

Strategic Housing Development, For Alterations to Shoreline GA1 Lands at Baldoyle, Dublin 13

Environmental Impact Assessment Report
(EIAR) - Volume 1 Non-Technical Summary

BSM

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**Brady Shipman
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**Built.
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Environmental Assessment **Built Environment**

Client:

The Shoreline Partnership

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1 Introduction

An Environmental Impact Assessment Report (EIAR) has been prepared in support of a planning application for a proposed Strategic Housing Development (SHD) by The Shoreline Partnership for lands at Baldoyle, (formerly known as The Coast), Baldoyle-Stapolin Growth Area No. 1 (GA1), Baldoyle, Dublin 13 (hereafter referred to as “*the proposed Project*”).

This report (the Non-Technical Summary (NTS)) provides a concise and comprehensive summary of the assessments carried out, a description of the project, its existing environment and the effects of the proposed Project on the environment. The Environmental Impact Assessment Report (EIAR) (Volume 2) sets out the results of the environmental assessments which have been completed for the proposed Project to inform the planning consent process. The assessment has been completed as a statutory environmental assessment.

Having regard to the 2014 Directive (2014/52/EU) and the Circular Letter PL 1/2017 of the Department of Housing, Planning, Community and Local Government (DHPLG), the main report (Volume 2) has been titled an Environmental Impact Assessment Report (EIAR). This constitutes and fulfils the requirement of an Environmental Impact Statement (EIS) as required under and in accordance with the Planning and Development Act, 2000, as amended, (Part X); and Part 10 of the Planning and Development Regulations, 2001-2017.

The environmental impact assessment (EIA) process has been completed in line with 2014 Directive and the Environmental Protection Agency (EPA) *Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports*¹.

1.1 The Applicant

The Client for the proposed Project is The Shoreline Partnership, owners of the lands at Baldoyle, (formerly known as The Coast), Baldoyle-Stapolin Growth Area No. 1 (GA1), Baldoyle, Dublin 13.

1.2 The Proposed Project

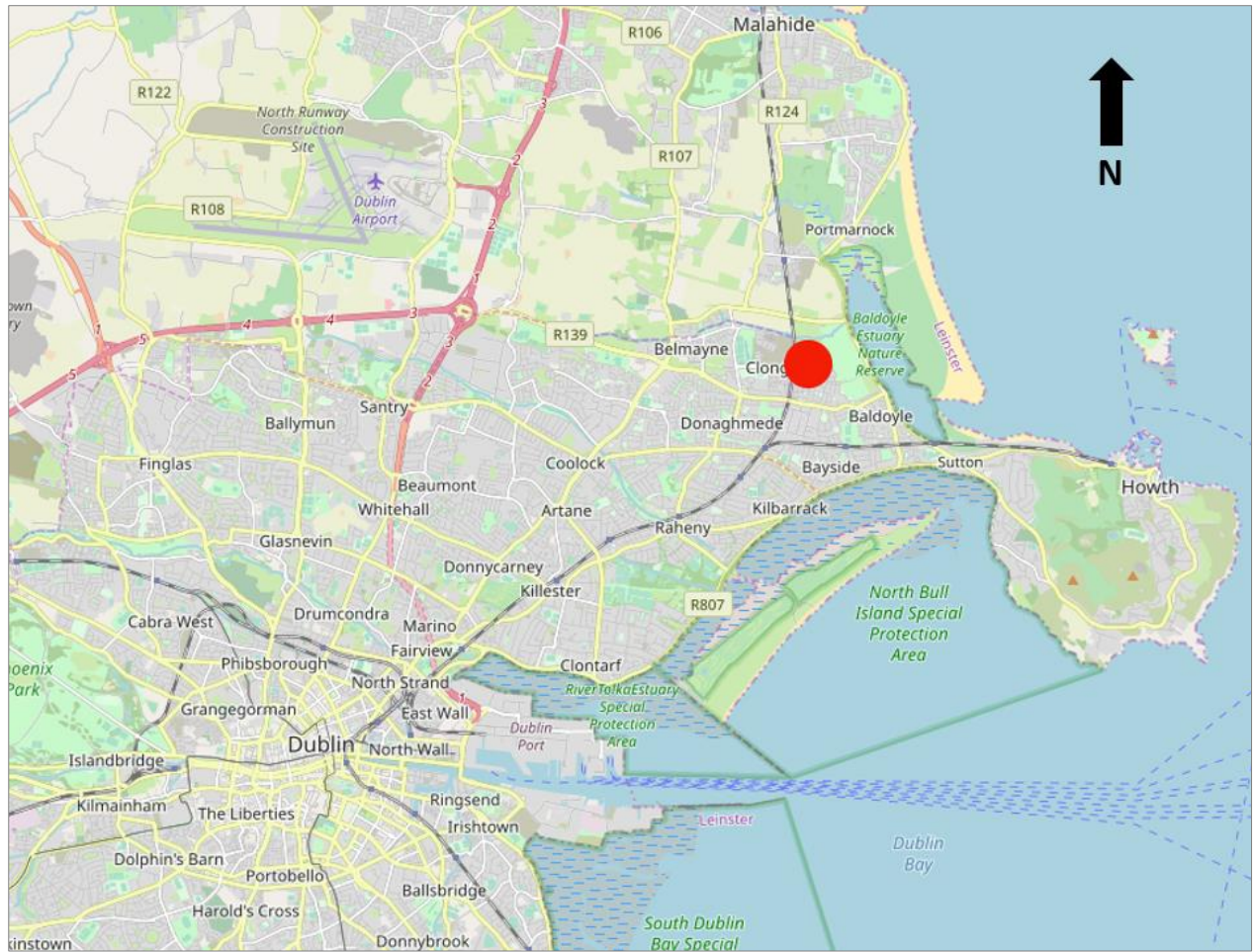
The Site of the proposed Project is located in Baldoyle, Dublin 13, c. 10km north-east of the City centre, see Figure 1.1 below. The total Site area is c. 9.1 hectares (ha), of which the development area is c. 8.89ha.

¹ EPA (2017).

The development will consist of alterations to the development permitted within Growth Area No. 1 (GA1) of the Baldoyle - Stapolin Local Area Plan 2013-2019, under FCC Reg. Ref. F16A/0412, ABP Reg. Ref. ABP-248970 (as amended by F20A/0258 and F21A/0046). The permitted development provides for 544 no. residential units of which, 99 no. are already constructed or are under construction. The proposed Project increases the balance of permitted residential units from 445 no. units to 882 no. units, an increase of 437 no. residential units, on a slightly extended developable area. The increase in residential units is provided for through an increase in density and height of proposed Project.

Full details on the background, Site history and the proposed Project is provided in Chapter 5 (Description of the Proposed Project) of the NTS and EIAR (Volume 2) and the *Architectural Design Statement* submitted with this planning application.

Figure 1.1: Location of Site within Dublin² (Site location in red)



² EPA Maps (2021). *OpenStreet Maps*.

Figure 1.2: Proposed Red Line Boundary³



1.3 Format & Structure of the EIAR

The Environmental Impact Assessment Report comprises three (3 no.) volumes as follows:

- Volume I: Non-Technical Summary.
- Volume II: Environmental Impact Assessment Report (Main Report).
- Volume III: Appendices.

Table 1.1 below sets out the format and structure of the EIAR.

³ Google Earth (2020).

Table 1.1: Structure of the Environmental Impact Assessment Report

Chapter No.	Description
Volume 1: NTS	
NTS	Summary of the EIAR in non-technical language.
Volume 2: Main Report	
Chapters 1 - 3	Provide an introduction and background to the proposed Project.
Chapter 4	An assessment of the alternatives considered for the proposed Project.
Chapter 5	Description of the proposed Project assessed in the EIA.
Chapter 6	Consultation
Chapter 7	Population and Human Health
Chapter 8	Biodiversity (Flora and Fauna)
Chapter 9	Land, Soils, Geology and Hydrogeology
Chapter 10	Water (Hydrology)
Chapter 11	Air Quality and Climate
Chapter 12	Noise and Vibration
Chapter 13	Landscape and Visual
Chapter 14	Cultural Heritage, Archaeology and Architectural
Chapter 15	Microclimate - Daylight / Sunlight
Chapter 16	Microclimate - Wind
Chapter 17	Traffic and Transportation
Chapter 18	Material Assets - Waste Management
Chapter 19	Material Assets - Services
Chapter 20	Presents an overview of all the major <i>interactions</i> between the different environmental aspects as outlined above and the interactions between the various attributes.
Chapter 21	Presents the <i>cumulative impacts</i> of the EIAR with committed development
Chapter 22	Presents the <i>schedule of environmental commitments / mitigation measures</i> included in the EIAR document for ease of reference.
Volume 3: Appendices	
A8.1 – A18.2	Technical reference information supporting the EIAR Chapters.

1.3.1 EIAR Project Team

Brady Shipman Martin (BSM) are the planning consultants and project co-ordinators of the EIAR. The EIAR was produced by Brady Shipman Martin with input from The Shoreline Partnership Design Team and various environmental specialist consultants.

The consultants responsible for each discipline is provided in the introduction to the relevant chapter. Production of the EIAR has been co-ordinated by Rebecca Dunlea, Environmental Consultant, with Brady Shipman Martin.

The EIAR structure is set out in Table 1.1, and the consultant responsible for each of the chapters is set out in Table 1.2.

Table 1.2: EIAR Project Team and Environmental Specialist

Name Role	Company	Qualification / Experience
Thomas Burns EIAR Project Manager	Brady Shipman Martin	B.Agr.Sc. (Land.) Dip. EIA Mgmt., Adv. Dip. Plan. & Env. Law <ul style="list-style-type: none"> Environmental Planner and Landscape Architect. Member of Irish Landscape Institute & Irish Environmental Law Association. Over 30 years' experience in EIA.
Pauline Byrne Planner and Planning Policy	Brady Shipman Martin	BSc (Mgmt.), Adv. Dip Marketing, Master Regional & Urban Planning (MRUP) <ul style="list-style-type: none"> Head of Planning. Member of Royal Town Planning Institute (MRTPI). Member of Irish Planning Institute (MIPI). Over 20 years' experience.
Rebecca Dunlea EIAR Co-ordination Population & Human Health and Material Assets Assessment	Brady Shipman Martin	BA (Hons) MA, MSc (Environmental Consultancy and Project Management) <ul style="list-style-type: none"> Environmental Consultant. Member of the Chartered Institute of Water and Environmental Management – MCIWEM. Over 6 years' experience.
Bryan Deegan Biodiversity Assessment	Altamar Ltd.	BSc (Hons) in Applied Marine Biology MSc in Environmental Science <ul style="list-style-type: none"> Managing Director of Altamar Ltd. Environmental scientist and aquatic biologist. NCEA National Diploma in Applied Aquatic Science. NCEA National Certificate in Science (Aquaculture). Over 20 years' experience.

Name Role	Company	Qualification / Experience
Paul Conaghan Soil / Lands / Hydrogeology and Water Assessment	AWN Consulting Ltd.	BSc MSc <ul style="list-style-type: none"> Member of the International Association of Hydrogeologists. Over 9 years' experience.
Niamh Nolan Air Quality and Climate Assessment	AWN Consulting Ltd.	BSocSci (Hons) in Social Policy and Geography <ul style="list-style-type: none"> Associate Member of both the Institute of Air Quality Management (IAQM) and the Institution of Environmental Science. Over 4 years' experience.
Leo Williams Noise and Vibration Assessment	AWN Consulting Ltd.	BAI MAI PgDip <ul style="list-style-type: none"> Member of Institute of Acoustics (MIOA). Over 5 years' experience.
Chris Kennett Landscape and Visual Assessment	Kennett Consulting Ltd.	BSc MSc, Diploma in Landscape Architecture & Diploma in Urban Design <ul style="list-style-type: none"> Director of Kennett Consulting Limited. Chartered Member of the Landscape Institute. BSc in Landscape Design and Plant Science. MSc in Sustainable Development.
Dr. Clare Crowley Cultural Heritage Assessment	Courtney Deery	BA (Hons) in Ancient History, Archaeology & French & PhD in Archaeology <ul style="list-style-type: none"> Senior Heritage Consultant. Certificate in Repair and Conservation of Historic Buildings (Dublin Civic Trust, 2004) Certificate in Condition Surveys of Historic Buildings (University of Oxford, 2017). Over 20 years' experience.
Carlota Álvarez Daylight and Sunlight Assessment	O'Connor Sutton Cronin (OCSC)	B.Eng. (Hons) in Marine Engineering <ul style="list-style-type: none"> Worked on a range of projects from Part L, Overheating and now concentrates on leading the Daylight and Sunlight section of OCSC. Over 4 years' experience.
Dr. Cristina Paduano Microclimate - Wind Assessment	B-Fluid	PhD in Mechanical Engineering, with M.Eng and B.Eng in Aerospace Engineering <ul style="list-style-type: none"> Chartered Engineer (CEng). Member of Engineers Ireland who specialises in computational fluid dynamics applications for urban environment and the construction industry. Over 15 years of experience.

Name Role	Company	Qualification / Experience
Dr. Eleonora Neri Microclimate - Wind Assessment		PhD in Aeroacoustics with M.Sc. and B.Sc. in Aeronautical Engineering <ul style="list-style-type: none"> Chartered Engineer (CEng). Member of Engineers Ireland who specialises in computational fluid dynamics applications for the urban environment and in wind tunnel measurements for the aerospace industry.
Dr. Arman Safdari Microclimate - Wind Assessment		PhD in Mechanical Engineering, with M.Sc. and B.Sc. in Mechanical Engineering <ul style="list-style-type: none"> CFD Modelling Engineer who specialises in computational fluid dynamics applications. Expert in airflow modelling, heat and mass transfer and multi-phase flow simulations.
Gordon Finn Traffic and Transport Assessment	Cronin & Sutton Consulting Engineers	BA, BAI, MAI, MIEI <ul style="list-style-type: none"> Roads and Traffic Engineer. Over 7 years' experience.
Chonaill Bradley Waste Management Assessment	AWN Consulting Ltd.	BSc (Environmental Science) <ul style="list-style-type: none"> Associate Member of the Institute of Waste Management (AssocCIWM) Over 7 years' experience.

2 The Environmental Impact Assessment (EIA) Process

This chapter was prepared by Rebecca Dunlea, Environmental Consultant with Brady Shipman Martin, Planning, Landscape and Environmental Consultants.

2.1 Purpose of an EIAR

The Environmental Impact Assessment (EIA) Directive (2014 Directive) aims to provide a high level of protection to the environment and ensures environmental considerations are taken into account in the preparation of a proposed Project, with the view to reducing environmental impacts.

The objective of the EIAR is to identify and predict the *likely environmental impacts* of the proposed Project. The EIAR describes the means and extent by which any environmental impacts can be avoided, reduced or improved; to interpret and communicate information about the likely impacts; and to provide an input into the decision making and planning process.

2.2 Requirements for an EIAR

The 2014 Directive specifies the classes of project for which an EIA is required and the information which must be contained within the EIAR. In accordance with *Article 4(1)* of the 2014 Directive. All projects listed in Annex I are considered as having *significant effects* on the environment and are subject to an Environmental Impact Assessment (EIA). Projects listed in Annex II of the EIA Directive, the national authorities may determine whether an EIA is needed, either on the basis of thresholds / criteria or on a case by case examination.

Projects needing an EIA are listed in Schedule 5 of the Planning and Development Regulations 2001-2017.

Schedule 5 (Part 2) of the Planning & Development Regulations 2001 (as amended) set mandatory thresholds for each project class. Sub-sections 10(b)(i) and 10(b)(iv) addresses ‘*infrastructure projects*’ and requires that the following class of project be subject to EIA:

“Class 10(b) (i). **Construction of more than 500 dwelling units.**”

“Class 10(b) (iv). Urban development which would involve an **area greater than 2ha** in the case of a **business district**, 10ha in the case of other parts of a built-up area and 20ha elsewhere.” [Emphasis added].

Therefore, an EIA is required and an EIAR (Volume 2) has been prepared and will be submitted to An Bord Pleanála with the Strategic Housing Development (SHD) Planning Application.

The proposed Project will provide for 882 no. new residential dwellings (747 no. apartments, 135 no. houses), residential tenant amenity, retail / café / restaurant, pharmacy, medical centre, crèche and gym, laid out in 15 no. blocks, ranging in height from two-storeys to 15-storeys, with associated pedestrian, vehicular and bicycle access, car and bicycle parking, public realm and open space, including an enlarged Stapolin Square, landscape and associated ancillary services and works over a total Site area of c. 9.1ha, of which the development area is c. 8.89ha.

In addition to the information contained in the EIAR, (refer to Table 1.1) a number of other standalone reports assessing environmental impacts are submitted with this planning application. These documents have been considered in the preparation of the EIAR, including:

- Appropriate Assessment Screening & Natura Impact Statement.
- Outline Construction Environmental Management Plan (CEMP).
- Site Specific Flood Risk Assessment (SSFRA).
- Architectural Design Statement.
- Engineering Services Report.
- Traffic Impact Assessment (TIA).
- Residential Travel Plan.
- Road Infrastructure Design Report.
- Daylight Sunlight Report.
- Wind and Microclimate Modelling.
- Construction & Demolition Waste Management Plan (C&D WMP).
- Operational Waste Management Plan (OWMP).
- Verified Photomontages booklet by Modelworks.
- Landscape Strategy.

