



**SCREENING REPORT & NATURA IMPACT STATEMENT -
INFORMATION FOR STAGE 1 SCREENING &
STAGE 2 APPROPRIATE ASSESSMENTS
FOR A PROPOSED PARK DEVELOPMENT PROJECT AT
RACECOURSE PARK,
BALDOYLE, DUBLIN 13**

Prepared for Fingal County Council

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1 INTRODUCTION

1.1 Background and Legislative Context

This report, which contains information required for the competent authority (in this instance An Bord Pleanála) to undertake both Stage 1 Screening for Appropriate Assessment and Stage 2 Appropriate Assessment (AA) in respect of the proposed park development project at Racecourse Park, Baldoyle, Dublin 13 was prepared by Scott Cawley Ltd. on behalf of the applicant (Fingal County Council). The report provides information and appraises the potential for the proposed development of a public park at Baldoyle Racecourse Park to have significant effects, either individually or in combination with other plans or projects, on the integrity of any Natura 2000 sites (hereafter “*European sites*”¹) and furthermore assesses whether the proposed development would adversely affect the integrity of any European site. The information in this report forms part of, and should be read in conjunction with, the documentation accompanying the application for permission for the proposed development.

Article 6(3) of *Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora* (as amended) (hereafter “*the Habitats Directive*”) requires that, any plan or project not directly connected with or necessary to the management of a European site, but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to AA of its implications for the site in view of the site's conservation objectives. For the purposes of the application for permission in respect of the proposed park development project at Racecourse Park, the requirements of Article 6(3) have been transposed into Irish law by Part XAB of the Planning and Development Act 2000, as inserted.

The possibility of there being a significant effect on a European site will generate the need for a Stage 2 AA to be carried out by the competent authority for the purposes of Article 6(3). Accordingly, a Stage 1 Screening for AA in respect of an application for consent for proposed development must be carried out by the competent authority (in this case, An Bord Pleanála) in order to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with another plan or project is likely to have a significant effect on any European site. A Stage 2 AA is required if it cannot be excluded, on the basis of objective information, that a proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site. The screening stage operates merely to determine whether a full AA must be undertaken on the implications of the plan or project for the conservation objectives of relevant European sites.

This document comprises information to enable the competent authority to perform both Stage 1 screening for Appropriate Assessment and Stage 2 full Appropriate Assessment if required. The information in relation to the Stage 1 Screening Stage is presented in Section 4 of this document. Whereas information to enable the competent authority to perform its statutory function to conduct

¹ Natura 2000 sites are defined under the Habitats Directive (Article 3) as a European ecological network of special areas of conservation composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II. The aim of the network is to aid the long-term survival of Europe's most valuable and threatened species and habitats. In Ireland these sites are designed as *European sites* – as defined under the Planning and Development Act s and/or Birds and Habitats Regulations as (a) a candidate site of Community importance, (b) a site of Community importance, (c) a candidate special area of conservation, (d) a special area of conservation, (e) a candidate special protection area, or (f) a special protection area. They are commonly referred to in Ireland as candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs).

a full Appropriate Assessment, if required, is presented in Sections 5, 6 and 7 (which sections comprise the NIS).

It is the considered view of the authors of this report (Scott Cawley Ltd.) that, following the implementation of the mitigation measures prescribed in Section 6 (the effectiveness of which is also set out in Section 6), the proposed development will not, by itself or in combination with other plans or projects, have an adverse effect on the integrity of any European sites in view of their conservation objectives and there is no reasonable scientific doubt as to that conclusion.

1.2 Guidance and Approach

This document has been prepared having regard to the following documents.

1.2.1 European Commission Guidance

- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC* (European Commission Environment Directorate-General 2001)
- *Managing Natura 2000 Sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC* (European Commission 2000 and updated draft April 2015)
- *Guidance Document on Article 6(4) of the Habitats Directive 92/43/EEC. Clarification of the Concepts of Alternative Solutions, Imperative Reasons of Overriding Public Interest, Compensatory Measures, Overall Coherence.* Opinion of the European Commission (European Commission January 2007, updated 2012)
- *Communication from the Commission on the precautionary principle* (European Commission 2000)
- *Nature and Biodiversity Cases – Ruling of the European Court of Justice* (European Commission 2006)
- *Article 6 of the Habitats Directive – Rulings of the European Court of Justice* (European Commission Final Draft September 2014)

1.2.2 Irish Guidance

- *Applications for Approval for Local Authority Developments made to An Bord Pleanála under 177AE of the Planning and Development Act, 2000, as amended (Appropriate Assessment) – Guidelines for Local Authorities* (An Bord Pleanála 2013)
- *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (Department of Environment, Heritage and Local Government 2010 revision)
- *Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities.* Circular NPW 1/10 & PSSP 2/10

1.2.3 UK Guidance

- *Assessment of Implications (of Highways and/or Roads Projects) on European sites (including Appropriate Assessment) – HD44/09* (Design Manual for Roads and Bridges, UK Highways Agency February 2009)

- *Habitat Regulations Assessment Advice Note 10: Habitats Regulations Assessment relevant to nationally significant infrastructure projects Version 8* (The Planning Inspectorate, November 2017)

1.2.4 Other International Guidance

- *Methodological Guideline for Impact Assessment of Transportation Infrastructure Significantly Affecting Natura 2000 Sites – Guidance on the provisions of Article 6(3, 4) of the Habitats Directive* (Federal Ministry of Transport, Building and Housing of the Federal Republic of Germany 2004)

In addition, regard has been had to the following guidance in characterising impacts, including determining magnitude and significance of impacts, as relevant in the application to Appropriate Assessment and European sites:

- *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (Chartered Institute of Ecology and Environmental Management, 2018)
- *Environmental Guidelines Series for Planning and Construction of National Roads* (National Roads Authority, 2005-2009)

2 DESCRIPTION OF PROPOSED DEVELOPMENT

2.1 Overview

Full details of the proposed development can be found in the accompanying documentation for this planning application. Please see DN1815-101 and associated drawings for further details.

The proposed park development will be located on lands between Baldoyle and Portmarnock, namely the area between Grange Road and Station Road, segmented by the Moyne Road.

The proposed park development project falls under an overall masterplan for the Racecourse Park area in Baldoyle. The masterplan seeks to propose a coherent approach to the development of the future park by the integration of the SACs and the Coastal Greenway to the East of the site. The Masterplan Design Report, prepared by BSLA, outlines the overall concept behind the park development proposal, including a number of measures to enhance the biodiversity of the Racecourse Park lands (BSLA, 2021).

Taking a lead from the Baldoyle-Stapolin LAP and in particular Figure 4A.0 Green Infrastructure Context the design seeks to ensure that the natural, cultural, and health requirements of communities are integrated into, and not compromised by, new development.

The LAP utilises green infrastructure as a means of developing a strategy in relation to the following key areas: the conservation and enhancement of biodiversity; the provision of accessible parks, open spaces and recreational facilities; the sustainable management of water and the maintenance of sensitive landscapes.

Baldoyle-Stapolin and the surrounding areas have a natural environment which incorporates both nationally and internationally important sites in terms of wildlife and habitats.

The proposed design seeks to create a connection between Seagrang Park to the South the amenity areas presently between Admiral Park and Castlerosse View, extending north across Red Arches

Road into the open space east of The Coast development. The park extends further north across Moyne Road, ending at the boundary with Station Road roundabout.

The southern part of the development has a higher density of amenities as it houses facilities such as the community centre with associated play areas for lower age groups, existing pitches, a bowling green and a MUGA, alongside a network of cycle and pedestrian paths.

Furthermore, the masterplan also accommodates a skate park/teenage play area and a dog park in carefully chosen locations away from ecologically sensitive areas and a new string of attenuation ponds increasing the ecological value in some areas alongside the provision of a viewing platform overlapping the ponds and taking advantage of sight lines.

A recorded monument lies on the northern area of the site which the proposal seeks to pay homage to by tracing of its original footprint.

This area is also connected to the remainder of the site by the extension of the cycle and pedestrian network found throughout. This area also houses an existing bird feeding and nature development area which the proposal seeks to leave untouched.

The following works are to be undertaken as part of the current application:

- 4.5km of new walking and cycling routes including a bridge over the Mayne river and the repair to the railway underpass;
- Public lighting along key walking and cycling routes
- Expanding the existing car park to cater for up to 161 car parking spaces;
- Upgrading and expanding the existing playground;
- A Skate park and Teenage Adventure Playground;
- A Multi use games area;
- A dog run;
- A Bowls green;
- Four grass football pitches
- A viewing platform
- Tracing of circular archaeological feature through soft landscaping and removal of existing fence;
- Extension of existing reedbed south of Mayne river and creation of new brackish grassland north of Mayne river;
- All landscaping works in the park.

It is also proposed to create a wetland boardwalk/ viewing platform, looking out over the proposed attenuation ponds to the west of the River Snugborough. At the confluence of the River Mayne and River Snugborough it is proposed to pull back the existing outfall pipe and regrade the area locally to allow for the establishment of marsh planting/ reed beds.

The proposed park will be developed in particular phases, commencing in 2022, as outlined below:

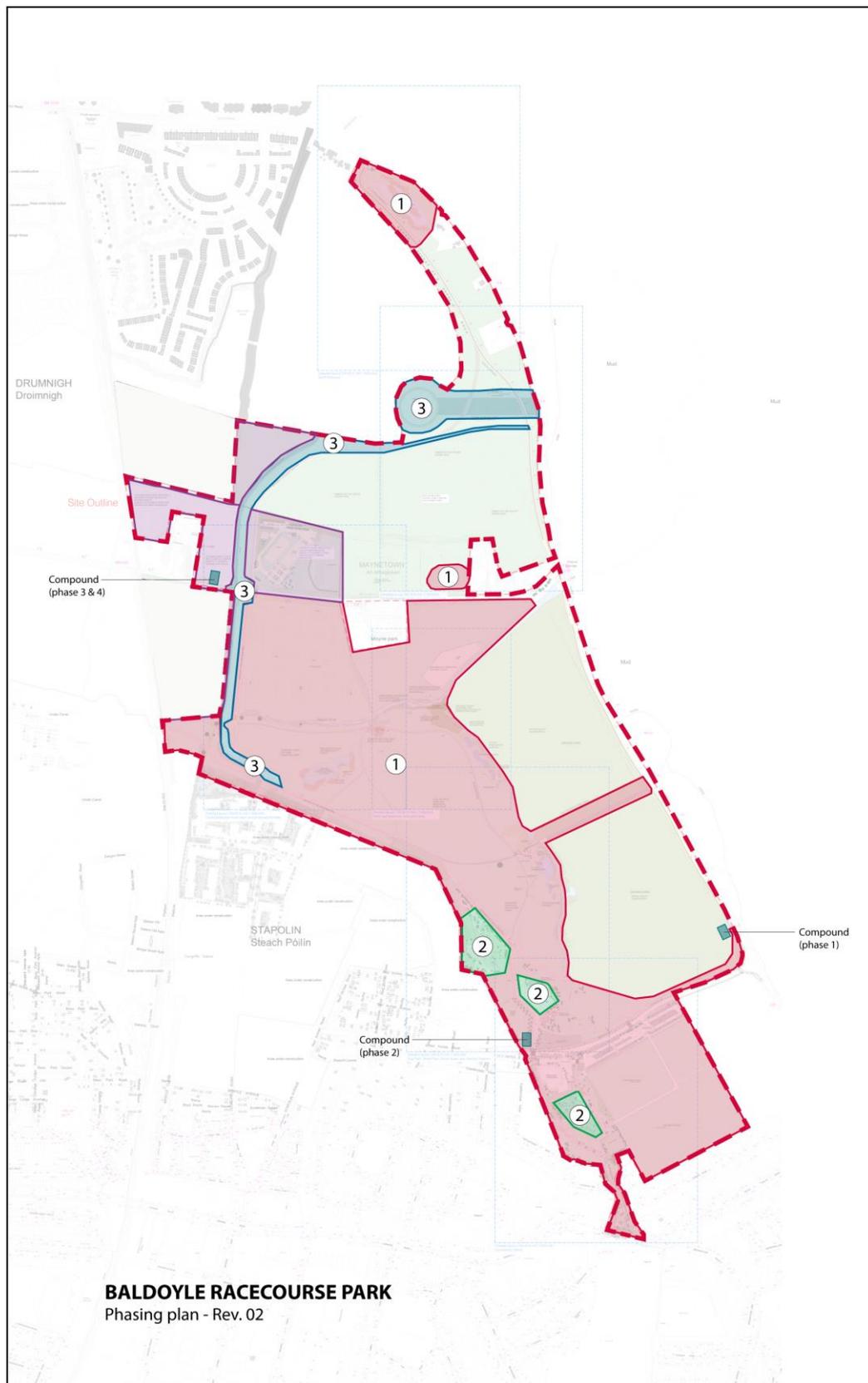
- Phase 1 (8 months): Infrastructure such as the main car park, located to the north of Red Arches playing pitches, the walking/ cycling routes south of the Moyne Road, and the sports pitches north of the River Mayne, will be provided at this stage. The first phase will also

comprise any regrading and excavations which seek to introduce a new aspect of ecology to the site (e.g. planting, ponds, regrading works etc.), as well as any improvements to the northern part of the existing Greenway entrance.

- Phase 2 (10 months): The second phase will include the provision of the proposed playgrounds, skate park and dog run.
- Phase 3 (4 months): The third phase will include the provision of a further pedestrian/ cyclist link running from the new greenway near the railway arch at Clongriffin, over the River Mayne, Moyne Road and around the paddock to link with the existing coastal greenway.

The location of construction compounds will be determined per phase of the proposed development. During Phase 1 the construction compound will be located to the north of Red Arches Road, at the junction with the Coast Road. The compound location for Phase 2 will be located just north of Red Arches Road, on an area of existing amenity grassland. Finally, during Phase 3 the construction compound will be located to the north of the Moyne Road, in an existing agricultural field. Figure 1 shows the proposed locations of construction compounds throughout the proposed development site.

Figure 1: Proposed Phasing and Locations of Construction Compounds at the Proposed Development Site (Source: Baldoyle Racecourse Park- Landscape Design Report (BSLA, 2020)).



The proposed park development project also includes a number of proposals which aim to protect and enhance existing biodiversity within the boundary of the proposed park development project. Such proposals are described below:

- Works within Baldoyle Bay SAC:
 - Creation of new brackish grassland area to the north of the River Mayne, through regrading of existing levels to allow brackish floodwaters to influence conditions, and possibly encourage the establishment of rare plant species, which previously occurred within the site (e.g. Borrer's saltmarsh grass). Please refer to Drawing C502, provided by CORA Consulting Engineers, and submitted with this planning application, for a visual representation of the regrading works proposed here; and;
 - Provision of controlled access to the River Mayne for livestock to reduce bank erosion.
- Works to the south of the Moyne Road:
 - Redesign of shape of existing SUDs pond, granted under Reg. Ref: F16A/0412, to merge more naturally with landscape and proposed wetland planting around the perimeter of this pond;
 - Removal of c. 25m of the existing outfall pipe of 1.3m internal diameter, and recontouring of surrounding lands, using the existing contours as a guide, such that a greater area will be below 1.5m Ordnance Datum (OD) contour, which may encourage the expansion of reed bed habitat along River Snugborough. Please refer to Drawing C501, provided by CORA Consulting Engineers, and submitted with this planning application, for a visual representation of the proposed here; and;
 - Creation of a new string of attenuation ponds to the west of the River Snugborough to increase the ecological value of this area.

Landscaping planting lists have been designed in collaboration with the project ecologist. The following species are proposed for riverbank stabilisation; Goat Willow *Salix caprea*, Grey Willow *Salix cinerea*, Alder *Alnus glutinosa*, Silver Birch *Betula pendula* and Downy Birch *Betula pubescens*. Proposed wetland habitat planting will include species of native rushes, sedges and grasses, along with herbaceous species such as Water Mint *Mentha aquatica*, Meadowsweet *Filipendula ulmaria*, Flag Iris *Iris pseudacorus* and Cuckoo-flower *Cardamine pratensis*. Wildflower meadow planting is proposed in swathes within the open areas west of the proposed wetlands/ viewpoint and species here will include Devils Bit Scabious *Succisa pratensis*, Oxeye Daisy *Leucanthemum vulgare*, Purple Loosestrife *Lythrum salicaria*, Ragged Robin *Lychnis flos-cuculi*, Meadow Buttercup *Ranunculus acris* and Marsh Marigold *Caltha palustris*. Woodland whip planting will include, but is not limited to, the following species; Silver Birch, Hazel *Corylus avellana*, Downy Birch and Hawthorn *Crataegus monogyna*. For full planting lists please refer to information provided by the Landscape Architects (BSLA).

In terms of proposed lighting, the main pathways/ cycle tracks through the proposed park will be lit using 6m high LED luminaires, while the proposed car park, will be lit using 8m high LED luminaires. The lighting design aims to illuminate the pathways and car park only, will lighting being highly directional and reducing to levels close to background (i.e. 0.75 lux) within a few metres of the illuminated surfaces.

Lands to the north of the Moyne Road, located within the boundary of the proposed park, are currently being successfully managed for foraging Light-bellied Brent Geese. The management of these lands for geese is not part of this application, but rather is part of an ongoing management regime undertaken by Fingal County Council. This management concept was included as mitigation in the Portmarnock South Local Area Plan (LAP) to mitigate against the loss of suitable foraging lands for geese in the eastern part of the Plan Area. These lands form part of the “ecological buffer zones” which were detailed in the preparation of both the Portmarnock South LAP and Baldoyle-Stapolin LAP. The intention is that these ecological buffer zones will function as integrated areas for the appropriate habitat protection measures for migratory waterfowl and wader bird species habitat. The Portmarnock South LAP states that *“these areas are to be laid out and managed in a way that provides suitable alternative habitat for bird species likely to be displaced by residential development within the plan lands”*. The exact habitat protection measures to be employed in these lands were devised in consultation with the NPWS and Fingal County Council’s Biodiversity and Parks Officers. One such measure was the establishment of a “quiet zone”, in lands to the north of the Moyne Road to cater for Brent Geese and wader species. The Portmarnock South LAP states that *“the ‘quiet zone’ consists of grassland pasture and is enclosed by a fence and hedge to prevent disturbance during the winter migratory bird season. The enclosure must be dog proof but can permit overlooking of the ‘quiet zone’ ”*. It is important to note that while these lands are included in the boundary of the proposed Baldoyle Racecourse Park, no works are proposed to these lands and it is intended that management of these lands for geese will continue.

3 METHODOLOGY

3.1 Authors’ Qualifications & Expertise

This Natura Impact Statement (NIS) has been prepared by Caroline Kelly, reviewed by Niamh Burke and approved by Aebhin Cawley, both of Scott Cawley Ltd.

Caroline Kelly is a Senior Ecologist at Scott Cawley Ltd. with over 4 years’ professional ecological consultancy experience in preparing ecological reports and assessments for inclusion in planning applications. She holds an honours degree in Environmental Biology, from University College Dublin (UCD), and a Masters in Ecological Assessment from University College Cork (UCC). Caroline has experience in habitat survey and assessment (including Annex I habitats and legally protected sites) in a range of terrestrial, freshwater and coastal environments. She is also experienced in surveys for protected species (e.g. bats, badger and otter), bird surveys (both breeding and overwintering) and surveys for invasive species. Whilst working at Scott Cawley Ltd. Caroline has managed ecological assessments for a wide range of projects including tourism, recreational, industrial, commercial, residential, transport and renewable energy developments.

