



ECOLOGICAL IMPACT ASSESSMENT

**PROPOSED PARK DEVELOPMENT PROJECT AT
RACECOURSE PARK,
BALDOYLE, DUBLIN 13**

Prepared for Fingal County Council

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This report has been prepared by Scott Cawley Ltd. in accordance with the particular instructions and requirements of our agreement with the Client, the project's budgetary and time constraints and in line with best industry standards. The methodology adopted and the sources of information used by Scott Cawley Ltd. in providing its services are outlined in this report. The scope of this report and the services are defined by these circumstances.

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The conclusions presented in this report represent Scott Cawley Ltd.'s best professional judgement based on review of site conditions observed during the site visit (if applicable) and the relevant information available at the time of writing. Scott Cawley Ltd. has used reasonable skill, care and diligence in compiling this report and no warranty is provided as to the report's accuracy.

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1. SUMMARY

Scott Cawley Ltd. was commissioned by Bernard Seymour Landscape Architects (BSLA), on behalf of Fingal County Council, to undertake an Ecological Impact Assessment (EclA) for a proposed park development project at Baldoyle Racecourse Park, Baldoyle, Dublin 13 (herein referred to as “the subject lands”).

This Ecological Impact Assessment (EclA) should be read in conjunction with other documents contained within the planning application, in particular the Natura Impact Statement (NIS) which Scott Cawley Ltd. have also prepared. The purpose of the EclA is to establish the ecological baseline within the subject lands, evaluate the ecological features present and assess the potential impacts resulting from the proposed park development. Following on from this, it is the purpose of the EclA to recommend measures to address impacts and comply with relevant ecological legislation and policies.

The proposed development is for the construction of a public park at Baldoyle Racecourse Park in north Dublin. The proposed park development project includes, but is not limited to, the provision of cycle and pedestrian routes, including a new bridge over the River Mayne, provision of a skate park and adventure activity area, multi-use games area (MUGA), dog park, expansion of wetland habitats, creation of additional pond habitats with boardwalk/ viewing platform, provision of additional playing pitches and associated landscaping works. The subject lands currently consist a mix of diverse habitats including areas of grassland, scrub, buildings and artificial surfaces, hedgerows, agricultural lands and disturbed ground. A number of watercourses flow through the site.

A desk study was carried out on 15th July 2019, and updated on 31st January and 16th October 2020, to collect ecological information pertaining to the subject lands. Sources included the Ordnance Survey of Ireland, the National Biodiversity Data Centre, and the National Parks and Wildlife Service. A literature review of previous surveys undertaken in the vicinity of the site was also undertaken on the 19th July 2019. This literature review was updated in January 2020 to take into account the findings of specialist surveys undertaken in 2019. Field surveys undertaken by Scott Cawley comprised habitat surveys and overwintering bird surveys, specifically targeting Light-bellied Brent geese *Branta bernicla hrota*. Habitat surveys were undertaken on 18th January, 8th March and 9th April 2019 by Caroline Kelly BSc. MSc. of Scott Cawley Ltd. Overwintering bird surveys were carried out on the 26th February and 6th, 8th, 12th, 15th, 21st, 23rd, 30th March 2019. A range of previous ecological surveys (including habitats, breeding birds, bats and overwintering birds) had also been commissioned on site and these have also informed this EclA.

Following the completion of the desk study, literature review and field surveys, designated sites, hedgerows, upper saltmarsh, reed and large sedge swamps, depositing/ lowland rivers, dry meadows and grassy verges, wet grassland, drainage ditches, hare and hedgehog, badger, bats, otter, amphibians, breeding birds, wintering birds and rare/protected flora species were identified as key ecological receptors. In the absence of any mitigation/protection measures it was concluded the proposed development will result in significant effects on many of these KERs with the magnitude of such effects ranging from local to international. Measures have been proposed to reduce impacts on all KERs to levels not considered to be significant, and to ensure compliance with Wildlife Law.

2. INTRODUCTION

2.1. QUALITY ASSURANCE

This report has been prepared by Caroline Kelly, reviewed by Niamh Burke and approved by Aebhín Cawley, of Scott Cawley Ltd.

Caroline Kelly is a Senior Ecologist at Scott Cawley Ltd. with over 5 years' professional ecological consultancy experience in preparing ecological reports and assessments for inclusion in planning applications. She holds an honours degree in Environmental Biology, from University College Dublin (UCD), and a Masters in Ecological Assessment from University College Cork (UCC). Caroline has experience in habitat survey and assessment (including Annex I habitats and legally protected sites) in a range of terrestrial, freshwater and coastal environments. She is also experienced in surveys for protected species (e.g. bats, badger and otter), bird surveys (both breeding and overwintering) and surveys for invasive species. Whilst working at Scott Cawley Ltd. Caroline has managed ecological assessments for a wide range of projects including tourism, recreational, industrial, commercial, residential, transport and renewable energy developments.

Niamh Burke is the Principal Ecologist with Coiscéim Ecology. She holds a BSc in Natural Sciences with Environmental Science and a PhD in aquatic ecology and hydromorphology. She is a Chartered Environmentalist (CEnv) with the Society for the Environment (Soc Env), a Full Member of the CIEEM and and member of the Irish Environmental Law Association (IELA). Niamh is a senior scientist with academic research and extensive consulting experience in terrestrial ecology, aquatic ecology and fluvial geomorphology. She is an experienced project manager with a full working knowledge of EIA, the planning process and relevant environmental legislation, both national and European. With a specialism in aquatic habitats, she also has experience of terrestrial species' surveys and mitigation approaches. In her extensive consultancy roles she has acted as reviewer for all ecological reporting and ensured consistency of standards and approach.

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

2.2. AIMS

The aims of this Ecological Impact Assessment are to:

- Establish baseline ecological data for the proposed development and adjacent lands;
- Determine the ecological value of the identified ecological features;
- Assess the impact of the proposed development on ecological features of value (flora and fauna);
- Apply mitigation measures to avoid, reduce, remedy, offset or compensate impacts; and,
- Identify any residual impacts after mitigation.

Figure 1: Extent of Proposed Public Park at Baldoyle Racecourse Park, Co. Dublin and watercourses which flow through the site



3. PLANNING, POLICY AND LEGISLATION

The assessment of the likely impacts of the proposed development on ecological resources has considered legislation, policy documents, and guidelines outlined in the following section.

3.1. INTERNATIONAL AND NATIONAL LEGISLATION

The following international legislation is relevant to the proposed development:

- *Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora* (as amended); hereafter the 'Habitats Directive'.
- *Directive 2009/147/EEC*; hereafter the 'Birds Directive'.

The following national legislation is relevant to the proposed development:

- *Wildlife Act, 1976* and *Wildlife (Amendment) Act (2000)* (as amended); hereafter collectively referred to as the Wildlife Acts. The Wildlife Acts are the principal pieces of legislation at national level for the protection of wildlife and for the control of activities that may harm wildlife. All bird species, 22 other animal species or groups of species, and 86 species of flora are protected under these pieces of legislation.
- *The Planning and Development (Amendment) Act 2010* (as amended). This piece of legislation is the basis for Irish planning. Under the legislation, development plans (usually implemented at local authority level) must include mandatory objectives for the conservation of natural heritage and for the conservation of European Sites.
- *European Communities (EC) (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011)* (as amended); hereafter the 'Birds and Habitats Regulations'. This legislation transposes the Habitats and Birds Directives into Irish law. It also contains regulations (49 and 50) that deal with invasive species (those included within the Third Schedule).
- *Flora (Protection) Order, 2015*. This lists species of plant protected under Section 21 of the Wildlife Act, 1976.

3.2. LOCAL AUTHORITY PLANS

The local authority for this proposed development is Fingal County Council. Plans and developments within Fingal must comply with the policies and objectives of the *Fingal Development Plan 2017-2023* (Fingal County Council, 2017), including the Plan's objectives for biodiversity and green infrastructure, which apply to ecological features within the lands. The southern portion of the lands, those that lie to the south of the Moyne Road, are located within the boundary of the *Baldoyle- Stapolin Local Area Plan (LAP)* (Fingal County Council, 2013a). The northern portion of the lands, those to the north of the Moyne Road, lie within the boundary of the *Portmarnock South Local Area Plan (LAP)* (Fingal County Council, 2013b). Plans and projects within the boundaries of these LAPs must ensure that they comply with the policies and objectives contained within the relevant LAP. It should be noted that Objective 467 of the Baldoyle – Stapolin LAP is to “develop the Racecourse Park” and the park proposals are discussed in both the Baldoyle – Stapolin LAP and the Portmarnock South LAP.

4. METHODOLOGY

4.1. SCOPE

The zone of influence is a distance within which the proposed works could potentially affect key ecological receptors (KERs). The zone of influence is likely to vary by KER and depends on the source of impact, the sensitivity of the receptor, and the presence of a pathway between the two.

In this instance, the key sources of potential impacts are construction works within the lands, and discharge of pollutants during the construction phase of the project. The potential receptors in this instance are designated sites (including European sites) outside of the landownership and terrestrial habitats, watercourses, breeding birds, overwintering birds and bats within the subject lands.

4.2. DESK STUDY

A desk study was undertaken on 15th July 2019, and updated on the 31st January and 16th October 2020¹, to collect any available information on the local ecological environment. The following resources assisted in the production of this report, in addition to those listed in the Reference section of this report:

- Ordnance Survey Ireland mapping and aerial photography available from OSI online GeoHive mapping resource (Ordnance Survey Ireland, 2020);
- Data on protected species and European sites, available for download and interrogation from the National Parks and Wildlife Service maps and data page (NPWS, 2020);
- Data on rare and protected species, available on the National Biodiversity Data Centre's (NBDC) Online Mapviewer <https://maps.biodiversityireland.ie/Map> (NBDC, 2020);
- Spatial information relevant to the planning process including land zoning and planning applications from Department of Housing Planning and Local Government web map portal (DoHPLG, 2020);
- Data on waterbodies, available for download and interrogation from the Environmental Protection Agency web map service (EPA, 2020);
- Information on soils, geology and hydrogeology in the area available for download and interrogation from the Geological Survey Ireland online Spatial Resources service (GSI, 2020);
- Information on the location, nature and design of the proposed development supplied by the applicant's design team;
- Information on the status of EU protected habitats and species in Ireland (National Parks & Wildlife Service, 2019a & 2019b); and;
- Information on the conservation status of birds in Ireland (Colhoun & Cummins, 2013).

¹ Please note that the data regarding rare/ protected species, as reviewed on the NPWS online map viewer could not be updated in October 2020 as this page is no longer available.

In addition, a literature review of the following documents was undertaken on 19th July 2019², in order to glean relevant information regarding the subject lands and their surroundings:

- *Baldoyle Action Plan: Ecology Assessment*. Unpublished report for Ballymore Properties Limited (Atkins McCarthy, 2000).
- *Vegetation Study of Baldoyle Racecourse Park, Co. Dublin*. Report for Fingal County Council (Fitzgerald, A., 2017).
- *Flora and Fauna Report: Baldoyle/Coast Road EIS*. Unpublished report for Ballymore Properties Limited (Goodwillie, R., 2002).
- *A bat assessment of the Racecourse Park and an evaluation of the potential for impacts from a public coastal route*. Report for Fingal County Council (Keeley, B., 2016).
- *Dublin Bat Group 2018 Surveys for Fingal County Council: Baldoyle Racecourse*. (Dublin Bat Group, 2018)
- *Winter bird study of lands around Baldoyle Bay 2016-2017*. Report to Fingal County Council from Natura Environmental Consultants. Wicklow. (Nairn, R., Fox, J. 2017).
- *Winter bird survey of the lands surrounding the Baldoyle Estuary*. Unpublished report to Fingal County Council. Birdwatch Ireland. Fingal Branch. (Pierce, S., Dillon D., 2012).
- *Natura Impact Statement for Proposed Residential Development at St. Paul's College, Sybill Hill, Raheny, Dublin 5* (Scott Cawley Ltd., 2017)
- *The Breeding Birds of Racecourse Park, Baldoyle, Co. Dublin, April-June 2018*. Report for Fingal County Council. (Pierce, S., 2018).
- *The Breeding Birds of Racecourse Park, Baldoyle, Co. Dublin. April- June 2019*. Report for Fingal County Council. (Pierce, S., 2019).
- *Baldoyle Rare Plant Survey 2019* (Denyer Ecology, 2019).
- *Flap valve management programme for the re-establishment of brackish habitats and fish in the Mayne River, Baldoyle, Co. Dublin*. Report for Fingal County Council. (Roughan & O'Donovan, 2018).

4.3. FIELD SURVEY METHODOLOGY

4.3.1. Habitats & Flora Survey

The subject lands and environs were surveyed on 18th January, 8th March and 9th April 2019 by Caroline Kelly of Scott Cawley. All habitats were classified using the *Guide to Habitats in Ireland* (Fossitt, 2000), recording dominant species, indicator species and/or species of conservation interest; with the Fossitt category codes given in parentheses. Plant nomenclature follows the *BSBI's List of Accepted Plant Names* (BSBI, 2007).

² This literature review was updated in January 2020 to incorporate the findings of studies carried out in 2019 e.g. Denyer Ecology's Rare Plant Survey 2019 and Pierce's Breeding Bird Survey 2019.

4.3.2. Fauna Surveys

4.3.2.1 Non-volant Mammals

Fauna surveys were carried out concurrently with the habitat and flora survey on 18th January, 8th March and 9th April 2019. Fauna were surveyed through the detection of field signs such as tracks, markings, feeding signs, and droppings, as well as by direct observation. The habitats on site were assessed for signs of usage by protected/red-listed fauna species (e.g. otter, badger etc), and potential to hold these species.

4.3.2.2 Bats

The assessment criteria outlined in Table 1 below are derived from Collins (2016)³, and are used for the assessment of the site in terms of its suitability for commuting and foraging bats, and where relevant, the suitability of roosting habitats for bats. An inspection of the external areas of structures, including the derelict community centre, and trees within the subject lands involved a search for evidence of bats such as:

- Dead specimens;
- Bat droppings;
- Urine splashes;
- Fur-oil staining;
- Squeaking noises;
- Feeding remains (moth wings);
- Bat-fly (*Nycteribiid*) pupal cases; and/or,
- Odour.

An internal inspection was not undertaken of the existing derelict community centre due to health and safety reasons⁴.

Table 1: Assessment criteria for potential suitability of proposed development sites for bats, derived from similar criteria in Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).

Suitability	Description of Roosting Habitat	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats	Negligible habitat features on site likely to be used by commuting or foraging bats
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ⁵ and/or suitable surrounding habitat to	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub

³ Based on our professional experience and understanding, a category of “moderate suitability” is not included in the assessment criteria as it is felt that this category overlaps significantly with the categories “low suitability” and “high suitability”.

⁴ The existing derelict community centre is unsafe to enter due to the fact the two previous fires have occurred here, and uncertainty exists regarding the structural integrity of the building.

⁵ For example in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

	<p>be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).</p> <p>A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.</p>	
High	<p>A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats in a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.</p>	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub, hedgerows. Linked back gardens, river valleys, streams and woodland edge.</p> <p>Habitat that is connected to the wider landscape that could be used by foraging bats such as trees scrub, grassland or water.</p> <p>Site is close to and connected to a known roost.</p>

Bat surveys had previously been undertaken in the subject lands in recent years and therefore bat surveys were not carried out in 2019. Data was available for bat surveys conducted in 2016 and 2018 and the results of these surveys were used to inform this EclA.

4.3.2.3 Birds

Breeding bird surveys have been carried out in the subject lands since 2013. The most recent available data for breeding bird surveys is from surveys carried out between 11th April and 13th June 2019. The results of these surveys, along with any *ad-hoc* recordings noted during Scott Cawley habitat surveys, have been used to inform this EclA.

Overwintering bird surveys had been carried between November 2016 and April 2017 and the resulting report on the findings of these surveys has informed this EclA. In addition to these surveys eight overwintering bird surveys, specifically targeting Brent geese, were conducted on the Red Arches playing pitches and an area of amenity grassland located within the proposed Baldoyle Racecourse Park site, on the following dates: 26th February and 6th, 8th, 12th, 15th, 21st, 23rd, 30th March 2019. Importantly, these surveys included two weekend dates (23rd and 30th March). Weekend surveys ensured that the survey schedule took cognisance of the different level of activity and associated disturbance, which the geese would be exposed to, and react to, on an average weekend day.

Two surveyors carried out these surveys with one surveyor being stationed at the Red Arches playing pitches and the second surveyor positioned on the area of amenity grassland contained within the subject lands (see Figure 2 for clarity). The weather and wind speed was recorded for each survey.

Surveys began with a check of a known roosting site in Baldoyle Bay, close to the subject lands (see Figure 2). Roost checks were carried out close to dawn. Following on from this, the two surveyors covered the playing pitches at Red Arches and the area of amenity grassland to the north of this, respectively, until sunset. Any movements of geese or other wetland bird species were noted and any geese which landed on either of the two survey sites were recorded. The duration that groups of geese spent at each survey site was noted, as was their behaviour. Where no geese were present on site, predefined transects were walked to detect signs of previous goose activity, such as droppings. Each transect comprised 10 recording stops. At each stop an area of 1m² was examined for the following features:

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

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

Disturbance events were recorded also. A description of the disturbance and the time at which it took place was noted. The intensity of the disturbance and the associated reaction was evaluated, as per the criteria noted in Appendix 10 (Disturbance Assessment) of the Baldoyle Bay SPA Conservation Objectives Supporting Document (NPWS, 2012) (see Table 2 for criteria used). Following completion of the survey, the frequency of disturbance events was assessed and scored (e.g. the frequency of disturbance events was assessed based on the number of times that disturbance (e.g. loose dog) was noted across the survey period). Each disturbance event was subsequently scored based on the cumulative score of the three aspects noted; frequency/ duration, intensity and response.

Table 2: Disturbance Assessment Criteria used during the overwintering bird surveys (Feb-March 2019).

Disturbance Assessment Criteria:						
Frequency/ Duration	(A) Timing Score	Intensity ⁶	(B) Scope Score	Response	Severity Score (C)	Total Individual Score
Continuous	3	Active, High Level e.g. mowing grass, loose dog	3	Birds leave the site and do not return for a period > 5mins	3	Total Score (A)+(B)+(C) Score 0-3 = Low Scores 4-6 = Moderate Scores 7-9 = High
Frequent (observed several times over survey period)	2	Medium Level e.g. people walking with dog on lead in close proximity to geese	2	Birds are flushed from the site but return after a short period (within 5 mins) i.e. after disturbance has ceased	2	
Infrequent (observed once or twice over survey period)	1	Low Level e.g. solitary walker (no dog) walking around perimeter of site, not too	1	Most birds walk away from source of disturbance but remain in the site	1	

⁶ Based on a combination of field survey observations and best expert opinion

		close to birds location				
Rare (known to occur but not observed during survey period)	0	Very Low Level e.g activities which impart little effect on birds	0	Birds lift head and stop feeding	0	

Figure 2: Sites Surveyed (blue hatched) for Brent Geese during 2019 surveys, in relation to the overall site boundary (red line).



4.3.3. Limitations of Field Surveys / Data Deficiencies

Surveys for Light-bellied Brent Geese, conducted by Scott Cawley Ltd. in 2019, were carried out in a limited period (one visit in February and seven visits in March). As a result, the full picture of Light-bellied Brent goose movements within the subject lands could not be captured. Ideally surveys would have been carried out monthly for the full wintering bird season (October- March). Given the results obtained from the surveys in February and March this is not seen to be a significant limitation because it is highly unlikely that bird usage of the site during previous winter months would have been dramatically different, given the size of the study sites. Furthermore, the availability of previous survey data, as outlined in the literature review, has also been considered in this assessment, and therefore the limitations associated with the winter bird surveys conducted in 2019 are not significant.

Previous overwintering bird surveys were conducted in the Baldoyle Bay area during the winter of 2016/17 (Nairn & Fox, 2017). Whilst the overwintering bird surveys carried out by Scott Cawley Ltd. in 2019 focused on Brent geese, the data from the 2016/17 surveys was used to inform this EclA with respect to other wintering bird species in the locality of the subject lands. Given the abundance of available desktop data regarding overwintering bird activity within the Baldoyle Bay area no significant limitation exists regarding the collation of data regarding overwintering bird activity on site.

