Portmarnock South Phase 1D

Natura Impact Statement

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Environmental Assessment **Built Environment**

Client: Quintain Developments Ireland Ltd

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Contents

1 Introduction

1.1 Background

Quintain Developments Ireland Ltd is applying to An Bord Pleanála for planning permission for the development of a residential scheme at Portmarnock South (known as Portmarnock Phase 1D). The Proposed Development, which is located within the area covered by the Portmarnock South Local Area Plan, comprises the construction of 172 residential units, a public park (Skylark Park), sections of linear parks and open space, permanent vehicular roads connecting to Moyne Road to south and related infrastructure and landscape works.

This Natura Impact Statement (NIS) is intended to provide the information required to assist An Bord Pleanála, the competent authority, to undertake a Screening Assessment and, if necessary, an Appropriate Assessment (AA). This will determine the effects, if any, on European sites, (also known as Natura 2000 Sites) (Special Areas of Conservation (SAC) and Special Protection Areas (SPA), designated for nature conservation). The potential impacts on European sites, both as a result of the Proposed Development and in-combination with other plans and projects, are appraised in this report.

1.2 Expertise and Qualifications

A comprehensive desk study review and a number of site visits were undertaken and the potential impacts on European sites, both as a result of the Proposed Project and in-combination with other plans and projects, are appraised in this report.

The work was carried out by Senior Ecologist Matthew Hague BSc MSc Adv. Dip. Plan. & Env. Law CEnv MCIEEM. Matthew is a highly experienced and qualified ecologist, with a master's degree in Ecosystem Conservation and Landscape Management. He has almost 20 years of experience in ecological and environmental consultancy, across a wide range of sectors. He has prepared numerous reports for AA Screening as well as Natura Impact Statements, for projects of all scales, from small residential developments to nationally important infrastructure projects.

Matthew is a Chartered Environmentalist (CEnv) and a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). Matthew has also completed an Advanced Diploma in Planning and Environmental Law, at King's Inns and is a member of the Irish Environmental Law Association (IELA).

1.3 Legal requirement for Appropriate Assessment

European sites make up a network of sites designated for nature conservation under Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the "Habitats Directive") and Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (the "Birds Directive"). The requirements for Appropriate Assessment are set out under *Article 6 of the Habitats Directive*, transposed into Irish law by the *European Union (Birds and Natural Habitats) Regulations 2011-2015*[1] (the "Birds and Natural Habitats Regulations") and the *Planning and Development Act, 2000 - 2021* (the "Planning Acts").

European sites are also known as Natura 2000 Sites (Special Areas of Conservation (SAC) and Special Protection Areas (SPA)). As defined in section 177R of the Planning Acts "European site" means:

(a) a candidate site of Community importance,

(b) a site of Community importance,

(ba) a candidate special area of conservation,

[1] SI No. 477 of 2011

(c) a special area of conservation,

(d) a candidate special protection area and

(e) a special protection area.

Article 6(3) of the Habitats Directive states that:

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

The first test is to establish whether, in relation to a particular plan or project, appropriate assessment is required. Sections 177U of the Planning Acts and Regulation 42 of the Birds and Natural Habitats Regulations require that the AA screening test must be applied to the Proposed Project, as follows:

- To assess, in view of best scientific knowledge, if the development, individually or in combination with another plan or project is likely to have a significant effect on the European site;

An appropriate assessment is required if it cannot be excluded, on the basis of objective information, that the development, individually or in combination with other plans or projects, will have a significant effect on a European site.

2 Methodology

2.1 Baseline data collection and field visits

A desk-based assessment was undertaken of the site at Portmarnock and the wider area. This long-term study was completed in November 2021 and focused on habitats and species that are listed as Qualifying Interests (QI) (in the case of SACs) and Special Conservation Interests (SCI) (in the case of SPAs) in the designations for the European sites as well as on the published generic and site-specific Conservation Objectives for each European site. A number of field visits have also been undertaken over several years, including several in 2021, most recently by the author on 23 September 2021. Birds present on the Proposed Development site were recorded during the surveys and an assessment of habitat suitability for European protected species and species with links to European sites was undertaken, in order to appraise the potential for *ex-situ* effects on European sites. Bat, breeding bird and habitat surveys were also undertaken in 2021, by specialist ecologist Mr Brian Keeley.

Informal consultations have also been undertaken between the project team and the Fingal County Council Biodiversity Officer. These discussions have informed the development strategy at Portmarnock South.

This report takes the following guidance documents into account:

- *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 NPWS 1/10 & PSSP 2/10;
- *Assessment of Plans and Projects Significantly Affecting European 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 Habitats Directive 92/43/EEC.* Guidance issued by the European Commission (21st November 2018);
- *Practice Note PN01 Appropriate Assessment Screening for Development Management* Office of the Planning Regulator, March 2021).

Information was collated from the organisations and websites listed below:

- Data on European sites and rare and protected plant and animal species contained in the following databases:
    - The National Parks and Wildlife Service (NPWS) of the Department of Culture, Heritage and the Gaeltacht (www.NPWS.ie);
    - The National Biodiversity Data Centre (NDBC) (www.biodiversityireland.ie);
    - BirdWatch Ireland (www.birdwatchireland.ie);
    - Bat Conservation Ireland (www.batconservationireland.org).
- Information on land-use zoning from the online mapping of the Department of Housing, Planning and Local Government (http://www.myplan.ie/en/index.html);
- Recent and historical OSi mapping and aerial photography, including www.geohive.ie;
- Photographs taken at the site from 2017 – 2021;
- Information on local watercourses from www.catchments.ie;
- Information on water quality in the area (www.epa.ie);
- Information on soils, geology and hydrogeology in the area (www.gsi.ie);
- Information on the Status of EU Protected Habitats and Species in Ireland (Article 17 report) (NPWS, August 2019);
- Third National Biodiversity Plan 2017 – 2021 (Department of Culture, Heritage and the Gaeltacht, 2017);
- Fingal County Development Plan 2017 – 2023 and the accompanying Natura Impact Report;
- Portmarnock South Local Area Plan 2013 – 2019 (extended 2018 – 2023) and the accompanying Natura Impact Report.

The report has regard to the following legislative instruments:

- Planning and Development, Act 2000, as amended;
- European Commission (EC) Habitats Directive 92/43/EEC;
- European Commission (EC) Birds Directive 2009/147/EC;
- European Union (Birds and Natural Habitats) Regulations 2011-2015.

Where relevant, information contained in the following documents has been reviewed:

- Portmarnock Phase 1C Natura Impact Statement (Brady Shipman Martin, October 2019);
- Portmarnock Phase 1C Ecological Impact Assessment (Brady Shipman Martin, October 2019);
- Portmarnock Phase 1B Natura Impact Statement (Brady Shipman Martin, December 2017);
- Portmarnock Phase 1B Ecological Impact Assessment (Brady Shipman Martin, December 2017);
- Proposed Phase 1A Residential Development at Station Road, Portmarnock, Co. Dublin: Natura Impact Statement and Biodiversity Report (Golder Associates, 2014);

- Conservation Management Plan for Portmarnock Phase 1A Residential Development (Brady Shipman Martin, 2014);
- Baldoyle to Portmarnock Coastal Path and Cycleway (Natura Impact Statement prepared by WS Atkins Ireland Ltd on behalf of Fingal County Council, 19th January 2018;
- Racecourse Park Development Project (Natura Impact Statement prepared by Scott Cawley on behalf of Fingal County Council, April 2021);
- Proposed Residential Development at Portmarnock South Phase 1D – Flood Risk Assessment (JB Barry and Partners Ltd, November 2021);
- Proposed Residential Development at Portmarnock South Phase 1D – Water Services Report (JB Barry and Partners Ltd, November 2021);
- Conservation Objectives documents for relevant European sites (NPWS), extracts of which are included as Appendix 2;
- Construction and Environmental Management Plan (Quintain, November 2021).

2.2 Potential Zone of Influence

For the risk of a significant effect to occur there must be a 'source', such as a construction site; a 'receptor', such as a designated site for nature conservation; and a pathway between the source and the receptor, such as a watercourse that links the construction site to the designated site. A construction site or completed development may also create a barrier to movement, for example by preventing the migration of fauna along a river corridor, or by obstructing the migration of birds.

Although there may be a risk of an impact it may not necessarily occur, and if it does occur, it may not be significant.

Identification of a potential effect means that there is a possibility of ecological or environmental damage occurring, with the level and significance of the impact depending upon the nature and exposure to the potential effect and the characteristics of the receptor.

There are no set recommended distances for projects to consider European sites as being relevant for assessment. Rather, NPWS (2010) recommends that *'the distance should be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects'*. It is often considered appropriate to include all European sites within 15km.

However, in some instances where there are hydrological connections a whole river catchment or a groundwater aquifer may need to be included. Similarly where bird flight paths are involved the impact may be on an SPA more than 15 km away. Taking this into account, as a starting point a search was carried out for all European sites within 15km of the site at Portmarnock. This search was then extended in order to ensure that all European sites with any potential links to the Proposed Development were accounted for in the study.

3 The study area and the Proposed Development

3.1 Study area and surrounding environment

The study area comprises the site, located off Station Road, Portmarnock, close to Baldoyle Bay, defined by the site boundaries for the Proposed Development (see **Figure 1**), as well as an appropriate distance outside the site (the Zone of Influence as defined in Section 2.2).

The proposed Phase 1D development site is located immediately south and east of Phase 1A (101no. residential units, (Reg. Ref.: F13A/0248), complete and occupied); Phase 1B (150no. residential units (Reg. Ref.: ABP 300514), complete and occupied) and Phase 1C (153no. residential units and local centre (Reg. Ref.: ABP 305619), under

construction) of the Portmarnock South development (otherwise known as St. Marnock's Bay. The Phase 1B development also included a regional wetland adjacent to the R106 Coast Road and a surface water outfall to Baldoyle Estuary. These pieces of surface water infrastructure, which were required as part of the Portmarnock South Local Area Plan, are fully operational.

The Proposed Development is located entirely to the east of the Dublin – Belfast railway and straddles the townland boundary hedgerow which runs through the centre of the residential zoning in the LAP lands. Lands to either side of the hedgerow are arable or former arable lands. The former arable lands are unmanaged and used for temporary storage of soil material. The townland boundary between Portmarnock to the west and Maynetown to the east comprises an ash and hawthorn dominated hedgerow/tree line with an associated damp ditch.

As was the case with Phases 1A, 1B and 1C, the Proposed Development is in accordance with the provisions of the detailed LAP prepared for the overall Portmarnock South lands (Fingal County Council, 2013, extended to 2023).

