



**Enviroguide**  
CONSULTING

# Climate Impact Assessment Report

FOR

Kilternan Village

STRATEGIC HOUSING  
DEVELOPMENT

AT

WAYSIDE, ENNISKERRY ROAD,  
KILTERNAN, DUBLIN 18

ON BEHALF OF

Liscove Limited

Prepared by  
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# 1 INTRODUCTION

## 1.1 Background

Enviroguide Consulting was commissioned by Liscove Limited to carry out a Climate Impact Assessment Report for the Proposed Kiltarnan Village Strategic Housing Development at lands at Wayside, Enniskerry Road and Glenamuck Road, Kiltarnan, Dublin 18 including a dwelling known as 'Rockville', Enniskerry Road, Kiltarnan, Dublin 18, D18 Y199.

This Climate Impact Assessment Report considers whether the Proposed Development has adequately assessed the impacts of climate change and the proposed provisions for potential climate change related impacts.

## 1.2 Quality assurance and competence

Synergy Environmental Ltd., T/A Enviroguide Consulting, is wholly Irish Owned multi-disciplinary consultancy specialising in the areas of the Environment, Waste Management and Planning. All of our consultants carry scientific or engineering qualifications and have a wealth of experience working within the Environmental Consultancy sectors, having undergone extensive training and continued professional development.

Enviroguide Consulting as a company remains fully briefed in European and Irish environmental policy and legislation. Enviroguide staff members are highly qualified in their field. Professional memberships include the Chartered Institution of Wastes Management (CIWM), the Irish Environmental Law Association, Chartered Institute of Ecology and Environmental Management (CIEEM) and Society for the Environment (SocEnv).

All assessments and reporting have been carried out by qualified and experienced environmental consultants. Mairead Foran, Environmental Consultant wrote and undertook this Climate Impact Assessment Report. Mairead has a B.Sc. (Hons) in Environmental Science from Trinity College Dublin and an Advanced Diploma in Planning and Environmental Law from The Honourable Society of King's Inns (King's Inns), and extensive experience in desktop research. Mairead has experience in preparing and reviewing Environmental Impact Assessment Screening Reports, Environmental Impact Assessment Reports, and Strategic Environmental Assessment Screening Reports for Climate Change Adaptation Strategies that have been prepared under the National Climate Change Adaptation Framework.

## 2 INTRODUCTION

### 2.1 Background

The Earth's Climate is changing. While natural fluctuations in climate are considered normal, emerging research and observational records from across the world show rates of change that are far greater than those experienced in recent history. Global temperatures have risen and are projected to rise further bringing changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather. Ireland's climate is changing in line with global patterns and these changes are bringing significant and wide ranging economic, environmental and social impacts.

Climate change is now recognised as a global challenge with policy responses required in terms of both mitigating the causes of climate change and in adapting to the now inevitable consequences of our changing climate. Action at local level is vitally important to help reduce the risks and impacts of climate change across communities.

The *Development Management Thresholds Information Document* (prepared by Dun Laoghaire Rathdown County Council) acts as a guideline to assist applicants in relation to the documents they may be required to submit as part of their planning application. It includes a Climate Change Impact Assessment for developments with '200 residential units or more' and 'all other developments measuring 20,000 sq.m GFA and above'.

The *Thresholds Information Document* indicates that a Climate Change Impact Assessment should include 'an assessment of the impacts of climate change on the development and provisions for these impacts in particular relating to drainage design'.

This Climate Impact Assessment Report therefore assesses the impact of climate change on the Proposed Development and ensures that the policies and objectives produced and implemented by the local authority in relation to climate change and climate change protection measures, in the Dún Laoghaire Rathdown County Development Plan 2022-2028, have been incorporated into the Proposed Development design.

### 2.2 Proposed Development Description

#### 2.2.1 Site Location and Description

The Site of the Proposed Development is a 10.8 Ha site at lands at Wayside, Enniskerry Road and Glenamuck Road, Kiltarnan, Dublin 18, which include a derelict dwelling known as 'Rockville' and associated derelict outbuildings, Enniskerry Road, Kiltarnan, Dublin 18, D18 Y199. The site is generally bounded by the Glenamuck Road to the north; Kiltarnan Country Market and the Sancta Maria property to the north and west; a recently constructed residential development named "Rockville" to the north-east; the Enniskerry Road to the south-west; dwellings to the south; and lands that will facilitate the future Glenamuck Link Distributor Road to the east.

