath park and the main vehicular access routes for the LAP area.	No	No Potential Impacts
UDO4 To require the creation of a new 'community' square comprising of both hard and soft landscaped areas adjoining the entrance point to the proposed new rail station. This space shall provide a small pocket park with a play area for children and, subject to the agreement of residents, a community garden or landscaped garden.	No	No Potential Impacts

UDO5 To seek the completion of the 'gateway' entrance to the LAP area from the Ratoath Road with the southern site developed appropriately, using both some height and a high quality frontage design to frame the entrance. In the short term, this space should be landscaped and maintained to a high standard to ensure an attractive setting for entering the LAP area.	No	No Potential Impacts
UDO6 To require the completion of two secondary north south routes for pedestrians and cyclists that have a strong green infrastructure character, linking the Canal to the Tolka Valley Park via existing and proposed public spaces. Design and planting of these links should promote and encourage biodiversity through careful selection of tree species and under storey both along roads and within the parks provided.	No	No Potential Impacts
UDO7 To support and promote the development of a pedestrian and cycling connection linking the Phoenix Park and Ashtown Station to Dunsink Observatory through the LAP area as a joint project between Dublin City Council, Fingal County Council, Waterways Ireland, the Office of Public Works & the Dublin Institute of Advanced Studies.	No	No Potential Impacts
UDO8 To provide for three locations where building above the prevailing height can be provided; at (i) the village centres at the eastern and western edge of the LAP; (ii) facing the canal towpath park; and (iii) the Crescent; thus providing variation and interest across the LAP area, give strong passive supervision of public spaces and provide civic identity to the village locations.	No	No Potential Impacts
UDO9 To prepare and implement a landscape and public realm plan for the Ratoath Road in consultation with Irish Rail where it crosses Reillys Bridge following the completion of the overpass, so that safe and pleasant pedestrian and cycle routes are accommodated, an appropriate setting for the protected structure is provided, and the design and planting provides an attractive and workable cul-de-sac.	No	No Potential Impacts
UDO10: To minimise the adverse impacts of noise and promote good health and a good quality of life through effective management of noise within the Ashtown-Pelletsown Local Area Plan.	No	No Potential Impacts
Housing Strategy – Policies	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**

H1 To seek a balanced range of residential typologies and unit sizes across the LAP area, and having regard to the existing typologies, to encourage larger unit sizes and particularly those that can accommodate larger households or families.	No	No Potential Impacts
H2 To ensure new residential development is effectively integrated into the existing environment in terms of design, layout and scale.	No	No Potential Impacts
H3 To seek new housing provision at sustainable densities to create and sustain critical mass necessary to support existing and future infrastructure investment and services in the plan area	No	No Potential Impacts
H4 To encourage the development of high quality, energy efficient, sustainable housing that meets development plan standards and complies with the Dublin City Housing Strategy as outlined in the development plan.	No	No Potential Impacts
Housing Strategy – Objectives	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
HO1 To encourage the sustainable development of approximately 920-1270 residential units on remaining developable lands in the LAP area	Yes	Potential for construction related impacts for any development/construction works due to potential for silt and/or pollutants to enter the surface water network during works. In the absence of knowing where the exact locations are for invasive species, all major development has the potential to spread invasive species by construction work, for any works in areas where invasive species are know to occur. Potential for additional loadings from foul effluent and/or surface waters during operation at Ringsend which is currently operating at capacity.
HO2 To ensure a minimum of 50% of larger sized units, i.e. of 3+ bedrooms, are provided within the LAP area on completion of all development. Whilst percentages may be permitted to vary above or below this figure on a given site, any significant housing proposal will be required to demonstrate how it can contribute towards achieving the eventual 50% minimum across the LAP area.	No	No Potential Impacts

HO3 To achieve an average net density figure of 64 units per hectare across remaining residential lands, and 84 uph across the entire LAP area (including existing). Calculations based on equivalent bedspaces per hectare will be considered on their merits.	No	No Potential Impacts
Cultural Heritage Strategy – Policy	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
CH1 To promote awareness, appreciation and protection of the cultural and built heritage of the Ashtown-Pelletstown plan area and environs in order to sustain its unique significance, fabric and character and to ensure its survival as a unique resource to be handed over to future generations	No	No Potential Impacts
Cultural Strategy – Objectives	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
CHO1 To protect and conserve the special character of all built heritage features both within the plan area as well as those within the surrounding areas	No	No Potential Impacts
CHO2 To promote awareness and appreciation of and access to the plan area's archaeological inheritance while also ensuring their protection and conservation	No	No Potential Impacts
CHO3 To protect and enhance the character and historic fabric of the Royal Canal and Tolka Valley conservation areas as contained within the Ashtown-Pelletstown plan area and the extension of same into the environs surrounding the plan area	No	No Potential Impacts
CHO4 To protect the buildings and features of industrial heritage of the Ashtown-Pelletstown Plan area in situ and their related artefacts and plant where appropriate.	No	No Potential Impacts
CHO5 That the Record of Protected Structures (RPS) be revised and updated in relation to the findings of the Dublin City Industrial Heritage Record (DCIHR) for the Ashtown-Pelletstown plan area and that the following industrial heritage sites that have been evaluated as of regional or higher merit be assessed for protection under the criteria set out in Part IV of the Planning and Development Act 2000: (i) Royal Canal (ii) Midland Great Western Railway	No	No Potential Impacts

(iii) 8th Lock (iv) 9th Lock (v) Royal Canal Towing Path		
Infrastructure & Water Management Strategy – Policies	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
IW1 To actively seek the funding and delivery of key infrastructure including water supply and waste water for the Dublin Region to enable development in the Ashtown – Pelletstown area.	Yes	Potential for construction related impacts for any development/construction works due to potential for silt and/or pollutants to enter the surface water network during works. In the absence of knowing where the exact locations are for invasive species, all major development has the potential to spread invasive species by construction work, for any works in areas where invasive species are know to occur. Potential for additional loadings from foul effluent and/or surface waters during operation at Ringsend which is currently operating at capacity.
IW2 To ensure that development is permitted in tandem with available water supply, waste water treatment and network capacity. To manage and phase development so that new schemes are permitted only where adequate capacity or resources exist or will become available within the life of a planning permission.	No	No Potential Impacts
IW3 To require that all large development proposals include water conservation and demand management measures.	No	No Potential Impacts
IW4 To protect existing infrastructure by ensuring through consultation with Dublin City Council, that buildings and structures are designed and constructed so that they do not compromise the structural integrity of trunk watermains drainage pipes, gas mains, overhead cables, and other services in the area.	No	No Potential Impacts
IW5 To seek to improve water quality and meet the objectives of the Eastern River Basin District Management Plan by ensuring the separation of foul and surface water effluent through the provision of separate sewage networks in any new permission, and by ensuring the implementation of a stormwater	No	No Potential Impacts