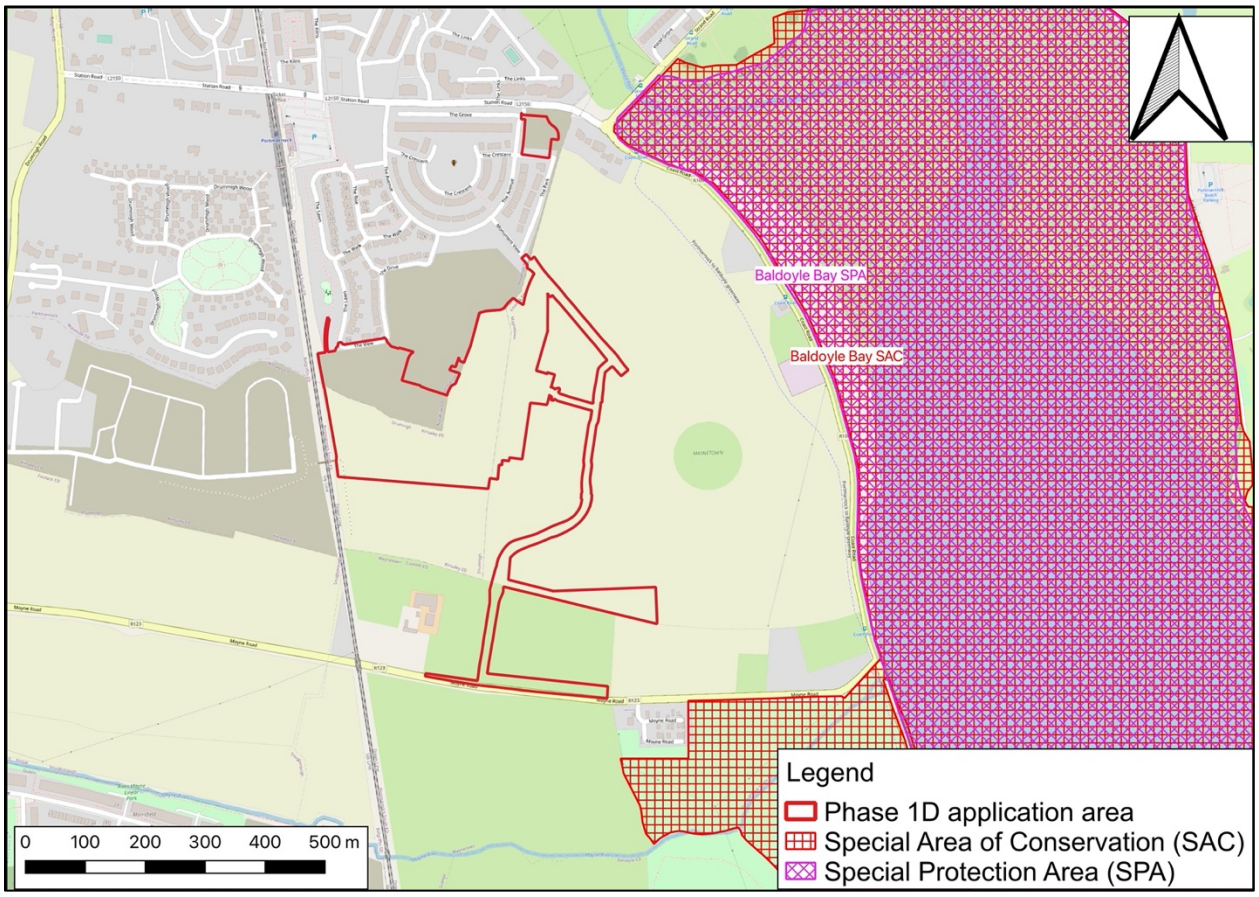

Figure 1 *Portmarnock Phase 1D Application Site[2], including European sites in the vicinity of the Proposed Development area (Note: red line shows indicative site areas – refer to planning application documentation for full details)*

3.2 Previously implemented mitigation measures

As part of the Phase 1A development, and again in accordance with the provisions of the LAP, significant mitigation measures were put in place, both within the Phase 1A land itself, and within the wider lands covered by Portmarnock South LAP. These included the following, which were designed to mitigate any potential impacts on the Special Conservation Interests and Qualifying Interests of Baldoyle Bay SPA and SAC resulting from residential development to be delivered as part of Portmarnock South Local Area Plan:

[2] OpenStreetMap

- Provision of a large area of Ecological buffer/parkland, located between residential zoned lands within the LAP to the west and the boundary with Coast Road to the east and with Mayne Road to the south;
- Provision of a 'Quiet Zone' for birds, in the southern part of the Portmarnock South Local Area Plan lands;
- Provision of an arable plot and retention of an existing small attenuation pond located between the above 'Bird Quiet Zone' and Mayne Road;
- Clearing of bramble scrub and reseeding of areas to grassland within the Murragh Spit east of the R106 Coast Road (within Baldoyle Bay SAC and SPA), undertaken in 2016 and 2017. This was undertaken, in agreement with Fingal County Council and NPWS, to provide additional areas of foraging habitat for bird species, in particular overwintering light-bellied Brent geese;
- Treatment of invasive species listed on Schedule 3 of the *Birds and Habitats Regulations, 2011-2015,* specifically a small area of Japanese knotweed (*Fallopia japonica*) on the Murragh Spit and giant hogweed (*Heracleum mantegazzianum*) located within the Phase 1A lands. No growth of these species has been observed in recent years, nevertheless the site will continue to be managed during future construction phases to ensure full and permanent eradication of these plants.

These measures have all been implemented and are subject to ongoing management, including mowing of the reseeded grass areas within the Murragh so as to ensure that the sward length is suitable for foraging light-bellied Brent geese.

In compliance with planning conditions for the Phase 1A and Phase 1B developments, the ecological buffer lands have been handed over to Fingal County Council. This has enabled Fingal County Council to take full charge of the long-term management of the ecological buffer area and bird quiet zone.

3.3 Study area and surrounding environment

A number of European sites are located within 15km of the Proposed Development site at Portmarnock. These European sites are listed in **Table 1** and are shown in Figure 2. Figure 1 (above) shows the European sites in close proximity to the site.

Table 1 European sites within 15km

European site (site code)	Location (closest straight line distance from the development site at Portmarnock) [3]
Special Areas of Conservation (SAC)	
Baldoyle Bay (000199)	c.250m to the north east
Malahide Estuary (000205)	c.2.5km to the north
North Dublin Bay (000206)	c.3.3km to the south
Rockabill to Dalkey Island(003000)	c.4.9km to the east
Ireland's Eye (002193)	c.5.1km to the east
Howth Head (000202)	c.5.4km to the south east
South Dublin Bay (000210)	c.8.4km to the south
Rogerstown Estuary (000208)	c.9.0km to the north
Lambay Island (000204)	c.10.9km to the north east
Special Protection Areas (SPA)	
Baldoyle Bay (004016)	c.250m to the north east
Broadmeadow/Swords Estuary (Malahide Estuary) (004025)	c.3.2km to the north
North Bull Island (004006)	c.3.2km to the south
Ireland's Eye (004117)	c.4.9km to the east

[3] The red line (see Figure 1) includes the location of the existing temporary foul pumping station (c.100m west of Baldoyle Bay)

European site (site code)	Location (closest straight line distance from the development site at Portmarnock) [3]
South Dublin Bay and River Tolka Estuary (004024)	c.6.5km to the south
Howth Head Coast (004113)	c.6.6km to the south east
Rogerstown Estuary (004015)	c.8.8km to the north
Lambay Island (004069)	c.10.8km to the north east
Dalkey Islands (004172)	c.15.5km to the south

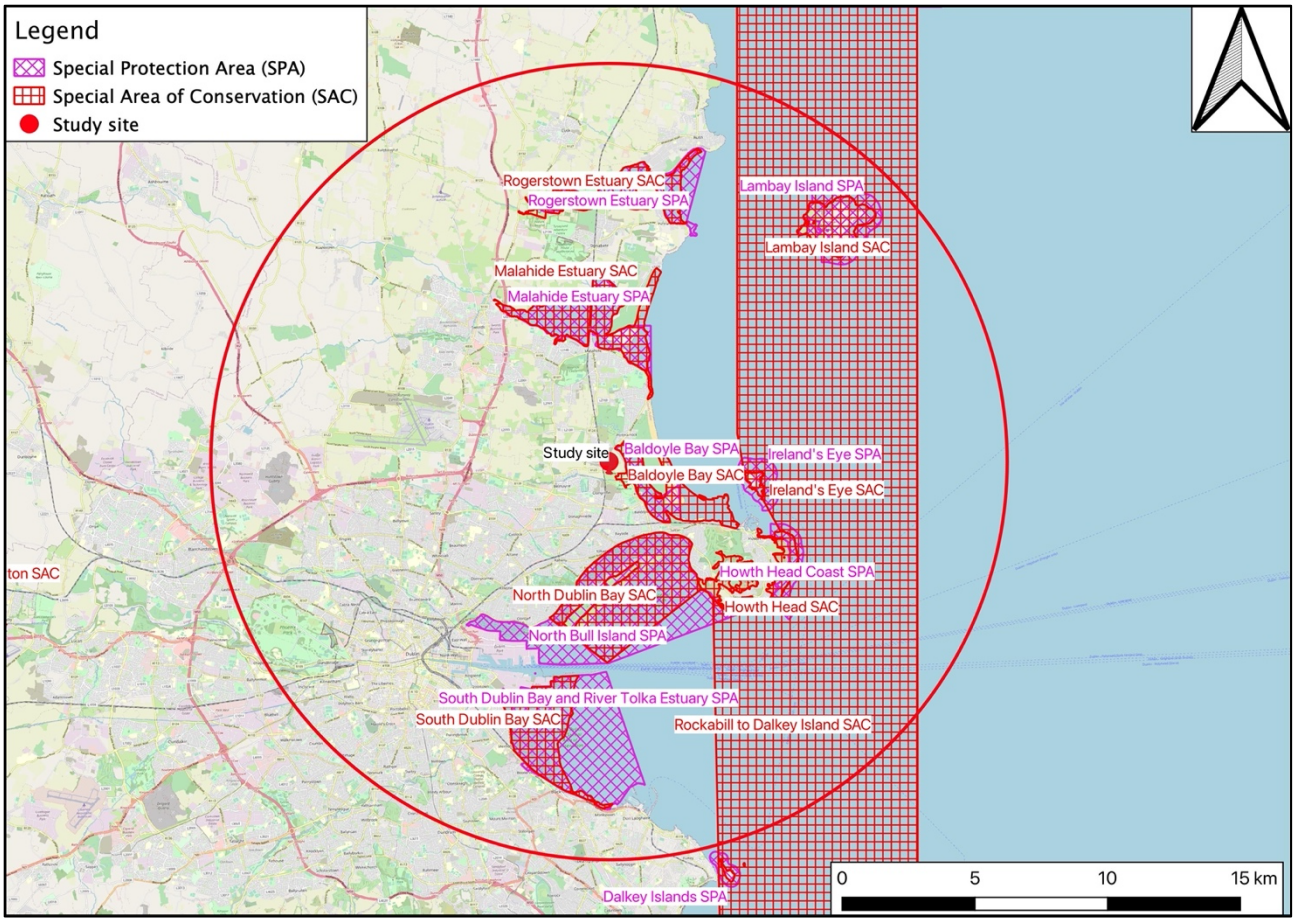

Figure 2 European sites in relation to the study area/application site

3.4 Description of the Proposed Development

Each element of the development under appraisal is required to conform to the Objectives and Policies of the *Portmarnock South Local Area Plan (2013 (extended to 2023))* and *Fingal Development Plan (2017-2023)*. In particular, Portmarnock South LAP has at its core a requirement to provide new, high quality urban residential development while protecting and enhancing the existing biodiversity features of the area, as well as maintaining the integrity of the European sites of Baldoyle Bay. Significant elements of these objectives have already been implemented, as part of developments under Portmarnock South Phases 1A and 1B and are continuing under permitted Phase 1C. This includes habitat protection measures in the ecological buffer zone (Phase 1A) and the delivery of new surface water management infrastructure (Phase 1B, incorporating Sustainable urban Drainage Systems (SuDS). This infrastructure includes a SuDS-designed wetland which is located within the eastern section of the ecological buffer zone, as well as filter strips, swales, green roofs, porous paving and bio-retention areas which have been provided throughout the Phase 1A, 1B, 1C developments.

