AVISON YOUNG

# Environmental Impact Assessment Report

# Non-Technical Summary

## Strategic Housing Development at White Heather, South Circular Road, Dublin 8.

April 2022

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# 1.0 Introduction

An Environmental Impact Assessment Report (EIAR) has been prepared on behalf of U+I (White Heather) Limited in relation to a Strategic Housing Development (SHD) planning application comprising lands located at the White Heather Industrial Estate, South Circular Road, Dublin 8, 307/307a South Circular Road, Dublin 8 and 12a St. James's Terrace, Dublin 8.

## 1.1 Characteristics of the Proposed Development

The subject site comprises the White Heather Industrial Estate on the South Circular Road, as well as 307/307a South Circular Road and 12a St. James's Terrace. Under Variation No. 23 of the Dublin City Development Plan 2016–2022 adopted in March 2020, the White Heather Industrial Estate was rezoned from Zoning Objective Z6 – *'to provide for the creation and protection of enterprise and facilitate opportunities for employment creation'* to Zoning Objective Z1 – *'to protect, provide and improve residential amenities'* and Zoning Objective Z9 – *'to preserve, provide and improve recreational amenity and open space and green networks'*.

In summary, the proposed development will provide 335 no. Build to Rent residential units, including a combination of studio units, 1-bedroom apartments, 2-bedroom apartments, duplexes and a terrace of 3-bedroom townhouse units, 2 no. cafés, 1 no. childcare facility, and ancillary residential facilities including a new linear canal-side park which will be publicly accessible.

The development delivers a new urban neighbourhood with c. 10,348 sq. m of public open space. Vehicular and pedestrian entrance to the site is provided via the South Circular Road, with additional pedestrian and cyclist access at St. James's Terrace. A total of 106 no. car parking spaces and 558 no. cycle parking spaces are provided in the proposed development.

## 1.2 Requirement for an EIA

The Environmental Impact Assessment Directive (Directive 2011/92/EU, amended by Directive 2014/52/EU) requires that, before development consent is given, projects likely to have effects on the environment by virtue of their nature, size or location are made subject to a requirement for development consent and an assessment of their effects on the environment. This is referred to as an 'Environmental Impact Assessment' (EIA). Where an EIA is required, the developer must prepare an EIAR.

Schedule 5 of the Planning and Development Regulations 2001 (as amended) (hereafter the 'Regulations') set out a wide range of development categories with associated thresholds for which an EIA is required. While the proposed development consisting of 335 no. Build to Rent apartments does not fall under the categories of development for which an EIAR is required as per Schedule 5 of the 2001 Regulations, an EIAR has been prepared for this development in order to examine the likelihood of significant effects on the environment arising from the proposed development. Article 5 (1), paragraph 1, of the EIA Directive outlines the specific requirement for an EIAR.

We would also note that the pre-application discussions with the Planning Authority informed the content of the EIAR.

## 1.3 Format of the EIAR and EIAR Methodology

Environmental Impact Assessment is an evaluation of both direct and indirect potential impacts of a project on the natural environment, on beneficial uses of the environment, including man-made structures, amenities and facilities, and the socio-cultural environment.

This EIAR comprises three separate documents as follows:

- Non-Technical Summary;
- Environmental Impact Assessment Report; and
- Environmental Impact Assessment Report Appendices.

This EIAR has been compiled by Avison Young with input from an experienced team of consultants. Details of each consultant are outlined in Table 1.1, while their expertise will also be included at the start of each relevant Chapter in the EIAR.

**Table 1.1 Structure of EIAR**

| *CH.* | *Chapter Title* | *Consultant* | *Author* |
|---|---|---|---|
| **1-5** | 1. Introduction<br>2. Description of Proposed Development<br>3. Planning and Development Context<br>4. Examination of Alternatives<br>5. Population and Human Health | Avison Young | **Brian Maher** MSc, MIPI, MCIAT<br>**Heather McMeel** B.A, MSc, MRTPI.<br>**Noel Cronin** BA, MPLAN. |
| **6** | Biodiversity | Minogue Associates | **Pat Doherty** BSc., MSc, MCIEEM |
| **7** | Land, Soils, Geology and Hydrogeology | O'Connor Sutton Cronin Consulting Engineers | **Glenda Barry** Bsc, MSc<br>**Eleanor Burke** BSc, MSc, DAS, CSci, MIEnvSc |
| **8** | Water & Hydrology | O'Connor Sutton Cronin Consulting Engineers | **Kate Santos,** EnvEng, HDipCompSci<br>**Eleanor Burke** BSc, MSc, DAS, CSci, MIEnvSc |
| **9** | Material Assets - Built Services | O'Connor Sutton Cronin | **Mark Killian** CEng, BE (Civil), MSc (Civil Eng.), M.I.E.I. |