Niamh Burke is the Principal Ecologist with Coiscéim Ecology. She holds a BSc in Natural Sciences with Environmental Science and a PhD in aquatic ecology and hydromorphology. She is a Chartered Environmentalist (CEnv) with the Society for the Environment (Soc Env), a Full Member of the CIEEM and member of the Irish Environmental Law Association (IELA). Niamh is a senior scientist with academic research and extensive consulting experience in terrestrial ecology, aquatic ecology and fluvial geomorphology. She is an experienced project manager with a full working knowledge of EIA, the planning process and relevant environmental legislation, both national and European. With a specialism

in aquatic habitats, she also has experience of terrestrial species' surveys and mitigation approaches. In her extensive consultancy roles, she has acted as reviewer for all ecological reporting and ensured consistency of standards and approach.

Aebhín Cawley is Director with Scott Cawley. She holds an honours degree in Zoology from Trinity College, Dublin and a postgraduate diploma in Physical Planning at Trinity. She is a Chartered Environmentalist (CEnv) with the Society for the Environment (Soc Env) and a Full Member of the CIEEM. Aebhín Cawley is an experienced ecological consultant with extensive experience in public and private sector projects including renewable energy, ports and other major infrastructural developments. Aebhín has been undertaking Ecological Impact and Appropriate Assessment work in Ireland since 2002 and has been influential in determining the direction in which EclA and AA work is evolving in Ireland. She has delivered lectures and training on Appropriate Assessment to a range of organisations and professional institutes (including the Irish Planning Institute, the Royal Town Planning Institute, the Irish Environmental Law Association, National Roads Authority, Engineers Ireland, An Bord Pleanála and Eirgrid) and regularly provides Appropriate Assessment training to local authorities and other public sector organisations. She authored guidelines on Appropriate Assessment for the EPA and delivered training on its application to its inspectorate. Aebhín was responsible for checking and approval of this report and provided additional text where required.

3.2 Desktop Study

The information comprised in this report will assist the competent authority to conduct both the required Stage 1 Screening and Stage 2 Appropriate Assessments in respect of the proposed development and was based on a desktop study carried out in April 2019 and updated in January and November 2020. Information relied upon included the following information sources, which included maps, ecological and water quality data:

- Ordnance Survey of Ireland (OSI) mapping and aerial photography available from www.osi.ie;
- Online data available on European sites, including habitat and species GIS datasets, and conservation objectives (and supporting) documents, as held by the National Parks and Wildlife Service (NPWS) from www.npws.ie;
- Online protected species datasets held by the National Biodiversity Data Centre from <http://maps.biodiversityireland.ie>;
- Information on land-use zoning from the online mapping of the Department of the Environment, Community and Local Government <http://www.myplan.ie/en/index.html>;
- Information on water quality in the area available from www.epa.ie;
- Information on soils, geology and hydrogeology in the area available from www.gsi.ie;
- Information on environmental conditions of the site and environs from <http://gis.epa.ie/Envision>;
- Information on the location, nature and design of the proposed development supplied by the applicant's design team;
- Information on the status of EU protected habitats and species in Ireland (National Parks & Wildlife Service, 2019); and,

- Information on the Conservation Status of Birds in Ireland 2014 -2019 (Colhoun & Cummins, 2014).

The following planning and policy documents were relevant to the subject lands, in particular with regard to the assessment of other plans and projects with potential for cumulative effects:

- *National Biodiversity Plan 2017 – 2021* (DCHG, 2017);
- *River Basin Management Plan for Ireland 2018-2021* (DHPLG, 2017);
- *Fingal Development Plan 2017-2023* (Fingal County Council, 2017); and,
- *Baldoyle- Stapolin Local Area Plan 2013 – 2019* (Fingal County Council, 2013).

3.3 Stage 1 Screening Methodology

The referenced guidance documents in Section 1.2 set out a staged process for carrying out the assessment required under the Habitats Directive, the first stage of which is referred to as screening. This screening stage identifies the likely significant impacts on a European site, if any, which would arise from a proposed development either alone or in combination with other plans and projects.

The possibility of there being a significant effect on a European site will generate the need for a Stage 2 AA to be carried out by the competent authority for the purposes of Article 6(3). In this instance, the competent authority is An Bord Pleanála. A screening for appropriate assessment of an application for consent for proposed development must be carried out by the competent authority to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with another plan or project is likely to have a significant effect on any European site. A Stage 2 Appropriate Assessment is required if it cannot be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site. The first (Screening) stage for appropriate assessment operates merely to determine whether a (Stage 2) Appropriate Assessment must be undertaken on the implications of the plan or project for the conservation objectives of relevant European sites.

Screening for AA involves the following:

- Determining whether a project or plan is directly connected with or necessary to the conservation management of any European sites²;
- Describing the details of the project/plan proposals and other plans or projects that may cumulatively affect any European sites;
- Describing the characteristics of relevant European sites; and,
- Appraising likely significant effects of the proposed project on relevant European sites.

Section 5 of this report provides a summary of the information gathered for AA screening and Sections 6, 7 and 8 of this report take forward the assessment into full AA.

² In this instance the proposed development is not directly connected with or necessary to the conservation management of any European sites.

3.4 Stage 2 AA Methodology

For Stage 2 AA, the potential for a proposed development, individually or in combination with other plans or projects, to adversely affect the integrity of European sites must be examined with respect to the specific conservation objectives of the relevant European sites. This Stage 2 AA also requires consideration of the specific mitigation measures that will be implemented to ensure an absence of adverse effects on the integrity of European sites. Stage 2 AA must provide a clear conclusion regarding the absence (considering the implementation of mitigation measures) of adverse effects on the integrity of European sites. In order to grant permission, the competent authority must conclude, having conducted the Stage 2 AA that the proposed development will not have an adverse effect on the integrity of any identified European sites.

3.5 Assessment Methodology

The proposed development (including the proposed design, construction methodologies and operational effects) was analysed and assessed to identify the potential impacts associated with the proposed development that could affect the ecological environment. From this, the Zone of Influence (Zol) of the proposed development was defined. Based on the identified impacts and their Zol, the European sites potentially at risk of any direct or indirect impacts were identified. This assessment was undertaken in consideration of all potential impact sources and pathways connecting the proposed development to European sites, in view of the conservation objectives supporting the conservation condition of the sites' Qualifying Interests (QIs) or Special Conservation Interests (SCIs) species.

The conservation objectives relating to each European site and its QIs/SCIs are expressed generally for SACs as *"to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the cSAC 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"*.

Following on from this, and as defined in the Habitats Directive, favourable conservation status (or condition, at a site level) of a habitat is achieved when:

- *"its natural range, and area it covers within that range, are stable or increasing, and*
- *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, and*
- *the conservation status of its typical species is favourable"*

The favourable conservation status (or condition, at a site level) of a species is achieved when:

- *"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, and*
- *the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and*
- *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 have been prepared for a given European site, these include a series of specific attributes and targets against which effects on conservation condition, or integrity, can be measured, *i.e.* an impact which affects the achievement of favourable conservation

condition, as measured by the attributes and targets, is an impact on site integrity. In the case of a European site where site-specific conservation objectives are not yet available, sample site specific attributes and targets for a given QI/SCI have been compiled, based on those from other relevant European sites, as a guide in assessing how conservation condition could potentially be affected by the proposed development.

In the case of some QIs/SCIs in certain European sites, the conservation objective is to restore rather than maintain conservation condition and this distinction is taken into account in the assessment; as is any legacy damage to European sites that has occurred since their designation, insofar as possible.

4 RECEIVING ENVIRONMENT

4.1 Overview of Proposed Development Site

The subject lands are located at Baldoyle Racecourse Park to the west of the Coast Road in Baldoyle, Dublin 13. The lands are centred on Irish Grid Reference O 23828 41064. The majority of the subject lands lie between Red Arches Road and the Moyne Road (R123), to the west of the Coast Road (R106). Agricultural fields to the north of the Moyne Road are also included within the site boundary, as are the playing pitches to the south of Red Arches Road. The existing derelict Marketing Suite and associated car park are located within the subject lands, just to the south of Red Arches road. The Dublin-Belfast railway line forms the north-west boundary of the site and the Coast Road runs to the east of the eastern boundary (see Figure 1 for full extent of the site).

Under the Fingal Development Plan 2017-2023, the subject lands fall under the following zoning objectives; “HA-High Amenity” and “OS- Open Space”. The following objectives apply to these zonings; “Protect and enhance high amenity areas” and “Preserve and provide for open space and recreational amenities” (Fingal County Council, 2017) Surrounding lands largely comprise lands zoned for residential use.

4.2 Ecological Environment

Based on the results of habitat surveys carried out in spring 2019, the proposed development site currently comprises areas of grassland of various ecological interest, watercourses, scrub, hedgerows, disturbed ground, stonewalls, horticultural lands, artificial waterbodies (attenuation ponds), reedbeds, treelines, ornamental planting, upper saltmarsh, agricultural fields and playing pitches. For full details regarding the habitats contained within the boundary of the proposed development site please refer to the Ecological Impact Assessment report, prepared by Scott Cawley Ltd. (Scott Cawley, 2020).

Three invasive species, all of which are listed on the Third Schedule of the *Birds and Natural Habitats Regulations (2011)*, were recorded within the survey area: Giant Hogweed *Heracleum mantegazzianum*, Japanese Knotweed *Reynoutria japonica* and Three-cornered Leek *Allium triquetrum*. A single Giant Hogweed plant was recorded along the southern boundary of an area of amenity grassland to the north of Red Arches road. Stands of Japanese Knotweed were noted within the Moyne Park halting site and along the Moyne Road. Three-cornered Leek was recorded at the entrance to a field just south of the Moyne Road and this species was also present at the entrance to the allotments in Baldoyle Racecourse Park. Fitzgerald (2017) also recorded one Giant Hogweed plant in the area of grassland/ scrub to the west of the Snugborough Stream during 2017 surveys

(Fitzgerald, 2017). This area was not accessible during 2019 surveys due to the presence of livestock. Therefore, it cannot be confirmed whether this plant remains here.

Figure 2: Proposed development in the context of its surroundings.

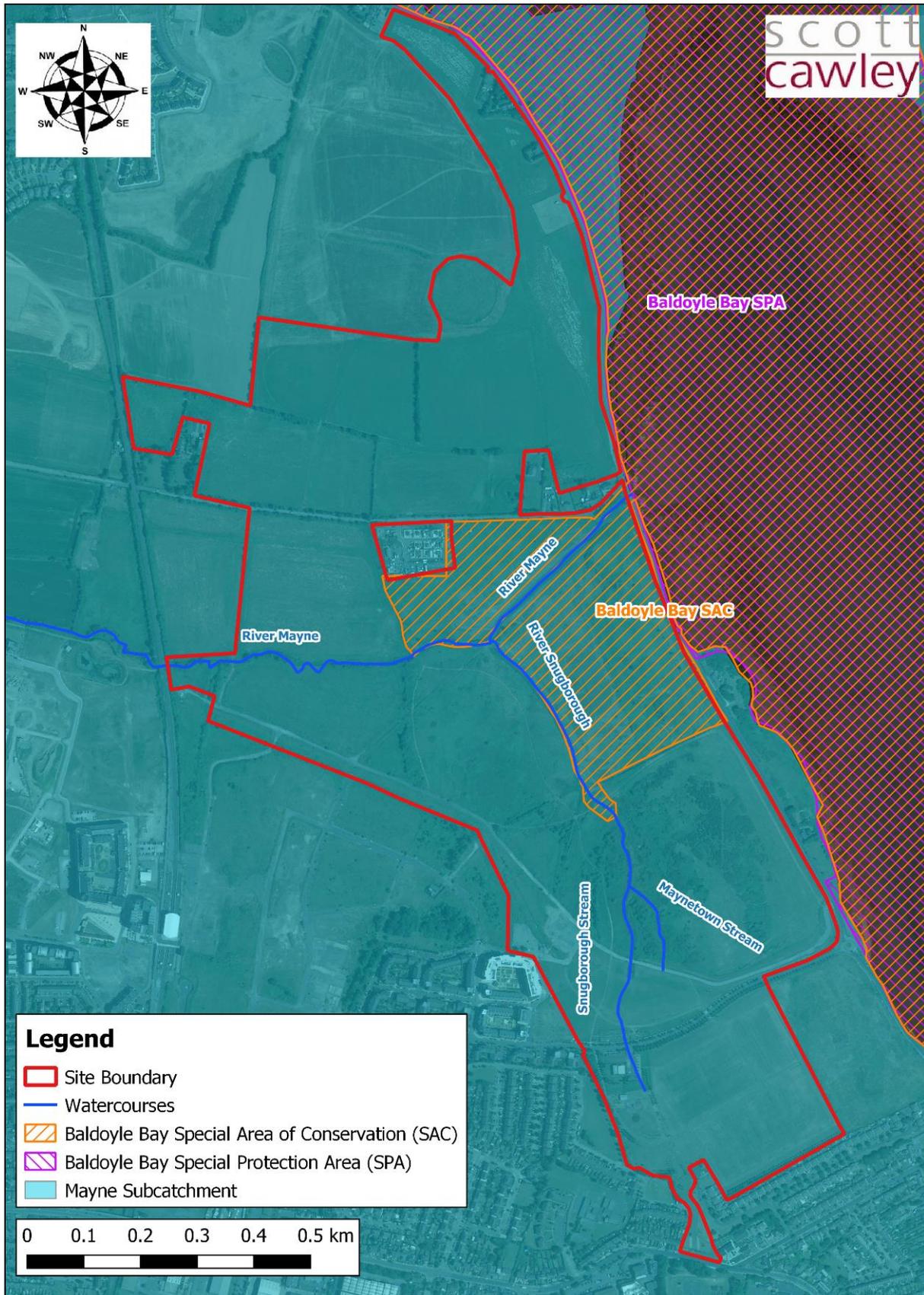


4.3 Hydrology and Water Catchments

According to the EPA's online map viewer³, the subject lands fall entirely within the Liffey and Dublin Bay Water Framework Directive (WFD) catchment and the Mayne WFD sub-catchment. Three watercourses flow through the site; the Mayne River, Snugborough River and Maynetown River. The Snugborough River and Maynetown River are both tributaries to the River Mayne and their confluence occurs within the site boundary. The Mayne River flows in an easterly direction and discharges into Baldoyle Bay, flowing underneath the Coast Road to the east of the site. The location of the proposed development site in the context of the local surface water network and the nearest European site, Baldoyle Bay SAC, is illustrated in Figure 2. The most recent river water quality value (Q-value), as recorded by the EPA as part of a National Rivers Monitoring Programme as part of WFD, for the River Mayne is "Poor" (Q-value 2-3), as recorded in 2019 at the designated monitoring station (Hole-in-the-Wall Road Bridge) c. 1km upstream of the proposed development. The Snugborough River and Maynetown River are assessed as part of the Mayne_10 waterbody, and their WFD status is therefore given as "Poor". The River Mayne is "At risk" of not achieving its targets as set out in the Water Framework Directive.

³ EPA Online Map Viewer Available at: <https://gis.epa.ie/EPAMaps/> [Accessed 03/11/2020]

Figure 3: Proposed development site in relation to the local surface water network and Baldoyle Bay SAC/SPA.



4.4 Geology and Groundwater

The proposed development is within the “Dublin” groundwater body and is classified as “Poorly productive bedrock”. The most recent WFD groundwater status for the site (2010-2015) is “Good” and the most recent WFD Risk Score is “Not at risk”. The level of vulnerability to groundwater contamination from human activities is deemed to range from “High” to “Low” moving westwards across the site⁴. The majority of the site is underlain by the bedrock of the “Malahide Formation” which is described as “Agrillaceous bioclastic limestone, shale” while the southern part of the site (Red Arches pitches) is underlain by the “Tober Colleen Formation”, which is described as “Calcareous shale, limestone conglomerate”. The bedrock of the area is described as a “Locally Important Aquifer – Bedrock which is Moderately Productive only in Local Zones”, while that below the Red Arches pitches in the south of the site is described as a “Poor Aquifer- Bedrock which is Generally Unproductive except for Local Zones”.

4.5 Records of Rare/ Protected Species

The following species records⁵ (for which European sites listed in Table 1 have been designated) were obtained from the National Biodiversity Data Centre online map viewer on the 3rd November 2020, as part of a desktop review for the proposed development site:

- Harbour Porpoise (*Phocoena phocoena*) – recorded within 2km of the proposed development site off Sutton Creek (1973);
- Harbour Seal (*Phoca vitulina*)- recorded within 2km of the proposed development site off North Bull Island (2018);
- Grey Seal (*Halichoerus grypus*)- recorded within 2km of the proposed development site off North Bull Island (2012);
- Petalwort (*Petalophyllum ralfsii*)- historic record within 2km of the proposed development site on the North Bull Island (1874);
- Brent Goose (*Branta bernicla*)- recorded within 2km of the proposed development site at Seagrang park (2005);
- Shelduck (*Tadorna tadorna*) recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Ringed Plover (*Charadrius hiaticula*)- recorded within 2km of the proposed development site in Baldoyle Bay (2014);
- Golden Plover (*Pluvialis apricaria*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Grey Plover (*Pluvialis squatarola*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);

⁴ According to the Geological Survey Ireland (GSI) Groundwater Data Viewer: www.gsi.ie [Accessed 31/01/2020]

⁵ According to NBDC online data www.biodiversity.ie [Accessed 3rd November 2020] This excludes NBDC records with a resolution greater than 1km².

- Bar-tailed Godwit (*Limosa lapponica*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Cormorant (*Phalacrocorax carbo*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Herring Gull (*Larus argentatus*)- recorded within 2km of the proposed development site in Seagrang Park (2005);
- Kittiwake (*Rissa tridactyla*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Teal (*Anas crecca*)- recorded within 2km of the proposed development site in Seagrang Park (2005);
- Pintail (*Anas acuta*) - recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Shoveler (*Anas clypeata*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Oystercatcher (*Haematopus ostralegus*)- recorded within 2km of the proposed development site in Seagrang Park (2005);
- Knot (*Calidris canutus*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Sanderling (*Calidris alba*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Dunlin (*Calidris alpina*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Black-tailed Godwit (*Limosa limosa*)- recorded within 2km of the proposed development site in Seagrang Park (2005);
- Curlew (*Numenius arquata*) - recorded within 2km of the proposed development site in Baldoyle Estuary (2011);
- Redshank (*Tringa totanus*)- recorded within 2km of the proposed development site in Seagrang Park (2005);
- Turnstone (*Arenaria interpres*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Black-headed Gull (*Larus ridibundus*)- recorded within 2km of the proposed development site in Seagrang Park (2005);
- Red-breasted Merganser (*Mergus serrator*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Common Goldeneye (*Bucephala clangula*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Great-crested Grebe (*Podiceps cristatus*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);

- Shag (*Phalacrocorax aristotelis*)- recorded within 2km of the proposed development site off Bull Island (2011);
- Lesser Black-backed Gull (*Larus fuscus*)- recorded within 2km of the proposed development site in Baldoyle Bay (2005);
- Common Tern (*Sterna hirundo*)- recorded within 2km of the proposed development site off Bull Island (2010); and;
- Roseate Tern (*Sterna dougallii*)- recorded within 2km of the proposed development site off Bull Island (2010).

5 PROVISION OF INFORMATION FOR SCREENING

5.1 Determining the Zone of Influence of the Proposed Development

In establishing which European sites are potentially at risk (in the absence of mitigation) from the proposed development, a source-pathway-receptor approach was applied. In order for an impact to occur, there must be a risk enabled by having a source (*e.g.* water abstraction or construction works), a receptor (*e.g.* a European site or its QIs or SCIs), and a pathway between the source and the receptor (*e.g.* pathway by air for air borne pollution, or a pathway by a watercourse for mobilisation of pollution). For an impact to occur, all three elements must exist; the absence or removal of one of the elements means there is no possibility for the impact to occur.

The identification of source-pathway-receptor connection(s) between the proposed development and European sites essentially is the process of identifying which European sites are within the Zone of Influence (Zoi) of the proposed development, and therefore potentially at risk of significant effects. The Zoi is defined as the area within which the proposed development could affect the receiving environment such that it could potentially have significant effects on the QI habitats or QI/SCI species of a European site, or on the achievement of their conservation objectives (as defined in CIEEM, 2018).