2.3 EIA Methodology

This assessment of environmental impacts has been completed in accordance with, but not limited to, the following legislation and current guidance:

- DHPLG (2018). *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.*
- DHPLG (2017). *Circular letter PL 1/2017 - Advice on Administrative Provisions in Advance of Transposition.*

- EC (1999). *Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions*.
- EC (2013). *Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment*.
- EC (2017a). *Environmental Impact Assessment of Projects. Guidance on Scoping*.
- EC (2017b). *Environmental Impact Assessment of Projects. Guidance on the preparation of Environmental Impact Assessment Report*.
- EPA (2015). *Draft Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*.
- EPA (2017). *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*.
- EU (2014). Directive 2014/52/EC, amending Directive 2011/92/EU on the Assessment of the Effects of Certain Public and Private Projects on the Environment.
- Planning and Development Act 2000, as amended.
- Planning and Development Regulations 2001, as amended.

In addition to these guidance documents, EU Directives and national legislation relating to the specialist areas (e.g. Biodiversity, Surface Water, etc.) have been considered under each relevant environmental aspect. Specific guidance are addressed in the individual chapters of the EIAR.

2.4 Appropriate Assessment (AA)

European sites, also known as the Natura 2000 network, includes Special Areas of Conservation (SAC) and Special Protection Areas (SPA). These are a network of sites designated for nature conservation under the EU Directive (92/43/EEC) of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the “*Habitats Directive*”) and Directive (2009/147/EC) of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (the “*Birds Directive*”). The requirements for Appropriate Assessment are set out under Article 6 of the Habitats Directive, transposed into Irish law by the European Union (Birds and Natural Habitats) Regulations 2011-2015⁴ (the “*Birds and Natural Habitats Regulations*”) and the Planning and Development Act, 2000-2021 (the “*Planning Acts*”).

⁴ S.I. No. 477 of 2011; S.I. No. 290 of 2013; S.I. No. 499 of 2013; and S.I. No. 355 of 2015.

A Screening for Appropriate Assessment (AA) Report has been prepared in accordance with the requirements of the *Birds Directive*, the *Habitats Directive*, the *Planning Acts* and the *Birds and Natural Habitats Regulations*. The screening identified potential for impact on European sites and therefore, an Appropriate Assessment of the proposed Project is required. The findings of the AA are presented in the Natura Impact Statement (NIS) which accompanies this planning application.

3 Planning & Development Context

3.1 Introduction

This chapter is a review of the planning policy context at a national, regional and local level and other relevant statutory and non-statutory planning documents.

This chapter was prepared by Rebecca Dunlea, Environmental Consultant with Brady Shipman Martin, with assistance from Pauline Byrne, Head of Planning and Partner of Brady Shipman Martin.

3.2 National Level

The *National Planning Framework (NPF) - Project Ireland 2040*⁵ identifies the urgent requirement for a major uplift of the delivery of housing within the existing built-up areas of cities and other urban areas. The NPF has a particular focus on brownfield development, targeting derelict and vacant sites that may have been developed before but have fallen into disuse.

The NPF requires delivery of a baseline of 25,000 homes annually to 2020, followed by a likely level of 30-35,000 annually up to 2027. As a result 112,000 households are expected to have their housing needs met in a social housing home over the next decade. To achieve the objective of compact growth, 40% of future housing delivery is to be delivered within and close to the existing footprint of built-up areas.

With regards to Dublin the NPF identifies that Dublin City needs to *‘accommodate a greater proportion of the growth it generates within its metropolitan boundaries and to offer improved housing choice.’*

National Policy **Objective 4** in this regards states:

‘Ensure the creation of attractive, liveable, well designed, high quality urban places that are home to diverse and integrated communities that enjoy a high quality of life and well-being.’

National Policy **Objective 11** in this regards states:

‘In meeting urban development requirements, there will be a presumption in favour of development that can encourage more people and generate more jobs and activity within

⁵ DHPLG (2018a).

existing cities, towns and villages, subject to development meeting appropriate planning standards and achieving targeted growth.'

National Policy **Objective 13** in this regards states:

'In urban areas, planning and related standards, including in particular building height and car parking will be based on performance criteria that seek to achieve well-designed high quality outcomes in order to achieve targeted growth. These standards will be subject to a range of tolerance that enables alternative solutions to be proposed to achieve stated outcomes, provided public safety is not compromised and the environment is suitably protected.'

The NPF requires homes to be located in places that can support sustainable development. This includes places that are accessible to a range of local services, can encourage the use of public transport, walking and cycling, and help tackle climate change. The proposed Project is also responding to the existing strong demand in the area and in a location that is highly accessible to both existing local facilities and public transport routes to the Dublin City.

The proposed Project is well aligned with the NPFs policies, in that the proposed Project will provide a large number of additional well-designed, high quality and liveable residential units within the Dublin Metropolitan Area.

Table 3.1 of the EIAR (Volume 2) provides a working list of some of the other key plans / planning documents of relevance to the future development of the Site, which have been considered by the relevant EIA specialist. The proposed Project complies with the relevant objectives in the key planning documents listed in Table 3.1.

3.3 Regional Level

At regional level the *Eastern and Midland Regional Assembly - Regional Spatial & Economic Strategy (RSES)* plan identifies that the central need for the RSES to be people focussed. As such 'quality of life' encapsulates strong economic output and stability, good environmental performance and a good standard of living for all. The Eastern and Midland region is the smallest in terms of land area but the largest in population size and is identified as the primary economic engine of the state.

The RSES identifies that:

‘the Region is home to over 800,000 households, with 4 out of 5 living in conventional housing while apartments account for around 18% of our housing stock. One of the challenges facing the region is the continued growth rates of household formation coupled with a severe slowdown in the development of new housing stock during the economic recession, resulting in housing supply and affordability pressures in both sale and rental markets, particularly in Dublin and urban areas but affecting all of the region’.

The RSES is underpinned by key cross-cutting principles that reflect the three pillars of sustainability; *Social, Environmental and Economic*, and expressed in a manner which best reflects the challenges and opportunities of the Region. The Plan identifies that the central need is for the RSES to be people focussed, as *‘quality of life’* encapsulates strong economic output and stability, good environmental performance and a good standard of living for all.

The Site is located within the Dublin Metropolitan Area, as designated by the RSES. The Metropolitan Area Strategic Plan (MASP), which is part of the RSES seeks to focus on a number of large scale strategic sites, based on key corridors that will deliver significant development in an integrated and sustainable fashion.

The key RSES Regional Policy Objectives (RPOs) relating to the proposed Project include:

RPO 5.3: *Future development in the Dublin Metropolitan Area shall be planned and designed in a manner that facilitates sustainable travel patterns, with a particular focus on increasing the share of active modes (walking and cycling) and public transport use and creating a safe attractive street environment for pedestrians and cyclists.*

RPO 5.4: *Future development of strategic residential development areas within the Dublin Metropolitan area shall provide for higher densities and qualitative standards as set out in the ‘Sustainable Residential Development in Urban Areas’, ‘Sustainable Urban Housing; Design Standards for New Apartments’ Guidelines, and ‘Urban Development and Building Heights Guidelines for Planning Authorities’.*

RPO 5.5: *Future residential development supporting the right housing and tenure mix within the Dublin Metropolitan Area shall follow a clear sequential approach, with a primary focus on the consolidation of Dublin and suburbs, and the development of Key Metropolitan Towns, as set out in the Metropolitan Area Strategic Plan (MASP) and in line with the overall*

Settlement Strategy for the RSES. Identification of suitable residential development sites shall be supported by a quality site selection process that addresses environmental concerns.

RPO 7.12: *Future statutory land use plans shall include Strategic Flood Risk Assessment (SFRA) and seek to avoid inappropriate land use zonings and development in areas at risk of flooding and to integrate sustainable water management solutions (such as SuDS, nonporous surfacing and green roofs) to create safe places in accordance with the Planning System and Flood Risk Assessment Guidelines for Local Authorities.*

RPO 8.3: *That future development is planned and designed in a manner which maximises the efficiency and protects the strategic capacity of the metropolitan area transport network, both existing and planned and to protect and maintain regional accessibility.*

RPO 9.4: *Design standards for new apartment developments should encourage a wider demographic profile which actively includes families and an ageing population.*

RPO 9.10: *In planning for the creation of healthy and attractive places, there is a need to provide alternatives to the car and to prioritise and promote cycling and walking in the design of streets and public spaces. Local authorities shall have regard to the Guiding Principles for 'Healthy Placemaking' and 'Integration of Land Use and Transport' as set out in the RSES and to national policy as set out in 'Sustainable Residential Development in Urban Areas' and the 'Design Manual for Urban Roads and Streets (DMURS)'.*

RPO 9.17: *To support local authorities in the development of regional scale Open Space and Recreational facilities particularly those close to large or growing population centres in the Region.*

In regards to Baldoyle, the MASP supports employment generation at strategic locations within the metropolitan area to strengthen the local employment base and reduce pressure on the metropolitan transport network, including; future employment districts in Swords and Dublin Airport / South Fingal.

It is submitted that the proposed Project on existing zoned lands will adhere with the policies and objectives of the RSES. Furthermore, the proposed Project will contribute to the provision of additional high-quality and high-density residential units and employment opportunities within the Dublin City and suburbs area.

3.4 Local Level

3.4.1 Fingal Development Plan 2017-2023

The Site is located within the administrative area of Fingal County Council (FCC) and subject to the Fingal Development Plan 2017-2023 (the '*Development Plan*') (including Variations to the Development Plan), and the Baldoyle-Stapolin LAP 2013 (as extended).

The Development Plan sets out the Council's policies and objectives for the development of the county over the Plan period. It seeks to develop and improve, in a sustainable manner the social, economic, environmental and cultural assets of the county.

The Development Plan has been informed by the former Regional Planning Guidelines (RPGs), the RSES, and the environmental sensitivities of the county.

Fingal County Council (FCC) have prepared Variation No. 2 to align the Fingal Development Plan with the *National Planning Framework* and the *Regional Spatial & Economic Strategy*. Variation No. 2 has not fundamentally changed the Baldoyle policy context. Baldoyle is located in the Metropolitan Area of the Greater Dublin Area (GDA).

The emphasis of the Development Plan is to continue to consolidate the existing zoned lands and to maximise the efficient use of existing and proposed infrastructure. In this way the Council can ensure an integrated land use and transport strategy in line with national and regional policy.

Objective SS01 aims to: *Consolidate the vast majority of the County's future growth into the strong and dynamic urban centres of the Metropolitan Area while directing development in the hinterland to towns and villages, as advocated by national and regional planning guidance.*

In the Development Plan, Baldoyle is considered a *Consolidation Areas within the Metropolitan Area*. The policy approach in these areas is '*to gain maximum benefit from existing transport, social, and community infrastructure through the continued consolidation of the city and its suburbs. Future development will happen in a planned and efficient manner utilising opportunities to achieve increased densities where appropriate.*'

Objective SS16: *Examine the possibility of achieving higher densities in urban areas adjoining Dublin City where such an approach would be in keeping with the character and form of existing residential communities, or would otherwise be appropriate in the context of the site.*

Under the Development Plan, one of the Baldoyle Development Plan Objectives is:

Objective BALDOYLE 3 - Prepare and / or implement a Local Area Plan for lands at Baldoyle / Stapolin to provide for the strategic development of the area as a planned sustainable mixed use residential development subject to the delivery of the necessary infrastructure. (Refer to Map Sheet No. 10, LAP 10.A).

3.4.1.1 Zoning Objective

The Site is zoned RA ‘new residential’. The objective of RA zoned lands is to ‘provide for new residential communities subject to the provision of the necessary social and physical infrastructure.’ Given the primary purpose of the subject application is to provide for residential uses the proposed Project is clearly consistent with the land-use zoning.

Further detail provided by the Development Plan states:

‘Ensure the provision of high quality new residential environments with good layout and design, with adequate public transport and cycle links and within walking distance of community facilities. Provide an appropriate mix of house sizes, types and tenures in order to meet household needs and to promote balanced communities.’

3.4.2 Baldoye-Stapolin Local Area Plan (LAP) 2013 (Extended)

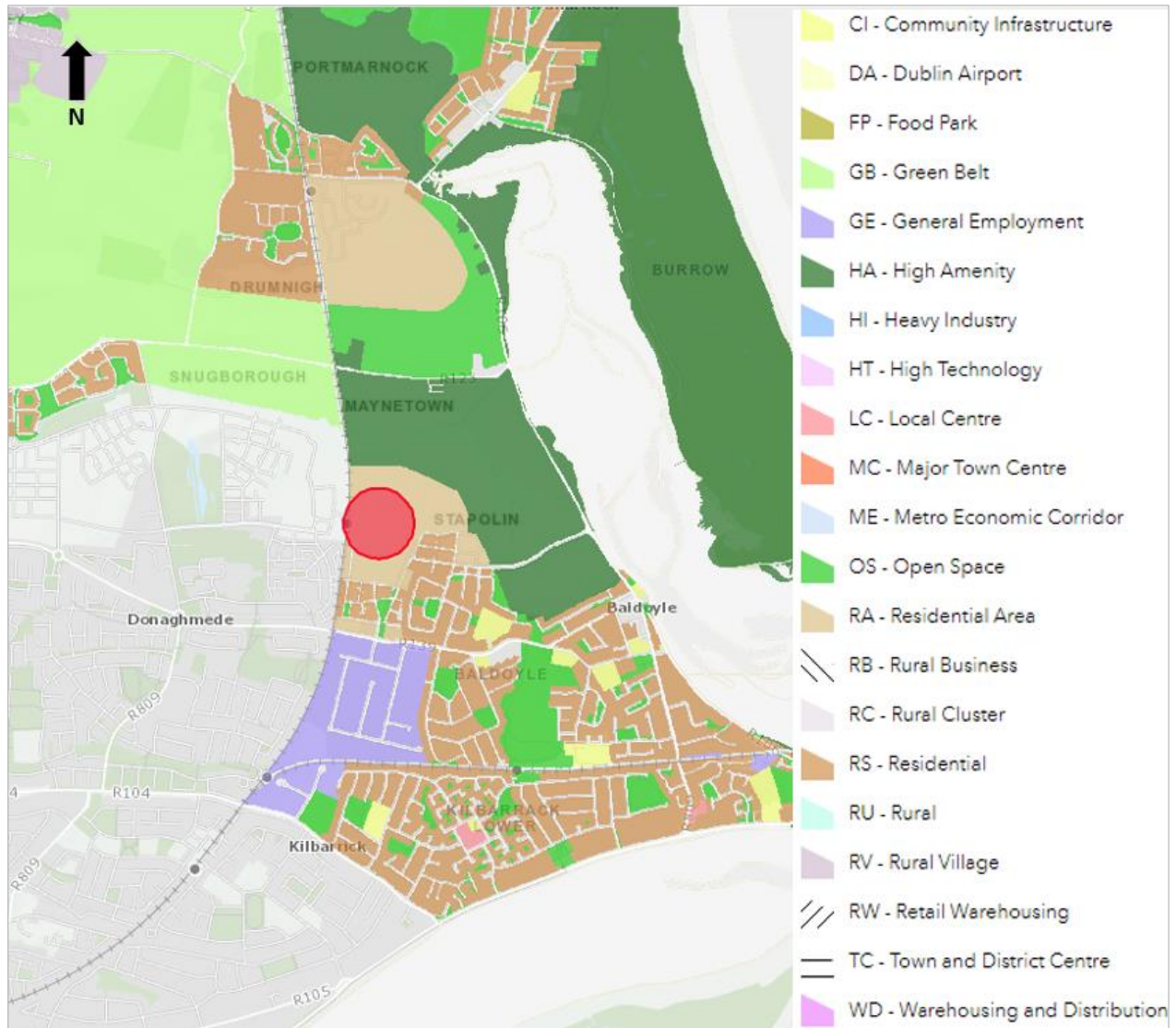
Adopted in May 2013 by Fingal County Council, the County Council Members, having considered the Chief Executive’s Report at a Council meeting on the 12 March 2018 decided to approve the extension of the life of the Baldoyle-Stapolin LAP 2013-2019 - for a further period of 5 years from the 12 May 2018 to the 11 May 2023⁶.

The LAP sets out a detailed strategy for the lands, the key consideration in relation to this development proposal include:

- Zoning and Objectives.
- Vision, Themes and Objectives.
- Green Infrastructure.
- Transportation and Movement.
- Residential Development & Density: including Residential density range.
- Heights, Urban Design.
- Sequencing and Phasing of Development.

⁶ FCC (2018).

Figure 3.1: Zoning Objectives as part of the Fingal Development Plan 2017-2023 - Extract from Sheet No. 10⁷ (Site location in red)



The LAP sets out the following objectives for the lands:

Map Based Objectives:

1. *Facilitate and encourage community facilities which allow for shared and multi-purpose use and adaptability within the village centre, or for non-commercial or small scale community facilities other agreed locations may be considered subject to demand and resources.*
2. *Provide for at least one crèche facility within the village centre area as part of the phasing requirements set out in Section 6 and as required by Section 4E of the Local Area Plan.*

⁷ FCC (2017).

3. *Require high quality design and finish to any development at these important gateway nodes to the LAP lands.*
4. *Provide for a public park and sensitively designed retirement village subject to screening for assessment under the Habitats Directive as per Local Objective 469 in the 2011-2017 Fingal Development Plan or as may be revised in any future Development Plan.*
5. *Ensure that key services such as local and primary health care facilities, public house, and crèche are provided within the village centre to ensure the appropriate mix of community services and facilities, the vitality of the village centre, and to encourage the use of sustainable modes of transport.*
6. *Facilitate an alternative site readily accessible from Grange Road for a medical/primary care centre, in line with HSE requirements. Such a site should only be considered where it can be demonstrated that a medical / primary care centre cannot be delivered in the village centre within a reasonable timeframe (not to exceed 3 years from date of adoption of this LAP).*
7. *Facilitate the provision of changing facilities for clubs and teams using the pitches in Racecourse Park and meeting space for community use within this existing building without any undue delay.*
8. *Facilitate an alternative site to the Grange Road site for an urban type school as part of the village centre's mixed use development on the northern section of the village centre, subject to the requirement for such being indicated by the Department of Education and Skills within the next Capital Programme for Schools (i.e. the successor document to the 2012-2016 Capital Investment Programme for Schools).*
9. *Provide for a Multi-Use Games Area (MUGA) or a small all-weather training facility similar in scale to a MUGA in the vicinity of the changing rooms at the existing active recreational facilities within Racecourse Park subject to screening for Appropriate Assessment.*

3.5 Relevant Planning History

There is an extant permission on the Site, referenced further below, and an extant permission for development on the adjacent Growth Area No. 2 (GA2) lands, also referenced further below.