management system in the detailed design of the plan lands, following the principles of Sustainable Urban Drainage Systems (SuDS).		
IW6 To encourage provision of suitably high quality strategic telecommunications including fibre optic, broadband links and utilities (inc. gas and electricity) infrastructure within the area of the local area plan.	No	No Potential Impacts
Infrastructure & Water Management Strategy – objectives	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
IWO1 To promote the achievement of good ecological status, good ecological potential and good chemical status for the River Tolka by 2027, in accordance with the Water Framework Directive.	No	No Potential Impacts
IWO2 To implement the programme of measures (POM) for the River Tolka set out in the Eastern River Basin Management Plan 2009 – 2015.	No	No Potential Impacts
IWO3 To support the principles of good waste management, and to provide for local recycling facilities. Any large retail site must provide a glass recycling facility.	No	No Potential Impacts
IWO4 To require all proposed developments to carry out a site specific Flood Risk Assessment in accordance with the Departmental Guidelines on Flood Risk Management and Appendix A1 of this plan. The flood risk assessment shall accompany the planning application and should be sufficiently detailed to quantify the risks and the effects of any residual mitigation/adaptation together with the measures needed to manage residual risks.	No	No Potential Impacts
IWO5 All planning applications shall be required to submit a surface water drainage plan, following the principles of Sustainable Urban Drainage Systems (SuDS) which will include proposals for the management of surface water within sites, protecting the water quality of the River Tolka.	No	No Potential Impacts
IWO6 A construction management plan shall be submitted for all large developments setting out a planned programme for the management, recovery, disposal of construction and demolition waste material generated at the site during the excavation and construction phases of development, in accordance with the relevant national waste management legislation. Developers shall ensure that all waste is removed from the plan lands by approved waste disposal contractors to approved waste disposal facilities. In addition, it is an	No	No Potential Impacts

objective of this plan that developers shall take adequate measures to minimise the impacts of traffic, noise and dust during construction phases.		
IWO7 Any works for infrastructure development adjacent to the Royal Canal pNHA, in particular works in pursuit of the delivery of Objectives MAO3, MAO6 and LUS02, shall require effective mitigation measures, agreed with Waterways Ireland and agreed with the planning authority through the appropriate planning and environmental assessment process for each project, to minimise the potential for significant adverse short term and long term impacts on the canal, its water, habitats and amenity value.	No	No Potential Impacts
IWO 8 To ensure the protection of surface and ground water quality in the plan area and surrounding areas in the construction of enhanced infrastructural requirements, and the protection of protected habitats and species including designated national and international conservation sites in implementing the plan	No	No potential significant negative impacts – Strengthens the safeguards applicable for such infrastructural development
IWO9 The recommendations of the Eastern Catchment Flood Risk Assessment and Management Plan (CFRAM) study shall be incorporated into any future development of the area, upon its adoption	No	No potential significant negative impacts - Will reduce the likelihood of development in an inappropriate area that could have had potential for negative impacts on European sites
Community Infrastructure Strategy – Policies	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
CI1. To ensure the provision of community, cultural and educational infrastructure in the Ashtown-Pelletstown plan area in line with the indicative strategy set out in Table 4.21 above and relevant development and design standards of the Dublin City Development Plan 2011 – 2017.	No	No Potential Impacts
CI2. To facilitate the provision of educational facilities in the plan area by way of an integrated approach between the Department of Education and Skills, school authorities and Dublin City Council.	No	No Potential Impacts
CI3. To support and facilitate the use of vacant commercial units and sites for publicly accessible cultural workspaces, performance venues, arts galleries etc on a temporary basis.	No	No Potential Impacts

Community Infrastructure Strategy – Objectives	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
CIO1. To actively promote the development of a new primary school on the reserved school site, and seek to enter into partnership with the Department of Education and Skills to achieve the provision of a school hall as a community resource.	No	No Potential Impacts
CIO2. To provide one new larger size play facility adjacent to the canal at Royal Canal park as part of a new public open space ; and that smaller local play facilities are provided within developing areas.	No	No Potential Impacts
CIO3 To promote the area of the Royal Canal and Tolka Park as active community resources for leisure purposes, and to examine the possibility of (i) developing a sli na slainte circular route interconnecting both, and (ii) installing outdoor 'adult gym' facilities at appropriate locations as part of sport promotion.	No	No Potential Impacts
CIO4 The Council, in conjunction with the HSE will facilitate the development of a health care service within the LAP area.	No	No Potential Impacts
Environmental Sustainability & Design Strategy – Policies	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
ES1. To seek that new developments utilise state of the art energy efficiency techniques and best practice technologies to reduce resource consumption of the earth's resources and promote environmental sustainability.	No	No Potential Impacts
ES2. Through design, to enable opportunities within the form, use mix and orientation of the buildings to maximise solar gain and minimise heat loss.	No	No Potential Impacts
ES3. To promote the use of environmentally sustainable technologies and facilities within any development in the LAP area such as the inclusion of CHP (Combined heat and power) units on site, community recycling facilities, grey water collection facilities, green roofs and green walls.	No	No Potential Impacts
ES4. To seek opportunities within larger block developments to create efficiency in energy consumption both in buildings, blocks and in	No	No Potential Impacts

use of public transport, with future-proofing of systems to facilitate district wide schemes in the future.		
ES5. For larger schemes and larger/tall buildings, building design will give careful consideration to the design and arrangement of buildings on a site in relation to the development of a microclimate. New developments should be future-proofed to aid in the conservation of energy and maximize solar gain and renewable technologies.	No	No Potential Impacts
ES6. All buildings including housing units should incorporate flexibility in form and internal design in terms of size and tenure. Building design and technology used should allow for adaptation and for change of use in the long term. A building should not become obsolete on cessation of an activity, but should be capable of facilitating new activities without onerous renovation, in order to conserve "embedded energy".	No	No Potential Impacts
ES7. To promote the use of environmentally sustainable materials in the construction of any development in the LAP area.	No	No Potential Impacts
Environmental Sustainability & Design Strategy – Objectives	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
ESO1 To implement a 'green points system' for all new developments in order to meet environmental objectives and to ensure an attractive and biodiverse living and working environment.	No	No Potential Impacts
ESO2 With the support of residents, to promote the development of a community garden in association with the development of a community plaza adjoining the entrance to the proposed train station.	No	No Potential Impacts
ESO3 To seek that communal areas of buildings, including stairwells, corridors and foyers, are effectively designed to use low levels of energy in the form of lighting and heating, and minimising heat energy loss.	No	No Potential Impacts