Road works are also proposed to facilitate access to the development from the Enniskerry Road; to the approved Part 8 Enniskerry Road/Glenamuck Road Junction Upgrade Scheme

on Glenamuck Road (DLRCC Part 8 Ref PC/IC/01/17); and to the approved Glenamuck District Roads Scheme (GDRS) (ABP Ref:HA06D.303945) on the Glenamuck Link Distributor Road (GLDR). Drainage and water works are also proposed to connect to services on the Glenamuck Road and Enniskerry Road.

At the Glenamuck Road access point, this will include works, inclusive of any necessary tie-ins, to the footpath and cycle track to create a side road access junction incorporating the provision of an uncontrolled pedestrian crossing across the side road junction on a raised table and the changing of the cycle track to a cycle lane at road level as the cycle facility passes the side road junction. Surface water and foul drainage infrastructure is proposed towards the north of the site into the drainage infrastructure to be constructed as part of the Part 8 scheme. Potable water is to be provided from the existing piped infrastructure adjacent to the site along Glenamuck Road. These interfacing works are proposed on an area measuring c. 0.05 Ha.

At the GLDR access point, this will include works, inclusive of any necessary tie-ins, to the footpath and cycle track to create a side road access junction incorporating the provision of short section of shared path and an uncontrolled shared pedestrian and cyclist crossing across the side road junction on a raised table. The works will also include the provision of a toucan crossing, inclusive of the necessary traffic signal equipment, immediately south of the access point to facilitate pedestrian and cyclist movement across the mainline road. All works at the GLDR access point will include the provision of the necessary tactile paving layouts and are provided on an area measuring c. 0.06 Ha.

At the Enniskerry Road, works are proposed to facilitate 3 No. new accesses for the development along with modifications to Enniskerry Road. The 3 No. side road priority access junctions incorporate the provision of an uncontrolled pedestrian crossing across the side road junction on a raised table. The modifications to Enniskerry Road fronting the development (circa 320 metres) includes the narrowing of the carriageway down to 6.5 metres (i.e. a 3.25 metres running lane in each direction) from the front of the kerb on western side of Enniskerry Road. The remaining former carriageway, which varies in width of c. 2 metres, will be reallocated for other road users and will include the introduction of a widened pedestrian footpath and landscaped buffer on the eastern side of the road adjoining the proposed development. The above works are inclusive of all necessary tie-in works such as new kerb along eastern side of Enniskerry Road, drainage details, road marking, signage and public lighting. Potable water is to be provided from the existing piped infrastructure adjacent to the site along the Enniskerry Road. The interface works on Enniskerry Road measures c. 0.19 Ha.

Surface water and foul drainage infrastructure is proposed to connect into and through the existing/permitted Rockville developments (DLR Reg. Refs. D17A/0793, D18A/0566 and D20A/0015) on a total area measuring c. 0.09 ha. The development site area and drainage and roads works areas will provide a total application site area of c. 11.2 Ha. The Site Location is presented in Figure 1.