In addition, the wider Clongriffin area has had a significant amount of planning activity. Notably this includes two large scale recently permitted Strategic Housing Developments to the west of the Site within the administrative area of Dublin City Council, set out further below.

FCC Reg. Ref. F16A/0412 (An Bord Pleanála Ref. PL06F.248970)

The extant permission on the subject lands comprises approximately 546 no. residential units (385 no. apartments and 161 no. houses) c. 63 units / ha and a village centre comprising c. 1,917sq.m of commercial floor space that would include shops, a café and a crèche. Pedestrian access to the train station was provided across a plaza known as Stapolin Square with steps and ramps to address the difference in levels. The existing access to the station would be closed. An open space of 1.57ha would be provided at The Haggard to the north east of the main part of the site. The permission was granted on appeal 7 July, 2017 and has a ten year duration.

This permission has been further amended as per Planning Reg. Ref. F20A/0258 and Reg. Ref. F21A/0046 for minor alterations to permitted residential units. These amendments resulted in a reduction of 2 no. residential units to an overall 544 no. residential units (385 no. apartments and 159 no. houses).

Table 3.1: Applications of Note

Planning Reference	Description
FCC Reg. Ref. F11A/0290 (/E1), PL06F.239732	Regents Park Development Ltd. were granted permission on appeal on 11 April 2013 and given a further extension of duration of permission in 2018 to 25 May 2023 (FCC Reg. Ref. F11A/0290/E1) on lands at Growth Area No. 2, as per Local Area Plan. FCC initially refused the application however An Bord Pleanála subsequently granted permission following appeal. The development entailed 400 no. dwelling units, three retail units, a crèche, surface and basement level car parking, landscaping and all associated works on a site adjacent to the wider landholding. The development vary from 3-5 storeys in height (in sectors 42 and 43) rising to between 3 and 7 storeys (in sectors along the northern boundary) and an 8 storey feature (in sector 56).
SHD ABP-305316-19	A planning permission for a strategic housing development at Clongriffin, Dublin 13, on plots known as 6, 8, 11, 17, 25, 26, 27, 28, 29. The development consists of 1030 no. apartments (reduced to 916 in permission) c.163 units / ha, comprising 238 no. residential, 678 no. Build-to-Rent units, 2 no. crèches, 10 no. retail units and all associated site

Planning Reference	Description
	works. Primarily consisting of 6-7 storeys in height but also includes 17 storeys at Block 17 and 15 storeys at Block 26. Application included EIAR. Screened out for AA.
SHD ABP-305319-19	A planning permission for a strategic housing development at Clongriffin, Dublin 13, on plots known as 4, 5, and 14. The development consists of 500 no. apartments (235 no. residential, 265 no. build to rent), c.200 units / ha, crèche and all associated site works in blocks of 2-8 storeys in height. Application included EIAR. Screened out for AA.

4 Consideration of Alternatives

This chapter was prepared by Rebecca Dunlea, Environmental Consultant with Brady Shipman Martin (BSM), Planning, Landscape and Environmental Consultants and with input from the project architects - Henry J Lyons (Architecture and Interiors).

This chapter provides a summary of the main alternatives which were considered for the proposed Project at Baldoyle, Dublin 13. Furthermore, the chapter sets out the main reasons for choosing the proposed Project. The alternatives may be described at five levels:

1. 'Do-Nothing' Alternative
2. Alternative Locations
3. Alternative Layouts
4. Alternative Designs
5. Alternative Process.

It should be noted, that the Site is on land which is zoned Objective RA '*new residential*', in the Fingal Development Plan 2017-2023 (the '*Development Plan*'). Objective RA has the stated objective to: *Provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure.*

4.1 Legislative Context

The EIA Directive (Annex IV (2)) requires the consideration of reasonable alternatives which are relevant to the project and taking into account the effects of the project on the environment.

The Planning and Development Regulations, 2001 (as amended) sets out the information which is to be contained in an Environmental Impact Statement and Part 1 (d) of Schedule 6 states that the following shall be included:

*'A description of the **reasonable alternatives** studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment.'*

In line with the Draft EPA Guidelines, different types of alternatives may be considered at several key stages during the process.

4.2 'Do-Nothing' Alternative

A 'do-nothing' scenario was considered an inappropriate alternative as the Site is as zoned RA 'new residential' within the Fingal Development Plan (including Variations to the Development Plan), and the Baldoyle-Stapolin LAP 2013 (extended).

4.3 Alternative Locations

As outlined above the Site is zoned RA 'new residential' which has the objective to: *Provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure. This area, known as The Coast, includes the existing residential communities of Myrtle and Red Arches.*

Given the Site's zoning objective alternative locations were not considered.

4.4 Alternative Layouts & Designs

The planning application and the EIAR (Volume 2) demonstrates that the Site and the surrounding area have the environmental capacity to accommodate the proposed Project without significant risk of impact upon environmental sensitivities.

The proposed layout is designed to function, in combination with the already permitted development on the wider site, and any potential future development on the lands.

A detailed analysis of the architectural design strategy is provided in the *Architectural Design Statement*, prepared by Henry J Lyons, and should be read in conjunction with this chapter (Chapter 4) of the EIAR (Volume 2).

The proposed Project has been the subject of a number of pre-application meetings with the Fingal County Council prior to lodgement (see Chapter 6 of the EIAR (Volume 2) and the planning report which accompanies this planning application).

4.5 Alternative Processes

The proposed Project provides in excess of 100 no. residential units, therefore it is mandatory that the planning application is lodged as a Strategic Housing Development Planning Application to An Bord Pleanála, under the *Planning and Development (Housing) and Residential Tenancies Act 2016*.

Therefore, alternative processes are not relevant to this EIAR and excluded from further consideration.

4.6 Alternative Mitigation Measures

The mitigation measures outlined throughout the various Environmental Impact Assessment Report chapters relate to the proposed Project and are appropriate for the proposed Project, therefore alternative mitigation measures excluded from further consideration in this chapter.

5 Description of the Proposed Project

5.1 Introduction

This chapter was prepared by Rebecca Dunlea, Environmental Consultant with Brady Shipman Martin, Planning, Landscape and Environmental Consultants.

This chapter describes the Site and surrounding environment, the need for the Project, and the characteristics of the proposed Project.

5.2 Background to the Site

5.2.1 Site History & Current Site Use

There is an existing permission on the Site, and an existing permission for development on the adjacent Growth Area No. 2 (GA2) lands.

The Site would continue to remain partly undeveloped (historically greenfield in nature and partly a temporary construction compound associated with on-going development further south), with the exception of a network of access roads traversing the land. Refer to Figure 5.1.

5.2.2 Site Location and Context

The Site is located in Baldoyle-Stapolin Growth Area No. 1 (GA1), Baldoyle, Dublin 13, approximately 10km north-east of the Dublin City centre. The total Site area is approximately 9.1 hectares (ha), of which the development area is approximately 8.89ha.

The Site is on the edge of Dublin City, but is within the administrative area of Fingal County Council adjacent to the Dublin City Council administrative boundary at Clongriffin to the west.

The Site is bound by the Dublin-Belfast / DART train line to the west and Clongriffin train station. The Site is also bound by existing residential areas at Myrtle and Red Arches to the south and east respectively.

The undeveloped lands of Baldoyle-Stapolin Growth Area No. 2 (GA2) and Growth Area No. 3 (GA3) lie directly to the north and north-east of the Site. Baldoyle Racecourse Park is located further to the north and east of the Site and the Baldoyle Estuary is further east beyond the R106 Coast Road.

The lands surrounding the Site are predominately residential in nature. To the north and north-east of GA2 and GA3 is an area designated as 'high amenity' comprising partially of open fields and areas associated with the Baldoyle Estuary.

The Site is located immediately adjacent to public transport, allowing connections with the wider Dublin area. The Site is within a 5-minute walk of Clongriffin train station on the DART Line. Rail services operating to and from this stop connect the proposed Project directly to Howth and Malahide (and beyond to north county Dublin) in the north and to Dublin City centre in the south before continuing on to Bray and Greystones.

Bus stops on Grange Road and Clongriffin Main Street are within a 5-minute walk of the Site. It is also planned that Clongriffin will be served by a future upgraded BusConnects route⁸.

The Site is within a short walking distance of the Baldoyle Industrial Estate providing a large amount of employment and commercial activity.

Figure 5.1: Proposed Red Line Boundary⁹



5.3 Site Specific Flood Risk Assessment (SSFRA)

A *Site Specific Flood Risk Assessment (SSFRA)* was prepared by Cronin & Sutton (CS) Consulting Engineers for the proposed Project to comply with current planning legislation and forms part of this

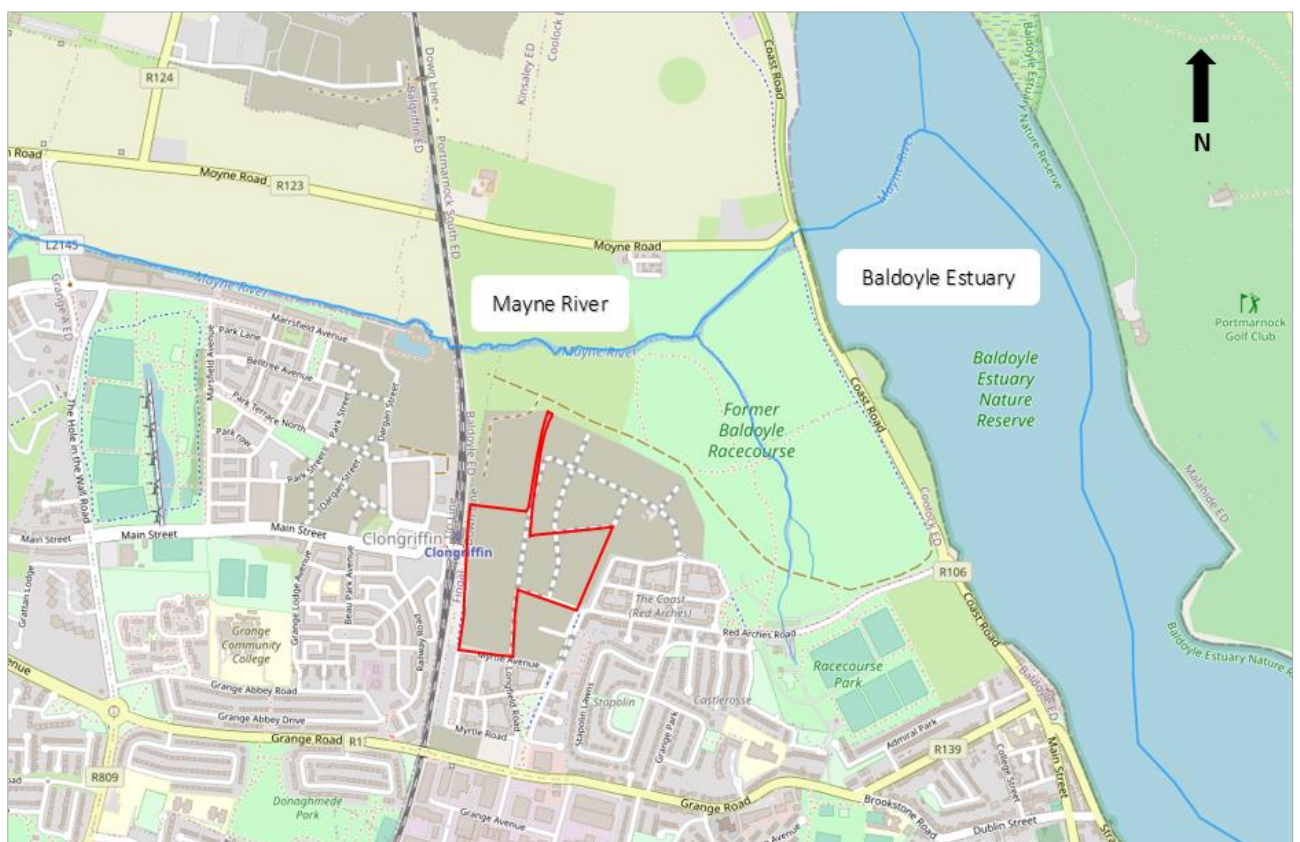
⁸ NTA (2020).

⁹ Google Earth (2020).

planning application. The Flood Risk Management (FRM) Guidelines require a SSFRA to ‘gather relevant information sufficient to identify and assess all sources of flood risk and the impact of drainage from the proposal’.

The Mayne River is located to the north of the Site. The Fingal East-Meath Flood Risk Assessment and Management Study (FEM FRAMS) 2017, conducted by the Office of Public Works, indicates that the Site is deemed to be located outside of the fluvial floodplain, based on the current available maps. The location of the Site is not affected by **fluvial** flooding from the Mayne River. Refer to Figure 5.2.

Figure 5.2: Waterbodies in the Vicinity of the Site ¹⁰ (in red)



The proposed Project shall change rainfall run-off patterns within the Site. This has the potential to alter the existing flow regime in watercourses to which run-off from the undeveloped site discharges.

The surface water drainage mechanisms proposed for the Site are consistent with best practice for the sustainable urban drainage and the design has been carried out in accordance with the *Greater Dublin Strategic Drainage Study* (GDSDS). Therefore, the surface water drainage system shall not cause an increase in fluvial flood risk.

¹⁰ EPA Maps (2021). *Openstreet Maps*

The OPW maintains the *National Flood Hazard Mapping* website contains information about locations that may be at risk from flooding. As the Site is in close proximity to the coast, there is potential for on-site flooding due to **tidal** action, which must be considered. There is no evidence of any recorded flood events at the Site. However, following a review of the available data, there is no indication that the Site is at risk of tidal flooding.

Pluvial flooding is flooding which has originated from overland flow resulting from high intensity rainfall. There is no indication of pluvial flood risk to the Site.

According to the Geological Survey of Ireland (GSI) interactive maps, the Site indicates that the existing site shall not increase the potential for groundwater flooding as such the risk is deemed acceptable.

The Site was subject to SSFRA in accordance with *Flood Risk Management Guidelines*. This SSFRA did not find any indicators of the proposed Project being at risk from fluvial, tidal, pluvial or groundwater flooding; also, the SSFRA did not find any indicators that the proposed Project shall give rise to flood risk elsewhere.

5.4 Main Features of the Proposed Project

The development will consist of alterations to the development permitted within Growth Area No. 1 (GA1) of the Baldoyle - Stapolin Local Area Plan 2013 (as extended), under FCC Reg. Ref. F16A/0412, ABP Reg. Ref. ABP-248970 (as amended by F20A/0258 and F21A/0046). The existing permission provides for 544 no. residential units (385 no. apartments and 159 no. houses), residential tenant amenities, village centre and crèche laid out in 13 no. blocks (identified as A1, A2, A3, B1, B2, B3, B4, C1, C2, C3, C4, C5, D1) ranging in height from two-storeys to six-storeys, with associated pedestrian, vehicular and bicycle access, car and bicycle parking, landscape works and open spaces, including Stapolin Square and Stapolin Haggard, pocket parks, communal courtyards; surface water attenuation wetland; and associated ancillary services and works on an overall site of 15.89ha (Refer to Figure 5.3). A number of elements of the existing permitted development have been constructed / will be constructed in accordance with the current grant of permission (as previously amended), including:

- Surface water attenuation wetlands and associated upstream surface water network;
- Ninety-nine (99 no.) units in permitted Blocks C4, C5 and D1 (identified as Block C6 under amendments F20A/0258 and F21A/0046);

- The open space referred to as the Haggard Park ('Stapolin Haggard');
- The open space referred to as the Haggard Park ('Stapolin Haggard');
- Demolition of existing temporary lift and stair enclosure and associated infrastructure to Clongriffin train station;
- Road infrastructure (except where within the application boundary and requiring to be locally altered for proposed Project); and
- Utilities infrastructure (except where within the application boundary and requiring to be locally altered for proposed Project).

Given that they are already constructed or are under construction, the area of the surface water wetlands and associated upstream surface water network, and the area of Blocks C4, C5, C6 (latter formerly D1) are excluded from the subject planning application. The Haggard Open Space will be provided in accordance with the current grant of permission and as such is also exclusion from the planning area.

The proposed Project will provide for 882 no. new residential dwellings (747 no. apartments, 135 no. houses), residential tenant amenities, village centre, and crèche, laid out in 15 no. blocks (identified as: A1, A2, A3, B1, B2, B3, B4, C1, C1A, C2, C2A, C3, D1, D2, D3) ranging in height from two-storeys to 15-storeys, with associated pedestrian, vehicular and bicycle access, car and bicycle parking, public realm and open space, including an enlarged Stapolin Square, landscape and associated ancillary services and works over a total Site area of c. 9.1ha, of which the development area is c. 8.89ha. (Refer to Figure 5.4) As well as excluding some previously permitted areas (as above), the red line boundary for this application extends beyond the red line of the previously permitted development to provide for the full extent of Stapolin Square, new access to Clongriffin train station through the Square, new apartment blocks D1, D2, D3 to the north of Stapolin Square, and a bus ramp to Clongriffin train station. The red line boundary of this application also extends north to provide for a 300mm watermain connection to the existing watermain in the parklands to the north.