No bat surveys were carried out on site during the 2019 survey season. Previous bat activity data collected during 2016 and 2018 was used to inform this EclA. The 2016 bat survey was carried out on two dates in September 2016- 4th and 13th September (Keeley, 2016). Transects were limited to roadways surrounding the site and wider environs. In comparison the survey conducted by the Dublin Bat Group on 21st August 2018, covered the internal areas of the subject lands, from the Red Arches road to the Mayne River. This survey comprised a dusk activity survey which commenced 15 minutes after sunset and had a duration of 2.5 hours (Dublin Bat Group, 2018). No data is available for the portion of the site which lies to the north of the Mayne River. The only existing building contained within the proposed development site is the existing derelict marketing suite, which due to health and safety reasons, could not be accessed internally. Given the level of damage to the marketing suite, caused by two previous fires, the building is not deemed to offer significant potential to roosting bats and therefore there is no risk of a significant bat roost being present. The development of a community centre in place of the existing marketing suite will be sought under a separate planning application and therefore the absence of surveys/ inspections for this building is not considered a limitation for the proposed development. Furthermore, the site has little in the way of tree cover or treelines/hedgerows to support commuting and foraging bats. The fact that data is limited to 2016 and 2018 surveys is not seen to be a significant limitation given the lack of linear features to support commuting and foraging bats and considering the nature of the proposed development (the overall park development plan aims to increase the overall biodiversity value of the site).

Whilst no dedicated breeding bird survey was carried out by Scott Cawley Ltd. in 2019, *ad-hoc* recordings of breeding birds were made during the habitat surveys carried out. Additional data in relation to breeding birds was gleaned from a report outlining the results of breeding bird surveys carried out between 11th April and 13th June 2019 (Pierce, 2019). Furthermore, it is worth noting that breeding bird surveys of the proposed development site have been carried out on an annual basis since 2013. The fact that dedicated breeding bird surveys were carried by Pierce in 2019, and that this information is available to inform this report, means that there is no limitation regarding the availability of breeding bird data from the site.

The habitats on site were surveyed outside of the optimal survey season for most higher plants, which is generally taken as April- September inclusive. Whilst one of the survey dates occurred within the optimal survey period (April 9th) it is worth noting that this is very early on in the survey season. Due to the nature of the habitats present within the subject lands, and considering the fact that previous botanical studies had taken place in the eastern part of the site between June and September 2017 (Fitzgerald, 2017), as well as surveys for rare flora carried out between June and September 2019 (Denyer Ecology, 2019), the fact that habitat surveys conducted by Scott Cawley in 2019 were conducted during the sub-optimal survey season is not considered to be a significant limitation.

With regards the desk study, the data for species records held by record centres and statutory bodies (such as NBDC) is often provided on an *ad-hoc* basis by recorders. These records can only provide an indication of what species might be found in an area; they do not constitute full and complete species lists. Absence of certain species from these sources does not confirm absence of species in the area.

Access to some areas of the site was restricted due to the presence of livestock within some fields. In such instances habitats were identified based on what could be visually observed from the fence/hedge boundary.

4.4. ECOLOGICAL EVALUATION AND IMPACT ASSESSMENT

4.4.1. Basis of Site Evaluation

The basis of assessment of ecological value (Appendix 1) and significance of the site for habitats and species follows *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (NRA, 2009) and is consistent with *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).

4.4.2. Impact Assessment

In accordance with *NRA guidelines* (2009), impact assessment is only undertaken of 'Key Ecological Receptors' (KERs). KERs are within the zone of influence⁷ of the development and are "*both of sufficient value to be material in decision making and likely to be affected significantly*". To qualify as KERs, features must be of local importance (higher value) or higher. Features of lower ecological value are not assessed.

Impacts are described as being either significant or not significant. Broadly, significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution) (CIEEM, 2018). In this instance, effects are qualified with reference to a geographic scale as outlined in Appendix 1 of this report.

⁷ In accordance with NRA (2009) guidelines, the zone of influence is an important term to define the receiving environment for the activities associated with the project and the biophysical changes that are likely to occur. The zone of influence is the 'effect area' over which change is likely to occur. This differs for different species and habitats due to varying sensitivities to potential impacts.

5. DESCRIPTION OF EXISTING ENVIRONMENT

5.1. GENERAL SITE OVERVIEW AND SURROUNDINGS

The subject lands are located at Baldoyle Racecourse Park to the west of the Coast Road in Baldoyle, Dublin 13. The lands are centred on Irish Grid Reference O 23828 41064. The majority of the lands are composed of grasslands (both modified and semi-natural), scrub, hedgerows, saltmarsh, watercourses and associated habitats, and disturbed ground. The existing derelict marketing suite and associated car park are located within the subject lands, just to the south of Red Arches road.

The Dublin- Belfast railway line forms the north-west boundary of the site and the Coast Road runs to the east of the eastern boundary (see Figure 1 for full extent of the site). According to the EPA's online map viewer⁸, a number of watercourses flow through the subject lands including the Snugborough River, Mayne River, Maynetown Stream and Snugborough Stream. The Snugborough Stream and Maynetown Stream are both tributaries of the Snugborough River, which in turn discharges into the Mayne River within the subject lands. The Mayne River then flows under the Coast Road and discharges into the transitional waters of the Baldoyle Bay.

5.2. DESIGNATED SITES

Special Areas of Conservation (SAC) are designated under the EC Habitats Directive (92/43/EEC), as amended, which is transposed into Irish law through a variety of legislation including the Birds and Habitats Regulations and the Planning and Development Acts. The legislation enables the protection of certain habitats (listed on Annex I of the Directive) and/or species (listed on Annex II). Special Protection Areas (SPAs) are designated under the Birds Directive (2009/147/EC). This allows for the protection of protected bird species listed on Annex I of the Directive, regularly occurring populations of migratory species (such as ducks, geese or waders), and areas of international importance for migratory birds.

There are 18 European sites within the vicinity of the proposed development, although only those within Baldoyle Estuary and the Irish Sea are connected to the proposed development. The proposed development site is connected to these European sites via the surface water features, namely the River Mayne. Furthermore, the proposed development site overlaps with Baldoyle Bay SAC such that a portion of the SAC is contained within the proposed development site (see Figure 3).

Baldoyle Bay SPA is designated for the following bird species; Light-bellied Brent Goose *Branta bernicla hrota*, Shelduck *Tadorna tadorna*, Ringed Plover *Charadrius hiaticula*, Golden Plover *Pluvialis apricaria*, Grey plover *Pluvialis squatarola* and Bar-tailed Godwit *Limosa lapponica*. Field surveys of the subject lands undertaken between February and April 2019 recorded large numbers of Light-bellied Brent Geese foraging on the playing pitches at Red Arches. Small numbers of Shelduck were also recorded on the River Mayne. The lands are not connected to any European sites outside of Baldoyle Estuary and/or the Irish Sea via groundwater or other features. European sites located within the vicinity of the proposed development site are displayed in Figure 4.

⁸ EPA Online Map Viewer Available at: <https://gis.epa.ie/EPAMaps/> [Accessed 22/02/2021]

Please refer to the Natura Impact Statement (NIS) (Scott Cawley, 2020) which has been prepared to assess the proposed development's capacity to impact European designated sites.

National Heritage Areas (NHAs) are designations under the Wildlife Acts in order to protect habitats, species or geology of national importance. The boundaries of many of the NHAs in Ireland overlap with European sites. Although many NHA designations are not yet fully in force under this legislation (referred to as 'proposed NHAs' or pNHAs), they are offered protection in the meantime under planning legislation which requires that planning authorities give recognition to their ecological value⁹.

There are no NHAs within the vicinity of the proposed development site. A total of 17 pNHAs are located within the vicinity of the proposed development site; Rogerstown Estuary pNHA, Portraine Shore pNHA, Lambay Island pNHA, Malahide Estuary pNHA, Feltrim Hill pNHA, Sluice River Marsh pNHA, Santry Demesne pNHA, Baldoyle Bay pNHA, Ireland's Eye pNHA, Howth Head pNHA, North Dublin Bay pNHA, Royal Canal pNHA, Grand Canal pNHA, Dolphins, Dublin Docks pNHA, South Dublin Bay pNHA, Booterstown Marsh pNHA and Dalkey Coastal Zone and Killiney Hill pNHA. Connections exist between the proposed development site and the following pNHAs; Baldoyle Bay pNHA, Ireland's Eye pNHA and Howth Head pNHA. The boundary of Baldoyle Bay pNHA follows that of Baldoyle Bay SAC, such that a portion of the pNHA is also contained within the proposed development site. Ireland's Eye pNHA and Howth Head pNHA lie within the Irish Sea and are therefore connected to the proposed development site by means of surface water features- the River Mayne which flows through the proposed development site, discharges into the transitional waters of Baldoyle Bay which in turn discharges into the Irish Sea. No other connections between the proposed development site and pNHAs exist. Nationally designated sites located within the vicinity of the proposed development site are displayed in Figure 5.

⁹ Source: NPWS Website. Available online at www.npws.ie/site (Accessed 27/09/2016)

Figure 3: European sites in the immediate locality of the proposed development site and the hydrological connections which exist between them.



Figure 4: European sites in the vicinity of the proposed development site.

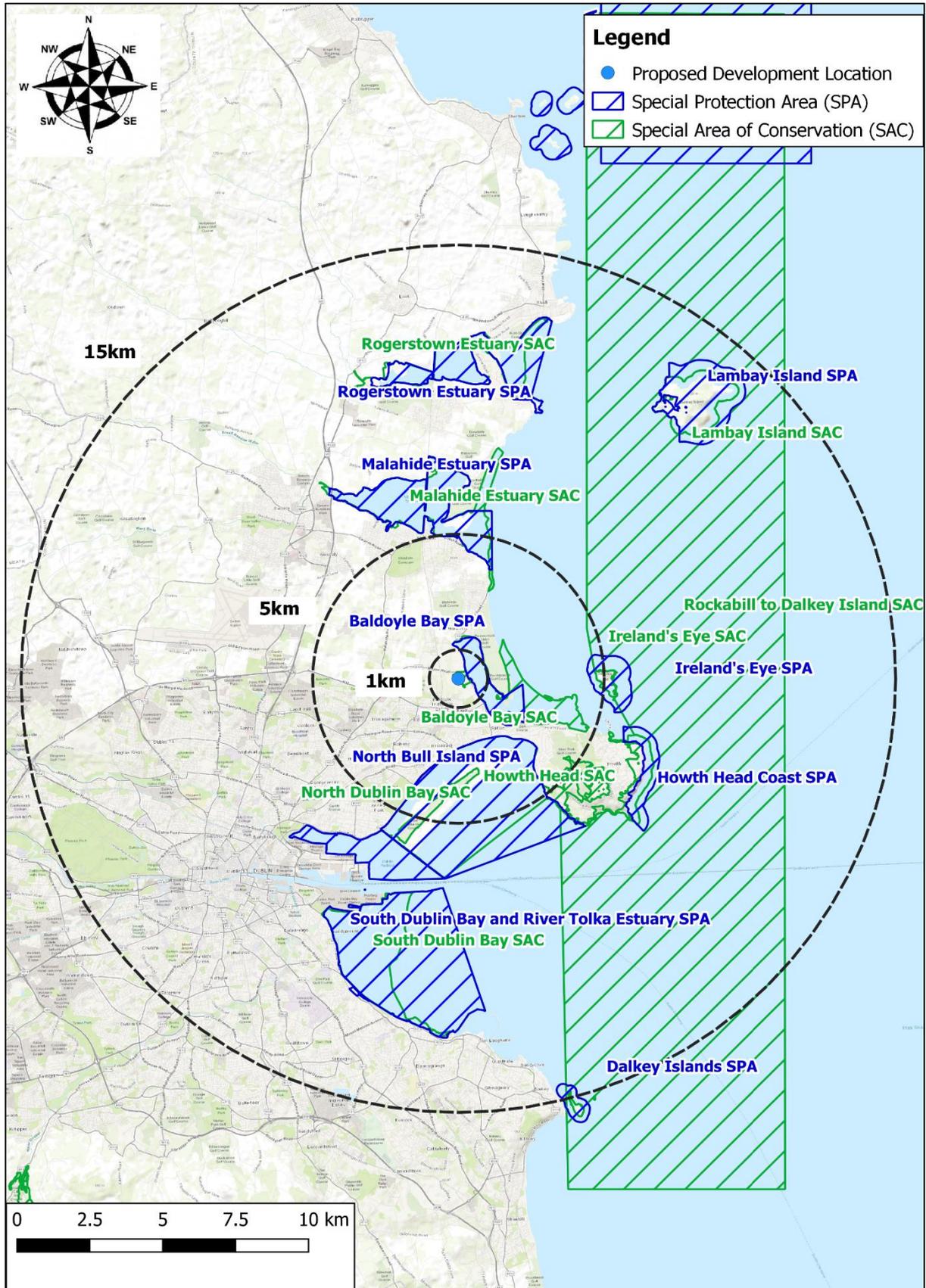
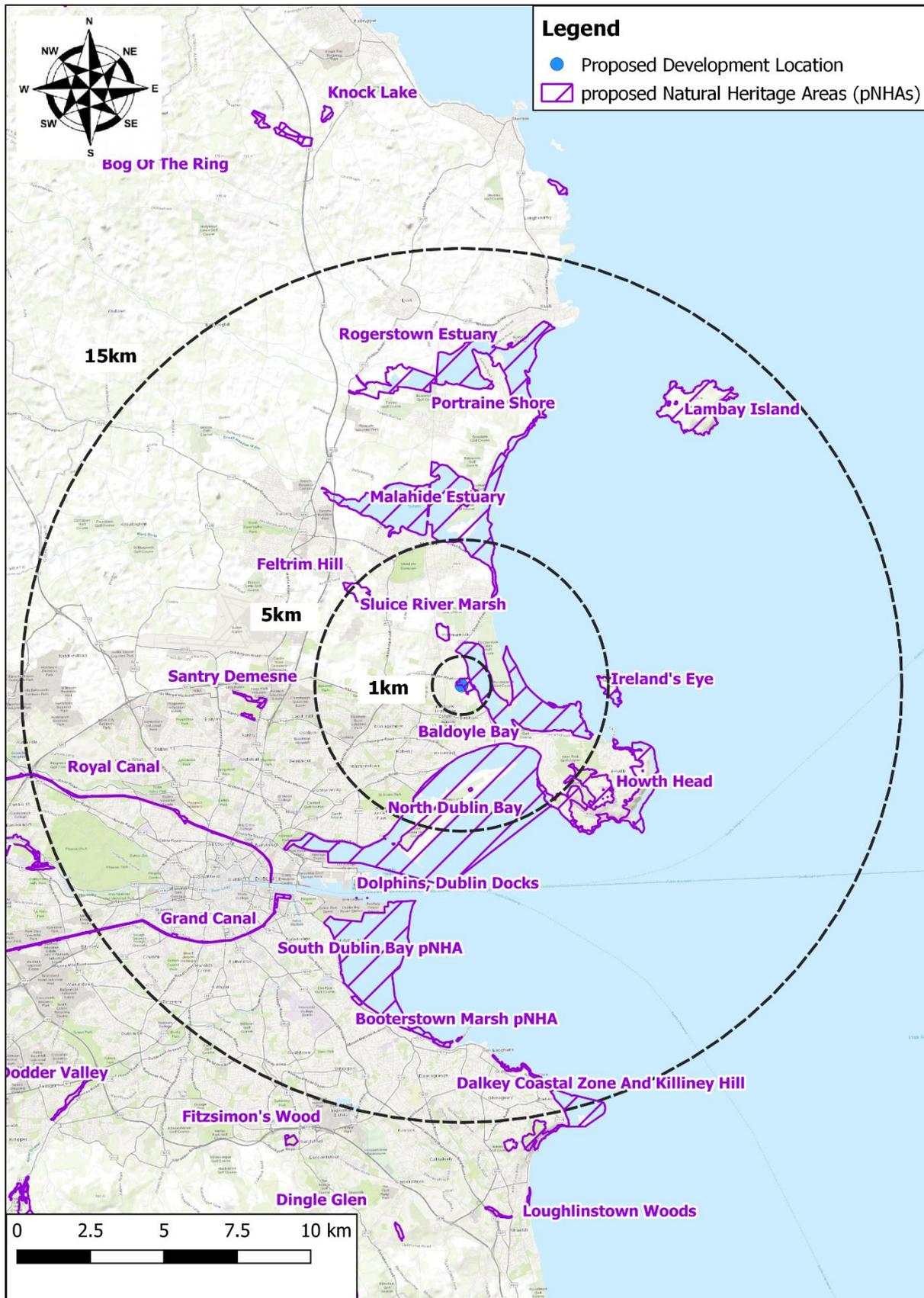


Figure 5: Nationally designated sites within the vicinity of the proposed development site.



5.3. RESULTS OF DESK STUDY

5.3.1. Literature review

In addition to the ecological surveys carried out by Scott Cawley Ltd. and described in Section 4.2 above, numerous ecological surveys have been carried out on the proposed development site and the surrounding lands over the last two decades (e.g. Atkins McCarthy, 2000; Goodwillie, 2002; Keeley, 2016; Fitzgerald, 2017; Nairn and Fox, 2017; Scott Cawley Ltd., 2017; Pierce, 2018; Roughan & O'Donovan, 2018; Pierce, 2019; and; Denyer Ecology, 2019). These surveys have predominantly focused on the flora of the habitats within the subject lands and the bird species using these habitats.

Flora

Atkins McCarthy (2000) concluded from their study that the core areas of ecological interest on the proposed development site include some diverse areas of grassland, riparian grasslands and saltmarsh communities. They determined that the areas of extensive scrub-grassland mosaic were a potentially important foraging resource for raptors, particularly owls and Kestrel *Falco tinnunculus*. Goodwillie (2002) found the central area of the proposed park development to be the most diverse section of the site in terms of habitat type, containing: stream, reed bed, wet grassland and hedgerows.

Four rare plant species, associated with freshwater and brackish water conditions, were noted in both reports. These plant species include: Borrer's Saltmarsh grass *Puccinellia fasciculata*, Meadow Barley *Hordeum secalinum*, Knotted Hedge-parsley *Torilis nodosa*, and Brackish Water-crowfoot *Ranunculus baudotii*. However, a more recent study conducted by Fitzgerald (2017) noted the absence of these species during an intensive survey.

Meadow Barely is legally protected in Ireland as it is listed on the Flora Protection Order (FPO) 2015. It was first recorded within the subject lands in 1989 and was again recorded in 1991 (Doogue *et al.*, 1998). It was originally identified by the banks of the Mayne River, where a drainage ditch meets the river. It has not been re-found at the site since 1991.

Brackish Water-crowfoot is an extremely rare species in Co. Dublin. It was first recorded within the subject lands in 1902 and was re-found in pools and muddy ground near the Mayne River to the east of the site in 1991 (Doogue *et al.*, 1998).

Borrer's Saltmarsh-grass is legally protected in Ireland as it is listed on the Flora (Protection) Order (2015). It was recorded in plentiful amounts along the banks of the River Mayne and associated drains in 1989 and 1991 (Doogue, 1991). Dumping and works to the river have resulted in the loss of these populations and the species has not been found at the site for many years.

Knotted Hedge-parsley is a very rare plant in Co. Dublin, with only 3 known sites for this species reported in Doogue *et al.* (1998). A few plants were found in 1991 growing on a dry bank near the confluence of the Snugborough River and River Mayne (Doogue *et al.*, 1998).

In relation to rare flora species, three species which are considered rarities in the Fingal area were recorded by Fitzgerald during summer surveys in 2017: Four plants of Ragged-robin *Silene flos-cuculi* were identified growing in wet grassland vegetation to the west of the Snugborough River. One plant of Common Water-crowfoot *Ranunculus aquatilis* was found on wet (brackish), muddy ground by the eastern edge of the Snugborough River in the area of grassland/ scrub to the north of Red Arches road. Finally, three Pyramidal Orchids *Anacamptis pyramidalis* were found in two locations on dumped subsoil (from the late 1980's/ early 1990's) to the south of the Mayne River in the east of the site. In

addition, Denyer Ecology recorded an additional three rare species on site in 2019 – Reflexed Saltmarsh-grass *Puccinellia distans*, Clustered Stonewort *Tolypella glomerata* and Lesser Marshwort *Apium inundatum*. Approximately 100 plants of Reflexed Saltmarsh-grass were recorded on site in a number of locations. It was found to be locally frequent in the brackish ditches which occur in the portion of the site contained within the SAC boundary. Clustered Stonewort and Lesser Marshwort were also recorded from a similar environment on site. Clustered Stonewort was previously only known in Dublin from the Royal Canal and Grand Canal. Lesser Marshwort is very rare in Dublin but may be known historically from the site as, according to Doogue et al. (1998), it was previously recorded as being “abundant in marshes to the west of Portmarnock” and at “Baldoyle” (Denyer Ecology, 2019). The locations of these rare flora species as identified in summer 2017 and summer 2019 by Fitzgerald (2017) and Denyer Ecology (2019) respectively are presented in Figure 6.