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|---|---|---|---|
| | | Consulting Engineers | |
| **10** | Material Assets - Transportation | SYSTRA | **Andrew Archer,** BCE CEng<br>**Bridget Fleming,** MA (Hons)**.** |
| **11** | Material Assets - Waste Management | AWN Consulting | **Chonaill Bradley** BSc in Environmental Science, CIWM |
| **12** | Air Quality and Climate | AWN Consulting | **Avril Challoner** BEng (Hons), HDip, PhD, CSci |
| **13** | Noise and Vibration | AWN Consulting | **Leo Williams** BAI MAI PgDip AMIOA |
| **14** | Microclimate – Daylight, Sunlight and Overshadowing | Avison Young | **Mark Feighery** BSc, BArch (Hons), MSc<br>**Sophie Probert-Hughes** BA (Hons) |
| **15** | Microclimate - Wind | IN2 | **David Walshe** CEng<br>**Eamonn Williams** BEng (Hons) |
| **16** | Landscape and Visual Impact Assessment | ARC | **Bill Hastings** B. Arch FRIAI, RIAI Grade 1 accredited Conservation Architect |
| **17** | Cultural Heritage - Archaeology | IAC Archaeology | **Faith Bailey** BA, MA, member of the Chartered Institute of for Archaeologists, member of the Institute of Archaeologists of Ireland |
| **18** | Cultural Heritage - Architectural Heritage | ARC | **Bill Hastings** B. Arch FRIAI, RIAI Grade 1 accredited Conservation Architect |
| **19** | Risk Management | Avison Young | **Brian Maher** MSc, MIPI, MCIAT<br>**Heather McMeel** B.A, MSc, MRTPI.<br>**Noel Cronin** BA, MPLAN. |
| **20** | Interactions and Cumulative Impacts | Avison Young | **Brian Maher** MSc, MIPI, MCIAT<br>**Heather McMeel** B.A, MSc, MRTPI.<br>**Noel Cronin** BA, MPLAN. |

## 1.4 Consultation

In relation to the Environmental Impact Assessment process,the consultation undertaken focused on the following:

- Early consultation to inform and help define the scope of the EIAR in terms of what needed to be examined, including consultation with Dublin City Council.
- Consultation during the process to identify any emerging issues, to clarify any concerns and to ensure that all such issues were considered.
- Discussion with Dublin City Council Roads and Transportation Department to agree the methodology and scope of the Transport Study.

In addition to the above, consultation with various departments in Dublin City Council was undertaken that identified relevant issues that needed to be taken into consideration in designing the proposed development and in assessing any of its potential effects.

## 1.5 Non-Technical Summary

This Non-Technical Summary of the EIAR is provided as a separate and self-contained document, and is available to the public online and at the offices of An Bord Pleanála. It is bound separately in order to assist in its dissemination to interested parties.

# 2.0 Description of Proposed Development

Chapter 2 of the EIAR sets out a description of the proposed development. Article 5, paragraph 1 of the EIA Directive that requires the developer to prepare and submit an environmental impact assessment report where an environmental impact assessment is required. The EIAR must include, *inter alia*, a description of the project comprising information on the site, location, design, size and other relevant features.

## 2.1 Site Location

The subject site comprises the White Heather Industrial Estate on the South Circular Road, as well as 307/307a South Circular Road and 12a St. James's Terrace. The 1.535ha site is bounded by the Grand Canal to the south; Our Lady of Dolour's Church and residential dwellings on the South Circular Road to the north; Priestfield Cottages to the east; and residential dwellings at St James's Terrace to the west.