The identification of a source-pathway-receptor risk does not automatically mean that significant effects will arise. The likelihood for significant effects will depend upon the characteristics of the source (*e.g.* extent and duration of construction works), the characteristics of the pathway (*e.g.* direction and strength of prevailing winds for air borne pollution) and the characteristics of the receptor (*e.g.* the sensitivities of the European site and its QIs/SCIs). However, identification of the risk does mean that there is a possibility of ecological or environmental damage occurring, with the significance of the effect depending upon the nature and exposure to the risk and the characteristics of the receptor. In this case, where uncertainty existed, the precautionary principle was applied.

5.2 Identifying European Sites within the Zoi of the Proposed Development

European sites within the vicinity of the proposed development site are shown in Figure 3 below and are listed in Table 1 along with their qualifying interests and any relevant source-pathway-receptor links between the proposed development and European sites that could result in significant effects on these European sites.

Figure 4: European sites located within the vicinity of the proposed development site

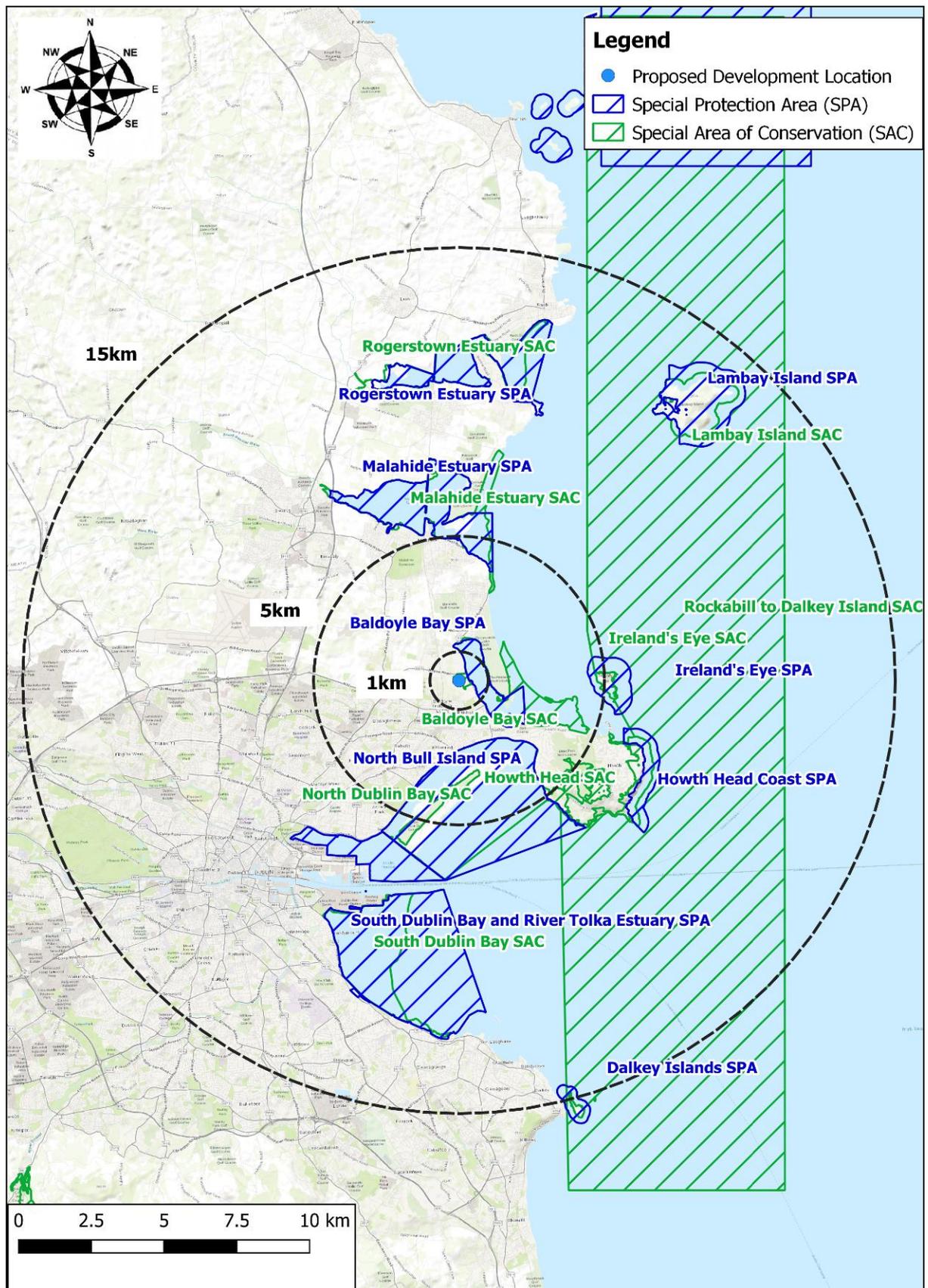


Table 1 European sites within the vicinity of the proposed development site

Table 1 European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)	
Site name and code	Reasons for designation ⁶ (*= Priority Habitat) (Sourced from NPWS online Conservation Objectives)
Special Areas of Conservation (SAC)	
Baldoyle Bay SAC [000199] Partially located within the proposed development boundary	<p>Conservation Objectives Version 1.0 (19/11/2012)</p> <p>Annex I Habitat:</p> <ul style="list-style-type: none"> - Mudflats and sandflats not covered by seawater at low tide [1140] - Salicornia and other annuals colonising mud and sand [1310] - Atlantic salt meadows (Glauco-Puccinellietalia maritima) [1330] - Mediterranean salt meadows (Juncetalia maritimi) [1410]
	<p>Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are "Relevant" where a relevant source-pathway-receptor link exists).</p>
	<p>Yes, there is a potential source-receptor pathway between the proposed development and the European site via the surface water network comprising of the River Mayne, River Snugborough, Maynetown Stream and Snugborough Stream which all flow through the proposed development site and discharge into the transitional waters of Baldoyle Estuary (Baldoyle Bay SAC). In addition to this source-receptor pathway, it must be acknowledged that part of the SAC is contained within the boundary of the proposed development. Therefore, there is potential for direct habitat loss of QI habitat as a result of the development of the site. The proposal includes regrading works within the boundary of the SAC, in an area of existing improved agricultural grassland to the north of the River Mayne. Regrading works here are proposed to allow for the natural expansion of brackish grassland habitat northwards. Works will require the removal of up to 1.5m topsoil within the SAC to create the levels required and ensure a gradual slope is achieved. Excavation beyond the area proposed for brackish grassland expansion will also be necessary to achieve the slopes/ banking required.</p> <p><u>Surface Waters</u></p> <p>Surface waters generated during construction could potentially carry silt (generated through earthworks on site), oils, or other chemicals from the</p>

⁶ "Qualifying Interests" for SACs and "Special Conservation Interests" for SPAs based on relevant Statutory Instruments for each SPA, and NPWS Conservation Objectives for SACs downloaded from www.npws.ie in September 2019.

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are "Relevant" where a relevant source-pathway-receptor link exists).
		<p>proposed development site, overlaid across the existing baseline conditions and/or via the numerous watercourses which flow through the proposed development site. In this way these harmful substances could be transferred downstream into the transitional waters of Baldoyle Bay SAC. Given the close proximity of the proposed development site to Baldoyle Bay SAC and the hydrological link which exists between them, significant effects on this SAC cannot be ruled out during the construction phase of the proposed development in view of the relevant conservation objectives.</p> <p>There is no potential for significant effects on this SAC during the operation of the proposed development as the majority of the park will not be composed of hardstanding and therefore surface water will dissipate to ground through infiltration.</p> <p><u>Loss of Habitat</u></p> <p>Due to the fact that the proposed development boundary overlaps with the boundary of this SAC, and considering that the proposal involves regrading works within the boundary of the SAC, it is possible that development of these lands could result in the disturbance or removal of habitat. According to the mapping contained in this SAC's supporting documents⁷, two QI habitats exist within the boundary of the proposed development site- Atlantic salt meadows [1330] along the banks of the River Mayne, and Mediterranean salt meadows [1410] along the banks of the River Snugborough. No Annex I habitats were recorded during the habitat surveys undertaken and Article 17 habitat data,</p>

⁷ Baldoyle Bay SAC (000199) Conservation Objectives Supporting Document- Coastal Habitats (NPWS, 2012).

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are “Relevant” where a relevant source-pathway-receptor link exists).
		<p>downloaded from the NPWS website, indicates that Annex I saltmarsh habitats have previously been recorded to the south of the River Mayne and east of the River Snugborough⁸ (please refer to Figure 5). Furthermore, data contained in the SAC’s supporting documents indicates that land infilling, reclamation and inadequate grazing in recent years has had a detrimental effect on saltmarsh habitat success and longevity⁷. No works are proposed in areas previously identified as Annex I saltmarsh habitats. This, coupled with the fact that surveys conducted by Scott Cawley did not identify any Annex I habitats, means that there is no potential for the proposed development to result in the removal of QI Annex I habitats within Baldoyle Bay SAC. In fact, the proposed regrading works would in fact result in a positive effect on saltmarsh habitats in this area, with the aim of increasing their extent.</p> <p><u>Invasive Species</u></p> <p>There is potential for the spread of invasive species during the construction of the proposed park development due to the fact that three invasive species have been recorded on site. However, it should be noted that areas of Japanese Knotweed and Giant Hogweed identified during surveys on site are currently being eradicated through a control programme implemented by Fingal County Council. Nevertheless, the proposed works have the potential to cause the spread of Three-corned Leek to downstream European sites, including Baldoyle Bay SAC, in the absence of mitigation.</p>

⁸ Article 17 habitat data for Atlantic Salt Meadows [1410] and Mediterranean Salt Meadows [1330], downloaded from the following NPWS webpage: <https://www.npws.ie/maps-and-data/habitat-and-species-data/article-17/2019/habitats/coastal-habitats> [Accessed 11/02/2021]. Please refer to Figure 5 for visual representation of this data.

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are "Relevant" where a relevant source-pathway-receptor link exists).
Ireland's Eye SAC [002193] c. 4.3km east	<p>Conservation Objectives Version 1.0 (27/01/2017)</p> <p>Annex I Habitats:</p> <ul style="list-style-type: none"> - Perennial vegetation of stony banks [1220] - Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] 	<p>In addition, there is potential for escape of non-native invasive plant materials, seeds or seedlings during operation of the proposed development from new planting introduced through proposed landscaping, into the receiving downstream water environment. However, there is no possibility of significant effects as no invasive plant species (<i>i.e.</i> those species listed on Schedule 3 of the <i>Birds and Habitats Regulations, 2011</i>) will be planted or imported to the proposed site.</p>
		<p>Yes, there is a potential source-receptor pathway between the proposed development and the European site via the surface water network due to the fact that this SAC is contained within the Irish Sea coastal waterbody to which the proposed development site is connected by the watercourses on site and Baldoye Estuary. However, likely significant effects as a result of water pollution (in the case of an accidental pollution event during construction), which could impact the coastal QI habitats for which this site is designated, can be excluded due to the substantial open water marine buffer (>5km) which exists between the discharge point of the Mayne River and this SAC, and the potential for dilution and adsorption this buffer offers for any pollutants which could be released in such an event.</p> <p>Furthermore, with regards to the operation of the proposed development, there is no potential for significant effects on this SAC as the majority of the park will not be composed of hardstanding and therefore surface water will dissipate to ground through infiltration.</p> <p>Therefore, likely significant effects on this SAC during both the construction and operation of the proposed development can be excluded.</p>

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are "Relevant" where a relevant source-pathway-receptor link exists).
<p>Malahide Estuary SAC [000205] c. 3.3km west</p>	<p>Conservation Objectives Version 1.0 (27/05/2013)</p> <p>Annex I Habitats:</p> <ul style="list-style-type: none"> - Mudflats and sandflats not covered by seawater at low tide [1140] - Salicornia and other annuals colonising mud and sand [1310] - Spartina swards (<i>Spartinion maritimae</i>) [1320] - Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] - Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] - Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] - Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] 	<p>Yes, there is a potential source-receptor pathway between the proposed development and the European site via the surface water network due to the fact that this SAC is contained within the North-western Irish Sea coastal waterbody to which the proposed development site is connected by the watercourses on site, Baldoye Estuary and the Irish Sea. However, likely significant effects as a result of water pollution (in the case of an accidental pollution event during construction), which could impact the coastal QI habitats for which this site is designated, can be excluded due to the substantial open water marine buffer (>5km) which exists between the discharge point of the Mayne River and this SAC, and the potential for dilution and adsorption this buffer offers for any pollutants which could be released in such an event.</p> <p>Furthermore, with regards to the operation of the proposed development, there is no potential for significant effects on this SAC as the majority of the park will not be composed of hardstanding and therefore surface water will dissipate to ground through infiltration.</p> <p>Therefore, likely significant effects on this SAC during both the construction and operation of the proposed development can be excluded.</p>
<p>Howth Head SAC [000202] c. 4.7km south-east</p>	<p>Conservation Objectives Version 1.0 (06/12/2016)</p> <p>Annex I Habitats:</p> <ul style="list-style-type: none"> - Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] - European dry heaths [4030] 	<p>Yes, there is a potential source-receptor pathway between the proposed development and the European site via the surface water network due to the fact that this SAC is contained within the Irish Sea coastal waterbody to which the proposed development site is connected by the watercourses on site and Baldoye Estuary. However, the QI habitats for which this SAC is designated both lie above the high-water mark and therefore would not be impacted by water pollution, if such an event occurred of sufficient magnitude to result in impacts</p>

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are "Relevant" where a relevant source-pathway-receptor link exists).
North Dublin Bay SAC [000206] c. 1.2km south	<p>Conservation Objectives Version 1.0 (27/05/2013)</p> <p>Annex I Habitats:</p> <ul style="list-style-type: none"> - Mudflats and sandflats not covered by seawater at low tide [1140] - Annual vegetation of drift lines [1210] - Salicornia and other annuals colonising mud and sand [1310] - Atlantic salt meadows (Glauco-Puccinellietalia maritima) [1330] - Mediterranean salt meadows (Juncetalia maritimi) [1410] - Embryonic shifting dunes [2110] - Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] - Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] 	<p>over this distance.</p> <p>Furthermore, with regards to the operation of the proposed development, there is no potential for significant effects on this SAC as the majority of the park will not be composed of hardstanding and therefore surface water will dissipate to ground through infiltration.</p> <p>Therefore, likely significant effects on this SAC during both the construction and operation of the proposed development can be excluded.</p>
		<p>Yes, there is a potential source-receptor pathway between the proposed development and the European site via the surface water network due to the fact that this SAC is contained within Dublin Bay which lies adjacent to the Irish Sea coastal waterbody. The proposed development site is connected to The Irish Sea by the watercourses on site and Baldoye Estuary. However, likely significant effects as a result of water pollution (in the case of an accidental pollution event during construction), which could impact the coastal QJ habitats for which this site is designated, can be excluded due to the substantial open water marine buffer (>16km) which exists between the discharge point of the Mayne River and this SAC, and the potential for dilution and adsorption this buffer offers for any pollutants which could be released in such an event. In addition, Baldoye Bay SAC and North Dublin Bay SAC are separated by land- Sutton- which creates an urban buffer over which any polluted water would not be able to travel. Furthermore, for an accidental pollution event, originating from the proposed development site, to have capacity to impact North Dublin Bay SAC it would have to be of huge magnitude. Considering the type and scale of works involved in the development of the park at Baldoye Racecourse Park, a pollution event of such magnitude would not occur. Finally, Petalwort, an Annex II species for</p>

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are "Relevant" where a relevant source-pathway-receptor link exists).
	<ul style="list-style-type: none"> - Humid dune slacks [2190] <p>Annex II Species:</p> <ul style="list-style-type: none"> - <i>Petalophyllum ralfsii</i> (Petalwort) [1395] 	<p>which this SAC is designated, is found in coastal dune systems with damp calcareous slacks or machair (NPWS, 2013). These habitats would not be impacted by water pollution as they are found above the shoreline.</p> <p>Furthermore, with regards to the operation of the proposed development, there is no potential for significant effects on this SAC as the majority of the park will not be composed of hardstanding and therefore surface water will dissipate to ground through infiltration.</p> <p>Considering the above, likely significant effects on this SAC during both the construction and operation of the proposed development can be excluded.</p>
<p>Rockabill to Dalkey Island SAC [003000] c. 4.4km east</p>	<p>Conservation Objectives Version 1.0 (07/05/2013)</p> <p>Annex I Habitats:</p> <ul style="list-style-type: none"> - Reefs [1170] <p>Annex II Species:</p> <ul style="list-style-type: none"> - <i>Phocoena phocoena</i> (Harbour Porpoise) [1351] 	<p>Yes, there is a potential source-receptor pathway between the proposed development and the European site via the surface water network due to the fact that this SAC is contained within the Irish Sea coastal waterbody to which the proposed development site is connected by the watercourses on site and Baldoye Estuary. However, likely significant effects as a result of water pollution (in the case of an accidental pollution event during construction), which could impact the coastal QI habitats and marine species (Harbour Porpoise) for which this site is designated, can be excluded due to the substantial open water marine buffer (>5km) which exists between the discharge point of the Mayne River and this SAC, and the potential for dilution and adsorption this buffer offers for any pollutants which could be released in such an event. Furthermore, for an accidental pollution event, originating from the proposed development site, to have capacity to impact Rockabill to Dalkey SAC, or its QI habitats and species, it would have to be of huge magnitude. Considering the type and scale of works involved in the development of the park at Baldoye Racecourse Park, a pollution event of such magnitude would not occur.</p>

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are "Relevant" where a relevant source-pathway-receptor link exists).
<p>Rogerstown Estuary SAC [000208] c. 9km north</p>	<p>Conservation Objectives Version 1.0 (14/08/2013) Annex I Habitats:</p> <ul style="list-style-type: none"> - Estuaries [1130] - Mudflats and sandflats not covered by seawater at low tide [1140] - Salicornia and other annuals colonising mud and sand [1310] - Atlantic salt meadows (Glauco-Puccinellietalia maritima) [1330] - Mediterranean salt meadows (Juncetalia maritimi) [1410] - Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] - Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] 	<p>Furthermore, with regards to the operation of the proposed development, there is no potential for significant effects on this SAC as the majority of the park will not be composed of hardstanding and therefore surface water will dissipate to ground through infiltration.</p> <p>Therefore, likely significant effects on this SAC during both the construction and operation of the proposed development can be excluded.</p>
		<p>Yes, there is a potential source-receptor pathway between the proposed development and the European site via the surface water network due to the fact that this SAC is contained within the North-western Irish Sea coastal waterbody to which the proposed development site is connected by the watercourses on site, Baldoyle Estuary and the Irish Sea. However, likely significant effects as a result of water pollution (in the case of an accidental pollution event during construction), which could impact the coastal QI habitats for which this site is designated, can be excluded due to the substantial open water marine buffer (>13.6km) which exists between the discharge point of the Mayne River and this SAC, and the potential for dilution and adsorption this buffer offers for any pollutants which could be released in such an event. Furthermore, for an accidental pollution event, originating from the proposed development site, to have capacity to impact Rogerstown Estuary SAC it would have to be of huge magnitude. Considering the type and scale of works involved in the development of the park at Baldoyle Racecourse Park, a pollution event of such magnitude would not occur.</p> <p>Furthermore, with regards to the operation of the proposed development, there is no potential for significant effects on this SAC as the majority of the park will not be composed of hardstanding and therefore surface water will dissipate to</p>