The new SuDS regional wetland, which is fully operational, outfalls to Baldoyle Estuary. It is designed to serve the majority of the LAP area (which provides for up to 1200 residential units). This is in compliance with LAP Objective GI 43 (*Ensure the early completion of the proposed regional SuDS wetland).* The wetland has been designed for the benefit of biodiversity and incorporates a permanent area of water, with a maximum depth of c.600mm.

A detailed wetland planting scheme for the water body, comprising native wetland (aquatic and marginal aquatic) species appropriate to the site, was agreed with Fingal County Council and has been undertaken on site.

The Proposed Development (Phase 1D), generally comprises: -

- 172no. residential units consisting of 22no. duplexes and 150no. houses ranging in heights between 1.5 and 3 storeys;
- Provision of public open space including Skylark Park and extension to Railway Linear Park and Townland Boundary Linear Park;
- Vehicular access to serve the development is proposed off the existing / under construction access points on roads serving the St. Marnock's Bay development;
- A new vehicular road is proposed to serve the Proposed Development which will connect with Moyne Road. The permanent road includes the provision of a new junction with Moyne Road and SuDS features to control surface water run-off;
- Upgrade of existing temporary foul water pumping station and storage tank to increase capacity;
- All associated and ancillary site development, infrastructural, landscaping and boundary treatment works.

3.5 Key Ecological Receptors

The site proposed for development can be described as a number of different areas:

- The northern portion of the main residential area to the east of the railway corridor comprises part of former arable fields, which straddles a north-south section of hedgerow/tree line (Fossitt code **WL1/WL2**) and townland boundary. This area contains no habitats of any ecological value and is entirely occupied by spoil and bare ground (**ED2/ED3**). Parts of the site have been stripped for the purpose of archaeological investigation and much of the rest is used for building material storage.

- The southern portion of the main residential area, also to the east of the railway corridor, comprises part of an arable field, to the south of an east-west section of hedgerow/tree line (Fossitt code **WL1/WL2**) and townland boundary. This area contains no habitats of any ecological value and is entirely occupied by previously cultivated soil and bare ground (**ED2**) as well as recolonising bare ground (**ED3**).

- Further east the site is divided by a north-south of hedgerow / tree line (**WL1** / **WL2**) and townland boundary. To the east of this feature is more disused agricultural land, much of which is to be developed as a park (Skylark Park). Further east again an area of land currently occupied by spoil and bare ground.

- To the south and east of the main development land at Portmarnock Phase 1D the site area includes a section of former arable land and agricultural grassland (**GA1**) within landscape and ecological buffer areas (previously transferred to Fingal County Council) which enclose the residential zoned lands to the east and south. Within this area it is proposed to construct a road connecting the wider residential development area to Moyne Road over 300m to the south of the main residential area.

With the exception of the mature hedgerow/tree line that forms the townland boundary within the site, no habitats of high ecological value are present within any of the areas proposed for development. No rare plants have been recorded during the site visits undertaken to date. No evidence of roosting bats, badgers, reptiles or amphibians has been recorded and no significant features suitable for use by these species was recorded on or in the vicinity of the site. The townland boundary running through the centre of the Proposed Development site is the only feature of any ecological interest in the immediate vicinity.

This hedgerow/tree line is to be retained and incorporated within purposed open space (Skylark Park and Linear parks – as per the LAP) and will be protected during the construction of Phase 1D.

The NPWS database was consulted with regard to rare species (Curtis & McGough, 1988) and species protected under the *Flora Protection Order* (2015). There are records of a number of protected species within the 10km grid square (O24) that covers the Proposed Development area, including basil thyme (*Acinos arvensis*), lesser centaury (*Centaureum pulchellum*), red hemp nettle (*Galeopsis angustifolia*), meadow barley (*Hordeum secalinum*), oyster plant (*Mertensia maritima*), round prickly-headed poppy (*Papaver hybridum*), tufted saltmarsh grass (*Puccinellia fasciculata*), meadow saxifrage (*Saxifraga granulata*), annual knawel (*Scleranthus annuus*), and hairy violet (*Viola hirta*). None of these plants are known to occur within the site itself and none were recorded during any of the field surveys undertaken.

Overall with the exception of the hedgerow/tree line, which is of Local Importance (Higher Value) the site is of Local Importance (Lower Value), in accordance with the ecological resource valuations presented in the National Roads Authority Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA/TII, 2009 (Rev. 2)).

3.6 Screening for Appropriate Assessment

According to the draft Guidance published by the European Commission (*Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC*, 21st November 2018) the "integrity of a site" relates to the site's conservation objectives. For example, it is possible that a plan or project will adversely affect the site only in a visual sense or only affect habitat types or species other than those listed in Annex I or Annex II. In such cases, the effects do not amount to an adverse effect for the purposes of Article 6(3). If none of the habitat types or species for which the site has been designated is significantly affected then the site's integrity cannot be considered to be adversely affected.

In addition, plans or projects or applications for developments which have "*no appreciable effect*" on the protected site are excluded from the requirement to proceed to appropriate assessment[4] (Opinion of Advocate General Sharpston in *Sweetman*, para. 48).

In other words, if, following Screening, there is a possibility of there being a significant effect on a European site, this will generate the need for an appropriate assessment for the purposes of Article 6(3) of the Habitats Directive.

Given the location of the Proposed Development of Portmarnock Phase 1D, as well as its nature and scale, and connections to services including water supply and surface water/foul infrastructure, it is possible to rule out potential significant adverse effects arising out of the development on the following European sites.

- Malahide Estuary SAC;
- North Dublin Bay SAC;
- Rockabill to Dalkey Island SAC;
- Ireland's Eye SAC and SPA;
- Howth Head SAC and SPA;
- South Dublin Bay;
- Rogerstown Estuary and
- Lambay Island SAC and SPA;
- South Dublin Bay and River Tolka Estuary SPA;

[4] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62011CC0258

- Rogerstown Estuary SPA;
- Dalkey Islands SPA.

These sites are at such a distance from the Proposed Development site that there would not be any significant effects on them as a result of:

- Habitat loss and/or fragmentation;
- Impacts to habitat structure;
- Disturbance to species of conservation concern;
- Mortality to species (such as roadkill);
- Noise pollution;
- Emissions to air;
- Emissions to water.

These sites are screened out (Appropriate Assessment Screening) and they are not considered any further in this report. The European Sites under appraisal in this Natura Impact Statement are therefore as follows:

- Baldoyle Bay SAC;
- Baldoyle Bay SPA;
- North Bull Island SPA;
- Malahide Estuary SPA.

Table 2 Relevant sites and reasons for designation

European site (site code)	Reasons for designation (information correct as of 16 November 2021)	Source-pathway-receptor
Special Areas of Conservation		
Baldoyle Bay (000199)	▪ 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 maritimae*) [1330] ▪ Mediterranean salt meadows (*Juncetalia maritimae*) [1410] According to the SAC's Natura 2000 information (updated 09-2018) the site comprises a relatively small estuarine and bay system in north County Dublin. It receives the flows of the Mayne and Sluice rivers, both of which drain an agricultural / suburban catchment. The inner part of the site is sheltered from the sea by a large sand dune peninsula, though most of the dunes are now used as a golf course. Sediments in the inner sheltered areas are mostly muds or muddy sands, often with a high organic content. Part of the tidal section of the Mayne River and adjoining brackish marshes are included in the site. The outer part of the site is exposed to the open sea and the sediments here are predominantly well-aerated sands. In addition to the intertidal and salt marsh habitats, small areas of sand dunes and sandy beaches are included. It is a typical eastern estuarine system with fairly extensive intertidal sand and mud flats. There is good diversity in sediment types. *Zostera* spp is present. Quality variable but generally good. Salt marshes are well represented and are at least of moderate quality. Two Red Data Book plant species are present. These plants, Borrer's saltmarsh grass (*Puccinellia fasciculata*) and meadow barley (*Hordeum secalinum*) are legally protected under the *Flora Protection Order*, 2015 It is of importance for wintering waterfowl, with an internationally important population of light-bellied Brent geese (*Branta bernicla horta*) and nationally important populations of a further 6 species including golden plover (*Pluvialis apricaria*) and bar-tailed godwit (*Limosa lapponica*). Little tern (*Sterna albifrons*) formerly bred.	There is a potential link between the Proposed Development of Portmarnock Phase 1D and the SAC, specifically the habitat Qualifying Interests for which the site is designated, via disturbance and emissions to water during construction and operation. There is no potential for habitat loss within the SAC.
Special Protection Areas		
Baldoyle Bay (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] ▪ Wetland and Waterbirds [A999] According to the SPA's Natura 2000 information (updated 10-2020) the SPA comprises a relatively small estuarine system in north County Dublin (it overlaps with Baldoyle Bay SAC). It receives the flows of the	There is a potential link between the Proposed Development of Portmarnock Phase 1D and the SPA, specifically the birds and wetland habitat Special Conservation Interests for which the site is designated, via disturbance and emissions to water during construction and operation. There is no potential for habitat loss within the SPA.

European site (site code)	Reasons for designation (information correct as of 16 November 2021)	Source-pathway-receptor
	Mayne and Sluice rivers, both of which drain an agricultural / suburban catchment. Much of the estuary is sheltered from the sea by a large sand dune peninsula (now mostly a golf course). Sediments in the inner sheltered areas are mostly muds or muddy sands, often with a high organic content. Towards Portmarnock Point, the sediments are predominantly well-aerated sands. In addition to the intertidal flats and salt marsh habitats, a small area of sand hills and sandy beach at Portmarnock Point is included in the site. Baldoyle Bay is a typical eastern estuarine system with fairly extensive intertidal sand and mud flats which have *Zostera* spp. It also 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 and notably an internationally important population of light-bellied Brent geese (*Branta bernicla hrota*). It has nationally important populations of shelduck (*Tadorna tadorna*), pintail (*Anas acuta*), ringed plover *Charadrius hiaticula*), golden plover (*Pluvialis apricaria*), grey plover *Pluvialis squatarola)* and bar-tailed godwit (*Limosa lapponica*). At high tide the shallow waters regularly attract species such as great crested grebe *Podiceps cristatus*) and red-breasted merganser (*Mergus serrator*). Little tern (*Sterna albifrons*) formerly bred at the site, but not since the early 1990s.	
Malahide Estuary (004025)	▪ Great Crested Grebe (*Podiceps cristatus*) [A005] ▪ Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] ▪ Shelduck (*Tadorna tadorna*) [A048] ▪ Pintail (*Anas acuta*) [A054] ▪ Goldeneye (*Bucephala clangula*) [A067] ▪ Red-breasted Merganser (*Mergus serrator*) [A069] ▪ Oystercatcher (*Haematopus ostralegus*) [A130] ▪ Golden Plover (*Pluvialis apricaria*) [A140] ▪ Grey Plover (*Pluvialis squatarola*) [A141] ▪ Knot (*Calidris canutus*) [A143] ▪ Dunlin (*Calidris alpina*) [A149] ▪ Black-tailed Godwit (*Limosa limosa*) [A156] ▪ Bar-tailed Godwit (*Limosa lapponica*) [A157] ▪ Redshank (*Tringa totanus*) [A162] ▪ Wetland and Waterbirds [A999] According to the SPA's Natura 2000 information (updated 10-2020) the SPA is situated in north Co. Dublin, between the towns of Malahide and Swords. It comprises the estuary of the River Broadmeadow. A railway viaduct, built in the 1800s, crosses the site and has led to the inner estuary becoming lagoonal in character and only partly tidal. Much of the outer part of the estuary is well-sheltered from the sea by a large sand spit, known as "the island". This spit is now mostly converted to golf-course. The outer part empties almost	There is a potential link between the Proposed Development of Portmarnock Phase 1D and the SPA, specifically the birds and wetland habitat Special Conservation Interests for which the site is designated, via disturbance during construction and operation. There is no potential for habitat loss within the SPA or for impacts via emissions to surface water.