## 2.2 Site Description

The subject site comprises the White Heather Industrial Estate, acquired by the Applicant, U and I (White Heather) Limited. It consists of a small-scale industrial estate located off the South Circular Road. Additionally, the proposed development comprises No. 307/307a South Circular Road, a residential dwelling, and 12a St. James's Terrace, a vacant industrial unit. The subject site is of an irregular shape, with boundaries to the South Circular Road, the Grand Canal, St. James's Terrace, Priestfield Cottages and Our Lady of Dolour's Church.

The site comprises a number of industrial units and associated parking and storage areas. There is minimal existing landscaping on the site however, adjacent to the Grand Canal there is a strip of flat grass area running the length of the site. The existing structures on the site comprise industrial units (approx. two storeys in height). The existing units are generally located on the boundary lines of the site on all side, with the centre of the site remaining free from development and in use as ancillary parking for the industrial units.

## 2.3 Overview of Development

A new residential neighbourhood development of 335 no. Build to Rent (BTR) units is proposed to make efficient use of this residentially zoned site which benefits from high-quality amenity space along the Grand Canal and access to high-quality transport links. The site benefits from the opportunity to access the existing Dolphins Barn neighbourhood facilities, as well as enhancing the connectivity of the area for the Dublin 8 community as a whole. A core principle of the proposed residential scheme is to put residential amenity and recreation to the fore, opening up the site and the local area to the Grand Canal.

Across 7 no. blocks, the residential mix of the proposed 335 no. units includes a combination of studio units, 1-bedroom apartments, 2-bedroom apartments, duplex units as well as a terrace of 3-bedroom townhouse units. A change of use of an existing residential building at 307/307a South Circular Road to be used as a shared workspace is also proposed.

## 2.4 Design of the Scheme

The proposed development is intended to provide for a vibrant and diverse community, while delivering a connected residential neighbourhood which knits in to both the established and the emerging residential developments in the area. High-quality landscaping and public realm, with a focus on the creation of distinctive character areas is proposed. A new street will run east-west across the north of the site and the creation of a new public space at the heart of the proposed scheme will connect to a publicly accessible linear park along the canal to the south. Permeability is a key feature of the proposed pedestrian realm, including a mix of dedicated and shared surface areas through the site with a c. 190 m continuous amenity strip along the Grand Canal Linear Park. Please refer to the Design Statement submitted with this application for further detail.

## 2.5 Access and Movement

The primary access to the lands will be from the South Circular Road, the existing site entrance will be upgraded and enhanced. This access will provide for vehicular traffic. This existing access junction will be improved to provide a segregated bellmouth to the site and Priestfield Cottages. The proposed reconfiguration will improve access for both pedestrians and cyclists while also retaining the existing bus lanes on South Circular Road. A separate pedestrian only access is provided to the south-west of the site at St. James's Terrace. A total of 106 no. car parking spaces and 558 no. cycle parking spaces are provided in the proposed development.

## 2.6 Landscaping and Open Space

A comprehensive Landscape Design Rationale and associated drawings prepared by Bernard Seymour Landscape Architects accompany the SHD Application, while the Design Report also provides detailed information relating to the proposed Landscape and Open Space Strategy. The proposed development will deliver a landmark new urban neighbourhood in a distinctive landscaped canal-side park setting. Please refer to the Landscape Report submitted with this application for further detail.

## 2.7 Built Heritage

A protected structure, Our Lady of Dolour's Church, is situated adjacent to the north-west of the site. The Architectural Heritage Impact Assessment Report prepared by ARC Consultants submitted with the application provides a detailed assessment of the architectural and historical significance of the Church and its relationship to the proposed development and subject site. Chapter 18 of this EIAR, prepared by ARC, also addresses Architectural Heritage.

# 3.0 Planning and Development Context

## 3.1 Introduction

Chapter 3 of the EIAR sets out the strategic and statutory context governing planning and development for the proposed strategic housing development at White Heather. A Planning Report Including Statement of Consistency and a Material Contravention Statement prepared by Avison Young are also submitted as part of the application pack.

## 3.2 National Planning Context

### 3.1.1 National Planning Framework

The government published the National Planning Framework (hereafter the NPF) in February 2018 which projects a need for a minimum of 550,000 new homes by 2040, at least half of which are targeted for provision within the built up area of Ireland's five cities. The NPF signals a shift in Government policy towards securing more compact and sustainable urban development, to enable people to live nearer to where jobs and services are located and by prioritising sustainable modes of transport.