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are “Relevant” where a relevant source-pathway-receptor link exists).
Lambay Island SAC [000204] c. 10.5km north-east	<p>Conservation Objectives Version 1.0 (22/07/2013)</p> <p>Annex I Habitats:</p> <ul style="list-style-type: none"> - Reefs [1170] - Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] <p>Annex II Species:</p> <ul style="list-style-type: none"> - <i>Halichoerus grypus</i> (Grey Seal) [1364] - <i>Phoca vitulina</i> (Harbour Seal) [1365] 	<p>ground through infiltration.</p> <p>Therefore, likely significant effects on this SAC during both the construction and operation of the proposed development can be excluded.</p>
		<p>Yes, there is a potential source-receptor pathway between the proposed development and the European site via the surface water network due to the fact that this SAC is contained within the North-western Irish Sea coastal waterbody to which the proposed development site is connected by the watercourses on site, Baldoye Estuary and the Irish Sea. However, likely significant effects as a result of water pollution (in the case of an accidental pollution event during construction), which could impact the coastal/marine QI habitats and species for which this site is designated, can be excluded due to the substantial open water marine buffer (>27km) which exists between the discharge point of the Mayne River and this SAC, and the potential for dilution and adsorption this buffer offers for any pollutants which could be released in such an event. Furthermore, for an accidental pollution event, originating from the proposed development site, to have capacity to impact Lambay Island SAC it would have to be of huge magnitude. Considering the type and scale of works involved in the development of the park at Baldoye Racecourse Park, a pollution event of such magnitude would not occur.</p> <p>In addition, it should be noted that the habitat “vegetated sea cliffs [1230]”, for which this SAC is designated lie above the high-water mark and therefore would not be impacted by water pollution.</p> <p>Furthermore, with regards to the operation of the proposed development, there is no potential for significant effects on this SAC as the majority of the park will not be composed of hardstanding and therefore surface water will dissipate to</p>

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are “Relevant” where a relevant source-pathway-receptor link exists).
<p>South Dublin Bay SAC [000210] c. 6.6km south-west</p>	<p>Conservation Objectives Version 1.0 (22/08/2013) Annex I Habitats:</p> <ul style="list-style-type: none"> - Mudflats and sandflats not covered by seawater at low tide [1140] - Annual vegetation of drift lines [1210] - Salicornia and other annuals colonising mud and sand [1310] - Embryonic shifting dunes [2110] 	<p>ground through infiltration.</p> <p>Therefore, likely significant effects on this SAC during both the construction and operation of the proposed development can be excluded.</p> <p>Yes, there is a potential source-receptor pathway between the proposed development and the European site via the surface water network due to the fact that this SAC is contained within Dublin Bay which lies adjacent to the Irish Sea coastal waterbody. The proposed development site is connected to the Irish Sea by the watercourses on site and Baldoye Estuary. However, likely significant effects as a result of water pollution (in the case of an accidental pollution event during construction), which could impact the coastal QJ habitats for which this site is designated, can be excluded due to the substantial open water marine buffer (>20km) which exists between the discharge point of the Mayne River and this SAC, and the potential for dilution and adsorption this buffer offers for any pollutants which could be released in such an event. Furthermore, for an accidental pollution event, originating from the proposed development site, to have capacity to impact South Dublin Bay SAC it would have to be of huge magnitude. Considering the type and scale of works involved in the development of the park at Baldoye Racecourse Park, a pollution event of such magnitude would not occur.</p> <p>Furthermore, with regards to the operation of the proposed development, there is no potential for significant effects on this SAC as the majority of the park will not be composed of hardstanding and therefore surface water will dissipate to ground through infiltration.</p> <p>Therefore, likely significant effects on this SAC during both the construction and</p>

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are “Relevant” where a relevant source-pathway-receptor link exists).
		operation of the proposed development can be excluded.
Special Protection Areas (SPAs)		
Baldoyle Bay SPA [004016] <10m east	<p>Conservation Objectives Version 1.0 (27/02/2013)</p> <p>Qualifying Interests:</p> <ul style="list-style-type: none"> - Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] - Shelduck (<i>Tadorna tadorna</i>) [A048] - Ringed Plover (<i>Charadrius hiaticula</i>) [A137] - Golden Plover (<i>Pluvialis apricaria</i>) [A140] - Grey Plover (<i>Pluvialis squatarola</i>) [A141] - Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] - Wetland and Waterbirds [A999] 	A potential source-receptor pathway between the proposed development site and this SPA exists as the desk study revealed that Light-bellied Brent Geese are known to use the area surrounding the proposed development site. Furthermore, data contained within a Natura Impact Statement prepared for a residential development in Raheny (Scott Cawley, 2017), revealed that both the pitches at Red Arches and the area of amenity grassland to the north of Red Arches Road, are known to be used by Light-bellied Brent Geese. These two areas are recognised as <i>ex-situ</i> feeding sites ⁹ for the species and are considered part of the network of <i>ex-situ</i> feeding areas used by Light-bellied Brent Geese in the wider Dublin Bay area. The proposed development has the potential to result in direct loss of foraging resource for this species and disturbance impacts during the construction and operation phases of the proposed development. Accordingly, the possibility of significant effects on this species cannot be excluded, in view of the relevant conservation objectives.
Ireland’s Eye SPA [004117] c. 4km east	<p>Conservation Objectives Generic Version 6.0 (21/02/2018)</p> <p>Qualifying Interests:</p> <ul style="list-style-type: none"> - Cormorant (<i>Phalacrocorax carbo</i>) [A017] 	<p>No, there is no possibility of significant effects on this SPA for the following reasons:</p> <ul style="list-style-type: none"> ➤ The distance and significant marine buffer which exists between the

⁹ Waterbird species may at times use habitats situated within the immediate hinterland of the SPA or in areas ecologically connected to it. These habitats may be referred to as *ex-situ* sites and reliance on them will vary from species to species and from site to site. Significant habitat change or increase levels of disturbance within these areas could result in the displacement of one or more of the listed waterbird species from areas within the SPA, and/or a reduction in their numbers. (NPWS, 2012).

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are “Relevant” where a relevant source-pathway-receptor link exists).
	<ul style="list-style-type: none"> - Herring Gull (<i>Larus argentatus</i>) [A184] - Kittiwake (<i>Rissa tridactyla</i>) [A188] - Guillemot (<i>Uria aalge</i>) [A199] - Razorbill (<i>Alca torda</i>) [A200] 	<p>two sites.</p> <ul style="list-style-type: none"> ➤ Cormorant, Kittiwake, Guillemot and Razorbill are all regarded as seabirds and significant effects on these species can be excluded based on a lack of suitable habitat at the proposed development site. ➤ Whilst records within 2km of the proposed development site do exist for Herring Gull, due to the distance between the proposed development site and this SPA, the birds recorded within 2km are extremely unlikely to be associated with this SPA.
North Bull Island SPA [004006] c. 1.1km south	<p>Conservation Objectives Version 1.0 (09/03/2015)</p> <p>Qualifying Interests:</p> <ul style="list-style-type: none"> - Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] - Shelduck (<i>Tadorna tadorna</i>) [A048] - Teal (<i>Anas crecca</i>) [A052] - Pintail (<i>Anas acuta</i>) [A054] - Shoveler (<i>Anas clypeata</i>) [A056] - Oystercatcher (<i>Haematopus ostralegus</i>) [A130] - Golden Plover (<i>Pluvialis apricaria</i>) [A140] - Grey Plover (<i>Pluvialis squatarola</i>) [A141] - Knot (<i>Calidris canutus</i>) [A143] - Sanderling (<i>Calidris alba</i>) [A144] - Dunlin (<i>Calidris alpina</i>) [A149] - Black-tailed Godwit (<i>Limosa limosa</i>) [A156] 	<p>A potential source-receptor pathway between the proposed development site and this SPA exists as the desk study revealed that Light-bellied Brent Geese are known to use the area surrounding the proposed development site. Furthermore, data contained within a Natura Impact Statement prepared for a residential development in Raheny (Scott Cawley, 2017), revealed that both the pitches at Red Arches and the area of amenity grassland to the north of Red Arches Road, are known to be used by Light-bellied Brent Geese. These two areas are recognised as <i>ex-situ</i> feeding sites⁹ for the species and are considered part of the network of <i>ex-situ</i> feeding areas used by Light-bellied Brent Geese in the wider Dublin Bay area. The proposed development has the potential to result in direct loss of foraging resource for this species and disturbance impacts during the construction and operation phases of the proposed development. Accordingly, the possibility of significant effects on this species cannot be excluded, in view of the relevant conservation objectives.</p>

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are "Relevant" where a relevant source-pathway-receptor link exists).
Howth Head Coast SPA [004113] c. 5.2km south-east	<ul style="list-style-type: none"> - Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] - Curlew (<i>Numenius arquata</i>) [A160] - Redshank (<i>Tringa totanus</i>) [A162] - Turnstone (<i>Arenaria interpres</i>) [A169] - Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] - Wetland and Waterbirds [A999] <p>Conservation Objectives Generic Version 6.0 (21/02/2018)</p> <p>Qualifying Interests:</p> <ul style="list-style-type: none"> - Kittiwake (<i>Rissa tridactyla</i>) [A188] 	<p>No, there is no possibility of significant effects on this SPA for the following reasons:</p> <ul style="list-style-type: none"> ➤ The distance and significant marine buffer which exists between the two sites. ➤ Kittiwake are summer visitors to Ireland who breed along steep coastal cliffs. Due to the lack of suitable habitat at the proposed development site significant effects on this QI species, and therefore this SPA, can be excluded.
Malahide Estuary SPA [004025] c. 2.9km north-east	<p>Conservation Objectives Version 1.0 (16/08/2013)</p> <p>Qualifying Interests:</p> <ul style="list-style-type: none"> - Great Crested Grebe (<i>Podiceps cristatus</i>) [A005] - Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] - Shelduck (<i>Tadorna tadorna</i>) [A048] - Pintail (<i>Anas acuta</i>) [A054] - Goldeneye (<i>Bucephala clangula</i>) [A067] 	<p>A potential source-receptor pathway between the proposed development site and this SPA exists as the desk study revealed that Light-bellied Brent Geese are known to use the area surrounding the proposed development site. Furthermore, data contained within a Natura Impact Statement prepared for a residential development in Raheny (Scott Cawley, 2017), revealed that both the pitches at Red Arches and the area of amenity grassland to the north of Red Arches Road, are known to be used by Light-bellied Brent Geese. These two areas are recognised as <i>ex-situ</i> feeding sites⁹ for the species and are considered part of the network of <i>ex-situ</i> feeding areas used by Light-bellied Brent Geese in</p>

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are "Relevant" where a relevant source-pathway-receptor link exists).
Lambay Island SPA [004069] c. 10.5km north-east	<ul style="list-style-type: none"> - Red-breasted Merganser (<i>Mergus serrator</i>) [A069] - Oystercatcher (<i>Haematopus ostralegus</i>) [A130] - Golden Plover (<i>Pluvialis apricaria</i>) [A140] - Grey Plover (<i>Pluvialis squatarola</i>) [A141] - Knot (<i>Calidris canutus</i>) [A143] - Dunlin (<i>Calidris alpina</i>) [A149] - Black-tailed Godwit (<i>Limosa limosa</i>) [A156] - Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] - Redshank (<i>Tringa totanus</i>) [A162] - Wetland and Waterbirds [A999] 	<p>the wider Dublin Bay area. The proposed development has the potential to result in direct loss of foraging resource for this species and disturbance impacts during the construction and operation phases of the proposed development. Accordingly, the possibility of significant effects on this species cannot be excluded, in view of the relevant conservation objectives.</p>
Lambay Island SPA [004069] c. 10.5km north-east	<p>Conservation Objectives Generic Version 6.0 (21/02/2018)</p> <p>Qualifying Interests:</p> <ul style="list-style-type: none"> - Fulmar (<i>Fulmarus glacialis</i>) [A009] - Cormorant (<i>Phalacrocorax carbo</i>) [A017] - Shag (<i>Phalacrocorax aristotelis</i>) [A018] - Greylag Goose (<i>Anser anser</i>) [A043] - Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] - Herring Gull (<i>Larus argentatus</i>) [A184] - Kittiwake (<i>Rissa tridactyla</i>) [A188] - Guillemot (<i>Uria aalge</i>) [A199] - Razorbill (<i>Alca torda</i>) [A200] 	<p>No, there is no possibility of significant effects on this SPA for the following reasons:</p> <ul style="list-style-type: none"> ➤ The distance and significant marine buffer which exists between the two sites. ➤ Fulmar, Cormorant, Shag, Kittiwake, Guillemot, Razorbill and Puffin are regarded as seabirds. There is no suitable habitat for these species at the proposed development site and therefore <i>ex-situ</i> impacts can be excluded. ➤ Greylag geese are winter migrants who winter at coastal sites in Ireland. According to data collected over the course of the desk study, there are no records for this species within 2km of the proposed development site.

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are "Relevant" where a relevant source-pathway-receptor link exists).
	<ul style="list-style-type: none"> - Puffin (<i>Fratercula arctica</i>) [A204] 	<ul style="list-style-type: none"> ➤ Whilst records within 2km of the proposed development site do exist for both Lesser Black-backed Gull and Herring Gull, due to the distance between the proposed development site and this SPA, the birds recorded within 2km are extremely unlikely to be associated with this SPA.
Rogerstown Estuary SPA [004015] c. 8.8km north-east	<p>Conservation Objectives Version 1.0 (27/02/2013)</p> <p>Qualifying Interests:</p> <ul style="list-style-type: none"> - Greylag Goose (<i>Anser anser</i>) [A043] - Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] - Shelduck (<i>Tadorna tadorna</i>) [A048] - Shoveler (<i>Anas clypeata</i>) [A056] - Oystercatcher (<i>Haematopus ostralegus</i>) [A130] - Ringed Plover (<i>Charadrius hiaticula</i>) [A137] - Grey Plover (<i>Pluvialis squatarola</i>) [A141] - Knot (<i>Calidris canutus</i>) [A143] - Dunlin (<i>Calidris alpina</i>) [A149] - Black-tailed Godwit (<i>Limosa limosa</i>) [A156] - Redshank (<i>Tringa totanus</i>) [A162] - Wetland and Waterbirds [A999] 	<p>A potential source-receptor pathway between the proposed development site and this SPA exists as the desk study revealed that Light-bellied Brent Geese are known to use the area surrounding the proposed development site. Furthermore, data contained within a Natura Impact Statement prepared for a residential development in Raheny (Scott Cawley, 2017), revealed that both the pitches at Red Arches and the area of amenity grassland to the north of Red Arches Road, are known to be used by Light-bellied Brent Geese. These two areas are recognised as <i>ex-situ</i> feeding sites⁹ for the species and are considered part of the network of <i>ex-situ</i> feeding areas used by Light-bellied Brent Geese in the wider Dublin Bay area. The proposed development has the potential to result in direct loss of foraging resource for this species and disturbance impacts during the construction and operation phases of the proposed development. Accordingly, the possibility of significant effects on this species cannot be excluded, in view of the relevant conservation objectives.</p>
South Dublin Bay and River Tolka Estuary SPA [004024]	<p>Conservation Objectives Version 1.0 (09/03/2015)</p> <p>Qualifying Interests:</p>	<p>A potential source-receptor pathway between the proposed development site and this SPA exists as the desk study revealed that Light-bellied Brent Geese are known to use the area surrounding the proposed development site.</p>

Table 1. European Sites within the vicinity of the Proposed Development (information downloaded from www.npws.ie)

Site name and code	Reasons for designation ⁶ (* = Priority Habitat) (Sourced from NPWS online Conservation Objectives)	Do any potential receptor-pathway-source links exist between the proposed development and the Natura 2000 site? (European sites are "Relevant" where a relevant source-pathway-receptor link exists).
	<ul style="list-style-type: none"> - Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] - Oystercatcher (<i>Haematopus ostralegus</i>) [A130] - Ringed Plover (<i>Charadrius hiaticula</i>) [A137] - Grey Plover (<i>Pluvialis squatarola</i>) [A141] - Knot (<i>Calidris canutus</i>) [A143] - Sanderling (<i>Calidris alba</i>) [A144] - Dunlin (<i>Calidris alpina</i>) [A149] - Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] - Redshank (<i>Tringa totanus</i>) [A162] - Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179] - Roseate Tern (<i>Sterna dougallii</i>) [A192] - Common Tern (<i>Sterna hirundo</i>) [A193] - Arctic Tern (<i>Sterna paradisaea</i>) [A194] - Wetland and Waterbirds [A999] 	<p>Furthermore, data contained within a Natura Impact Statement prepared for a residential development in Raheny (Scott Cawley, 2017), revealed that both the pitches at Red Arches and the area of amenity grassland to the north of Red Arches Road, are known to be used by Light-bellied Brent Geese. These two areas are recognised as <i>ex-situ</i> feeding sites⁹ for the species and are considered part of the network of <i>ex-situ</i> feeding areas used by Light-bellied Brent Geese in the wider Dublin Bay area. The proposed development has the potential to result in direct loss of foraging resource for this species and disturbance impacts during the construction and operation phases of the proposed development. Accordingly, the possibility of significant effects on this species cannot be excluded, in view of the relevant conservation objectives.</p>
<p>Dalkey Islands SPA [004172] c. 13.3km south-east</p>	<p>Conservation Objectives Generic Version 6.0 (21/02/2018)</p> <p>Qualifying Interests:</p> <ul style="list-style-type: none"> - Roseate Tern (<i>Sterna dougallii</i>) [A192] - Common Tern (<i>Sterna hirundo</i>) [A193] - Arctic Tern (<i>Sterna paradisaea</i>) [A194] 	<p>No, there is no possibility of significant effects on this SPA for the following reasons:</p> <ul style="list-style-type: none"> ➤ The distance and significant marine buffer which exists between the two sites; ➤ Terns are summer visitors to Ireland and breed along the coast. There is no suitable habitat for breeding terns at the proposed development site and therefore <i>ex-situ</i> impacts can be excluded.

Figure 5: Location of QI Annex I Saltmarsh habitats¹⁰ within the boundary of the proposed development site¹¹



¹⁰ Spatial data in relation to Annex I saltmarsh habitats sourced from Article 17 habitat data for Atlantic Salt Meadows [1410] and Mediterranean Salt Meadows [1330], downloaded from the following NPWS webpage: <https://www.npws.ie/maps-and-data/habitat-and-species-data/article-17/2019/habitats/coastal-habitats> [Accessed 11/02/2021]

¹¹ Other areas of Atlantic Salt Meadows [1410] and Mediterranean Salt Meadows [1330] exist in other areas of Baldoye Bay SAC. The data has been clipped to only show those areas of QI Annex I habitat which fall within the red line boundary of the proposed development site.

5.3 Conclusions on Information Provided for Screening Assessment

Information to enable An Bord Pleanála to perform its statutory function to carry out a screening for AA has been presented within this section of the report.

Following an examination, analysis and evaluation of the relevant information including, in particular, the nature of the proposed development and the likelihood of significant effects on any European site, and applying the precautionary principle, it is the professional opinion of the authors that, on the basis of objective information, the possibility may be excluded that the proposed development will have a significant effect on any of the European sites listed below:

- Ireland's Eye SAC [002193]
- Malahide Estuary SAC [000205]
- Howth Head SAC [000202]
- North Dublin Bay SAC [000206]
- Rockabill to Dalkey Island SAC [003000]
- Rogerstown Estuary SAC [000208]
- Lambay Island SAC [000204]
- South Dublin Bay SAC [000210]
- Ireland's Eye SPA [004117]
- Howth Head Coast SPA [004113]
- Lambay Island SPA [004069]
- Dalkey Islands SPA [004172]

However, following an examination, analysis and evaluation of the relevant information, including, in particular, the nature of the proposed development and the likelihood of significant effects on European sites, and again applying the precautionary principle, it is the professional opinion of the authors of this report that it is not possible to exclude, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a likely significant effect on the following European sites:

- Baldoyle Bay SAC [000199]
- Baldoyle Bay SPA [004016]
- North Bull Island SPA [004006]
- Malahide Estuary SPA [004025]
- Rogerstown Estuary SPA [004015]
- South Dublin Bay and River Tolka Estuary SPA [004024]

In the case of Baldoyle Bay SAC [000199], for which the possibility of significant effects cannot be excluded, the likely significant risks (in the absence of mitigation) arise from potential construction-related surface water discharges from the proposed development site and the potential for these effects to reach downstream European sites. In addition, there is also the potential risk that invasive species, which have been recorded on site, could be transferred to downstream European sites

through construction related activities (e.g. earthworks). It was concluded therefore that likely significant effects on this European site may require mitigation. Whilst works are proposed within the boundary of the SAC, there is no potential for direct loss of QI habitat as no works are proposed in areas where QI habitat has previously been recorded. In addition, no Annex I habitats were identified in the one area within the SAC boundary in which regrading, and excavation works are proposed. This area comprises of improved agricultural grassland.

