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NATURA IMPACT STATEMENT OF A PROPOSED STRATEGIC HOUSING DEVELOPMENT AT CROSS GUNS BRIDGE, PHIBSBOROUGH, DUBLIN 7

IN LINE WITH THE REQUIREMENTS OF ARTICLE 6(3) OF THE EU HABITATS DIRECTIVE

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1 INTRODUCTION

1.1 REQUIREMENT FOR AN APPROPRIATE ASSESSMENT

In November 2020, Whitehill Environmental was appointed by Bindford Ltd to provide the necessary information to allow the competent authority (in this case An Bord Pleanála) to conduct an Article 6 (3) Appropriate Assessment for a proposed strategic housing development in Cross Guns, Phibsborough, Dublin 7. This information is being submitted as a Natura Impact Statement (NIS). This NIS was undertaken as a precautionary approach on the basis that pathways for effects on surface waters exist between the application site and identified Natura 2000 sites.

The purpose of this NIS was to determine the appropriateness of the proposed project, in the context of the conservation status of the site or sites. In Ireland, an Appropriate Assessment takes the form of a Natura Impact Statement (NIS), which is a statement of the likely impacts of the plan or project on a Natura 2000 site. The NIS comprises an assessment of the plan or project and it examines the direct and indirect impacts that the plan or project might have on its own or in combination with other plans or projects on one or more Natura 2000 sites in view of the sites' conservation objectives.

1.2 THE AIM OF THE REPORT

This Natura Impact Statement (NIS) has been prepared in accordance with the current guidance (DoEHLG, 2009, Revised February 2010). An NIS should provide the information required in order to establish whether or not a proposed development is likely to have a significant impact on certain Natura sites in the context of their conservation objectives and specifically on the habitats and species for which the Natura 2000 conservation sites have been designated.

Accordingly, a comprehensive assessment of the potential impacts of this application on Natura 2000 sites was carried out in November 2020 by Noreen McLoughlin, MSc, MCIEEM of Whitehill Environmental. This assessment allowed areas of potential ecological value and potential ecological constraints associated with this proposed development to be identified and it also enabled potential ecological impacts associated with the proposed development to be assessed and mitigated for.

1.3 REGULATORY CONTEXT

RELEVANT LEGISLATION

The Birds Directive (Council Directive2009/147/EC) recognises that certain species of birds should be subject to special conservation measures concerning their habitats. The Directive requires that Member States take measures to classify the most suitable areas as Special Protection Areas (SPAs) for the conversation of bird species listed in Annex 1 of the Directive. SPAs are selected for bird species (listed in Annex I of the Birds Directive), that are regularly occurring populations of migratory bird species and the SPA areas are of international importance for these migratory birds.

The EU Habitats Directive (92/43/EEC) requires that Member States designate and ensure that particular protection is given to sites (Special Areas of Conservation) which are made up of or support particular habitats and species listed in annexes to this Directive.

Articles 6(3) and 6(4) of this Directive also call for the undertaking of an Appropriate Assessment for plans and projects not directly connected with or necessary to the management of, but which are likely to have a significant effect on any European designated sites (i.e. SACs and SPAs). This is explained in greater detail in the following section (Section 1.2.2 and Section 1,2.3).

The Water Framework Directive (WFD) (2000/60/EC), which came into force in December 2000, establishes a framework for community action in the field of water policy. The WFD was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. 722 of 2003). The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs). RBDs are essentially administrative areas for coordinated water management and are comprised of multiple river basins (or catchments), with cross-border basins (i.e. those covering the territory of more than one Member State) assigned to an international RBD. The aim of the WFD is to ensure that waters achieve at least good status by 2021 and that status does not deteriorate in any waters.

Appropriate Assessment and the Habitats Directive

Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora – the 'Habitats Directive' - provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3 - 9 provide the legislative means to protect habitats and species of Community interest

through the establishment and conservation of an EU-wide network of sites known as *Natura 2000*. Natura 2000 sites are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC).

Articles 6(3) and 6(4) of the Habitats Directive sets out the decision-making tests for plans or projects affecting Natura 2000 sites. Article 6(3) establishes the requirement for Appropriate Assessment:

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

Article 6(4) deals with the steps that should be taken when it is determined, as a result of appropriate assessment, that a plan/project will adversely affect a European site. Issues dealing with alternative solutions, imperative reasons of overriding public interest and compensatory measures need to be addressed in this case.

Article 6(4) states:

"If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member States 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 and/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 Appropriate Assessment Process

The aim of Appropriate Assessment is to assess the implications of a proposal in respect of a designated site's conservation objectives.

The 'Appropriate Assessment' itself is an assessment which must be carried out by the competent authority which confirms whether the plan or project in combination with other plans and projects will have an adverse impact on the integrity of a European site.

Screening for Appropriate Assessment shall be carried out by the competent authority as set out in Section 177U(1) and (2) of the Planning and Development Act 2000 (as amended) as follows:

'(1) A screening for appropriate assessment of a draft Land use plan or application for consent for proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Land use plan or proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.

(2) A competent authority shall carry out a screening for appropriate assessment under subsection (1) before—

(a) a Land use plan is made including, where appropriate, before a decision on appeal in relation to a draft strategic development zone is made, or

(b) consent for a proposed development is given.'

The competent authority shall determine that an Appropriate Assessment is not required if it can be excluded, that the proposed development, individually or in combination with other plans or project will have a significant effect on a European site.

Where the competent authority cannot exclude the potential for a significant effect on a European site, an Appropriate Assessment shall be deemed required.

Where an Appropriate Assessment is required, the conclusions of the Appropriate Assessment Report (Natura Impact Statement (NIS)) should enable the competent authority to ascertain whether the plan or proposed development would adversely affect the integrity of the European site. If adverse impacts on the integrity of a European site cannot be avoided, then mitigation measures should be applied during the appropriate assessment process to the point where no adverse impacts on the site remain. Under the terms of the

Habitats Directive consent can only be granted for a project if, as a result of the appropriate assessment either (a) it is concluded that the integrity of any European sites will not be adversely affected, or (b) after mitigation, where adverse impacts cannot be excluded, there is shown to be an absence of alternative solutions, and there exists imperative reasons of overriding public interest for the project should go ahead.

Section 177(V) of the Planning and Development Act 2000 (as amended) outlines that the competent authority shall carry out the Appropriate Assessment, taking into account the Natura Impact Statement (amongst any other additional or supplemental information). A determination shall then be made by the competent authority in line with the requirements of Article 6(3) of the Habitats Directive as to whether the plan or proposed development would adversely affect the integrity of a European site, prior to consent being given.

2 METHODOLOGY

2.1 APPROPRIATE ASSESSMENT

This Statement of Screening for Appropriate Assessment (Stage 1) has been prepared with reference to the following:

- European Commission (2018). Managing Natura 2000 Sites: The Provisions 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 Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.
- European Commission (2006). Nature and Biodiversity Cases: Ruling of the European Court of Justice.
- European Commission (2007). Clarification of the Concepts of: Alternative Solution, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence, Opinion of the Commission.
- Department of Environment, Heritage and Local Government (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities.

The EC Guidance sets out a number of principles as to how to approach decision making during the process. The primary one is 'the precautionary principle' which requires that the conservation objectives of Natura 2000 should prevail where there is uncertainty.

When considering the precautionary principle, the emphasis for assessment should be on objectively demonstrating with supporting evidence that:

- There will be no significant effects on a Natura 2000 site;
- There will be no adverse effects on the integrity of a Natura 2000 site;
- There is an absence of alternatives to the project or plan that is likely to have an adverse effect to the integrity of a Natura 2000 site; and
- There are compensation measures that maintain or enhance the overall coherence of Natura 2000.

This translates into a four stage process to assess the impacts, on a designated site or species, of a policy or proposal.

The EC Guidance states that "each stage determines whether a further stage in the process is required". Consequently, the Council may not need to proceed through all four stages in undertaking the Appropriate Assessment.

The four-stage process is:

Stage 1: 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 or not these impacts are likely to be significant;

Stage 2: 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 3: Assessment of Alternative Solutions – The process which examines alternative ways of achieving objectives of the project or plan that avoid adverse impacts on the integrity of the Natura 2000 site;

Stage 4: **Assessment where no alternative solutions exist and where adverse impacts remain –** An assessment of the compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

In complying with the obligations set out in Articles 6(3) and following the guidelines described above, this screening statement has been structured as a stage by stage approach as follows:

- Description of the proposed project;
- Identification of the Natura 2000 sites close to the proposed development;
- Identification and description of any individual and cumulative impacts on the Natura 2000 sites likely to result from the project;
- Assessment of the significance of the impacts identified above on site integrity. Exclusion of sites where it can be objectively concluded that there will be no significant effects;
- Description of proven mitigation measures.

2.2 STATEMENT OF COMPETENCY

This AA Screening report was carried out by Noreen McLoughlin, BA, MSc, MCIEEM. Noreen has an honours degree in Zoology and an MSc in Freshwater Ecology from Trinity College, Dublin and she has been a full member of the Chartered Institute of Ecology and Environmental Management for over thirteen years. Noreen has over 15 years' experience as a professional ecologist in Ireland.

2.3 DESK STUDIES & CONSULTATION

Information on the site and the area of the proposed development was studied prior to the completion of this statement. The following data sources were accessed in order to complete a thorough examination of potential impacts:

- National Parks and Wildlife Service - Aerial photographs and maps of designated sites, information on habitats and species within these sites and information on protected plant or animal species, conservation objectives, site synopses and standard data forms for relevant designated sites.
- Environmental Protection Agency (EPA)- Information pertaining to water quality, geology and licensed facilities within the area;
- Myplan.ie – Mapped based information;
- National Biodiversity Data Centre (NBDC) – Information pertaining to protected plant and animal species within the study area;
- Bing maps & Google Street View – High quality aerials and street images;
- O'Mahony Pike Architects / Bindford Ltd – Plans and Information Pertaining to the Development;
- Dublin City Council – Information on planning history in the area for the assessment of cumulative impacts.

2.4 FIELD BASED STUDIES

A visit to the site of the proposed application at Cross Guns, Phibsborough was conducted on August 18th 2020, when field notes, species lists and photographs were taken.

2.5 ASSESSMENT METHODOLOGY

The proposed development was assessed to identify its potential ecological impacts and from this, the Zone of Influence (ZoI) of the proposed development was defined. Based on the potential impacts and their ZoI, the Natura 2000 sites potentially at risk from direct, indirect or in-combination impacts were identified. The assessment considered all potential impact sources and pathways connecting the proposed development to Natura 2000 sites, in view of the conservation objectives supporting the favourable conservation condition of the site's Qualifying Interests (QIs) or Special Conservation Interests (SCIs).