Environmental Sustainability & Design Strategy – Policies	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**
GI 1 to encourage the development of opportunities for green infrastructure, both within the plan area and connecting to surrounding lands.	Yes	Increased infrastructural linkages will increase access to the coast which may result in increased recreational pressures including disturbance and erosion of qualifying interests of Natura 2000 Sites.
GI 2 to implement a green infrastructure strategy in accordance with objectives herein and Map	No	No Potential Impacts
GI 3 Applications for significant site development to demonstrate how the proposed development will contribute to the green infrastructure and biodiversity'	No	No Potential Impacts
GI 4: Any plan or project with the potential to give rise to significant direct, indirect or secondary impacts on a Natura 2000 site(s) shall be subject to an appropriate assessment in accordance with Article (3) of the Habitats Directive.	No	No Potential Impacts
GI 5: To enhance the bio diversity value of the local area by protecting habitats, in particular along water bodies, and creating opportunities for new habitats through appropriate native species landscaping schemes to integrate the natural environment with high quality urban development and to control / remove invasive species.	No	No Potential Impacts
Environmental Sustainability & Design Strategy – Objectives	**Potential impact on the integrity of the identified Natura 2000 Site**	**Reason for Screening In/Out**

GIO1: To complete the linear park along the Royal Canal in tandem with new development, enhancing biodiversity and ecological value, and improving amenity value for those using the towpath.	No	No Potential Impacts
GIO2 In association with objective UD06 to provide/complete the following south-north green links from the Royal Canal to entrances to Tolka Valley park. Design and planting of these links should encourage biodiversity through careful selection of tree species and under storey planting. **(a)** Through Ballymore lands from a proposed civic space adjacent to the entrance to the proposed train station (see objective UD04) at the Royal Canal through a proposed new public space incorporating existing attenuation ponds, to Tolka Valley Park. This shall be designed to function as an ecological corridor with associated recreational space. **(b)** Through former Capel lands (the'12 acres') from a planned green space near the canal through Rathborne Avenue a proposed new public space incorporating existing attenuation lakes, to Tolka Valley Park. **(c)** In association with urban design objective UD07 of this plan and proposals by FCC, to provide a link from the eastern end of the LAP lands at Ashtown Road, to Dunsink observatory.	No	No Potential Impacts
GIO3: To support Fingal County Council in relation to their proposals to prepare a coordinated brief, to include pedestrian/cycle links, for all Royal Canal crossings and development adjacent to the Royal Canal.	No	No potential Impacts
GIO4: To implement a Green Points System as set out in section 4.11, as a flexible means to achieve improved green infrastructure for new developments, and incorporating a high level of biodiversity. (see also objective ES01 in chapter 4.11)	No	No Potential Impacts
GIO5 Landscaped and amenity areas to address biodiversity and where possible provide aquatic features as part of SuDS proposals. Native species should be included as part of a 3–layered structure to include canopy, shrub and ground layers.	No	No Potential Impacts
GIO6 Amenity and/or security lighting shall be designed to minimise negative impacts on protected species such as bats. Such designs may include directional/cowled lighting or be based on the advice of an ecologist. Particular attention shall be paid to areas close to water bodies.	No	No Potential Impacts

GIO7 To retain and enhance, where feasible, remnants of existing hedgerows and treelines.	No	No Potential Impacts
GIO8 To encourage the development of community gardening and provision of allotments at appropriate locations in new schemes.	No	No Potential Impacts
GI09 To support short term options for appropriate planting of areas of undeveloped lands pending future development and with regard to phasing programmes set out in Chapter 5.	No	No Potential Impacts
GIO10 For new developments to examine the feasibility of connecting new swales to existing ones thereby lengthening the existing linear habitat	No	No Potential Impacts

Appendix 3

Natura 2000 Sites (www.npws.ie)

• Description of the Natura 2000 Sites		
Name	Natura 2000 Designation	Basis
Baldoyle Bay SAC	Special Area of Conservation (IE000199)	EU Habitats Directive (92/43/EEC)

Site Description

Baldoyle Bay SAC

Baldoyle Bay extends from just below Portmarnock village to the west pier at Howth, Co. Dublin. It is a tidal estuarine bay protected from the open sea by a large sand dune system. Two small rivers, the Mayne and the Sluice, flow into the bay. The site contains four habitats listed on Annex I of the EU Habitats directive: *Salicornia* mud, Mediterranean salt meadows, Atlantic salt meadows and Tidal mudflats.

Large areas of intertidal flats are exposed at low tide. These are mostly sands but grade to muds in the inner sheltered parts of the estuary. Extensive areas of Common Cord-grass (*Spartina anglica*) occur in the inner estuary. Both the Narrow-leaved Eelgrass (*Zostera angustifolia*) and the Dwarf Eelgrass (*Z. noltii*) are also found here. During summer, the sandflats of the sheltered areas are covered by mats of green algae (*Enteromorpha* spp. and *Ulva lactuca*).

The sediments have a typical macrofauna, with Lugworm (*Arenicola marina*) dominating the sandy flats. The tubeworm *Lanice conchilega* is present in high densities at the low tide mark and the small gastropod *Hydrobia ulvae* occurs in the muddy areas, along with the crustacean *Corophium volutator*.

Areas of saltmarsh occur near Portmarnock Bridge and at Portmarnock Point, with narrow strips along other parts of the estuary. Species such as Glasswort (*Salicornia* spp.), Sea-purslane (*Halimione portulacoides*), Sea Plantain (*Plantago maritima*) and Sea Rush (*Juncus maritimus*) are found here. Portmarnock Spit formerly had a well developed sand dune system but this has been largely replaced by golf courses and is mostly excluded from the site. A few dune hills are still intact at Portmarnock Point, and there are small dune hills east of Cush Point and below the Claremont Hotel. These are mostly dominated by Marram (*Ammophila arenaria*), though Lyme-grass (*Leymus arenarius*) is also found.

The site includes a brackish marsh along the Mayne River. Soils here have a high organic content and are poorly drained, and some pools occur. Rushes (*Juncus* spp.) and salt tolerant species such as Common Scurvygrass (*Cochleria officinalis*) and Greater Sea-spurrey (*Spergularia media*) are typical of this area.

Knotted Hedgeparsley (*Torilis nodosa*), a scarce plant in eastern Ireland, has been recorded here, along with Brackish Water-crowfoot (*Ranunculus baudotti*), a species of brackish pools and ditches which has declined in most places due to habitat loss.

Two plant species, legally protected under the Flora (Protection) Order, 1999, occur in the Mayne marsh: Borrer's Saltmarsh-grass (*Puccinellia fasciculata*) and Meadow Barley (*Hordeum secalinum*).