Therefore, the permitted development provides for 544 no. residential units of which, 99 no. are already constructed or are under construction. The proposed Project increases the balance of permitted residential units from 445 no. units to 882 no. units, an increase of 437 no. residential units, albeit on a slightly extended developable area. The principal changes in the proposed Project

relate to changes to the layout and design of the residential elements of the previously permitted development as follows:

- Alteration of Blocks A1, A2 and A3 from permitted six-storey buildings providing 195 no. residential units; to proposed four to eight-storey buildings providing 288 no. residential units;
- Alteration of Block B1 altered from permitted four-storey building providing 80 no. residential units; to three to five-storey building providing 49 no. residential units;
- Alteration of Block B2 altered from 3 no. three-storey terraces providing 24 no. residential units; to three to five-storey building providing 39 no. residential units;
- Alteration of Block B3 altered from 1 no. two-storey terrace and 3 no. three-storey terraces providing 33 no. houses; to two-storey buildings providing 38 no. houses;
- Alteration of Block B4 altered from 2 no. two-storey terraces and 1 no. three-storey terrace providing 25 no. houses; to two-storey buildings providing 36 no. houses;
- Alteration of Block C1 altered from 3 no. three-storey terraces providing 34 no. residential units; to C1 as two-storey buildings providing 15 no. houses & C1A as four to six-storey buildings providing 43 no. residential units;
- Alteration of Block C2 altered from 1 no. two-storey terrace and 2 no. three-storey terraces providing 26 no. residential units; to C2 as two and three-storey buildings providing 17 no. houses & C2A as four to five-storey buildings providing 33 no. residential units;
- Alteration of Block C3 altered from 1 no. two-storey terrace and 2 no. three-storey terraces providing 28 no. residential units; to C3 as two-storey buildings providing 29 no. residential units;
- Provision of new Block D1 ranging in height from six to nine-storey building providing 118 no. residential units;
- Provision of new Block D2 ranging in height from six to eight-storey building providing 81 no. residential units;
- Provision of new Block D3 ranging in height from six to fifteen-storey building providing 96 no. residential units;
- Provision of commercial development (total of 3,314sqm) in the ground floor of Blocks A1-A3 (convenience retail unit, medical centre, pharmacy and crèche) and Blocks D1-D3 (gym, storage units, and two retail units / restaurant);

- Provision of residential tenant amenities in Blocks A1-A3 and D1-D3 (total of 1,577sqm); and
- Provision of 818 no. car parking spaces and 1,542 no. bike parking spaces.

Refer also to the *Architectural Design Statement*¹¹ submitted with this planning application further details on the proposed Project.

Figure 5.3: Permitted Development¹² (under FCC Reg. Ref. F16A/0412, ABP Reg. Ref. ABP-248970)¹³



¹¹ Henry J Lyons (2021).

¹² RPS (2016). EIS. Volume 2. Growth Area 1, Baldoyle-Stapolin, Baldoyle, Dublin 13.

¹³ as amended by F20A/0258 and F21A/0046

Figure 5.4: Proposed Site Masterplan showing Red Line Boundary¹⁴



5.4.1 Landscape Strategy and Design

The landscape design for the Site proposes a variety of open spaces for its residents, both public open spaces and communal open spaces. Public spaces include the Stapolin Square, two linear parks and a public park, the Haggard. The public spaces are designed to provide its users with opportunities to recreate, play and relax. Walking routes, play areas, outdoor exercise equipment and a variety of seating.

¹⁴ Henry J Lyons (2021). Site Masterplan. Drawing No. STP0011 GA1

A similar planting strategy to the Stapolin Square is adopted for the parks. Durable planting that will require little maintenance. The planting in the linear parks will have added plant species to boost the wildlife around the Site. The linear parks are biodiversity pockets in the wider suburban context and they will be able to attract a number of insects, birds and small mammals.

Full details of the landscape design for the proposed Project are provided in the *Landscape Strategy*¹⁵ and refer to Chapter 13 (Landscape and Visual) of the EIAR.

5.4.2 Site Utilities & Infrastructure

A review of **Gas Network Ireland** (GNI) maps show an existing 250mm diameter gas main passes through the Site. However, natural gas will not be used for the proposed Project and the existing gas main will remain in-situ.

A review of **ESB Networks** (ESBN), show there are no existing electrical infrastructure on-site that require diversionary works. New ESB electricity connections will be required.

An **existing watermain** runs along the eastern (Stapolin Avenue) and part of the southern (Myrtle Avenue) side of the development. In addition, there is existing watermain infrastructure located within the Site, however due to the condition and system layout it is not intended to make use of the existing network and these shall be removed and replaced to current *Irish Water Specifications*.

There are no existing **telecommunication** services on-site. The proposed Project will tie into the existing network.

There is an existing **storm water** culvert crossing the Site, flowing south to north. In addition, there is an existing storm water culvert running from south to north (along Stapolin Avenue), which discharges into the Mayne River. The culvert serves the existing developments constructed to date and discharges directly to the Mayne River.

There is an existing storm water drainage network located within the Site, however due to its poor condition it is not intended to make use of the existing network and therefore it is proposed to be removed and a new network constructed in its place.

There is an existing **foul sewer** that runs in a northern direction along the eastern boundary of the Site. In addition to this foul sewer, there is already an existing foul drainage network located within

¹⁵ Bernard Seymour Landscape Architects (2021).

the Site, however due to its poor condition it is not intended to make use of the existing network and therefore it is proposed to remove the existing foul sewers within the Site.

5.4.3 Existing Site Access

The Site is accessible from the east by the Red Arches Road. The Red Arches Road is a local road.

The Longfield Road is a local road that connects to the Site in the north and to the Grange Road (R809) in the south.

Grange Road (R809), is a regional road, running to the south of the Site. The Grange Road links Baldoyle village centre in the east to Clarehall Avenue in the west.

The two (2no.) primary vehicular access points are:

- the northward continuation of Longfield Road, which originates at Grange Road c. 280m to the south; and
- the westward continuation of Red Arches Road, which originates at Coast Road c. 930m to the east.

A further three (3 no.) vehicular access points shall be located on the western and southern boundaries of the Site.

5.5 Construction Phase & Construction Works

A ten (10) year planning permission is being sought from An Bord Pleanála. It is expected that the Construction Phase will last for c. 95 month period (7 years 11mths). The Construction Phase will commence towards the end of 2021 (Quarter 4, 2021) with the projected completion of the development by 2029 (Quarter 4, 2029).

Allowing a reasonable period for mobilisation and Site setup, it is expected that demolition works¹⁶ and Site set-up will commence in Q4 2021 subject to permission and the discharge of any pre-commencement planning conditions.

An outline Construction Environmental Management Plan¹⁷ (CEMP) and Construction & Demolition Waste Management Plan¹⁸ (C&DWMP), which are included with this planning application, should be referred to for more detail on the Construction Phasing. The appointed Contractor will be required

¹⁶ To include the removal of temporary access to Clongriffin train station.

¹⁷ Altamar Ltd. (2021a).

¹⁸ AWN Consulting Ltd. (2021a).

to prepare a site-specific Construction Environmental Management Plan (CEMP), including a plan for the scheduling and management of construction traffic, which will outline measures to be taken to mitigate the effects of construction traffic on the surrounding road network.

The site-specific Construction Environmental Management Plan will outline the construction hours. The expected construction hours will be 07:00-19:00 Monday to Friday and 08:00-14:00 on Saturdays. There will be no works on Sundays or bank / public holidays in accordance with the Environmental Noise Regulations (S.I. No. 140 of 2006 Environmental Noise Regulations) and subject to final agreement with FCC.

A detailed Construction Phase Health and Safety (H&S) Plan will be prepared by the appointed Contractor in advance of any works commencing on-site.

5.6 Description of the Operational Phase of the Proposed Project

The proposed Project will provide for 882 no. new residential dwellings (747 no. apartments, 135 no. houses), residential tenant amenities, village centre, and crèche, laid out in 15 no. blocks, in addition to a mix of uses at the proposed Village Centre.

The primary direct significant environmental effects will arise during the Construction Phase. As a result, the Operational Phase of the proposed Project is not likely to give rise to any significant additional impacts in terms of activities, materials or natural resources used or effects, residues or emissions which are likely to have a significant impact on human beings, flora and fauna, soils, water, air and climate.

The primary *likely significant* environmental impacts of the Operational Phase as a result of the proposed Project are fully addressed in the relevant specialist chapters of the EIAR.

5.7 Risk Management

The EPA Guidelines state that the EIAR must take account of *'the vulnerability of the project to risk of major accidents and / or disasters relevant to the project concerned and that the EIAR therefore explicitly addresses this issue. The extent to which the effects of major accidents and / or disasters are examined in the EIAR should be guided by an assessment of the likelihood of their occurrence (risk)'*.

In order to understand the potential consequences and predicted impacts of any major accident or disaster due to the proposed Project and the vulnerability of the project a desk study was undertaken.

The risk assessment concluded that the vulnerability of the proposed Project to major accidents and / or disasters *is not considered significant*. Refer to Section 5.7 of the EIAR (Volume 3).

6 Consultation

Informal scoping of potential environmental impacts was undertaken with the Fingal County Council through pre-application meetings. Direct and formal public participation in the Environmental Impact Assessment process will be through the statutory planning application process under the SHD procedures.

Consultation was undertaken which identified the issues that needed to be taken into consideration in designing the proposed Project.

A series of meetings have been held with Fingal County Council - Planning Department as formal pre-application discussions on the substance of the proposed Project. In addition meetings and consultation took place with officials from the Roads & Traffic Section, Drainage and Housing Departments.

This planning application is submitted directly to An Bord Pleanála, and this stage allows for further consultation. The application and all accompanying documents will be available on public display for review by the public and interested parties. Submissions on any aspect of the proposed Project may be made to An Bord Pleanála and such submissions will be taken into account in the determination of the application by the Board.

This proposed Project has a dedicated website as set out in the planning notices.

7 Population & Human Health

7.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Rebecca Dunlea, Environmental Consultant with Brady Shipman Martin, Planning, Landscape and Environmental Consultants.

This chapter evaluates the impacts, if any, of the proposed Project on the Population and Human Health with specific focus on social patterns (population), land use & settlement patterns, economic & employment activity, tourism, community infrastructure and amenity / recreation and human health. Human health is also addressed through a review of expected effects on air quality and climate, noise and vibration and traffic.

The proposed Project is a proposed Strategic Housing Development (SHD) (referred to as “*the proposed Project*”), located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13.

7.2 Methodology

The assessment considers qualities and characteristics associated with population, community and residential settlement, economic activities and employment, community infrastructure and tourism and recreation. The design team carried out a number of site visits at different stages throughout the design process, and an extensive desk based research was conducted.

The assessment was carried out in accordance with the following guidance and tailored accordingly based on professional judgement:

- EPA (2017). *Draft Guidelines on the Information to be Contained in Environmental Impact Reports*.
- EPA (2015). *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*.

7.3 Existing Environment

The baseline environment is considered in this section under the following headings:

- social patterns (population);
- land use and settlement patterns;
- economic and employment activity;
- tourism, community infrastructure and amenity / recreation; and

- human health.

Social Patterns (Population) - The Central Statistics Office (CSO) provides data on population and socio-economic aspects of the population at different levels from the State, county level, Local Electoral Area (LEA), individual Electoral Districts (ED) to Small Areas (SA) within each county. The most recent census by the CSO was undertaken in 2016.

The Site is located in the Local Electoral Area (LEA) of Howth - Malahide, and the Electoral Division (ED) of 004 Baldoyle. Baldoyle ED saw an increase in population in the 2016 census to 7,538 from 7,050 in the previous 2011 Census. This represents a c. 6.9% increase in population which is slightly below the Fingal average population change of c. 8.0%, but exceeds the Dublin City average population change of c. 5.8%. This can be accredited to the redevelopment of many lands in areas from greenfield (or brownfield) to residential and mixed-use development.

Land Use and Settlement Patterns - The Site is located in Baldoyle-Stapolin Growth Area No. 1 (GA1), Baldoyle, Dublin 13, c. 10km north-east of the City centre. The Site is partly undeveloped (historically greenfield in nature and partly a temporary construction compound associated with on-going development further south), with the exception of a network of access roads traversing the land.

The undeveloped lands of Baldoyle-Stapolin Growth Area No. 2 (GA2) and Growth Area No. 3 (GA3) lie directly to the north and north-east of the Site.

The lands surrounding the Site are predominately residential in nature. To the north and north-east of GA2 and GA3 is an area designated as 'high amenity' comprising partially of open fields and areas associated with the Baldoyle Estuary.

Economic and Employment Activity¹⁹ - The Economic and Social Research Institute (ESRI) Quarterly Economic Commentary for winter 2020, outlines that the Irish economy is now in the midst of a substantial downturn prompted by COVID-19. The impact of the COVID-19 downturn on the Irish labour market has been unprecedented. It is estimated that employment fell by 2.3% over 2020.

While COVID-19 continues to impact the Irish domestic economy, it is clear that most sectors registered a significant recovery in output in Q3 of 2020²⁰. Consumption and investment experienced

¹⁹ **Note:** The CSO's Labour Force release has been compiled during the COVID-19 crisis. The results contained in this release reflect some of the economic impacts of the COVID-19 situation.

²⁰ ESRI (2020).

a rebound in activity after the impacts of the general lockdown in Q2 of 2020 while exports continued to grow through the third quarter.

The path for the labour market for 2021 will be dependent on the performance of the underlying economy. As the rollout of the COVID-19 vaccine continues and public health restrictions are eased, positive trends in economic activity and employment are forecast for 2021.

Fingal is a key administrative area within the Eastern and Midland Regional Assembly (EMRA), and plays a strong supporting role to the Dublin City Gateway, which is the country's economic growth centre. Baldoyle has two key employment centres, at Baldoyle Industrial Estate and Kilbarrack Industrial Estate, both providing significant employment for the wider area. The key employment area for commercial activity in Malahide is Broomfield Business Park.

Tourism - Fingal's close proximity to Dublin City centre and the location of Dublin Airport within close proximity offers significant opportunities to expand the existing tourism the county. Fingal's coastal offering and rich built and natural heritage provide opportunities to attract visitors from Dublin City. Fingal's attractions include the coastal scenery and harbour towns, as well as the experiences of outdoor activities, food and drink. These include golf, equestrian, adventure centre and walking and cycling, farmhouse accommodation, open-farms, bird watching and eco, geo and green tourism. The *Fingal Tourism Strategy 2015-2018*, seeks to provide an attractive, vibrant and sustainable tourism destination delivering a distinctive experience for local residents, domestic and international visitors.

Community Facilities - Sustainable communities require a range of facilities and services such as state or local authority provided services such as credit unions, post offices, retail centres and general community services. The Baldoyle area possesses a range of services varying in scale including the following:

- post offices;
- recycling facilities;
- retail locations such as Donaghmede and Clare Hall Shopping Centres; and
- credit unions.

Transport Infrastructure - The Site is located immediately adjacent to public transport, allowing connections with the wider Dublin area. The Site is within a 5-minute walk of Clongriffin train station on the DART Line. Bus stops on Grange Road and Clongriffin Main Street are within a 5-minute walk of the Site.

Amenity / Recreation - Quality recreation, leisure and amenity facilities have a fundamental impact on the quality of life in a town / area. To the north and north-east is an area designated as '*high amenity*' comprising partially of open fields and areas associated with the Baldoyle Estuary. FCC will deliver '*Baldoyle Racecourse*' Regional Park as part of the Development Plan and Baldoyle-Stapolin Local Area Plan objectives at this location. The immediate area has large range of open space areas suitable for cycling, running and walking.

Human Health - Human health has the potential to be impacted upon by environmental factors such as air, water or soil through which contaminants could accumulate and have potential to cause harm through contact with human beings. The impact of development on human health is also influenced by the extent to which new development is accompanied by appropriate infrastructure and the maintenance of the quality of water, air and soil. External factors, *e.g.* coronavirus (Covid-19), can also have a major impact on human health - both physical and mental. In public mental health terms, the main psychological impact to date is elevated rates of stress or anxiety and its effects on many people's usual activities, routines or livelihoods²¹ (*i.e.* quarantine / cocooning / lockdown, loss of employment, travel / movement restrictions, lack of physical contact with other family members, friends and colleagues and working from home / home-schooling children to mention a few).

7.4 Potential Impact of the Proposed Project

The Construction Phase related activities have the potential to impact the local population (social patterns), in relation to new employment, a change in land use and a potential to increase baseline noise levels and changes in air quality, which could cause disturbance to the local residents and the users of the community and recreational facilities. Impacts to the local population are considered to be *neutral, not significant* and *temporary* in nature and therefore not considered *significant*.

The proposed Project will result in a construction period of approximately 95 month period (7 years 11 months) on top of the current Construction Phase activity already underway in the vicinity. The Construction Phase is likely to significantly enhance economic activity in the construction sector. It is anticipated that a substantial number of jobs will be created directly on-site. The construction of the proposed Project will also support job creation in building supply companies as well as have a *positive* impact for local businesses associated with the increase in spending on goods and services in the area.

²¹ WHO (2021a).

However, the Construction Phase related activities will be *short-term* impacts. Potential *negative* impacts included construction traffic, possible nuisances associated with construction activity and noise impact. Construction Phase mitigation measures outlined in the EIAR will ensure that the construction works will reduce or prevent any impacts identified.

The Operational Phase of the proposed Project will result in the provision a mixed-use residential development of 882 no. new residential dwellings (747 no. apartments, 135 no. houses), residential tenant amenity, retail, crèche, medical centre, café / restaurant, gym, and public realm.

The proposed Project will provide much needed homes to this area of the county, which will help cater for the considerable and consistent demand in the Dublin area, which is not being met at present. The amenity facilities will help to support existing community and social infrastructure. The proposed residential development will have a *significant positive* impact on economic activity in the area. The Operational Phase will also have a *positive* impact on employment.