The conservation objectives relating to each Natura 2000 site and its QIs/SCIs are cited generally for SACs as "to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or Annex II species for which the SAC has been selected", and for SPAs "to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA".

As defined in the Habitat's Directive, the favourable conservation status of a habitat is achieved when:

- Its natural range and area it covers within that range is stable or increasing;
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future;

The favourable conservation status of a species is achieved when:

- The population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future;
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Where site-specific conservation objectives (SSCOs) have been prepared for a European site, these include a series of specific attributes and targets against which effects on conservation condition, or integrity, can be measured. Where potential significant effects are identified, then these SSCOs should be considered in detail.

3 SCREENING

3.1 DEVELOPMENT DESCRIPTION

Bindford Limited have indicated their intention to shortly apply to An Bord Pleanála for planning permission (Strategic Housing Development) for a mixed use, mainly residential development on a site of c. 0.7ha.

The proposal is for a Strategic Housing Development for Build-To-Rent apartments and will comprise the demolition of all derelict buildings on site and the construction of a new residential development comprising 3 no. blocks ranging in height up to 12 storeys consisting of 205 no. dwellings and associated residential amenities, basement and surface carparking with vehicular and pedestrian access from the eastern end of the site off Phibsborough Road. Additional pedestrian only accesses to the north of the site off the Royal Canal Way. A new café/ retail area will be located at ground floor level of block C along with a new public open space to the east of the site. All associated site development works, landscaping and boundary treatment, children's play area, cycle parking, bin stores, substation, and services provision. An extract from the planning drawings can be seen in Figure 1.

Foul Water

Details for the management of foul water have been outlined in the Engineering Assessment Report prepared by Waterman Moylan Consulting Engineers Ltd. It is proposed that the foul water will drain via gravity and connect to the existing 450mm combined sewer along the existing R108/Phibsborough Road to the east of the subject site. The drainage will generally drain by gravity via slung drainage to be strapped to the underside of the ground floor slab within a dedicated service zone within the areas with basement below and by gravity below ground to its outfall location in all other areas. The foul drainage in the basements will be pumped to a standoff manhole before draining by gravity to the existing 450mm combined sewer along the existing R108/Phibsborough Road to the east of the subject site.

Surface Water

Details for the management of surface water have been outlined in the Engineering Assessment Report prepared by Waterman Moylan Consulting Engineers Ltd. Surface water from the subject site will drain via gravity and discharge at a restricted rate to the existing 450mm combined sewer along the existing R108/Phibsborough Road to the east of the subject site. Surface water runoff from the site will be restricted to 2 l/s/Ha as recommended by Dublin City Council (DCC). This is in accordance with the requirements of the Greater

Dublin Strategic Drainage Study (GDSDS). Surface water attenuation will be provided within an underground surface water storage tank adjacent the basement, prior to discharging to the existing 450mm diameter combined water sewer. Surface water drains will be strapped to the underside of the ground floor slab within a dedicated service zone within the areas with basement below and by gravity below ground to its outfall location in all other areas. The attenuation of surface water is necessary to ensure that there is no impact on the existing drainage infrastructure, either in terms of quality or volume of runoff, as a result of the site development works. This will offer a significant benefit to the existing drainage network surrounding the subject site as the existing site is currently discharging all surface water to the existing 450mm diameter combined sewer without any restriction or attenuation on the flow. In this regard, the peak surface water runoff from the existing development is 89.79 l/sec. The proposed development will reduce the runoff by 98% to 2.0l/sec.

Flood Risk

A Floor Risk Assessment has been prepared for the site by Waterman Moylan Consulting Engineers Ltd. The site has been analysed for risks from flooding from the Irish Sea, fluvial flooding, pluvial flooding, ground water and failures of mechanical systems. Through careful design and appropriate mitigation measures the risks and consequences of flooding have been mitigated across the development. Surface water runoff from the site is limited to 2 l/s and does not impact on developments upstream or downstream of the subject site.

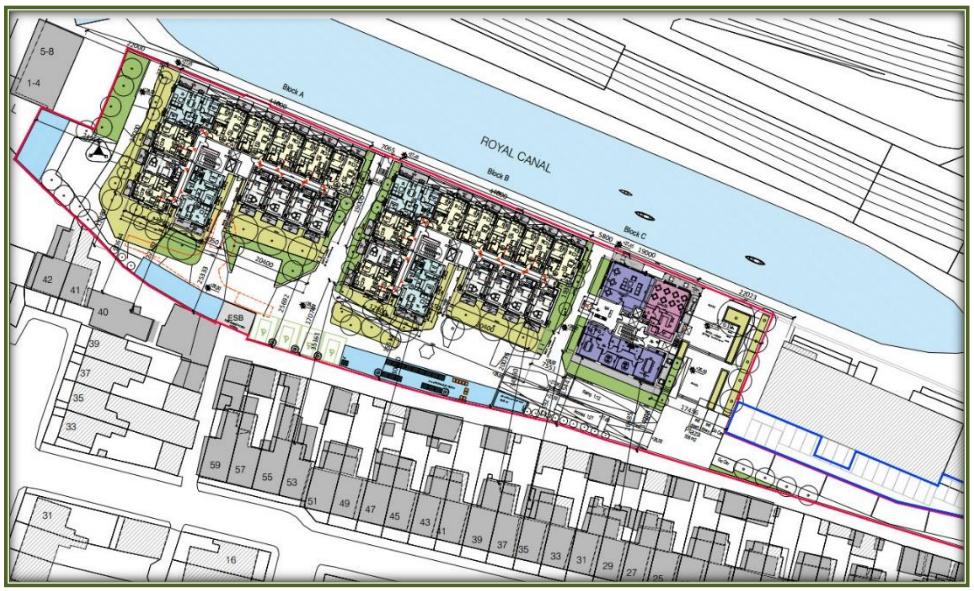


Figure 1 –Site Plan by O'Mahony Pike

3.2 SITE LOCATION AND SURROUNDING ENVIRONMENT

The site in question is approximately 0.7 hectares in area and it is located within the urban area of Phibsborough. The site is long and narrow, and it is bounded to the north by the Royal Canal and its tow path, and to the south by a small access road that provides access to the rear gardens of houses along Leinster Street North. The site will be accessed via an entrance off the Phibsborough Road. The site is located approximately 600m north of Phibsborough village centre and it is 2km north of Dublin city centre. Site location maps can be seen in Figures 2 and 3.

The site is surrounded by the urban fabric of Phibsborough and the surrounding suburbs which include Cabra, Glasnevin and Drumcondra. The dominant habitats locally include buildings and artificial surfaces, areas of amenity grasslands and gardens, scattered trees and groups of trees and open water habitats, i.e., the Royal Canal. An aerial photograph of the site and its surrounding habitats can be seen in Figure 4.

Under the Dublin City Development Plan 2016-2022, the site is zoned as GZT Zone – R2, i.e., existing residential, where the objective is to protect, provide and improve residential amenities.