Figure 6: Approximate Locations of Rare Plant Species, as recorded in summer 2017 (Source: Fitzgerald, 2017)¹⁰.



¹⁰ Please note that Clustered Stonewort and Lesser Marshwort were also recorded in the same location during 2019 surveys by Denyer Ecology. As such it cannot be accurately represented visually.

Fauna

In terms of non-avian terrestrial fauna both Atkins-McCarthy (2000) and Goodwillie (2002) observed rabbit and fox signs on site. They also mentioned the suitability of the grassland as good habitat for small mammals. A survey by Roughan & O'Donovan (2018) also confirmed that Otter *Lutra lutra* are present inside the Racecourse Park and along the Mayne River.

A bat survey conducted by Keeley (2016) recorded three different bat species: Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus* and Leislers's bat *Nyctalus leisleri*. These particular bat species are associated with urban areas and are most tolerant to light pollution (Lewanski and Voigt, 2016). Furthermore, the Dublin Bat Group carried out a bat survey of the lands in August 2018. They recorded two bat species on site- Common Pipistrelle bat and Leisler's bat.

The Mayne River is said to have good riffle/pool bedform arrangement and gravels that would be of suitable grainsize for salmonid spawning. Good salmonid nursery habitat was also noted (Roughan & O'Donovan, 2018). Inland Fisheries Ireland (IFI) conducted a number of electrofishing surveys in 2011 and 2016. During these surveys they recorded European Eel *Anguilla anguilla*, Three-spined Stickleback *Gasterosteus aculeatus* and Flounder *Platichthys flesus* using the river (incomplete IFI report, see Roughan & O'Donovan, 2018).

Scott Cawley Ltd. undertook winter bird surveys for Light-bellied Brent Geese over the 2016-2017 winter bird season, to inform the preparation of a Natura Impact Statement (NIS) for a proposed residential development in Raheny, Dublin 5. These surveys covered the network of inland feeding sites in the Dublin area ranging from sites near Rogerstown Estuary in the north of the County to sites in Cabinteely in the south. Two of the sites surveyed – Baldoyle Red Arches Pitches and Baldoyle Red Arches North – are contained within the proposed park development site, and were surveyed during February and March 2019 to inform this EclA. As part of the analysis conducted in the aforementioned NIS prepared by Scott Cawley Ltd. in 2017, data from previous winter bird seasons for known inland feeding sites was also assessed. Relevant data for Baldoyle Red Arches Pitches and Baldoyle Red Arches North, as taken from the 2017 NIS, is presented in Table 3. Data for Seagrang Park, which lies to the south of the proposed Baldoyle Racecourse Park site is also provided for context.

Table 3: Peak counts of Light-bellied Brent Geese recorded in Red Arches Pitches, Red Arches North and Seagrang Park. (Source: Natura Impact Statement for Proposed Residential Development at St. Paul's College, Sybill Hill, Raheny, Dublin 5 (Scott Cawley Ltd., 2017))

	Peak ever recorded	2012-2013 (Peak)	2013-2014 (Peak)	2014-2015 (Peak)	2015-2016 (Peak)	2016-2017 (Peak)
Baldoyle Red Arches Pitches	2500 (Jan 2010)	1000 (Dec 2012)	450 (Feb 2014)	800 (Jan 2015)	160 (Mar 2016)	1000 (Feb 2017)
Badloyle Red Arches North	455 (Jan 2017)	300 (Jan 2013)	Not Surveyed	62 (Feb 2015)	225 (Dec 2015)	455 (Jan 2017)
Seagrang Park	2000 (Dec 2011)	750 (Feb 2013)	600 (Jan 2014)	2000 (Mar 2015)	1000 (Feb 2016)	1230 (Dec 2016)

In determining each sites respective significance for Light-bellied Brent geese in this 2017 study, Scott Cawley Ltd. assessed the peak counts recorded at each site against the internationally accepted 1% of total flyaway population criterion, following the methodology outlined in a study by Benson (2009). According to the summary data for the I-WeBS site “Baldoyle Bay 0U403”, 400 Light-bellied Brent geese represents 1% of the population, and sites which support numbers such as these are of international importance for this species. The levels of significance, with respect to numbers of Light-bellied Brent geese supported by a site, are as follows:

- 401+ birds = Major importance
- 51-400 birds= High importance
- 1-50 birds = Moderate importance

Based on the data presented in the NIS prepared by Scott Cawley Ltd. 2017, and displayed in Table 3, it is clear that Baldoyle Red Arches Pitches are consistently of major importance for Light-bellied Brent geese as they consistently support numbers greater than 401 birds. Whilst the Baldoyle Red Arches North site was of major importance during the 2016-2017 survey period (455 birds recorded), the significance of this site appears to vary somewhat between years, being regarded as of only high importance during previous seasons: 2012-2013; 2014-2015; and; 2015-2016. Seagrange Park, located to the south of the proposed Baldoyle Racecourse Park site, is similar to Baldoyle Red Arches Pitches site in that it consistently supports more than 401 Light-bellied Brent geese.

Nairn and Fox (2017) conducted a winter bird survey on the proposed development site over the period November 2016 to April 2017. They found that the Maynestown area in the north section of the subject lands contained important winter populations of Skylark *Alauda arvensis*, Tree Sparrow *Passer montanus* and Linnet *Linaria canabina*. They also observed good numbers of Meadow Pipit *Anthus pratensis* and Reed Bunting *Emberiza schoeniclus*. They assessed the Racecourse lands as being relatively unimportant for waterbirds, due to the encroachment of scrub. No geese or other waterbirds were observed during their survey period, despite records of Brent Geese *Branta bernicla* foraging in the area during 2011-2012 (Pierce and Dillon, 2012; Nairn and Fox, 2017).

Between April-June 2018 Pierce (2018) conducted a breeding bird survey of the Racecourse Park grounds. He found the site to be an important breeding site for two red-listed species¹¹, Lapwing *Vanellus vanellus* and Meadow Pipit, and up to seven amber-listed species¹²; Skylark, Robin *Erithacus rubecula*, Stonechat *Saxicola rubicola*, Mistle Thrush *Turdus viscivorus*, Goldcrest *Regulus regulus*, Linnet and Greenfinch *Chloris chloris*. The following year (2019), Pierce conducted additional breeding bird surveys between April and June. A total of 63 species were recorded on site, including Quail *Cotunix cotunix* which had not been recorded on site in previous years. Grasshopper Warbler *Locustella naevia*, a site rarity, was also recorded. Of the 63 species noted in 2019, 35 were confirmed to be breeding on site, including Buzzard *Buteo buteo* which bred for the first time in the west of the site. Notably, the number of breeding Lapwing dropped from 5 pairs in 2018 to 2 pairs in 2019. The 2019 surveys confirmed that the site remained an important breeding site for the Lapwing and

¹¹ “Red listed species are those of highest conservation priority, being globally threatened, declining rapidly in abundance or range, or having undergone historic declines from which they have not recently recovered” (Colhoun & Cummins, 2013).

¹² “Amber-listed species have an unfavourable status in Europe, have moderately declined in abundance or range, a very small population size, a localised distribution, or occur in internationally important numbers” (Colhoun & Cummins, 2013).

Meadow Pipit and the same seven amber-listed species as in 2018 (Skylark, Robin, Stonechat, Mistle Thrush, Goldcrest, Linnet and Greenfinch¹³). The continued successful breeding of Lapwing on site in 2019 indicates that the grazing regime introduced since 2014 has allowed this bird to breed on the site and made the habitats present more attractive for breeding Lapwing. Meadow Pipit has also benefitted, though to a lesser extent (Pierce, 2019).

5.3.2. Records of Rare, Protected and Red-Listed Flora & Fauna Species

Distribution records for rare / protected species within 2km of the proposed development site were obtained from the online National Biodiversity Data Centre (NBDC), on the 15th July 2019 and updated on the 31st January and 16th October 2020¹⁴. Records for rare and protected species, held by NPWS, were obtained from the NPWS online mapviewer for the hectad within which the proposed development site is located (O24) on the 31st January 2020¹⁵. The results are shown below in Table 3.

Table 4: Records of Protected, Rare and Other Notable Flora and Fauna

Records of Protected, Rare and other Notable Flora and Fauna Species ¹⁶ within 10km or 2km of the Site				
Common Name	Scientific Name	Protection ¹⁷	Red-Listing Status ¹⁸	Nearest Location
Flora				
Round Prickly-headed Poppy	<i>Papaver hybridum</i>	FPO	Regionally Extinct	Malahide (O2146) (1985)
Meadow Saxifrage	<i>Saxifraga granulata</i>	FPO	Regionally Extinct	Baldoyle Race Course (O2040) (1902)
Hairy Violet	<i>Viola hirta</i>	FPO	Vulnerable	Baldoyle (O2040) (1895)
Tufted Saltmarsh- Grass	<i>Puccinellia fasciculata</i>	FPO	Near Threatened	Baldoyle (O237415) (1993)
Annual Knawel	<i>Scleranthus annuus</i>	FPO	Vulnerable	Baldoyle (O24) (1846)
Lesser Centaury	<i>Centaureum pulchellum</i>	FPO	Near Threatened	Portmarnock Point (O2441) (1991)
Oyster Plant	<i>Mertensia maritima</i>	FPO	Vulnerable	O24 (1831)
Meadow Barley	<i>Hordeum secalinum</i>	FPO	Vulnerable	Portmarnock (O2341) (1991)
Basil Thyme	<i>Acinos arvensis</i>	FPO	Near Threatened	Portmarnock (O2040) (1903)

¹³ These seven amber-listed species represent species typical of lowland farmland and wet meadows. These species are of conservation concern because they have undergone substantial declines in their breeding number and a contraction of their breeding ranges at a national scale.

¹⁴ National Biodiversity Data Centre www.biodiversityireland.ie [Accessed 15th July 2019, 31st January 2020 and 16th October 2020]

¹⁵ NPWS online mapviewer <http://webgis.npws.ie/npwsviewer/> [Accessed 15th July 2019 and 31st January 2020. Webpage unavailable on 16th October 2020]

¹⁶ Data from a combination of the following sources; NPWS Research Branch Records, www.npws.ie, Bat Conservation Ireland (BCI) and NBDC online maps <http://maps.biodiversityireland.ie> **Data is quoted as obtained from these sources.**

¹⁷ HDII/IV/V = Habitats Directive Annexes II/IV/V; FPO = Flora Protection Order; WA = Wildlife Acts; BD I = Birds Directive Annex I.

¹⁸ Mammal Red-list from Marnell *et al.*, 2009. Birds from *Birds of Conservation Concern in Ireland 2014–2019* (Colhoun & Cummins, 2013); Vascular Flora from the Irish Red List No. 10: Vascular Plants (Wyse Jackson *et al.*, 2016)); Fish, Amphibians and Reptiles (King *et al.*, 2011); Bryophytes Red List (Lockhart *et al.* 2012); Cetaceans conservation status (Nelson *et al.*, 2019).

Records of Protected, Rare and other Notable Flora and Fauna Species ¹⁶ within 10km or 2km of the Site				
Common Name	Scientific Name	Protection ¹⁷	Red-Listing Status ¹⁸	Nearest Location
Red Hemp Nettle	<i>Galeopsis angustifolia</i>	FPO	Vulnerable	Donabate (O2040) (1902)
Fauna				
Common Frog	<i>Rana temporaria</i>	HDV, WA	Least Concern	Within 2km of the proposed development site (2018)
Smooth Newt	<i>Lissotriton vulgaris</i>	WA	Least Concern	Within 2km of the proposed development site (2012)
Otter	<i>Lutra lutra</i>	HD II, IV, WA	Least Concern	Within 2km of the proposed development site (2017)
Soprano Pipistrelle bat	<i>Pipistrellus pygmaeus</i>	HD IV, WA	Least Concern	Within 2km of the proposed development site (2012)
Leisler's Bat	<i>Nyctalus leisleri</i>	HD IV, WA	Least Concern	Within 2km of the proposed development site (2007)
Common Pipistrelle bat	<i>Pipistrellus pipistrellus</i>	HD IV, WA	Least Concern	Within 2km of the proposed development site (2007)
Irish Hare	<i>Lepus timidus subsp. Hibernicus</i>	HD V, WA	Least Concern	Within 2km of the proposed development site (2018)
Irish Stoat	<i>Mustela erminea subsp. hibernicus</i>	WA	Least Concern	Within 2km of the proposed development site (2015)
Western Hedgehog	<i>Erinaceus europaeus</i>	WA	Least Concern	Within 2km of the proposed development site (2016)
Pygmy Shrew	<i>Sorex minutus</i>	WA	Least Concern	Within 2km of the proposed development site (2013)
Bottle-nosed Dolphin	<i>Tursiops truncatus</i>	HD II, IV, WA	Not Evaluated	Within 2km of the proposed development site (2011)
Common Dolphin	<i>Delphinus delphis</i>	HD IV, WA	Not Evaluated	Within 2km of the proposed development site (2008)
Black-headed Gull	<i>Larus ridibundus</i>	WA	Red listed under BoCCI	Within 2km of the proposed development site (2011)
Black-tailed Godwit	<i>Limosa limosa</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Barn Owl	<i>Tyto alba</i>	WA	Red listed under BoCCI	Within 2km of the proposed development site (2011)
Barn Swallow	<i>Hirundo rustica</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Brent Goose	<i>Branta bernicla</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Common Kestrel	<i>Falco tinnunculus</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Common Linnet	<i>Carduelis cannabina</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)

Records of Protected, Rare and other Notable Flora and Fauna Species ¹⁶ within 10km or 2km of the Site				
Common Name	Scientific Name	Protection ¹⁷	Red-Listing Status ¹⁸	Nearest Location
Common Pheasant	<i>Phasianus colchicus</i>	BD II, III, WA	Green listed under BoCCI	Within 2km of the proposed development site (2011)
Common Redshank	<i>Tringa totanus</i>	WA	Red listed under BoCCI	Within 2km of the proposed development site (2011)
Common Wood Pigeon	<i>Columba palumbus</i>	BD II, III, WA	Green listed under BoCCI	Within 2km of the proposed development site (2011)
Common Scoter	<i>Melanitta nigra</i>	BD II, III, WA	Red listed under BoCCI	Within 2km of the proposed development site (2017)
Common Shelduck	<i>Tadorna tadorna</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Common Snipe	<i>Gallinago gallinago</i>	BD II, III, WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Common Swift	<i>Apus apus</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (1991)
Common Starling	<i>Sturnus vulgaris</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Eurasian Curlew	<i>Numenius arquata</i>	BD II, WA	Red listed under BoCCI	Within 2km of the proposed development site (2011)
Eurasian Oystercatcher	<i>Haematopus ostralegus</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Eurasian Teal	<i>Anas crecca</i>	BD II, III, WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Eurasian Tree Sparrow	<i>Passer montanus</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (1991)
Eurasian Woodcock	<i>Scolopax rusticola</i>	BD II, III, WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Eurasian Wigeon	<i>Anas penelope</i>	BD II, III, WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Gadwall	<i>Anas strepera</i>	BD II, WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Great Cormorant	<i>Phalacrocorax carbo</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2016)
Great Northern Diver	<i>Gavia immer</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Herring Gull	<i>Larus argentatus</i>	WA	Red listed under BoCCI	Within 2km of the proposed development site (2011)
House Martin	<i>Delichon urbicum</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2016)
House Sparrow	<i>Passer domesticus</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Kentish Plover	<i>Charadrius alexandrinus</i>	BD I, WA	N/A	Within 2km of the proposed development site (1848)

Records of Protected, Rare and other Notable Flora and Fauna Species ¹⁶ within 10km or 2km of the Site				
Common Name	Scientific Name	Protection ¹⁷	Red-Listing Status ¹⁸	Nearest Location
Little Egret	<i>Egretta garzetta</i>	BD I, WA	Green listed under BoCCI	Within 2km of the proposed development site (2017)
Little Grebe	<i>Tachybaptus ruficollis</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2017)
Mallard	<i>Anas platyrhynchos</i>	BD II, III, WA	Green listed under BoCCI	Within 2km of the proposed development site (2012)
Meadow Pipit	<i>Anthus pratensis</i>	WA	Red listed under BoCCI	Within 2km of the proposed development site (1991)
Mew Gull	<i>Larus canus</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Mediterranean Gull	<i>Larus melanocephalus</i>	BD I, WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Mute Swan	<i>Cygnus olor</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2017)
Northern Lapwing	<i>Vanellus vanellus</i>	BD II, WA	Red listed under BoCCI	Within 2km of the proposed development site (2011)
Rock Pigeon	<i>Columba livia</i>	BD II, WA	Green listed under BoCCI	Within 2km of the proposed development site (2011)
Short-eared Owl	<i>Asio flammeus</i>	BD I, WA	Amber listed under BoCCI	Within 2km of the proposed development site (2003)
Skylark	<i>Alauda arvensis</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (2011)
Spotted Flycatcher	<i>Muscicapa striata</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (1991)
Stock Pigeon	<i>Columba oenas</i>	WA	Amber listed under BoCCI	Within 2km of the proposed development site (1991)
Yellowhammer	<i>Emberiza citrinella</i>	WA	Red listed under BoCCI	Within 2km of the proposed development site (2011)
Invasive Species				
Giant Hogweed	<i>Heracleum mantegazzianum</i>	N/A	Third Schedule, restrictions under Regulation 49 and 50. High Impact Invasive Species	Within 2km of the proposed development site (2017)
Japanese Knotweed	<i>Reynoutria japonica</i>	N/A	Third Schedule, restrictions under Regulation 49 and 50. High Impact Invasive Species	Within 2km of the proposed development site (2017)

Records of Protected, Rare and other Notable Flora and Fauna Species ¹⁶ within 10km or 2km of the Site				
Common Name	Scientific Name	Protection ¹⁷	Red-Listing Status ¹⁸	Nearest Location
Sycamore	<i>Acer pseudoplatanus</i>	N/A	Medium Impact Invasive Species	Within 2km of the proposed development site (2017)
European Rabbit	<i>Oryctolagus cuniculus</i>	N/A	Medium Impact Invasive Species	Within 2km of the proposed development site (2018)
Butterfly Bush	<i>Buddleja davidii</i>	N/A	Medium Impact Invasive Species	Within 2km of the proposed development site (2017)
Harlequin Ladybird	<i>Harmonia axyridis</i>	N/A	Third Schedule, restrictions under Regulation 49 and 50. High Impact Invasive Species	Within 2km of the proposed development site (2017)
Common Garden Snail	<i>Cornus aspersum</i>	N/A	Medium Impact Invasive Species	Within 2km of the proposed development site (2002)

5.3.3. Likelihood of Occurrence of Protected Species Within the Proposed Development Site

Flora

Several of the records for FPO species listed in Table 3 are historic in nature. Many of these species have not been recorded within the vicinity of the site for several decades and it is therefore considered unlikely that any of these species still occur on site. It is considered unlikely that Meadow Barley, Brackish Water-crowfoot, Borrer's Saltmarsh-grass or Knotted Hedge-parsley would be recorded in the subject lands, as most of these species have not been recorded on site since 1991. Rare species such as Ragged-robin, Common Water-crowfoot and Pyramidal Orchid are likely to be present on site, given the fact that they have been recorded in recent years (Fitzgerald, 2017). Rare species recorded by Denyer Ecology in summer 2019 are likely to be present in suitable habitat on site (e.g. brackish ditches and wetland habitats (Denyer Ecology, 2019)).

Fauna

It is considered highly likely that otter would occur within the proposed development site. This is due to the presence of watercourses flowing through the site, which would be regarded as suitable habitat for this species. Furthermore, Otter were recorded along the River Mayne in 2018. It is possible that Badger *Meles meles*, Pygmy Shrew *Sorex minutus*, Irish Hare *Lepus timidus* subsp. *hibernicus*, Irish Stoat *Mustela erminea* subsp. *hibernica* and Hedgehog *Erinaceus europaeus*, all of which are legally protected in Ireland under the Wildlife Acts, would frequent the site due to the presence of areas of grassland and hedgerows which may be potentially suitable for foraging or commuting purposes. It is highly likely that foxes, which are not legally protected in Ireland, use the proposed development site. Bats are likely to use the site for foraging and/or commuting purposes given the absence of artificial lighting and the complex of habitats, including watercourses and wetland habitats, which are likely to be abundant with insects on which bats prey.