### 3.1.2 Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018)

The Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment were issued by Department of Housing, Planning and Local Government under Section 28 of the 2000 Act in August 2018. The Guidelines provide technical guidance for planning authorities and the Board (competent authorities) on legal and procedural issues and matters of interpretation arising from the amended Directive.

### 3.1.3 Rebuilding Ireland – Action Plan for Housing and Homelessness (2016)

The Action Plan for Housing and Homelessness (APHH) was published under the Government's *Rebuilding Ireland Initiative* and represents a response by the Government to address the current shortfall in housing provision by seeking to accelerate the delivery of housing units. The APHH sets ambitious targets to double the annual level of residential construction to 25,000 homes and deliver 47,000 units of social housing in the period to 2021.

### 3.1.4 Urban Development and Building Heights – Guidelines for Planning Authorities (2018)

The 'Urban Development and Building Heights - Guidelines for Planning Authorities'(hereafter referred to as the 'Height Guidelines') was issued by the Minister in December 2018. It sets out new and updated national policy on building heights in relation

to urban areas, consistent with the strategic policy framework set out in the NPF. These Height Guidelines form part of a suite of integrated measures intended to shift the current patterns and development trends for cities and towns to form more compact and integrated communities. It recognises the need to grow existing towns and cities upwards rather than ever outwards.

It is noted in the Height Guidelines that there is a presumption in favour of buildings of increased height in town/city cores and in other urban locations with good transport accessibility. Where the Board considers that the above criteria with the Height Guidelines are appropriately incorporated into the proposed development, then it may approve such development*, "even where specific objectives of the relevant development plan or local area plan may indicate otherwise".*"[1]

### 3.1.5 Sustainable Residential Development in Urban Areas – Guidelines for Planning Authorities (2009)

The 'Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas' (hereafter SRDUA) were issued in 2009 under Section 28 of the 2000 Act. General principles of these guidelines relate to prioritising walking, cycling and public transport over the use of cars, and to provide residents with a quality of life in terms of amenity, safety and convenience. For development in cities and larger towns, it is noted that the objective should be "*the achievement of an efficient use of land appropriate to its context.*"[2]

### 3.1.6 Urban Design Manual – A Best Practice Guide (2009)

The Urban Design Manual is used as a companion reference on best practice for the implementation of the SRDUA. The two documents are intended to be read in conjunction with each other. The focus of the Urban Design Manual is on creating well-designed sustainable neighbourhoods that will "stan*d the test of time*". The Urban Design Manual is based on 12 design criteria that encapsulate the range of design considerations for residential development. The Design Statement prepared by OMP Architects provides an overview of how the design of the proposed development has had regard to the criteria in the Urban Design Manual.

### 3.1.7 Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities (2020)

The Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for Planning Authorities 2020 (hereafter the 'Apartment Guidelines') provides national guidance regarding standards for apartment development and contains several specific

[1] Urban Development and Building Heights - Guidelines for Planning Authorities, December 2018, pg 15
[2] Sustainable Residential Development in Urban Areas - Guidelines for Planning Authorities, pg 40

requirements with which compliance is mandatory for developments consisting of apartments.

The key aim of these Guidelines is to ensure that apartment living is an increasingly attractive and desirable housing option for a range of household types and tenures resulting in greater delivery of apartments in Ireland's cities and towns. It outlines the importance of "*building inwards and upwards rather than outwards*" due to on-going population growth (particularly in Ireland's cities), re-affirms the move away from rigidly applied blanket planning standards signalled by the NPF, including building height and highlights that these blanket restrictions that may be specified in development plans, should be replaced by performance criteria, appropriate to location.

An assessment of the proposed development against the 2020 Apartment Guidelines is provided in the Planning Report and the Material Contravention Statement prepared by Avison Young, while the Technical Report prepared by OMP Architects provides a breakdown of the proposed scheme in relation to the quantitative requirements of the Guidelines.

### 3.1.8 Guidelines for Planning Authorities on Childcare Facilities (2001)

The Department of Housing, Planning and Local Government (formerly Department of Environment, Heritage and Local Government) Guidelines for Planning Authorities on Childcare Facilities (2001) (hereinafter 'Childcare Guidelines') provide a framework to guide Local Authorities in preparing development plans and assessing applications for planning permission, and to guide developers and childcare providers in formulating development proposals.