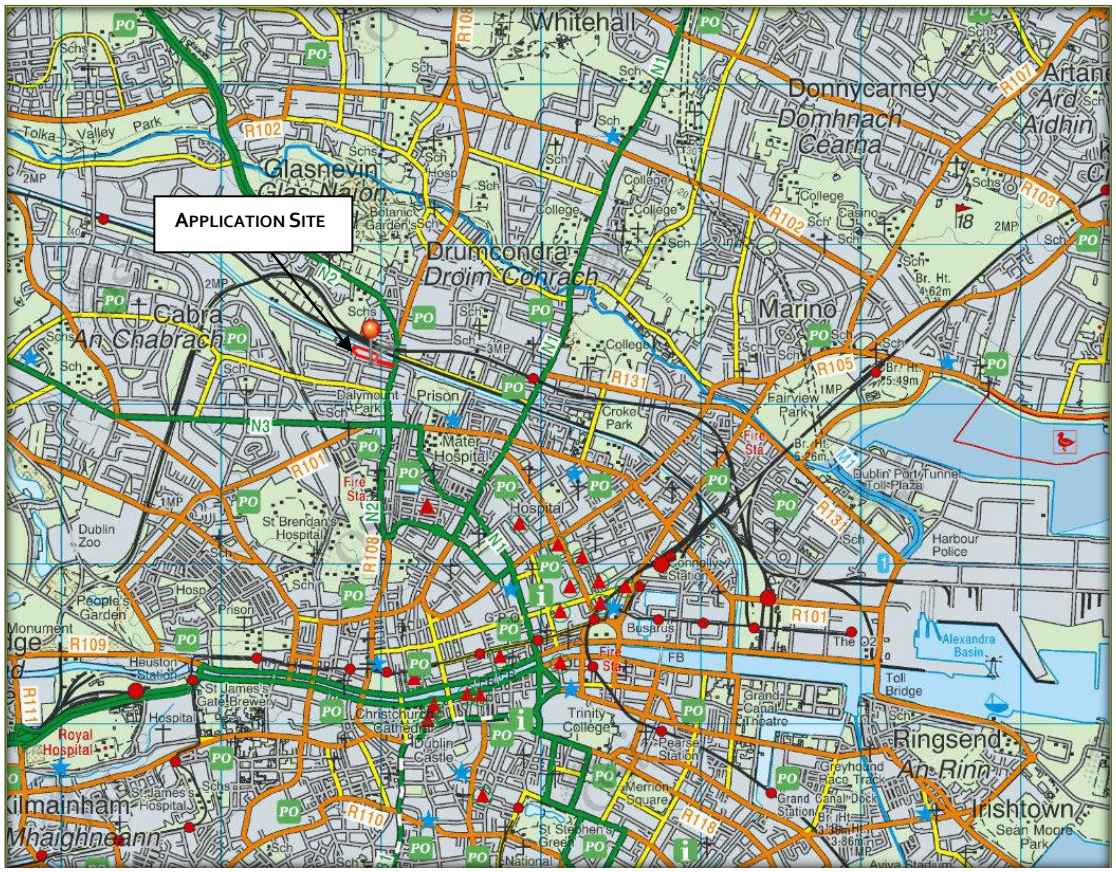


Figure 2 – Site Location Map

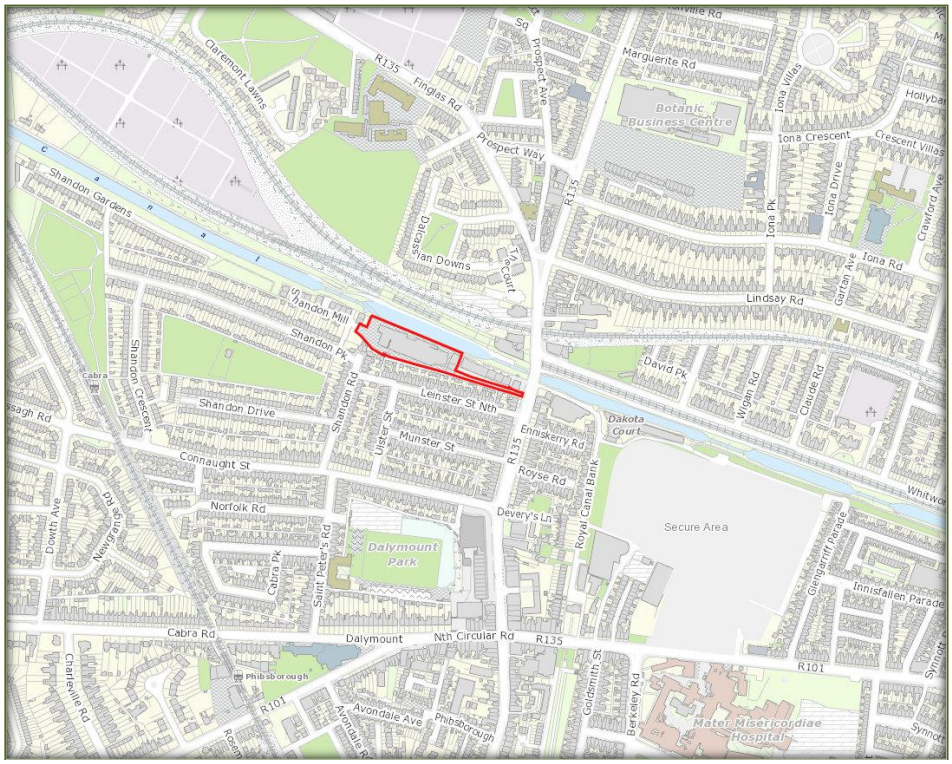


Figure 3 – Site Location Map. Application Site is Outlined in Red

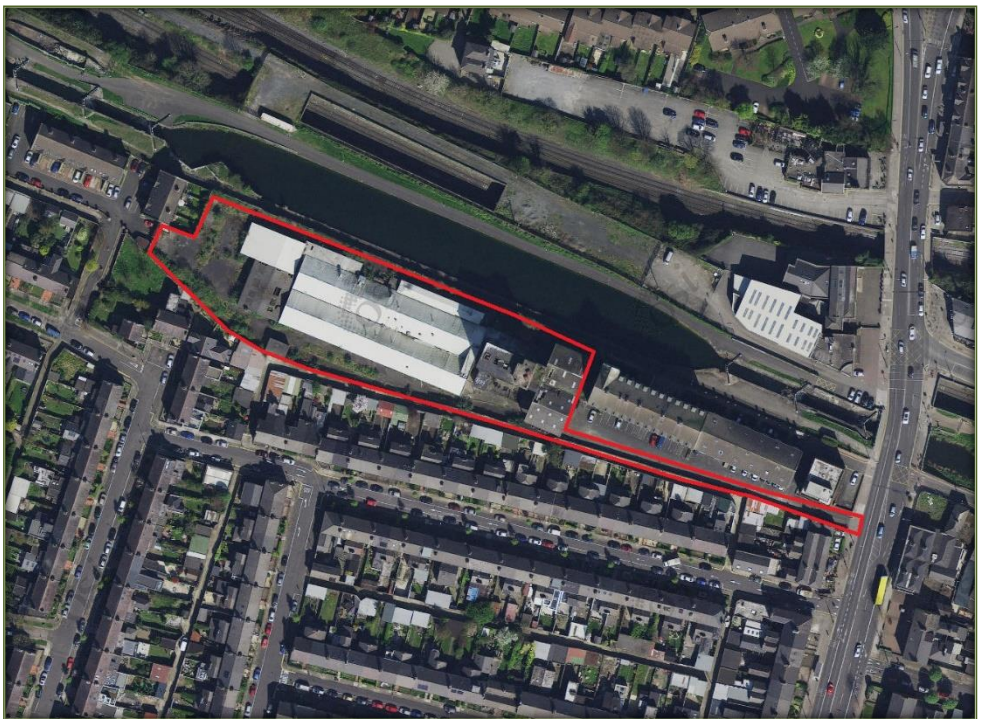


Figure 4 – Aerial Photograph Showing Habitats Surrounding the Application Site.

HABITATS AND NOTABLE SPECIES

Using up to date aerial photographs, an overview of the habitats within and surrounding the application site was assessed and noted. No part of the site lies within any area that is designated for nature conservation purposes. All proposed development works within the application site will take place on areas of low biodiversity value. The habitats within the study area are limited and consist mostly of buildings and artificial surfaces (BL3).

An examination of the database of the National Biodiversity Data Centre revealed that there are records for the presence of one protected mammal species from the relevant 1km^2 of the proposed development site (01436). This species is the otter *Lutra lutra* and it is fully protected under the Irish Wildlife Acts. It is also listed in Annex II of the EU Habitats Directive. There are no habitats within the application site suitable for the otter, although it is likely to occur along the Royal Canal.

WATER FEATURES AND QUALITY

The application site lies within the Liffey and Dublin Bay Hydrometric Area and Catchment, and the Tolka Sub-Catchment and Sub-Basin. The River Tolka is 980m north of the application site. There are no drains within the application site. However, the site is adjacent to the southern banks of the Royal Canal. The Royal Canal connects the River Shannon at Cloondara in Co. Longford with the River Liffey. It enters the River Liffey beside the Samuel Beckett Bridge near the Convention Centre at North Wall Quay.

The EPA are not obliged to classify the ecological status of the Royal Canal, as it is not a natural water feature. The River Liffey at the mouth of the canal has been defined by the EPA as a transitional waterbody and its ecological status has been classed as good. The River Tolka has been classed as poor ecological status for much of its lower reaches whilst overall the ecological status of Dublin Bay (coastal waterbody) is good. Under the requirements of the Water Framework Directive, all waterbodies must achieve good status by 2021.

3.3 NATURA 2000 SITES IDENTIFIED

In accordance with the guidelines issued by the Department of the Environment and Local Government, a list of Natura 2000 sites within 15km of the proposed development have been identified and described according to their site synopses, qualifying interests and conservation objectives. In addition, any other sites further than this, but potentially within its zone of interest were also considered. The zone of impact may be determined by an assessment of the connectivity between the application site and the designated areas by virtue of hydrological connectivity, atmospheric emissions, flight paths, ecological corridors etc.

For significant effects to arise, there must be a potential impact facilitated by having a *source*, i.e., the proposed development and activities arising out of its construction or operation, a *receptor*, i.e., the European site and its qualifying interests and a subsequent *pathway* or *connectivity* between the source and receptor, e.g., a water course. The likelihood for significant effects on the European site will largely depend on the characteristics of the source (e.g., nature and scale of the construction works), the characteristics of the existing pathway and the characteristics of the receptor, e.g., the sensitivities of the Qualifying Interests (habitats or species) to changes in water quality.

There are seventeen Natura 2000 designated sites within 15km of the application site. These designated areas and their closest points to the application site are summarised in Table 1 and a map showing their locations relative to the application site is shown in Figure 5. A full description of all these sites can be read on the website of the National Parks and Wildlife Service (npws.ie).

Site Name & Code	Distance	Qualifying Interests	Significant Effects
South Dublin Bay / River Tolka Estuary SPA 004024	3km east / 6.7km downstream	• Light-bellied Brent Goose (*Branta bernicla hrota)* • Oystercatcher (*Haematopus ostralegus*) • Ringed Plover (*Charadrius hiaticula*) • Grey Plover (*Pluvialis squatarola)* • Knot *(Calidris canutus)* • Sanderling *(Calidris alba)* • Dunlin *(Calidris alpina)* • Bar-tailed Godwit *(Limosa lapponica)* • Redshank *(Tringa tetanus)*	*The application site is adjacent to the Royal Canal, which discharges into the River Liffey. This SPA is approximately 6.7km downstream of the Royal Canal at Cross Guns. Given the proximity of the site to the Royal Canal, significant effects will be considered further.*

		• Black-headed Gull *(Chroicocephalus ridibundus)* • Roseate Tern *(Sterna dougallii)* • Common Tern *(Sterna hirundo)* • Arctic Tern *(Sterna paradisaea)* • Wetland and Waterbirds	
South Dublin Bay SAC 000201	5.2km south-east / 6.7km downstream	• Mudflats and sandflats not covered by seawater at low tide • Annual vegetation of drift lines • Salicornia and other annuals colonising mud and sand • Embryonic shifting dunes	*The application site is adjacent to the Royal Canal, which discharges into the River Liffey. This SAC is approximately 6.7km downstream of the Royal Canal at Cross Guns. Given the proximity of the site to the Royal Canal, significant effects will be considered further.*
North Bull Island SPA 004006	6.1km east / 9.3km downstream	• Light-bellied Brent Goose (*Branta bernicla hrota)* • Shelduck (*Tadorna tadorna*) • Teal (*Anas crecca*) • Pintail (*Anas acuta*) • Shoveler (*Anas clypeata*) • Oystercatcher (*Haematopus ostralegus)* • Golden Plover (*Pluvialis apricaria*) • Grey Plover (*Pluvialis squatarola*) • Knot (*Calidris canutus*) • Sanderling (*Calidris alba*) • Dunlin (*Calidris alpina*) • Black-tailed Godwit (*Limosa limosa)* • Bar-tailed Godwit (*Limosa lapponica)* • Curlew (*Numenius arquata*) • Redshank (*Tringa totanus*) • Turnstone (*Arenaria interpres*) • Black-headed Gull (*Chroicocephalus ridibundus*) • Wetland and Waterbirds	*The application site is adjacent to the Royal Canal, which discharges into the River Liffey. This SPA is approximately 9.3km downstream of the Royal Canal at Cross Guns. Given the proximity of the site to the Royal Canal, significant effects will be considered further.*