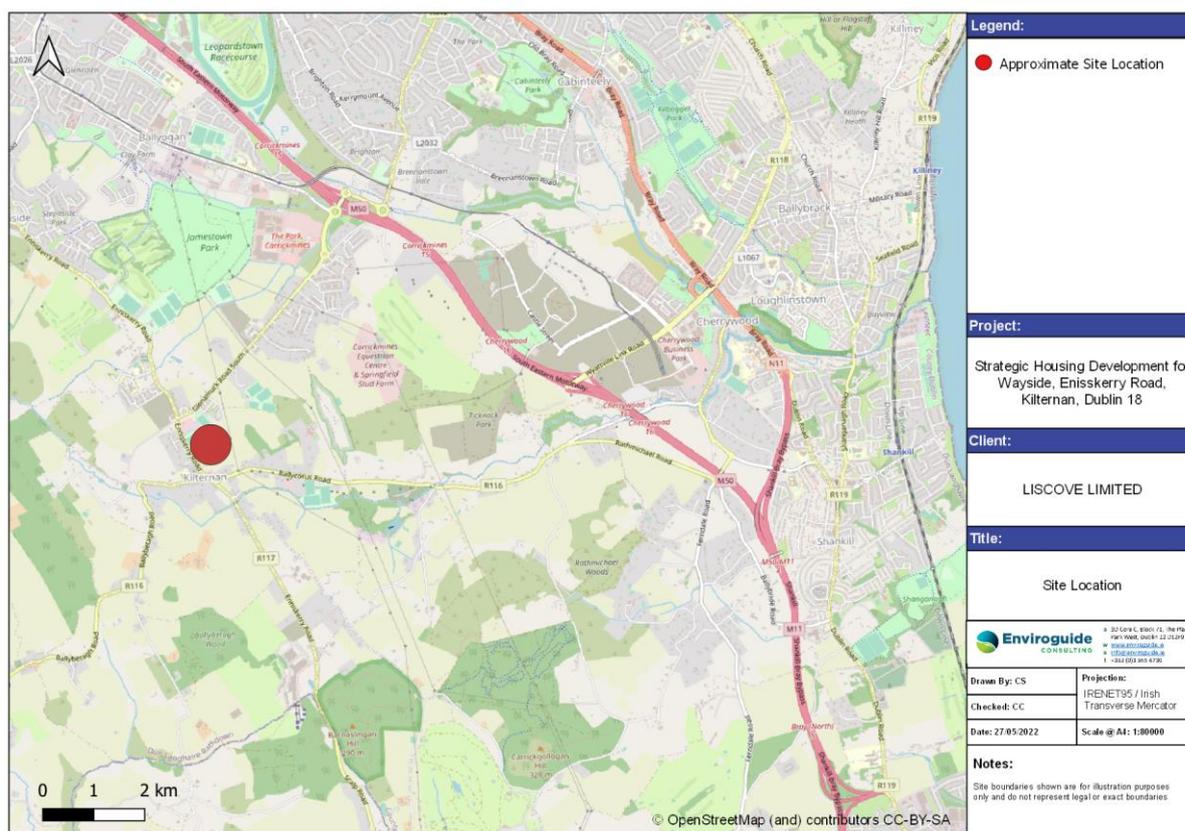


FIGURE 1 SITE LOCATION

## 2.2.2 Proposed Development

The development will principally consist of: the demolition of c. 573.2 sq m of existing structures on site comprising a derelict dwelling known as ‘Rockville’ and associated derelict outbuildings; and the provision of a mixed use development consisting of 383 No. residential units (165 No. houses, 118 No. duplex units and 100 No. apartments) and a Neighbourhood Centre, which will provide a creche (439 sq m), office (317 sq m), medical (147 sq m), retail (857 sq m), convenience retail (431 sq m) and a community facility (321 sq m). The 383 No. residential units will consist of 27 No. 1 bedroom units (19 No. apartments and 8 No. duplexes), 128 No. 2 bedroom units (78 No. apartments and 50 No. duplexes), 171 No. 3 bedroom units (108 No. houses, 3 No. apartments and 60 No. duplexes) and 57 No. 4 bedroom units (57 No. houses). The proposed development will range in height from 2 No. to 5 No. storeys (including podium/undercroft level in Apartment Blocks C and D and in the Neighbourhood Centre).

The development also provides: pedestrian links from Enniskerry Road and within the site to the neighbouring “Rockville” development to the north-east and a pedestrian/cycle route through the Dingle Way from Enniskerry Road to the future Glenamuck Link Distributor Road; 678 No. car parking spaces (110 No. in the undercroft of Blocks C and D and the Neighbourhood Centre and 568 No. at surface level) including 16 No. mobility impaired spaces, 73 No. electric vehicle spaces, 1 No. car share space, 4 No. drop-off spaces/loading bays; motorcycle parking; bicycle parking; bin storage; the decommissioning of the existing telecommunications mast at ground level and provision of new telecommunications infrastructure at roof level of the Neighbourhood Centre including shrouds, antennas and

microwave link dishes (18 No. antennas and 6 No. transmission dishes, all enclosed in 9 No. shrouds together with all associated equipment); private balconies, terraces and gardens; hard and soft landscaping; sedum roofs; solar panels; boundary treatments; lighting; substations; plant; and all other associated site works above and below ground. The proposed development has a gross floor space of c. 43,120 sq m in addition to undercroft levels (under Apartment Blocks C and D measuring c. 1,347 sq m and under the Neighbourhood Centre measuring c. 2,183 sq m, which includes parking spaces, external storage, bin storage, bike storage and plant). The Proposed Site Layout is presented in Figure 2.



FIGURE 2 PROPOSED SITE LAYOUT

## 2.3 Climate Change Adaptation

### 2.3.1 International Context

The **United Nations Framework Convention on Climate Change (UNFCCC)** is an international environmental treaty adopted in May 1992. The framework's objective is "to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". The framework did not set binding limits on greenhouse gas emissions and contained no enforcement mechanisms. However, the framework outlined how specific international treaties may negotiate further action towards its key objective. **The Paris Agreement 2015** is a protocol set within the context of the UNFCCC (ratified by Ireland on 4<sup>th</sup> November 2016) and it is aimed at:

- Limiting global warming to less than 2<sup>0</sup>C above pre-industrial level and pursuing efforts to limit the temperature increase to 1.5<sup>0</sup>C.
- Building Resilience and increasing the ability to mitigate the impacts of climate change.