The Planning Report prepared by Avison Young outlines the scheme's consistency with the Childcare Guidelines while the Community and Social Infrastructure Report prepared by Avison Young also includes details relating to the existing Childcare facilities in the vicinity of the proposed development.

### 3.1.9 Design Manual for Urban Roads and Streets (2013)

The Design Manual for Urban Roads and Streets (DMURS) was issued in 2013 under Section 28 of the 2000 Act and sets out design guidance and principles for the construction of new and retrofitting existing roads and streets in Ireland with a speed limit of 60km/h or less. It also outlines practical design measures to encourage more sustainable travel patterns in urban areas. DMURS seeks to compliment the policies on sustainable transportation proposed in *Smarter Travel (2009)* and the policies on sustainable living contained in SRDUA.

A Transport Impact Assessment (TIA), prepared by SYSTRA accompanies the application and outlines in detail how the proposed development is consistent with the policies and recommendations of DMURS.

### 3.1.10 Architectural Heritage Protection – Guidelines for Planning Authorities (2011)

The Architectural Heritage Protection Guidelines were first issued in 2005, by the then Department of the Environment, Heritage and Local Government, under Sections 28 and 52 of the Planning and Development Act, 2000. The Guidelines were amended by the Department of Arts, Heritage and Gaeltacht in 2011 following the transfer of functions and change of titles.

Section 13.5 of the Heritage Protection Guidelines deals with development within the curtilage of a Protected Structure, while Section 13.8 deals with development affecting the setting of a Protected Structure. There is 1 no. protected structure (Our Lady of Dolour's Church) located adjacent to the subject site to the north-west. The Architectural Heritage Impact Assessment prepared by ARC, submitted with this application provides a detailed assessment of the architectural and historical significance of the Church and its relationship to the proposed development. Chapter 18 of this EIAR, prepared by ARC, also addresses Architectural Heritage.

### 3.1.11 The Planning System and Flood Risk Management - Guidelines for Planning Authorities (2009)

The Minister issued 'The Planning System and Flood Risk Management: Guidelines for Planning Authorities' (hereinafter the 'Flooding Guidelines') in November 2009 which provide comprehensive mechanisms for the incorporation of flood risk identification, assessment and management into the planning process.

A site specific Flood Risk Assessment has been carried out by OCSC in accordance with the Flooding Guidelines which identifies that the proposed site is not at risk of fluvial or tidal flooding and that groundwater flood risk to the site is low. Hydrology is also addressed in Chapter 8 of the EIAR.

## 3.2 Regional Planning Context

The NPF requires the Regional Assemblies to prepare Regional Spatial and Economic Strategies in accordance with the Framework set by the NPF. The subject site is located in the Eastern & Midland Region which has published a Regional Spatial and Economic Strategy (RSES) for the period 2019-2031. The RSES was adopted on the 3rd May 2019 and came into effect on the 28th June 2019 and replaces the Regional Planning Guidelines for the Greater Dublin Area 2010-2022 (RPGs).

The Settlement Strategy of the RSES is informed by the NPF which predicts that the population of Dublin will increase from 1,347,500 in 2016, to between 1,489,000 - 1,517,500 in

2026 and to between 1,549,500 - 1,590,000 by 2031.[3] The Settlement Strategy for Dublin City and Suburbs builds on the objectives of the NPF and recognises the need for compact growth.

## 3.3 Local Planning Context

The relevant statutory Development Plan for the subject site is the Dublin City Development Plan 2016-2022 (the Development Plan). It sets out the policy framework against which all applications for permission at this site will be assessed. There are a wide range of Development Plan policies and development management standards that apply to the proposed development. These are outlined in the Planning Report Including Statement of Consistency and the Material Contravention Statement prepared by Avison Young and submitted with the application pack.

[3] Eastern and Midlands Regional Assembly; Regional Spatial & Economic Strategy, pg 44.

# 4.0 Examination of Alternatives

## 4.1 Introduction

Chapter 4 of the EIAR sets out the alternative locations, designs and concepts that have been considered prior to the selection of the current Strategic Housing Development proposal at the subject site.