North Dublin Bay SAC 000206	6.1km east / 9.3km downstream	• Mudflats and sandflats not covered by seawater at low tide • Annual vegetation of drift lines • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows (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 • *Petalophyllum ralfsii* (Petalwort)	*The application site is adjacent to the Royal Canal, which discharges into the River Liffey. This SAC is approximately 9.3km downstream of the Royal Canal at Cross Guns. Given the proximity of the site to the Royal Canal, significant effects will be considered further.*
Baldoyle Bay SAC 000199	9.9km north-east	• Mudflats and sandflats not covered by seawater at low tide • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) • Mediterranean salt meadows (*Juncetalia maritimi)*	*Although this site is in Dublin Bay, the hydrological distance and conditions between it and the application site is sufficient to rule out any significant effects.*
Baldoyle Bay SPA 004016	10.3km north-east	• Light-bellied Brent Goose (*Branta bernicla hrota)* • Shelduck (*Tadorna tadorna*) • Ringed Plover (*Charadrius hiaticula*) • Golden Plover (*Pluvialis apricaria*) • Grey Plover (*Pluvialis squatarola*) • Bar-tailed Godwit (*Limosa lapponica*) • Wetland and Waterbirds	*Although this site is in Dublin Bay, the hydrological distance and conditions between it and the application site is sufficient to rule out any significant effects.*
Howth Head SAC 000202	11.7km north-east	• Vegetated sea cliffs of the Atlantic and Baltic	*Although this site is in Dublin Bay, the*

		coasts • European dry heaths	*hydrological distance and conditions between it and the application site is sufficient to rule out any significant effects.*
Malahide Estuary SAC 000205	11.8km north-east	• Mudflats and sandflats not covered by seawater at low tide • Salicornia and other annuals colonising mud and sand • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) • Mediterranean salt meadows (*Juncetalia maritimi*) • Shifting dunes along the shoreline with Ammophila arenaria (white dunes) • Fixed coastal dunes with herbaceous vegetation (grey dunes)	*Although this site is in Dublin Bay, the hydrological distance and conditions between it and the application site is sufficient to rule out any significant effects.*
Malahide Estuary SPA 004025	11.8km north-east	• Shelduck *(Tadorna tadorna)* • Pintail *(Anas acuta)* • Goldeneye *(Bucephala clangula)* • Oystercatcher *(Haematopus ostralegus)* • Redshank *(Tringa totanus)* • Knot *(Calidris canutus)* • Bar-tailed Godwit *(Limosa lapponica)* • Black-tailed Godwit *(Limosa limosa)* • Golden Plover *(Pluvialis apricaria)* • Light-bellied Brent Goose *(Branta bernicla hrota)* • Dunlin *(Calidris alpine)* • Grey Plover *(Pluvialis squatarola)* • Red-breasted Merganser *(Mergus serrator)* • Great Crested Grebe *(Podiceps cristatus)*	*Although this site is in Dublin Bay, the hydrological distance and conditions between it and the application site is sufficient to rule out any significant effects.*
Rockabill to Dalkey Island SAC 003000	12.3km east	• Reefs • *Phocoena phocoena* (Harbour Porpoise)	*Although this site is in Dublin Bay, the hydrological distance and*

			conditions between it and the application site is sufficient to rule out any significant effects.
Glenasmole Valley SAC 001209	13.3km south	• Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) • Petrifying springs with tufa formation (Cratoneurion)	*No direct connectivity between this Natura 2000 site and the application site therefore significant effects are unlikely.*
Wicklow Mountains SAC 002122	14km south	• Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) • Natural dystrophic lakes and ponds • Northern Atlantic wet heaths with *Erica tetralix* • European dry heaths • Alpine and Boreal heaths • Calaminarian grasslands of the Violetalia calaminariae • Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) • Blanket bogs (* if active bog) • Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani • Calcareous rocky slopes with chasmophytic vegetation • Siliceous rocky slopes with chasmophytic vegetation • Old sessile oak woods with Ilex and Blechnum in the British Isles • *Lutra lutra* (Otter)	*No direct connectivity between this Natura 2000 site and the application site therefore significant effects are unlikely.*

Wicklow Mountains SPA 004040	14.2km south	• Merlin (*Falco columbarius*) • Peregrine (*Falco peregrinus*)	*No direct connectivity between this Natura 2000 site and the application site therefore significant effects are unlikely.*
Ireland's Eye SPA 004117	14.2km north-east	• Cormorant (Phalacrocorax carbo) • Herring Gull (*Larus argentatus)* • Kittiwake (*Rissa tridactyla*) • Guillemot (*Uria aalge*) • Razorbill (*Alca torda*)	*Although this site is in Dublin Bay, the hydrological distance and conditions between it and the application site is sufficient to rule out any significant effects.*
Rye Water Valley/Carton SAC 001398	14.3km west	• Desmoulin's Whorl Snail (*Vertigo moulinsiana)* • Narrow-mouthed Whorl Snail (*Vertigo angustior)* • Petrifying springs with tufa formation (Cratoneurion)*	*No direct connectivity between this Natura 2000 site and the application site therefore significant effects are unlikely.*
Ireland's Eye SAC 002193	14.4km north-east	• Perennial vegetation o stony banks • Vegetated sea cliffs of the Atlantic and Baltic coasts	*Although this site is in Dublin Bay, the hydrological distance and conditions between it and the application site is sufficient to rule out any significant effects.*
Howth Head Coast SPA 004113	14.5km north-east	• Kittiwake *Rissa tridactyla*	*Although this site is in Dublin Bay, the hydrological distance and conditions between it and the application site is sufficient to rule out any significant effects.*

Table 1 – Natura 2000 Sites Within 15km of the Proposed Site

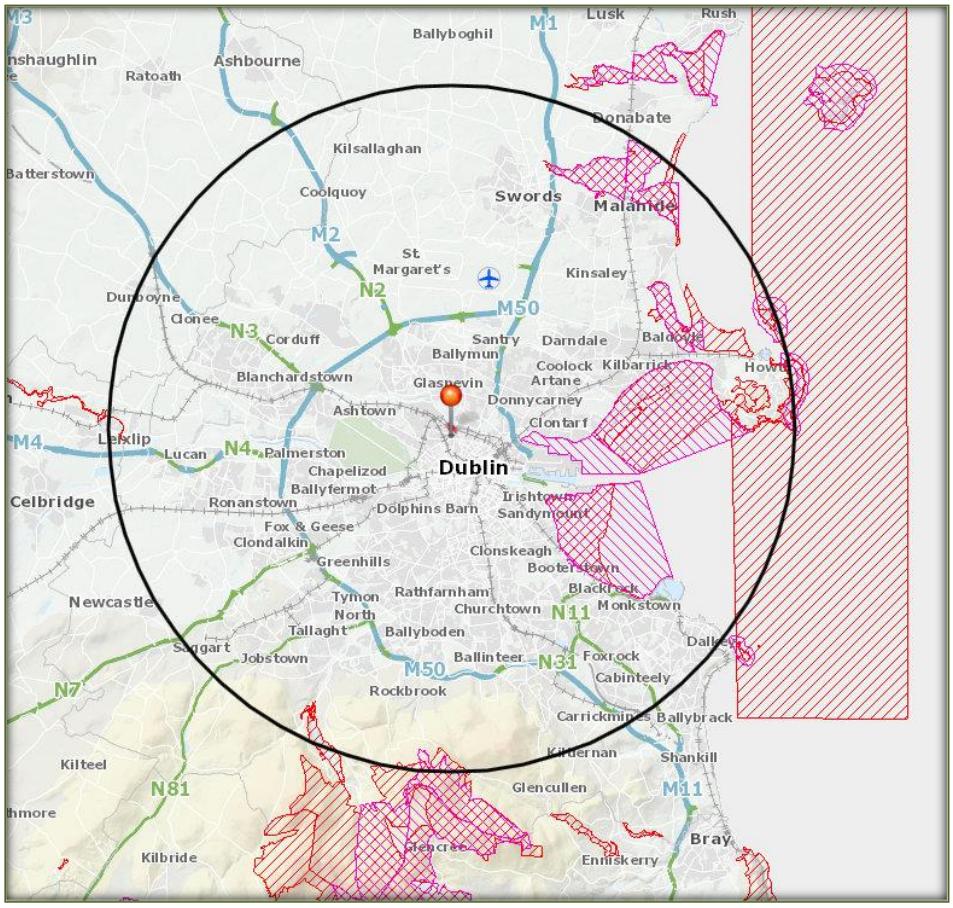


Figure 5 – The Application Site (Pinned) in relation to the Natura 2000 Sites (SACs – Red Hatching; SPAs – Pink Hatching). 15km Boundary Shown.

3.4 IDENTIFICATION OF POTENTIAL IMPACTS

The proposed development at Cross Guns will occur on a site that is adjacent to the Royal Canal and this discharges into the River Liffey which is upstream of the four Natura 2000 sites that are listed in Inner Dublin Bay. Therefore, the site can be considered to be hydrologically upstream of these Natura 2000 sites and they are therefore within its Zone of Influence. Therefore, impacts upon these Natura 2000 sites arising from the construction and operation of this proposed development cannot be ruled out as there are potential source – pathway – receptor linkages between the application site and these designated areas.

In accordance with the tenets of the precautionary principle and in the absence of mitigation, an accidental pollution event which might occur during the construction or operation or the proposed development, either alone or in-combination with other developments, could potentially affect the water quality in the canal and other downstream receptors, i.e., the River Liffey and / or Dublin Bay.

3.5 ASSESSMENT OF SIGNIFICANCE

This section considers the list of sites identified in Section 3.3. It can be considered that all sites with the exception of those of Inner Dublin Bay can be ruled out as significant effects upon these sites will not occur as they are not directly hydrologically connected to the site. The AA will now focus on the following four sites and the potential impacts and significant effects that may arise on these:

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

3.6 SCREENING CONCLUSIONS

The proposed development is not directly connected with or necessary to the nature conservation management of the designated site. Therefore, following consideration of the location of the Natura 2000 sites of Inner Dublin Bay in relation to the proposed development at Cross Guns and the potential impacts that may occur, this project must proceed to the next stage of Appropriate Assessment, namely the Natura Impact Assessment.

4 STAGE II – APPROPRIATE ASSESSMENT

4.1 INTRODUCTION

The main objective of this stage (Stage 2, Natura Impact Statement) in the Appropriate Assessment process is to determine whether the development of the proposed planning application at Cross Guns (either alone or in combination with other plans, programmes and projects) will result in significant adverse impacts to the integrity of the Natura 2000 sites identified with respect to these site's structures, species, functions and/or conservation objectives. This stage also outlines the mitigation measures that should be taken in order to avoid any negative impacts of this application, should it receive consent.