Baldoyle Bay is an important bird site for wintering waterfowl and the inner part of the estuary is a Special Protection Area under the EU Birds Directive as well as being a Statutory Nature Reserve. Internationally important numbers of Pale-bellied Brent Geese (418) and nationally important numbers of two Annex I Birds Directive species - Golden Pover (1,900) and Bar-tailed Godwit (283) - have been recorded. Four other species also reached nationally important numbers: Shelduck (147), Pintail (26), Grey Plover (148) and Ringed Plover (218) - all figures are average peaks for four winters 1994/95 to 1997/1998. Breeding wetland birds at the site include Shelduck, Mallard and Ringed Plover. Small numbers of Little Tern, a species listed on Annex I of the EU Birds Directive, have bred on a few occasions at Portmarnock Point but not since 1991.

Because the area surrounding Baldoyle Bay is densely populated, the main threats to the site include visitor pressure, disturbance to wildfowl and dumping. In particular, the dumping of spoil onto the foreshore presents a threat to the value of the site.

Baldoyle Bay is a fine example of an estuarine system. It contains four habitats listed on Annex I of the EU Habitats Directive and has two legally protected plant species.

The site is also an important bird area and part of it is a Special Protection Area under the EU Birds Directive, as well as being a Statutory Nature Reserve. It supports internationally important numbers of Brent Geese and nationally important numbers of six other species including two Annex I Birds Directive species.

Qualifying Interests (Species)	Species	Basis
	N/A	Annex II, EU Habitats Directive
Qualifying Interests (Habitats)	Habitat types (as in Annex I of the EU Habitats Directive), (Codes)	
	Salicornia and other Annuals Colonizing Mud and Sand	1310
	Mediterranean salt meadows	1410
		1330

	Atlantic salt meadows Mudflats and Sandflats not covered by seawater at low tide Spartina Swards	 1140 1320

Conservation Objectives

Objective 1: To maintain the Annex I habitats for which the SAC has been selected at favourable conservation status: Salicornia and other Annuals Colonizing Mud and Sand, Mediterranean Salt Meadows, Atlantic Salt Meadows, Mudflats and Sandflats not covered by seawater at low tide, *Spartina* Swards.

Objective 2: To maintain the extent, species richness and biodiversity of the entire site

Objective 3: To establish effective liaison and cooperation with landowners, legal users and relevant authorities.

- **description of the Natura 2000 Sites**

Name	Natura 2000 Designation	Basis
North Dublin Bay SAC	Special Area of Conservation (IE0000206)	EU Habitats Directive (92/43/EEC)

Site Description

North Dublin Bay

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. The 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 (Ammophila arenaria) is dominant on the outer dune ridges, with Lyme Grass (Leymus arenarius) and Sea Couchgrass (Elymus

farctus) on the foredunes. Behind the first dune ridge, plant diversity increases with the appearance of such species as Wild Pansy (Viola tricolor), Kidney Vetch (Anthyllis vulneraria), Bird's-foot Trefoil (Lotus corniculatus), Rest Harrow (Ononis repens), Yellow Rattle (Rhinanthus minor) and Pyramidal Orchid (Anacamptis pyramidalis). In these grassy areas and slacks, the scarce Bee Orchid (Ophrysapifera) occurs.

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 (Alnus spp). The water table is very near the surface and is only slightly brackish. Saltmarsh Rush (Juncus maritimus) is the dominant species, with Meadow Sweet (Filipendula

ulmaria) and Devil's-bit (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. Towards the tip of the island, the saltmarsh grades naturally into

fixed dune vegetation.

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. Tassel Weed (Ruppia maritima) occurs in this area, along with some Eelgrass (Zostera angustifolia). Eelgrass (Z. noltii) also occurs in Sutton Creek. Cordgrass (Spartina anglica) occurs in places but its growth is controlled by management.

Three Rare plant species legally protected under the Flora Protection Order 1987 have been recorded on the North Bull Island. These are Lesser Centaury (Centaurium pulchellum), Hemp Nettle (Galeopsis angustifolia) and Meadow Saxifrage (Saxifraga granulata). Two further species listed as threatened in the Red Data Book, Wild Sage (Salvia verbenaca) and Spring Vetch (Vicia lathyroides), have also been recorded. A rare liverwort, Petalophyllum ralfsii, was first recorded from the North Bull Island in 1874 and has recently been confirmed as being still present there. 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.

North Dublin Bay is of international importance for waterfowl, the following species occurred in internationally important numbers: Brent Geese; Knot ; Bar-tailed Godwit.

A further 14 species occurred in nationally important concentrations - Shelduck; Wigeon; Teal; Pintail; Shoveler; Oystercatcher; Ringed Plover; Grey Plover; Sanderling; Dunlin; Blacktailed Godwit; Curlew; Turnstone and Redshank. Some of these species frequent South Dublin Bay and the River Tolka Estuary for feeding and/or roosting purposes.

The tip of the North Bull Island is a traditional nesting site for Little Tern. 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. 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 (Orders Diptera, Hymenoptera, Hemiptera).

The main landuses 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.

This site is an excellent example of a coastal site with all the main habitats represented. The holds good examples of ten 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.

Qualifying Interests (Species)	Species	Basis
North Dublin Bay	Petalwort (Petalophyllum ralfsii)	Annex II EU Habitats Directive

Qualifying Interests (Habitats)	Habitat types (as in Annex 1 of the Habitats Directive), (Codes)	
	Fixed dunes	2130*
	Marram dunes	2120
	Embryonic shifting dunes	2110
	Dune slack	2190
	Vegetation Drift lines	1210
	Salicornia mud	1310
	Atlantic salt meadows	1330
	Mediterranean salt meadows	1410
	Tidal mudflats	1140
		*indicates priority Habitat

Conservation Objectives

Objective 1: To maintain the Annex I habitats for which the SAC has been selected at favourable conservation status: Mudflats and sandflats not covered by seawater at

low tide; Annual vegetation of drift lines; Salicornia and other annuals colonizing mud and sand; Atlantic salt meadows (Glauco-Puccinellietalia maritimae); Mediterranean salt meadows (Juncetalia maritimi); Embryonic shifting dunes; Shifting dunes along the shoreline with Ammophila arenaria (white dunes); Fixed coastal dunes with herbaceous vegetation (grey dunes);

Humid dune slacks.

Objective 2: To maintain the Annex II species for which the SAC has been selected at favourable conservation status: Petalophyllum ralfsii.

Objective 3: To maintain the extent, species richness and biodiversity of the entire site

Objective 4: To establish effective liaison and cooperation with landowners, legal users and relevant authorities.