European site (site code)	Reasons for designation (information correct as of 16 November 2021)	Source-pathway-receptor
	completely at low tide and there are extensive intertidal flats. Salt marshes occur in parts of the outer estuary and in the extreme inner part of the inner estuary. The site is 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 (*Branta bernicla hrota*) (4.8% of national total), and nationally important populations of a further 12 species. Of particular note are the populations of shelduck (*Tadorna tadorna*) (3.0% of national total), pintail (*Anas acuta*) (2.9% of national total), red-breasted merganser (*Mergus serrator*) (2.8% of national total), grey plover (*Pluvialis squatarola*) (2.7% of national total) and knot (*Calidris canutus* (3.7% of national total). The site is one of the few in eastern Ireland where substantial numbers of goldeneye (*Bucephala clangula*) occur. It has a regionally important population of black-tailed godwit (*Limosa lapponica*). The site is an important and regular site for a range of autumn passage migrants, especially dunlin (*Calidris ferruginea*) and ruff (*Philomachus pugnax*). It supports a regular flock of non-breeding mute swan (*Cygnus olor*).	
North Bull Island (004006)	▪ 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*) [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] ▪ Wetland and Waterbirds [A999] According to the SPA's Natura 2000 information (updated 10-2020) the North Bull Island sand spit is a relatively recent depositional feature, formed as a result of improvements to Dublin Port during the 18th and 19th centuries. It is almost 5km long and 1km wide and runs parallel to the coast between Clontarf and Sutton. The sediment which forms the island is predominantly glacial in origin and siliceous in nature. A well-	There is a potential link between the Proposed Development of Portmarnock Phase 1D and the SPA, specifically the birds and wetland habitat Special Conservation Interests for which the site is designated, via disturbance during construction and operation. There is no potential for habitat loss within the SPA or for impacts via emissions to surface water.

European site (site code)	Reasons for designation (information correct as of 16 November 2021)	Source-pathway-receptor
	developed dune system runs the length of the island, with good examples of embryonic, shifting marram and fixed dunes, as well as excellent examples of humid dune slacks. Extensive salt marshes also occur. Between the island and the mainland occur two sheltered intertidal areas which are separated by a solid causeway constructed in 1964. The seaward side of the island has a fine sandy beach. A substantial area of shallow marine water is included in the site. Part of the interior of the island has been converted to golf courses. The proximity of the North Bull Island to Dublin City results in it being a very popular recreational area. It is also very important for educational and research purposes. Nature conservation is a main landuse within the site. The site is among the top ten sites for wintering waterfowl in the country. It supports internationally important populations of light-bellied Brent geese (*Branta bernicla hrota*) and bar-tailed godwit (*Limosa lapponica*) and is the top site in the country for both of these species. A further 14 species have populations of national importance, with particular notable numbers of shelduck (*Tadorna tadorna*) (8.5% of national total), pintail (*Anas acuta*) (11.6% of national total), grey plover (*Pluvialis squatarola*) (6.9% of national total), knot (*Calidris canutus*) (10.5% of national total). North Bull Island SPA is a regular site for passage waders such as ruff (*Philomachus pugnax*), curlew sandpiper (*Calidris ferruginea*) and spotted redshank (*Tringa erythropus*). The site supports short-eared owl (*Asio flammeus*) in winter. Formerly the site had an important colony of little tern (*Sterna albifrons*) but breeding has not occurred in recent years. The site provides both feeding and roosting areas for the waterfowl species. Habitat quality for most of the estuarine habitats is very good. The site has a population of the rare petalwort (*Petalophyllum ralfsii*) which is the only known station away from the western seaboard as well as five Red Data Book vascular plant species and four bryophyte species. It is nationally important for three insect species. Wintering bird populations have been monitored more or less continuously since the late 1960s, and the other scientific interests of the site have also been well documented. Future prospects are good owing to various designations assigned to the site.	

3.6.1 Other designated sites (other than European sites)

Baldoyle Bay proposed Natural Heritage Area (pNHA), site code 000199, is contiguous with the European designations under appraisal in this report. The only other pNHA (not already designated as a European site) within the potential zone of influence of the Proposed Development, Sluice River Marsh (001763), is located approximately 600m to the north of the Proposed Development site.

No impacts are expected on Sluice River Marsh pNHA, nor on any features that are undesignated but may potentially qualify for designation under the habitats or birds directives.

3.6.2 Other issues

As stated in Section 3.1, Japanese knotweed and giant hogweed, species listed on Schedule 3 of the *Birds and Habitats Regulations, 2011-2015*, have been recorded in the past in the local area, including within the Murragh Spit (within Baldoyle Bay SAC and SPA) and within development areas Phase 1A and 1B (but not Phase 1C or in Phase 1D – the subject site of the current application). Long-term management of these species has been undertaken and will continue to be carried out into the future, until it is confirmed that the species are eradicated from the subject area.

4 Appraisal of potential Impacts on European Sites

4.1 Introduction

Potential impacts on European sites may arise as a result of the Proposed Development, for the following reasons:

- Potential construction effects on European sites:
    - Potential release of contaminated surface water and other contaminants including dust may pose a temporary risk, resulting in potential effects on the Special Conservation Interests and Qualifying Interests of Baldoyle Bay SPA and SAC;
    - Potential loss of feeding grounds on open agricultural and amenity grassland as well as other habitats may pose a temporary risk, resulting in potential effects on the Special Conservation Interests of Baldoyle Bay SPA, Malahide Estuary SPA and North Bull Island SPA;
    - Potential disturbance to birds, such as that caused by noise, vibration, physical or visual disturbance may pose a temporary risk, resulting in potential effects on the Special Conservation Interests of Baldoyle Bay SPA, Malahide Estuary SPA and North Bull Island SPA;
- Potential operational effects on European sites:
    - Potential release of contaminated surface water may pose a long-term risk, resulting in potential effects on the Special Conservation Interests and Qualifying Interests of Baldoyle Bay SPA and SAC;
    - Potential loss of feeding grounds on open agricultural and amenity grassland, as well as other habitats may pose a long-term risk, resulting in potential effects on the Special Conservation Interests of Baldoyle Bay SPA, Malahide Estuary SPA and North Bull Island SPA;
    - Potential physical or visual disturbance to birds, such as that caused by proximity to people and human activity may pose a long-term risk, resulting in potential effects on the Special Conservation Interests of Baldoyle Bay SPA, Malahide Estuary SPA and North Bull Island SPA.

4.2 Conservation objectives, threats and vulnerabilities of the European Sites

A key aim of the Habitats Directive is to '*maintain or restore the favourable conservation status of habitats and species of community interest*'. Site-specific conservation objectives aim to define favourable conservation

condition for particular habitats or species within a European site. In the case of European sites for which site-specific conservation objectives have not yet been prepared, generic conservation objectives have been provided by NPWS.

The integrity of a site is the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.

Site specific conservation objectives for **Baldoyle Bay SAC** were published on 19 November 2012 (Version 1.0). The conservation objectives are:

- To maintain the favourable conservation condition of each of the Qualifying Interests (habitats), as defined by the range of attributes and targets set out;
- The attributes include habitat area, habitat distribution, physical structure (sediment supply, creeks & pans and flooding regime), vegetation structure (zonation, vegetation height, vegetation cover), vegetation composition (typical species, negative indicators);
- For each attribute the target as set out in the Conservations Objectives document is to maintain the existing conditions.

Site specific conservation objectives for **Baldoyle Bay SPA** were published on 27 February 2013 (Version 1.0). The conservation objectives are:

- To maintain the favourable conservation condition of each of the Special Conservation Interests (the bird species and the wetland habitat), as defined by the range of attributes and targets set out;
- The attributes include population trend and distribution (bird species) as well as the wetland habitat;
- For each attribute the target as set out in the Conservations Objectives document is as follows:
    - Population trend: the long term population should be stable or increasing;
    - Distribution: There should be no significant decrease in the range, timing or intensity of use of areas by waterbird species of Special Conservation Interest other than that occurring from natural patterns of variation;
    - Wetland habitat: 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.

Site specific conservation objectives for **Malahide Estuary SPA** were published on 16 August 2013 (Version 1.0). The conservation objectives are:

- To maintain the favourable conservation condition of each of the Special Conservation Interests (the bird species and the wetland habitat), as defined by the range of attributes and targets set out;
- The attributes include population trend and distribution (bird species) as well as the wetland habitat;
- For each attribute the target as set out in the Conservations Objectives document is as follows:
    - Population trend: the long term population should be stable or increasing;
    - Distribution: There should be no significant decrease in the range, timing or intensity of use of areas by waterbird species of Special Conservation Interest other than that occurring from natural patterns of variation;
    - Wetland habitat: 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.

Site specific conservation objectives for **North Bull Island SPA** were published on 9 March 2015 (Version 1.0). The conservation objectives are:

- To maintain the favourable conservation condition of each of the Special Conservation Interests (the bird species and the wetland habitat), as defined by the range of attributes and targets set out.
- The attributes include population trend and distribution (bird species) as well as the wetland habitat;
- For each attribute the target as set out in the Conservations Objectives document is as follows:
    - Population trend: the long term population should be stable or increasing;
    - Distribution: There should be no significant decrease in the range, timing or intensity of use of areas by waterbird species of Special Conservation Interest other than that occurring from natural patterns of variation;
    - Wetland habitat: 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.

4.3 Appraisal of Likely effects on European Sites

4.3.1 Predicted potential impacts on the conservation objectives of the European sites

4.3.1.1 Predicted potential impacts on the conservation objectives of Baldoyle Bay SAC

The conservation objective is to maintain the favourable conservation condition of each of the habitats that are listed as Qualifying Interests in Baldoyle Bay SAC.