In the case of Baldoyle Bay SPA [004016], North Bull Island SPA [004006], Malahide Estuary SPA [004025], Rogerstown Estuary SPA [004015] and South Dublin Bay and River Tolka Estuary SPA [004024], for which the possibility of significant effects cannot be excluded, the likely significant risks arise from the loss of inland feeding habitat which is known to be utilised by Light-bellied Brent Geese, as an external site connected to each of these SPAs, and the potential for serious disturbance impacts on local populations of Light-bellied Brent Geese which are associated with these SPAs both during construction and operation. It was therefore concluded that further investigation and possibly mitigation may be required to reduce/ avoid these risks.

However, the authors of this report acknowledge it is for An Bord Pleanála, as the competent authority, to carry out a screening for appropriate assessment and to reach one of the following determinations:

- (a) Stage 2 AA of the proposed development is required if it cannot be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site;
- (b) Stage 2 AA of the proposed development is not required if it can be excluded, on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.

6 PROVISION OF INFORMATION FOR APPROPRIATE ASSESSMENT

This section of the NIS assesses the direct and indirect impacts of the proposed development with respect to the European sites which fall within the ZoI of the proposed development. In this instance six European sites fall within the ZoI; Baldoyle Bay SAC, Baldoyle Bay SPA, North Bull Island SPA, Malahide Estuary SPA, Rogerstown Estuary SPA and South Dublin Bay and River Tolka Estuary SPA.

The potential for significant effects arising from the proposed development on the integrity of these European sites, in light of their conservation objectives, is examined in Section 6.1 below. This sets the scope for the Appropriate Assessment (Stage 2).

6.1 Summary of European Sites Relevant to Appropriate Assessment (Stage 2)

6.1.1 Baldoyle Bay SAC

Condition of Site and Management

The Natura 2000 Standard Data Form (NPWS, 2017a) states that the SAC comprises a typical eastern estuarine system with fairly extensive intertidal sand and mud flats. Other habitats contained within the SAC boundary include saltmarsh, sand dunes, brackish marshes and the tidal section of the Mayne River. The inner parts of the site are sheltered from the sea by a large sand dune peninsula. The quality of habitats present is variable, but generally good. Saltmarshes are well represented and are at least of moderate quality. The site is of importance for wintering waterfowl. The main threats include non-motorised nautical sports, walking, horse-riding and non-motorised vehicles, golf courses, non-native invasive species, urbanised areas and human habitation.

6.1.2 Baldoyle Bay SPA

Condition of Site and Management

The Natura 2000 Standard Data Form (NPWS, 2017b) states that the SPA is a relatively small, typical estuarine system with fairly extensive intertidal sand and mud flats, which have *Zostera* spp. It has good salt marsh fringes where birds roost. The quality of habitats present is variable, but generally good. The site supports a good diversity of wintering waterfowl, notably an internationally important population of Light-bellied Brent Geese. It also has nationally important populations of Shelduck, Pintail, Ringed Plover, Golden Plover and Black-tailed Godwit. At high tide the shallow waters regularly attract species such as Great-crested Grebe and Red-breasted Merganser. The main threats to the site include potential impacts from urban areas and human habitation, reclamation of the land from sea, estuary or marsh, the potential spread of invasive non-native species and fertilisation.

6.1.3 North Bull Island SPA

Condition of Site and Management

The Natura 2000 Standard Data Form (NPWS, 2017c) lists the SPA as one of the top ten sites in the country for wintering waterfowl. It provides important feeding and roosting habitat for bird species listed as Special Conservation Interests (SCIs) for the site and supports internationally important populations of Light-bellied Brent Goose and Bar-tailed Godwit. The quality of the estuarine habitats in the SPA is considered to be very good, part of which are designated as North Dublin Bay cSAC. There are no serious imminent threats to the wintering birds. Threats to the site include oil pollution

from Dublin Port along with localised commercial bait digging, disturbance from activities such as sailing, walkers and dogs.

6.1.4 Malahide Estuary SPA

Condition of Site and Management

The Natura 2000 Standard Data Form (NPWS, 2017d) states that the SPA comprises of the estuary of the River Broadmeadow. It is a site of high importance for wintering waterfowl and supports a particularly good diversity of species. It has an internationally important population of Light-bellied Brent Geese and nationally important populations of a further 12 species. Of particular note are the populations of Shelduck, Pintail, Red-breasted Merganser, Grey Plover and Dunlin. The site is one of the few in eastern Ireland where substantial numbers of Goldeneye occur. It has a regionally important population of Bar-tailed Godwit. The site is an important and regular site for a range of autumn passage migrants, especially Curlew, Sandpiper and Ruff. It supports a regular flock of non-breeding Mute Swan. The main threats to the site include potential impacts from the reclamation of land from sea, estuary or marsh, paths, tracks and cycling tracks, urbanised areas and human habitation and nautical sports.

6.1.5 Rogerstown Estuary SPA

Condition of Site and Management

The Natura 2000 Standard Data Form (NPWS, 2017e) states that the SPA comprises of a relatively small typical estuarine system, which receives its freshwater from the Ballyboghil and Ballough rivers and contains salt marsh and sand dune habitats as well as some agricultural fields of ornithological or botanical interests adjoining the estuary. It is of high importance for wintering waterfowl, with an internationally important population of Light-bellied Brent Geese and nationally important populations of Knot, Shelduck and Grey Plover. It is an important and regular site for a range of autumn passage migrants especially Little Stint, Curlew Sandpiper, Ruff and Green Sandpiper. The main threats to the site include potential impacts from the landfill, land reclamation and drying out, invasive non-native species, disposal of industrial waste and household/recreational waste and fertilisation.

6.1.6 South Dublin Bay and River Tolka Estuary SPA

Condition of Site and Management

The Natura 2000 Standard Data Form (NPWS, 2017f) states that the SPA possesses extensive intertidal flats, part of which are designated as South Dublin Bay SAC, and which supports wintering waterfowl as part of the wider Dublin Bay population. The site also supports an internationally important population of Light-bellied Brent Geese, feeding on the stands of *Zostera* spp. It hosts nationally important numbers of six species, is an important site for wintering gulls and is an autumn roosting site for a significant number of terns. The main threat to the site is land reclamation, with other threats including oil pollution from Dublin Port, commercial bait digging and disturbance by walkers and dogs.

6.2 Conservation Objectives

The Habitats Directive as transposed into Irish law and Part XAB of the Planning and Development Act 2000 requires the NIS to focus on the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the sites. In accordance with Article 6(3) of the Habitats directive, a project must be assessed in terms of its potential effect(s) on a European site's conservation objectives.

Site specific conservation objectives (SSCOs) for the qualifying interests (QIs) and the Special Conservation Interests (SCIs) of Baldoyle Bay SPA, North Bull Island SPA, Malahide Estuary SPA, Rogerstown Estuary SPA and South Dublin Bay and River Tolka Estuary SPA and the Annex I Habitats of Baldoyle Bay SAC are presented in Table 3 below, as sourced directly from conservation objectives documents (accessed online at www.npws.ie on the 12th February 2021). SSCO's aim to define the favourable conservation condition for a SCI species, Annex I habitat and/or Annex II species at that European site. The favourable conservation status of a SCI species or an Annex II species is achieved when:

- 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, and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

While, the favourable conservation status of a habitat is achieved when:

- Its natural range, and area it covers within that range, are 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; and,
- The conservation status of its typical species is favourable.

The proposed development has been assessed in context of the conservation objectives' attributes "population trend" and "distribution" and their specific targets (listed below in Table 3) for each SCI species of the relevant European sites and in the context of the conservation objective's attributes for and their specific targets for each Annex I habitat and Annex II species for the relevant European sites, the results of which are summarised in Section 6.4 of this report.

The SCI of Wetlands [999] relates specifically to wetland habitat located within each SPA as a resource for the waterbirds that utilise it. As concluded in the Screening for Appropriate Assessment process (see Section 0 of this report), there is a possibility of significant impacts from the proposed development on this SCI as a consequence of construction-related surface water discharges (in the absence of mitigation) for Baldoyle Bay SPA. This potential impact has been assessed in Section 6.4.3 of this report and mitigation measures have been provided to ensure that there will be no impact on the conservation objectives of this European site.

The current conservation status of the qualifying interests and conditions underpinning site integrity for the relevant European sites are summarised in Table 2. The current conservation status of each

the Annex I habitats and Annex II species is sourced from *Status of EU Protected Habitats and Species in Ireland* (NPWS, 2019), while the current conservation status of each SCI species (i.e. “Green”, “Amber” or “Red” categories) is sourced from *Birds of Conservation Concern in Ireland 2014 – 2019* (the “BoCCI” list, Colhoun & Cummins, 2014). These categories are determined for each species based on a national assessment which considers a range of quantitative criteria. Red-listed species are those of highest conservation priority, being globally threatened, declining rapidly in abundance or range, or having undergone historic declines from which they have not recently recovered. Amber-listed species have an unfavourable status in Europe, have moderately declined in abundance or range, a very small population size, a localised distribution, or occur in internationally important numbers. Those species which are green-listed do not meet any of these criteria and therefore require little direct conservation action (Colhoun & Cummins, 2014).

6.2.1 Key QI Attributes of Particular Relevance to the Proposed Development

There are two attributes that underpin the special conservation interests of all five SPA sites, which may potentially be impacted upon as a result of the proposed development: foraging habitat and food supply. In particular, the proposed development will result in the loss of part of the Red Arches pitches and the amenity grassland area to the north of Red Arches Road as *ex-situ* inland feeding sites currently utilised by Light-bellied Brent Geese. This in turn may result in a reduction in the proportion of the existing foraging habitat in the Dublin area available to Light-bellied Brent Geese and may impact on the existing terrestrial food supply of Light-bellied Brent Geese in Dublin.

Another attribute that underpins the special conservation interests of both Baldoyle Bay SPA and Baldoyle Bay SAC is water quality including nutrient levels, water clarity and sediment levels. In the absence of mitigation, this condition may be impacted upon as a result of an accidental pollution incident occurring (e.g. accidental spillages of soils, cement or other potential pollutants into any of the four watercourses which flow through the proposed development site) during the construction stage of the proposed development, which could result in potential effects to reach these European sites. The potential for these attributes to be impacted upon has been investigated as part of this assessment, the results of which are presented in Section 6.4 of this report.

Table 2 Qualifying Interests, BoCCI Status, Current Conservation Status, Conditions underpinning site integrity for relevant European sites

Table 2 Qualifying Interests, BoCCI Status, Current Conservation Status, Conditions underpinning site integrity for relevant European sites		
Site Name & Code	Qualifying Interests [Bird species code, BoCCI status, Current Conservation Status]	Conditions underpinning site integrity (items indicated in bold are of relevance to the proposed development)
Special Areas of Conservation (SACs)		
Baldoyle Bay SAC [000199]	<p><u>Annex I habitats for which the site is designated:</u></p> <ul style="list-style-type: none"> Mudflats and sandflats not covered by seawater at low tide [1140 - Inadequate] Salicornia and other annuals colonising mud and sand [1310 - Favourable] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330 - Inadequate] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410 - Inadequate] 	<ul style="list-style-type: none"> Water quality including nutrient levels, water clarity, sediment levels Surface and ground water quality Appropriate levels of disturbance Water levels Air quality Tidal currents Erosion and deposition rates Height and frequency of the tides, availability of foreshore sand and the average strength of the on-shore winds Maintaining appropriate levels of disturbance Controlling bait digging
Special Protection Areas (SPAs)		
Baldoyle Bay SPA [004016]	<ul style="list-style-type: none"> Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046 - Amber] Shelduck (<i>Tadorna tadorna</i>) [A048 - Amber] Ringed Plover (<i>Charadrius hiaticula</i>) [A137 - Amber] Golden Plover (<i>Pluvialis apricaria</i>) [A140 - Amber] Grey Plover (<i>Pluvialis squatarola</i>) [A141 - Amber] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157 - Amber] Wetlands & Waterbirds [A999] 	<ul style="list-style-type: none"> Water quality including nutrient levels, water clarity, sediment levels Foraging Habitat Food supply Appropriate Levels of disturbance Water levels Tidal currents Erosion / deposition levels Freshwater influx Intertidal habitats Air Quality
North Bull Island SPA (004006)	<ul style="list-style-type: none"> Oystercatcher (<i>Haematopus ostralegus</i>) [A130 - Amber] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046 - Amber] Shelduck (<i>Tadorna tadorna</i>) [A048 - Amber] Teal (<i>Anas crecca</i>) [A052 - Amber] Pintail (<i>Anas acuta</i>) [A054 - Red] Shoveler (<i>Anas clypeata</i>) [A056 - Red] Golden Plover (<i>Pluvialis apricaria</i>) [A140 - Red] Grey Plover (<i>Pluvialis squatarola</i>) [A141 - Amber] Knot (<i>Calidris canutus</i>) [A143 - Red] Sanderling (<i>Calidris alba</i>) [A144 - Green] Dunlin (<i>Calidris alpina</i>) [A149 - Amber] 	<ul style="list-style-type: none"> Water quality including nutrient levels, water clarity, sediment levels Foraging Habitat Food supply Appropriate Levels of disturbance Water levels Tidal currents Erosion / deposition levels Freshwater influx Intertidal habitats Air Quality

Table 2 Qualifying Interests, BoCCI Status, Current Conservation Status, Conditions underpinning site integrity for relevant European sites

Site Name & Code	Qualifying Interests [Bird species code, BoCCI status, Current Conservation Status]	Conditions underpinning site integrity (items indicated in bold are of relevance to the proposed development)
	<ul style="list-style-type: none"> • Black-tailed Godwit (<i>Limosa limosa</i>) [A156 - Amber] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157 - Amber] • Curlew (<i>Numenius arquata</i>) [A160 - Red] • Redshank (<i>Tringa totanus</i>) [A162 - Red] • Turnstone (<i>Arenaria interpres</i>) [A169 - Green] • Black-headed Gull (<i>Larus ridibundus</i>) [A179 - Red] • Wetlands & Waterbirds [A999] 	
Malahide Estuary SPA[004025]	<ul style="list-style-type: none"> • Great Crested Grebe (<i>Podiceps cristatus</i>) [A005 - Amber] • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046 - Amber] • Shelduck (<i>Tadorna tadorna</i>) [A048 - Amber] • Pintail (<i>Anas acuta</i>) [A054 - Red] • Goldeneye (<i>Bucephala clangula</i>) [A067 - Red] • Red-breasted Merganser (<i>Mergus serrator</i>) [A069 - Green] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130 - Amber] • Golden Plover (<i>Pluvialis apricaria</i>) [A140 - Amber] • Grey Plover (<i>Pluvialis squatarola</i>) [A141 - Amber] • Knot (<i>Calidris canutus</i>) [A143 - Red] • Dunlin (<i>Calidris alpina</i>) [A149 - Amber] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156 - Amber] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157 - Amber] • Redshank (<i>Tringa totanus</i>) [A162 - Red] • Wetlands & Waterbirds [A999] 	<ul style="list-style-type: none"> • Water quality including nutrient levels, water clarity, sediment levels • Foraging Habitat • Food supply • Appropriate Levels of disturbance • Water levels • Tidal currents • Erosion / deposition levels • Freshwater influx • Intertidal habitats • Air Quality
Rogerstown Estuary SPA [004015]	<ul style="list-style-type: none"> • Greylag Goose (<i>Anser anser</i>) [A043 - Amber] • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046 - Amber] • Shelduck (<i>Tadorna tadorna</i>) [A048 - Amber] • Shoveler (<i>Anas clypeata</i>) [A056 - Red] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130 - Amber] • Ringed Plover (<i>Charadrius hiaticula</i>) [A137 - Amber] • Grey Plover (<i>Pluvialis squatarola</i>) [A141 - 	<ul style="list-style-type: none"> • Water quality including nutrient levels, water clarity, sediment levels • Foraging Habitat • Food supply • Appropriate Levels of disturbance • Water levels • Tidal currents • Erosion / deposition levels • Freshwater influx • Intertidal habitats

Table 2 Qualifying Interests, BoCCI Status, Current Conservation Status, Conditions underpinning site integrity for relevant European sites

Site Name & Code	Qualifying Interests [Bird species code, BoCCI status, Current Conservation Status]	Conditions underpinning site integrity (items indicated in bold are of relevance to the proposed development)
	<ul style="list-style-type: none"> Amber] • Knot (<i>Calidris canutus</i>) [A143 - Red] • Dunlin (<i>Calidris alpina</i>) [A149 - Amber] • Black-tailed Godwit (<i>Limosa limosa</i>) [A156 - Amber] • Redshank (<i>Tringa totanus</i>) [A162 - Red] • Wetland and Waterbirds [A999] 	<ul style="list-style-type: none"> • Air Quality
South Dublin Bay and River Tolka Estuary SPA (004024)	<ul style="list-style-type: none"> • Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046 - Amber] • Oystercatcher (<i>Haematopus ostralegus</i>) [A130 - Amber] • Ringed Plover (<i>Charadrius hiaticula</i>) [A137 - Amber] • Grey Plover (<i>Pluvialis squatarola</i>) [A140 - Amber] • Knot (<i>Calidris canutus</i>) [A143 - Red] • Sanderling (<i>Calidris alba</i>) [A144 - Green] • Dunlin (<i>Calidris alpina</i>) [A149 - Amber] • Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157 - Amber] • Redshank (<i>Tringa totanus</i>) [A162 - Red] • Black-headed Gull (<i>Larus ridibundus</i>) [A179 - Red] • Roseate Tern (<i>Sterna dougallii</i>) [A192 - Amber] • Common Tern (<i>Sterna hirundo</i>) [A193 - Amber] • Arctic Tern (<i>Sterna paradisaea</i>) [A194 - Amber] • Wetlands & Waterbirds [A999] 	<ul style="list-style-type: none"> • Water quality including nutrient levels, water clarity, sediment levels • Foraging Habitat • Food supply • Appropriate Levels of disturbance • Water levels • Tidal currents • Erosion / deposition levels • Freshwater influx • Intertidal habitats • Air Quality

Table 3 Site-specific Objectives for relevant European sites

Table 3 Site-specific Objectives for relevant European sites¹²

Baldoyle Bay SPA [004016]

Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Ringed Plover (*Charadrius hiaticula*) [A137], Golden Plover (*Pluvialis apricaria*) [A140], Grey Plover (*Pluvialis squatarola*) [A141], Bar-tailed Godwit (*Limosa lapponica*) [A157]
(Maintain the favourable conservation condition)

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 and intensity of use of areas by all of the above-named species, other than that occurring from natural patterns of variation

Wetlands [A999] (Maintain the favourable conservation condition)

Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 263ha, other than that occurring from natural patterns of variation
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North Bull Island SPA

Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Teal (*Anas crecca*) [A052], Pintail (*Anas acuta*) [A054], Shoveler (*Anas clypeata*) [A056], Oystercatcher (*Haematopus ostralegus*) [A130], Golden Plover (*Pluvialis apricaria*) [A140], Grey Plover (*Pluvialis squatarola*) [A141], Knot (*Calidris canutus*) [A143], Sanderling (*Calidris alba*) [A144], Dunlin (*Calidris alpina alpina*) [A149], Black-tailed Godwit (*Limosa limosa*) [A156], Bar-tailed Godwit (*Limosa lapponica*) [A157], Curlew (*Numenius arquata*) [A160], Redshank (*Tringa totanus*) [A162], Turnstone (*Arenaria interpres*) [A169], Black-headed Gull (*Chroicocephalus ridibundus*) [A179]
(Maintain the favourable conservation condition)