• 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

South Dublin Bay

This site lies south of the River Liffey 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, a habitat listed on Annex I of the E.U. Habitats Directive. 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. There is a bed of Eelgrass (Zostera noltii) below Merrion Gates which is the largest stand on the east coast. Green algae (Enteromorpha spp. and Ulva lactuca) are distributed throughout the area at a low density. Fucoid algae occur on the rocky shore in the Maretimo to Dún Laoghaire area.

Several small, sandy beaches with incipient dune formation occur in the northern and western sectors of the site, notably at Poolbeg, Irishtown and Merrion/Booterstown. The formation at Booterstown is very recent. Driftline vegetation occurs in association with the embryonic and incipient fore dunes. Typically drift lines occur in a band approximately 5 m wide, though at Booterstown this zone is wider in places. The habitat occurs just above the High Water Mark and below the area of embryonic dune. A small area of pioneer salt marsh now occurs in the lee of an embryonic sand dune just north of Booterstown Station. This early stage of salt marsh development is here characterised by the presence of pioneer stands of Glasswort (Salicornia 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.

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, Ringed Plover, Sanderling and Dunlin, Redshank. Up to 100 Turnstones are usual in the south bay during winter. Brent Geese regularly occur in numbers of international importance. Bar-tailed Godwit, a species listed on Annex I of the EU Birds Directive, also occur. Large numbers of gulls roost in South Dublin Bay. 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.

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. This site is a fine example of a coastal system with extensive sand and mudflats, a habitat listed on Annex I of the E.U. Habitats Directive. South Dublin Bay is also an internationally important bird site.

Qualifying Interests (Species)	Species	Basis
	Petalwort (Petalophyllum ralfsii)	Annex II, EU Habitats Directive
Qualifying Interests (Habitats)	Habitat types (as in Annex 1 of the Habitats Directive), (Codes)	
	Mudflats and Sandflats not covered by seawater at low tide	1140

Conservation Objectives

Objective 1: To maintain the Annex I habitat for which the SAC has been selected at favourable conservation status: Mudflats and sandflats not covered by seawater at low tide.

Objective 2: To maintain the extent, species richness and biodiversity of the entire site.

Objective 3: To establish effective liaison and cooperation with landowners, legal users and relevant authorities.

• 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

North Bull Island SPA

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.

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 (Ammophila arenaria) is dominant on the outer dune ridges. A feature of the dune system is a large dune slack with a rich flora, usually referred to as the 'Alder Marsh' because of the presence of Alder (Alnus glutinosa) trees. The water table is very near the surface and is only slightly brackish. Sea Rush (Juncus maritimus) is the dominant species, with Meadowsweet (Filipendula ulmaria) and Devil's-bit Scabious (Succisa pratensis) being frequent.

The orchid flora is notably diverse in this area. 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. Tasselweed (Ruppia maritima) and small amounts of Eelgrass (Zostera spp.) are found in the

lagoons. Common Cord-grass (Spartina anglica) occurs in places. Green algal mats (Enteromorpha spp., Ulva lactuca) are a feature of the flats during summer. These sediments have a rich macro-invertebrate fauna, with high densities of Lugworm (Arenicola marina) and Ragworm (Hediste diversicolor).

The North Bull Island SPA is of international importance for waterfowl on the basis that it regularly supports in excess of 20,000 waterfowl. It also qualifies for international importance as the numbers of two species exceed the international threshold – Brent Goose and Bar-tailed Godwit. A further 15 species have populations of national importance – Shelduck, Teal, Pintail, Shoveler, Oystercatcher, Ringed Plover, Golden Plover, Grey Plover, Knot, Sanderling, Dunlin,

Black-tailed Godwit, Curlew, Redshank and Turnstone. The island is also regular wintering site for Short-eared Owl.

The site has five Red Data Book vascular plant species, four rare bryophyte species, and is nationally important for three insect species. The rare liverwort, Petalophyllum ralfsii, was first recorded from the North Bull Island in 1874 and its presence here has recently been re-confirmed. This species is of high conservation value as it is listed on Annex II of the E.U. Habitats Directive. A well-known population of Irish Hare is resident on the island.

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. Two separate Statutory Nature Reserves cover much of the island east of the Bull Wall and the surrounding intertidal flats. North Bull Island is also a Wildfowl Sanctuary, a Ramsar Convention site, a Biogenetic Reserve, a Biosphere Reserve and a Special Area Amenity Order site. Much of the SPA is also a candidate Special Area for Conservation. The site is used regularly for educational purposes and there is a manned interpretative centre on the island.

The North Bull Island SPA is an excellent example of an estuarine complex and is one 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 Brent Goose and Bar-tailed Godwit that use it. Also of significance is the regular presence of several species listed on Annex I of the E.U. Birds Directive, notably Golden Plover and Bartailed Godwit but also Ruff and Short-eared Owl.

Qualifying Interests (Species)	Species	Basis
Site is selected for:	Light-bellied Brent Goose Shelduck Pintail Shoveler Oystercatcher Grey Plover Knot Dunlin Black-tailed Godwit Bar-tailed Godwit Redshank	EU Birds Directive

	Turnstone 20,000 wintering waterbirds	
Additional Special Conservation Interests	Teal Ringed Plover Golden Plover Sanderling Curlew Black-headed Gull Wetland & Waterbirds	EU Birds Directive
Conservation Objectives To maintain the special conservation interests for this SPA at favourable conservation status: Light-bellied Brent Goose, Shelduck, Pintail, Shoveler, Oystercatcher, Grey Plover, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Redshank, Turnstone, 20,000 wintering waterbirds, Teal, Ringed Plover, Golden Plover, Sanderling, Curlew, Black-headed Gull, Wetland & Waterbirds.		
• **Description of the Natura 2000 Sites**		
Name	Natura 2000 Designation	Basis
Baldoyle Bay SPA	Special Protection Area (IE0004016)	EU Birds Directive (79/409/EEC)
Site Description Baldoyle Bay SPA Baldoyle Bay extends from just below Portmarnock village to the west pier at Howth, Co. Dublin. It is a tidal estuarine bay protected from the open sea by a large sanddune system. Two small rivers, the Mayne and the Sluice, flow into the inner part of the estuary. Large areas of intertidal flats are exposed at low tide. These are mostly sands but grade to muds in the inner sheltered parts of the estuary. Extensive areas of Common Cord-grass (*Spartina anglica*) occur in the inner estuary. Both the Narrow-leaved Eelgrass (*Zostera angustifolia*) and the Dwarf Eelgrass (*Z. noltii*) are also found here. During summer, the sandflats of the sheltered areas are covered by mats of green algae (*Enteromorpha* spp. and *Ulva lactuca*). The sediments have a typical macrofauna, with Lugworm (*Arenicola marina*) dominating the sandy flats. The		

tubeworm *Lanice conchilega* is present in high densities at the low tide mark and the small gastropod Laver Spire-shell (*Hydrobia ulvae*) occurs in the muddy areas, along with the crustacean *Corophium volutator*. Areas of saltmarsh occur near Portmarnock Bridge and at Portmarnock Point, with narrow strips along other parts of the estuary. Species such as Glasswort (*Salicornia* spp.), Sea-purslane (*Halimione portulacoides*), Sea Plantain (*Plantago maritima*) and Sea Rush (*Juncus maritimus*) are found here.