Potential impacts on habitat area, habitat distribution, physical structure, vegetation structure and vegetation composition, due to scouring, erosion, pollution, sedimentation, spread of invasive species or loss of or damage to Qualifying Interest habitat will be avoided by appropriate construction and water management measures as set out in Section 4.4 of this NIS as well as in the attached Construction and Environmental Management Plan.

4.3.1.2 Predicted potential impacts on the conservation objectives of Baldoyle Bay SPA

The conservation objective is to maintain the favourable conservation status of the six bird species which are listed as Special Conservation Interests in Baldoyle Bay SPA, as well as the wetland habitat in the SPA.

The measures prescribed in Objective GI 12 of the Portmarnock South LAP 2013 (i.e. agreed habitat protection measures) have been implemented as part of the Portmarnock Phase 1A development (see Section 3.2) and are subject to ongoing monitoring and management. These measures seek to prevent any changes in bird populations due to any reduction in available feeding habitat or disturbance. In particular the provision of the new dedicated grassland areas in quiet zone lands that have been designed to provide feeding habitat for the birds of Baldoyle Bay SPA are intended to avoid any significant impacts on feeding habitats and disturbance to birds during roosting or feeding.

In addition, potential impacts on habitat quality within Baldoyle Bay SPA due to changes to water quality and water flows will be avoided by appropriately designed construction and water management measures, as set out in Section 4.4 of this NIS as well as in the Construction and Environmental Management Plan (CEMP).

Together, these measures will ensure that the attributes and their respective targets defined as part of the conservation objectives for the SPA, will not be impacted upon by the Proposed Development.

4.3.1.3 Predicted potential impacts on the conservation objectives of Malahide Estuary SPA and North Bull Island SPA

The conservation objectives for these two SPAs are to maintain the favourable conservation status of the bird species which are listed as Special Conservation Interests in each SPA, as well as the wetland habitat in the SPAs. The measures implemented to protect Baldoyle Bay SPA as described in Section 4.4 will address any potential impacts on these SPAs.

4.3.2 Potential effects on European sites during construction

4.3.2.1 Water quality, dust and other emissions

Estuaries and coastal sites such as Baldoyle Bay rely on large quantities of sediment to function. Regardless, all construction activities pose a potential risk to watercourses as surface water arising at any site may contain contaminants. The main contaminants arising from construction and demolition activities may include suspended solids, hydrocarbons and concrete/cement products. If not properly managed, such pollutants could pose a temporary risk to surface water quality in local watercourses during the demolition and construction phases. In addition there is a potential risk to flora and fauna arising from dust deposition, which in extreme cases can inhibit photosynthesis in plants and can increase turbidity in watercourses.

Given the nature, scale and duration of the construction phase for the Proposed Development there is the potential for temporary slight negative impacts on Baldoyle Bay SAC and SPA.

4.3.2.2 Disturbance via noise, vibration and human activities

Noise, vibration and visual disturbance may impact on the species of Baldoyle Bay SAC and SPA, for example by reducing feeding time or causing birds to temporarily avoid certain areas. While this could potentially occur during site clearance and construction operations associated with the Proposed Development, given the location of Phase 1D, adjacent to Phases 1A, 1B and 1C, these impacts are not expected to be significant, particularly given the mitigation measures that have already been implemented as part of the Portmarnock South LAP as associated with the Phase 1A, 1B and 1C developments, as well as the fact that much of the proposed construction site is within the same field as the completed Phase 1A and 1B developments and the ongoing Phase 1C development, and the remainder is within the area currently fenced off and used for construction material storage.

4.3.2.3 Site compound location and haulage routes

The proposed site compound will be located to the north east of the Proposed Development site, on the northern side of the vehicle access road from Mayne Road. This is the site of the established construction compound, currently servicing the Phase 1C development works. The area is not used by SPA bird species, and it is not expected that there will be any significant impacts on any SPA bird species, however there remains the potential for temporary slight negative impacts on Baldoyle Bay SAC and SPA, via potential visual disturbance of birds on the estuary. Access to the site for construction traffic will be via the construction haul road from Moyne Road, permitted under FCC Reg. Ref F20A/0700. The construction haul road is expected to be operational in December 2021.

4.3.2.4 Lighting

Lighting during the construction phase will be limited to the existing site compound (which will remain in place) and the proposed residential development areas. Given the location of both the existing site compound and the proposed residential development it is not expected that there will be any impacts on the bird species of the SPA or on any other biodiversity receptors. Similarly, there will be new public lighting associated with the new road connection to Moyne Road. Again, given the location of this feature there will be no impacts on the bird species of the SPA or on any other biodiversity receptors.

4.3.3 Potential effects on European sites during operation

4.3.3.1 Loss of, or disturbance to, habitat, including feeding habitat for birds

The Proposed Development site is of no importance as a feeding site for the bird species (the Special Conservation Interests) associated with Baldoyle Bay SPA (and, given the complex and interlinked relationships between the birds and their habitat use throughout the wider area of the Dublin coastline and beyond, the SCIs of North Bull Island SPA and Malahide Estuary SPA). This is because the site is within a field that is already partly developed and heavily disturbed, and contains no habitats (such as amenity grassland or managed agricultural grassland) likely to be used even occasionally or by small numbers of light-bellied Brent geese and waders.

Furthermore, the significant measures that have been undertaken and the areas that are currently being managed for wildlife and that stem from the Portmarnock South LAP (such as the bird quiet zone and the Murragh spit) will ensure that potential 'in-combination effects' potentially arising out of the full implementation of the LAP and other projects (see Section 4.5) will not result in the loss of feeding habitat for the Special Conservation Interests of the SPA, in particular the light-bellied Brent geese, an Internationally important population of which is associated with these SPAs.

4.3.3.2 Surface water

Any change to surface water quality associated with the development may affect the habitats and species of Baldoyle Bay SAC and SPA. Associated with any such changes to water quality is the potential for a slight negative impact on the aquatic habitats and bird species of the SAC and SPA.

4.3.3.3 Foul water

It is intended to connect the foul sewerage from the proposed 172 residential units of this proposed Phase 1D development to the existing foul sewer network in the Portmarnock South LAP lands. The connection will be to the permitted Phase 1C development, which is currently under construction, immediately to the north.

As set out in detail in the Water Services Report (JB Barry) that accompanies the planning application and is submitted under separate cover, the lands in Portmarnock South lie within the North Fringe Sewer catchment, which discharges to the Ringsend Wastewater Treatment Plant, which is undergoing significant upgrades.

Foul water discharge from the site will connect to the public sewer network. It will be directed to the Irish Water Wastewater Treatment Plant (WwTP) at Ringsend prior to discharge to Dublin Bay. The Ringsend WwTP operates under licence from the EPA (Licence no. D0034-01) and received planning permission (ABP Reg. Ref.: 301798) in 2019 for upgrade works, which are expected to be completed within five years. This will increase the plant capacity from 1.65m PE (population equivalent) to 2.4m PE. Regardless of the status of the WwTP upgrade works, the peak discharge from the Proposed Development is not significant in the context of the existing capacity available at Ringsend. Though the WwTP is currently over capacity (the plant is currently accommodating 1.9m PE), recent water quality assessment undertaken in Dublin Bay (published by the EPA) confirms that Dublin Bay is classified as "unpolluted" and there is no evidence that the over-capacity issues at Ringsend are affecting the conservation objectives of the European sites in Dublin Bay.

Operational impacts related to foul water management, in the context of biodiversity, as a result of the Proposed Development, will not be significant, however, full details of the foul water management for the Proposed Development are included in the Water Services Report and are summarised in Section 4.4.2.2 of this NIS.

4.4 Mitigation measures

4.4.1 Construction phase mitigation

A Construction and Environmental Management Plan has been prepared (by Quintain Developments Ireland Ltd) for the Proposed Development. All works will comply with the requirements of the NIS and the CEMP, which forms

part of the planning application. In particular, Section 9.1 of the CEMP (Construction Phase Measures – Pollution Prevention) addresses the constructability issues and potential risks associated with this development in close proximity to the Baldoyle Estuary.

As per the CEMP, it is intended that all surface water from the proposed Phase 1D development will be managed in accordance with the principals of Sustainable Urban Drainage Systems [SUDS]. The foul and stormwater drainage networks are designed as separate systems and no foul effluent will discharge to the surface water system.

- Within the works, temporary earth bunds/silt fences will be constructed to contain surface water run-off and channel it to a silt trap or settlement pond before discharge to the drainage network;
- Any excavated soil is to be temporarily stockpiled at least 20 m from any ditch or drainage network or other waterbodies in order to reduce the likelihood of any suspended solids reaching them;
- Excavation and stockpiling works to be curtailed during sustained wet weather periods;
- SuDS features forming part of the development and in particular those for the proposed access road to Mayne Road, will be constructed early in the works programme;
- Ditch Culvert and Headwalls for Mayne Access Road to be Precast Concrete;
- Designated impermeable fuelling areas will be constructed. All oils and fuels will be stored in bunded tanks with the provision of a storage/retention capacity of 110% of tank storage;
- Care and attention to be taken during refuelling and maintenance operations. Drip trays and spill kits to be available on site;
- Chemicals to be stored in dedicated, secure bunded storage;
- Discharge points to the drainage network will entail a mechanism for containment of runoff in the event of accidental spillage, to enable clean-up and appropriate disposal through licensed facilities;
- Contractor Guidance set out in the Control of Water Pollution from Construction Sites (CIRIA, 2001) shall be adhered to;
- Environmental Good Practice on Site (CIRIA 2005) to be implemented and followed;
- Any soil contaminated from an accidental spillage will be contained and treated appropriately and disposed of in accordance with the Waste Management Act 1996-2012.

The CEMP will ensure the following outcomes;

- Minimise and control the construction site to ensure that no unacceptable impact occurs to adjoining waterways, wetlands and the Local Authority stormwater system;
- Ensure that no stormwater migrates to adjoining public roadways and residential areas;
- Minimise disturbance to the hydrologic profile of the surrounding landscape;
- Maximise opportunity for capture and use of stormwater on site;
- Protect ground water from potential construction waste contamination.

Soil erosion by significant rainfall and wind in dry weather is a key component of the CEMP. In support of good practice, the principles of good stormwater management are listed as follows:

- Incorporate petrol interceptors;
- Site fuel storage will be provided within bund areas to cater for any potential failure of the fuel tanks;
- Limit land disturbance to work areas;

- Provide suitable stormwater drainage as designed;
- Limit site entry and egress points to Station Road for Phase 1D;
- Install temporary swales to manage water runoff if required;
- Maintain vegetation as appropriate in and around runoff areas;
- Direct runoff from disturbed areas through sediment traps or filters;
- Prevent deposition of sediment on the adjoining public roads network due to truck / equipment movement;
- Incorporate stormwater management and mitigation measures into site induction programmes.

Monitoring and reporting is a key part of the management of the construction works. It is anticipated that the main contractor and / or specialist bulk excavation contractor for the general site stripping and the construction of the attenuation wetland areas will inspect the site weekly and provide particular attention to the following issues:

- Inspection of sediment controls devices;
- Inspect drains and make repairs to damaged drains as required;
- Remove spilled soils or other materials as necessary;
- Construct additional erosion or sediment control works as necessary;
- Removed build-up of sediment from temporary swales;
- Maintain records relating to the condition of existing soil erosion and runoff controls;
- Record rainfall data and retain records for inspection as requested.