7.5 Mitigation Measures

The potential impacts on the human environment relate to other environmental aspects such as air quality, noise and vibration, water quality and traffic and where required, the related mitigation measures are dealt with in the corresponding chapters of the EIAR (Volume 2).

The mitigation measures outlined in the EIAR (Volume 2) will ensure that there will be no negative impacts or effects on Population and Human Health, during the Construction and Operational Phases.

The proposed Project will provide residential accommodation which will be a *positive effect* for the local area and will provide a *significant positive* impact to the overall economy of the local area and Dublin area.

8 Biodiversity (Flora and Fauna)

8.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Bryan Deegan, Managing Director of Altamar Ltd. This chapter assesses the biodiversity value and potential impacts of the proposed Strategic Housing Development (SHD) (referred to as “*the proposed Project*”), located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13, on the ecology of the surrounding area within the potential zone of influence (ZOI).

Desk studies were carried out to obtain relevant existing biodiversity information within the zone of influence. The assessment extends beyond the immediate development area to include those species and habitats that are likely to be impacted upon by the proposed Project.

8.2 Methodology

A pre-survey data search was carried out. This included examining records and data from the National Parks and Wildlife Service (NPWS), National Biological Data Centre (NBDC), the Environmental Protection Agency (EPA), in addition to aerial, 6-inch maps and satellite imagery. Field surveys were carried out within optimal survey periods and consisted of flora / habitat, wintering bird, bat and mammal assessments.

8.3 Existing Environment

Designated Conservation Sites - It should be noted that the Site is not within a designated conservation site. The closest Natura 2000 site is Baldoyle Bay SAC, which is 400m from the proposed Project. The nearest SPA to the Site is the Baldoyle Bay SPA which is located 700m from the Site. There are no designated Natural Heritage Areas (NHA) within a 15km radius, however the nearest Proposed NHA (Baldoyle Bay) is 400m from the Site. There is a direct pathway from the proposed Project to the Baldoyle Bay SAC, SPA & pNHA via the existing attenuation pond and the Mayne River.

Biodiversity Records - There are no recorded sightings of species of conservation importance within the Site itself, however the Common Frog (*Rana temporaria*) were noted 30m and 150m to the south-west. No other species of conservation importance were noted at high resolution within 1km² based on NPWS records.

Evaluation of Species and Habitats on-site:

Evaluation of Habitats - The Site consists of recently cleared land (2009) that is recolonising. Approximately one third of the Site consists of an existing construction compound and access roads. The Site is relatively poor in biodiversity value. No rare or protected habitats were noted.

Evaluation of Species - No rare or threatened plant species were recorded in the vicinity of the Site. No signs of mammals of conservation importance were noted on-site. The common frog (*Rana temporaria*) or newts (*Triturus vulgaris*) were not observed on-site. Given the presence of a small seasonal areas of water retention on-site it is possible that frogs may be present. However, the overall site would be considered poor foraging habitat. There are no buildings or trees of bat roosting potential on-site. There was no bat foraging activity on-site. There are no records of bats utilising the Site. As seen in the Wintering Bird Assessment, snipe (*Gallinago gallinago*) has amber conservation status and has been noted within GA1. This species is not a qualifying interest of Baldoyle Bay SPA.

8.4 Potential Impact of the Proposed Project

Construction Phase - The proposed Project is not within a designated conservation site. However, Baldoyle Bay SAC, pNHA and SPA are proximate to the Site and there is a direct pathway from the proposed Project to the designated sites via the existing attenuation pond and Mayne River. Noise from the construction would be localised to the vicinity of the works and would not impact on the qualifying interests of the Baldoyle Bay SPA. Ensuring water quality and compliance with the Water Pollution Acts, as set out in the outline Construction Environmental Management Plan (CEMP), would be seen as the primary method of ensuring no significant impact on watercourses and designated sites.

Operational Impacts - No significant impacts on designated sites are likely during operation. The presence of additional residents in the vicinity of Baldoyle Bay may result in an increase of disturbance of biodiversity within the Baldoyle SPA and SAC. By the very nature of the estuarine and saltmarsh environment within Baldoyle Bay it would be expected that the increase in human disturbance would not be within the estuarine environment of Baldoyle Bay itself, but on the surrounding roads and on Portmarnock Beach.

8.5 Mitigation Measures

Mitigation measures will be incorporated into the proposed Project to minimise the potential negative impacts on the ecology and downstream conservation sites. These measures are outlined in the EIAR and in the Construction Environmental Management Plan (CEMP). Mitigation measures are

primarily relating to storm water and waste management including silt control, compliance with noise and air quality regulations and having ecological supervision on site.

8.6 Residual Impacts

The successful implementation of the CEMP and additional measures outlined in this chapter of the EIAR would be seen as important elements to the successful mitigation of the loss of biodiversity on-site in addition to ensuring that works do not impact on the downstream aquatic ecology and designated sites.

9 Land, Soils, Geology and Hydrogeology

9.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Paul Conaghan, Environmental Consultant of AWN Consulting Ltd.

This chapter presents an assessment of the existing environment (baseline) and the likely impacts on land, soil, geological and hydrogeological aspects, associated with the proposed Strategic Housing Development (SHD) (referred to as “*the proposed Project*”), located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13.

9.2 Methodology

The assessment has been carried out generally in accordance with the following guidelines:

- CIRIA²² (2001). *Control of Water Pollution from Construction Sites*.
- CIRIA (2002). *Environmental Handbook for Building and Civil Engineering Projects*.
- EPA (2017). *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*.
- EPA (2015). *Draft Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*.
- IGI (2013). *Guidelines for the preparation of Soils Geology and Hydrogeology Chapters of Environmental Impact Statements*
- NRA (2009). *Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes*.

9.3 Existing Environment

This chapter assesses and evaluates the potential impacts of the proposed Project on the geological and hydrogeological environment. On-site investigations undertaken by Ground Investigations Ireland (GII) in 2019 & 2020 show bedrock is > 8.5 metres below ground level (mbgl) and comprises strong, medium to thinly bedded, grey, fine-grained limestone as per the Geological Survey of Ireland (GSI) mapping. The limestone is classified by the GSI as a Locally Important Bedrock Aquifer (LI), which is described as ‘*moderately productive only in local zones*’.

²² Construction Industry Research and Information Association.

Made ground was not encountered in general across the Site. However, at two very localised trial pits TP-08 and TP-67 to a max depth of 2.3mbgl black angular fine to coarse CRUSHED ROCK FILL or brown grey slightly sandy gravelly CLAY with varying amount of anthropogenic material including redbrick, timber and concrete fragments was noted. Cohesive deposits were encountered beneath the Made Ground or Topsoil and were described typically as grey brown slightly sandy gravelly CLAY with occasional cobbles and boulders overlying a grey slightly sandy gravelly CLAY with occasional cobbles and boulders. Discrete granular lenses were encountered within the cohesive deposits and were typically described as grey brown or grey gravelly clayey fine to coarse SAND with occasional cobbles and rare boulders. Bedrock was not proven during the on-site investigation with the deepest borehole (BH17) at the eastern boundary of the Site extending to 8.50mbgl without reaching the underlying limestone bedrock, confirming the GSI vulnerability categorisation as 'Low'.

The Groundwater Body (GWB) underlying the site is the Dublin GWB (EU Groundwater Body Code: IE_EA_G_008). The Environmental Protection Agency (EPA) (2021) classifies the Dublin GWB as currently being under review. Previously the Dublin GWB was recorded as having a 'Good Status' in the last WFD cycle (2013-2018).

Site soil analysis shows that all but one localised area of fill to the east of the Site (TP-65) is suitable for future use for residential purposes as per the threshold levels derived by the Land Quality Management / Chartered Institute of Environmental Health Suitable for Use Levels (LQM / CIEH S4ULs). TP-65 exceeded the generic assessment criteria for future residential land use as per the S4ULs. The material at TP-65 was recorded as primarily black angular fine to coarse crushed fill to a depth of 0.65 metres below ground level (mbgl). As sampling at the rest of the Site was below the residential thresholds the excavation and removal of the fill material is advised to a minimum depth of 0.70mbgl. The material is to be disposed of as per the Waste Acceptance Criteria (WAC) categorisation provided in section 10.3 of the March 2020 site investigation report by Ground Investigation Ireland (GII).

Based on the NRA / IGI criteria for rating the importance of hydrogeological features the importance of the hydrogeological features at this site is rated as *Medium Importance*. This is based on the assessment that the attribute has a *medium* quality significance or value on a *local* scale. The aquifer beneath the site is a *locally important* (LI) bedrock aquifer, *Bedrock which is Generally Moderately*

productive. It is not used for public water supply or widely used for potable use and is well protected (low vulnerability).

9.4 Potential Impact of the Proposed Project

The potential impacts of construction and mitigation measures proposed have been identified. The mitigation measures incorporated in the project design address potential impacts which include:

- Soil Removal & Compaction.
- Fuel and chemical handling, transport and storage.

Construction works will require the removal of soils / stones excavations are to a maximum depth of 1-2mbgl. The aquifer vulnerability is classified as 'Low' throughout the Site area based on-site investigations with circa >8.5 m of overburden recorded. Due to the thickness of the overburden the underlying hydrogeological environment will have significant protection from surface infiltration during construction. Temporary storage of soil will be carefully managed to prevent any potential negative impact on the receiving environment particularly the Mayne River, nearby SAC wetlands and any surface water drains / gulley's. This material will be stored away from the surface water drainage network. Movement of material will be minimised in order to reduce degradation of soil structure and the generation of dust.

It is not proposed to remove any excavated material off-site. It will be visually assessed for signs of possible contamination such as staining or strong odours. It is recommended to remove a small amount of material from the area around TP-65 as mentioned above.

9.5 Mitigation Measures

During construction of the proposed Project, there is a risk of accidental pollution incidences from the following sources:

- spillage or leakage of temporary oils and fuels stored on-site;
- spillage or leakage of oils and fuels from construction machinery or site vehicles;
- spillage of oil or fuel from refuelling machinery on-site; and
- run-off from concrete and cement works.

There will be no direct discharges to the ground or abstractions from the aquifer during the operation of the proposed Project. The potential impacts of the development operation in relation to land soils and environment have been assessed under the following headings:

- Accidental Emissions.
- Reduction in Local Recharge to Groundwater.

As stated, all excavated materials will be visually assessed for signs of possible contamination such as staining or strong odours. In the event that any unusual staining or odour is noticed, samples of this soil will be analysed for the presence of possible contaminants in order to ensure that historical pollution of the soil has not occurred. Should it be determined that any of the soil excavated is contaminated, this will be segregated, classified and appropriately disposed of by a suitably permitted / licensed waste disposal contractor.

To minimise any impact on the underlying subsurface strata from material spillages it is proposed that all fuels, oils, solvents and paints used during construction will be stored within temporary bunded areas or will be contained in double skinned tanks in designated areas of the site away from surface water drains.

Re-fuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles will take place off-site or in a designated area that will be away from any existing surface water drains. The area will be determined by the appointed Contractor prior to commencement on-site but is likely to be carried out in a designated area of the Contractor's Compound. In the event of a machine requiring refuelling outside of this area, fuel will be transported in a mobile double skinned tank. An adequate supply of spill kits and hydrocarbon adsorbent packs will be stored in this area. All relevant personnel will be fully trained in the use of this equipment. Guidelines such as *"Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors"* (CIRIA 532, 2001) will be complied with.

There will be no bulk storage of fuel required for the operation of the proposed Project. There will be an increase in hardstanding at the Site of the proposed Project. The impermeable surface will minimise the potential influx of any contaminants into soils and underlying groundwater.

Any accidental leaks from cars within the car parking / road areas will be directed through the surface drainage system via an appropriately sized interceptor.

9.6 Residual Impacts

Following implementation of mitigation measures detailed in Chapter 9 of the EIAR, the predicted impact during construction of the proposed Project will be *short-term, imperceptible* and *neutral*.

Following implementation of the mitigation measures, the predicted impact on land, soils and geology once the development is constructed and operational (in accordance with the *Draft EPA Guidelines* (2017)) is considered to be *long-term, imperceptible* with a *neutral* effect on quality. There will be no emissions to ground or the underlying aquifer from operational activities.

10 Water (Hydrology)

10.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Paul Conaghan, Environmental Consultant of AWN Consulting Ltd.

This chapter presents an assessment of the existing environment (baseline) and evaluates the potential impacts on the surrounding water & hydrological environment, associated with the proposed Strategic Housing Development (SHD) (referred to as “*the proposed Project*”), located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13.

In assessing likely potential and predicted impacts, account is taken of both the importance of the attributes and the predicted scale and duration of the likely impacts.

10.2 Methodology

The methodology used in this assessment follows current European and Irish guidance as outlined in:

- EPA (2017). *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*.
- EPA (2015). *Draft Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*.
- National Roads Authority (NRA) (2009). *Guidelines on Procedures for the Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes*.

10.3 Existing Environment

The proposed Project is located within the previously defined Eastern River Basin District (ERBD), now the Ireland River Basin District, in Hydrometric Area No. 09 of the Irish River Network. It is within the River Liffey catchment and Mayne Sub-catchment (Mayne_SC_010). The River Liffey catchment encompasses an area of approximately 1,369km². The River Liffey extends from the mountains of Kippure and Tonduff in County Wicklow to the sea at Dublin Bay. The main channel covers a distance of c. 120km west to east. The Snugborough Stream lies 650m to the east and the River Mayne lies 550m to the north (Environmental Protection Agency (EPA) designations).

The EPA classifies the River Mayne with a WFD River Waterbody risk score of 1a, ‘*At risk of not achieving good status*’. The WFD Status for the Mayne waterbody was previously denoted as ‘Poor’ (2nd Cycle Status 2013-2018). The transitional waterbodies of the Mayne Estuary and North Bull

Island WFD status is currently ‘*under review*’ and these were not assigned a status in the previous cycle (2013-2015). The Irish Sea Dublin (HA 09) and the Dublin Bay Coastal Waterbodies to the east and south-east of the Site have a ‘*Good*’ status and are listed as ‘*Not at Risk*’ by the EPA.

The closest Natura 2000 site is Baldoyle Bay SAC, which is 400m from the proposed Project. The nearest SPA to the Site of the proposed Project is the Baldoyle Bay SPA which is located 700m from the Site. There are no designated Natural Heritage Areas (NHA) within a 15km radius, however the nearest Proposed NHA (Baldoyle Bay) is 400m from the Site. (Both the bay itself and saltwater marshland which is part of the old Baldoyle Racecourse). The North Dublin Bay SAC is c. 1.8km south of the Site. Currently stormwater is discharged to the Mayne River from the Site via services installed under permission 16A/041 which discharges into the Baldoyle Estuary.

The proposed Project was subject to *Site Specific Flood Risk Assessment* (SSFRA) in accordance with *OPW Flood Risk Management Guidelines*, and is included with this planning application. From a review of the OPW’s online flood mapping tool the Site is located in Flood Zone C (low probability for coastal or pluvial flooding). The SSFRA concluded that the proposed Project is not at risk from fluvial, pluvial or groundwater flooding; also, the SSFRA did not find any indicators that the proposed Project shall give rise to flood risk elsewhere.

There are no open water features within the Site of the proposed Project. The nearest rivers and open water are 550m from the Site, refer to Figure 10.1. However currently stormwater is discharged to the Mayne River from the Site which discharges into the Malahide Estuary. Based on the NRA methodology (refer to Appendix A10.1 of Volume 3), for the criteria for rating the importance of hydrological features, the features at this Site are rated as high importance.

Figure 10.1: Regional Hydrological Environment



10.4 Potential Impact of the Proposed Project

The potential impacts of construction and mitigation measures proposed have been identified. The mitigation measures incorporated in the project design address potential impacts which include:

- Increased Runoff & Sediment Loading.
- Contamination of Surface Water Drainage.

10.5 Mitigation Measures

An outline Construction Environmental Management Plan (CEMP) accompanies this planning application. A final CEMP will be prepared and maintained by the appointed Contractors during the Construction Phase of the proposed Project. The CEMP will cover all potentially polluting activities and include an emergency response procedure. All personnel working on the Site will be trained in the implementation of the CEMP.

To minimise any impact to surface water features on-site from material spillages, all oils, solvents, paints, and fuels used during construction will be stored in appropriate receptacles (in suitably

bunded areas, where required). In the case of drummed fuel or other potentially polluting substances which may be used during the Construction Phase the following measures will be adopted:

- secure storage of all containers that contain potential polluting substances in a dedicated internally bunded chemical storage cabinet unit or inside a concrete bunded area;
- clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage; and
- all drums to be quality approved and manufactured to a recognised standard.

All ready-mixed concrete will be brought to the Site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline wastewaters or contaminated storm water to the groundwater.

The appointed Contractor will be required to make provisions for removal of any concrete wash waters, most likely by means of tankering off-site and no such wash waters will be discharged to groundwater. Any effluent generated by temporary on-site sanitary facilities will be taken off-site for appropriate treatment.

Refuelling of construction equipment and the addition of hydraulic oil or lubricants to vehicles / equipment will take place off-site or at a designated bunded areas where possible. Refuelling will be avoided in so far as possible at the other work sites but where necessary will take place on hardstand areas and fuel stored in bunded areas.

If it is not possible to bring a machine to the refuelling point, fuel will be delivered in a double skinned mobile fuel bowser (>10m away from open water). A drip tray will be used beneath the fill point during refuelling operations in order to contain any spillages that may occur. The vehicles and equipment will not be left unattended during refuelling. Spill kits and hydrocarbon absorbent packs will be stored in the cab of each vehicle and operators will be fully trained in the use of this equipment.

The implementation of mitigation measures detailed in Chapter 10 of the EIAR will ensure that the potential impacts on the surface water environment do not occur during the Construction Phase and that the residual impact will be *short-term-imperceptible- neutral*.