Baldoyle Bay is of high ornithological importance for wintering waterfowl, providing good quality feeding areas and roost sites for an excellent diversity of waterfowl species. It supports an internationally important population of Pale-bellied Brent Geese (726), and has a further seven species with nationally important populations (all figures are average peaks for the five winters 1995/96 to 1999/2000): Great Crested Grebe (42), Shelduck (147), Pintail (22), Ringed Plover (221), Golden Plover (1810), Grey Plover (200) and Bar-tailed Godwit (353). The occurrence of Golden Plover and Bar-tailed Godwit is of particular note as these species are listed on Annex I of the E.U. Birds Directive. Other species which occur in significant numbers include Teal (124), Mallard (48), Common Scoter (61), Oystercatcher (531), Lapwing (480), Knot (115), Dunlin 879), Black-tailed Godwit (72), Curlew (96), Redshank (224), Greenshank (11) and Turnstone (43).

Regular breeding birds include Shelduck, Mallard and Ringed Plover. In autumn, passage migrants such as Curlew Sandpiper, Spotted Redshank and Green Sandpiper are regular in small numbers.

Baldoyle Bay SPA is of high conservation importance, with an internationally important population of Brent Geese and nationally important populations of a further seven species, including two which are listed on Annex I of the E.U. Birds Directive. The inner estuarine section is a Statutory Nature Reserve and is also designated as a wetland of international importance under the Ramsar Convention. The site is a candidate Special Area of Conservation under the E.U. Habitats Directive. The main threat to the birds is disturbance as it is located in a densely populated area.

Qualifying Interests (Species)	Species	Basis
Site is selected for:	Light-bellied Brent Goose Ringed Plover Bar-tailed Godwit	EU Birds Directive
Additional Special Conservation Interests	Shelduck Golden Plover Grey Plover Wetland & Waterbirds	EU Birds Directive

Conservation Objectives

To maintain the special conservation interests for this SPA at favourable conservation status: Light-bellied Brent Goose,

Ringed Plover, Bar-tailed Godwit, Shelduck, Golden Plover, Grey Plover, Wetland & Waterbirds

• 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

South Dublin Bay and River Tolka Estuary SPA

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.

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 (Zostera noltii) below Merrion Gates which is the largest stand on the east coast. Green algae (Enteromorpha spp. and Ulva lactuca) are distributed throughout the area at a low density. The macroinvertebrate fauna is well-developed, and is characterized by annelids such as Lugworm (Arenicola marina), Nephthys spp. and Sand Mason (Lanice conchilega), and bivalves, especially Cockle (Cerastoderma edule) and Baltic Tellin (Macoma balthica). The small gastropod Spire Shell (Hydrobia ulvae) occurs on the muddy sands off Merrion Gates, along with the crustacean Corophium volutator.

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. 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.

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 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.

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 Bar-tailed Godwit and Mediterranean Gull.

Qualifying Interests (Species)	Species	Basis
Site is selected for:	Light-bellied Brent Goose Knot Sanderling Bar-tailed Godwit Redshank Roseate Tern Common Tern Arctic Tern	EU Birds Directive
Additional Special Conservation Interests	Oystercatcher Ringed Plover Golden Plover Grey Plover Dunlin Black-headed Gull	EU Birds Directive

	Wetland & Waterbirds	

Conservation Objectives

To maintain the special conservation interests for this SPA at favourable conservation status: 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, Wetland & Waterbirds.

• **Description of the Natura 2000 Sites**		
Name	Natura 2000 Designation	Basis
Dalkey Islands SPA	Special Protection Area (004172)	EU Birds Directive (79/409/EEC)

Site Description

Dalkey Islands SPA

The site comprises Dalkey Island, Lamb Island and Maiden Rock, the intervening rocks and reefs, and the surrounding sea to a distance of 200 m. Dalkey Island, which is the largest in the group, lies *c*. 400 m off Sorrento Point on the Co. Dublin mainland from which it is separated by a deep channel. The island is low-lying, the highest point of which (*c*. 15 m) is marked by a Martello Tower. Soil cover consists mainly of a thin peaty layer, though in a few places there are boulder clay deposits. Vegetation cover is low-growing and consists mainly of grasses. Dense patches of Bracken (*Pteridium aquilinum*) and Hogweed (*Heracleum sphondylium*) occur in places. Lamb Island lies to the north of Dalkey Island, and at low tide is connected by a line of rocks. It has a thin soil cover and some vegetation, mainly of grasses, Nettles (*Urtica dioica*) and Hogweed. Further north lies Maiden Rock, a bare angular granite rock up to 5 m high that is devoid of higher plant vegetation.

This site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Roseate Tern, Common Tern and Arctic Tern.

Dalkey Islands SPA is both a breeding and a staging site for *Sterna* terns. There is a good history of nesting by terns though success has been variable over the years. Common Tern is the most common species, usually outnumbering Arctic Tern by at least 3:1. Up to 1988, the range given for Common Tern was 15-53 pairs, and for Arctic Tern ‘a few’ pairs. Also, Roseate Tern attempted nesting in 1986, with 2 pairs recorded. A tern conservation scheme, co-ordinated by BirdWatch Ireland / National Parks and Wildlife Service, began in 1995, with wardening, nestbox deployment and monitoring being carried out. The ultimate aim was to attract Roseate Tern to breed. Numbers of terns increased in subsequent years, though numbers and breeding

success is still variable between years. In 2003 62 pairs of Common Tern and 24 pairs of Arctic Tern were recorded. Of great significance is that Roseate Tern has returned, with 5 pairs recorded in 2003 and 11 pairs in 2004 - this is one of only three known sites in the country for this rare species.

The site, along with other parts of south Dublin Bay, is used by the three tern species as a major post-breeding/pre-migration autumn roost area. Birds are present from about late-July to September, with *c*. 2,000 individuals of all three species being recorded. The origin of the birds is likely to be the Dublin breeding sites (Rockabill and Dublin Docks) though the numbers recorded suggests that birds from other sites, perhaps outside the State, are also present.

The site also has breeding Great Black-backed Gull (7 pairs in 2001), Shelduck (1-2 pairs) and Oystercatcher (1-2 pairs). Herring Gull bred in large numbers in the past but is now very scarce (14 pairs recorded in 1999). The site is known to be

frequented in winter by Turnstone and Purple Sandpiper but recent count data are not available.