The main contractor / site construction manager is responsible for managing stormwater on site during construction works and shall review and analyse the cause of any detected non-conformance issues recorded and take appropriate corrective actions to resolve issues.

Other mitigation measures of relevance to European sites include the following:

- A suitably qualified and experienced ecologist will be contracted for the entire duration of the construction phase. The ecologist will monitor the construction works to ensure full implementation of all mitigation measures and will be authorised to contact NPWS and Fingal County Council should this be necessary. The ecologist will undertake or arrange and manage all pre-construction surveys that may be necessary to ensure compliance with planning conditions and legislation;
- No seasonal restrictions will be necessary for the construction of Phase 1D. As appraised in this report, there will be no impacts on the bird species/wetland habitat of Baldoyle Bay SPA nor on the habitats or species of Baldoyle Bay SAC arising from the delivery of the Proposed Development. Much of the Proposed Development is located to the west of the north south tree-lined hedgerow (townland boundary) within the proposed linear park, in a heavily disturbed and developed field). The remainder is immediately adjacent to the townland boundary, in an already disturbed area, south and west of the existing site compound and Marketing Suite. Nevertheless, as noted in Section 4.3.2.3 there remains the potential for temporary slight negative impacts on Baldoyle Bay SAC and SPA, via potential visual disturbance of birds on the estuary. Therefore, prior to commencement, a 3m high solid wooden hoarding will be erected along the southern and eastern boundaries of the Proposed Development site construction area, which is to be located to the east of the townland boundary.
- All traffic accessing the construction site from the compound will do so via the existing gap in this hedgerow (the future “Main Avenue”)) – no new break in the hedgerow will be constructed for this purpose;

- It is noted that significant mitigation measures (the bird quiet zone and ecological buffer zone habitat) have already been implemented as part of the Phase 1A, 1B and 1C development;
- All retained trees that are within or close to the working wayleave of the Proposed Development (i.e. along the townland boundary) will be protected in accordance with the requirements of British Standard BS5837:2012 *Trees in Relation to Design, Demolition and Construction' – Recommendations*, with protective fencing being installed around all trees to be retained, prior to commencement of development;
- All plant will be fully maintained and in full working order, for example with engine covers in place to reduce noise. No works will be undertaken outside permitted hours;
- Should it be necessary, and where feasible and practicable, the removal of trees and other features suitable for use by nesting birds will be undertaken outside the bird nesting season (avoiding the period 1 March to 31 August). Should the construction programme require vegetation clearance between March and August bird nesting surveys will be undertaken by suitably experienced ecologists. If no active nests are recorded, vegetation clearance will take place within 24 hours. In the event that active nests are observed, an appropriately sized buffer zone will be maintained around the nest until such time as all the eggs have hatched and the birds have fledged – a period that may be three weeks from the date of the survey. Once it is confirmed that the birds have fledged and no further nests have been built or occupied, vegetation clearance may take place immediately;
- No bat roosts have been recorded at Portmarnock Phase 1D and it will not be necessary to apply for a derogation licence under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011-2015). However any mature tree scheduled for removal will first be surveyed by a qualified bat specialist for the presence of bats. Any ivy-covered trees which require felling should be left to lie for 24 hours after cutting to allow any bats beneath the cover to escape. Trees with potential for bat roosting i.e. those showing cavities, should be felled in the presence of a bat specialist in case bats are present. If found, such animals should be safely retained in an escape-proof container until nightfall then released onsite;
- The implementation and effectiveness of these measures proposed will be inspected and recorded regularly during the entire works period by the contractor and where deficiencies or faults are identified the contractor will immediately remedy them. These measures will ensure that there will be no impacts on water flows or quality, and therefore no impacts on the qualifying interests of any designated sites as a result of the Proposed Development works.

4.4.2 Operational phase mitigation

4.4.2.1 Surface water management

The surface water system for the entire Portmarnock South LAP lands is divided into three catchments namely:

- Catchment No 1 (c. 37.55ha as shown in Figure 3);
- Catchment No 2 (c. 1.77ha along Station Road as shown in Figure 3);
- Catchment No 3 (c. 0.98ha along the proposed Access Road to Mayne Road as shown in Figure 3).

Catchment No 1 includes the proposed Phase 1D area and drains to the Baldoyle Estuary via the new regional wetland and new storm water outfall (both were constructed under Phase 1B and are fully operational). The storm water network for Catchment No 1 has been designed to cater for the existing Phase 1A, Phase 1B Phase 1C (under construction), Phase 1D and all future phases of the entire development with the exception of Catchments No 2 and No 3. The regional wetland provides attenuation for Catchment 1 with outflows restricted for the 1year, 30year and 100year critical storm events. The Q 100 year outflow has been estimated at 200 l/sec in accordance with the

Greater Dublin Strategic Drainage Study. A flow control device has been installed on the outfall from the wetland limiting the outflow to 200 l/sec.

Stormwater management will be undertaken in accordance with the principles of Sustainable Urban Drainage Systems. The operational and maintenance measures for the SuDS features are fully detailed in the Water Services Report, prepared by JB Barry & Partners Consulting Engineers. In summary *The SuDS strategy adopted for the Proposed Development provides a comprehensive approach to the management of surface water on the site in line with the SuDS triangle namely, water quality, water quantity and amenity/biodiversity. The treatment train approach has been adopted for the design of the surface water system for the development. This approach uses suitable SuDS measures in providing source, site and regional controls. The SuDS recommendations included in the Portmarnock South LAP have been assessed and have been included where deemed appropriate and suitable for this development. The storm water wetland is included as one of the essential SuDS measures for the development.*

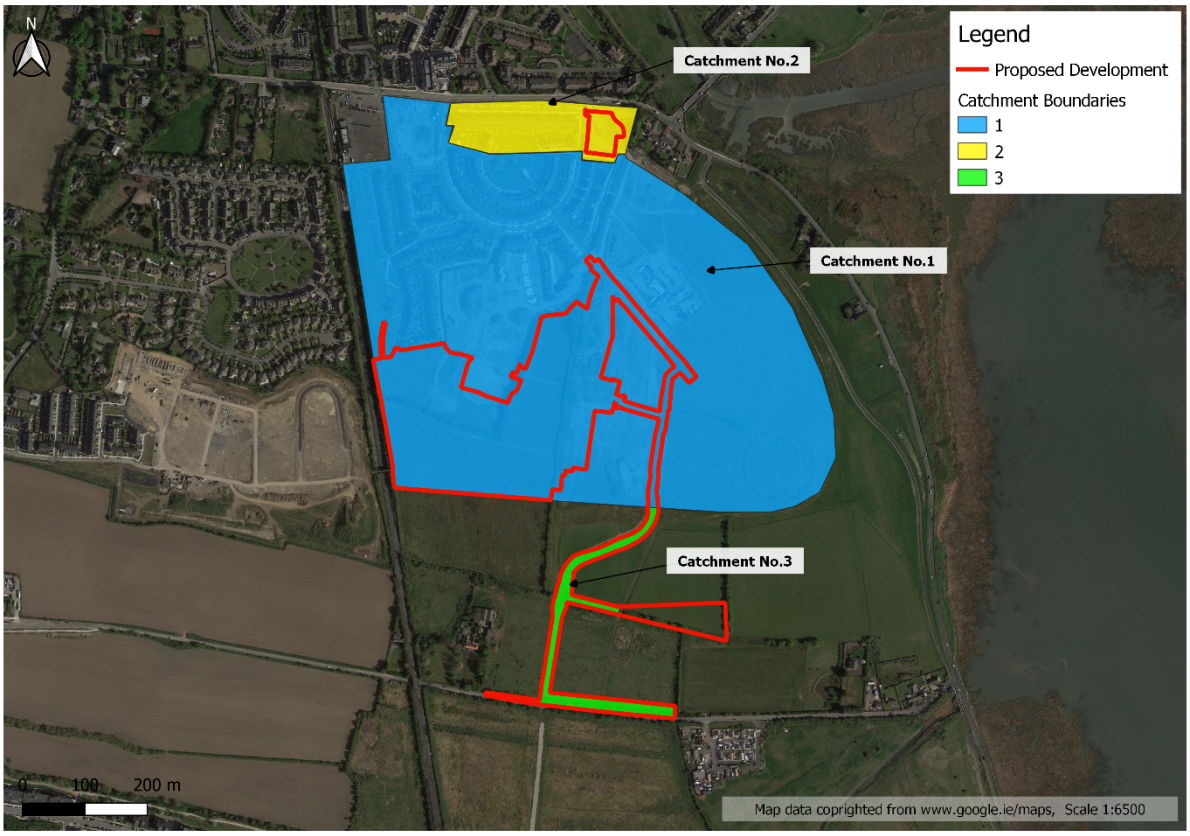

Figure 3 *Surface water catchments for the Portmarnock South LAP lands*

4.4.2.2 Foul water management

The foul sewerage from the proposed 172 residential units of this development will be connected to the existing foul sewer network in the Portmarnock South LAP lands. The connection (via 5 individual connection points) will be to the permitted Phase 1C development, which is currently under construction, immediately to the north of this proposed Phase 1D development.

This network currently discharges to an existing temporary pumping station (complete with 24-hour storage) adjacent to Station Road (constructed under the Phase 1B Development, Planning Ref: ABP–300514-17) from where it is pumped to a gravity line which then discharges to an existing foul sewer in Coast Road. This existing sewer in turn discharges to the Irish Water Mayne Bridge Pumping Station, from where it is pumped to the North Fringe Sewer.

The Mayne Pumping Station was upgraded with the installation of two new pumps and improved electrical and control systems as part of a condition appended to the grant of permission for Phase 1A in 2013.

Ultimately, it is intended that all foul flow from the Portmarnock South LAP lands will discharge by gravity to a proposed new Irish Water Pumping Station adjacent to Portmarnock Bridge from where it will be pumped directly to the North Fringe Sewer and the temporary pumping station serving this development would then be decommissioned.

The proposed new Irish Water Portmarnock Bridge Pumping Station will replace the existing Irish Water pumping station nearby and provide improved storage and operational capacity to cater for both existing foul flows and future foul flows arising from development of zoned lands within this locale.

Irish Water lodged an application for this proposed new Portmarnock Bridge Pumping Station in July 2021. This application is currently being assessed by Fingal County Council, with a request for additional information sought in September 2021.

When the new Irish Water Pumping Station becomes operational (currently envisaged as c. Q2 2025, subject to planning permission being granted for same) all flows from the existing Phase 1A and 1B developments, the Phase 1C development currently under construction, this proposed Phase 1D and all future phases will be permanently diverted to the new pumping station.

Full details of the proposed foul sewerage system and the network capacity are set out in the Water Services Report (JB Barry) that accompanies the application. Regardless of the status of the new Irish Water Pumping Station, for the purposes of this Natura Impact Statement it is appropriate to note the Proposed Development of Phase 1D can proceed without any impacts on any European Sites occurring.