Given the findings of the literature review, the site is likely to be of significant importance for a range of breeding bird species, including some species of conservation concern. Furthermore, considering the findings of the literature review and its proximity to Baldoyle Bay, an important resource for waterbirds and waders, it is deemed likely that such birds, including protected bird species, use the site.

5.4. FIELD SURVEY RESULTS

5.4.1. Habitats and Flora

Protected and Rare Flora Species

No records of plant species protected through their inclusion within the *Flora (Protection) Order, 2015* were recorded during the field surveys. Furthermore, previous botanical studies, conducted in the last three years (Fitzgerald, 2017, Denyer Ecology, 2019), did not record any legally protected plant species within the subject lands.

Invasive Species

Three invasive species, all of which are listed on the Third Schedule of the *Birds and Natural Habitats Regulations (2011)*, were recorded within the survey area: Giant Hogweed *Heracleum mantegazzianum*, Japanese Knotweed *Reynoutria japonica* and Three-cornered Leek *Allium triquetrum*. A single Giant Hogweed plant was recorded along the southern boundary of an area of amenity grassland to the north of Red Arches road. Stands of Japanese Knotweed were noted within the Moyne Park halting site and along the Moyne Road. Three-cornered Leek was recorded at the entrance to a field just south of the Moyne Road and this species was also present at the entrance to the allotments in Baldoyle Racecourse Park. The locations of all invasive species identified within the subject lands are displayed on Figure 7. Fitzgerald also recorded one Giant Hogweed plant in the area of grassland/ scrub to the west of the Snugborough Stream during 2017 surveys (Fitzgerald, 2017). This area was not accessible during 2019 surveys due to the presence of livestock. Therefore, it cannot be confirmed whether this plant remains here.



Plate 1: Japanese Knotweed recorded along the Moyne Road (April 2019).



Plate 2: Three-cornered leek recorded in fields to the south of the Moyne Road (April 2019)



Plate 3: Giant Hogweed recorded in amenity grassland to the north of Red Arches road (March 2019).

Figure 7: Locations and Distribution of Third Schedule invasive species, as recorded in 2019.



Habitats

The following habitat types, and mosaics of same, of the Heritage Council classification system (Fossitt, 2000) were identified within the subject lands and surroundings and are mapped in Figure 8:

- Buildings & Artificial Surfaces (BL3)
- Stonewalls & Other Stonework (BL1)
- Spoil & Bare Ground (ED2)
- Recolonising Bare Ground (ED3)
- Refuse & Other Waste (ED5)
- Horticultural Land (BC2)
- Depositing/ Lowland Rivers (FW2)
- Drainage Ditches (FW4)
- Other Artificial Lakes & Ponds (FL8)
- Reed & Large Sedge Swamps (FS1)
- Improved Agricultural Grassland (GA1)
- Amenity grassland (GA2)
- Dry Meadows & Grassy Verges (GS2)
- Wet Grassland (GS4)
- Hedgerows (WL1)
- Treelines (WL2)
- Scrub (WS1)
- Ornamental/ Non-native Shrubs (WS3)
- Scattered Trees & Parkland (WD5)
- Upper Saltmarsh (CM2)

Buildings & Artificial Surfaces (BL3)

Tarmacadam pathways and roadways were classified under this habitat type, as was the existing derelict Baldoyle Community Centre and associated play areas which are composed of artificial surfaces. These areas are largely devoid of vegetation. Along the verges of roads this habitat occurs in a mosaic with amenity grassland (GA2). Given the absence of vegetation in this habitat, it is regarded to be of negligible ecological value.

Stonewalls & Other Stonework (BL1)

A stonewall runs along a grassy laneway which separates the two fields in the central eastern part of the site. Vegetation present on the wall included ferns such as Western Polypody *Polypodium interjectum* and Wall Rue *Asplenium ruta muraria*. Ivy *Hedera helix* was also present and grasses such as Red Fescue *Festuca rubra* and Sheep's Fescue *Festuca ovina* occurred occasionally. The wall was largely unvegetated and therefore is regarded to be of local ecological importance (lower value).



Plate4: Stonewall present on site (April 2019).

Spoil & Bare Ground (ED2)

An area of disturbed ground to the north of the amenity grassland area was classified under this habitat type. This area was composed of a gravel substrate and appears to have been associated with previous construction projects in the area. Vegetation cover was less than 50% and was largely composed of opportunistic plant species such as Groundsel *Senecio vulgaris*, Greater Plantain *Plantago major*, White Clover *Trifolium repens*, Spurge species *Euphorbia* sp., Thistle species *Cirsium* sp., Butterfly Bush *Buddleja davidii* and Prickly Lettuce *Lactuca serriola*. Pathways which were not composed of hard standing were also included under this habitat type. Given the disturbed nature of this habitat type, and the limited flora present, this habitat is deemed to be of local ecological importance (lower value).



Plate 5: Spoil and bare ground habitat, with amenity grassland in the background (March 2019).

Recolonising Bare Ground (ED3)

A single area of recolonising bare ground was identified to the north of the area of spoil and bare ground in the west of the site. This area is similar in terms of species composition to the area of spoil and bare ground (ED2) to the south, but vegetation cover is greater than 50%. Additional species recorded here include Yorkshire Fog *Holcus lanatus*, Tormentil *Potentilla erecta* and Bush Vetch *Vicia sepium*. This habitat grades into dry meadows and grassy verges (GS2) further north. Given the disturbed nature of this habitat type, and the limited diversity of vegetation present, this habitat is deemed to be of local ecological importance (lower value).

Refuse & Other Waste (ED5)

A mound of rubble and waste was identified to the south of the River Mayne, shortly before its discharge into Baldoyle Bay. This waste appeared to comprise rubble from construction sites and domestic waste. The mound was rather steep, and vegetation was limited. This habitat type is of negligible ecological importance, given its nature.

Horticultural Land (BC2)

The Baldoyle Racecourse Community Garden allotments were classified as horticultural land as per the guidance in Fossitt (2000). Locals use this area for growing fruits and vegetables in raised beds and greenhouses. A young hawthorn hedgerow (WL1) surrounds the allotments. This habitat is of local ecological importance (lower value) due to its cultivated nature.

Depositing/ Lowland Rivers (FW2)

Three of the watercourses which flow through the subject lands (River Mayne, Snugborough Stream and Maynetown Stream) were classified as depositing/ lowland rivers. Due to their proximity with Baldoyle Bay the gradient of the watercourses was low and flow was slow. In terms of vegetation the

banks of the Maynetown River were dominated by Common Reed *Phragmites australis*. The banks of the River Mayne are composed of dense hedgerows and areas of muddy banks which have been colonised by Winter Heliotrope *Petasites fragrans*. Rivers on site, such as the River Mayne, are deemed to be of County importance given their significance in Fingal County and the connectivity they provide to the wider environment.



Plate 6: Confluence of the River Mayne and Snugborough River on site (March 2019).

Drainage Ditches (FW4)

Drainage ditches were present in a few locations within the subject lands. These features were largely associated with hedgerows or scrub and often flowed into the Snugborough River. The Snugborough Stream which flows through the subject lands was classified as a drainage ditch due to its much-reduced size and association with a dense hedgerow on site. Drainage ditches on site are of local ecological importance (higher value) because of the connectivity they provide to the wider surface water network and the aquatic flora and fauna they support.

Other Artificial Lakes & Ponds (FL8)

An attenuation pond which is present in the north east of the site was classified under this habitat type. This attenuation pond appears to have been constructed relatively recently and no vegetation was present within the waterbody. Given the lack of vegetation present, this habitat is of local ecological importance (lower value).



Plate 7: Attenuation pond in the north of the site (April 2019).

Reed & Large Sedge Swamps (FS1)

Areas of reed beds, associated with freshwater watercourses which flow through the subject lands, were classified under this habitat type. These areas were dominated by Common Reed and were quite dense. A wetland area to the north of the Moyne Road was also classified under this habitat type. Common Reed was again present here in association with Bulrush *Typha latifolia* and Willowherb species *Epilobium* sp. Soft Rush *Juncus effusus* was also present here along with a few Willow trees *Salix* sp. There was no standing water here although the ground was rather wet underfoot. This wetland habitat is of local ecological importance (higher value) due to the scarcity of wetland habitats in Fingal County.



Plate 8: Reed beds along the Snugborough River (March 2019)

Improved Agricultural Grassland (GA1)

Several areas of agricultural grassland are present within the site boundary, particularly in the north of the site. These areas are dominated by Perennial Ryegrass *Lolium perenne* and are often grazed by livestock such as sheep and horses. Other species recorded in this habitat type include Dandelion *Taraxacum vulgare*, Cock's-foot *Dactylis glomerata*, Ribwort Plantain *Plantago lanceolata* and Red Clover *Trifolium pratense*. The field which lies to the north of the River Mayne in the east of the site was classified under this habitat type. Horses graze here and poaching is evident along the banks of the river. Small areas of bramble scrub (WS1) also exist here. Given the low species diversity in areas of this habitat type, it is deemed to be of local ecological importance (lower value).

Amenity grassland (GA2)

Areas of amenity grassland are present in the southern portion of the site. These areas comprise playing pitches and other areas used for amenity purposes which are regularly mown and maintained. The sward in these areas is dominated by Perennial Ryegrass, with White Clover *Trifolium repens* and Creeping Buttercup *Ranunculus repens* occurring frequently. Other species recorded include Daisy *Bellis perennis*, Dandelion, Greater Plantain and Yorkshire Fog. Given the low species diversity in areas of this habitat type, it is deemed to be of local ecological importance (lower value).



Plate 9: Amenity grassland to the north of Red Arches Road (March 2019).

Dry Meadows & Grassy Verges (GS2)

Several areas of dry meadows and grassy verges exist within the boundary of the site. This habitat also occurs in mosaics with other habitats such as wet grassland (GS4) and scrub (WS1). Areas of dry meadows and grassy verges comprise of grasslands which are not regularly mown or maintained, which means that the sward is often quite high and composed of tall, tussocky grass species. There is a higher proportion of herbaceous plants in the sward than agricultural grassland or amenity grassland. Grass species commonly recorded in these areas include Cock's-foot, False Oat-grass *Arrhenatherum elatius*, Yorkshire Fog and Red Fescue *Festuca rubra*. Perennial Ryegrass was also recorded occasionally. In terms of the herbaceous component, Common Hogweed *Heracleum*

sphondylium was frequently encountered, along with Ribwort *Plantain Plantago lanceolata*, Cow Parsley *Anthriscus sylvestris*, White Clover, Dandelion, Thistle species *Cirsium* spp. and Creeping Buttercup. Broad-leaved Dock *Rumex obtusifolius* and Ragwort *Senecio jacobaea* were recorded occasionally. Meadow Vetchling *Lathyrus pratensis*, Creeping Cinquefoil *Potentilla reptans*, Willowherb species *Epilobium* spp. and Meadow Buttercup *Ranunculus acris* occurred in places.

One area of GS2 in the north of the site appeared to be more diverse than other areas. Additional herbaceous species recorded here included Yarrow *Achillea millefolium*, Red Clover, Red Campion *Silene dioica*, Shepherd's Purse *Capsella bursa-pastoris* and Speedwell species *Veronica* spp. It may be the case that these species are derived from a "wildflower seed mix" which is known to have been sown in close proximity to this area in recent years. Due to the species richness of these grassland areas they are considered to be of local ecological importance (higher value).

Wet Grassland (GS4)

Wet grassland occurs in a few places within the site, mostly in close proximity to the Snugborough River. Rushes such as Soft Rush *Juncus effusus* and Hard Rush *Juncus inflexus* were typical of such areas. Other typical species included Meadow Buttercup, Creeping buttercup, Nettle *Urtica dioica*, Cuckooflower *Cardamine pratensis*, Yorkshire Fog, Silverweed *Potentilla anserina* and Hairy Segde *Carex hirta*. This habitat sometimes occurred as a mosaic with scrub (WS1). Wet grassland has been identified as a "target habitat" and "bufferzone" in the Fingal Biodiversity Action Plan 2010-2015, and as such is regarded as being of local ecological importance (higher value).

Hedgerows (WL1)

Numerous hedgerows are present on site and often form field boundaries or line the banks of watercourses. Scrubby species such as Bramble *Rubus fruticosus* and Gorse *Ulex europaeus* were often present in hedgerows on site. Tree species present in hedgerows included Ash *Fraxinus excelsior*, Elder *Sambucus nigra*, Hawthorn *Crataegus monogyna*, Sycamore *Acer pseudoplatanus* and Blackthorn *Prunus spinosa*. Field layer species were similar to those recorded in GS2 habitat- False Oat-grass, Cow Parsley, Common Hogweed, Broad-leaved Dock, Cleavers *Galium aparine*, Nettle, Willowherbs, Thistles etc. To the south of the site, ornamental hedgerows, composed of non-natives, surround the playing pitches at Red Arches. Hedgerows in Fingal County are afforded protection through policies contained in the *Fingal Development Plan 2017-2023* and are therefore regarded as being of local ecological importance (higher value).

Treelines (WL2)

Treelines recorded on site were mainly composed of young, planted trees which are regularly spaced, many of which were ornamental in nature. Most of these treelines were associated with the amenity grassland and other recreational areas to the south of the site. Planted species included young Beech *Fagus sylvatica*, Sycamore and Scot's Pine *Pinus sylvestris*, as well as ornamentals. Given the young age of the treelines on site they are deemed to be of local ecological importance (lower value).

Scrub (WS1)

Areas of scrub were common on site and this habitat also occurred as a mosaic with dry meadows and grassy verges (GS2). Scrub was largely composed of Bramble and Gorse and was very dense in places. Hawthorn and Elder were additional components of scrub in some areas. Bramble scrub was often associated with hedgerows on site. Due to the low species diversity of the scrub on site this habitat is of local ecological importance (lower value).



Plate 10: Dry meadows and grassy verges with gorse scrub in the background (April 2019).

Ornamental/ Non-native Shrubs (WS3)

The landscaped area around the existing Baldoyle Community Centre was categorised as ornamental/ non-native shrubs. This area was composed of large ornamental species, typical of suburban landscaping e.g. Dogwood *Cornus* sp., Cotoneaster *Cotoneaster* sp. species and New Zealand Flax *Phormium* sp. Owing to the non-native composition and modified nature of this habitat its is of local ecological importance (lower value).

Scattered Trees & Parkland (WD5)

Areas of scattered trees and parkland were present in the south of the site close to the recreational areas associated with the Community Centre. Here planted trees are present on typical amenity grassland habitat. Trees are relatively young and are planted in lines or groups. Planted species included young Beech *Fagus sylvatica* Sycamore and Scot's Pine *Pinus sylvestris*, as well as ornamentals. Due to the low species diversity of this habitat it is of local ecological importance (lower value).

Upper Saltmarsh (CM2)

Upper saltmarsh is present in the east of the site and is associated with the Snugborough River and River Mayne, where brackish influence from Baldoyle Estuary occurs. Vegetation is dominated by rushes and grasses such as Saltmarsh Rush *Juncus gerardii*, Red Fescue *Festuca rubra* and Creeping

Bent *Agrostis stolonifera*. Other typical saltmarsh species frequently recorded include Sea Arrowgrass *Triglochin maritima*, Common Scurvygrass *Cochlearia officinalis* and Sea Plantain *Plantago maritima*. Sea Club-rush *Bolboschoenus maritimus* was found occasionally. Tidal creeks are present in these areas and are a distinctive feature of this habitat type. Vegetation associated with these creeks is typical of saltmarsh habitats e.g. creeks were lined by rushes, Sea-Club-rush and Sea Arrowgrass. The vegetation varies greatly in areas on site which were classified as upper saltmarsh and some parts more closely resemble saltmarsh habitat than others, i.e. species which are typically found in saltmarsh habitats are more abundant than freshwater plants. Pockets which are dominated by rushes are present in places. Upper saltmarsh present on site is regarded as being of County importance, given its identification in the *Fingal Biodiversity Action Plan 2010-2015* as being amongst the most important nature conservation areas in Fingal.



Plate 11: Upper saltmarsh habitat (April 2019).

Figure 8: Habitats Recorded During Field Surveys Undertaken in 2019.



5.4.2. Fauna

Terrestrial Mammals (excluding bats)

No signs of protected mammal species were recorded by Scott Cawley Ltd. in 2019. However, previous surveys carried out by Roughan & O'Donovan in 2018 revealed that Otter are present along the River Mayne. Several fresh otter spraints were noted on the rock close to the flapvalves and on the grass close to the wall with the Coast Road. Spraints were also recorded along the River Mayne within the park. Otter prints were also seen in the mud by the outfall. Therefore, otter are clearly present on site and their distribution is closely linked with the watercourses on site and the connection these have with Baldoyle Bay. Given the range of habitats present and the confirmed presence of Otter along the River Mayne, the subject lands are deemed to be of local importance (higher value) for Otter.

Whilst no signs of Badger activity were recorded during the field surveys undertaken, it is possible that Badger could frequent the site due to the presence of areas of grassland which may be potentially suitable for foraging purposes. Given the presence of suitable habitat on site for Badger, the subject lands are deemed to be of local importance (higher value) for Badger.

Based on the results of the desktop study, Hare and Hedgehog are known to occur within the vicinity of the proposed development site. Although no signs of Hare or Hedgehog activity were recorded on site, given the presence of suitable habitat (e.g. areas of grassland), their presence cannot be excluded. The subject lands are deemed to be of local importance (higher value) for Hare and Hedgehog, due to their known presence in the wider environment and the presence of suitable habitat within the subject lands.

Pygmy Shrew and Irish Stoat are also known to occur in the vicinity of the proposed development site and given the presence of suitable habitat (e.g. areas of grassland and hedgerows) which could be used for foraging and commuting purposes, it is possible that these species could frequent the site. Therefore, the subject lands are deemed to be of local importance (higher value) for Pygmy Shrew and Irish Stoat.

Other mammals such as Rabbit and Fox are likely to be present in the park and indeed Rabbit were often seen over the course of the 2019 survey period. Rabbit and Fox are not legally protected in Ireland.

Breeding birds

Surveys carried out by Pierce in 2019 recorded a total of 63 species on site, 35 of which were confirmed to be breeding. Species confirmed to be breeding within the site include Mallard *Anas platyrhynchos*, Buzzard, Moorhen *Gallinula chloropus*, Lapwing *Vanellus Vanellus*, Pheasant *Phasianus colchicus*, Wood Pigeon *Columba palumbus*, Collared Dove *Streptopelia decaocto*, Chiffchaff *Phylloscopus collybitta*, Goldcrest *Regulus regulus*, Great Tit *Parus major*, Coal Tit *Parus ater*, Blue Tit *Parus caeruleus*, Long-tailed Tit *Aegithalos caudatus*, Magpie *Pica pica*, Jackdaw *Corvus monedula*, Hooded Crow *Corvus corone cornix*, Starling *Sturnus vulgaris*, Chaffinch *Fringilla coelebs*, Linnet *Carduelis cannabina*, Greenfinch *Carduelis chloris*, Goldfinch *Carduelis carduelis*, Bullfinch *Pyrrhula pyrrhula*, Reed Bunting *Emberiza schoeniclus*, Skylark *Alauda arvensis*, Meadow Pipit *Anthus pratensis*, Wren *Troglodytes troglodytes*, Robin *Erithacus rubecula*, Stonechat *Saxicola torquata*, Song Thrush *Turdus philomelos*, Mistle Thrush *Turdus viscivorus*, Dunnock *Prunella modularis*, Blackbird *Turdus merula*, Blackcap *Sylvia atricapilla*, Whitethroat *Sylvia communis*, Sedge Warbler *Acrocephalus schoenobaenus*

and Willow Warbler *Phylloscopus trochilus*. Lapwing and Meadow Pipit are currently regarded as of high conservation concern and are included on the red-list in Ireland. Skylark, Linnet, Goldcrest, Starling, Greenfinch, Mistle Thrush, Robin and Stonechat are all on the amber-list which means that they are of moderate conservation concern. Lapwing are known to breed in the portion of the site which lies within the boundary of the SAC to the south of the River Mayne. The breeding range of Meadow Pipit is widespread through the site, mostly concentrated in the areas of dry meadows and grassy verges. Skylark bred in similar areas to Meadow Pipit, as did Linnet. The greatest concentration of breeding Linnet in 2018 was in the lands to the east of the Maynetown Stream, north of Red Arches Road, which is an area dominated by gorse scrub and dry grassland. Three pairs of Stonechat were recorded breeding in 2019 and their breeding range has increased to include areas to the east of the Snugborough River, as well as grassland areas to the west.