Potential impact of the development during the Operational Phase include;

- increased surface water run-off;
- contamination of surface water;
- foul water; and
- water supply.

The proposed new storm water drainage arrangements will be designed and carried out in accordance with the:

- Greater Dublin Strategic Drainage Study Volume 2.
- Greater Dublin Regional Code of Practice for Drainage Works.
- BS EN – 752:2008, Drains & Sewer Systems Outside Buildings.
- Part H, Building Drainage of the Building Regulations.

There are a number of SUDS measures that will be put in place to manage storm water drainage from the Site of the proposed Project.

- **Constructed Wetland** - Shallow ponds and marshy areas with a high concentration of aquatic vegetation. The wetland will detain flows for an extended period allowing sediments to settle and to remove contaminants by facilitating adhesion to vegetation and aerobic decomposition. Located within existing Mayne River floodplain, prior to discharge to the floodplain.
- **Rainwater 'butts'- rain** which falls first on to roof areas shall be collected in a water storage unit, to allow for re-use for landscaping purposes to reduce the reliance on the potable water network. Rainwater butts will be provided to all single houses only.
- **Swales:** shallow drainage channels covered in grass which can treat, convey and attenuate run-off, at source, and can infiltrate to the ground where the subgrade is suitable. Swales also can promote biodiversity. Swales are located adjacent to the roads of Stapolin Avenue and Stapolin Road.
- **Bio-retention Areas:** Shallow landscaped depressions which are under drained with engineered soils and enhanced vegetation and planting on the surface which manage and treat run-off, at source, and promote biodiversity development. Located generally at suitable low points along roads in lieu of gullies throughout the applicant lands.
- **Green Roofs:** Green roofs provide ecological, aesthetic and amenity benefits and intercept and retain rainfall, at source, reducing the volume of run-off and attenuation peak flows.

Green roofs absorb most of the rainfall that they receive during ordinary events and they will only contribute to attenuation of flows for larger events. Additionally, green roofs treat surface water through removal of atmospherically deposited urban pollutants. 100mm deep Sedum green roof systems are proposed to the apartment buildings located to the west of Longfield Road in the north west of the applicant lands.

- **Permeable Paving:** These systems are used ‘source control’ method in managing surface water run-off. Water is managed and dealt with onsite without piping off to storage tanks or surface water treatment systems. Surface water discharge is managed to ensure that risk of contamination or pollution are mitigated. Permeable Paving systems filter contaminants by microbial action. There is no requirement for additional filtering / polishing with Permeable Paving in normal use. It is proposed to construct all parking spaces to the development with permeable paving systems.

Petrol interceptors will be installed within car parks areas under the apartment buildings to cater for any oil / fuel leaks from onsite vehicles as required.

A Pre-Connection Enquiry was submitted to Irish Water based on the foul flows for the proposed Project a favourable response was received from Irish Water on 25 November 2020. This is subject to a connection agreement with Irish Water.

The water main layout and details including valves, hydrants, metering etc. will be in accordance with Irish Water’s Code of Practice and Standard Details for water infrastructure. As stated above Irish Water have confirmed connection to its water network can be facilitated subject to a connection agreement.

10.6 Residual Impacts

Following implementation of the mitigation measures proposed in Chapter 10 of the EIAR, the predicted impact on the surface water environment once the development during the construction phase (in accordance with EPA Draft EIA Guidelines, 2017) in accordance with the *Draft EPA Guidelines* (2017) is considered to be *likely, neutral, imperceptible, and short-term* and *Neutral, Imperceptible and Long-term during operation*.

11 Air Quality and Climate

11.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Niamh Nolan, Environmental Consultant (air quality and climate) of AWN Consulting Ltd. This chapter assesses the likely air quality and climate impacts, if any, associated with the proposed Strategic Housing Development (SHD) (referred to as “*the proposed Project*”), located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13.

11.2 Existing Environment

In terms of the existing air quality environment, data available from similar environments indicates that levels of nitrogen dioxide (NO₂), particulate matter less than 10 microns and particulate matter less than 2.5 microns (PM₁₀/PM_{2.5}) are, generally, well within the National and European Union (EU) ambient air quality standards.

The existing climate baseline can be determined by reference to data from the Environmental Protection Agency (EPA) on Ireland’s total greenhouse gas (GHG) emissions and compliance with European Union’s Effort Sharing Decision “EU 2020 Strategy” (Decision 406/2009/EC). The EPA estimate that Ireland had total GHG emissions of 59.90 Mt CO₂eq in 2019 with 45.71 MtCO₂eq of emissions associated with the ‘Effort Sharing Decision’ sectors for which compliance with the EU targets must be met. This is 6.98 Mt CO₂eq higher than Ireland’s annual target for emissions in 2019. Emissions are predicted to continue to exceed the targets in future years.

11.3 Potential Impact of the Proposed Project

Impacts to air quality and climate can occur during both the Construction and Operational Phases of the proposed Project. With regard to the Construction Phase the greatest potential for air quality impacts is from fugitive dust emissions impacting nearby sensitive receptors. Impacts to climate can occur as a result of vehicle and machinery emissions. In terms of the Operational Phase air quality and climate impacts will predominantly occur as a result of the change in traffic flows on the local roads associated with the proposed Project.

11.4 Mitigation Measures

Any potential dust impacts can be mitigated through the use of best practice and minimisation measures which are outlined in Chapter 11 of the EIAR (Volume 2). Therefore, dust impacts will be *short-term* and *imperceptible* at all nearby sensitive receptors. It is not predicted that significant

impacts to climate will occur during the Construction Phase. Construction Phase impacts to climate are predicted to be *short-term, neutral and imperceptible*.

The local air quality modelling assessment of Operational Phase traffic concluded that levels of traffic-derived air pollutants resulting from the development will not exceed the ambient air quality standards either with or without the proposed Project in place. Using the assessment criteria outlined in Transport Infrastructure Ireland's guidance document '*Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes*' (2011) the impact of the proposed Project in terms of NO₂ is *long-term, localised, negative and imperceptible*.

The proposed Project is not predicted to significantly impact climate during the Operational Phase. Increases in traffic derived levels of CO₂ have been assessed against Ireland's EU 2030 target. Changes in CO₂ emissions are significantly below the EU target and therefore the climatic impact in the Operational Phase is considered *long-term, negative and imperceptible*. In addition, the proposed Project has been designed to minimise the impact to climate where possible during operation.

The best practice dust mitigation measures that will be put in place during construction of the proposed Project will ensure that the impact of the development complies with all EU ambient air quality legislative limit values which are based on the protection of human health. Therefore, the impact of construction of the proposed Project is likely to be *short-term, localised, negative and imperceptible* with respect to human health. Operational Phase predicted concentrations of pollutants are predicted to be significantly below the EU standards, the impact to human health is predicted to be *imperceptible, negative and long term*.

No significant impacts to either air quality or climate are predicted during the Construction or Operational Phases of the proposed Project.

12 Noise and Vibration

12.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Leo Williams Acoustic Consultant of AWN Consulting Ltd.

This chapter assesses the likely noise and vibration impacts associated with the proposed Strategic Housing Development (SHD) (referred to as “*the proposed Project*”), located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13.

12.2 Methodology

This assessment has been undertaken using the following methodology:

- detailed baseline noise monitoring has been undertaken in the vicinity of the nearest noise sensitive locations to determine the range of noise levels in the existing environment;
- a review of the most applicable standards and guidelines has been conducted in order to set a range of acceptable noise and vibration criteria for the Construction and Operational Phases of the proposed Project, this is summarised in the following sections; and
- where necessary, a schedule of mitigation measures has been proposed to control the noise and vibration emissions associated with both the Construction and Operational Phases of the proposed Project.

12.3 Existing Environment

The existing noise climate in the vicinity of the proposed Project has been surveyed. Prevailing noise levels are primarily due to local road and rail traffic with contributions from aircraft movements. The noise impact assessment has focused on the potential outward impacts associated with the Construction and Operational Phases of the proposed Project on its surrounding environment.

12.4 Potential Impact of the Proposed Project

During the main Construction Phase involving site clearance, building construction works, the assessment has determined that for works at the Site boundaries mitigation will be implemented and that when works move further in to the Site, the construction noise criteria can be complied with at the nearest sensitive properties. A schedule of noise mitigation measures including, noise limits and screening will all be employed to reduce any noise and vibration impacts during this phase.

During the Operational Phase, the outward noise impact to the surrounding environment will be include any additional traffic on surrounding roads and plant noise from the residential and commercial buildings as part of the development. The impact assessment has concluded that additional traffic from the proposed Project on local roads will have an *insignificant* impact on the surrounding noise environment. Additional traffic on Longfield Road will have a *slight* impact.

12.5 Mitigation Measures

Mechanical plant items will be designed to ensure any noise and vibration impacts during this phase will not exceed the recommended limit values. The resulting impact is of *neutral*, *permanent*, and *imperceptible*.

The impact of noise on the development itself has been assessed. Traffic noise along the adjacent rail line is the primary noise source, with contribution from aircraft noise making up the noise environment across the Site.

Mitigation measures have been recommended to facades overlooking the local rail network so that appropriate internal noise levels are achieved.

13 Landscape and Visual

13.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Chris Kennett, a Chartered Member of the Landscape Institute since 1996 and director of Kennett Consulting Limited.

This chapter describes the likely significant effects on the landscape and visual aspects of the receiving environment of the proposed Strategic Housing Development (SHD) (referred to as “*the proposed Project*”), located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13.

13.2 Methodology

This chapter has been prepared between January 2020 and June 2021, with reference to the methodology and terminology outlined in the following guidelines:

- EPA (2017). *Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*.
- EPA (2015 & 2003). *Draft Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*.
- Landscape Institute / Institute of Environmental Management and Assessment (IEMA) (2013). *Guidelines for Landscape and Visual Impact Assessment* (3rd Edition).

13.3 Existing Environment

The Site is comprised of flat disturbed ground surrounded by existing development on three sides, occupied by grassland and scrub. There are no trees or landscape features worthy of retention. It makes no positive contribution to local green space or visual amenity for the surrounding neighbourhoods.

The wider area is essentially flat and broadly divided between the mixed urban areas broadly south and west of the Site, and more open greenspace / countryside broadly north and east, including the Baldoyle and Portmarnock coastal area. The area is undergoing rapid change in character. Good road and rail connections to the city are helping to drive this growth.

Immediately to the west of the Site lies the new Clongriffin train station and forecourt, terminating Main Street at the eastern edge of the current district centre. Contemporary buildings of 4-6 storeys characterise this area. New residential neighbourhoods of traditional and contemporary housing

forms characterise the more immediate surroundings to the east, south and west, with longer-established residential areas to the south.

Views towards the Site are largely constrained to the south and west due to the surrounding urban area, though vistas along local streets afford localised views towards the Site. From both the north and east, existing development surrounding the station and to the south provides an urban backdrop to a mixture of marshland and disturbed former agricultural land. Glimpsed views occur along the R123 Moyne Road, with more open views from the R106 Coast Road between Baldoyle and Portmarnock. More distant views occur across the High Amenity estuary landscape from locations such as The Burrow at Sutton and Portmarnock Beach car park.

13.4 Potential Impact of the Proposed Project

‘Do-nothing’ - If the proposed Project were not to be built and the Site were without other development, it would remain, in the short-term at least, as disturbed ground with increasing amounts of natural regeneration occurring in the absence of any management and maintenance. It is unlikely that the land would be opened up for public recreational use.

With increasing amounts of residential development surrounding it, including within other parts of the Baldoyle-Stapolin Local Area Plan (LAP) area, the Site would appear incongruous and unkempt, an inaccessible open space with poor visual amenity. This would most likely have a moderately or high adverse visual impact upon the immediate neighbouring areas, including Clongriffin train station, and would also have a negative impact upon the positive character of this emerging urban neighbourhood. Stapolin Square would not be delivered as a major public open space, which is a key component of the wider masterplan for this area, with a significant detrimental effect upon public amenity likely as a result.

The Site is central to the Masterplan area for residential-led development in the Baldoyle-Stapolin LAP area, with an objective for high quality urban development. Should the proposed Project not go ahead, it is likely that other proposals for development will come forward in the short-to-medium-term.

Construction Phase - *Significant temporary and short-term negative* impacts upon landscape character and visual amenity are likely to arise from the Construction Phase, some of which may be significant. Impacts are likely to arise from the following:

- temporary hoardings, parking, materials and Site offices;

- demolition of existing site structures;
- cranes, scaffolds and other temporary structures;
- construction activities from mobile plant on-site;
- the presence of dynamic, partially-completed buildings;
- traffic movements entering and leaving the Site; and
- temporary lighting and signage.

Most construction impacts will be reasonably localised, though the height of some buildings and the cranes that will be necessary for their construction are likely to be visible over a wider area. Construction is anticipated to take a period of 95 months (7 years and 11 months), meaning Construction Phase impacts will be *temporary or short-term*. As there are no significant existing landscape features to be removed, there will be no permanent Construction Phase impacts on landscape character or visual amenity.

Operational Phase - Potentially *negative* impacts arise from the increased scale and height of a more extensive development with some taller buildings, while potentially *positive* impacts arise from the richer design response and the completion of Stapolin Square.

The southern and eastern quarters of the Site (the greater parts of Blocks B and C) will be 2-3 storeys high, where neighbouring established residential areas are of similar height and scale. The central / western and northern quarters (Blocks A, D and the adjacent margins of Blocks B and C) of the proposed Project are 4-9 storeys high with an accent building at 15 storeys. The increasing density and height responds to neighbouring developments immediate west of the Site, including the district centre and railway station.

The taller buildings, primarily Block A and Block D are likely to be clearly visible in views from the surrounding landscape, particularly from the north and east where there is little intervening development. These buildings will introduce changes to the skyline and intensify the built edge of the urban area, with potential for negative visual impacts upon nearby High Amenity areas. However, the newly built neighbourhood adjoining and west of Clongriffin train station will provide a visible urban context for the proposed Project, while future phases of development within the Local Area Plan are likely to screen such views of the proposed Project and also provide a wider urban context for it. In close quarters, the new civic public spaces will match the scale and quality of the buildings, providing an attractive setting to them and making a positive contribution to the landscape.

Lower buildings in Blocks A, B and C will be mostly visible from neighbouring residential areas, where their scale and materiality complement the existing houses. In-combination with the provision of hard and soft landscaped open space, this is likely to have a *positive* landscape and visual impact upon existing residential areas.

13.5 Mitigation Measures

Construction Phase - The Construction Phase of the proposed Project will be completed expediently through careful construction planning and management prior to commencing on-site and throughout the Construction Phase.

- Perimeter hoardings will be installed along the Site boundaries and maintained in good condition and free of unsolicited graffiti and fly-posting.
- Temporary offices, storage compounds and parking areas will be located within the Site and away from nearby houses where possible, where they will have minimal visual impact.
- Tower cranes will be highly-visible but temporary / short-term structures, 'parked' in an orderly manner when not in use (e.g. without overhanging neighbouring residential areas) and removed from the Site at the earliest opportunity.
- Plant operating within the site are likely to be partially visible from neighbouring streets and open spaces. When not in use, these will be parked in compound areas and / or away from the Site perimeter in order to minimise visibility.
- A traffic management strategy will minimise visual impacts and other impacts on neighbouring streets and residents, including the defined haul routes and times of operation; consolidation of vehicle movements for deliveries to site or removal of materials from site; and staggering of vehicle movements to minimise or avoid queuing on neighbouring streets.

Even with all reasonable mitigation measures in place (described above), construction activities will most likely have *significant negative* effects on visual amenity for adjoining buildings, streets and open spaces for a planned period of c. 95 month period (7 years 11mths), with *moderate* or *slight negative* effects further afield. Completing the construction programme in this period represents an expedient construction programme and will ensure *negative* landscape and visual impacts are removed as quickly as possible.

Operational Phase - The proposed Project minimises or avoids potential adverse landscape and visual impacts upon the neighbouring sensitive landscape areas to the north and east by virtue of the following design considerations:

- Being part of a much wider and carefully-considered consolidation of the urban edges fronting the Baldoyle-Portmarnock estuarine area, complementing other permitted and anticipated future developments nearby.
- Providing a clear separation between built-up areas and the more sensitive natural / scenic estuarine area, and seeking a strong positive interface between the two.
- Being set back from the nearby estuary, leaving the intervening High Amenity land and future park / recreation areas as a landscape buffer to the estuary.
- Making a positive contribution to the wider landscape by using high quality architecture and good place-making to frame and complement the nearby High Amenity area.
- Clustering taller buildings with variable heights towards the station, resulting in a modulated roofscape that provides visual interest and avoids the monotony. Their vertical emphasis is contrasting and complementary to the nearby flat coastal plain.

The proposed Project minimises or avoids potential *adverse* landscape and visual impacts upon neighbouring residential areas by virtue of the following design considerations:

- Consolidating an emerging new urban neighbourhood centred around Clongriffin train station and the district centre.
- Restraining building height throughout much of the Site by being responsive to neighbouring developments, providing a satisfactory transition of scale and height towards taller buildings.
- Incorporating a range of buildings solutions that include apartment blocks, duplex apartments and town houses, creating a varied and visually rich urban landscape.
- Incorporating a carefully considered range of scale, form, detailing and materials to express a coherent yet diverse suite of building elevations and character areas.
- Incorporating richly detailed hard and soft landscaping to open spaces and streets, adding further visual interest, diversity, legibility and providing continuity with the civic space at Clongriffin train station and Station Square.

13.6 Residual Impact

A development of this nature, by definition, will bring about permanent change to the landscape by way of its transformation from open unbuilt land to a new high density residential neighbourhood. Impacts from individual buildings can reasonably be expected to be 40+ years, making them *long-term* or *permanent* impacts. Green and open spaces can be more dynamic and changeable in the medium to long-term as soft landscape grows and matures, or when the function of such spaces changes to meet evolving needs.