¹² Taken from Conservation Objectives documents, accessed online at www.npws.ie 12/02/2021

Table 3 Site-specific Objectives for relevant European sites¹²

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 and intensity of use of areas by all of the above-named species, other than that occurring from natural patterns of variation
Wetlands [A999] (Maintain the favourable conservation condition)		
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1713ha, other than that occurring from natural patterns of variation
Malahide Estuary SPA[004025]		
Great Crested Grebe (<i>Podiceps cristatus</i>) [A005], Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Shelduck (<i>Tadorna tadorna</i>) [A048], Pintail (<i>Anas acuta</i>) [A054], Goldeneye (<i>Bucephala clangula</i>) [A067], Red-breasted Merganser (<i>Mergus serrator</i>) [A069], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Golden Plover (<i>Pluvialis apricaria</i>) [A140], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Knot (<i>Calidris canutus</i>) [A143], Dunlin (<i>Calidris alpina</i>) [A149], Black-tailed Godwit (<i>Limosa limosa</i>) [A156], Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157], Redshank (<i>Tringa totanus</i>) [A162]		
(Maintain the favourable conservation condition)		
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 and intensity of use of areas by all of the above-named species, other than that occurring from natural patterns of variation
Wetlands [A999] (Maintain the favourable conservation condition)		
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 765ha, other than that occurring from natural patterns of variation
Rogerstown Estuary SPA [004015]		

Table 3 Site-specific Objectives for relevant European sites¹²

<p>Greylag Goose (<i>Anser anser</i>) [A043], Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Shoveler (<i>Anas clypeata</i>) [A056], Ringed Plover (<i>Charadrius hiaticula</i>) [A137], Shelduck (<i>Tadorna tadorna</i>) [A048], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Knot (<i>Calidris canutus</i>) [A143], Dunlin (<i>Calidris alpina</i>) [A149], Black-tailed Godwit (<i>Limosa limosa</i>) [A156], Redshank (<i>Tringa totanus</i>) [A162]</p> <p>(Maintain the favourable conservation condition)</p>		
<p>Conservation Objectives for the following species: Greylag Goose (<i>Anser anser</i>) [A043], Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Shoveler (<i>Anas clypeata</i>) [A056], Ringed Plover (<i>Charadrius hiaticula</i>) [A137]</p>		
Attribute	Measure	Target
Population trend	Percentage change	Long term population trend stable or increasing
Distribution	Number and range of areas used by waterbirds	No significant decrease in the range, timing or intensity of use of areas by all of the above-named species, other than that occurring from natural patterns of variation
<p>Conservation Objectives for the following species: Shelduck (<i>Tadorna tadorna</i>) [A048], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Knot (<i>Calidris canutus</i>) [A143], Dunlin (<i>Calidris alpina</i>) [A149], Black-tailed Godwit (<i>Limosa limosa</i>) [A156], Redshank (<i>Tringa totanus</i>) [A162]</p>		
Population trend	Percentage change	Long term population trend stable or increasing
Distribution	Number, range, timing and intensity of use of areas	No significant decrease in the range, timing or intensity of use of areas by all of the above-named species, other than that occurring from natural patterns of variation
<p>Wetlands [A999] (Maintain the favourable conservation condition)</p>		
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 646ha, other than that occurring from natural patterns of variation
<p>South Dublin Bay and River Tolka Estuary SPA</p>		
<p>Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Ringed Plover (<i>Charadrius hiaticula</i>) [A137], Grey Plover (<i>Pluvialis squatarola</i>) [A141], Knot (<i>Calidris canutus</i>) [A143], Sanderling (<i>Calidris alba</i>) [A144], Dunlin (<i>Calidris alpina alpina</i>) [A149], Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157],</p>		

Table 3 Site-specific Objectives for relevant European sites¹²

<p>Redshank (<i>Tringa totanus</i>) [A162], Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179], Roseate Tern (<i>Sterna dougallii</i>) [A192], Common Tern (<i>Sterna hirundo</i>) [A193], Arctic Tern (<i>Sterna paradisaea</i>) [A194] <u>(Maintain the favourable conservation condition)</u> Note: Grey Plover (<i>Pluvialis squatarola</i>) [A141] is proposed for removal from the list of SCI's for the site so no site-specific conservation objective is included for the species</p>		
<p>Conservation Objectives for the following species: Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046], Oystercatcher (<i>Haematopus ostralegus</i>) [A130], Ringed Plover (<i>Charadrius hiaticula</i>) [A137], Knot (<i>Calidris canutus</i>) [A143], Sanderling (<i>Calidris alba</i>) [A144], Dunlin (<i>Calidris alpina alpina</i>) [A149], Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157], Redshank (<i>Tringa totanus</i>) [A162], Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]</p>		
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 and intensity of use of areas by all of the above named species, other than that occurring from natural patterns of variation
<p>Conservation Objectives for the following species: Roseate Tern (<i>Sterna dougallii</i>) [A192], Arctic Tern (<i>Sterna paradisaea</i>) [A194]:</p>		
Attribute	Measure	Target
Passage population: individuals	Number	No significant decline
Distribution: roosting areas	Number; location; area (hectares)	No significant decline
Prey biomass available	Kilogrammes	No significant decline
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase
Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the numbers of the two tern species listed above among the post-breeding aggregation of terns

Table 3 Site-specific Objectives for relevant European sites¹²

Conservation Objectives for the following species: Common Tern (<i>Stena hirundo</i>) [A193]		
Attribute	Measure	Target
Breeding population abundance: apparently occupied nests (AONs)	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 (Hectares)	No significant decline
Distribution: roosting areas	Number; location; area (hectares)	No significant decline
Prey biomass available	Kilogrammes	No significant decline
Barriers to connectivity	Number; location; shape; area (hectares)	No significant increase
Disturbance at breeding site	Level of impact	Human activities should occur at levels that do not adversely affect the breeding Common tern population
Disturbance at roosting site	Level of impact	Human activities should occur at levels that do not adversely affect the numbers of Common Terns among the post-breeding aggregation of terns
Wetlands [A999] (Maintain the favourable conservation condition)		
Habitat area	Hectares	The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of

Table 3 Site-specific Objectives for relevant European sites¹²

		2192ha, other than that occurring from natural patterns of variation
Baldoyle Bay SAC [000199]		
Mudflats and sandflats not covered by water at low tide [1140] (Maintain the favourable conservation condition)		
Attribute	Measure	Target
Habitat area	Hectares	The permanent habitat area is stable or increasing, subject to natural processes
Community distribution	Hectares	Conserve the following community types in a natural condition: Fine sand dominated by <i>Angulus tenuis</i> community complex; and Estuarine sandy mud with <i>Pygospio elegans</i> and <i>Tubificoides benedii</i> community complex.
Salicornia and other annuals colonizing mud and sand [1310] (Maintain the favourable conservation condition)		
Attribute	Measure	Target
Habitat area	Hectares	Area increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Baldoyle - 0.383ha.
Habitat distribution	Occurrence	No decline, or change in habitat distribution, subject to natural processes
Physical structure: sediment supply	Presence/ absence of physical barriers	Maintain the natural circulation of sediment and organic matter, without any physical obstructions
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	Centimeters	Maintain structural variation within sward
Vegetation structure: vegetation cover	Percentage cover at a representative sample of monitoring stops	Maintain more than 90% of the area outside creeks vegetated

Table 3 Site-specific Objectives for relevant European sites¹²

Vegetation composition: typical species and sub-communities	Percentage cover	Maintain the presence of species-poor communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species- <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i> [1330] <u>Maintain the favourable conservation condition</u>)		
Attribute	Measure	Target
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Baldoyle- 11.98ha.
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/ restore 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	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species and sub-communities	Percentage cover at a representative number of monitoring stops	Maintain range of sub-communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)

Table 3 Site-specific Objectives for relevant European sites¹²

Vegetation structure: negative indicator species - <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%
Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] [Maintain the favourable conservation condition]		
Attribute	Measure	Target
Habitat area	Hectares	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Baldoyle- 2.64ha.
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	Percentage cover at a representative number of monitoring stops	Maintain more than 90% of area outside creeks vegetated
Vegetation composition: typical species	Percentage cover	Maintain range of sub-communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)
Vegetation structure: negative indicator species - <i>Spartina anglica</i>	Hectares	No significant expansion of common cordgrass (<i>Spartina anglica</i>), with an annual spread of less than 1%

6.3 Overwintering Bird Surveys¹³

6.3.1 Methodology

Desk study records

The following sources of information have been used to inform the Stage 2 Appropriate Assessment for the proposed development:

- *Winter bird study of lands around Baldoyle Bay 2016-2017*. Report to Fingal County Council from Natura Environmental Consultants. Wicklow. (Nairn, R., Fox, J. 2017).
- *Winter bird survey of the lands surrounding the Baldoyle Estuary*. Unpublished report to Fingal County Council. Birdwatch Ireland. Fingal Branch. (Pierce, S., Dillon D., 2012).
- *Natura Impact Statement- Information for Stage 2 Appropriate Assessment. Proposed Residential Development, St. Paul's College, Sybil Hill Road, Raheny, Dublin 5* (Scott Cawley, 2017).
- *Irish Wetland Bird Survey (I-WeBS) Site Summary Table for OU403 Baldoyle Bay* (Birdwatch Ireland, 2019)¹⁴
- *Baldoyle Bay Special Protection Area (Site Code 4016) Conservation Objectives Supporting Document Version 1* (NPWS, 2012).
- *Irish Wetland Bird Survey: Waterbird Status and Distribution 2009/10-2015/16*. Irish Wildlife Manuals, No. 106. (Lewis et al., 2019) National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

These reports have been reviewed to obtain desktop data on the proposed development site and its immediate surroundings with regards to its potential to support populations of overwintering birds.

Overwintering Bird Surveys

In addition, 8 overwintering bird surveys, specifically targeting Light-bellied Brent geese, were conducted on the Red Arches playing pitches and area of amenity grassland to the north of Red Arches Road on the following dates: 26th February and 6th, 8th, 12th, 15th, 21st, 23rd, 30th March 2019. Importantly, these surveys included two weekend dates (23rd and 30th March). Weekend surveys ensured that the survey schedule took cognisance of the different level of activity and associated disturbance, which the geese would be exposed to, and react to, on an average weekend day.

The aim of these surveys was to gain up to date information on the usage of the Red Arches playing pitches and area of amenity grassland to the north of Red Arches Road by Light-bellied Brent Geese. The survey also investigated whether any link existed between these two areas, e.g. if flocks of geese were disturbed at the Red Arches playing pitches did they fly over to the area of amenity grassland until such disturbance ceased, thereby indicating this areas significance as a supporting feature?

Two surveyors carried out the overwintering bird surveys with one surveyor being stationed at the Red Arches playing pitches and the second surveyor positioned on the area of amenity grassland to

¹³ Overwintering bird surveys are, in this case, regarded as additional information required to inform the Appropriate Assessment (Stage 2) process

¹⁴ I-WeBS Summary Tables contain summary population bird data for a range of bird species as recorded by I-WeBS volunteers over the course of the wintering bird season. I-WeBS is a joint scheme of Birdwatch Ireland and the National Parks & Wildlife Service (NPWS) which is coordinated by Birdwatch Ireland. This data was accessed online at www.birdwatchireland.ie in September 2019.

the north of Red Arches Road (see Figure 6 for clarity). The weather and wind speed were recorded for each survey.

Surveys began with a check of a known roosting site in Baldoyle Bay, close to the subject lands (see Figure 4). Roost checks were carried out close to dawn. Following on from this, the two surveyors covered the playing pitches at Red Arches and the area of amenity grassland to the north of this, respectively, until sunset. Any movements of geese or other wetland bird species were recorded and any geese which landed on either of the two survey sites were recorded. The duration that groups of geese spent at each survey site was noted, as was their behaviour. If ringed birds were present on either site, the ring code was recorded.

Where no geese were present on site, predefined transects were walked to detect signs of previous goose activity, such as droppings. Each transect comprised 10 recording stops. At each stop an area of 1m² was examined for the following features:

- Number of goose droppings present;
- Average sward height;
- Percentage bare ground;
- Percentage grass cover; and;
- Percentage forb¹⁵ cover.

In addition, at both sites surveyed, the nature of boundary features was recorded (e.g. presence of hedgerows or walls etc and height of same). The presence of tree species within the site was also recorded.

Disturbance events were recorded also. A description of the disturbance and the time at which it took place was noted. The intensity of the disturbance and the associated reaction was evaluated, as per the criteria noted in Appendix 10 (Disturbance Assessment) of the *Baldoyle Bay SPA Conservation Objectives Supporting Document* (NPWS, 2012) (see Table 4 for criteria used). Following completion of the survey, the frequency of disturbance events was assessed and scored (e.g. the frequency of disturbance events was assessed based on the number of times that disturbance (e.g. loose dog) was noted across the survey period). Each disturbance event was subsequently scored based on the cumulative score of the three aspects noted; frequency/ duration, intensity and response.

Table 4 Disturbance Assessment Criteria used during the overwintering bird surveys (Feb-March 2019).

Disturbance Assessment Criteria:						
Frequency/ Duration	(A) Timing Score	Intensity ¹⁶	(B) Scope Score	Response	Severity Score (C)	Total Individual Score
Continuous	3	Active, High Level e.g mowing grass, loose dog	3	Birds leave the site and do not return for a period > 5mins	3	Total Score (A)+(B)+(C) Score 0-3 =

¹⁵ A forb is a herbaceous flowering plant that is not a graminoid (grass, sedge or rush).

¹⁶ Based on a combination of field survey observations and best expert opinion

Disturbance Assessment Criteria:						
Frequency/ Duration	(A) Timing Score	Intensity ¹⁶	(B) Scope Score	Response	Severity Score (C)	Total Individual Score
Frequent (observed several times over survey period)	2	Medium Level <i>e.g</i> people walking with dog on lead in close proximity to geese	2	Birds are flushed from the site but return after a short period (within 5 mins) <i>i.e.</i> after disturbance has ceased	2	Low Scores 4-6 = Moderate Scores 7-9 = High
Infrequent (observed once or twice over survey period)	1	Low Level <i>e.g</i> solitary walker (no dog) walking around perimeter of site, not too close to bird's location	1	Most birds walk away from source of disturbance but remain in the site	1	
Rare (known to occur but not observed during survey period)	0	Very Low Level <i>e.g</i> activities which impart little effect on birds	0	Birds lift head and stop feeding	0	

6.3.2 Consultation

A consultation letter was issued to the Development Applications Unit (DAU) of the Department of Culture, Heritage and the Gaeltacht on the 17th February 2020. No formal response had been received at the time of finalising this report (mid-February 2020). BirdWatch Ireland were consulted via email by Hans Visser, Biodiversity Officer at Fingal County Council. No formal response was received at the time of writing.

6.3.3 Limitations

Overwintering bird surveys undertaken in 2019 covered the last 5 weeks of the wintering bird season and, as such, do not reflect bird activity across the entire season. However, due to the availability and consideration of a wide range of desktop data in relation to the site's importance for Light-bellied Brent Geese this is not considered to be a significant limitation.

Whilst it is reasonable to consider whether the presence of a surveyor in close proximity to the birds may have disturbed the geese and, as such, impact upon the results of such surveys, it should be noted that the surveyor at all sites took all reasonable steps to avoid disturbing the birds by recording them from a distance using either binoculars or a telescope.

Re-sighting data was not received from the Irish Brent Goose Research Group (IBGRG) for ringed birds identified over the course of the 2019 surveys and as such no inferences could be made with regards to the association of ringed birds with particular SPAs in the greater Dublin Bay area.

Figure 6: Sites Surveyed (blue hatched) for Brent Geese during 2019 surveys, in relation to the overall site boundary (red line).



6.3.4 Results

Desktop Data

According to the Irish Wetland Bird Survey 2009/10-2015/16 (Lewis et al., 2019) the population of Light-bellied Brent Geese in Ireland is 30,295¹⁷. Of this, approximately 22,405 are associated with the SPA network. Historically the population of Light-bellied Brent Geese in Ireland has increased by 75.1%, with an increase of 96.1% over the past 20 years¹⁸. However, in the past 5 years the population has seen a decline of 15.5%¹⁹.

With regards to the Light-bellied Brent Goose population associated with Baldoyle Bay SPA, the long-term population trend (for the period 1995/96- 2007/08) is an increase of 43.7%. Likewise, the short-term population trend (for the period of 2002/03- 2007/08) is an increase of 30% (NPWS, 2012).

Previous overwintering bird surveys were conducted by Nairn and Fox (2017) and Pierce and Dillion (2012). Surveys were carried out between November 2016 and April 2017 (Nairn and Fox, 2017) and recorded large flocks, sometimes in numbers of international importance, of Light-bellied Brent Geese in amenity grassland areas around Baldoyle estuary. The peak number of Light-bellied Brent Geese recorded during low tide surveys was 784, while the peak during high tide surveys was 1,072. The difference between the high tide and low tide peaks indicates that there is a high degree of interchange of geese with other grassland sites, as well as intertidal areas in Dublin Bay.

Light-bellied Brent Geese were among the most numerous waterbird species recorded in terrestrial sites during high tide surveys and areas identified as being of key significance included Seagrang Park and Red Arches Park. These geese fed in the central part of the Bay in the early part of the winter but from November to March they were increasingly foraging on inland grassland sites. When disturbed they frequently flew back to the Bay for refuge. No geese were recorded within the Baldoyle Racecourse Park area (to the north of Red Arches Road) during the 2016-2017 surveys, despite the fact that geese had been recorded foraging in the central area of the Racecourse lands during 2011-2012 surveys (Pierce and Dillon, 2012). The playing pitches on Red Arches Road regularly supported large flocks of Light-bellied Brent Geese during the 2016-2017 surveys. Birds were frequently disturbed here by walkers and dogs etc. but usually responded by walking away from the source of the disturbance.

According to a report prepared by Scott Cawley in 2017, the two sites surveyed as part of the overwintering bird surveys in 2019 (Red Arches playing pitches and amenity grassland to the north of Red Arches Road) are both regarded to be of “major” importance²⁰ for the Dublin Bay population of Light-bellied Brent Geese. A peak count of 580 geese was recorded by Scott Cawley for the playing pitches at Red Arches over the course of their 2017 surveys, while the overall peak count for the pitches in 2017 was 1,000. The highest count ever recorded here was 2,500. The peak count for the area of amenity grassland to the north of Red Arches Road was 455 for the period Jan- March 2017. The peak count for the same period of the previous year (2016) was 150 (Scott Cawley, 2017).

¹⁷ Taken as the figure quoted for the Republic of Ireland population size (2011-2016)

¹⁸ Based on a comparison of the population size from 1997 with that from 2017.

¹⁹ Based on a comparison of the population size from 2012 to 2017.

²⁰ For a site to be considered as being of “major” importance for Light-bellied Brent Geese the site had to be known to support flocks of 401+ individual geese.