Additional operational foul storage in excess of that normally provided for emergencies (i.e. 24-hour storage) will be provided. This additional operational storage (minimum 6 hours) together with telemetry and PLC upgrades (to allow the local pumping stations to communicate with one another) would facilitate the operational demand management of all three pumping stations i.e. Existing Portmarnock Bridge Pumping Station, Mayne Road Pumping Station and St. Marnock's Temporary Pumping Station and provide Irish Water with a managed system.

The telemetry and programmable logic control upgrades will, as needs arise, provide Irish Water with a managed system and allow for the St. Marnock's Temporary pumping station to be turned off or discharge at a reduced rate for a period of up to 6 hours, to facilitate instances where either increased discharges are required from the existing Portmarnock Bridge Pumping Station or where it is necessary to limit inflows to Mayne Pumping Station to allow pump and storage capacity to meet demand. The St. Marnock's Temporary Pumping Station would be re-engaged when circumstances allow, utilising off-peak periods to clear mobilized storage volumes.

In light of the envisaged timeline for delivery of the new Irish Water Portmarnock Bridge Pumping Station (c.2025), the St. Marnock's Temporary Pumping Station will be upgraded to reflect its interim status. These upgrades include:

- New pumping station wet well (to replace existing), benched to facilitate scour cycle;
- New welfare building - housing control panel and telemetry;
- New storage tank(s) to supplement existing tanks;
- Lifting gantry to facilitate pump maintenance;
- Wash down hose reel to facilitate maintenance;
- Valve chambers;
- Assisted lift access hatches;
- Outdoor lighting;
- Pump isolation cabinet;

- Area of hardstanding to facilitate access and maintenance operations;
- Provide/Upgrade telemetry;
- Install flowmeter and level sensors in storage tanks;
- Install pumping station interlock as well as intelligent pumping station controls;
- Fencing to enclose area to restrict unauthorised access.

In its Confirmation of Feasibility (dated 4 October 2021 and included as Appendix 2 of the Water Services Report) Irish Water stated that the proposal is *feasible subject to upgrades*, noting that:

The proposed interim solution to provide additional storage at the existing Temporary Pumping Station in St. Marnock's prior to the completion of the Portmarnock Local Network Reinforcement Project is acceptable in principle subject to the following:

- *24 Hr storage to be provided for all existing phases and 24 Hr storage is to be provided for the new phases of the development. The size to be determined from flow monitoring or design flows (whichever is larger).*
- *Full telemetry system to be provided in conjunction with Irish Water to link the St. Marnocks Temporary PS with Portmarnock Bridge PS and Mayne Bridge PS.*
- *Full Flow Monitoring to be provided and linked to the Telemetry System visible to Irish Water (including pump forward flows from the Temporary Pumping Station and overflows).*
- *Design of the interim solution to be delivered prior to Connection Agreement.*
- *The customer is responsible for the maintenance and operation of the Temporary Pumping Station.*
- *The Temporary Pumping Station is to be fully decommissioned by the customer on completion of the Portmarnock Local Network Reinforcement Project.*

A detailed design was submitted to Irish Water (October 2021) for the purposes of obtaining a Statement of Design Acceptance and approval for same received 23 November 2021. This is included in Appendix 3 of the Water Services Report.

4.4.2.3 Other measures

Other measures, including the ongoing and full implementation of the Conservation Management Plan (prepared by Brady Shipman Martin and implemented as part of Phase 1A, Phase 1B and Phase 1C) and ongoing implementation of management measures to eliminate invasive terrestrial species (i.e. giant hogweed and Japanese knotweed) will ensure no significant effects arise on any ecological receptors as a result of the Proposed Development.

4.4.3 Monitoring

In order to ensure the successful implementation of all of the proposed mitigation measures a Project Ecologist (as described in Section 4.4.1) will be appointed for the duration of the construction period.

4.5 Appraisal of likely significant effects on European sites and in-combination effects

It is a requirement of the *Birds and Natural Habitats Regulations*, 2011-2015 that when considering whether a plan or project will adversely affect the integrity of a European site the assessment must take into account in-combination effects with other current or reasonably foreseeable plans and projects.

- If it can be clearly demonstrated that the plan or project will not result in any impact on the integrity of a European site then the plan or project should proceed without considering the in-combination test; further,

- If there are identified effects arising from the plan or project even if they are perceived as minor and not likely to have an impact on the integrity of a European site alone, then any such impacts must be considered 'in-combination' with the effects arising from other plans and projects.

The requirements of the Portmarnock South Local Area Plan, 2013 (which includes reference to proposed residential development, of which the current application is part) include the development of the regional wetland and a permanent pumping station. The regional wetland has already been delivered, and as discussed in Section 4.4.2.2 a planning application for the permanent pumping station was lodged in July 2021 (Reg. Ref.: F21A/0389). That application, which was accompanied by its own NIS, is currently being assessed by Fingal County Council, which issued a request for further information in relation to the Proposed Development in September 2021.

In June 2018 Irish Water made a planning application to An Bord Pleanála for the Greater Dublin Drainage (GDD) project. The application included a detailed NIS. If granted permission this project will result in the temporary loss of a portion of the bird quiet zone. The duration of works is expected to be 18 months, which represents, at worst, two winter seasons. Mitigation measures are included in the project NIS to avoid any impacts on over-wintering birds. Irish Water received planning permission for the GDD project in November 2019. The permission was quashed by the Irish High Court in November 2020, however it is expected that it will be re-submitted in due course.

Regardless of the duration and potential impacts of the eventual delivery of the GDD project on Baldoyle Bay SAC and SPA, the construction of Portmarnock South Phase 1D will be complete prior to the commencement of the GDD project. There will therefore be no potential for in-combination effects to arise.

In addition to the Portmarnock South LAP, Fingal County Council has developed a separate Local Area Plan, for the Baldoyle and Stapolin lands, immediately south of the Portmarnock South LAP area. The Baldoyle Stapolin Local Area Plan, 2013 similarly includes required mitigation measures to deal with any potential impacts arising out of the development of housing in close proximity to Baldoyle Bay. These measures include the development of new biodiversity zones including Mayne Marsh Conservation Area and an area known as Racecourse Regional Park, as part of an overall green infrastructure strategy to maintain habitats within Baldoyle Bay SPA and SAC at favourable conservation condition and ensure the ecological integrity of Baldoyle Bay.

A planning application has been made to An Bord Pleanála under Section 177AE of the Planning and Development Act 2000 (as amended) for the proposed Racecourse Park Project. This application was accompanied by a comprehensive and detailed NIS, prepared by Scott Cawley. This NIS concluded that "*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*".

Fingal County Council has delivered a new coastal route, the Baldoyle to Portmarnock Coastal Path and Cycleway. This project was an objective of the Racecourse Park masterplan. The coastal route will guide people away from the more sensitive estuarine lands. Bird survey work undertaken and submitted as part of the planning application for that scheme (*Baldoyle to Portmarnock Coastal Path and Cycleway: Bird Impact Study*, prepared by Natura Environmental Consultants on behalf of Fingal County Council) concluded that the *proposed route will not cause any significant impact on the Baldoyle Bay SPA or the Baldoyle Bay SAC. The path and cycleway will not interfere with the distribution or density of the species or habitats that are qualifying interests of these Natura 2000 sites. There is no likelihood that there will be any adverse effects on the favourable conservation condition of these sites.* There will therefore be no potential for in-combination effects to arise.

Two significant SHD planning applications have been lodged with An Bord Pleanála for residential development at Baldoyle/Stapolin (ABP-311016: 10-year permission sought for the development of 1,221 no. residential apartment/duplex dwellings in GA3 of the Stapolin LAP (granted planning permission in November 2021) and ABP-310418 (granted planning permission in September 2021) 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 submitted

with these applications concluded that there would be no adverse impact on nearby designated sites and their qualifying features.

Each of the plans and projects under review in this section of the document have been developed with nature conservation as a core element, and an iterative approach to the preparation of each plan and project has been undertaken, with a view to coordinating the plans and projects for maximum overall benefit and minimum impact. Each has been separately subject to stringent appraisal, both for their potential impacts on European sites and their Qualifying Interests/Special Conservation Interests as well as non-European sites and ecological receptors. In each case it has been reasonably concluded, based on the best available scientific evidence, that there will be no significant effects on designated sites, habitats, species or water quality, either alone or in-combination with other plans or projects.

The result of this iterative approach to the planning process has been to prevent the risk of multiple minor impacts arising on the integrity of the European sites which, if taken in isolation would be insignificant but when combined might result in significant effects on the site.

It is concluded that taking into account these plans and projects no other potential cumulative effects on ecological receptors are expected to arise as a result of the Proposed Development of Portmarnock Phase 1D.

4.6 Residual impacts

Following the implementation of all mitigation measures associated with the Proposed Development, including the ongoing and continued management of the bird quiet zone and biodiversity buffer zone habitat, there will be no significant impact on any European site arising from the Proposed Development.

5 Summary and conclusions

This Natura Impact Statement has considered the potential impacts of a proposal by Quintain Developments Ireland Ltd for development of 172 residential units (Portmarnock Phase 1D) on the integrity of the relevant European sites.

This report concludes on the best scientific evidence that it can be clearly demonstrated that no elements of the project will result in any impact on the integrity or Qualifying Interests/Special Conservation Interests of any relevant European site, either on their own or in-combination with other plans or projects, in light of their conservation objectives.

It is considered that this Natura Impact Statement provides sufficient relevant information to allow the Competent Authority (An Bord Pleanála) to carry out an AA Screening, and if necessary an Appropriate Assessment, and to reach a determination that the Proposed Development will not affect the integrity of any of the relevant European sites under Article 6 of the Habitats Directive (92/43/EEC) in light of their conservation objectives.

6 References

Council of the European Communities (1992) Council Directive of 21 May 1992 on The Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC). O. J. L 206/35, 22 July 1992

DoEHLG (2010) Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (Department of Environment, Heritage and Local Government, Rev. Feb 2010)

DoCHG (2017) Third National Biodiversity Plan 2017-2021

Environmental Protection Agency (2002). *Guidelines on the information to be contained in Environmental Impact Statement.* Environmental Protection Agency. Wexford

Environmental Protection Agency (2003). *Advice Notes on Current Practice (in the preparation of Environmental Impact Statements).* Environmental Protection Agency. Wexford

Environmental Protection Agency (2015). Revised (Consultation Draft) Advice Notes on Current Practice (in the Preparation of Environmental Impact Statements)

Revised Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (May 2017);

European Commission (EC) (2000). Managing Natura 2000 sites: The Provisions of Article 6 of the Habitat's Directive 92/43/EEC (EC Environment Directorate-General, 2000)

European Commission (EC) (2001). Assessment of Plans and Projects Significantly Affecting Natura 2000 sites: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission Environment Directorate-General)

European Commission (EC) (2018). Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC. (Guidance issued by the European Commission, November 2018)

European Communities (Birds and Natural Habitats) Regulations 2011-2015

NPWS (2010). Circular NPW 1/10 & PSSP 2/10 Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities. (Department of Environment, Heritage and Local Government, March 2010)

NPWS (2019). The Status of EU Protected Habitats and Species in Ireland. Volumes 1-3. Department of Culture, Heritage and the Gaeltacht, Dublin, Ireland

Online data available on European sites as held by the National Parks and Wildlife Service (NPWS) (www.npws.ie/protectedsites)

Planning and Development, Act 2000, as amended.