The agreement states the need for Parties to formulate and implement National Adaptation Plans.

### **2.3.2 EU Context**

The 2013 EU Strategy on Adaptation to Climate Change encouraged all Member states to adopt comprehensive adaptation strategies. It sought better informed decision making through the identification and addressing of gaps in knowledge about adaptation. The European Climate Adaptation Platform Climate-ADAPT, was developed as a resource mechanism to help users access and share information on adaptation.

The Global Covenant of Mayors for Climate and Energy is a voluntary, bottom up, approach for cities and local governments to combat Climate Change and move towards a low emission, resilient society. The Global Covenant of Mayors for Climate and Energy brought the Compact of Mayors and the EU Covenant of Mayors under one international body in January 2017 incorporating over 9,000 cities and local governments.

### **2.3.3 National Context**

The 2012 National Climate Change Adaptation Framework (NCCAF) was Ireland's first step in developing a national policy on adaptation actions to combat the impacts of climate change.

The National Policy Position on Climate Action and Low Carbon Development 2014 restated the policy position of the NCCAF, 2012. Greenhouse gas mitigation and adaptation to the impacts of climate change were to be addressed in parallel national plans under an evolving climate policy to 2050.

The Climate Action and Low Carbon Development Act 2015 was a landmark national milestone in the evolution of climate change policy in Ireland. It provides the statutory basis for the national transition objective laid out in the National Policy Position (as per above). Further to this, it made provision for and gives statutory authority to both the National Mitigation Plan (NMP), published in 2017 and the National Adaptation Framework (NAF) published in 2018. Climate Change Action Plans form part of the National Adaptation Framework.

In July 2021, the Climate Action and Low Carbon Development (Amendment) Act 2021 was signed into law. The act will commit the Government to moving to a climate-resilient and climate-neutral economy by the end of 2050.

## **2.4 Climate Change and the Proposed Development**

The following section summarises how the potential for climate change impacts have been considered and addressed in the Dún Laoghaire Rathdown County Development Plan 2022-2028, and how the Proposed Development has addressed this in accordance with the Plan.

## **2.4.1 Chapter 3 Climate Action**

The Dún Laoghaire Rathdown Climate Change Action Plan 2019 – 2024 (DLR CCAP) is the climate adaptation and mitigation strategy for the County. Included in the actions set out in the DLR Climate Change Action Plan is the requirement to prepare a climate change Chapter in the County Development Plan.

Chapter 3 “Climate Action” of the Dún Laoghaire Rathdown County Development Plan 2022-2028 sets out the County’s Policy Measures and Objectives in the context of tackling climate change. After addressing relevant international, national and regional policy relating to climate change action, the following issues have been identified as being of particular significance in helping to achieve sustainable planning outcomes which will ultimately help to deliver a low carbon and a climate resilient County.

- Energy Efficiency in Buildings;
- Renewable Energy;
- Decarbonising Motorised Transport; and
- Urban Greening.

### **2.4.1.1 Energy Efficiency in Building Design/Renewable Energy**

The issue of Energy and Buildings is addressed in Chapter 12 ‘Principles of Development’ of the DLR Development Plan 2022-2028 in relation to standards for new buildings.

In Chapter 12 of the DLR Development Plan 2022-2028, the County Council recognises and supports the use of structural materials that have low to zero embodied energy and CO<sub>2</sub> emissions. Innovative design and layout which provides natural ventilation are also supported. An Energy Statement has been prepared by Waterman Moylan Consulting Engineers Limited (June 2022) as part of the planning application and outlines a number of approaches that will be assessed at detailed design stage, including:

- Meeting minimum U-Value standards;
- Achieve air tightness standards of 3m<sup>3</sup>/m<sup>2</sup>/hr or lower;
- Comply with all ACDs or thermally model all thermal bridging details to achieve thermal bridging factors of less than 0.08W/m<sup>2</sup>K;
- Install high efficiency heat pump sand time and temperature zone control in all houses and apartments; and
- Install centralised mechanical ventilation systems (either MEV or HRV) to ensure adequate ventilation rates are achieved in the houses and apartments which maximising the benefits of the airtight construction.