## 4.2 'Do-Nothing' Alternative

In a 'Do Nothing' scenario, the subject lands would remain undeveloped and the existing buildings on the subject site would be unused. The status of the environmental receptors described throughout this EIAR would be likely to remain unchanged while the potential for any likely significant adverse environmental impacts arising from the proposed development would not arise.

Similarly, if the proposed development does not take place, the potential for any positive impacts from the construction and operation of the proposed development would also not arise.

## 4.3 Alternative Uses

While cognisance was duly given to potential non-residential uses, the characteristics of the site lends itself to the delivery of a residential development as being the most appropriate and efficient use, and one that could suitably accommodate the height and density proposed in order to take advantage of proximity to local services, amenities, employment centres and sustainable transport options.

## 4.4 Alternative Locations

The site comprises a mix of land use zoning, both Z1 Residential (General), along the north, east and west of the site and Z9 Amenity / Open Space Zoning along the south of the site.

The general objectives for primarily residential areas are to provide a protection from unsuitable new development that would be incompatible with the overall residential function of the area. The provision of residential accommodation within sustainable communities where residents are within easy reach of services, open space and facilities such as shops, education, leisure, community facilities and amenities, by bicycle or on foot and by public transport provides good access to employment, the city centre and the key district centres. Having regard to the fact that the zoning of the subject site expressly

provides for residential development, it was not considered necessary to consider alternative locations in detail

## 4.5 Alternative Vacant Sites Within the Ownership of the Applicant

Although a full detailed assessment of alternative locations was not required due to the land use zoning objectives that apply to the subject site and the supporting planning policy context in relation to residential development, it is noted that the subject site was considered to be suitable to accommodate the scale, height and density proposed and is the only suitable site within the ownership of the Applicant. The applicant owns a site zoned Z6 for Enterprise and Employment in Dublin Industrial Estate which due to its size and location would be difficult to develop as a residential development within the constraints of that zoning objective.

## 4.6 Alternative Designs and Layouts

The layout and design of the proposed development involved an iterative process that evolved from initial concept stage through masterplanning and modelling studies. A range of different proposals with alternate layouts were considered at the early design stages and the Design Team assessed a series of masterplanning approaches to the subject site.

## 4.7 Pre-Application Process

During the pre-application process, the Applicant and Design Team undertook a series of pre-application consultation meetings as per Section 247 of the Planning and Development Act 2000 (as amended). A number of design options were presented to the Planning Authority at these meetings and feedback was incorporated into the design of the scheme as presented.

## 4.8 Conclusion

This chapter describes the reasonable alternatives considered and the reasons for choosing the proposed scheme, having regard to the relevant environmental factors. The comparison of alternatives in relation to environmental factors is summarised throughout Chapter 4 and helped to inform the decision to select the proposed development subject of this Strategic Housing Development planning application.

It is clear from the information provided throughout Chapter 4 that the proposed scheme is the most appropriate form of development for the subject site and represents an improvement in terms of environmental impact when compared to the other design options considered.

# 5.0 Population and Human Health

## 5.1 Introduction

Chapter 5 of the EIAR provides an assessment of the potential significant impacts that the proposed Strategic Housing Development at White Heather may have on the human environment in the vicinity of the subject site in terms of:

- Land Use;
- Demographics;
- Employment;
- Social and Community Infrastructure; and
- Human Health.

Two types of socio-economic impacts can typically arise; **direct** and **indirect** impacts. Direct impacts typically occur at a local level, through changes in the immediate environment that arise as a result of the physical works during construction phase. Indirect impacts typically arise outside the immediate area where the physical works take place.

## 5.2 Impacts from Construction Phase

The construction stage will result in a potential impact to the surrounding area as a result of noise, dust and construction traffic. The construction stage of the proposed development may result in a marginally increased population in the wider area due to increased construction employment, however, is likely to have a temporary positive effect in relation to generating economic activity and employment.

The Outline Construction Management Plan and Outline Resource Waste Management Plan, both submitted within the application pack, incorporate a number of construction-related mitigation measures in order to ensure that the impacts arising from construction of the proposal are managed and minimised as appropriate.

## 5.3 Impacts from Operational Phase

The proposed units will contribute to the overall supply and types of residential accommodation available to the local population and a moderate level of employment will be generated through the café, crèche, facilities management and ongoing maintenance of the proposed scheme.