Appendices

Appendix 1 – Background to Appropriate Assessment

The European[5] network is a Europe-wide network of ecologically important sites (SPAs and cSACs – also known as 'European Sites' or 'Natura 2000 sites') that have been designated for protection under either the EU Birds Directive (Council Directive 79/409/EEC on the Conservation of Wild Birds) or the EU Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna).

The main aim of the Habitats Directive is *"to contribute towards ensuring biodiversity through the conservation of natural habitats of wild fauna and flora in the European territory of the Member States to which the treaty applies".* Any actions taken must be designed to *"maintain or restore, at a favourable conservation status, natural habitats and species of wild fauna and flora of Community interest".* Under Article 6 of the Habitats Directive, an assessment is required where a plan or project may give rise to significant effects upon a European site.

In addition, it is a matter of law that candidate SACs (cSACs) and Sites of Community Importance (SCI) are considered in this process;

Article 6 (paragraphs (3) and (4)) of the Habitats Directive states that:

> (3) Any plan or project not directly connected with or necessary to the management of the site but likely to have significant effect thereon, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.
>
> (4) If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of European is protected. It shall inform the Commission of the compensatory measures adopted.
>
> Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

The requirements of the Habitats Directive are transposed into Irish law by means of the *European Communities (Birds and Natural Habitats) Regulations 2011-2015* (hereafter referred to as the *Birds and Habitats Regulations*)[6] and by the *Planning and Development Act 2000*, as amended.

In Ireland, the statutory agency responsible for the designated areas is NPWS.

Stages in the assessment

[5] The EU Habitats Directive, Article 3.1, states "A Coherent European ecological network of Special Areas of Conservation and Special Protection Areas pursuant to Directive 79/409/EEC shall be set up under the title European"

[6] SI No. 477 of 2011 and subsequent amendments

European Commission guidance (2001)[7] sets out the principles on how to undertake decision making in applying the Habitats Directive. The requirements of the Habitats Directive comprise four distinct stages:

Stage 1: Screening is the process which initially identifies the likely significant effects upon a European site of a project or plan, either alone or in combination with other projects or plans. It is important to note that the burden of evidence is to show, on the basis of objective information, that there will be no significant effect; if the effect may be significant, or is not known, that would trigger the need for an Appropriate Assessment. There is European Court of Justice case law to the effect that unless the likelihood of a significant effect can be ruled out on the basis of objective information, then an Appropriate Assessment must be made.

Stage 2: Appropriate Assessment is the detailed consideration of the impact on the integrity of the European site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's conservation objectives and its structure and function. This is to determine with scientific certainty whether or not there will be adverse effects on the integrity of the site in light of its conservation objectives. This stage also includes the development of mitigation measures to avoid or reduce any possible impacts.

Stage 3: Assessment of alternative solutions is the process which examines alternative ways of achieving the objectives of the project or plan that would avoid impacts on the integrity of the European site, should avoidance or mitigation measures be unable to cancel out adverse effects.

Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain. At Stage 4 an assessment is made with regard to whether or not the development is necessary for imperative reasons of overriding public interest (IROPI) and, if so, of the compensatory measures needed to maintain the overall coherence of the European network.

Conservation objectives of European sites

The conservation objectives for a European Site are intended to represent the aims of the Habitats and Birds Directives in relation to that site. To this end, habitats and species of European Community importance should be maintained or restored to 'favourable conservation status' (FCS), as defined in Article 1 of the Habitats Directive below:

The conservation status of a natural habitat will be taken as 'favourable' when:

- Its natural range and the 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;
- Conservation status of typical species is favourable as defined in Article 1(i).

The conservation status of a species will be taken as favourable 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;

[7] European Commission (2001) *Assessment of Plans and Projects Significantly Affecting European Sites: Methodological Guidance on the Provisions of Article 6 (3) and (4) of the Habitats Directive 92/43/EEC*

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

Guidance from the European Commission[8] indicates that the Habitats Directive intends FCS to be applied at the level of an individual site, as well as to habitats and species across their European range. Therefore, in order to properly express the aims of the Habitats Directive for an individual site, the conservation objectives for a site are essentially to maintain (or restore) the habitats and species of the site at (or to) FCS.

The European Commission guidance recommends that screening should fulfil the following steps:

1. Determine whether the plan (or policy) is directly connected with or necessary for the management of European sites;
2. Describe the plan and describe and characterise any other plans or projects which, in combination, have the potential for having significant effects on European sites;
3. Identify the potential effects on European sites;
4. Assess the likely significance of any effects on European sites.

[8] Managing European sites: the provisions of Article 6 of the Habitats Directive 92/43/EEC. (European Commission 2000)

Appendix 2 – Summary of predicted impacts on Baldoyle Bay SAC and SPA (attribute and target data extracted from NPWS Conservation Objectives documents)

Baldoyle Bay SAC

Habitat	Mudflats and sandflats not covered by seawater at low tide [1140]		
Attribute	**Target**	**Potential impacts**	**Predicted impacts**
Habitat area	The permanent habitat area is stable or increasing, subject to natural processes. Habitat area was estimated as 409ha using OSi data	Scouring/erosion (uncontrolled discharge of surface water). Habitat loss/loss of function	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by Ecological Clerk of Works (ECoW).
Community distribution	Conserve the following community types in a natural condition: Fine sand dominated by *Angulus tenuis* community complex; and Estuarine sandy mud with *Pygospio elegans* and *Tubificoides benedii* community complex.	Scouring/erosion (uncontrolled discharge of surface water). Habitat loss/loss of function	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.

Habitat	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]		
Attribute	**Target**	**Potential impacts**	**Predicted impacts**
Habitat area	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Baldoyle - 11.98ha.	Scouring/erosion (uncontrolled discharge of surface water). Habitat loss/loss of function	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Habitat distribution	No decline, or change in habitat distribution, subject	Scouring/erosion (uncontrolled discharge of surface water).	None. Construction and operational impacts avoided via CEMP,

Habitat	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]		
	to natural processes.	Habitat loss/loss of function	SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Physical structure: sediment supply	Maintain natural circulation of sediments and organic matter, without any physical obstructions	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Physical structure: creeks and pans	Maintain/restore creek and pan structure to develop, subject to natural processes, including erosion and succession	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Physical structure: flooding regime	Maintain natural tidal regime	No impact expected.	None.
Vegetation structure: zonation	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Vegetation structure: vegetation height	Maintain structural variation within sward	No impact expected.	None.
Vegetation structure: vegetation cover	Maintain more than 90% of the area outside of the creeks vegetated	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Vegetation composition: typical	Maintain range of sub- communities with typical species	Scouring/erosion (uncontrolled discharge of surface water).	None. Construction and operational impacts avoided via CEMP,

Habitat	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]		
species and sub-communities	listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	Sedimentation/pollution.	SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Vegetation structure: negative indicator species-*Spartina anglica*	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%	No impact expected.	None.

Habitat	Mediterranean salt meadows (*Juncetalia maritimi*) [1410]		
Attribute	**Target**	**Potential impacts**	**Predicted impacts**
Habitat area	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Baldoyle - 2.64ha.	Scouring/erosion (uncontrolled discharge of surface water). Habitat loss/loss of function	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Habitat distribution	No decline, or change in habitat distribution, subject to natural processes.	Scouring/erosion (uncontrolled discharge of surface water). Habitat loss/loss of function	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Physical structure: sediment supply	Maintain natural circulation of sediments and organic matter, without any physical obstructions	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Physical structure: creeks and pans	Maintain/restore creek and pan structure to develop, subject to natural processes,	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management

Habitat	Mediterranean salt meadows (*Juncetalia maritimi*) [1410]		
	including erosion and succession		and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Physical structure: flooding regime	Maintain natural tidal regime	No impact expected.	None.
Vegetation structure: zonation	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Vegetation structure: vegetation height	Maintain structural variation within sward	No impact expected.	None.
Vegetation structure: vegetation cover	Maintain more than 90% of the area outside of the creeks vegetated	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Vegetation composition: typical species and sub-communities	Maintain range of sub- communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Vegetation structure: negative indicator species-*Spartina anglica*	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%	No impact expected.	None.

Habitat	Salicornia and other annuals colonizing mud and sand [1310]		
Attribute	Target	Potential impacts	Predicted impacts

Habitat	Salicornia and other annuals colonizing mud and sand [1310]		
Habitat area	Area stable or increasing, subject to natural processes, including erosion and succession. For sub-site mapped: Baldoyle - 0.383ha.	Scouring/erosion (uncontrolled discharge of surface water). Habitat loss/loss of function	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Habitat distribution	No decline, or change in habitat distribution, subject to natural processes.	Scouring/erosion (uncontrolled discharge of surface water). Habitat loss/loss of function	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Physical structure: sediment supply	Maintain natural circulation of sediments and organic matter, without any physical obstructions	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Physical structure: creeks and pans	Maintain/restore creek and pan structure to develop, subject to natural processes, including erosion and succession	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Physical structure: flooding regime	Maintain natural tidal regime	No impact expected.	None.
Vegetation structure: zonation	Maintain the range of coastal habitats including transitional zones, subject to natural processes including erosion and succession	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Vegetation structure: vegetation height	Maintain structural variation within sward	No impact expected.	None.

Habitat	Salicornia and other annuals colonizing mud and sand [1310]		
Vegetation structure: vegetation cover	Maintain more than 90% of the area outside of the creeks vegetated	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Vegetation composition: typical species and sub-communities	Maintain the presence of species-poor communities with typical species listed in the Saltmarsh Monitoring Project (McCorry and Ryle, 2009)	Scouring/erosion (uncontrolled discharge of surface water). Sedimentation/pollution.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SAC. Monitoring by ECoW.
Vegetation structure: negative indicator species-*Spartina anglica*	No significant expansion of common cordgrass (*Spartina anglica*), with an annual spread of less than 1%	No impact expected.	None.

Baldoyle Bay SPA

Water bird species			
Attribute	**Target**	**Potential impacts**	**Predicted impacts**
Population trend	Long term population trend stable or increasing	Population change (reduction) arising due to disturbance, reduction in feeding habitat or reduction in habitat quality.	None. Significant measures have already been put in place under Phases 1A-1C, in compliance with the LAP requirements (e.g. GI 12). No loss of suitable habitat will take place. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SPA. Monitoring by ECoW
Distribution	No significant decrease in the range, timing and	Population distribution arising due to disturbance, reduction in feeding habitat	None.

Water bird species			
	intensity of use of areas by light-bellied Brent goose, other than that occurring from natural patterns of variation	or reduction in habitat quality.	Significant measures have already been put in place under Phases 1A-1C, in compliance with the LAP requirements (e.g. GI 12). No loss of suitable habitat will take place. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SPA. Monitoring by ECoW.

Wetland habitat			
Attribute	**Target**	**Potential impacts**	**Predicted impacts**
Habitat area	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	Reduction in wetland habitat quality due to sedimentation, pollution or changes in water flows.	None. Construction and operational impacts avoided via CEMP, SuDS/surface water management and no works will be undertaken within or in the vicinity of the SPA. Monitoring by ECoW.

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