Dalkey Islands SPA is of particular importance as a post-breeding/pre-migration autumn roost area for Roseate Tern, Common Tern and Arctic Tern. The recent nesting by Roseate Tern is highly significant. All three tern species using the site are listed on Annex I of the E.U. Birds Directive.

Qualifying Interests (Species)	Species	Basis
Site is selected for:	Roseate Tern Common Tern Arctic Tern	EU Birds Directive
Additional Special Conservation Interests		EU Birds Directive

Conservation Objectives

To maintain or restore the special conservation conditions of the bird species listed as Special Conservation Interests for this SPA: Roseate Tern, Common Tern, Arctic Tern

• Description of the Natura 2000 Sites		
Name	Natura 2000 Designation	Basis
Malahide Estuary SAC	Special Area of Conservation (SAC 000205)	EU Habitats Directive (92/43/EEC)

Site Description

Malahide Estuary is situated immediately north of Malahide and east of Swords. It is the estuary of the River Broadmeadow. The site is divided by a railway viaduct built in the 1800s.
The outer part of the estuary is mostly cut off from the sea by a large sand spit, known as "the island". The outer estuary drains almost completely at low tide, exposing sand and mud flats. There is a large bed of Eelgrass (*Zostera noltii* and *Z. angustifolium*) in the north section of the outer estuary, along with Tassel Weed (*Ruppia maritima*) and extensive mats of green algae (*Enteromorpha* spp., *Ulva lactuca*). Cordgrass (*Spartina anglica*) is also widespread in this sheltered part of the estuary. The dune spit has a well developed outer dune ridge dominated by Marram Grass (*Ammophila arenaria*). The dry areas of the stabilised dunes have a dense covering of
Burnet Rose (*Rosa pimpinellifolia*), Red Fescue (*Festuca rubra*) and species such as Yellow Wort (*Blackstonia perfoliata*), Field Gentian (*Gentianella amarella*), Hound's Tongue (*Cynoglossum officinale*), Carline Thistle (*Carlina vulgaris*) and Pyramidal Orchid (*Anacamptis pyramidalis*). Much of the interior of the spit is taken up by a golf course. The inner stony shore has frequent Sea-holly (*Eryngium maritimum*). Well-developed saltmarshes occur at the tip of the spit. Atlantic salt meadow is the principle type and is characterised by species such as Sea Purslane (*Halimoine portulacoides*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea Arrowgrass (*Triglochin maritima*) and Common Saltmarsh-grass (*Puccinellia maritima*). Elsewhere in the outer estuary, a small area of Mediterranean salt meadow occurs which is characterised by the presence of Sea Rush (*Juncus maritimus*). Below the salt marshes there are good examples of pioneering Glasswort swards and other annual species, typified by *Salicornia dolichostachya* and Annual Sea-blite *(Suaeda maritima*).

The inner estuary does not drain at low tide apart from the extreme inner part. Here, patches of saltmarsh and salt meadows occur, with Sea Aster, Sea Plantain (*Plantago maritima*) and Sea Clubrush (*Scirpus maritimus*). Tassel Weed (*Ruppia maritima*) occurs in one of the channels.

The site includes a fine area of rocky shore south-east of Malahide and extending towards Portmarnock. This represents the only continuous section through the fossiliferous Lower Carboniferous rocks in the Dublin Basin, and is the type locality for several species of fossil coral.

The estuary is an important wintering bird site and holds an internationally important population of Brent Geese and nationally important populations of a further 15 species. Average maximum counts during the 1995/96-1997/98 period were Brent Geese 1217; Great Crested Grebe 52; Mute Swan 106; Shelduck 471; Pochard 200; Goldeneye 333; Red-breasted Merganser 116; Oystercatcher 1228; Golden Plover 2123; Grey Plover 190; Redshank 454; Wigeon 50; Teal 78; Ringed Plover 106; Knot

858; Dunlin 1474; Greenshank 38; Pintail 53; Black-tailed Godwit 345; Bar-tailed Godwit 99. The high numbers of diving birds reflects the lagoon-type nature of the inner estuary.

The estuary also attracts migrant species such as Ruff, Curlew Sandpiper, Spotted Redshank and Little Stint. Breeding birds of the site include Ringed Plover, Shelduck and Mallard. Up to the 1950s there was a major tern colony at the southern end of the island and the habitat remains suitable for these birds. The inner part of the estuary is heavily used for water sports. A section of the outer estuary has recently been infilled for a marina and housing development. This site is a fine example of an estuarine system with all the main habitats represented. The site is important ornithologically, with a population of Brent Geese of international significance.

Qualifying Interests (Species)	Species	Basis
		Annex II, EU Habitats Directive
Qualifying Interests (Habitats)	Habitat types (as in Annex 1 of the Habitats Directive), (Codes)	
	[1140] Mudflats and sandflats not covered by seawater at low tide [1310] *Salicornia* and other annuals colonizing mud and sand [1320] *Spartina* swards (*Spartinion maritimae*) [1330] Atlantic salt meadows (*Glauco-Puccinellietalia m*aritimae) [1410] Mediterranean salt meadows (*Juncetalia maritimi*) [2120] Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes") [2130] Fixed coastal dunes with herbaceous vegetation ("grey dunes"	

Conservation Objectives

Objective 1: To maintain the Annex I habitat for which the SAC has been selected at favourable conservation status: Mudflats and sandflats not covered by seawater at low tide.

• Description of the Natura 2000 Sites		
Name	Natura 2000 Designation	Basis
Malahide Estuary SPA	Special Area of Conservation (SAC 004025)	EU Habitats Directive (92/43/EEC)

Site Description

This site is situated in north Co. Dublin, between the towns of Malahide and Swords. It is the estuary of the River Broadmeadow, a substantial river which drains a mainly agricultural, though increasingly urbanised, catchment. A railway viaduct, built in the 1800s, crosses the site and has led to the inner estuary becoming lagoonal in character and only partly tidal. Much of the outer part of the estuary is well-sheltered from the sea by a large sand spit, known as "The Island". This spit is now mostly converted to golf-course. The outer part empties almost completely at low tide and there are extensive intertidal flats exposed. The site extends eastwards to the rocky shore at Robswalls.