SITE SPECIFIC CONSERVATION OBJECTIVES

For the four sites that have been screened in, if Site Specific Conservation Objectives were available these were reviewed in light of the proposed development and the potential impacts that might occur. These Site Specific Conservation Objectives (SSCOs) aim to define the favourable conservation condition for the particular habitats or species at that site. They outline certain attributes (e.g., distribution, population structure, water quality) for different species and habitats with targets, which define favourable condition for a habitat or species at a particular site. The maintenance of habitats and species within the Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at national level. Where available, these SSCOs can be downloaded on the NPWS website. Any potential threats to the attributes and targets as defined in these SSCOs were assessed and where necessary, mitigated for. Where SSCOS were not available, then the SSCOs of other Natura 2000 sites with comparable QIs were referred to.

For each Qualifying Interest of the SAC, the specific conservation objective is either to *maintain or restore* the favourable conservation condition of that interest, by defining a list of attributes and targets which are indicative of the conservation status of that interest. For habitats, the main attributes include habitat area; habitat and community distribution; vegetation structure/composition and physical structure. The main target is to ensure that the habitats are stable or increasing in area and that the other attributes are maintained or restored. For the Annex II species of the SAC, the main attributes are population trend and distribution, whilst the targets aim to ensure that the long term population trends of the species are stable or increasing and that there is no significant decrease in the numbers or range of areas used by the species, other than that occurring from natural patterns of variation.

4.2 NATURA 2000 SITES IDENTIFIED

SOUTH DUBLIN BAY / RIVER TOLKA ESTUARY SPA 004024

Site Description

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 Tolka Estuary to the north of the River Liffey. A portion of the shallow bay waters 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. The sands support the largest stand of *Zostera noltii* on the East Coast. 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. Sediments in the Tolka Estuary vary from soft thixotrophic muds with a high organic content in the inner estuary to exposed, well aerated sands off the Bull Wall. The proximity of the site to Dublin City results in it being a very popular recreational area. It is also important for educational and research purposes.

The site possesses extensive intertidal flats which support wintering waterfowl which are part of the overall Dublin Bay population. It regularly has an internationally important population of *Branta bernicla hrota*, which feeds on *Zostera noltii* in the autumn. It has nationally important numbers of a further 6 species: *Haematopus ostralegus*, *Charadrius hiaticula, Calidris canutus, Calidris alba, Calidris alpina* and *Limosa lapponica*. It is an important site for wintering gulls, especially *Larus ridibundus* and *Larus canus*. South Dublin Bay is the premier site in Ireland for *Larus melanocephalus,* with up to 20 birds present at times. It is a regular autumn roosting ground for significant numbers of terns, including *Sterna dougallii, S. hirundo* and *S. paradisaea*.

The full NPWS site synopsis for this site is available online at npws.ie.

In the Natura 2000 data form for this site, the negative threats and pressures on this site are listed as follows:

- D01.02 - Roads, motorways (medium rank)
- E01 - Urbanised areas; human habitation (high rank)
- E02 - Industrial and commercial areas (high rank)
- E03 – Discharges (high rank)
- F02.03 - Leisure fishing (medium rank)
- F02.03.01 - Bait digging, collection (medium rank)
- G01.01 - Nautical sports (medium rank)

- G01.02 - Walking, horse-riding and non-motorised vehicles (high rank)
- J02.01.02 - Reclamation of land from sea, estuary and marsh (high rank)
- K02.03 - Eutrophication (natural) (medium rank)

Site Specific Conservation Objectives

The NPWS Conservation Interests of the South Dublin Bay / River Tolka Estuary SPA 004024 and their Site Conservation Condition in this SPA (NPWS, 2015) are presented in Tables 2 and 3:

SSCOs for this site were produced by NPWS in 2015. They are summarised in Table 2 below.

Qualifying Interest	SSCO
Light-bellied Brent Goose *Branta bernicla hrota*	Maintain
Oystercatcher *Haematopus ostralegus*	Maintain
Ringed Plover *Charadrius hiaticula*	Maintain
Grey Plover *Pluvialis squatarola*	No SSCO – Species set for Removal as a QI
Knot *Calidris canutus*	Maintain
Sanderling *Calidris alba*	Maintain
Dunlin *Calidris alpina*	Maintain
Bar-tailed Godwit *Limosa lapponica*	Maintain
Redshank *Tringa totanus*	Maintain
Black-headed Gull *Chroicocephalus ridibundus*	Maintain
Roseate Tern *Sterna dougallii*	Maintain
Common Tern *Sterna hirundo*	Maintain
Arctic Tern *Sterna paradisaea*	Maintain
Wetland and Waterbirds	Maintain

Table 2 – SSCOs for the South Dublin Bay / River Tolka Estuary SPA

The objectives for all these bird species (with the exception of the tern species) are the same and are presented in Tables 3a-3c.

Attribute	Measure	Target
Population trend	Percentage Change	Long term population trend stable or increasing
Distribution	Range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by the QI, other than that occurring from natural patterns of variation

Table 3a – Attributes, Measures and Targets for the South Dublin Bay / River Tolka Estuary SPA

The SSCOS for the three tern species include:

Attribute	Measure	Target
Passage population: individuals	Number	No significant decline
Distribution: roosting areas	Number; location; area (ha)	No significant decline
Prey biomass available	Kg	No significant decline
Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the number of roseate tern/common tern/artic tern among the post-breeding aggregation of terns.
Breeding population abundance: apparently occupied nests	Number	No significant decline
Productivity rate: fledged young per breeding pair	Mean number	No significant decline
Passage population: Individuals	Number	No significant decline
Distribution: breeding colonies	Number; location; area (ha)	No significant decline
Prey biomass available	Kg	No significant decline
Barriers to connectivity	Number; location; shape; area (ha)	No significant increase
Disturbance at the breeding site	Level of impact	Human activities should occur at levels that do not adversely affect the breeding common tern population

Table 3b – Attributes, Measures and Targets for the South Dublin Bay / River Tolka Estuary SPA (Tern Species)

The SSCOS for the wetlands are:

Attribute	Measure	Target
Habitat Area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2,587ha, other than that occurring from natural patterns of variation.

Table 3c – Attributes, Measures and Targets for Wetlands in South Dublin Bay / River Tolka Estuary SPA

NORTH BULL ISLAND SPA 004006

Site Description

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 5km long and 1km wide and runs parallel to the coast between Clontarf and Sutton. The sediment which forms the island is predominantly glacial in origin and siliceous in nature. A well-developed dune system runs the length of the island, with good examples of embryonic, shifting marram and fixed dunes, as well as excellent examples of humid dune slacks. Extensive salt marshes also occur. Between the island and the mainland occur two sheltered intertidal areas which ares eparated by a solid causeway constructed in 1964. The seaward side of the island has a fine sandy beach. A substantial area of shallow marine water is included in the site. Part of the interior of the island has been converted to golf courses. The proximity of the North Bull Island to Dublin City results in it being a very popular recreational area. It is also very important for educational and research purposes. Nature conservation is a main land-use within the site.

The site is among the top ten sites for wintering waterfowl in the country. It supports internationally important populations of *Branta bernicila hrota* and *Limosa lapponica* and is the top site in the country for both of these species. A further 14 species have populations of national importance, with particular notable numbers of *Tadorna tadorna* (8.5% of national total), *Anas acuta* (11.6% of national total), *Pluvialis squatarola* (6.9% of national total), *Calidris canutus* (10.5% of national total). North Bull Island SPA is a regular site for passage waders such as *Philomachus pugnax*, *Calidris ferruginea* and *Tringa erythropus*. The site supports *Asio flammeus* in winter. Formerly the site had an important colony of *Sterna albifrons* but breeding has not occurred in recent years. The site provides both feeding and roosting areas for the waterfowl species. Habitat quality for most of the estuarine habitats is very good. The site has a population of the rare *Petalophyllum ralfsii* which is the only known station away from the western seaboard as well as five Red Data Book vascular plant species and four bryophyte species. It is nationally important for three insect species. Wintering bird populations have been monitored more or less continuously since the late 1960s, and the other scientific interests of the site have also been well documented. Future prospects are good owing to various designations assigned to site

The full NPWS site synopsis for this site is available online at npws.ie.

In the Natura 2000 data form for this site, the negative threats and pressures on this site are listed as follows:

- D01.02 - Roads, motorways (medium rank)
- D01.05 – Bridges, viaducts (high rank)
- D03.02 – Shipping lanes (medium rank)
- E01.01 – Continuous urbanisation (medium rank)
- E01.04 – Other patterns of habitation (low rank)
- E02 - Industrial and commercial areas (medium rank)
- E03 – Discharges (medium rank)
- F02.03.01 - Bait digging, collection (medium rank)
- G01.01 - Nautical sports (medium rank)
- G01.02 - Walking, horse-riding and non-motorised vehicles (high rank)
- G02.01 – Golf course (medium rank)

Site Specific Conservation Objectives

The NPWS Conservation Interests of the North Bull Island SPA 004006 and their Site Conservation Condition in this SPA (NPWS, 2015) are presented in Table 4:

Qualifying Interest	SSCO
Light-bellied Brent Goose *Branta bernicla hrota*	Maintain
Shelduck Tadorna *tadorna*	Maintain
Teal *Anas crecca*	Maintain
Pintail *Anas acuta*	Maintain
Shoveler *Anas clypeata*	Maintain
Oystercatcher *Haematopus ostralegus*	Maintain
Golden Plover Pluvialis apricaria	Maintain
Grey Plover *Pluvialis squatarola*	Maintain
Knot *Calidris canutus*	Maintain
Sanderling *Calidris alba*	Maintain
Dunlin *Calidris alpina*	Maintain
Black-tailed Godwit *Limosa limosa*	Maintain
Bar-tailed Godwit *Limosa lapponica*	Maintain
Curlew *Numenius arquata*	Maintain
Redshank *Tringa totanus*	Maintain
Turnstone *Arenaria interpres*	Maintain
Black-headed Gull *Chroicocephalus ridibundus*	Maintain

Wetland and Waterbirds	Maintain

Table 4 – SSCOs for the North Bull Island SPA

The attributes, measures and targets for all these bird species are the same as that listed for the QIs of the South Dublin Bay / River Tolka Estuary SPA and these were listed in Table 3a. The attributes, measures and targets for the wetlands are also the same as the South Dublin Bay / River Tolka Estuary SPA (Table 3c).