A childcare facility is provided as part of the proposed scheme, contributing to the community facilities in the local area. The proposed development also comprises residential amenities including a gym, resident's lounge and a concierge.

The increased population as a result of the proposed development will also lead to an increased demand for goods and services in the local area, supporting local jobs and increased revenue for local businesses.

## 5.4 'Do Nothing' Scenario

In a 'Do Nothing' scenario, the subject lands would not be developed and the existing buildings on the subject site would be unused. The status of the environmental receptors described throughout this EIAR would be likely to remain unchanged while the potential for any likely significant adverse environmental impacts arising from the proposed development would not occur.

Similarly, if the proposed development were not to take place, the potential for any significant positive impacts from the construction and operation of the proposed development would also not arise.

A 'do nothing' scenario on zoned Z1 Sustainable Residential Neighbourhoods would result in a prime residential site remaining undeveloped which would not be consistent National, Regional and Local Planning Policy.

# 6.0 Biodiversity

The full assessment of Biodiversity is contained within Chapter 6 of Volume II.

## 6.1 Assessment

An assessment of the existing biodiversity was carried out for the proposed Strategic Housing Development, located at the White Heather Industrial Estate, South Circular Road, Dolphins Barn, Dublin 8 and No. 307/307a South Circular Road, Dublin 8 and an industrial building at 12a St James Terrace. The assessment discuss potential impacts on the existing biodiversity resources, namely flora, fauna, and habitats, within the project site. The project site is within Grand Canal pNatural Heritage Area and this is also considered in the assessment.

The assessment was undertaken using data from detailed desk top research, in addition to ecological surveys of bats, birds, ground mammals and habitats over 2021 -2022.

## 6.2 Receiving Environment

The evaluation of the site determined that the area of highest ecological value is the habitat associated with the Grand Canal. Whilst the project site is within the boundary of the Grand Canal pNHA none of the qualifying features of the pNHA are present within the project site which is dominated by built land and artificial surfaces. Habitats on the site are evaluated as low ecological value; the trees adjacent to the Grand Canal on the canal bank (outside the site boundary) and mature lime trees within the boundary of the church grounds provide some woodland habitat for fauna. They provide some woodland habitat for fauna and are considered to be of local importance (higher value, Rating D).

The bat surveys completed at the project site indicate that the project site is used by low numbers of Soprano and Common pipistrelle pipistrelle that are likely to opportunistically forage and commute along the Grand Canal corridor, as recorded during the August 2021 bat survey. Leisler's bat were recorded in very low numbers during the survey. All three species are widespread and abundantly occurring in Ireland and are typically encountered during bat surveys. The three species recorded flying over the project site have been assessed to be at favourable conservation status at a national range in Ireland (NPWS, 2019). Based on the results of the surveys and the widespread populations of these species, the project site is considered to be of Local importance (lower value) (Rating E) for populations of these species.

The bird fauna was typical of urban habitats with the Grand Canal providing the most significant habitat for species. Species recorded during site visits included:. Woodpigeon, rook, jackdaw, common gull and magpie were the larger species seen while the hedges support blackbird, and blue tit. No red listed bird species such as yellowhammer were heard

or seen during the habitat surveys.

No wetland birds such as mallard or mute swan were recorded during site visits however the Grand Canal outside the project site does provide suitable habitat to support such species. No such habitat is present on site to support these wetland bird species.

## 6.3 Potential Effects

Construction Phase

The potential effects of the proposed development on Biodiversity include:

- surface water run off
- noise and dust emissions
- construction pollution incidents
- loss of potential nesting habitat for birds and,
- spread of invasive species.

It is noted no species listed on Schedule 3 of SI 477 of 2011 were identified.

Operational Phase:

- effect on bats commuting along the Grand Canal from lighting

## 6.4 Mitigation Measures

A range of mitigation measures are provided including

- Provision of suitable lighting close to the Grand Canal Corridor and monitoring of same
- Standard Best Practice Construction Guidances
- Water Quality Monitoring
- The landscape scheme will provide for green sedum roofs and increase overall habitat for pollinators.
- Additional landscape treatments including tree planting along the Grand Canal Corridor
- The application of other measures as described in particular in Chapters 7 Land and Soils, 8 Water, 12 Air Quality, 13 Noise and 16 Landscape.