Substantial stands of eelgrass (both *Zostera noltii* and *Z. angustifolia*) occur in the sheltered part of the outer estuary, along with Tasselweed (*Ruppia maritima*). Green algae, mostly *Enteromorpha* spp. and *Ulva lactuca*, are frequent on the sheltered flats. Common Cord-grass (*Spartina anglica*) is well established in the outer estuary and also in the innermost part of the site. The intertidal flats support a typical macroinvertebrate fauna, with polychaete worms (*Arenicola marina* and *Hediste diversicolor*), bivalves such as *Cerastoderma edule*, *Macoma balthica* and *Scrobicularia plana,* the small gastropod *Hydrobia ulvae* and the crustacean *Corophium volutator.*

Salt marshes, which provide important roosts during high tide, occur in parts of the outer estuary and in the extreme inner part of the inner estuary. These are characterised by such species as Sea Purslane (*Halimione portulacoides*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea Arrowgrass (*Triglochin maritima*) and Common Saltmarsh-grass (*Puccinellia maritima*).

This site is of high importance for wintering waterfowl and supports a particularly good diversity of species. It has an internationally important population of Brent Goose (956) or 4.8% of the national total (figures given here and below are average maximum counts for the five winters 1995/96-1999/00) and nationally important populations of a further 12 species as follows: Shelduck (439), Pintail (58), Goldeneye (215), Red-breasted Merganser (105), Oystercatcher (1,493), Golden Plover (1,843), Grey Plover (201), Knot (915), Dunlin (1,594), Black-tailed Godwit (409), Redshank (581) and Greenshank (38). A range of other species occur in numbers of regional importance, including Great Crested Grebe, Mute Swan, Pochard, Ringed Plover, Lapwing, Bar-tailed Godwit, Curlew and Turnstone. The high numbers of diving ducks reflects the lagoon-type nature of the inner estuary, and this is one of the few sites in eastern Ireland where substantial numbers of Goldeneye can be found.

The estuary also attracts on a regular basis migrant wader species such as Ruff,

Curlew Sandpiper, Spotted Redshank, Green Sandpiper and Little Stint. These occur mainly in autumn, though occasionally in spring and winter.
Breeding birds of the site include Ringed Plover, Shelduck and Mallard. Up to the 1950s there was a major tern colony at the southern end of Malahide Island. Grey Herons breed nearby and feed regularly within the site. The inner part of the estuary is heavily used for water sports, which causes disturbance to the bird populations. A section of the outer estuary has recently been in-filled for a marina and housing development. Broadmeadow/Swords Estuary SPA is a fine example of an estuarine system, providing both feeding and roosting areas for a range of wintering waterfowl. The lagoonal nature of the inner estuary is of particular value as it increases the diversity of birds which occur. The site is of high conservation importance, with an internationally important population of Brent Goose and nationally important populations of a further 12 species. Three of the species which occur regularly (Golden Plover, Bar-tailed Godwit and Ruff) are listed on Annex I of the E.U. Birds Directive. 6.10.2004

Qualifying Interests (Species)	Species	Basis
	□ *Podiceps cristatus* [wintering] □ *Branta bernicla hrota* [wintering] □ *Tadorna tadorna* [wintering] □ *Anas acuta* [wintering] □ *Bucephala clangula* [wintering] □ *Mergus serrator* [wintering] □ *Haematopus ostralegus* [wintering] □ *Pluvialis apricaria* [wintering] □ *Pluvialis squatarola* [wintering] □ *Calidris canutus* [wintering] □ *Calidris alpina* [wintering] □ *Limosa limosa* [wintering] □ *Limosa lapponica* [wintering] □ *Tringa totanus* [wintering] □ Wetlands	Annex II, EU Habitats Directive
Qualifying Interests (Habitats)	Habitat types (as in Annex 1 of the Habitats Directive), (Codes)	

Conservation Objectives

Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA

• Description of the Natura 2000 Sites		
Name	Natura 2000 Designation	Basis
Rockabill to Dalkey Island SAC	Special Area of Conservation (SAC 003000)	EU Habitats Directive (92/43/EEC)

Site Description

This site includes a range of dynamic inshore and coastal waters in the western Irish Sea. These include sandy and muddy seabed, reefs, sandbanks and islands. This site extends southwards, in a strip approximately 7 km wide and 40 km in length, from Rockabill, running adjacent to Howth Head, and crosses Dublin Bay to Frazer Bank in south county Dublin. The site encompasses Dalkey, Muglins and Rockabill islands.

The area selected for designation represents a key habitat for the Annex II species harbour porpoise, within the Irish Sea. Population survey data show that porpoise occurrence within the site boundary meets suitable reference values for other designated sites in Ireland. The species occurs year-round within the site and comparatively high group sizes have been recorded. Porpoises with young (i.e. calves) are observed at favourable, typical reference values for the species. Casual and effort-related sighting rates from coastal observation stations are significant for the east coast of Ireland and the latter appear to be relatively stable across all seasons. The selected site contains a wide array of habitats believed to be important for harbour porpoise including inshore shallow sand and mud-banks and rocky reefs scoured by strong current flow. The site also supports Harbour seal (*Phoca vitulina*) and Grey seal (*Halichoerus grypus*), for which terrestrial haul-out sites occur in immediate proximity to the site. Bottlenose dolphin (*Tursiops truncatus*) has also occasionally been recorded in the area. A number of other marine mammals have been recorded in this area including minke, fin and killer whales and Risso's and common dolphins.

Reef habitat is uncommon along the eastern seaboard of Ireland due to prevailing geology and hydrographical conditions. Expansive surveys of the Irish coast have indicated that the greatest resource of this habitat within the Irish Sea is found fringing offshore islands which are concentrated along the Dublin coast. A detailed survey of selected suitable islands has shown areas with typical biodiversity for this habitat both intertidally and subtidally. Species recorded in the intertidal included *Fucus spiralis*, *Fucus serratus*, *Pelvetia canaliculata*, *Ascophyllum nodosum*, *Semibalanus balanoides* and *Necora puber*. Subtidally, a wide range of species include *Laminaria hyperborea*, *Flustra folicacea*, *Alaria esculenta*, *Halidrys siliquosa*,

Pomatocereos triqueter, *Alcyonium digitatum*, *Metridium senile*, *Caryophyllia smithii*, *Tubularia indivisa*, *Mytilus edulis*, *Gibbula umbilcalis*, *Asterias rubens*, and *Echinus esculentus*. These Reefs are subject to strong tidal currents with an abundant supply of suspended matter resulting in good representation of filter feeding fauna such as sponges, anemones and echinoderms.

This site is of conservation importance for reefs, listed on Annex I, and Harbour Porpoise, listed on Annex II, of the E.U. Habitats Directive.

Qualifying Interests (Species)	Species	Basis
	Harbour Porpoise Phocena Phoceena	Annex II, EU Habitats Directive
Qualifying Interests (Habitats)	Habitat types (as in Annex 1 of the Habitats Directive), (Codes)	
	Reefs	

Conservation Objectives

Objective: To maintain or restore the favourable conservation condition of reefs in Rockabill to Dalkey Island SAC.