Landscape Character Impacts - Residual landscape impacts upon the Site itself are profoundly *positive*, transforming a neglected urban infill site into an attractive contemporary urban neighbourhood, connecting with Clongriffin train station and existing residential developments to the south, south-east and west. This has a *moderate* to *significant positive* impact upon landscape character of the Site and adjoining areas.

The range of building types, the varied expression of roofscapes and elevation details, and richly detailed hard and soft landscape throughout creates a diversity of scale and character within the development, enriching the sequential experience of streetscapes and open spaces while aiding legibility. This has a *significant positive* impact upon place-making and the landscape character of the local street / open space network.

Careful consideration of building heights throughout site ensures a satisfactory transition between the proposed Project and existing or permitted developments that adjoin the Site. This is a *positive permanent* impact upon existing neighbouring residential areas.

In the wider landscape, the proposed Project consolidates new development within a carefully planned urban framework (the Baldoyle-Stapolin LAP) that acknowledges the higher landscape sensitivities of adjoining lands, including the high amenity land to the north and east and the wider estuarine / coastal landscape. This relieves potential housing pressure for more sporadic development throughout the wider area which might be more harmful to the highly sensitive estuarine and coastal landscapes. The proposed Project will form part of a new urban backdrop to the nearby High Amenity area, framing it with a more clearly defined edge, making a *significant positive* contribution to the character of this emerging urban area. The magnitude of change to the estuarine landscape itself will be *low* and the resulting impact upon its landscape character will be *moderate* and *neutral*.

Visual Impacts - Likely visual impacts from the proposed Project upon a representative range of viewpoints in the surrounding area are illustrated in the booklet of *Verified Photomontages* by Modelworks, submitted with this planning application.

Existing residential areas lie adjacent to the south / south-east and at relatively close quarters west / north-west of the proposed Project. The magnitude of change can be significant where streets adjoin or link directly to the site to the south or southeast, where visual impacts are typically *moderately positive* on account of removing a vacant development site from view and replacing it with a complementary range of residential buildings and a richly landscape streetscape. Views from the northern end of Longfield Road, the western site of Red Arches and the rear of Station Way / Railway Road are examples of this.

Further west of the railway line, there are occasional vistas along streets towards the proposed Project. Where there is a partial view of the proposed Project, perhaps terminating the view and provide a more enclosed streetscape, visual impacts are typically *slightly positive or neutral*, such as the vistas along Station Way at Beau Park Square and at its junction with Railway Road. In other cases the proposed Project may be screened by intervening buildings, with *no* visual impact as a result, such as the vista along Belltree Avenue.

Clongriffin train station and Main Street lies at the heart of the neighbouring Clongriffin-Belmayne LAP Masterplan area. The station directly adjoins the proposed Project while Main Street affords vistas towards the proposed Project from varying distances to the west. The magnitude of change at the station forecourt is very significant, where new apartment buildings frame the station forecourt in the first instance, while also drawing the viewer's eye onwards into the site; as a more complete and visually rich urban landscape, visual impacts are *highly positive*. Such views of the proposed Project diminish along Main Street as the viewer moves westwards until no more than a glimpse of the Block D3 tower complements the urban streetscape with a *slightly positive* visual impact as a result.

There are glimpses of the proposed Project from the local road network in the wider landscape. From the south, an elevated section of Grange Road affords views along the railway line and across the intervening rooftops. The proposed Project punctuates an otherwise monotonous roofscape with a cluster of taller buildings with colours and grain that contrast with the houses, giving rise to a *slightly to moderately positive* visual impact.

From the R123 Moyne Road to the north, the proposed Project extends and reinforces the contemporary urban landscape that has begun to emerge west of the railway line, where a more distinct and cohesive clustering of taller buildings delivers a more robust and coherent urban edge as a backdrop to the High Amenity land in the foreground, resulting in a *moderately positive* visual impact. A similar effect upon the landscape occurs in views from the R106 Coast Road to the east, resulting in a *slightly positive* visual impact. Views of the proposed Project quickly disappear upon entering Baldoyle and Sutton to the south, where intervening buildings screen it from view.

Wider views from the east and northeast across the High Amenity estuary / coastal landscape emphasise the flat nature of this landscape and the indistinct edge to the existing urban area. The proposed Project typically results in a slight to moderate magnitude of change by establishing a more undulating skyline and dynamic roofscape as part of a cohesive urban backdrop that contrasts with and frames the natural landscape in the foreground; the result is a *slightly or moderately positive* visual impact. In some instances, mainly the tower element of Block D3 is visible in relative isolation and may have a *slightly negative* visual impact as a result.

13.7 Cumulative impact

The proposed Project occupies a central position within the wider development area of the Baldoyle-Stapolin LAP and adjoins an area of permitted development in the Clongriffin-Belmayne LAP.

Development permitted under SHD Reg. Ref 305316 interrupts or obscures views from the west, while providing additional urban context to views from other directions. Similarly, anticipated development within the GA3 Masterplan area obscures parts of the GA1 Masterplan development, particularly from the north and north-east, defining a more permanent urban edge within the landscape. While visual impacts overall are generally more significant and remain positive in these instances, development within GA1 often makes a smaller contribution to these impacts and is less significant as a result.

Landscape and visual impacts resulting from the proposed Project are important in establishing a coherent urban landscape for existing residential areas that adjoin GA1 to the south and east. The proposed Project provides continuity and connectivity between these areas and the central location of Clongriffin train station, as well as key public open spaces and an attractive outlook from neighbouring streets. The development of GA1 therefore has a *highly positive* impact upon landscape character and visual amenity as central element of the wider masterplan for the area.

14 Cultural Heritage, Archaeology and Architectural

14.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Dr. Clare Crowley, EIA Manager at Courtney Deery Heritage Consultancy Ltd.

This chapter describes and assesses the cultural and heritage, archaeological and architectural environment of the proposed Strategic Housing Development (SHD) (referred to as “*the proposed Project*”), located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13.

14.2 Methodology

An assessment of the archaeological, architectural, cultural and industrial heritage potential of the Site was undertaken by Courtney Deery Heritage Consultancy Ltd. The assessment was based on a desk-study, with a detailed documentary and cartographical review.

14.3 Existing Environment

The Baldoyle-Stapolin lands, within which the Site is located, have been subjected to a series of invasive and non-invasive archaeological investigations since 2000, including a systematic finds retrieval walkover in 2002, geophysical survey throughout the in 2003 and limited archaeological testing in 2004 (the latter lies outside of the Site to the north and north-east).

The proposed Project is located within an area which, until the end of the 20th century, had been open green fields set within a coastal and riverine context; these are all environments that have an inherent archaeological potential. This potential is borne out in the wider landscape to the north and west of the Site, where there are previously known recorded archaeological sites, in addition to more recently discovered sites identified through geophysical survey and archaeological testing. However, while this suggests that the area was a focus for both prehistoric and historic activity, the archaeological investigations within the Site have, as yet, revealed nothing of archaeological significance. It should be noted, however, that geophysical survey undertaken at the Site of an enclosure in Drumnigh townland to the north - which was visible on aerial photography - did not yield significant responses, though subsequent testing did confirm the presence of a large enclosure there. This may indicate that geophysical survey results within this landscape may not represent the full extent of the archaeology in this area, as a result of unresponsive soils.

The Site has been subject to a number of disturbances related to the development of earlier phases of the Baldoyle-Stapolin lands, with access roads and drainage infrastructure already constructed

within the study area. Nonetheless, there is the potential that archaeologically enriched soils, features and deposits may survive subsurface.

No features of architectural, cultural or industrial heritage significance were identified within the Site.

14.4 Mitigation Measures

Monitoring of topsoil-stripping within the entire Site under licence to the *Department of Housing, Local Government and Heritage* and the *National Museum of Ireland* will be undertaken as an archaeological exercise, to determine whether there are any archaeological features or deposits present.

15 Microclimate - Daylight / Sunlight

15.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Carlota Álvarez, Energy & Sustainability Engineer of O'Connor Sutton Cronin (OCSC).

This chapter assesses the likely potential impacts in term of access to **daylight** and **sunlight** associated with the microclimate of the proposed Strategic Housing Development (SHD) (referred to as “*the proposed Project*”), located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13.

OCSC have been appointed to undertake a Daylight and Sunlight assessment for proposed Project.

The aim of the **daylight** analysis is to record and analyse the following impacts:

- impact of the proposed Project on daylight levels within the proposed Project and any likely significant effects on the environment; and
- impact on daylight levels to the existing adjacent buildings due to the proposed Project and any likely significant effects on the environment.

The aim of the **sunlight** analysis is to record and analyse the following impacts:

- impact of the proposed Project on sunlight levels within the proposed Project and any likely significant effects on the environment; and
- impact on sunlight levels to the existing adjacent buildings due to the proposed Project and any likely significant effects on the environment.

15.2 Daylight

15.2.1 Methodology

In considering the development potential and the quality of amenity for the surrounding properties as well as for the new development once the scheme has been implemented, the assessment methodology has been based on the *Building Research Establishment (BRE) Guidelines on Site Layout Planning for Daylight and Sunlight (the BRE Guide)*.

These guidelines provide the criteria and methodology for calculations pertaining to daylight and sunlight and is the primary reference for this matter. The guide gives simple rules for analysing sites where the geometry of the surroundings is straightforward, supplementing them with graphical methods for complex sites.

However, it is important to note that the performance targets which are included should be used with a degree of flexibility as per the extract below from the BRE Guide:

“The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. Its aim is to help rather than constrain the designer. Although it gives numerical guidelines these should be interpreted flexibly because natural lighting [and sunlight] is only one of the many factors in site layout design.”

The impacts to daylight access are quantified based on the definitions stated in the Draft EPA Guidelines. The list of definitions given below is taken from Table 3.3 in this document. Some commentary is also added below on what these definitions might imply in the case of impact on daylight access.

- **Imperceptible Impact:** An effect capable of measurement but without noticeable consequences.
- **Not significant:** An effect which causes noticeable changes in the character of the environment but without significant consequences.
- **Slight Impact:** An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
- **Moderate Impact:** An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
- **Significant Impact:** An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
- **Very Significant:** An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
- **Profound Impact:** An effect which obliterates sensitive characteristics.

The range of possible impacts listed above are referred to when discussing the results of the daylight analysis.

15.2.2 Potential Impact of the Proposed Project

The analysis confirms that across the entire development excellent levels of internal daylight are achieved. Of the 2,017 no. rooms that comprise the development, only 155 no. fall slightly under the

BRE requirements “*Site Layout Planning for Daylight and Sunlight*” and British Standard BS 8206, therefore a 92% compliance ratio is achieved.

The analysis also demonstrates that the proposed Project does not impact any adjacent properties in accordance with BRE Guidelines.

15.2.3 Mitigation Measures

Imperceptible impact with *neutral, long-term* effect is expected for 92% of rooms within apartment blocks and 100% of the houses within the proposed Project in relation to the daylight levels experienced by the future inhabitants of the proposed Project and to the existing inhabitants of the adjoining sites, therefore no remedial or reductive measures are considered to be required.

Non-significant impact with *neutral, long-term* effect is expected for the remaining 8% of rooms within apartment blocks of the proposed Project.

15.2.4 Residual Impacts

Imperceptible impact with *neutral, long-term* effect is expected for 92% of rooms within apartment blocks and 100% of the houses within the proposed Project in relation to the daylight levels experienced by the future inhabitants of the proposed Project and to the existing inhabitants of the adjoining sites. *Non-significant* impact with *neutral, long-term* effect is expected for the remaining 8% of rooms within apartment blocks of the proposed Project. No remedial or reductive measures are considered to be required, therefore, there will be no residual impacts during the Operational Phase in respect of daylight.

15.3 Sunlight

15.3.1 Methodology

In considering the development potential and the quality of amenity for the surrounding properties as well as for the new development once the scheme has been implemented, the assessment methodology has been based on the *Building Research Establishment (BRE) Guidelines on Site Layout Planning for Daylight and Sunlight (the BRE Guide)*.

These guidelines provide the criteria and methodology for calculations pertaining to daylight and sunlight and is the primary reference for this matter. The guide gives simple rules for analysing sites where the geometry of the surroundings is straightforward, supplementing them with graphical methods for complex sites.

However, it is important to note that the performance targets which are included should be used with a degree of flexibility as per the extract below from the BRE Guide:

“The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. Its aim is to help rather than constrain the designer. Although it gives numerical guidelines these should be interpreted flexibly because natural lighting [and sunlight] is only one of the many factors in site layout design.”

The impacts to sunlight access are quantified based on the definitions stated in the Draft EPA Guidelines. The list of definitions given below is taken from Table 3.3 in this document. Some commentary is also added below on what these definitions might imply in the case of impact on sunlight access.

- **Imperceptible Impact:** An effect capable of measurement but without noticeable consequences.
- **Not significant:** An effect which causes noticeable changes in the character of the environment but without significant consequences.
- **Slight Impact:** An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
- **Moderate Impact:** An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
- **Significant Impact:** An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
- **Very Significant:** An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
- **Profound Impact:** An effect which obliterates sensitive characteristics.

The range of possible impacts listed above are referred to when discussing the results of the sunlight analysis.

15.3.2 Potential Impact of the Proposed Project

The analysis confirms that across the entire development excellent levels of sunlight are achieved. Achieving 2 hours of sunlight on March 21st on more than 50% of the provided amenity spaces and private gardens, therefore in compliance with BRE requirements *“Site Layout Planning for Daylight and Sunlight”*.

The annual probable sunlight hours assessment has shown that acceptable levels of sunlight will be achieved across the windows within the development.

The analysis also demonstrates that the proposed building has *imperceptible* sunlight or overshadowing impact to any of the surrounding properties.

15.3.3 Mitigation Measures

Imperceptible impacts are expected in relation to the sunlight levels experienced by the future inhabitants of the proposed Project and to the existing inhabitants of the adjoining sites, therefore no remedial or reductive measures are required.

15.3.4 Residual Impacts

Imperceptible impacts with *neutral long-term* effects, if any, are expected in relation to the sunlight levels experienced by the future inhabitants of the proposed Project and to the existing inhabitants of the adjoining sites. No remedial or reductive measures are considered to be required, therefore, there will be no residual impacts during the Operational Phase in respect of sunlight.

16 Microclimate - Wind

16.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Dr. Cristina Paduano, Dr. Eleonora Neri and Dr. Arman Safdari of B-Fluid (Buildings Fluid-Dynamics) Ltd.

This chapter assesses the impact of the proposed Strategic Housing Development (SHD) (referred to as “*the proposed Project*”), on the wind conditions and microclimate affecting activities in areas within and surrounding the development, located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13.

Wind and micro-climate have been carried out to identify the possible wind patterns around the existing environment and proposed Project, under mean and peaks wind conditions typically occurring in Dublin. For this project the wind assessment has considered the proposed Project (GA1) in the existing environment including the GA2 development (which has been permitted) and Clongriffin developments (existing and permitted but not built), and furthermore, the proposed Project (GA1) in a cumulative scenario where a potential GA3 is included.

Results of the wind analysis have been discussed with the Shoreline Partnership Design Team so as to configure the optimal layout for the proposed Project for the objective of achieving a high-quality environment for the scope of use intended of each areas / building (*i.e.* comfortable and pleasant for potential pedestrian) and without compromising the wind impact on the surrounding areas and on the nearby buildings.

16.2 Methodology

The wind modelling study has been performed through an Advanced Computational Fluid Dynamics (CFD) analysis; this numerical methodology simulates the movement of wind within the prescribed area. The simulations have been carried out using the concept of Large Eddy Simulation (LES) and Reynolds Average Navier-Stokes (RANS).

A total of 18 no. different wind scenarios have been studied considering variation of wind magnitude and directions in line with their frequency of occurrence based on 30-years of historical weather data. An exceedance of occurrence of 5% of the duration was considered in line with the *Comfort and Distress* criteria. Through the wind assessment it has been possible to highlight, at design stage, areas of concern in terms of downwash / funnelling / downdraft / and to identify critical flow accelerations that could potentially occur.

The assessment has been carried out considering the impact of wind on the following configurations:

- The “*Existing Receiving Environment (Baseline)*”: in this case the assessment has considered the impact of the local wind on the existing area / buildings (including existing Clongriffin development) prior to construction of the proposed Project, future developments (permitted GA2 and permitted Clongriffin developments but not built) and the potential buildings (GA3 development). For this assessment, a statistical analysis of 30-years of historical weather wind data has been carried out to find the most critical wind speeds and directions and the frequency of occurrence of the same.
- The “*Potential Impact*”: in this case the assessment has considered impacts of wind on the existing environment area, the proposed Project, and its immediate vicinity, with the aim to identify potential impacts on future nearby buildings. For this scenario, the proposed Project will introduce no negative wind effect on adjacent or nearby developments within its vicinity.

16.3 Potential & Cumulative Impact of the Proposed Project

The potential and cumulative impact of the proposed Project on the already existing environment, also considering Shoreline GA2 buildings, that have been granted planning permission (but that are not built yet), Clongriffin developments (existing and permitted but not built) and Shoreline GA3 Development (that will be potentially constructed in the future), and the suitability of the proposed Project to create and maintain a suitable and comfortable environment for different pedestrian activities. For these scenarios, the analysis has been used to identify the critical areas of the proposed Project that requires implementation of mitigation measures.

CFD modelled results of the development scheme showed that:

- The proposed Project has been designed in order to produce a high-quality environment that is attractive and comfortable for pedestrians of all categories. To achieve this objective, throughout the design process, the impact of wind has been considered and analysed, in the areas where critical patterns were found, the appropriate mitigation measures were introduced.
- The proposed Project has been assessed considering permitted GA2 and Clongriffin developments (existing and permitted but not built) as part of the existing environment and including proposed GA3 for cumulative scenario.