Further information is available in the Energy Statement (Waterman Moylan Consulting Engineers Limited, June 2022), which is provided as a standalone document submitted as part of this planning application.

### **2.4.1.2 Decarbonising Motorised Transport**

The issue of ‘Transport’ is dealt with in detail in Chapter 5 ‘Transport and Mobility’ of the DLR Development Plan 2022-2028 which sets out the overall policy approach which is very much

focused on achieving a modal shift to more sustainable modes of transport. Policy Objective T1: Integration of Land Use and Transport Policies, states:

*“It is a Policy Objective to actively support sustainable modes of transport and ensure that land use and zoning are aligned with the provision and development of high quality public transport systems.”*

The Proposed Development is located adjacent to a number of bus routes that provide onward connections include to the Luas Gren Line at Carrickmines. The site layout provides for active travel through a comprehensive footpath and cycle network with good permeability. In addition, the Proposed Development design includes measures including reduced residential parking provision and increased cycle parking provision in line the ‘Design Standards for New Apartments’. The Proposed Development additionally contains the required infrastructure to provide electric charging facilities for the development in line with the current requirements.

According to TII (2011), the significance of impacts due to vehicle emissions during the Construction Phase will be dependent on the number of additional vehicle movements, the proportion of HGVs and the proximity of sensitive receptors to Site access routes. If construction traffic would lead to a significant change (> 10%) in Annual Average Daily Traffic (AADT) flows near to sensitive receptors, then concentrations of nitrogen dioxide, PM<sub>10</sub> and PM<sub>2.5</sub> should be predicted in line with the methodology as outlined within TII guidance. Construction traffic is not expected to result in a significant change (> 10%) in AADT flows near to sensitive receptors. Therefore, a detailed air quality assessment is not required.

There is the potential for combustion emissions from traffic derived pollutants of CO<sub>2</sub> and N<sub>2</sub>O to be emitted during the construction phase of the development. However, due to the size and duration of the construction phase, and the mitigation measures proposed, the effect on national GHG emissions will be insignificant in terms of Ireland’s obligations under the Kyoto Protocol and therefore will have no considerable impact on climate. Overall, climatic impacts are considered to be short-term and imperceptible.

Further details on the Proposed Development and its consistency with promoting sustainable transport options are available in Chapter 12 (Material Assets – Traffic) of the Environmental Impact Assessment Report (Enviroguide Consulting, June 2022) and in the Traffic and Transport Assessment (Atkins, Summer 2022), both accompanying this planning application.

#### **2.4.1.3 Flood Resilience**

The Proposed Development recognises that one of the effects of climate change that can be anticipated, and a key adaptation issue, is the management of water and the maintenance of quality standards as the global temperature increases and rainfall patterns change. Policy Objective EI22: Flood Risk Management, states:

*“It is a Policy Objective to support, in cooperation with the OPW, the implementation of the EU Flood Risk Directive (2001/60/EC) on the assessment and management of flood risks, the Flood Risk Regulations (SI No 122 of 2010) and the Department of the Environment, Heritage and Local Government and the Office of Public Works Guidelines on ‘The Planning System and Flood Risk Management’ (2009) and relevant outputs of the Eastern District Catchment and Flood Risk Assessment and Management Study (ECFRAMS Study). Implementation of*

*the above shall be via the policies and objectives, and all measures to mitigate identified flood risk, including those recommended under part 3 (flood risk considerations) of the Justification Tests, in the Strategic Flood Risk Assessment”.*

Policy Objective EI22: Flood Risk Management, states:

*“It is a Policy Objective to ensure that all development proposals incorporate Sustainable Drainage Systems (SuDS).”*

A Site-Specific Flood Risk Assessment (FRA) report has been prepared by Roger Mullarky & Associates (June 2022). As required by the Flood Risk Management Guidelines, the report states:

*“The proposed new drainage surface water infrastructure for the development has been designed to cater for flows generated by all storms up to the Q100+20%(climate change) without flooding occurring. The drainage design has also allowed for more than the min.10% Urban Creep allowance as required in the DLRCC Stormwater Management Policy document.*

*The required Q30+20% Climate Change storm water storage volume for total site is c.3,079m<sup>3</sup> as determined from the MicroDrainage simulation modelling software. This volume will be stored below ground within the 6No. voided arch MC 4500 systems.*

*The required volume for the Q100 +20% Climate Change event is c.3,973m<sup>3</sup> as determined from the MicroDrainage simulation modelling software results.*

*SuDS elements included in the pluvial design include rear garden filter drains, roadside filter swales, house rainwater butts, permeable paving systems, catchpits, filter drains, roadside swales, tree pits, bio-retention areas, void arch attenuation storage and petrol interceptors.”*

The impact of climate change has been assessed within the Site Specific Flood Risk Assessment (Roger Mullarky & Associates June 2022) and within the Engineering Infrastructure and Stormwater impact Assessment Report (Roger Mullarky & Associates June 2022). Further details are provided in these reports, as well as in the SuDS Details Drawing (Drawing No. 2104/14) (Roger Mullarky & Associates, May 2022), which accompanies this planning application as standalone documents.