Ad hoc observations of breeding birds recorded during Scott Cawley field surveys confirmed the presence of a number of the above-mentioned bird species on site. In addition, Shelduck *Tadorna tadorna* were often observed in the River Mayne, along with Mallards and gull species. Mallard were also noted in the Snugborough River and Snugborough Stream. Skylark were recorded in the grassland area which lies within the SAC boundary, grassland to the west of the River Snugborough, fields to the south of the Moyne Road and improved agricultural grasslands to the west of Baldoyle Bay. Snipe *Gallinago Gallinago* were often flushed while walking through the site. Snipe were recorded in areas of upper saltmarsh and grasslands to the west of the River Snugborough. Buzzard *Buteo buteo* was recorded flying above the fields to the south of the Moyne Road and areas of gorse scrub in the east of the site. Other breeding birds recorded during the 2019 surveys included Robin, Goldfinch, Greenfinch, Wren, Heron *Ardea cinerea*, Mistle Thrush and Blackbird.

Given the dense vegetation, much of which is considered suitable for breeding birds, and the diversity of breeding birds known to use the lands, including a number of bird species currently considered to be of conservation concern (e.g. on either the red or amber list), the site is considered to be of County importance for breeding bird species.

Wintering birds

Previous winter bird surveys conducted by Nairn and Fox over the 2016-2017 survey period (Nairn & Fox, 2017) covered the subject lands by subdividing the area into three smaller distinctive units; Maynestown area which covered the portion of the site north of the Moyne Road; Racecourse lands which comprised the portion of the site north of Red Arches road up to the Moyne Road and finally Red Arches park which comprised the playing pitches to the south of Red Arches road. The Maynestown area supported significant winter populations of Skylark, Tree Sparrow *Passer montanus* and Linnet. Good numbers of Meadow Pipit and Reed Bunting were also observed here. The Racecourse lands were deemed to be relatively unimportant for waterbirds due to the change in habitat from grassland to scrub making it largely unsuitable for these types of birds. No geese or other waterbirds were recorded here over the course of the 2016-2017 surveys, despite the fact that the central area was used by foraging Light-bellied Brent Geese *Branta bernicla hrota* during 2011-2012 surveys (see Pierce & Dillon, 2012). Red Arches park supported large flocks of Light-bellied Brent Geese and smaller numbers of Oystercatcher *Haematopus ostralegus* and Common Gull *Larus canus*. This park, along with Seagrange Park to the south, is considered to be of major importance for Light-bellied Brent Geese and Black-tailed Godwit based on the results of the 2016-2017 surveys.

Winter bird surveys carried out by Scott Cawley in February and March 2019 recorded Light-bellied Brent Geese at the playing pitches at Red Arches park on all but one occasion. Eight separate surveys were carried out, including two weekend surveys. The peak count of Light-bellied Brent Geese recorded at Red Arches playing pitches was 800, recorded foraging on the 26th February 2019. The lowest number recorded was 62 on the 21st March. Peak numbers recorded on weekend surveys were below average, 234 on 23rd March and 120 on 30th March (average peak was 345). Based on the ring code data gathered over the eight surveys, 33 individual birds were recorded on site on multiple survey dates. Other birds recorded at the Red Arches pitches over the course of the survey period included Oystercatcher, Mallard, Black-headed Gull *Chroicocephalus ridibundus*, Herring Gull *Larus argentatus*, Common Gull, Curlew *Numenius arquata*, Little Egret *Egretta garzetta*, Lesser Black-backed Gull *Larus fuscus* and Black-tailed Godwit *Limosa lapponica*, although none of these species were recorded in significant numbers. Disturbance events recorded included loose dogs, runners, cyclists, walkers and maintenance works to the pitches, and ranged from high level disturbances (e.g. dog chasing geese) to low level (e.g. solitary runner). Data gathered during the transect surveys showed that goose droppings were consistently found along transects at each survey visit, indicating that goose activity on the site is high. Geese were often observed flying between Baldoyle SPA and the pitches, indicating that the pitches act as part of a supporting network to the SPA, and the bird populations it contains.

In contrast to this, Light-bellied Brent Geese were only recorded once over the course of the survey period – on the 15th March- at the amenity grassland area to the north of Red Arches road. Approximately 30 Light-bellied Brent Geese landed very briefly (<1 minute) before flying northwards. Geese were not recorded on any other visit in this area. Transect data collected for this area also showed that the area was used far less intensively than the Red Arches pitches. Droppings were low in number and the location of the droppings indicate that the geese only use the brow of the hill in this area, possibly due to the fact that the brow of the hill would offer them a better vantage point when foraging. There was no evidence to support the hypothesis that Light-bellied Brent Geese use the area of amenity grassland to the north of Red Arches road when they are disturbed at the Red Arches pitches. In fact, when disturbance events, which yielded a strong response (e.g. geese left the site) from foraging geese, occurred on the pitches, geese tended to return to Baldoyle Bay until the source of disturbance had left the pitches.

In summary, the results of the Scott Cawley surveys conducted in 2019 broadly align with previous survey results in that they confirm that the pitches to the south of Red Arches Road are likely to be of major importance to the Dublin winter population of Light-bellied Brent Geese. Peak counts here were on average 345 birds which is very close to the 1% threshold used to determine whether a site is of international importance for bird species (for Light-bellied Brent geese the 1% threshold number is 400 as quoted in Lewis et al., 2019), and considering peak counts from previous seasons this site is likely to remain being of major significance for this species. The pitches at Red Arches are therefore regarded as being of international importance for wintering birds, specifically Light-bellied Brent Geese, given the number of geese recorded here, with respect to 2019 surveys and previous survey work, and the connections the pitches hold with Baldoyle Bay SPA. In contrast to this, the significance of the amenity grassland to the north of Red Arches road is deemed to range from local importance (higher value) to international importance, considering the difference between survey results in 2019, which recorded low numbers (approximately 30) of Light-bellied Brent geese on this site on one occasion only, compared with those of previous years..

Bats

Whilst no bat surveys were conducted by Scott Cawley Ltd. in 2019, it is worth noting the results of previous bat surveys which have been carried out on site. The most recent bat survey was carried out by volunteers from the Dublin Bat Group in August 2018 and recorded two species of bat on site- Common Pipistrelle bat and Leisler's bat. All bats recorded were commuting through the site. Bat surveys conducted by Keeley in September 2016 recorded three species of bat in the vicinity of the site- Common Pipistrelle bat, Soprano Pipistrelle bat *Pipistrellus pygmaeus* and Leisler's bat. Activity on site for both surveys was considered to be low and the habitats present on site were not considered to be particularly favourable for local bat species. Nevertheless, bats are afforded strict protection under Irish and international legislation and are therefore regarded to be of local importance (higher value).

Amphibians

Whilst no dedicated surveys for amphibians, such as Common Frog and Smooth Newt, were undertaken, given the results of the desk study, which indicates their presence in the vicinity of the proposed development site, and the presence of suitable habitat within the site to support such species (e.g. wet grassland, rivers and drainage ditches etc.), it is reasonable to assume that such species could utilise the site, and as such their presence cannot be excluded. The subject lands are considered to be of local importance (higher value) for protected amphibian species.

5.5. SUMMARY OF KEY ECOLOGICAL FEATURES

All ecological features identified as key ecological receptors (KERs) based on the completion of a desk study, literature review and field surveys are summarised in Table 5. KERs are ecological features that are protected in Ireland and/or valued as local importance (higher value) or higher and have been identified as at risk of potentially significant impacts from the proposed development.

Designated sites are included as KERs in this instance due to the connection between the subject lands and designated sites in Baldoyle Bay. Information for the completion of the Appropriate Assessment has been undertaken and a separate report (Natura Impact Statement (NIS)) to that effect has been prepared by Scott Cawley for this application. Nationally designated sites, such as pNHAs, are KERs of national importance, given their roles as ecological refuges for flora and fauna in the wider environment.

Hedgerows are regarded as KER's in light of policies of the *Fingal Development Plan 2017-2023* (Fingal CoCo, 2017), which affords them protection, and in light of their diversity and level of naturalness. Hedgerows also provide ecological connectivity to the wider environment which allows fauna to traverse across the area.

Upper saltmarsh has been identified as a KER as, according to the *Fingal Biodiversity Action Plan 2010-2015*, saltmarsh habitats are among the most important nature conservation areas in Fingal. In addition, Baldoyle Bay SAC is designated for the presence of specific saltmarsh habitats - Atlantic Salt Meadows [1330] and Mediterranean Salt Meadows [1410].

Reed and large sedge swamps are deemed to be KERs as they are a wetland habitat. Wetland habitats are relatively uncommon in Fingal (Fingal County Council, 2017) and provide a valuable niche for species including birds and invertebrates.

Depositing/ lowland rivers, such as the River Mayne, are deemed to be of County importance given the rivers significance in Fingal County. Rivers such as the Mayne also offer good salmonid spawning potential and support many aquatic species.

Drainage ditches on site, have been identified as KERs given their connectivity to the wider surface water network and their potential to support aquatic flora and fauna.

Dry meadows and grassy verges have been identified as KERs because of the species richness of this habitat and the valuable breeding habitat they provide for a range of breeding birds which are known to use the site including Meadow Pipit, Skylark and Snipe.

Wet grassland is regarded as a KER as this habitat type has been identified as a “target habitat” and “bufferzone” in the *Fingal Biodiversity Action Plan 2010-2015*.

Rare and protected flora species, which have been recorded within the subject lands in previous years, are KERs due to their scarcity within Fingal.

Otter are deemed to be KERs due to the protection they are afforded at national level (under the Wildlife Acts) and international level (under the Habitats Directive). Otter are known to occur within the subject lands, specifically within the River Mayne.

Badger has been included as a KER, given their protection under the Wildlife Acts and the suitability of habitats on site to support such species.

Hare and Hedgehog have been included as KERs, given their protection under the Wildlife Acts, their known presence within the vicinity of the subject lands and the suitability of habitats on site to support such species. Likewise, Pygmy Shrew and Irish Stoat have also been included as KERs, given their protection under the Wildlife Acts, their known presence within the vicinity of the subject lands and the suitability of habitats on site to support such species.

Bats have been identified as KERs due to the strict legal protection afforded to them under the Wildlife Acts and Habitats Directive. Bats are not thought to be roosting on site but have been shown to commute and forage through the subject lands.

Breeding birds have been included as KERs as all birds, their nests and their eggs are protected under the Wildlife Acts. Furthermore, a wide range of birds, some of which are considered to be of conservation concern, are known to breed within the subject lands.

Wintering birds are regarded as KERs due to the large numbers of Light-bellied Brent Geese which have been recorded on the playing pitches at Red Arches over the years. Disturbance or other adverse impacts on these bird species could in effect result in impacts at the population level or greater.

Amphibian species have been included as KERs, given their protection under the Wildlife Acts, their known presence within the vicinity of the subject lands and the suitability of habitats on site to support such species.

Invasive species are not considered to be KERs but rather ecological constraints. It will be necessary to continue with the implementation of the current treatment plan being undertaken by Fingal County Council with regards stands of Japanese Knotweed on site. A control/ eradication programme for other invasive species on site (e.g. Three-cornered Leek and Giant Hogweed) will also need to be implemented to prevent further spread both within the site and further afield.

Table 5: Ecological Evaluation of Key Ecological Receptors (Highlighted in grey)

Habitat / Species	Highest Ecological Valuation Level	Key Ecological Receptor?
Designated Sites		
Designated Sites	National-International	Yes
Habitats & Flora		
Stonewalls & Other Stonework (BL1)	Local importance (lower value)	No
Drainage Ditch (FW4)	Local importance (higher value)	Yes
Hedgerow (WL1)	Local importance (higher value)	Yes
Treeline (WL2)	Local importance (lower value)	No
Horticultural Lands (BC2)	Local importance (lower value)	No
Buildings & Artificial Surfaces (BL3)	Negligible importance	No
Upper Saltmarsh (CM2)	County Importance	Yes
Spoil & Bare Ground (ED2)	Local importance (lower value)	No
Recolonising Bare Ground (ED3)	Local importance (lower value)	No
Refuse & Other Waste (ED5)	Negligible importance	No
Other Artificial Lakes & Ponds (FL8)	Local importance (lower value)	No
Reed & Large Sedge Swamps (FS1)	Local importance (higher value)	Yes
Depositing/ Lowland Rivers (FW2)	County Importance	Yes
Improved Agricultural Grassland (GA1)	Local importance (lower value)	No
Amenity Grassland (GA2)	Local importance (lower value)	No
Dry Meadows & Grassy Verges (GS2)	Local importance (higher value)	Yes
Wet Grassland (GS4)	Local importance (higher value)	Yes
Scattered Trees & Parkland (WD5)	Local importance (lower value)	No
Scrub (WS1)	Local importance (lower value)	No
Ornamental/ Non-native Shrubs (WS3)	Local importance (lower value)	No
Protected and/or Threatened Species		
Rare/Protected Flora Species	County Importance	Yes

Habitat / Species	Highest Ecological Valuation Level	Key Ecological Receptor?
Otter	Local importance (higher value)	Yes
Badger	Local importance (higher value)	Yes
Hare and Hedgehog	Local importance (higher value)	Yes
Pygmy Shrew and Irish Stoat	Local importance (higher value)	Yes
Bats (commuting & foraging)	Local importance (higher value)	Yes
Other mammals	Local importance (lower value)	No
Breeding Birds	County importance	Yes
Wintering Birds	Local importance (higher value)- International Importance	Yes
Amphibian species (e.g. Common Frog and Smooth Newt)	Local importance (higher value)	Yes
Other Constraint Features		
Invasive species	Constraint feature	No

6. CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The southern part of the proposed park will have a higher density of amenities as it houses facilities such as the community centre (subject to a separate planning application) with associated play areas for lower age groups, existing pitches, a bowling green and a Multi-Use Games Area (MUGA), alongside a network of cycle and pedestrian paths.

The proposed skate park/teenage play area and dog park/ run will be located to the north of Red Arches Road.

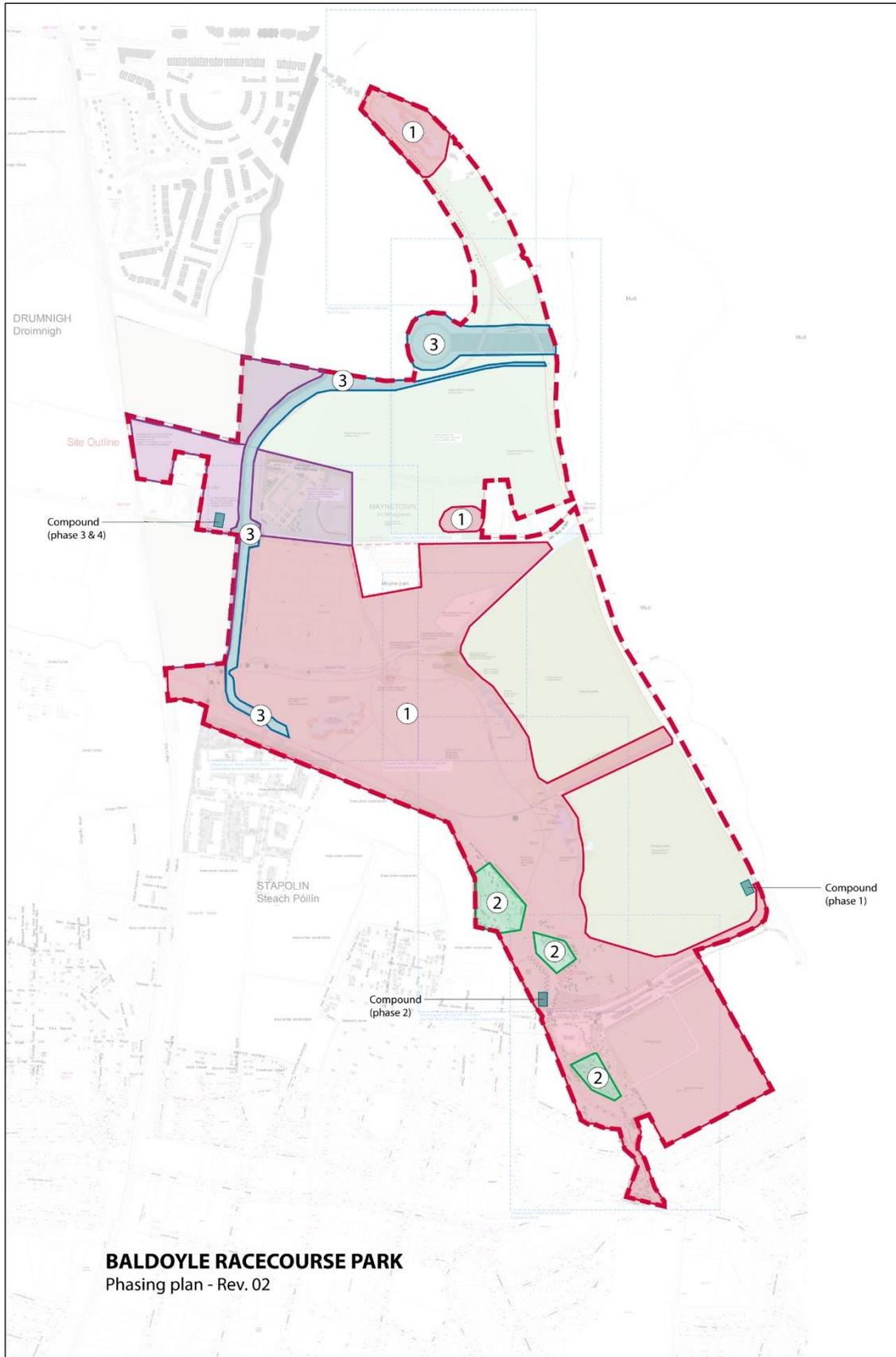
It is also proposed to create a wetland boardwalk/ viewing platform, looking out over the proposed attenuation ponds to the west of the River Snugborough. At the confluence of the River Mayne and River Snugborough it is proposed to pull back the existing outfall pipe and regrade the area locally to allow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

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

- Phase 1 (8 months): Infrastructure such as the main car park, located to the north of Red Arches playing pitches, the walking/ cycling routes south of the Moyne Road, and the sports pitches north of the River Mayne, will be provided at this stage. The first phase will also comprise any regrading and excavations which seek to introduce a new aspect of ecology to the site (e.g. planting, ponds, regrading works etc.), as well as any improvements to the northern part of the existing Greenway entrance.
- Phase 2 (10 months): The second phase will include the provision of the proposed playgrounds, skate park and dog run.
- Phase 3 (4 months): The third phase will include the provision of a further pedestrian/ cyclist link running from the new greenway near the railway arch at Clongriffin, over the River Mayne, Moyne Road and around the paddock to link with the existing coastal greenway.

The location of construction compounds will be determined per phase of the proposed development. During Phase 1 the construction compound will be located to the north of Red Arches Road, at the junction with the Coast Road. The compound location for Phase 2 will be located just north of Red Arches Road, on an area of existing amenity grassland. Finally, during Phase 3 the construction compound will be located to the north of the Moyne Road, in an existing agricultural field. Figure 9 shows the proposed locations of construction compounds throughout the proposed development site.

Figure 9: Proposed Phasing and Locations of Construction Compounds at the Proposed Development Site (Source: Baldoyle Racecourse Park- Landscape Design Report (BSLA, 2020)).



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

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

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

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

7. ASSESSMENT OF EFFECTS AND MITIGATION MEASURES

As per the relevant guidelines, likely significant impacts have only been assessed for Key Ecological Receptors, as listed in Table 5. An impact is considered to be ecologically significant if it is predicted to affect the integrity or conservation status of a Key Ecological Receptor at a specified geographical scale. All impacts are described in the absence of mitigation.

7.1. ASSESSMENT OF EFFECTS AND MITIGATION FOR DESIGNATED SITES

A Natura Impact Statement (NIS) (Scott Cawley, 2020) has been prepared for the proposed development. This document comprises an assessment of the potential of the proposed development to significantly affect European sites.

The potential effects on European sites arising from the proposed development, including, but not limited to, potential impacts on migratory bird species, as described in the NIS, may also negatively affect the pNHA sites located within the boundaries of these European sites. These pNHA sites comprise of Baldoyle Bay pNHA, North Dublin Bay pNHA, Howth Head pNHA, Ireland's Eye pNHA, Rogesrtown Estuary pNHA, Lambay Island pNHA, Malahide Estuary pNHA, Dolphins, Dublin Docks pNHA, South Dublin Bay pNHA, Booterstown Marsh pNHA and Dalkey Coastal Zone and Killiney Hill pNHA. These sites are primarily designated for similar reasons.