POTENTIAL IMPACTS UPON THE QIS OF THESE SPAS

The Royal Canal at Cross Guns is at a minimum distance of 6.7km upstream of the areas designated for these bird species. The Royal Canal does not discharge directly into any of these sites. Given this hydrological distance and the estuarine/coastal mixing processes and dilution that would occur between the Royal Canal at Cross Guns and these designated areas, it is unlikely that the proposed development would lead to any significant decrease in water quality in Dublin Bay which would affect these SPAs or their qualifying interests.

The proposed development will not occur in an area used by the bird species listed above. The habitats within the application site are not suitable for these wading bird species. The proposed development will not lead to decreases in the population trend of any bird species. The proposed development will not lead to any decrease in the range, timing or intensity of use of any areas within any SPA by these QI bird species. The proposed development will not lead to the loss of any wetland habitat area within either SPA.

Nonetheless, whilst significant effects upon these SPAs are unlikely, they can not be fully ruled out. In the absence of mitigation, any pollution event of significant magnitude, either alone or in combination with other plans or projects, could potentially affect water quality in the Royal Canal, which is upstream of these SPAs. Therefore, it is recommended that mitigation measures are included as part of this NIS to ensure the protection of water quality in the canal and that pollution from silt, aggregate or hydrocarbons does not occur.

SOUTH DUBLIN BAY SAC 000201

Site Description

This intertidal site extends from the South Wall at Dublin Port to the West Pier at Dun Laoghaire, a distance of c. 5 km. At their widest, the intertidal flats extend for almost 3 km. The seaward boundary is marked by the low tide mark, while the landward boundary is now almost entirely artificially embanked. 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. A number of small streams and drains flow into the site. The proximity of the site to Dublin City results in it being a very popular recreational area. It is also important for educational and research purposes.

The site possesses a fine and fairly extensive example of intertidal flats. Sediment type is predominantly sand, with muddy sands in the more sheltered areas. A typical macro-invertebrate fauna exists. It has the largest stand of *Zostera* on the east coast. Supports part of the important wintering waterfowl populations of Dublin Bay. It regularly has an internationally population of *Branta bernicila horta*, plus nationally important numbers of at least a further 6 species, including *Limosa lapponica*.

The full NPWS site synopsis for this site is available online at npws.ie.

In the Natura 2000 data form for this site, the negative threats and pressures on this site are listed as follows:

- D01.01 – Paths, tracks, cycling tract (medium rank)
- D01.02 - Roads, motorways (low rank)
- E01 – Urbanised areas, human habitation (High rank)
- E02 - Industrial and commercial areas (high rank)
- E03 – Discharges (medium rank)
- F02.03.01 - Bait digging, collection (medium rank)
- G01.01 - Nautical sports (medium rank)
- G01.01.02 – Non-motorized nautical sports (medium rank)
- G01.02 - Walking, horse-riding and non-motorised vehicles (high rank)
- H03 – Marine water pollution (medium rank)
- J02.01.02 – Reclamation of land from sea, estuary or marsh (high rank)
- K02.02 – Accumulation of organic material (high rank)

NORTH DUBLIN BAY SAC 000206

Site Description

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 5km long and 1km wide and runs parallel to the coast between Clontarf and Sutton. The sediment which forms the island is predominantly glacial in origin and siliceous in nature. Between the island and the mainland there occurs two sheltered intertidal areas which are separated by a solid causeway constructed in 1964. The seaward side of the island has a fine sandy beach. A substantial area of shallow marine water is included in the site. The interior of the island is excluded from the site as it has been converted to golf courses. The proximity of the North Bull Island to Dublin City results in it being a very popular recreational area. It is also very important for educational and research purposes. Nature conservation is a main landuse within the site.

The site possesses an excellent diversity of coastal habitats. The North Bull dune system is one of the most important systems on the east coast and is one of the few in Ireland that is actively accreting. It possesses extensive and mostly good quality examples of embryonic, shifting marram and fixed dunes, as well as excellent examples of humid dune slacks. Both Atlantic and Mediterranean salt marshes are well represented and a particularly good marsh zonation is shown. The salt marshes grade into mudflats and sandflats, some of which are dominated by annual Salicornia species. *Petalophyllum ralfsii* occurs at its only known station away from the western seaboard. The site has five Red Data Book vascular plant species and four Red Data Book bryophyte species. This is one of the most important sites for wintering waterfowl in Ireland, with internationally important populations of *Branta bernicla horta, Calidris canutus* and *Limos alapponica*, plus nationally important numbers of a further 14 species. 20% of the national total of *Pluvialis squatarola* occurs here. Formerly it had important colony of *Sterna albifrons*. North Dublin Bay is nationally important for three insect species. The scientific interests of the site have been well documented and future prospects are good owing to the various designations assigned to site.

The full NPWS site synopsis for this site is available online at npws.ie.

In the Natura 2000 data form for this site, the negative threats and pressures on this site are listed as follows:

- A04 – Grazing (medium rank)
- E01 – Urbanised areas, human habitation (High rank)

- E02 - Industrial and commercial areas (high rank)
- E03 – Discharges (high rank)
- F02.03 – Leisure fishing (low rank)
- F02.03.01 - Bait digging, collection (medium rank)
- G01.01 - Nautical sports (medium rank)
- G01.02 – Walking, horse-riding and non-motorised vehicles (high rank)
- G02.01 – Golf course (medium rank)
- G05.05 – Intensive maintenance of public parcs / cleaning of beaches (low rank)
- H01.03 – Other point source pollution to surface water (medium rank)
- H01.09 – Diffuse pollution to surface waters due to sources not listed (medium rank)
- I01 – Invasive non-native species (medium rank)
- J01.01 – Burning down (medium rank)
- K03.06 – Antagonism with domestic animals (high rank)

Site Specific Conservation Objectives

Due to the overlap of QIs between the South Dublin Bay SAC and the North Dublin Bay SAC, the SSCOs for both sites are considered together below. SSCOS for both these SACs were produced by the NPWS in 2013.

1. *Mudflats and sandflats not covered by seawater at low tide (Both Sites)*

The SSCO for this habitat is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat Area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes.
Community Extent	Hectares	Maintain the extent of the *Zostera*-dominated community and the *Mytilus edulis*-dominated community complex, subject to natural processes.
Community Structure: *Zostera* Density	Shoots / m^2	Conserve the high quality of the *Zostera*-dominated community, subject to natural processes
Community Structure: *Mytilus edulis* density	Individuals / m^2	Conserve the high quality of the *Mytilus edulis* dominated community, subject to natural processes
Community Distribution	Hectares	Conserve the following community types in a natural condition: Fine sands with *Angulus tenuis* community complex.

Table 5 – SSCOs for Mudflats and Sandflats

2. *Annual Vegetation of Drift Lines (Both Sites)*

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat Area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.
Habitat Distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical Structure: Functionality and Sediment Supply	Presence / Absence of Physical Barriers	Maintain the natural circulation of sediments and organic matter, without any physical obstructions
Vegetation Structure: Zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation Composition: Typical Species and Sub-Species Communities	Percentage Cover	Maintain the presence of species-poor communities with typical species: sea rockey; sea sandwort; prickly saltwort and oraches
Vegetation Composition; Negative Indicator Species	Hectares	Negative indicator species (including non-natives) to represent less than 5% cover.

Table 6 – SSCOs for Annual Vegetation of Drift Lines

3. *Salicornia and other annuals colonising mud and sand (Both Sites)*

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat Area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Malahide Estuary- 1.93ha
Habitat Distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical Structure: Sediment Supply	Presence / Absence of Physical Barriers	Maintain, or where necessary restore, natural circulation of sediments and organic matter, without any physical obstructions
Physical Structure: Creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical Structure: Flooding Regime	Hectares Flooded: Frequency	Maintain natural tidal regime
Vegetation Structure: Zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation Structure:	Centimetres	Maintain structural variation within sward

Vegetation Height		
Vegetation Structure: Vegetation Cover	% Cover at a Representative Sample of Monitoring Stops	Maintain more than 90% of area outside creeks vegetated
Vegetation Composition: Typical Species and Sub-Species Communities	Percentage Cover	Maintain the presence of species-poor communities listed in SMP
Vegetation Structure: Negative Indicator Species – *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*). No new sites for this species and an annual spread of less than 1% where it is already known to occur

Table 7– SSCOs for Salicornia and Other Annuals

4. *Embryonic Shifting Dunes (Both Sites)*

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat Area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.
Habitat Distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical Structure: Functionality and Sediment Supply	Presence / Absence of Physical Barriers	Maintain the Natural Circulation of Sediment and Organic Matter, without and physical obstructions
Vegetation Structure: Zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation Composition: Plant health of dune grasses	% Cover	95% of marram grass *Ammophilia arenaria* and or lyme'grass *Leymus arenarius* should be healthy (i.e., green plant parts above ground and flowering heads present)
Vegetation Composition: Typical Species and Sub-Species Communities	Percentage Cover at a Representative Sample of Monitoring Stops	Maintain the presence of species-poor communities with typical species: sand couch and/or lyme grass.
Vegetation Composition: Negative Indicator Species – *Spartina anglica*	Percentage Cover	Negative indicator species (including non-natives) to represent less than 5% cover

Table 8 – SSCOs for Embryonic Shifting Dunes

5. Atlantic Salt Meadows (North Dublin Bay SAC only)

The SSCO for this habitat is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat Area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.
Habitat Distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical Structure: Sediment Supply	Presence / Absence of Physical Barriers	Maintain natural circulation of sediments and organic matter, without any physical obstructions
Physical Structure: Creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical Structure: Flooding Regime	Hectares Flooded: Frequency	Maintain natural tidal regime
Vegetation Structure: Zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation Structure: Vegetation Height	Centimetres	Maintain structural variation within sward
Vegetation Structure: Vegetation Cover	% Cover at a Representative Sample of Monitoring Stops	Maintain more than 90% of area outside creeks vegetated
Vegetation Composition: Typical Species and Sub-Species Communities	Percentage Cover at a Representative Sample of Monitoring Stops	Maintain range of subcommunities with typical species listed in SMP
Vegetation Structure: Negative Indicator Species – *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1% where it is known to occur.