2019 Overwintering Bird Survey Results

Red Arches Playing Pitches

Geese were recorded on the playing pitches on Red Arches Road on seven of the eight survey visits, equating to 87.5% visits. The only survey visit where geese were not recorded was on the 6th March 2019. The highest peak count occurred on the 26th February with 800 geese recorded foraging on the pitches. The lowest peak was 62 which occurred on the 21st March. Goose numbers of international importance (i.e. >401 geese) were present on three survey visits: 26th February (800), 12th March (715) and 15th March (430). On the two weekend surveys (Saturday 23rd March and Saturday 30th March) peak counts were 234 and 120 respectively. It is important to note that the pitches were in use for matches etc for parts of these weekend survey visits and therefore there were long periods where no geese were present. Goose droppings were recorded during transect surveys on all survey visits, with an average of 5.7 droppings/m². Interestingly, the average number of droppings decreased noticeably towards the end of the survey season with an average of 9.2 droppings/ m² recorded on the 26th February compared with an average of 3.7 droppings/ m² on the 30th March. This, combined with the lower peak counts, indicates that the pitches are used less frequently/ intensively by geese as the end of the wintering bird season approaches. No geese were recorded on the amenity grassland within the footprint of the proposed car park which lies in the most northern area of the pitches, adjacent to Red Arches Road. Droppings were observed within the footprint of the proposed car park on two occasions- the 12th and 15th March. On both occasions very few droppings were observed (average of 1.3 droppings/m² on the 12th March and 0.1 droppings/m² on the 15th March).

Disturbance events were recorded on all except one of the survey visits- the 21st March. The most disturbance events recorded over one survey period was 38, which occurred on the 8th March. Disturbance impacts ranged from high to low. High impact disturbances included the following: dogs chasing geese, dogs on leads, loose dogs, unknown disturbances and children running at flocks of geese. Moderate impact disturbances included dog walkers, loose dogs, cyclists, runners, dogs on leads, children running towards flocks of geese, dogs chasing geese, children kicking footballs, workers and van on pitches, line painting on pitches and seagulls swooping. Low impact disturbances mainly consisted of solitary walkers and runners. For most low and moderate impact disturbances the geese responded by walking away from the disturbance source. High impact disturbances usually resulted in geese leaving the site, either by flying east towards Baldoyle Bay or south towards Seagrang Park.

Amenity Grassland North of Red Arches Road

Light-bellied Brent Geese were only recorded in the area of amenity grassland once over the course of the surveys undertaken- a group of 30 geese landed very briefly (<30 seconds) on the site before flying north on the 15th March. These geese landed in the vicinity of the proposed skate park and MUGA. Geese were absent from the site for all other survey visits. However, geese were regularly seen flying over the site, both to and from Baldoyle Bay. Despite the fact that geese were only recorded once on the site over the course of the survey visits, goose droppings were present. Most droppings were concentrated on the brow of the slope, which would offer the best vantage point for vigilant birds whilst foraging. Dropping numbers were far less than for the playing pitches with an average of just 0.18 droppings/m². Low numbers of droppings were recorded in the vicinity of the proposed skate park and MUGA on 6 survey dates, with average number of droppings ranging from

0.1 droppings/m² to 2.7 droppings/m². No disturbance events were recorded in this area, but this was more on account of the lack of geese present. The site is used by dog walkers etc and therefore similar disturbance types would occur if geese were present.

Observations Regarding the Relationship between the two sites

Based on the results of the surveys carried out in February and March 2019, there does not appear to be any significant relationship between the two sites surveyed with respect to use by Light-bellied Brent Geese. The results do not suggest that geese move to the area of amenity grassland to the north of Red Arches Road when disturbed at the playing pitches. Rather, geese appear to fly back to Baldoyle Bay or south towards Seagrang Park when disturbed at the Red Arches playing pitches. There were no observations of geese flying between the two sites over the course of the surveys carried out in 2019.

Summary of Results with Regards to the Proposed Development

Based on the results of both the desktop study and the overwintering bird surveys carried out in 2019, the playing pitches at Red Arches are of international importance for Light-bellied Brent Geese associated with Baldoyle Bay SPA and a range of other SPAs which are designated for this species in the wider Dublin Bay area. In addition, the area of amenity grassland to the north of Red Arches Road is also known to support Light-bellied Brent Geese. The proposed development, in the absence of mitigation, has the potential to result in impacts on this species through loss of foraging habitat and disturbance impacts during construction which could lead to lower foraging success.

6.4 Appraisal of Potential Impacts on European sites

6.4.1 Potential Impact on European sites- Displacement of SCI Bird Species from Ex-situ Inland Feeding Sites

Light-bellied Brent Geese (a Qualifying Interest species for Baldoyle Bay SPA, North Bull Island SPA, Malahide Estuary SPA, Rogerstown Estuary SPA and South Dublin Bay and River Tolka Estuary SPA) are known to use areas of the proposed development site, namely the playing pitches at Red Arches and the area of amenity grassland to the north of Red Arches Road, as *ex-situ* inland feeding habitat. The playing pitches and area of amenity grassland are part of a network of inland feeding sites, of varying importance, which the geese use each year over the wintering bird season.

The proposed development will result in the displacement of geese from the area to the north of Red Arches Road which is known to be used by Light-bellied Brent Geese as an *ex-situ* inland feeding site. The proposal intends to accommodate a skate park and associated recreational activity facilities (e.g. MUGA) in the west of this area. The loss of this area as an *ex-situ* inland feeding site may in turn result in a reduction in the proportion of the existing foraging habitat in the Dublin area available to Light-bellied Brent Geese.

In addition, the proposal includes for the provision of a new car park to the north of the playing pitches at Red Arches. This area comprises the northernmost part of the playing pitches which lies adjacent to Red Arches Road and is not regularly used by foraging geese, possibly due to its proximity to the road. No geese were recorded within the footprint of the proposed car park during surveys undertaken here. Foraging geese tend to be found further south, towards the centre of the playing pitches rather than at the perimeter. The loss of this area is not deemed to be significant due

to the low usage of the area by foraging geese and the fact that post development the bulk of the playing pitches, which represents a substantial amount of suitable foraging habitat, will remain to the south of the proposed car park.

As noted in the supporting documentation for the conservation objectives of each of the five relevant European sites, the loss of an *ex-situ* feeding site of an SPA may have the potential to result in a reduction in their numbers within the SPA and as such, it is referred to as a factor that could potentially adversely affect the achievement of the conservation objectives “*to maintain the favourable conservation condition*” (NPWS, 2012).

The potential for these two conditions underpinning the site integrity of all five European sites (i.e. foraging habitat and food supply) to be impacted on due to the proposed development alone was examined as part of this assessment. This examination was carried out with respect to the conservation objectives’ attributes “*population trend*” and “*distribution*” and their specific targets (listed in Table 3) for Light-bellied Brent Geese. The detailed findings of this assessment are presented below.

The target for the conservation objectives’ attribute “*population trend*” for all five European sites is: “*long term population trend stable or increasing*” (as described in Table 3). As outlined in the supporting documentation for the conservation objectives of each of the five relevant European sites, the long-term population trend of Light-bellied Brent geese at each for the five relevant European sites is increasing over the periods of 1995/1996 to 2009/2010 (for North Bull Island SPA, South Dublin Bay and River Tolka Estuary SPA, Malahide Estuary SPA), 1995/1996 to 2007/2008 (for Rogerstown Estuary SPA) and 1995/1996 to 2007/2008 (for Baldoyle Bay SPA). The short-term trends vary somewhat between the five sites, *i.e.* declining at four of the five sites and increasing at one (Baldoyle Bay SPA). At present, the long-term trend is in line with the target for this conservation objective attribute.

The target for the conservation objectives’ attribute of “*distribution*” for all five European sites is: “*no significant decrease in the range, timing and intensity of use of areas by...*” Light-bellied Brent geese “*...other than that occurring from natural patterns of variation*” (as described in Table 3). The distribution of Light-bellied Brent geese encompasses all foraging sites, both within intertidal and terrestrial habitats, and the roosting sites (NPWS, 2012).

The examination of the potential impact on the conservation objectives’ attributes of “*population trend*” and “*distribution*” arising from the direct loss of a portion of the area of amenity grassland to the north of Red Arches Road as a result of the proposed development alone found the following:

- Based on the results of the overwintering bird surveys conducted by Scott Cawley in 2019, the amenity grassland to the north of Red Arches Road, which will be partly lost as a result of the proposed development, is only used occasionally by Light-bellied Brent Geese. Geese were only recorded on the lands for <30 seconds over the course of surveys undertaken between 26th February and 30th March 2019. Furthermore, data contained in a 2017 report (Scott Cawley, 2017) shows that the significance of the site seems to vary from year to year, with the site being deemed to be of “*moderate*” significance between January and March in 2016 (peak count = 150) and “*major*” significant for the same period in 2017 (peak count = 455). This indicates that the lands are of historical importance for Light-bellied Brent Geese, but have not been used consistently in recent years.

- The design of the proposed park includes for the provision of additional playing pitches in the west of the site. These proposed pitches will replace existing dry meadow habitat which are currently unsuitable for foraging geese. In this way the proposed park will enhance the potential habitat available to foraging geese and will in fact result in a net gain for foraging geese. The phasing proposed for the development of the park means that these additional pitches will be in place and completed prior to any works taking place in the area of amenity grassland to the north of Red Arches Road.
- Lands to the north of the Moyne Road are currently being successfully managed for foraging Light-bellied Brent Geese (See Section 2.1 for details of management and background). Foraging Light-bellied Brent Geese were recorded for the first time in these lands over the 2019-2020 winter bird season (Hans Visser, Biodiversity Officer, Fingal County Council, pers.comm.). The successful management of these lands for Light-bellied Brent Geese, as well as other wader species, has resulted in additional suitable *ex-situ* foraging resources being available to these species. Therefore, the displacement of foraging geese from the area of amenity grassland to the north of Red Arches Road, as a result of the proposed development, will not result in a significant impact on this SCI species due to the availability of suitable foraging habitat, of a much larger area, already in existence within the locality.

Therefore, the potential for adverse effects on site integrity to arise as a consequence of the proposed development negatively impacting on the conservation objectives' attributes of "population trend" and "distribution" alone was assessed and it was determined that there would be no impact on the population trend of Light-bellied Brent Geese at any of the five relevant European sites.

6.4.2 Potential Impact on European sites- Construction Related Disturbance Impacts on Light-bellied Brent Geese using Ex-situ Inland Feeding Sites

In the absence of mitigation, the proposed development has the potential to result in increased disturbance impacts on foraging Light-bellied Brent Geese over the course of the construction period. This is especially true for the playing pitches at Red Arches where it is proposed to create a new car park to the northernmost area of grassland, fronting onto Red Arches Road, and the area of amenity grassland to the north of Red Arches Road where a skate park is proposed.

According to a review of previous studies, carried out by the Institute of Estuarine and Coastal Studies (2009), birds may habituate to regular noise below 70dB during construction but irregular noise above 50dB may cause maximum disturbance to birds. Birds respond more severely to disturbance from people in greater numbers and therefore larger parties of construction personnel should retain a larger distance from foraging waterbirds than individual persons.

Construction in the playing pitches and area of amenity grassland at Red Arches would result in increased visual and noise disturbance which could lead to a reduced foraging success for geese during the winter bird season.

In the absence of mitigation, the proposed development has the potential for disturbance related impacts to result in negative effects on the conservation objectives of the five relevant SPA sites.

6.4.3 Potential Impact on European sites- Construction Related Surface Water Discharges

Accidental Pollution Incident during Construction

In the absence of mitigation, accidental spillages of oils, cement or other potential pollutants, during construction works could potentially be released into the Mayne River, Snugborough River, Maynetown Stream or Snugborough Stream and/or the existing surface water drainage network in the area and transferred into Baldoyle Bay.

Baldoyle Bay SAC

Qualifying Interest habitats for which Baldoyle Bay SAC is designated include the following; Mudflats and sandflats not covered by seawater at low tide [1140]; Salicornia and other annuals colonising mud and sand [1310]; Atlantic salt meadows (*Glauco-Puccinellietalia maritima*) [1330]; and; Mediterranean salt meadows (*Juncetalia maritimi*) [1410]. These habitats are all found in estuaries and areas with a brackish influence and would be potentially at risk from an accidental pollution incident, if it was of sufficient magnitude and duration to significantly affect water quality in Baldoyle Bay.

The potential impact in the absence of mitigation would be a low risk of an adverse effect on site integrity from accidental fuel, oil or concrete spills, dependent on the magnitude of the pollution event.

Baldoyle Bay SPA

Qualifying Interest bird species of Baldoyle Bay SPA utilise the intertidal and estuarine habitats in Baldoyle Bay for feeding and/or roosting. These species would be vulnerable to an accidental pollution incident either directly e.g. through direct contact with oil or other polluting chemicals, or indirectly by affecting the habitats and food supply on which they rely for feeding and/or roosting within the Baldoyle Bay area.

The potential impact in the absence of mitigation would be a low risk of an adverse effects on site integrity from accidental fuel, oil or concrete spills, dependent on the magnitude of the pollution event.

Fugitive emissions into the SACs and SPAs in Baldoyle Bay

In the absence of mitigation, it is possible that silt-laden or otherwise contaminated runoff from the construction site could be released into the various watercourses which flow through the site and/or the existing surface water drainage network and transferred into Baldoyle Bay. Of particular relevance with regards this potential impact is the regrading and excavation works proposed within the boundary of the Baldoyle Bay SAC. These works have the potential to result in the release of silt and sediment into the River Mayne, which could be transferred to the outer area of Baldoyle Bay.

Baldoyle Bay SAC

All Qualifying Interest habitats for which Baldoyle Bay SAC is designated would be potentially at risk from run-off of sediment during construction of the proposed development, if it was of a sufficient quantity, magnitude and duration to significantly affect water quality in Baldoyle Bay.

The potential impact, in the absence of mitigation, would be a low risk of an adverse effects on site integrity from run-off of suspended solids or other contaminants, dependent on the quantity, magnitude and duration of the silt release.

Baldoyle Bay SPA

Qualifying Interest bird species of Baldoyle Bay SPA could utilise the intertidal and estuarine habitats in Baldoyle Bay for feeding and/or roosting. These species would be vulnerable to the effects of an increase in run-off of sediment indirectly by affecting the habitats and food supply on which they rely for feeding and/or roosting within the Baldoyle Bay area.

The potential impact in the absence of mitigation would be a low risk of an adverse effects on site integrity from run-off of suspended solids or other contaminants, dependent on the quantity, magnitude and duration of the silt release.

6.4.4 Potential Impact on European sites- Construction Related Spread of Invasive Species Material

In the absence of mitigation, there is potential for construction related activities such as earthworks, regrading, landscaping and excavations to exacerbate the spread of invasive species both within and outside the proposed development site. There is potential that, through these activities, invasive plant material could be spread to downstream European sites such as Baldoyle Bay SAC.

Baldoyle Bay SAC

All Qualifying Interest habitats for which Baldoyle Bay SAC is designated would be potentially at risk from the spread of invasive species during construction.

The potential impact, in the absence of mitigation, would be a moderate risk of an adverse effects on site integrity from the spread of invasive species.

6.4.5 Potential Impact on European sites- Operation Related Disturbance Impacts on Light-bellied Brent Geese

The playing pitches at Red Arches are known to be valuable foraging resources for overwintering bird species, especially Light-bellied Brent Geese, associated with Baldoyle SPA and other SPAs in the wider Dublin Bay area. However, their value as a wintering ground could be reduced by disturbance from human activities such as dog walking. The proposed provision of an additional car park in the northernmost part of the existing Red Arches playing pitches site could result in increased disturbance to foraging geese during the car parks operation.

Waterbirds in Dublin Bay are managing to coexist alongside high levels of human activity but are exposed to levels of disturbance likely to affect their survival during periods of stress (Nairn & Phalan, 2007). Sustained and widespread disturbance has a significant impact on birds' foraging success, energetic costs, use of feeding and roosting sites and may ultimately result in population declines. A wide variety of human activities are known to cause disturbance, but their effects on birds depend on their nature, frequency and extent. People walking their dogs can affect feeding and roosting birds and, due to the fact that many estuaries are used by dog walkers, this activity has the potential to affect a large proportion of the wintering populations of many waterbirds. In addition, it should be noted that the upper levels of tidal mudflats provide most food to waterbirds as they are exposed for longest, but these areas are also the most affected by human activity.

A study conducted by Natura Environmental Consultants on waterbirds and disturbance events at Irishtown in South Dublin Bay found that the presence of dogs had a more marked effect on waterbirds than all other disturbance types. Most disturbance events were caused by people or dogs moving off the paths and onto the beach or fields and while most people and dogs stayed on designated paths adjacent to these features, the minority who left the paths caused an above average amount of disturbance to waterbirds. Of all the waterbirds surveyed, Brent Geese spent the longest time in flight following disturbance, and also reacted in larger groups than wader species. This is probably due to the fact that Brent Geese tend to feed together in large flocks and react in unison. Brent Geese also lost the most feeding time to disturbance than other species. The costs of responding to disturbance may include physiological stress, reduced foraging success as a result of vigilance, in addition to the energy costs of lost feeding time and flying away. It is important to note that this study also found that most birds feeding in their study area generally seemed to be habituated to people, dogs and vehicles which moved predictably along paths and were most susceptible to disturbance from people leaving the paths to go onto the fields and beach, where they could potentially come into closer contact (Nairn & Phalan, 2007).

In general, the greater the number of people visiting a site, the greater the impact on birds is likely to be. However, given the results of the study in South Dublin Bay, an increase in recreational use need not be accompanied by a corresponding increase in disturbance, if some form of visitor management can reduce the small proportion of visitors who behave in ways which are likely to disturb birds (Nairn & Phalan, 2007).

With regards the proposed development and the provision of a car park in the northernmost part of the existing Red Arches playing pitches site, in the absence of mitigation, this has the potential to result in increased disturbance to foraging geese. The provision of a car park so close to the pitches could result in an increase in the number of people and dogs who run directly onto the pitches from this area, disturbing any foraging geese, thereby having a negative effect on the conservation objectives of the five relevant SPAs.

6.5 Mitigation Measures

The mitigation measures which will be implemented are presented in this section of the report. Any residual impacts from the proposed development with respect to the European site are also assessed in this section of the report providing conclusions on whether these would adversely affect the integrity of the site. The assessment of the proposed development in-combination with any other plans or projects on European sites is presented in Section 7.

6.5.1 Mitigation Measures to address Construction related Disturbance Impacts on Light-bellied Brent Geese using Ex-situ Inland Feeding Sites

Specific and detailed mitigation measures have been proposed to address the potential adverse effects that may arise from construction-related disturbance impacts on Light-bellied Brent Geese as a result of the proposed development (described in Section 6.4.2) as outlined below.

- Construction activities associated with the proposed car park at Red Arches playing pitches will be restricted to the period May- August (inclusive) so as to avoid construction related disturbance to foraging geese (which are only winter visitors).

- Likewise, construction activities associated with the proposed skate park in the area of amenity grassland to the north of Red Arches Road will be restricted to the period May-August (inclusive).
- If the above measures cannot be complied with, due to an incompatible project program, then a visual screen will be erected around the perimeter of construction works on the pitches or amenity grassland area, to avoid visual disturbance to foraging geese.

It is the professional opinion of the authors that the mitigation measures outlined above, when implemented in full, will ensure that no adverse effects on the conservation objectives of the five relevant SPA sites will arise during the construction stage of the proposed development.

6.5.2 Mitigation Measures to address Construction Related Surface Water Discharges

Specific and detailed mitigation measures have been proposed to address the potential adverse effects that may arise from construction-related surface water discharges from the proposed development (described in Section 6.4.3) as outlined below.