As per the findings of the Stage 1 Appropriate Assessment, as detailed in the NIS, likely significant effects can be excluded for all but six European sites. In this way significant effects on their corresponding pNHAs can also not be excluded. The pNHAs for which significant effects cannot be excluded comprise Baldoyle Bay pNHA, North Dublin Bay pNHA, Malahide Estuary pNHA, Rogerstown Estuary pNHA, South Dublin Bay pNHA, Booterstown Marsh pNHA and Dolphins, Dublin Docks pNHA. The NIS found that likely significant effects on the corresponding European sites could not be excluded, in the absence of mitigation. Appropriate mitigation measures are prescribed in the NIS and it has been concluded that following implementation of these measures the proposed development will not adversely affect the integrity of these European sites. Therefore significant effects on the following pNHAs, can also be excluded, following implementation of the mitigation measures outlined in the NIS: Baldoyle Bay pNHA, North Dublin Bay pNHA, Malahide Estuary pNHA, Rogerstown Estuary pNHA, South Dublin Bay pNHA, Booterstown Marsh pNHA and Dolphins, Dublin Docks pNHA.

Impacts on Howth Head pNHA, Ireland's Eye pNHA, Lambay Island pNHA and Dalkey Coastal Zone and Killiney Hill pNHA can be excluded on the basis that their corresponding European sites were assessed in the NIS and the Stage 1 Appropriate Assessment concluded that likely significant effects on the corresponding European sites could be excluded.

Impacts on the Royal Canal pNHA, Grand Canal pNHA and Portraine Shore pNHA can be excluded on the basis that there is no feasible source-pathway-receptor link between the proposed development site and these pNHAs are contained in a different sub-catchment to the proposed development site. While Santry Demesne pNHA, Sluice River Marsh pNHA and Feltrim Hill pNHA are contained in the same sub-catchment as the proposed development site (Mayne sub-catchment), both the Sluice River Marsh pNHA and Feltrim Hill pNHA lie upstream of the proposed development site, along watercourses which are not hydrologically connected to the proposed development site (e.g. Sluice River and Hazelbrook Stream). Therefore, impacts on these two pNHA sites can be excluded. Likewise,

Santry Demesne pNHA lies along the River Santry, which is not hydrologically connected to the proposed development site. Therefore, impacts on this pNHA can also be excluded.

7.1.1. RESIDUAL EFFECTS

Following implementation of the mitigation measures prescribed in the accompanying NIS, residual effects on both European sites and nationally designated sites (e.g. pNHAs) will be reduced to levels not considered significant.

7.2. ASSESSMENT OF EFFECTS AND MITIGATION FOR HABITATS

The proposed park development project will not result the removal of existing hedgerow habitat from site. Accidental damage to existing hedgerows as a result of machinery strikes during construction, particularly with regards to the construction of the proposed pathways, or other sources may result in a reduction in the extent of this habitat within the site.

It is unlikely that the proposed development will result in adverse impacts on the existing upper saltmarsh habitat on site. The proposed regrading of existing levels in the agricultural field on the northern bank of the River Mayne, is intended to allow brackish floodwater to influence conditions here and allow additional saltmarsh species to establish. The introduction of a flap valve management programme (Roughan & O'Donovan, 2018), which does not form part of this application but was considered in the preparation of the Masterplan Design Report for the development (BSLA, 2021), will aid in the establishment of brackish habitats in the vicinity of the River Mayne and is likely to enhance the saltmarsh habitat on site in terms of expanding its range and increasing the species richness. In addition, it is proposed to allow for the expansion of existing reed beds along the banks of the River Snugborough further north, which will further enhance the extent of wetland habitats on site, therefore constituting a positive impact on biodiversity.

The proposals include the creation of an additional river crossing over the River Mayne, adjacent to where the existing haul road bridge is found. This is part of the third phase of the development, which includes the provision of walking and cycling routes. Improvements to the banks of the River Mayne are also proposed in certain places. Without mitigation or direction, these works have the potential to result in adverse impacts on the watercourses on site.

During construction, there will be a requirement for the establishment of construction compounds on site. The establishment of such compounds will result in habitat loss, albeit of a temporary nature, during construction. The proposed locations of these compounds are described in the Landscape Design Report, prepared by BSLA for this application. Proposed compounds are located in areas of amenity grassland and dry meadows and grassy verges. The temporary loss of these areas during construction, is not considered significant at any geographic scale considering the size of the areas to be lost in the context of the overall area of those habitats within the site boundary.

The proposed works (e.g. expansion of reed bed habitat, creation of string of ponds to east of River Snugborough, provision of playing pitches to the south of the Moyne Road, installation of proposed viewpoint and intermittent wildflower meadow planting) may result in the removal of dry meadows and grassy verges and scrub habitat. Dry meadows and grassy verges have been identified as a KER due to their species richness. However, given the relative abundance of this habitat on site, and the landscaping proposals, which includes the planting of areas of wildflower meadow, the removal of a portion of this habitat type for the purposes of developing the park, is not considered to be significant

at any geographic scale. The scrub habitats identified on site are not considered to be of ecological importance, from a habitats perspective, and therefore a reduction in the quantity of this habitat on site is of little ecological consequence.

The proposals are likely to result in positive impacts for the site's habitats also, and these should also be noted. Wetland planting is proposed for both existing attenuation ponds on site, which will increase biodiversity in these areas and possibly provide additional foraging resources for bats and pollinators on site, as well as additional breeding habitat for some bird species. The proposed intermittent areas of wildflower meadow will also provide a valuable resource for pollinators on site.

Riparian planting is proposed along some stretches of the existing watercourses on site. This planting will increase biodiversity in these areas, which will benefit invertebrates such as damselflies and dragonflies.

The proposed works do not have the potential to result in the removal/ destruction of wet grassland habitat on site. Furthermore, it is also proposed to introduce riparian planting in many of the areas currently identified as wet grassland habitat. It is not envisaged that this will have a significant impact on existing wet grassland habitat on site at any geographic scale, and will in fact enhance the quality of wet grassland habitat on site by increasing species diversity within the habitat.

Improvements to the banks of existing watercourses are proposed in particular locations. These improvements will be achieved through tree planting to stabilise the banks and thus prevent sediment loss to the river.

Finally, it should be noted that while the park proposal includes the provision of a pedestrian/ cycle route to the north of the existing fields to the north of the Moyne Road, the fields will be fenced off to the public and are of a large enough area that foraging birds, which are known to use the fields during the winter bird season, can be sufficiently removed from disturbance from pedestrians/ cyclists using this route, while foraging. The existing fields to the north of the Moyne Road will be retained and continue to be managed for foraging winter birds such as Light-bellied Brent Geese, during operation.

7.2.1 MITIGATION TO REDUCE THE IMPACTS ON HABITATS

The following measures are provided to reduce or avoid impacts to existing habitats which have been identified as KERs:

- **HAB01:** In order to protect existing hedgerows from accidental damage during construction (e.g. during the construction of the pathway network), all hedgerows which are to be retained should be afforded a buffer of 5m within which machinery etc cannot enter. This is to retain the ecological value the hedgerows on site provide. This buffer should clearly be demarcated before works commence and a toolbox talk explaining the significance of the hedgerow buffer should be given to all personnel prior to works commencing.
- **HAB02:** Riparian planting should grade into the existing adjacent habitats, which currently line the banks of the watercourses on site, to create a more natural habitat transition.
- **HAB03:** Inland Fisheries Ireland (IFI) should be consulted prior to any works to any of the watercourses on site, including proposed river crossings and bank improvement works. This is particularly relevant for the proposed bridge over the River Mayne as well as the

proposed reedbed expansion works and regrading works along the River Mayne and River Snugborough.

- **HAB04:** To control dust emissions during construction works standard mitigation measures shall include: spraying of exposed earthwork activities and site haul roads during dry and/or windy conditions; provision of wheel washes at exit points; control of vehicle speeds and speed restrictions (20 km/h on any un-surfaced site road); covering of haulage vehicles; and, sweeping of hard surface roads. These procedures will be strictly monitored and assessed on a daily basis. Dust screens will be implemented at locations where there is the potential for air quality impacts on sensitive ecological receptors (i.e. within 100m of the works), such as the watercourses on site, during the construction phase.

7.2.2 RESIDUAL EFFECTS

Residual effects on habitats will be reduced to levels not considered significant, following adherence to the measures outlined in Section 7.2.1.

7.3. ASSESSMENT OF EFFECTS AND MITIGATION TO REDUCE/ AVOID IMPACTS ON WATER QUALITY

In the absence of mitigation, the elements of the proposed development have the potential to result in detrimental effects on the surface water quality of the drainage ditches on site, the River Mayne, River Snugborough, Snugborough Stream and Maynestown Stream, and the aquatic flora and fauna it supports. This could arise through an accidental pollution event during construction (i.e. through the release of sediment/ hydrocarbons or other harmful substances directly into these watercourses), or over land runoff. This is most likely to occur during works in the vicinity of these watercourses (e.g. installation of culverts into existing drainage ditches, installation of the proposed new bridge over the River Mayne, creation of additional ponds, works to enable riparian planting etc.) Degradation of surface water quality in these watercourses could lead to impacts further downstream, as well as in the immediate vicinity of the proposed development site. Owing to the fact that these watercourses and other downstream waterbodies are considered highly sensitive and ecologically-important habitats, the effect of habitat degradation as a result of effects on surface water quality is considered to be significant, potentially at the County level.

7.3.1 MITIGATION TO REDUCE/ AVOID IMPACTS ON WATER QUALITY

The following measures are proposed with regard to specific habitat creation works, during construction:

- **WM01:** Any works in close proximity to watercourses will be restricted to taking place during the summer period only (May- August (inclusive)), when weather is drier. This is to avoid sediment and other harmful materials being transferred to watercourses, and subsequently to downstream European sites, by precipitation and surface waters flowing overland. In addition, this measure will help to ensure the early re-colonisation of any cleared areas by opportunistic plants, which will help to bind soil together and prevent any further transfer of sediment. Proposed pond/pool creation works and preparatory works for proposed playing pitches to the north of the River Mayne (e.g. vegetation clearance and regrading) will abide

by this measure. In addition, a buffer zone between the pitch locations and nearby watercourses will be established in advance of works commencing to further reduce the potential for overland flow of contaminated runoff.

Furthermore, the following measures must also be adhered to prevent any impact to water quality:

- **WM02:** An Environmental Management System (EMS) must be maintained by contractors during all phases. This should cover all potentially polluting activities and include an emergency response procedure.
- **WM03:** Specific measures to prevent the release of sediment over baseline conditions to the Mayne River, Snugborough River, Maynetown Stream and Snugborough Stream (and subsequently Baldoyle Bay) during the construction work, which will be implemented as the need arises. These measures include, but are not limited to, the use of silt traps, silt fences, silt curtains, settlement ponds and filter materials. This is particularly important when undertaking any works/upgrading to the surface and foul water drainage networks at the proposed development site. This is also of particular relevance for the proposed regrading works in close proximity to the River Mayne and River Snugborough to allow for the natural expansion of reed beds and brackish grassland habitats, as well as regrading works for the proposed football pitches, and excavations required to create the proposed attenuation ponds.
- **WM03:** Re-fuelling and maintenance/servicing of construction equipment will take place in designated bunded areas.
- **WM04:** Any fuels or chemicals (including hydrocarbons or any polluting chemicals) will be stored in a bunded area, remote from any watercourse, to prevent any seepage of same into any of the watercourses, local surface water network or groundwater, and care and attention taken during refuelling and maintenance operations.
- **WM05:** Provision of exclusion zones and barriers (*e.g.* silt fences) between earthworks, stockpiles and temporary surfaces to prevent sediment washing into any of the watercourses on site and/or existing drainage systems and hence the downstream receiving water environment.
- **WM06:** Silt traps shall not be constructed immediately adjacent to the existing watercourses, *i.e.* a buffer zone between the trap and the watercourse with natural vegetation must be left intact. Imported materials such as terram, straw bales, coarse to fine gravel should be used either separately or in-combination as appropriate to remove suspended matter from discharges.
- **WM07:** Provision of temporary construction surface drainage and sediment control measures to be in place before the construction of any pipeline and/or earthworks commence.
- **WM08:** Temporary oil interceptor facilities shall be installed and maintained where site works involve the discharge of drainage water to receiving rivers and streams.
- **WM09:** All containment and treatment facilities will be regularly inspected and maintained.
- **WM10:** Emergency procedures and spillage kits will be available and construction staff will be familiar with emergency procedures in the event of accidental fuel spillages.
- **WM11:** All trucks will have a built-on tarpaulin that will cover excavated material as it is being hauled off-site and wheel wash facilities will be provided at all site egress points.
- **WM12:** All mobile fuel bowsers shall carry a spill kit and operatives must have spill response training. All fuel containing equipment such as portable generators shall be placed on drip trays. All fuels and chemicals required to be stored on-site will be clearly marked.
- **WM13:** Design and installation of fuel tanks will be in accordance with best practice guidelines.

- **WM14:** Implementation of response measures to potential pollution incidents.
- **WM15:** Prevailing weather and environmental conditions will be taken into account prior to the pouring of cementitious materials for the works adjacent to any of the watercourses on site and/or surface water drainage features, or drainage features connected to same. Pumped concrete will be monitored to ensure no accidental discharge. Mixer washings and excess concrete will not be discharged to any watercourses or existing surface water drainage systems. Concrete washout areas will be located remote from any watercourses or any surface water drainage features, where feasible, to avoid accidental discharge to watercourses.
- **WM16:** A suitable risk assessment will be completed for all concrete works to outline measures to prevent discharge of wastewaters or contaminated stormwater to any of the watercourses on site.
- **WM17:** The removal of any made ground material, which may be contaminated, from the construction site and transportation to an appropriate licenced facility shall be carried out in accordance with the Waste Management Act, best practice and guidelines for same.
- **WM18:** A discovery procedure for contaminated material will be prepared and adopted by the appointed contractor prior to excavation works commencing on site. These documents will detail how potentially contaminated material will be dealt with during the excavation phase.
- **WM19:** Implementation of measures to minimise waste and ensure correct handling, storage and disposal of waste (most notably wet concrete, pile arisings and asphalt).
- **WM20:** Any effluent generated by temporary on-site toilet facilities will be taken off site for appropriate treatment.
- **WM21:** Discharge from any vehicle wheel wash areas will be directed to on-site settlement tanks/ponds. Debris and sediment captured by vehicle wheel washes will be disposed off-site at a licensed facility.
- **WM22:** Any hazardous waste residuals or potentially contaminated sludge from spill clean-up will be stored within appropriate containers in temporary bunded storage areas prior to removal by an authorized waste management contractor for off-site treatment/recycling/disposal.
- **WM23:** Where works are taking place within 10m of the edge of a watercourse or tributary thereof, a Fisheries Protection/Construction Method Statement will be prepared demonstrating how pollution of watercourses during and after the construction period will be prevented and/or mitigated. This will only apply if, at the detailed design stage when the site is being marked out, there are proposed works that will incur into this 10m zone.
- **WM24:** Weather conditions and seasonal weather variation will be taken into account when planning stripping of topsoil and excavations, with an objective of minimising soil erosion and sediment runoff.

7.3.2 MITIGATION FOR THE PROTECTION OF WATER QUALITY

Residual effects on water quality will be reduced to levels not considered significant, following adherence to the measures outlined in Section 7.4.1.

7.4. ASSESSMENT OF EFFECTS AND MITIGATION FOR RARE & PROTECTED FLORA SPECIES

During construction, there is a small possibility that proposed works, in certain locations, have the potential to effect rare and protected plants that have been known to occur on site. Rare plants recorded by Fitzgerald in 2017 and Denyer Ecology in 2019, are mapped in Figure 6. No works are proposed in the area where Pyramidal Orchid are known to occur, near the Moyne Bridge, and therefore no mitigation measures are proposed for this species. According to the *Ireland Red List No. 10 Vascular Plants* (Wyse-Jackson et al., 2016) the conservation status of Pyramidal Orchid is “*least concern*”. Ragged Robin occurs in close proximity to the banks of the River Snugborough, in existing reed beds. Ragged Robin is also deemed to be of “*least concern*” in terms of conservation status. No works are proposed in the known location of Ragged Robin and therefore no mitigation is proposed for this species. Common Water-crowfoot occurs on wet muddy ground by the eastern edge of the Snugborough Stream. Works in this area are restricted to thinning locally retained shrubs and small trees and reinforcing with additional whip planting of native species on elevated sections. These works are unlikely to result in direct impacts on rare/ protected flora species. Nonetheless, a precautionary approach has been adopted and mitigation in this regard has been prescribed. The conservation of Common Water-crowfoot is of “*least concern*”. No works are proposed in the vicinity of the known locations of Clustered Stonewort, Lesser Marshwort or Reflexed Saltmarsh-grass, and therefore no mitigation is proposed here.

Considering the above, it can be concluded that direct impacts on rare flora species, as a result of the proposed development, can largely be excluded. Given the fact that the majority of rare species identified on site are associated with the existing watercourses on site, they could be indirectly affected by any degradation in surface water quality of the River. However, mitigation to this effect has been provided in Section 7.3.

7.4.1 MITIGATION FOR RARE & PROTECTED FLORA SPECIES

The following measures are proposed to reduce impacts on rare/protected flora species known to occur on site:

- **RF01:** A pre-construction survey for rare and protected flora species should be carried out on site, by a suitably qualified ecologist, within a suitable survey season, in advance of any works being undertaken. This survey should form an update to previous surveys of this kind undertaken and should accurately map the location and extents of any rare/protected flora species identified. The results of this survey should be considered in the development of the park.

7.4.2 RESIDUAL EFFECTS

Residual effects on rare and protected flora will be reduced to levels not considered significant, following adherence to the measures outlined in Section 7.4.1.

7.5. ASSESSMENT OF EFFECTS AND MITIGATION FOR BATS

All bat species in Ireland are protected under the *Wildlife Acts 1976-2012* and are listed in Annex IV of the EU Habitats Directive 92/43/EEC (as amended). It is an offence under Section 23 of the Wildlife Acts 1976-2012 and under Section 51 of *the European Communities (Birds and Natural Habitats) Regulations, 2011* to kill or to damage or destroy the breeding or resting place of any bat species. Under the Birds and Natural Habitats Regulations it is not necessary that the action should be deliberate for an offence to occur. This places an onus of due diligence on anyone proposing to carry out works which might result in such damage or destruction.

Previous surveys have found that small numbers of bats are known to commute through and forage within the site, primarily along the existing haul road, along the River Mayne and in areas of dry meadows and grassy verges and scrub on the eastern side of the site, to the north of Red Arches Road. There is no evidence to suggest that bats are roosting within the site. However, during construction, works required to upgrade the existing railway bridge along the western boundary of the site have the potential to result in adverse impacts on roosting bats, if present, due to the potential suitability of the bridge's stonework to contain crevices which could support roosting bats. Works to the existing railway bridge will include re-pointing, required due to the current state of disrepair which the bridge is in.

The proposed park development project will not result in the felling any mature trees, and therefore there is no potential for impacts on trees which could potentially support roosting bats as these will be unaffected by the proposals.

The proposed development will result in an increase in artificial night-time lighting on site. Post-construction the proposed development will require lighting during operation for public safety and access. Although some bat species do feed on insects attracted to artificial light, it is generally accepted that lighting tends to displace bats from an area. The magnitude of operational impacts on bats will depend on the species and number of bats affected. The proposed lighting design has been created to illuminate the pathways, cycle tracks and car park only, with the remainder of the site remaining unlit. Light-spill modelling for the proposed design indicates that light levels will quickly reduce to close to background levels (e.g. 0.75 lux) within a few metres of the illuminated surfaces. Therefore, it can be concluded that post-construction bats will still be able to use the majority of the site for foraging and commuting purposes. Given the low levels of existing bat activity known from the site, and the presence of three common bat species, the magnitude of operational impacts as a result of artificial lighting is regarded to be significant at a local level only.

7.5.1 MITIGATION FOR BATS

The following measures are proposed in relation to works to the railway bridge:

- **BM01:** An up-to-date inspection of the existing railway bridge must be carried out prior to any works being carried out on this structure. This will involve a suitably qualified bat ecologist inspecting the structure during daylight hours and assessing its potential to support roosting bats. Following on from this, bat surveys will be carried out to determine whether or not the bridge supports roosting bats. Bat surveys will be carried out in accordance with Bat Conservation Trust Guidelines (Collins, 2016). The number of bat surveys required will be

determined following the results of the daytime inspection and will be in accordance with the guidance detailed in Collins (2016). An Ecological Clerk of Works will be appointed for this work.