Table 9 – Atlantic Salt Meadows

6. Mediterranean Salt Meadows (North Dublin Bay SAC only)

The SSCO for this habitat is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat Area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Malahide Estuary- 0.64 ha
Habitat Distribution	Occurrence	No decline, subject to natural processes.
Physical Structure: Sediment Supply	Presence / Absence of Physical Barriers	Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions
Physical Structure: Creeks and pans	Occurrence	Maintain creek and pan structure, subject to natural processes, including erosion and succession
Physical Structure: Flooding Regime	Hectares Flooded: Frequency	Maintain natural tidal regime
Vegetation Structure: Zonation	Occurrence	Maintain the range of saltmarsh habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation Structure: Vegetation Height	Centimetres	Maintain structural variation within sward
Vegetation Structure: Vegetation Cover	% Cover at a Representative Sample of Monitoring Stops	Maintain more than 90% of area outside creeks vegetated
Vegetation Composition: Typical Species and Sub-Species Communities	Percentage Cover at a Representative Sample of Monitoring Stops	Maintain range of subcommunities with typical species listed in SMP
Vegetation Structure: Negative Indicator Species – *Spartina anglica*	Hectares	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1% where it is known to occur.

Table 10 – SSCOs for Mediterranean Salt Meadows

7. Shifting Dunes along the Shoreline with Ammophila arenaria (white dunes) (North Dublin Bay SAC only)

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat Area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. Total area mapped - 1.8 ha
Habitat Distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical Structure: Functionality and Sediment Supply	Presence / Absence of Physical Barriers	Maintain the Natural Circulation of Sediment and Organic Matter, without and physical obstructions
Vegetation Structure: Zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation Composition: Plant health of dune grasses	% Cover	95% of marram grass *Ammophilia arenaria* and or lyme'grass *Leymus arenarius* should be healthy (i.e., green plant parts above ground and flowering heads present)
Vegetation Composition: Typical Species and Sub-Species Communities	Percentage Cover at a Representative Sample of Monitoring Stops	Maintain the presence of species-poor communities dominated by marram grass (*Ammophila arenaria*) and/or lyme-grass (*Leymus arenarius*)
Vegetation Composition: Negative Indicator Species – *Spartina anglica*	Percentage Cover	Negative indicator species (including non-natives) to represent less than 5% cover

Table 11 – SSCOs for Shifting Dunes

8. Fixed Coastal Dunes with Herbaceous Vegetation (Grey Dunes) (North Dublin Bay Only)

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat Area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.
Habitat Distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical Structure: Functionality and Sediment Supply	Presence / Absence of Physical Barriers	Maintain the Natural Circulation of Sediment and Organic Matter, without and physical obstructions
Vegetation Structure: Zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation	Percentage	Bare ground should not

Structure: Bare Ground	cover	exceed 10% of fixed dune habitat, subject to natural processes
Vegetation Structure: Sward Height	Centimetres	Maintain structural variation within sward
Vegetation Composition: Typical Species and Sub-Species Communities	Percentage Cover at a Representative Sample of Monitoring Stops	Maintain range of subcommunities with typical species listed in Ryle et al. (2009)
Vegetation Composition: Negative Indicator Species-including *Hippophae rhamnoides*	Percentage Cover	Negative indicator species (including non-natives) to represent less than 5% cover
Vegetation Composition: Scrub and trees	Percentage Cover	No more than 5% cover or under control

Table 12 – SSCOs for Fixed Coastal Dunes

9. Humid Dune Slacks (North Dublin Bay only)

The SSCO for this habitat is to *restore* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Habitat Area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession.
Habitat Distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes.
Physical Structure: Functionality and Sediment Supply	Presence / Absence of Physical Barriers	Maintain the Natural Circulation of Sediment and Organic Matter, without and physical obstructions
Physical structure: hydrological and flooding regeime	Water table levels' ground water fluctuations	Maintain natural hydrological regime
Vegetation Structure: Zonation	Occurrence	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession
Vegetation Structure: Bare Ground	Percentage cover	Bare ground should not exceed 5% of dune slack habitat, with the exception of pioneer slacks which can have up to 20% bare ground.
Vegetation Structure: Vegetation Height	Centimetres	Maintain structural variation within sward

Vegetation Composition: Typical Species and Sub-Species Communities	Percentage Cover at a Representative Sample of Monitoring Stops	Maintain range of subcommunities with typical species listed in Delaney et al. (2013)
Vegetaion composition: Cover of *Salix repens*	Percentage cover; centimetres	Maintain less than 40% cover of creeping willow (Salix repens)
Vegetation Composition: Negative Indicator Species	Percentage Cover	Negative indicator species (including non-natives) to represent less than 5% cover
Vegetation Composition: Scrub and trees	Percentage Cover	No more than 5% cover or under control

Table 13 – SSCOs for Humid Dune Slacks

10. Petalwort (North Dublin Bay SAC only)

The SSCO for this species is to *maintain* its favourable conservation condition which is defined by the following list of attributes and targets:

Attribute	Measure	Target
Distribution of Populations	No and geographical spread of populations	No decline
Population size	Number of individuals	No decline
Area of suitable habitat	Ha	No decline
Hydrological conditions: soil moisture	Occurrence	
Vegetation Structure: Height and cover	Centimetres and Percentage	Maintain open, low vegetation with a high percentage of bryophytes and bare ground/

Table 14 – SSCOs for Petalwort

Potential Impacts upon the QIs of the South Dublin Bay SAC 000201 / North Dublin Bay SAC 000206

The Royal Canal at Cross Guns is at a minimum of 6.7km upstream of the SACs of Inner Dublin Bay. The Royal Canal does not discharge directly into any of these sites. Potential impacts upon all the QIs of these SACs arising from the proposed application have been considered. Given the hydrological distance involved and the estuarine/coastal mixing processes and dilution that would occur between the application site and these designated areas, it is unlikely that the proposed development will lead to any significant negative effect

in water quality in Dublin Bay which would affect these SACs, their qualifying interests or the attributes or targets which have been set in order to maintain or restore the favourable conservation condition of these habitats or species.

In addition, water quality is not a target for the maintenance of any of the QIs within either SAC of Dublin Bay. The targets relate to habitat distribution and area, as well as vegetation structure and control of negative indicator species and scrub. The proposed development will not lead to any impacts upon these QIs, by virtue of changes to the physical structure of the habitats or to the vegetation structure which defines their favourable conservation status.

Nonetheless, whilst significant effects upon these SACs are unlikely, they cannot be fully ruled out. In the absence of mitigation, any pollution event of significant magnitude, either alone or in combination with other plans or projects, could potentially affect water quality in the Royal Canal, which is upstream of these SACs. Therefore, it is recommended that mitigation measures are included as part of this NIS to ensure the protection of water quality in the canal and that pollution from silt, aggregate or hydrocarbons does not occur.

4.3 POTENTIAL IN-COMBINATION EFFECTS

This section of the NIS examines whether any other plans or projects have the potential to act cumulatively or in-combination with the proposed development to adversely affect the integrity of the Natura 2000 sites listed for Inner Dublin Bay, i.e., South Dublin Bay / River Tolka Estuary SPA, the South Dublin Bay SAC, North Bull Island SPA and North Dublin Bay SAC.

The proposed development site is situated within the Liffey catchment. Therefore, any national, regional or local land use plans, along with any existing or proposed projects, further upstream in the catchment, or in the same groundwater body, have the potential to affect water quality in the Liffey catchment and therefore also have the potential to act in-combination with the proposed development to affect the above European sites.

Any plan or existing/proposed project that could potentially affect the Natura 2000 sites above in-combination with the proposed development must adhere to the overarching ecological and environemtnal protective policies and objectives of the relevant land use plan. These policies and objectives will ensure the protection of Natura 2000 sites and will include the requirement for any future project to undergo Screening for Appropriate Assessment and/or Appropriate Assessment.

Dublin City Development Plan 2016-2020

Planning policy at the local level is provided by the Dublin City Development Plan 2016 – 2022. This plan contains a number of objectives and policies relevant to ecology, biodiversity and nature conservation. Some of these relevant measures are outlined in Table 15.

Reference	Objective / Policy
GI1	To develop a green infrastructure network through the city, thereby interconnecting strategic natural and semi-natural areas with other environmental features including green spaces, rivers, canals and other physical features in terrestrial (including coastal) and marine areas.
GI2	That any plan/project, either individually or in combination with other plans or projects that has the potential to give rise to significant effect on the integrity of any European site(s), shall be subject to an appropriate assessment in accordance with Article 6(3) and 6(4) of the EU Habitats Directives.
GI3	To develop linear parks, particularly along waterways, and to link existing parks and open spaces in order to provide green chains throughout the city. Where lands along the waterways are in private ownership, it shall be policy in any development proposal to secure public access along the waterway.
GI7	To continue to protect and enhance landscape, including existing green spaces through sustainable planning and design for both existing community and for future generations in accordance with the principles of the European Landscape Convention
GI23	To protect flora, fauna and habitats, which have been identified by Articles 10 and 12 of Habitats Directive, Birds Directive, Wildlife Acts 1976–2012, the Flora (Protection) Order 2015 S.I No. 356 of 2015, European Communities (Birds and Natural Habitats) Regulations 2011 to 2015.
GI25	To make provisions for habitat creation/ maintenance and facilitate biodiversity by encouraging the development of linear parks, nature trails, wildlife corridors, urban meadows and urban woodlands.
GI27	To minimise the environmental impact of external lighting at sensitive locations to achieve a sustainable balance between the needs of an area, the safety of walking and cycling routes and the protection of light sensitive species such as bats.
GIO23	To support the implementation of the 'Dublin City Biodiversity Action Plan 2015–2020', including inter alia (a) the conservation of priority species, habitats and natural heritage features, and (b) the protection of designated sites.
GIO26	To review ancient and species-rich hedgerows within the city (as identified in the 2006 survey of ancient and speciesrich hedgerows in Dublin city) and protect existing hedgerow sections.
GIO27	To protect trees, hedgerows or groups of trees which function as wildlife corridors or 'stepping stones' in accordance with Article 10 of the EU Habitats Directive.
GIO28	To identify opportunities for new tree planting to ensure continued regeneration of tree cover across the city, taking account of the context within which a tree is to be planted and planting appropriate tree species for the location
GIO29	To encourage trees to be incorporated in (a) the provision of temporary green spaces (e.g. pop-up parks) either planted into the soil or within moveable containers as appropriate and (b) within sustainable urban drainage systems (SUDS), as appropriate.

Table 15 – Local Policies Relevant to Ecology and Nature Conservation

Future Plans / Other Projects

The Dublin City Council planning map tool was used to identify any current or future or projects which may potentially impact on Natura 2000 sites when considered in combination with the proposed development.

In the preceding three years, a large number of planning applications have been granted planning permission. Where necessary, these developments were screened for AA or AA was carried out and an NIS submitted. The proposed development will not lead to cumulative impacts upon any designated site when considered in combination with other developments that have been properly screened for AA, or where an NIS was submitted.