- The proposed Project will produce a quality environment that is attractive and comfortable for pedestrians at ground floor both when assessed within the existing environment (including the permitted GA2 and Clongriffin developments (existing and permitted but not built)) both when the potential development GA3 was included. In the cumulative scenario, in particular, the area on the north of the Site is further shielded providing some extra protection from those wind directions also for the proposed Project.
- Area around the development where velocities can be higher have been identified near the corners of the blocks, on the main road across the development. However, these were mitigated using tree landscaping, with particulate attention to the corners of the blocks.
- Funnelling effects are experienced on some of the main roads around the development and on the roads in-between some of the blocks. These have been mitigated using tree landscaping, it must be noted that the roads are not used as sitting areas therefore higher flow velocities can be accepted. These effects can be seen as being further reduced during the cumulative assessment.
- Parks and squares are well shielded from the various wind directions and well implemented with tree landscaping.
- The mitigation measures in place significantly reduce the velocities around the proposed Project for both scenarios. The recirculation and funnelling effects highlighted in the initial scheme have been successfully reduced or eliminated during the design re-iteration. Some slightly higher velocities are still found for some wind directions around some of the corners of the buildings and on the south side of the proposed Project. However, these velocities are below critical values.
- The proposed Project does not impact or give rise to negative or critical wind speed profiles at the nearby adjacent roads, or nearby buildings when analysed in the existing environment and also including the cumulative scenario.
- The pedestrian comfort assessment, performed at ground floor level according to the Lawson criteria, identified the areas that are suitable for the different pedestrian activities in order to guarantee pedestrian comfort. The area all around the development seems to be suitable for every activity, including long-term sitting. Also, the courtyards, parks and squares are always suitable for long-term sitting, short-term sitting, standing, walking and

strolling activities. Moreover, in terms of distress, no critical conditions were found for “Frail persons or cyclists” and “General Public” in the surrounding of the development.

- During the Construction Phase the predicted impacts are classified as *negligible*.

16.4 Mitigation Measures

The proposed mitigation measures for the ground floor of this development is landscaping using tree plantings, which creates a reduction in the wind vorticity, making it possible to reduce incoming velocities and to mitigate some funnelling and recirculation effects, thus with the objective of limiting the wind impacts on the buildings, public spaces or pedestrian paths.

These proposed mitigation measures are needed to be implemented within the development, particularly on the main roads around the development, in the roads in-between the different blocks, with particular attention to the corner of the buildings, as fully reported in the related EIAR chapter.

16.5 Residual Impacts

The impacts of implementing mitigation measures such as tree planting will result in further shielding of public spaces and pedestrian footpaths from wind. This impact is a *positive* effect.

17 Traffic and Transportation

17.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Gordon Finn, BA, BAI, MAI, MIEI, Roads and Traffic Engineer of Cronin Sutton (CS) Consulting Engineers.

This chapter is an assessment of the traffic and transport impacts is contained within Chapter 17 of the EIAR (Volume 2). This evaluates the proposed Project's likely effects on the operation of the surrounding road network, as well as identifying proposed mitigation measures to minimise such impacts. The proposed Project is a proposed Strategic Housing Development (SHD) (referred to as "*the proposed Project*"), located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13.

17.2 Methodology

The methodology employed for the assessment of these impacts comprised:

- an appraisal of the receiving environment;
- a traffic survey conducted at 9 no. junction locations on the surrounding road network;
- the calculation of predicted future traffic flows based on background growth factors and the trip generation of the subject development, as well as traffic to be generated by known nearby committed and potential developments; and
- the modelling of three (3 no.) key existing junctions on the surrounding road network using industry-standard TRANSYT and ARCADY software.

17.3 Existing Environment

Each of the three existing junctions assessed (on Grange Road and on Coast Road) currently operates within its effective capacity on all junction approaches during both the AM and PM peak periods. Existing vehicle queues and delays during peak hour periods generally range from minimal to moderate.

17.4 Potential Impact of the Proposed Project

The proposed Project shall generate regular vehicular trips on the surrounding road network, during both construction and operation, with the potential to increase traffic flows at nearby existing and proposed junctions. Should the resultant total traffic flows at these junctions become too high, the junctions may cease to function efficiently. The impact of construction traffic on the operation of the surrounding road network shall be *less significant* than the impact of operational traffic.

17.5 Mitigation Measures

Mitigation measures to be adopted during the construction of the development include:

- preparation of a site-specific Construction Environmental Management Plan (CEMP), including a plan for the scheduling and management of construction traffic;
- appointment of a Designated Community Liaison Officer (DCLO) for the proposed Project, who will coordinate with other active construction sites; and
- routing all construction traffic via a haul road to / from the north, bypassing sensitive junctions on Grange Road and Coast Road.

Design elements and management strategies to mitigate the development's Operational Phase traffic-related effects include:

- a reduced car parking provision, which shall discourage higher vehicle ownership rates and excessive vehicular trips to the development;
- a high provision of secure bicycle parking, which shall serve to encourage bicycle journeys by both development occupants and visitors; and
- the appointment of a *Residential Travel Plan coordinator* for the development, with the remit to implement and oversee an ongoing *Residential Travel Plan*.

17.6 Residual Impacts of the Proposed Project

During its Operational Phase, the proposed Project is predicted to result overall in a *long-term moderate adverse* impact on the operation of junctions on the surrounding road network. This impact should be considered reversible to a degree, as any future measures that reduce local vehicular traffic volumes (*e.g.* improvements in public transport or cycling infrastructure, junction redesign, or changes in general traffic flow restrictions) have the potential to improve local traffic flows generally, as well as to reduce vehicle trips to / from the development.

17.7 Monitoring

Post-development monitoring of the surrounding road network's performance is not required or proposed in this case. The proposed Project's *Residential Travel Plan* coordinator will be responsible for monitoring the travel habits of development occupants and visitors.

18 Material Assets - Waste

18.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Chonaill Bradley of AWN Consulting Ltd.

This chapter comprises an assessment of the likely impact of the proposed Strategic Housing Development (SHD) (referred to as “*the proposed Project*”), located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13.

18.2 Methodology

A summary of the documents reviewed, and the relevant legislation is provided in the Construction and Demolition Waste Management Plan (C&D WMP) and in the Operational Waste Management Plan (OWMP) provided in Appendix A18.1 and A18.2 in Volume 3.

This chapter considers the following aspects:

- Legislative context;
- Construction Phase (including Site preparation and excavation); and
- Operational Phase.

18.3 Existing Environment

An assessment of the potential impacts associated with waste management during the Construction and Operational Phases of the proposed Project was carried out. The receiving environment is largely defined by Fingal County Council (FCC) as the local authority responsible for setting and administering waste management activities in the area through regional and development zone specific policies and regulations.

18.4 Potential Impact of the Proposed Project

During the Construction Phase, typical C&D waste materials will be generated which will be source segregated on-site into appropriate skips / containers, where practical and removed from Site by suitably permitted waste contractors to authorised waste facilities. Where possible, materials will be reused on-site to minimise raw material consumption. Source segregation of waste materials will improve the re-use opportunities of recyclable materials off-site. Excavation for the construction of new foundations along with the installation of underground services will require the excavation of material, it is anticipated that all of this material will be suitable for reuse on-site, and no material

will be required to be removed off-site. If any of this material is either unsuitable for use as fill, or not required for use as fill, will be exported off-site. Excavated material which is to be taken off-site will be taken for off-site reuse, recovery, recycling and / or disposal.

18.5 Mitigation Measures

A carefully planned approach to waste management and adherence to the site-specific Construction and Demolition Waste Management Plan (C&D WMP) (refer to Appendix A18.1 in Volume 3) during the Construction Phase will ensure that the effect on the environment will be *short-term, neutral and imperceptible*.

During the Operational Phase, waste will be generated from the residents as well as the commercial tenants. Dedicated communal waste storage areas have been allocated throughout the development for residents. The residential waste storage areas have been appropriately sized to accommodate the estimated waste arisings in both apartments and shared residential areas. The commercial tenants will to allocate space within their own unit for the storage of waste receptacles. The waste storage areas have been allocated to ensure a convenient and efficient management strategy with source segregation a priority. Waste will be collected from the designated waste collection areas by permitted waste contractors and removed off-site for re-use, recycling, recovery and / or disposal.

An Operational Waste Management Plan (OWMP) has been prepared which provides a strategy for segregation (at source), storage and collection of wastes generated within the development during the Operational Phase including dry mixed recyclables, organic waste, mixed non-recyclable waste and glass as well as providing a strategy for management of waste batteries, WEEE, printer / toner cartridges, chemicals, textiles, waste cooking oil and furniture (refer to Appendix A18.2 in Volume 3). The Plan complies with all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the development.

Provided the mitigation measures outlined in Chapter 18 of the EIAR (Volume 2) are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the Operational Phase on the environment will be *long-term, neutral and imperceptible*.

19 Material Assets - Services

19.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) was prepared by Rebecca Dunlea, Environmental Consultant with Brady Shipman Martin (BSM), Planning, Landscape and Environmental Consultants.

This chapter provides a description of the material assets that are potentially impacted by the proposed Strategic Housing Development (SHD) (referred to as “*the proposed Project*”), located at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13.

19.2 Methodology

The potential impacts to material assets as a result of the proposed Project were assessed through a desktop study of available information. The methodology is consistent with the following relevant guidance:

- EPA (2017). *Draft Guidelines on the Information to be Contained in Environmental Impact Reports*.
- EPA (2015). *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*.
- NRA (2008). *Environmental Impact Assessment of National Road Schemes - A Practical Guide*.

In accordance with the Draft EPA Guidelines on the Information to be contained in Environmental Impact Assessment Reports:

“Material assets can now be taken to mean built services and infrastructure”.

The potential impacts associated with the proposed Project, if any, are assessed with regards to the following proposed built services:

- wastewater services;
- water supply;
- gas and electricity supply; and
- telecommunications.

19.3 Existing Environment

A review of **Gas Network Ireland** (GNI) maps show an existing 250mm diameter gas main passes through the Site. However, natural gas will not be used for the proposed Project and the existing gas main will remain in-situ.

A review of **ESB Networks** (ESBN), show there are no existing electrical infrastructure on-site that require diversionary works. New ESB electricity connections will be required.

An **existing watermain** runs along the eastern (Stapolin Avenue) and part of the southern (Myrtle Avenue) side of the development. In addition, there is existing watermain infrastructure located within the Site, however due to the condition and system layout it is not intended to make use of the existing network and these shall be removed and replaced to current *Irish Water Specifications*.

There are no existing **telecommunication** services on-site. The proposed Project will tie into the existing network.

There is an existing **storm water** culvert crossing the Site, flowing south to north. In addition, there is an existing storm water culvert running from south to north (along Stapolin Avenue), which discharges into the Mayne River. The culvert serves the existing developments constructed to date and discharges directly to the Mayne River.

There is an existing storm water drainage network located within the Site, however due to its poor condition it is not intended to make use of the existing network and therefore it is proposed to be removed and a new network constructed in its place.

There is an existing **foul sewer** that runs in a northern direction along the eastern boundary of the Site. In addition to this foul sewer, there is already an existing foul drainage network located within the Site, however due to its poor condition it is not intended to make use of the existing network and therefore it is proposed to remove the existing foul sewers within the Site.

19.4 Potential Impact of the Proposed Project

The Construction Phase of the proposed Project will have a *temporary* impact to the local built services, and may cause temporary disruption to these services. This chapter sets out a series of mitigation measures to reduce or eliminate any significant adverse impacts identified.

The Operational Phase of the proposed Project will result in the introduction of a residential land use to the Site which will provide much needed housing for the growing population of the Dublin Area.

The Operational Phase of the proposed Project will have *no long-term, significant, adverse* impacts on pre-existing zoning at this Site.

19.5 Mitigation Measures

Chapter 19 of the EIAR (Volume 2) outlines the Construction Phase mitigation measures. With these mitigation measures implemented, the level of the impact is reduced to *slight* as the services will have been satisfactorily diverted or amended, and will continue to operate in their current form as required.

The Operational Phase of the proposed Project will likely result in an increase in traffic volumes to the local road network. A *Traffic Impact Assessment* report has been prepared by Cronin Sutton (CS) Consulting Engineers, which is submitted with this planning application. The design and construction of the Site services will be in accordance with relevant codes of practice and guidelines.

The proposed Project will have a *positive* impact on the existing urban environment by creating a high quality mixed-use development which will respond to current housing need and cater to the needs of a growing population.

20 Interactions

20.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) deals with the potential interactions and inter-relationships between effects predicted as a result of the proposed Project. This is required by Part X of the *Planning and Development Act 2000* and Part 10, and schedules 5, 6 and 7 of the *Planning and Development Regulations 2001*.

All potential inter-relationship impacts between the various areas covered in the EIAR are listed and the key interactions and interrelationships are summarised.

Following an assessment of the EIAR, a matrix was produced to show where interactions between effects on different factors have been addressed. Table 20.1 below provides a matrix summarising potential interactions.

The primary interactions are as follows:

- Population and Human Health with Air Quality and Climate, Noise and Vibration, Landscape and Visual, Wind (Microclimate), Traffic, Waste and Services.
- Biodiversity with Land, Soils, Geology and Hydrogeology, Hydrology (Surface Water), Noise and Vibration, Landscape and Waste.
- Land, Soils, Geology and Hydrogeology with Biodiversity, Hydrology (Surface Water), Air Quality and Climate and Waste Management.
- Hydrology (Surface Water) with Biodiversity and Land, Soils, Geology and Hydrogeology.
- Air Quality and Climate with Population and Human Health, Biodiversity, Land, Soils, Geology and Hydrogeology, Traffic and Transportation and Services.
- Noise and Vibration with Population and Human Health, Biodiversity and Traffic and Transportation.
- Landscape and Visual with Population and Human Health, Biodiversity and Cultural Heritage.
- Wind with Population and Human Health.
- Traffic and Transportation with Population and Human Health, Air Quality and Climate, Noise and Vibration and Waste Management.

The relevant consultants liaised with each other and the project architects, engineers and landscape architects where necessary to review the proposed Project and incorporate suitable mitigation

measures where necessary. Most inter-relationships are *neutral* in impact when the mitigation measures proposed are incorporated into the design, construction or operation of the proposed Project.

Table 20.1: Interactions with Environmental Factors

Inter-Relationship Matrix	Population & Human Health	Biodiversity	Land, Soils, Geology & Hydrogeology	Hydrology	Air Quality & Climate	Noise & Vibration	Landscape & Visual	Cultural Heritage	Microclimate - Daylight / Sunlight	Microclimate - Wind	Traffic & Transport	Material Assets - Waste	Material Assets - Services
Population & Human Health		-	-	-	✓	✓	✓	-	-	✓	✓	✓	✓
Biodiversity			✓	✓	✓	✓	✓	-	-	-	-	✓	-
Land, Soils, Geology & Hydrogeology				✓	✓	-	-	✓	-	-	-	✓	-
Hydrology					-	-	-	-	-	-	-	-	-
Air Quality & Climate						-	-	-	-	-	✓	-	✓
Noise & Vibration							-	-	-	-	✓	-	-
Landscape & Visual								✓	-	-	-	-	-
Cultural Heritage									-	-	-	-	-
Microclimate – Daylight / Sunlight										-	-	-	-
Microclimate - Wind											-	-	-
Traffic & Transport												✓	-
Material Assets - Waste													-
Material Assets - Services													

21 Cumulative Impacts

21.1 Introduction

Cumulative impacts consider the potential impacts on the environment as a result of the proposed Project with other developments (*i.e.* committed development) in the locality.

Cumulative impacts can be assessed by taking account of the existing environment (baseline) and the predicted impacts associated with the Construction Phase and Operational Phase of the proposed Project in-combination with predicted impacts of any other proposed developments / projects in the area.

In assessing cumulative impacts the following were the principal sources consulted:

- Dublin City Council Planning Department;
- Dublin City Development Plan 2016-2022;
- Fingal County Council Planning Department;
- Fingal Development Plan 2017-2023;
- Baldoyle-Stapolin LAP 2013 (extended); and
- An Bord Pleanála.

Following a review of the above sources, the following key projects in the area surrounding the proposed Project were identified. The specialist chapters of the EIAR (Volume 2) address any potential cumulative impacts of the proposed Project with potential proposed developments in the area. Refer to Tables 21.1 and 21.2 and Figure 21.1 of the EIAR (Volume 2).

21.2 Discussion of Permitted / Planned Projects and Cumulative Impacts

All of the proposed residential developments listed in Tables 21.1 and 21.2 of the EIAR, are located on lands zoned for residential use in the Dublin City and Fingal Development Plans.

Developments at Clongriffin, Baldoyle-Stapolin and Portmarnock South, were subject to the preparation of detailed Local Area Plans and each of these development plans and local area plans have been subject to Strategic Environmental Assessment (SEA) and Appropriate Assessments (AA) which has provided for the inclusion of specific measures to avoid and mitigate potential adverse impacts on the environment.

In addition, the proposed Project provides for alterations and amendments to an existing permitted development, which was also subject to Environmental Impact Assessment (EIA) and the preparation of an Environmental Impact Statement (EIS).

22 Schedule of Environmental Commitments

This chapter of the EIAR provides the environmental commitments / mitigation measures identified in the specialist chapters of the EIAR. These mitigation measures are considered necessary to protect the environment prior work being carried out at for lands at Baldoyle, (formerly known as The Coast), Baldoyle, Dublin 13 and during both the Construction and Operational Phases of the proposed Project.

The appointed Contractor will be required to follow and implement these mitigation measures, to ensure the protection of the environment and to ensure sustainable development.

The Schedule for Environmental Commitments are provided in Table 22.1 of the EIAR (Volume 2).

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