The following measures are prescribed in relation to the installation of artificial lighting on site, and minimising the effects this may have on populations of local bats:

- **BM02:** Any external lighting to be installed, including facilitating night-time working or security lighting during construction, on the site should be sensitive to the presence of bats in the area. Lighting of the site will be designed in accordance with the following guidance:
 - Guidance Notes for the Reduction of Obtrusive Light GN01 (Institute of Lighting Professionals, 2020)
 - Bats & Lighting - Guidance Notes for Planners, Engineers, Architects and Developers (Bat Conservation Ireland, December 2010)
 - Bats and Lighting in the UK – Bats and the Built Environment Series (Bat Conservation Trust UK, January 2008).

7.5.2 RESIDUAL EFFECTS

Residual effects on bats will be reduced to levels not considered significant, following adherence to the measures outlined in Section 7.5.1.

7.6. ASSESSMENT OF EFFECTS AND MITIGATION FOR OTTER

The proposed development site is known to be used by Otter, particularly the watercourses on site, which are likely to be used for foraging and commuting purposes. The park development proposals will not result in any significant changes to the watercourses on site- a new bridge will be constructed over the River Mayne and planting will also occur. New culverts will be installed in drainage ditches on site, in fields to the north of the Moyne Road. These works are not expected to significantly impact populations of local Otter. The proposed 5m span bridge will not require any instream works but rather excavations for abutment foundations will be located back from the stream edge so as not to impede stream/ water flows.

While the proposed development will result in increased human presence on site, the potential effects on Otters in terms of disturbance during the construction phase are, for the most part, not significant in this instance. This is because, the proposed construction works are limited in terms of scale, particularly in the vicinity of the watercourses on site, consisting mainly of landscaping works, and works will be largely confined to daylight hours, when otters are least likely to forage within the proposed development site. Even in the event that the construction phase of the proposal coincides with construction of other projects in the immediate vicinity, there will be no significant disturbance or displacement effects on Otters. Otters are widespread in Ireland and found in close proximity to human settlements, including in Dublin City, and therefore are likely to adapt to changes in human activity levels in the proposed development site and surrounding area.

During the operational phase of the proposed development, human activity will increase, as will artificial lighting, in comparison with the baseline conditions. As Otters are mainly nocturnal creatures, and human activity across the proposed development site will largely occur during daylight hours, the effects of human disturbance on Otter are not deemed to be significant at any geographical scale. The proposed development does not include the installation of artificial lighting along any of the existing watercourses, but rather along the main pedestrian/cycle route through the site. Therefore, it is highly

unlikely that the artificial lighting proposed will result in any light spill onto any of the watercourses and impacts on Otter as a result of artificial lighting during operation can be excluded.

In the absence of any mitigation, there is potential for a pollution event during the construction phase of the proposed development to result in impacts on Otters in the locality. Potential impacts include fish kill (thereby affecting prey availability within the watercourses on site and potentially further downstream) and indirect effects of impacts on water quality. Accidental spillages into any of the watercourses on site, would in turn adversely affect Otters in the locality, as oil has a negative effect on the Otter's waterproof coat and thus negates their ability to control body temperature in water. Furthermore, Otters may be affected by contamination of water by heavy metal compounds through bioaccumulation in their prey items. Regarding the potential for an accidental oil spillage, the effects on prey availability could be amplified should a pollution episode coincide with a pollution event triggered by other plans, projects, or land use activities in the Mayne sub-catchment. The effects on Otter would likely be significant at the local geographic level.

7.6.1 MITIGATION TO REDUCE THE IMPACTS ON OTTER

As otter could potentially establish new holts in the future within the Zol of the proposed development, in particular along the River Mayne, a pre-construction check of all suitable habitat along the banks of the watercourses within the proposed development site will be required within 12 months of any construction works commencing. Any new otter holts present will be afforded protection in line with the requirements set out in the National Roads Authority's *Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes* (2008).

Mitigation with regards the protection of surface water quality in receiving waters and prevention of pollution are contained in Section 7.3.1.

7.6.2 RESIDUAL EFFECTS

Residual effects on otter will be reduced to levels not considered significant, following adherence to the measures outlined in Section 7.6.1 and 7.3.1.

7.7. ASSESSMENT OF EFFECTS AND MITIGATION FOR BADGER

Despite the fact that no signs of badger activity were recorded during the surveys conducted on site in 2019, the site has the potential to be used by foraging and commuting badger. This is due to suitable foraging and commuting habitat on site. The conversion of portions of the proposed development site to buildings and artificial surfaces (e.g. provision of skate park, dog run, car park etc)., and landscaping proposals associated with the proposed park, will reduce the amount of semi-natural habitat available for foraging badgers within the site. However, the overall loss of habitat is not considered to be significant at any scale, considering the average badger territory size of more than 80ha in Ireland¹⁹, and the abundance of available suitable habitat (e.g. agricultural lands and associated boundary hedgerows and treelines to the west of the railway line) surrounding the proposed development site.

While the proposed development will result in increased human presence on site, the potential effects on badgers in terms of disturbance are not significant in this instance. This is because, the proposed construction works will be carried out over a relatively short period of time (i.e. 24 months in total

¹⁹ "Studies in several Irish counties have shown that territory size can vary from as little as 15ha to almost 300ha, with a mean of 80ha". Source: <https://www.vincentwildlife.ie/species/badger>

over four phases ranging between 2-10 months each), and works will largely be confined to daylight hours, when badgers are least likely to forage in the vicinity of the proposed development site. Even in the event that the construction phase of the proposal coincides with construction of other projects in the immediate vicinity, there will be no significant disturbance or displacement effects on badgers. Badgers are widespread in Ireland and found in close proximity to human settlements, including in Dublin City, and therefore are likely to adapt to changes in human activity levels in the proposed development site and surrounding area.

In the absence of mitigation there is potential for accidental direct harm to badgers to occur during construction. This is because it is a possibility that Badger will establish new setts within the proposed development site before construction works commence, and the locations of potential newly established setts could be within the ZoI of the proposed development. This scenario has been taken into account in the mitigation strategy. Owing to the legal protection afforded to badgers under the Wildlife Act, every care should be taken to prevent direct and indirect harm coming to badgers.

7.7.1 MITIGATION TO REDUCE THE IMPACTS ON BADGER

The mitigation measures described below follow the recommendations set out in the *Guidelines for the Treatment of Badgers during the Construction of National Road Schemes* (National Roads Authority, 2006c). These guidelines set out the best practice approach in considering and mitigating impacts on badgers during construction works.

As badger could potentially establish new setts in the future within the ZoI of the proposed development, a pre-construction check of all suitable habitat within the proposed development boundary will be required within 12 months of any construction works commencing. Any new badger setts present will be afforded protection in line with the requirements set out in the TII/NRA guidance document as follows:

- Badger setts will be clearly marked and the extent of bounds prohibited for vehicles clearly marked by fencing and signage
- No heavy machinery shall be used within 30m of badger setts; lighter machinery (generally wheeled vehicles) shall not be used within 20m of a sett entrance; light work, such as digging by hand or scrub clearance shall not take place within 10m of sett entrances
- During the breeding season (December to June inclusive), none of the above works shall be undertaken within 50m of active setts, nor blasting or pile driving within 150m of active setts
- Works can be undertaken within these zones following consultation with, the approval of and, if required, under the supervision of a badger ecologist

As the proposed development will not result in the loss of any badger setts, there is no requirement to construct any artificial setts as part of the mitigation strategy.

7.7.2 RESIDUAL EFFECTS

Residual effects on badger will be reduced to levels not considered significant, following adherence to the measures outlined in Section 7.7.1.

7.8. ASSESSMENT OF EFFECTS AND MITIGATION FOR HARE, HEDGEHOG, PYGMY SHREW & IRISH STOAT

The proposed development site has the potential to be used by hare, hedgehogs, pygmy shrew and Irish stoat, due to the presence of suitable habitat for foraging and commuting purposes, and their presence in the wider environment as identified during the desktop review. The conversion of portions of the proposed development site to buildings and artificial surfaces (e.g. provision of skate park, dog

run, car park etc)., and landscaping proposals associated with the proposed park, will reduce the amount of semi-natural habitat available for foraging hare/ hedgehog/ pygmy shrew/ Irish stoat within the site. Considering the abundance of similar habitats in the wider environs (e.g. agricultural lands and associated boundary hedgerows and treelines to the west of the railway line), the overall loss of habitat for hare/ hedgehog/ pygmy shrew/ Irish stoat is not considered significant at any geographic scale.

Furthermore, given the relatively low numbers of individuals of each species that are likely to be affected, and that they are highly mobile species, vegetation clearance is unlikely to result in a level of mortality that would affect the species' conservation status, and result in a significant negative effect, even at a local geographic scale.

In conjunction with any displacement effects associated with habitat loss, increased human presence and/or noise and vibration associated with construction works, has the potential to displace hare, hedgehog, pygmy shrew and Irish stoat from both breeding/resting places and from foraging habitat. However, given the predicted duration of construction (i.e. 24 months in total over four phases ranging between 2-10 months each) for the proposed development, disturbance will be a temporary impact and is therefore extremely unlikely to result in any long-term effects on the local hare/ hedgehog/ pygmy shrew/ Irish stoat populations or their conservation status. Therefore, disturbance/displacement during construction is unlikely to result in a significant negative effect, at any geographic scale.

7.8.1 MITIGATION TO REDUCE THE IMPACTS ON HARE & HEDGEHOG

As there is no risk of a significant negative effect from the proposed development on the local populations of hare/ hedgehog/ pygmy shrew/ Irish stoat, mitigation measures intended to avoid or reduce any harmful effects on their populations are not required.

7.8.2 RESIDUAL EFFECTS

No residual effects on hare, hedgehog/ pygmy shrew or Irish stoat are predicted as a result of the proposed development.

7.9. ASSESSMENT OF EFFECTS AND MITIGATION FOR BREEDING BIRDS

All wild bird species are protected under the *Wildlife Acts 1976-2012* and it is an offence to disturb birds while on their nests, or to wilfully take, remove, destroy, injure or mutilate their eggs or nests.

In the absence of adoption of protocols for the protection of birds and their nests, there is potential for direct impacts on nesting birds and/or mortality of birds arising from the clearance of vegetation within the subject lands. Examples of works which could lead to such potential impacts include the thinning of existing shrubs/ small trees along the existing watercourses on site, pitch development works and the regrading works proposed in close proximity to existing reed beds along the River Snugborough. Potential impacts on nesting birds would be most likely if works were to occur during the time of year when birds are likely to be nesting (1st March to 31st August, inclusive). Impacts arising from vegetation clearance would be significant, in the absence of mitigation.

In addition to mortality of breeding birds, there is potential for disturbance of local bird fauna arising from noise associated with construction, in addition to increased construction traffic. While there is some potential for short-term disturbance of bird species foraging within the lands at the early stage of construction, it is anticipated that birds will acclimatise to human presence. This is because the

lands are located in a suburban-rural locality, and the majority of bird species noted on site are generally associated with gardens and other suburban habitats frequented by people. The potential for disturbance of foraging bird species during construction is not considered to be significant at any geographic scale.

7.9.1 MITIGATION TO REDUCE THE IMPACTS ON BREEDING BIRDS

In order to avoid potential significant impacts on breeding birds, the following measures are prescribed:

- **BB01:** Where feasible, vegetation (e.g. hedgerows, trees, scrub and grassland) will not be removed, between the 1st March and the 31st August, to avoid direct impacts on nesting birds. Where the construction programme does not allow this seasonal restriction to be observed, then these areas will be inspected by a suitably qualified ecologist for the presence of breeding birds prior to clearance. Areas found not to contain nests will be cleared within 3 days of the nest survey, otherwise repeat surveys will be required.
- **BB02:** If all vegetation clearance cannot be undertaken outside of the breeding bird season, tall grassy vegetation which is to be removed should be mown on a regular basis in advance of the commencement of the breeding bird season. This may help to discourage birds from nesting in these areas, such that clearance during the breeding bird season may be possible. To ascertain whether mowing has discouraged breeding birds to the point that no breeding birds are present in these areas, a suitably qualified ecologist will be required to undertake a ground nest search and advise the contractor on their findings and recommendations regarding vegetation clearance.

7.9.2 RESIDUAL EFFECTS

Residual effects on breeding birds will be reduced to levels not considered significant, following adherence to the measures outlined in Section 7.9.1.

7.10. ASSESSMENT OF EFFECTS AND MITIGATION FOR WINTERING BIRDS

In the absence of mitigation, accidental spillages of oils, cement or other potential pollutants, during construction works could potentially be released into the Mayne River, Snugborough River, Maynetown Stream or Snugborough Stream and/or the existing surface water drainage network in the area and transferred into Baldoyle Bay. Qualifying Interest bird species of Baldoyle Bay SPA utilise the intertidal and estuarine habitats in Baldoyle Bay for feeding and/or roosting. These species would be vulnerable to an accidental pollution incident either directly e.g. through direct contact with oil or other polluting chemicals, or indirectly by affecting the habitats and food supply on which they rely for feeding and/or roosting within the Baldoyle Bay area. The potential impact in the absence of mitigation would be a low risk of an adverse effects on site integrity from accidental fuel, oil or concrete spills, dependent on the magnitude of the pollution event.

The proposal includes for the provision of a new car park to the north of the existing playing pitches at Red Arches park. The construction of the car park, in the absence of mitigation, has the potential to result in the permanent displacement of foraging winter birds such as Light-bellied Brent geese from

the northern area of playing pitches which is to be developed into a car park. This area comprises the northernmost part of the playing pitches which lies adjacent to Red Arches Road and is not regularly used by foraging geese, possibly due to its proximity to the road. Foraging geese tend to be found further south, towards the centre of the playing pitches rather than at the perimeter. The loss of this area is not deemed to be significant due to the low usage of the area by foraging geese and the fact that post development the majority of the playing pitches, which represents a substantial amount of suitable foraging habitat, will remain to the south of the proposed car park.

In addition, the construction of the proposed car park here could result in disturbance to winter birds such as Light-bellied Brent geese, which forage on the pitches. This could result in a profound temporary impact on goose populations, which are associated with Baldoyle Bay SPA, significant at the international level.

Finally, the proposed development will result in the displacement of geese from the area to the north of Red Arches Road which is known to be used by Light-bellied Brent Geese as an *ex-situ* inland feeding site. The proposal intends to accommodate a skate park and associated recreational activity facilities in this area. The loss of this area as an *ex-situ* inland feeding site may in turn result in a reduction in the proportion of the existing foraging habitat in the Dublin area available to Light-bellied Brent Geese, which is a finite resource, and may impact on the existing terrestrial food supply of Light-bellied Brent Geese in the Dublin area. The potential impact of this has been assessed in detail in the NIS prepared for this application (Scott Cawley, 2020) which has concluded that the proposed development will not result in any impact on the population trend of Light-bellied Brent Geese associated with Baldoyle Bay SPA, North Bull Island SPA, Rogerstown Estuary SPA, Malahide Estuary SPA or South Dublin Bay and River Tolka Estuary SPA due to the following:

- Based on the results of the overwintering bird surveys conducted by Scott Cawley in 2019, the amenity grassland to the north of Red Arches Road, which will be partly lost as a result of the proposed development (due to the provision of the skatepark, teenage play area and MUGA), are only used occasionally by Light-bellied Brent Geese. Geese were only recorded on the lands for <30 seconds over the course of surveys undertaken between 26th February and 30th March 2019. Furthermore, data contained in a 2017 report (Scott Cawley, 2017) shows that the significance of the site seems to vary from year to year, with the site being deemed to be of “*moderate*” significance between January and March in 2016 (peak count = 150) and “*major*” significant for the same period in 2017 (peak count = 455). This indicates that the lands are of historical importance for Light-bellied Brent Geese, but have not been used consistently in recent years.
- The design of the proposed park includes for the provision of additional playing pitches in the west of the site. These proposed pitches will replace existing dry meadow habitat which are currently unsuitable for foraging geese. In this way, the proposed park will enhance the potential and increase the overall area of suitable habitat available to foraging geese and will in fact result in a net gain for foraging geese. The phasing proposed for the development of the park means that these additional pitches will be in place and completed prior to any works taking place in the area of amenity grassland to the north of Red Arches Road.
- Lands to the north of the Moyne Road are currently being successfully managed for foraging Light-bellied Brent Geese (See park development plan for details of management and background). Foraging Light-bellied Brent Geese were recorded for the first time in these

lands over the 2019-2020 winter bird season (Hans Visser pers.comm.). The successful management of these lands for Light-bellied Brent Geese, as well as other wader species, has resulted in additional suitable *ex-situ* foraging resources being available to these species. Therefore, the displacement of foraging geese from the area of amenity grassland to the north of Red Arches Road, as a result of the proposed development, will not result in a significant impact on this SCI species due to the availability of suitable foraging habitat, of a much larger area, already in existence within the locality.

During operation, the value of the Red Arches playing pitches to foraging winter birds such as Light-bellied Brent Geese could be reduced due to disturbance from human activities such as dog walking. Sustained and widespread disturbance has a significant impact on birds' foraging success, energetic costs, use of feeding and roosting sites and may ultimately result in population declines (Nairn & Phalan, 2007). A wide variety of human activities are known to cause disturbance, but their effects on birds depend on their nature, frequency and extent. In general, the greater the number of people visiting a site, the greater the impact on birds is likely to be. The provision of a car park so close to the pitches could result in an increase in the number of people and dogs who run directly onto the pitches from this area, disturbing any foraging geese, thereby having a negative effect on the conservation objectives of Baldoyle Bay SPA, North Bull Island SPA, Rogerstown Estuary SPA, Malahide Estuary SPA or South Dublin Bay and River Tolka Estuary SPA.

7.10.1 MITIGATION TO REDUCE THE IMPACTS ON WINTERING BIRDS

The following measures are proposed to reduce disturbance impacts to wintering birds during construction:

- **WB01:** Construction activities associated with the proposed car park at Red Arches playing pitches should be restricted to the period May- August (inclusive) so as to avoid construction related disturbance to foraging geese (which are only winter visitors).
- **WB02:** Likewise, construction activities associated with the proposed skate park in the area of amenity grassland to the north of Red Arches Road should be restricted to the period May-August (inclusive).
- **WB03:** If the above measures cannot be complied with, due to an incompatible project program, then a visual screen will need to be erected around the perimeter of construction works on the pitches or amenity grassland area, to avoid visual disturbance to foraging geese.

The following measures are proposed to reduce disturbance impacts on foraging winter birds during the operation of the proposed development:

- **WB06:** The proposed car park in the northernmost part of the existing playing pitches at Red Arches, has been designed so as to lead visitors from the car park to a designated entrance to the playing pitches, located to the south-west of the proposed car park. This is to ensure that people use a defined entrance as opposed to simply running onto the pitches from any location in the car park. Furthermore, sufficient landscaping or fencing has been provided around the perimeter of the car park to ensure that loose dogs cannot simply run onto the pitches from the car park.

- **WB07:** The playing pitches and potentially the other areas in the wider park which are to be managed for geese will be zoned as “dog-free” for the winter bird season (September – April) and signs will be erected to convey this message to the public. These signs will also act as a means of public education to describe how disturbance such as loose dogs can impact geese.
- **WB08:** It will be Baldoyle Racecourse Park policy that all dogs must be kept on a lead at all times while in the park, with the exception of the dog park. This will be implemented by a by-law (see Fingal County Council’s *Regional Parks & Open Spaces Bye-Laws 2017* (Fingal County Council, 2017a) for details) and enforced by Fingal County Council Park Rangers who will monitor the park.

Measures outlined in Section 7.3.1 will prevent impacts to surface waters during construction.

7.10.2 RESIDUAL EFFECTS

Residual effects on wintering birds will be reduced to levels not considered significant, following adherence to the measures outlined in Section 7.10.1 and 7.3.1.

7.11. ASSESSMENT OF EFFECTS AND MITIGATION FOR AMPHIBIANS

The proposed development site has the potential to be used by amphibians, such as Common Frog and Smooth Newt, due to the presence of suitable habitat within the site to support such species (e.g. wet grassland, rivers and drainage ditches etc.), and their presence in the wider environment as identified during the desktop review. The most likely impact to amphibian species would be through effects to surface water quality of watercourses and drainage ditches on site as a result of construction activities (e.g. excavations, soil stripping, regrading works, which could all potentially result in the release of silt/ sediment into the receiving surface waters). Effects on surface water quality could lead to impacts with regards habitat suitability for amphibian species. This would be significant at the local geographic scale.