There is also a proposed SHD project at the former Ormond Printworks at Ratoath Road, Dublin 11. This application is further upstream along the Royal Canal from this current application. This SHD application was accompanied by an NIS (Scott Cawley, 2020). Following mitigation, this NIS ruled out the potential for impacts or effects (either on their own or in-combination) to occur upon South Dublin Bay / River Tolka Estuary SPA, the South Dublin Bay SAC, North Bull Island SPA and North Dublin Bay SAC. The proposed development at Cross Guns will not lead to any impacts upon the designated sites when considered in-combination with this other SHD application (details available at https://royalcanalparkphase4shd.ie).

There is also another proposed SHD Development at the Phibsboro Shopping Centre site. The proposed development consists of the alterations to existing permitted development at Phibsborough Shopping Centre (as permitted under DCC Reg. Ref.: 2628/17, ABP Reg. Ref.: ABP-300241-17) from student accommodation to shared accommodation. This application was accompanied by an AA screening report (details available at https://planningapplication.s3.eu-west-1.amazonaws.com/projects/1038/documents/Appropriate%20Assessment%20Screening%20Report.pdf).

Any future application in the area that has the potential to impact upon these Natura 2000 sites will be subjected to Appropriate Assessment as required under Articles 6(3) of the Habitats Directive. This current development will have no cumulative impacts upon the SACs / SPAs identified when considered in combination with any other development that has been screened for no impacts themselves (Stage 1) or where potential impacts have been mitigated against (Stage 2 AA / NIS).

5 MITIGATION MEASURES

In order to avoid any reductions in water quality in the area surrounding the proposed development and in order to protect certain designated sites and species, a number of mitigation measures must be implemented and followed. These measures are also included in the EcIA and they should be included as part of the Outline Construction, Demolition and Environmental Waste Management Plan.

Site Preparation and Construction

- Site preparation and construction must be confined to the development site only and should adhere to all standard best practice measures and the measures outlined in this EcIA and the NIS. Work areas should be kept to the minimum area required to carry out the proposed works and the area should be clearly marked out in advance of the proposed works.

- All construction waste must be removed from site by a registered contractor to a registered site. Evidence of the movement and safe disposal of the construction waste must be retained and presented to Local Authority upon request. The applicants and construction contractors will be responsible for the safe removal of any construction waste generated on site. Removal of the construction waste will occur as soon as possible after construction works.

- It is vital that there is no deterioration in water quality in the Royal Canal pNHA. This will protect both habitats and species that are sensitive to pollution, including downstream Natura 2000 sites. Therefore, strict controls of erosion, sediment generation and other pollutants associated with the construction process should be implemented. These measures should be installed prior to commencement of main construction site works. Prior to the removal of the existing wall that divides the site and the canal tow path, a silt fence installed on the outside the site boundary and the canal tow path will be efficient to prevent the ingress of any pollutants into the canal.

- There should be no discharges of contaminated waters to ground or surface waters from these developments, either during the construction or operation of the development. The control and management of hydrocarbons on site will be vital to prevent deteriorations in surface and groundwater quality locally. The following measures must be employed on site:

    - On-site refuelling must be carried out at designated refuelling stations within the site. Only designated trained and competent operatives should be authorised to

refuel plant on site. Drip trays must be used when refuelling all machinery. Absorbent material and pads should be available in the event of any accidental spillages.

- Alternatively, mobile double skinned fuel bowsers may be used. Fuel bowsers should be parked on a level area in the site when not in use. They should be bunded at 110%.
- There must be minimal maintenance of construction vehicles or plant on site.
- On-site diesel tanks should be double skinned to 110% of their capacity.
- Containment stores should be used for refuelling of small plant such as consaws etc.
- Fuel volumes stored on site should be minimised. Any fuel storage areas should be bunded appropriately for the fuel storage volume for the time period of the construction.
- Machines used should be regularly inspected for leaks and fitness for purpose.
- Any hazardous materials should be stored in secure bunded areas.
- An emergency plan for the construction phase to deal with accidental spillages should be contained within the Outline Construction, Demolition and Environmental Waste Management Plan.
- Waste oils and hydraulic fluids should be collected in leak-proof containers and removed from site for disposal and recycling.

- Best practice concrete / aggregate management measures should be employed on site. These should include:

  - Best practice in bulk-liquid concrete management must be employed on site addressing pouring and handling, secure shuttering, adequate curing times etc.
  - Stockpile areas for sands and gravel should be kept to a minimum size, well away from the drains and watercourses (minimum 50m).
  - Where concrete shuttering is used, measures should be put in place to prevent against shutter failure and control storage, handling and disposal of shutter oils.
  - Wash down water from concrete trucks will be appropriately controlled on-site. Such controls may include collection to allow sediment to settle out and reach neutral pH before clarified water is released to the local watercourse or allowed to percolate into the ground.
  - Activities which result in the creation of cement dust should be controlled by dampening down the areas.

- Raw and uncured waste concrete should be disposed of by removal from the site or by burial on the site in a location and manner which will not impact upon local watercourses.
- Stockpile areas for sands and gravel should be kept to a minimum size, well away from the river.

- During construction, surface water on the site must be controlled and management to avoid any impacts upon local ground or surface water receptors. Construction water should not be discharged directly into any watercourse. Good construction practices such as wheel washers and dust suppression measures must be undertaken. There must be no discharges of silt laden surface water into the public sewer.

- Guidelines within The Construction Industry Research and Information Association (CIRIA) provides guidance on the control and management of water pollution from construction sites ('Control of Water Pollution from Construction Sites, guidance for consultants and contractors', CIRIA, 2001). Guidelines within this document must be followed.

- If swallows, swifts are house martins nest in the buildings, then demolition should only proceed once these nests are no longer being used.

- The recommendations in the accompanying bat report should be followed, including:

  - ✓ The Lighting Plan should be designed to avoid light spill in habitats adjacent to the site, particularly along the Royal Canal.

  - ✓ It will be important to maintain Dark Zones for foraging bats in areas where lighting is not necessary. However, where lighting is required, this lighting should be placed at a minimum height using the lowest lux levels permitted for health and safety reasons.

  - ✓ The lighting should be directional onto the buildings/pathways only with no spillage of light to adjoining habitats.

  - ✓ To reduce light spillage from luminaries, lights that are designed not to emit light at angles greater than 70 degrees from the vertical plane should be used. A flat glass protection is often used to reduce light spillage. Other methods could include shields, masking and louvers.

- ✓ No white light or lighting with a UV component should be permitted as this has the greatest impacts on bats due to their attraction by insects. LED lights with a broad spectrum are also not permitted. Only lighting with a narrow spectrum should be used, to avoid impacts on insects and subsequently bats.
- ✓ The lighting plan should consider activity sensors.
- ✓ Minimum lux (luminosity) level should be used or as required by Health and Safety, especially around the perimeters.
- ✓ Light spillage from doors, windows etc should be kept to a minimum.
- ✓ No lighting should be permitted along the treeline boundaries, compensatory habitats and hedgerows.
- ✓ Two 2F and Two 1FF Schwegler bat boxes with built in timber panels should be distributed throughout the site. These should be paced on trees or posts, at least 3m high with a clear drop below (as bats need to drop to start their flight). They should be placed in a dark area of the site.
- ✓ To mitigate against the loss of food sources for local bat populations, native species should be used when landscaping with trees and shrubs.
- ✓ If bats are discovered at any stage of the development, building work should cease and a bat expert should be consulted immediately.

<u>Operational Phase</u>

- The future landscaping of the site could take on board the following:
  - Only native trees and shrubs should be used in the landscaping.
  - Any proposed grass areas should be maintained through methods that mimic traditional grassland management (low level grazing and mowing regimes). This will benefit local pollinators. Locally sourced wildflower seed would also be beneficial;
  - When planting flowers, shrubs and trees native species should be used, ideally from a local source;
  - Allow some areas to go 'wild' where bramble and scrub, etc. can develop;
  - Garden plants that have the potential to become invasive must be avoided;

- Water features, e.g., attenuation ponds, could be incorporated into the development as additional wildlife features.
- Consider incorporating a "green roof" element into the proposed development.

✓

6 APPROPRIATE ASSESSMENT CONCLUSION

This current NIS has been undertaken to evaluate the potential impacts of the proposed development with regard to the effects upon the conservation objectives and qualifying interests (including the habitats and species) of the South Dublin Bay / River Tolka Estuary SPA, the South Dublin Bay SAC, North Bull Island SPA and North Dublin Bay SAC. It is considered that following mitigation, that the proposed project does not have the potential to significantly affect the conservation objectives of these aforementioned Natura 2000 sites and the integrity of these sites as a whole will not be adversely impacted.

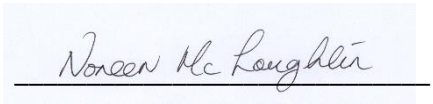
The qualifying interests of the site and their potential to be impacted upon from the potential development were listed in Section 4.2. It is considered that these potential impacts can be successfully mitigated against. With implementation of the mitigation measures there will be no deterioration in water quality or impacts upon any designated habitat or any species dependent on these designated habitats.

In light of the above, it is considered that with the implementation of the mitigation measures, that the proposed works do not have the potential to significantly affect the conservation objectives or qualifying interests of the South Dublin Bay / River Tolka Estuary SPA, the South Dublin Bay SAC, North Bull Island SPA and North Dublin Bay SAC. The integrity of these sites will not be adversely affected. Table 16 follows the integrity of the SAC / SPA checklist, which shows that the integrity of the site would not be affected by the proposed development.

Conservation Objective: Does the project have the potential to:	**Yes / No**
Cause delays in progress towards achieving the conservation objectives of the site?	N
Interrupt progress towards achieving the conservation objectives of the site?	N
Disrupt those factors that help to maintain the favourable conditions of the site?	N
Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site?	N
Other Objectives: does the project have the potential to:	
Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem?	N

Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site?	N
Interfere with predicted or expected natural changes to the site (such as water dynamics or chemical composition)?	N
Reduce the area of key habitats?	N
Reduce the population of key species?	N
Change the balance between key species?	N
Reduce diversity of the site?	N
Result in disturbance that could affect population size or density or the balance between key species?	N
Result in fragmentation?	N
Result in loss or reduction of key features (e.g. tree cover, tidal exposure, annual flooding, etc.)	N

Table 6 – Integrity of Site Checklist (From NPWS, Information Checklist for AA, Box 6, EC (2002)



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(PI Insurance details available on request)

APPENDIX I - REFERENCES AND FURTHER READING

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