#### **2.4.1.4 Resource Management**

Sustainable management of water, waste and other environmental resources is supported in both National Strategic Outcome 9 of the National Planning Framework (NPF) and Regional Strategic Outcome 7 of the Regional Spatial and Economic Strategy (RSES).

Policy Objective EI12: Waste Management Infrastructure, Prevention, Reduction, Reuse and Recycling (Circular Economy approach), states

*“It is a Policy Objective to support the principles of the circular economy, good waste management and the implementation of best international practice in relation to waste management in order for the County and the Region to become self-sufficient in terms of resource and waste management and to provide a waste management infrastructure that supports this objective, and to ensure new developments are designed and constructed in line with the Council’s Guidelines for Waste Storage Facilities”*

The planning application is accompanied by a Construction Environmental Management Plan (CEMP), Construction Demolition Waste Management Plan (CDWMP) and an Outline Operational Waste Management Plan (OWMP), all prepared by Enviroguide Consulting, June 2022. A Construction Management Plan (CMP) (June 2022) has also been prepared by Atkins for the planning application. These reports have been designed to ensure the highest possible levels of waste prevention, reduction, waste reuse, and waste recycling are achieved during the construction and operational phases of the Proposed Development. Therefore, aligning to circular economy principles and helping to further aid the legal obligations associated with the waste hierarchy.

#### **2.4.1.5 Urban Greening**

According to the DLR Development Plan 2022-2028, urban greening is the provision of planting, including trees, in urban areas and can include small pocket parks in between buildings, living/ green walls and green roofs. Urban greening creates mutually beneficial relationships between the population and the environment.

1 Policy Objective CA18: Urban Greening, states:

*“It is a Policy Objective to retain and promote urban greening - as an essential accompanying policy to compact growth - which supports the health and wellbeing of the living and working population, building resilience to climate change whilst ensuring healthy placemaking. Significant developments shall include urban greening as a fundamental element of the site and building design incorporating measures such as high quality biodiverse landscaping (including tree planting), nature based solutions to SUDS and providing attractive routes and facilities for the pedestrian and cyclist.”*

Extensive landscape planting including new native trees, shrub and groundcover herbaceous planting and wildflower meadows is outlined as part of the Proposed Development. A Landscape Master Plan has been prepared by Ronan MacDiarmada + Associates Ltd, Landscape Architects and Consultants (June 2022) and is included as part of this planning application as a standalone document. It is proposed that the planting proposed as part of the landscape design for the site will, as it becomes established, serve to provide additional nesting and foraging opportunities for the local bird population.

### **3 CONCLUSION**

This report includes an assessment of the impacts of climate change on the Proposed Development and provision for these impacts in the design of the Proposed Development in accordance with the requirements of the Dún Laoghaire Rathdown County Development Plan 2022-2028, and accordingly the *Development Management Thresholds Information Document*. The report summarises how the Proposed Development has incorporated the potential for climate change impacts into the design and further details can be found within the following reports:

- Energy Statement, Waterman Moylan Consulting Engineers Limited (June 2022);
- Traffic and Transport Assessment, Atkins (Summer, 2022);
- Site Specific Flood Risk Assessment, Roger Mullarky & Associates (June 2022);

- Engineering Infrastructure and Stormwater impact Assessment Report, Roger Mullarky & Associates (June 2022);
- Construction Environmental Management Plan, Enviroguide Consulting (June 2022) ;
- Construction Management Plan, Atkins (June 2022) ;
- Construction Demolition Waste Management Plan, Enviroguide Consulting (June 2022) ;
- Outline Operational Waste Management Plan, Enviroguide Consulting (June 2022);
- Landscape Master Plan, Ronan MacDiarmada + Associates Ltd (June 2022); and
- The full Environmental Impact Assessment Report, Enviroguide Consulting (June 2022).

A copy of all of these reports have been submitted as part of the planning application.