7.11.1 MITIGATION FOR AMPHIBIANS

Mitigation measures with regards the protection of surface waters and prevention of pollution to such waters is contained in Section 7.3.1.

7.11.2 RESIDUAL EFFECTS

Residual effects on amphibians will be reduced to levels not considered significant, following adherence to the measures outlined in Section 7.3.1.

7.12. ASSESSMENT OF EFFECTS AND MITIGATION FOR INVASIVE SPECIES

The proposed works will involve soil stripping, regrading, minor excavations for the creation of wetland habitat and substantial landscaping. These works have the potential to exacerbate the spread of invasive species present on site, which could result in significant impacts at the local level.

7.12.1 MITIGATION FOR INVASIVE SPECIES

the following measures are proposed to control the spread of invasive species both within the subject lands and further afield:

- **IM01:** A pre-construction invasive species survey will be undertaken prior to any works commencing on site. The aim of the survey will be to accurately map the location and extents of any invasive species identified.
- **IM02:** All invasive species listed on the Third Schedule of the *Birds and Natural Habitats Regulations (2011)*, will be eradicated from the subject lands prior to any other works commencing. It should be noted that Japanese Knotweed on site has been treated by Fingal County Council for the past three years and Giant Hogweed has been treated for the past four years. Furthermore, Japanese Knotweed is located remote from any proposed works areas for the proposed park development.
- **IM03:** An Invasive Species Management Plan (ISMP), which will clearly outline the control methods to be employed for each Third Schedule invasive species recorded on site, will be prepared prior to commencement of the proposed works. A suitably qualified contractor, with experience in dealing with invasive species, will be employed to execute the ISMP.
- **IM04:** The site will be monitored for the presence of invasive species for a period of 3 years post development. Any subsequent regrowth of invasive species will be treated accordingly by a suitably qualified contractor, following best guidance.

8. CUMULATIVE EFFECTS

According to the Fingal Development Plan 2017-2023, the proposed development site is currently zoned as “HA- High Amenity” and “OS- Open Space”, with the following respective zoning objectives; “protect and enhance high amenity areas” and “preserve and provide for open space and recreational amenities”. The surrounding lands are largely residential in nature.

Existing or proposed projects or plans impacting on the same key ecological receptors have the potential to lead to impacts of a higher level of significance when assessed cumulatively. The most likely of these potential impacts is the potential for impacts in Baldoyle Bay via surface water discharges. The potential for cumulative impacts in Baldoyle Bay are assessed in detail below.

There is potential for potential cumulative impacts from other proposed plans and projects within the Fingal Development Plan 2017-2023 administrative area, which could influence conditions in Baldoyle Bay and the Irish Sea via rivers and other surface water features. According to the EPA’s Online Map Viewer²⁰, the Irish Sea is currently regarded as ‘Unpolluted’, while Baldoyle Bay is currently ‘Eutrophic’. The pollutant content of future surface water discharges to Baldoyle Bay and the coastal waters of the Irish Sea are considered likely to be decreased in the long-term. This is because objective SW04 of the Fingal Development Plan 2017-2023 states that it is an objective of the Plan to “require the use of sustainable drainage systems (SUDS) to minimise and limit the extent of hard surfacing and paving and require the issue of sustainable drainage techniques where appropriate, for new development or for

²⁰ EPA Online Map Viewer. Available at: <https://gis.epa.ie/EPAMaps/> [Accessed 03/11/2020]

extensions to existing developments...” This objective is considered likely to reduce pressures on designated marine and intertidal species and habitats in Baldoyle Bay as a result of surface water pollution. There are also protective policies and objectives in place at a strategic planning level (e.g. the Eastern and Midland Regional Assembly’s *Regional Spatial and Economic Strategy 2019-2031*) to protect water quality in Baldoyle Bay.

There are a number of existing and proposed development projects, mainly residential developments and alterations to existing developments, within the area²¹ which have potential to produce potential cumulative impacts on water quality in Baldoyle Bay during their operation. However, the potential for cumulative pressures on surface waters is considered to be limited to short duration impacts resulting from construction activities which could result in elevated levels of hydrocarbons or silts entering the surface water network. In the unlikely event of a pollution event occurring during construction, given the mitigation measures proposed, this would not be of such a magnitude that would have a significant adverse effect on water quality in Baldoyle Bay, or affect the Qualifying Interest/ Special Conservation Interests of the European sites therein. There is therefore no potential for cumulative impacts as a result of surface water discharges.

Impacts on foraging winter birds, in particular Light-bellied Brent Geese, could also be significant when assessed cumulatively, given the proposed development’s coastal setting. Further development in the area could result in further loss of suitable foraging habitat for Light-bellied Brent Geese or further increases in disturbance to foraging birds, both of which would have a detrimental effect on the local population of Light-bellied Brent Geese. As demonstrated in the Natura Impact Statement (NIS), which forms part of this application, the proposed park development will not result in any disturbance impacts on SCI bird species due to the mitigation measures proposed. However, existing or future plans/ projects could result in impacts to SCI birds through increased visitor pressure.

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

The Coastal Pathway, a greenway linking Baldoyle to Portmarnock, was granted planning permission in July 2018. With respect to increased visitor pressure, particularly in the case of a known feeding

²¹<https://fingalcoco.maps.arcgis.com/apps/webappviewer/index.html?id=3fa7d9df584c4d93aab202638db9dd1a>

[Accessed 03/11/2020]

site at Portmarnock Green which could potentially be impacted upon in this regard, the Natura Impact Statement (NIS) prepared for this planning application concluded that *“given the observable tolerance shown by Light-bellied Brent Geese for predictable and repeated patterns of disturbance (where the disturbance remains remote and does not enter the feeding area), it is not anticipated that the increased level of pedestrian and cyclist use of the path should negatively impact on use of the site by Light-bellied Brent Geese”* (Atkins, 2018).

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

Given the nature of the surrounding environment (consisting of existing residential dwellings, amenity areas and agricultural lands) it is unlikely that there would be wide-scale vegetation clearance in the surrounding locality. Agricultural lands to the west of the proposed development site are zoned as *“GB- Green Belt: Protect and provide for a Greenbelt”* with the following zoning objective vision: *“Create a rural/urban Greenbelt zone that permanently demarcates the boundary, i. between the rural and urban areas, or; ii. between urban and urban areas. The role of the Greenbelt is to check unrestricted sprawl of urban areas, to prevent coalescence of settlements, to prevent countryside encroachment and to protect the setting of towns and/or villages. The Greenbelt is attractive and multifunctional, serves the needs of both the urban and rural communities, and strengthens the links between urban and rural areas in a sustainable manner. The Greenbelt will provide opportunities for countryside access and for recreation, retain attractive landscapes, improve derelict land within and around towns, secure lands with a nature conservation interest, and retain land in agricultural use. The zoning objective will have the consequence of achieving the regeneration of undeveloped town areas by ensuring that urban development is directed towards these areas”*. This zoning objective does not allow for large-scale development on these lands and essentially protects the lands from development. Therefore, significant cumulative impacts, as a result of habitat loss or increases in disturbance to foraging Light-bellied Brent Geese, can be excluded.

Fingal County Council intend to upgrade the existing traveller accommodation on the Moyne Road in the near future (Hans Visser pers. comm.). Given the location of Moyne Park, in relation to the proposed development site, these upgrade works could, in the absence of mitigation, result in cumulative impacts with regards to surface water discharges during construction and the spread of invasive species. Mitigation measures with respect to the protection of surface waters and prevention of the spread of invasive species have been prescribed for the proposed development (see Sections 7.3.1 and Section 7.12.1), such that significant effects as a result of these issues can be excluded. Furthermore, as the existing traveller accommodation site is located within the Baldoyle- Stapolin LAP area, any proposed upgrades will be subject to Appropriate Assessment, which will include an assessment of the proposed upgrades potential to result in significant cumulative impacts on nearby European sites.

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

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

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

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

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

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

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

Irish Water received planning permission from An Bord Pleanála for the Greater Dublin Drainage (GDD) Project in north Dublin in November 2019. The project will include the installation of an underground pipeline from Blanchardstown to a new wastewater treatment plant at Clonsaugh. The treated effluent will then be returned safely to the Irish Sea via a 6km marine outfall pipeline from Baldoyle to a point 1km north of Ireland's Eye. The An Bord Pleanála Inspector's Report states that the Inspector was satisfied that the mitigation measures for Baldoyle Bay SPA would not result in significant residual

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

impacts and that the proposed development, individually or in combination with other plans or projects, would not adversely affect the integrity of any European sites. However, An Bord Pleanála's decision to grant permission for this project was quashed by the High Court in November 2020 due to a failure to seek observations from the Environmental Protection Agency on likely impacts of the proposed development on wastewater discharges.

Finally, the Baldoyle – Stapolin Local Area Plan (Fingal County Council, 2013a), outlines a phased approach for residential development within the LAP boundary. Phases 1 and 2 have been granted permission (Reg. Ref: F02A/0921 and F03A/ 1162 respectively) and at the publication of the Baldoyle – Stapolin LAP, Phase 1 had been completed while Phase 2 had been granted an extension of duration until August 2014. Phase 3 (Growth Area 3) comprises an area to the immediate west of the proposed park development. The third phase will provide for the completion of the village centre through the delivery of the northern half of the village centre site and the remainder of the residential units will then be built out, thereby completing the site. A clear phasing strategy is outlined in the LAP and the Natura Impact Statement (NIS) prepared in support of the Baldoyle -Stapolin LAP concluded that following the successful implementation of the policies and objectives of the Plan, there would be no likely significant effects on European sites, in isolation or in combination with other plans and projects. Therefore, significant cumulative impacts, as a result of the Phase 3 lands being developed in tandem with the proposed park development, can be excluded.

9. MONITORING

The following monitoring is proposed to assess the effectiveness of proposed mitigation and enhancement measures:

- **MON01:** A series of breeding bird surveys will be carried out for a period of 3 years, post-construction, to assess the parks impact on local breeding birds. Surveys will take place within the breeding bird season (March-June inclusive) and will comprise walked transects. Three visits to the park to carry out breeding bird surveys will be undertaken annually during the breeding bird season. An annual report summarising the findings and noting any year on year trends will be provided to the competent authority and developer.
- **MON02:** A series of wintering bird surveys will be carried out for a period of 3 years, post-construction, to monitor the use of the park by migratory birds (e.g. light-belled brent goose) during the wintering bird season. An annual report summarising the findings and noting any year on year trends will be provided to the competent authority and developer.
- **MON03:** The effects of the flap valve management programme (Roughan & O'Donovan, 2018), which was considered during the preparation of the overall Masterplan Design Report (BSLA, 2021) for the proposed park development, on the saltmarsh vegetation will be monitored to assess its impacts, so that the programme can be refined, if needed.

10. CONCLUSION

It can be concluded that overall the proposed park development is likely to result in a positive impact on local biodiversity, owing to the significant enhancement measures and habitat creation goals included in the overall Masterplan Design Report (BSLA, 2021). Notwithstanding that, potential significant effects have been identified for certain habitats and species on site. Measures have been provided to reduce the potential impacts on KERs, and to ensure compliance with national and European wildlife law. Monitoring has been prescribed to assess the effectiveness of enhancement measures proposed, to allow revisions where necessary.

11. REFERENCES

- Atkins McCarthy (2000).** *Baldoyle Action Plan: Ecology Assessment*. Unpublished report for Ballymore Properties Limited.
- Bat Conservation Ireland (2010).** *Bats & Lighting - Guidance Notes for Planners, Engineers, Architects and Developers*
- Bat Conservation Trust UK (2008).** *Bats and Lighting in the UK – Bats and the Built Environment Series*
- Benson, L. (2009).** *Use of Inland feeding sites by Light-bellied Brent Geese in Dublin 2008-2009: a new conservation concern?* Irish Birds (8) pgs 563-570
- BSBI (2007).** *BSBI's List of Accepted Plant Names*. Revised in 2007. Available online from the BSBI website www.bsbi.org/resources (Downloaded 18/12/2017).
- BSLA (2021).** *Racecourse Park Masterplan Deign Report*. March 2021
- CIEEM (2018)** *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management.
- Colhoun, K. & Cummins, S. (2013)** *Birds of Conservation Concern in Ireland 2014 -2019*. Irish Birds 9: 523-544.
- Collins, J. (ed.) (2016)** *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1
- Crowe, O. & Holt, C. (2013).** *Estimates of waterbird numbers wintering in Ireland, 2006/07 - 2010/11*. Irish Birds 9. pgs:545-552
- Denyer Ecology (2019).** *Baldoyle Rare Plant Survey 2019*. Report for Fingal County Council.
- Doogue, D., Nash, D., Parnell, J., Reynolds, S. & Wyse-Jackson, P. (1998)** *Flora of County Dublin*. The Dublin Naturalists' Field Club.
- Doogue, D. (1991).** *Threatened Plant Survey Form: Puccinellia fasciculata*. Unpublished species report for Fingal County Council.
- Dublin Bat Group (2018).** *Dublin Bat Group 2018 Surveys for Fingal County Council: Baldoyle Racecourse*.
- Fingal County Council (2017).** *Fingal Development Plan 2017-2023*.
- Fingal County Council (2010).** *Fingal Biodiversity Action Plan 2010-2015*
- Fitzgerald, A. (2017).** *Vegetation Study of Baldoyle Racecourse Park, Co. Dublin*. Report for Fingal County Council.
- Fossitt, J. (2000)** *Guide to Habitats in Ireland*. The Heritage Council
- Goodwillie, R. (2002).** *Flora and Fauna Report: Baldoyle/Coast Road EIS*. Unpublished report for Ballymore Properties Limited.
- Institute of Lighting Professionals (2020).** *Guidance Notes for the Reduction of Obtrusive Light GN01*. Available online at <https://theilp.org.uk/publication/guidance-note-1-for-the-reduction-of-obtrusive-light-2020/>. Accessed October 2020.
- Keeley, B. (2016).** *A bat assessment of the Racecourse Park and an evaluation of the potential for impacts from a public coastal route*. Report for Fingal County Council.
- King, J.L., Marnell, F., Kingston, N., Rosell, R., Boylan, P., Caffrey, J.M., FitzPatrick, Ú., Gargan, P.G., Kelly, F.L., O'Grady, M.F., Poole, R., Roche, W.K. & Cassidy, D. (2011)** *Ireland Red List No. 5:*

Amphibians, Reptiles & Freshwater Fish. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Lewanski, D., Voigt, C.C. (2016). Transition from conventional to light-emitting diode street lighting changes activity of urban bats. *Journal of Applied Ecology*.

Lewis, L. J., Burke, B., Fitzgerald, N., Tierney, T. D. & Kelly, S. (2019). *Irish Wetland Bird Survey: Waterbird Status and Distribution 2009/10-2015/16*. Irish Wildlife Manuals, No. 106. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht, Ireland.

Lockhart, N., Hodgetts, N. & Holyoak, D. (2012) *Ireland Red List No.8: Bryophytes*. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland

Marnell, F., Looney, D. & Lawton, C. (2019). *Ireland Red List No. 12: Terrestrial Mammals*. National Parks and Wildlife Service, Department of the Culture, Heritage and the Gaeltacht, Dublin, Ireland.

Nairn, R., Fox, J. (2017). *Winter bird study of lands around Baldoyle Bay 2016-2017*. Report to Fingal County Council from Natura Environmental Consultants. Wicklow.

NPWS (2012). *Baldoyle Bay Special Protection Area (Site Code 4016) Conservation Objectives Supporting Document Version 1* December 2012

NRA (2009). *Guidelines for Assessment of Ecological Impacts of National Road Schemes*. National Roads Authority (Now part of Transport Infrastructure Ireland), Dublin.

NRA (2006). *Guidelines for the Treatment of Badgers during the Construction of National Road Schemes*. National Roads Authority.

NRA (2008). *Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes*. National Roads Authority

Pierce, S., Dillon D. (2012). *Winter bird survey of the lands surrounding the Baldoyle Estuary*. Unpublished report to Fingal County Council. Birdwatch Ireland. Fingal Branch.

Pierce, S. (2018). *The breeding birds of Racecourse Park, Baldoyle, Co. Dublin, April-June 2018*. Report for Fingal County Council.

Pierce, S. (2019). *The Breeding Birds of Racecourse Park, Baldoyle, Co. Dublin. April- June 2019*. Report for Fingal County Council.

Roughan & O'Donovan (2018). Flap valve management programme for the re-establishment of brackish habitats and fish in the Mayne River, Baldoyle, Co. Dublin. Report for Fingal County Council.

Scott Cawley Ltd. (2017). *Natura Impact Statement for Proposed Residential Development at St. Paul's College, Sybill Hill, Raheny, Dublin 5*

Wyse Jackson, M., FitzPatrick, Ú., Cole, E., Jebb, M., McFerran, D., Sheehy Skeffington, M. & Wright, M. (2016) *Ireland Red List No. 10: Vascular Plants*. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs, Dublin, Ireland.

APPENDIX 1: EXAMPLES OF ECOLOGICAL EVALUATION

Ecological Valuation Criteria
<p>International Importance:</p> <ul style="list-style-type: none"> • 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation. • Proposed Special Protection Area (pSPA). • Site that fulfils the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended). • Features essential to maintaining the coherence of the Natura 2000 Network.²³ • Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. • Resident or regularly occurring populations (assessed to be important at the national level)²⁴ of the following: <ul style="list-style-type: none"> ○ Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and / or ○ Species of animal and plants listed in Annex II and/or IV of the Habitats Directive. • Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971). • World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972). • Biosphere Reserve (UNESCO Man & The Biosphere Programme). • Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979). • Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979). • Biogenetic Reserve under the Council of Europe. • European Diploma Site under the Council of Europe. • Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).²⁵

²³ See Articles 3 and 10 of the Habitats Directive.

²⁴ It is suggested that, in general, 1% of the national population of such species qualifies as an internationally important population. However, a smaller population may qualify as internationally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.

²⁵ Note that such waters are designated based on these waters' capabilities of supporting salmon (*Salmo salar*), trout (*Salmo trutta*), char (*Salvelinus*) and whitefish (*Coregonus*).

Ecological Valuation Criteria

National Importance:

- Site designated or proposed as a Natural Heritage Area (NHA).
- Statutory Nature Reserve.
- Refuge for Fauna and Flora protected under the Wildlife Acts.
- National Park.
- Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park.
- Resident or regularly occurring populations (assessed to be important at the national level)²⁶ of the following:
 - Species protected under the Wildlife Acts; and/or
 - Species listed on the relevant Red Data list.
- Site containing 'viable areas'²⁷ of the habitat types listed in Annex I of the Habitats Directive.

County Importance:

- Area of Special Amenity.²⁸
- Area subject to a Tree Preservation Order.
- Area of High Amenity, or equivalent, designated under the County Development Plan.
- Resident or regularly occurring populations (assessed to be important at the County level)²⁹ of the following:
 - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
 - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
 - Species protected under the Wildlife Acts; and/or
 - Species listed on the relevant Red Data list.
- Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance.
- County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified in the National or Local Biodiversity Action Plan (BAP) if this has been prepared.
- Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county.
- Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.

²⁶ It is suggested that, in general, 1% of the national population of such species qualifies as a nationally important population. However, a smaller population may qualify as nationally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.

²⁷ A 'viable area' is defined as an area of a habitat that, given the particular characteristics of that habitat, was of a sufficient size and shape, such that its integrity (in terms of species composition, and ecological processes and function) would be maintained in the face of stochastic change (for example, as a result of climatic variation).

²⁸ It should be noted that whilst areas such as Areas of Special Amenity, areas subject to a Tree Preservation Order and Areas of High Amenity are often designated on the basis of their ecological value, they may also be designated for other reasons, such as their amenity or recreational value. Therefore, it should not be automatically assumed that such sites are of County importance from an ecological perspective.

²⁹ It is suggested that, in general, 1% of the County population of such species qualifies as a County important

Ecological Valuation Criteria

Local Importance (higher value):

- Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared;
- Resident or regularly occurring populations (assessed to be important at the Local level)³⁰ of the following:
 - Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
 - Species of animal and plants listed in Annex II and/or IV of the Habitats Directive;
 - Species protected under the Wildlife Acts; and/or
 - Species listed on the relevant Red Data list.
- Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality;
- Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.

Local Importance (lower value):

- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife;
- Sites or features containing non-native species that are of some importance in maintaining habitat links.

population. However, a smaller population may qualify as County importance where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.

³⁰ It is suggested that, in general, 1% of the local population of such species qualifies as a locally important population. However, a smaller population may qualify as locally important where the population forms a critical part of a wider population or the species is at a critical phase of its life cycle.