The construction contractor will be required to implement the following specific mitigation measures, for release of hydrocarbons, polluting chemicals, sediment/silt and contaminated waters control:

- Specific measures to prevent the release of sediment over baseline conditions to the Mayne River, Snugborough River, Maynetown Stream and Snugborough Stream (and subsequently Baldoyle Bay) during the construction work, which will be implemented as the need arises. These measures include, but are not limited to, the use of silt traps, silt fences, silt curtains, settlement ponds and filter materials. This is particularly important when undertaking any works/upgrading to the surface and foul water drainage networks at the proposed development site.
- Provision of exclusion zones and barriers (*e.g.* silt fences) between earthworks, stockpiles and temporary surfaces to prevent sediment washing into any of the watercourses on site and/or existing drainage systems and hence the downstream receiving water environment.
- Silt traps will not be constructed immediately adjacent to the existing watercourses, *i.e.* a buffer zone between the trap and the watercourse with natural vegetation must be left intact. Imported materials such as terram, straw bales, coarse to fine gravel will be used either separately or in-combination as appropriate to remove suspended matter from discharges.
- Provision of temporary construction surface drainage and sediment control measures to be in place before the construction of any pipeline and/or earthworks commence.
- Weather conditions will be taken into account when planning construction activities to minimise risk of run-off from the site.
- Prevailing weather and environmental conditions will be taken into account prior to the pouring of cementitious materials for the works adjacent to any of the watercourses on site and/or surface water drainage features, or drainage features connected to same. Pumped concrete will be monitored to ensure no accidental discharge. Mixer washings and excess concrete will not be discharged to any watercourses or existing surface water drainage systems. Concrete washout areas will be located remote from any watercourses or any surface water drainage features, where feasible, to avoid accidental discharge to watercourses.
- Any fuels or chemicals (including hydrocarbons or any polluting chemicals) will be stored in a bunded area to prevent any seepage of same into any of the watercourses, local surface

water network or groundwater, and care and attention will be taken during refuelling and maintenance operations.

- Temporary oil interceptor facilities shall be installed and maintained where site works involve the discharge of drainage water to receiving rivers and streams. Works where this may be applicable include the removal of the existing outfall and creation of extended reed bed area in the vicinity of the River Snugborough; the creation of brackish grassland habitat to the north of the River Mayne; and; the installation of culverts in drainage ditches to the north of the construction road and cycle path.
- All containment and treatment facilities will be regularly inspected and maintained.
- All mobile fuel bowsers will carry a spill kit and operatives must have spill response training. All fuel containing equipment such as portable generators will be placed on drip trays. All fuels and chemicals required to be stored on-site will be clearly marked.
- Implementation of response measures to potential pollution incidents.
- Emergency procedures and spillage kits will be available and construction staff will be familiar with emergency procedures in the event of accidental fuel spillages.
- All trucks will have a built-on tarpaulin that will cover excavated material as it is being hauled off-site and wheel wash facilities will be provided at all site egress points.
- Water supplies shall be recycled for use in the wheel wash. All waters will be drained through appropriate filter material prior to discharge from the construction sites.
- The removal of any made ground material, which may be contaminated, from the construction site and transportation to an appropriate licenced facility will be carried out in accordance with the Waste Management Act, best practice and guidelines for same.
- A discovery procedure for contaminated material will be prepared and adopted by the appointed contractor prior to excavation works commencing on site. These documents will detail how potentially contaminated material will be dealt with during the excavation phase.
- Implementation of measures to minimise waste and ensure correct handling, storage and disposal of waste (most notably wet concrete, pile arisings and asphalt).

In addition to the above, the following measure will also be applied:

- Any works in close proximity to watercourses will be restricted to taking place during the summer period only (May- August (inclusive)), when weather is drier. This is to avoid sediment and other harmful materials being transferred to watercourses, and subsequently to downstream European sites, by precipitation and surface waters flowing overland. In addition, this measure will help to ensure the early re-colonisation of any cleared areas by opportunistic plants, which will help to bind soil together and prevent any further transfer of sediment. Proposed pond/pool creation works and preparatory works for proposed playing pitches to the north of the River Mayne (e.g. vegetation clearance and regrading) will abide by this measure.

It is the professional opinion of the authors and design team that the mitigation measures outlined above when implemented in full will ensure that no adverse effects on the European sites will arise during the construction stage of the proposed development or as a consequence of run-off of sediment/silt or contaminated waters into any of the watercourses present on site during the construction stage of the proposed development.

6.5.3 Mitigation Measures to address Potential Construction Related Spread of Invasive Species Material

The following measures are proposed to address the potential adverse effects which may arise from the potential spread of invasive species through construction-related activities (described in Section 6.4.4):

- Prior to any works commencing on site any areas of invasive species will be clearly demarcated and an exclusion zone around these areas will be established.
- All contractors on site will be given a toolbox talk in relation to the invasive species present on site and the biosecurity risks associated with them. Biosecurity protocols/procedures to be employed while working on site will be clearly conveyed to all contractors in advance of any works commencing.
- All invasive species listed on the Third Schedule of the Birds and Natural Habitats Regulations (2011), will be eradicated prior to any other works commencing in affected areas.
- An Invasive Species Management Plan (ISMP) will be prepared to inform the contractor on how to deal with invasive species within the construction site. The ISMP will clearly outline the control methods to be employed for each Third Schedule invasive species recorded on site. A suitably qualified contractor, with experience in dealing with invasive species, will be employed to execute the ISMP. This ISMP will be lodged with the relevant authority.
- The site will be monitored for the presence of invasive species for a period of 3 years post development. Any subsequent regrowth of invasive species will be treated accordingly by a suitably qualified contractor, following best guidance.

6.5.4 Mitigation Measures to address Operation Related Disturbance Impacts on Light-bellied Brent Geese

Specific and detailed mitigation measures have been proposed to address the potential adverse effects that may arise from operation-related disturbance impacts on Light-bellied Brent Geese as a result of the proposed development (described in Section 6.4.5) as outlined below.

The study by Natura Environmental Consultants (Nairn and Phalan, 2007), states that initiatives which aim to minimise contact between dogs and waterbirds would be the most effective way of reducing disturbance. Such initiatives include:

- good design and maintenance of paths to encourage people to use them;
- unobtrusive barriers to prevent dogs running onto intertidal areas;
- provision of alternative areas for dog-walking and other pursuits;
- zoning important feeding and roosting areas as “dog-free” during sensitive times of the year; and;
- public education to encourage people to keep dogs on a leash in areas where they could disturb birds.

The design of the proposed park development has already included some of these items- a dog park is provided, and the wider park area will be provided with paths for people walking dogs and other recreational activities. Nevertheless, the following mitigation measures are proposed:

- The proposed car park in the northernmost part of the existing playing pitches at Red Arches, has been designed so as to lead visitors from the car park to a designated entrance to the playing pitches, located to the south-west of the proposed car park. This is to ensure that people use a defined entrance as opposed to simply running onto the pitches from any location in the car park. Furthermore, screen planting and fencing has been provided around the perimeter of the car park to ensure that loose dogs cannot simply run onto the pitches from the car park.
- The playing pitches and potentially the other areas in the wider park which are to be managed for geese will be zoned as “dog-free” for the winter bird season (September – April) and signs will be erected to convey this message to the public. These signs will also act as a means of public education to describe how disturbance such as loose dogs can impact geese.
- It will be park policy that all dogs must be kept on a lead at all times while in the park, with the exception of the dog park. This will be implemented by a by-law (see Fingal County Council’s *Regional Parks & Open Spaces Bye-Laws 2017* (Fingal County Council, 2017a) for details) and enforced by Fingal County Council Park Rangers who will monitor the park.

It is the professional opinion of the authors that the mitigation measures outlined above, when implemented in full, will ensure that no adverse effects on the conservation objectives of the five relevant SPA sites will arise during the operational stage of the proposed development.

6.6 Residual Impacts

Following adoption of all mitigation measures outlined in Section 6.5, none of the potential impacts of the proposed development will result in any perceptible residual effect on the receiving environment.

7 IN-COMBINATION ASSESSMENT

7.1 Analysis of Potential In-Combination Effects

This section of the report presents the assessment carried out to examine whether any other plans or projects have the potential to act in combination with the proposed development to adversely affect the integrity of Baldoyle Bay SPA, South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and Malahide Estuary SPA. All other European sites fall beyond the zone of influence of the proposed development. Therefore, there is no potential for any other plans or projects to act in combination with the proposed development to adversely affect the integrity of any other European sites.

7.1.1 Zoning and Future Development in the Area

According to a detailed review of the Fingal County Development Plan 2017-2023, lands immediately surrounding the proposed public park site fall within the following land zonings:

Zoning	Objective
Residential Area ²¹	Provide for new residential communities subject to the provision of the necessary social and physical infrastructure
High Amenity	Protect and enhance high amenity areas
Greenbelt	Protect and provide for a Greenbelt
Residential	Provide for residential development and protect and improve residential amenity
Open Space	Preserve and provide for open space and recreational amenities

It should also be noted that the Fingal County Development Plan 2017-2023 also identifies lands around Baldoyle estuary as ecological buffer zones: *“These buffer zones protect the ecological integrity of the nationally and internationally designated sites by providing suitable habitat for key species such as birds, by providing for compatible landuses around the designated sites, and in the case of the freshwater wetland areas, by ensuring a steady supply of clean groundwater and surface water. Around the estuaries the buffer zones can also provide for recreational uses and are also important for coastal flood protection and for climate change adaptation. Ecological buffer zones are areas where agricultural uses may be combined with nature conservation and low-intensity recreational use such as walking and cycling. The Council will normally only grant permission where it is clearly demonstrated that a proposal will have no significant adverse impact on the habitats and species of interest in the buffer zone and its ecological functions”* (Fingal County Council, 2017).

²¹ It should be noted that the two areas which border the proposed public park site and which fall into this zoning category are subject to a Local Area Plan (LAP)

Furthermore, Objective NH18 states that it is an objective of the Council to *“Protect the functions of the ecological buffer zones and ensure proposals for development have no significant adverse impact on the habitats and species of interest located therein”*.

The ecological significance of the Baldoyle area is acknowledged in the Fingal County Development Plan and several protective objectives, in relation to the area, are provided:

Objective Number	Objective Text
Objective BALDOYLE 1	Protect the visual break and open character of lands between Baldoyle and Portmarnock by maintaining the greenbelt lands and appropriate recreational uses on Racecourse Park which respect the character, sensitivity and natural heritage designations of the existing landscape.
Objective NH19	Develop Ecological Masterplans for the Rogerstown, Malahide and Baldoyle Estuaries focusing on their ecological protection and that of their surrounding buffer zones.

In addition, much of the surrounding lands are contained within the Baldoyle- Stapolin LAP and Portmarnock South LAP areas and are subject to the policies and objectives contained within the respective LAPs. Several policies/ objectives which are protective in nature are included in these LAP’s. These policies/objectives assist in protecting nearby European sites and, in some cases, ensure that development applications in the area do not result in likely significant effects/ adverse impacts on European sites by explicitly stating the need for such developments to demonstrate the Appropriate Assessment process e.g. Objective GI6 in the Portmarnock South LAP reads *“Require Appropriate Assessment (AA) Screening for any development, plan or project including changes to the landscape, within the Ecological Buffer Zone. This will include any changes to existing or future layout, materials or management”*.

The Fingal County Development Plan also contained protective policies/ objectives e.g. Objective NH10: *“Ensure that the Council takes full account of the requirements of the Habitats and Birds Directives, as they apply both within and without European Sites in the performance of its functions”* and Objective NH15: *“Strictly protect areas designated or proposed to be designated as Natura 2000 sites (i.e. Special Areas of Conservation (SACs) and Special Protection Areas (SPAs); also known as European sites) including any areas that may be proposed for designation or designated during the period of this Plan”*.

Any developments within the boundary of the Baldoyle- Stapolin LAP, Portmarnock South LAP and Fingal County Development Plan, must adhere to these protective policies and demonstrate compliance with same. In this way, any future plans/projects, which could potentially result in cumulative impacts with the proposed public park, will have to demonstrate that they will not result in adverse impacts on European sites. Therefore, these protective policies prevent cumulative impacts arising and as such, cumulative impacts as a result of zoning and future development can be excluded.

7.1.2 Increased Visitor Pressure/ Tourism

Increased visitor pressure, as a result of increased recreational use or tourism impacts on the surrounding area, have the potential to act cumulatively with the proposed public park to negatively

impact the QI habitats and SCI species of nearby European sites. As demonstrated in Section 6.5.3 the proposed public park will not result in any disturbance impacts on SCI bird species due to the mitigation measure proposed. However, existing or future plans/ projects could result in impacts to SCI bird species through increased visitor pressure.

The provision of the proposed Racecourse Park is part of a strategy to assist in maintaining the conservation condition of Baldoyle Bay SAC and Baldoyle Bay SPA, by providing an alternative area for recreational activities, thereby reducing recreational pressures on the adjacent SAC and SPA. The park will also minimize the impacts of adjacent residential developments. Objective GI 12 of the Baldoyle- Stapolin Local Area Plan (Fingal County Council, 2013a) states that it is an objective of the Plan to *“provide appropriately designed and located combined pedestrian and cycle routes of no wider than 3m through Racecourse Park, and minimise access points to avoid disturbance to protected habitats and species within Baldoyle Bay and Racecourse Park”*. This objective is also detailed in Section 5.5.3 of the Portmarnock South Local Area Plan (Fingal County Council, 2013b) which states that *“to relieve the potential amenity pressures away from the Natura 2000 site of Baldoyle Bay, a series of looped walks are proposed within the plan area based on the proposed green routes. A summertime walking loop is proposed through the open space lands when migratory estuarine birds are not resident... These routes extend beyond the confines of the LAP lands offering attractive walking routes to include Racecourse Park South and onwards to Baldoyle”*.

The Coastal Pathway, a greenway linking Baldoyle to Portmarnock, was granted planning permission in July 2018. With respect to increased visitor pressure, particularly in the case of a known feeding site at Portmarnock Green which could potentially be impacted upon in this regard, the Natura Impact Statement (NIS) prepared for this planning application concluded that *“given the observable tolerance shown by Light-bellied Brent Geese for predictable and repeated patterns of disturbance (where the disturbance remains remote and does not enter the feeding area), it is not anticipated that the increased level of pedestrian and cyclist use of the path should negatively impact on use of the site by Light-bellied Brent Geese”* (Atkins, 2018).

The Baldoyle- Stapolin LAP includes a protective measure which aims at ensuring that increased visitor numbers and increase recreational use of LAP lands does not result in an adverse impact on SCI species or QI habitats of nearby European sites. Objective GI31 states that it is an objective of the Council to *“promote sustainable recreation within the LAP lands that will allow inclusive use of the open space without causing adverse effects on the physical and biological functions of the green infrastructure and/or qualifying interest species and habitats of European sites”*. Any proposals in the area governed by the Baldoyle- Stapolin LAP will need to demonstrate compliance with this objective. Therefore, cumulative impacts on European sites, through increased visitor pressure, can be excluded on this basis.

7.1.3 Permitted/ Potential Developments

According to a review of the Fingal County Council’s Online Planning Application Map Viewer²², there are several permitted and potential developments, of varying scales, in close proximity to the proposed public park site.

²² Fingal County Council’s Online Planning Application Map Viewer. Available at: <https://fingalcoco.maps.arcgis.com/apps/webappviewer/index.html?id=3fa7d9df584c4d93aab202638db9dd1a> [Accessed 19/02/2021]

Some of the permitted developments received extensions of durations from Fingal County Council in recent years (e.g. Planning Reg. Refs: F03/1162/E3, F11A/0290/E1 & F15A/0074) while some are more recent permissions (Planning Reg. Refs F16A/0412, F13A/0248, SHD ABP-300514-17 & SHD/012/19).

There are also some development applications currently with An Bord Pleanála for planning approval (SHD/016/21 - ABP-311016: 10-year permission sought for the development of 1,221 no. residential apartment/duplex dwellings in GA3 of the Stapolin LAP. SHD/011/20; Permission sought for alterations of permitted development, as permitted under FCC Reg. Ref F16A/0412, ABP -248970 with development now proposed for 747 apartments and 135 houses) in GA1 of the Stapolin LAP.

The Appropriate Assessment documentation associated with the individual developments conclude that the each of the developments do not have any adverse impact on nearby designated sites and their qualifying features. However, these new residential developments will result in a local population growth of several thousand people and the Racecourse Park will provide the necessary recreational space for the new residents, thereby reducing the pressure on nearby designated sites such as Baldoyle Bay and Howth Head.

Permission (Reg. Ref. F14A/0109), consequent to grant of outline permission (Reg. Ref. F10A/0328), has been granted for the development of a retirement home and hotel, and all associated infrastructure and services, on lands to the east of the Red Arches playing pitches. An Bord Pleanála granted permission for this proposal in 2015 (ABP Ref: PL06F.243832). The NIS submitted with the application concluded that the proposed development would not result in any adverse effect on Light-bellied Brent Geese or any other QI/SCI for any European sites.

Other permitted residential developments in the area include the permitted development of 385 apartments, 161 houses and 1,917m² of commercial floorspace (ABP Ref: PL06F.248970). The An Bord Pleanála Inspector's Report states that the proposed development would not be likely to give rise to significant effects alone or in combination with other developments in the area.

Irish Water has applied for planning permission for a new wastewater pumping station, and all associated infrastructure at Station Road, Portmarnock, to the north-east of the proposed public park site (Planning Register Ref: F21A/0389). Elements of the proposed infrastructure for this development (i.e. sewers), if granted, would run through the north of the proposed public park site. The NIS submitted as part of this application finds that the proposed development would not result in any adverse effects on Light-bellied Brent Geese or impacts on water quality or QI habitats of nearby European sites, if the mitigation measures prescribed were implemented correctly.

Irish Water received planning permission from An Bord Pleanála for the Greater Dublin Drainage (GDD) Project in north Dublin in November 2019. The project will include the installation of an underground pipeline from Blanchardstown to a new wastewater treatment plant at Clonsaugh. The treated effluent will then be returned safely to the Irish Sea via a 6km marine outfall pipeline from Baldoyle to a point 1km north of Ireland's Eye. The An Bord Pleanála Inspector's Report states that the Inspector was satisfied that the mitigation measures for Baldoyle Bay SPA would not result in significant residual impacts and that the proposed development, individually or in combination with other plans or projects, would not adversely affect the integrity of any European sites. However, An Bord Pleanála's decision to grant permission for this project was quashed by the High Court in November 2020 due to a failure to seek observations from the Environmental Protection Agency on likely impacts of the proposed development on wastewater discharges.

Fingal County Council intend to upgrade the existing traveller accommodation on the Moyne Road in the near future (Hans Visser pers. comm.). Given the site's location within the Baldoyle- Stapolin LAP area, any proposed upgrades will be subject to Appropriate Assessment, which will include an assessment of the proposed upgrades potential to result in significant cumulative impacts on nearby European sites.

7.2 Conclusion for the In-Combination Assessment

As assessed in Section 6, none of the potential impacts associated with the proposed development will result in any perceptible residual effect on the receiving environment or on the qualifying interests/special conservation interests of Baldoyle Bay SPA, South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and Malahide Estuary SPA. Therefore, there will not be any residual impacts associated with the proposed development that will adversely affect the conservation objectives supporting the conservation condition of the qualifying interests of those European sites, and the proposed development, in isolation, will not adversely affect the integrity of those European sites.

As the proposed development itself will not have any effects on the conservation objectives of any European sites, and considering the mitigation measures described in Section 6, as well as the detailed assessments above, there is no potential for any other plan or project to adversely affect the integrity of any European sites in combination with the proposed development.

8 CONCLUSIONS ON THE STAGE 2 APPROPRIATE ASSESSMENT PROCESS

This NIS has examined and analysed, in light of the best scientific knowledge, with respect to the European sites contained within the Zol of the proposed development, the potential impact sources and pathways, how these could impact on the relevant European sites' qualifying interest habitat and qualifying interest species and whether the predicted impacts would adversely affect the integrity of the European site.

Avoidance, design requirements and mitigation measures are set out within this report and they ensure that any impacts on the conservation objectives of the European site will be avoided during the construction and operation of the proposed development such that there will be no adverse effects on this European site.

It has been objectively concluded by Scott Cawley Ltd., following an examination, analysis and evaluation of the relevant information, including in particular the nature of the predicted impacts from the proposed development and with the implementation of the mitigation measures proposed, that the proposed development will not adversely affect (either directly or indirectly) the integrity of any European site, either alone or in-combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion.

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