## 6.5 Monitoring

In addition to monitoring during construction, operational monitoring is also provided to assess effects on bats and pollinators to ensure enhancement measures through the lighting design and landscape proposals are fully effective and no adverse residual effects are identified.

## 7.0 Land and Soils

The full assessment of Land and soil is contained within Chapter 7 of Volume II.

An assessment of the existing soils, geology, and hydrogeology was carried out for the proposed Strategic Housing Development, located at the White Heather Industrial Estate, South Circular Road, Dolphins Barn, Dublin 8 and No. 307/307a South Circular Road, Dublin 8 and an industrial building at 12a St James Terrace. The assessment discuss potential impacts on the existing soils, geology and hydrogeology environments and was carried out using data collected from a detailed desk study and site-specific assessments.

The aquifer beneath the Site is 'Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones'. And the site area has 'Moderate' Vulnerability of groundwater to contamination. The effective rainfall at the Site is 285.2 mm/year with a recharge coefficient of 20%. (GSI, 2022).

Dublin Urban GWB is present of "Good status" and is "Not at risk" of not achieving the good status by 2027.

Based on the GSI website, the effective rainfall in the vicinity of the White Heather site is 275.300 – 285.200 mm/year. The GSI has designated the recharge coefficient in the immediate area of the Site as 20% due to lenses of sand and gravel within the boulder clay. Based on the GSI's Recharge Model, the total recharge would be equivalent to approximately 55- 57mm/year.

The White Heather development site is a brownfield site with previous and current commercial and light industrial site use.

GII SI identified potential contamination sources on site fill material associated with infilling of 2 No. former canal basins and subsequent commercial and industrial site use.

Made Ground was identified on the Site at thicknesses ranging from 0.9m to 3.4m.

Soft, organic silty clay was encountered in 2 No. SI locations near the southeast corner of the Site. The thickness of this layer varied between 1.3 and 1.4m and reached a maximum confirmed depth of 3.1m. These materials were encountered in areas of the Site containing historic canal basins, which were later infilled.

A glacial till layer of 'firm, grey, gravelly, silty clay' and 'firm, brown, sandy, gravelly clay' was encountered at thicknesses from 0.6 to 2.7m.

A 2.3m thick layer of water bearing 'medium dense, sandy gravel' was encountered in one location during the 2010 investigation extending to a maximum depth of 6.8mbGL.

During the 2007 investigation, water ingress into trail pits and boreholes was first observed at depths of 1.0 to 2.7mbGL. However, the base of the perched water was encountered in the boreholes at depths ranging from 2.8 to 3.8mbGL.

Depth to bedrock was confirmed during the 2007 investigation at depths of 3.0 and 9.0mbGL. It consisted of slightly to moderately weathered, dark grey limestone interbedded with thin and medium beds of calcareous mudstone.

There are 4 No. wells identified within 2km of the Site, one for industrial use.

The nearest designated area of conversation is the Grand Canal proposed Natural Heritage Area (pNHA) located directly south of the Site (Site Code 002104) and encompasses part of the Site.

The potential contamination sources identified on Site are primarily those associated with the use and infill of the former canal basins, the subsequent use of the Site as a laundry, and for later commercial and light industrial uses. The potential contamination from nearby properties relates to those industrial facilities historically used as a print works and a tobacco factory.

There will be a source of potential contamination present on the Site during the construction phase (e.g. machinery oils, fuel, cement, etc.).

There will be no significant sources of potential contamination present on the Site during the operational phase of the development.

The potential effects of the proposed development on the Land & Soils environment include:

Operational Phase:

- Accidental spills on Land & soils.

Construction Phase:

- Contamination or cross-contamination while moving and stockpiling soils on Site.
- Pollution of groundwater/watercourses/soils by accidental spillage of oils/diesel from temporary storage areas, or where construction equipment is maintained, with particular risk to the adjacent Grand Canal.

Suitable waste soils management to be implemented to avoid contamination and cross-contamination of waste soils. All fill and aggregate for the project will be sourced from reputable suppliers as per the project Contract and Procurement Procedures.

Waste and Construction management plan will be followed during the construction phase to avoid accidental spills and risk of groundwater/watercourses/surface water network pollution, including suitable Fuel and Chemical Management on Site.

The 'reduce, reuse, and recycle' principles will guide the approach on Site during all times, especially on feasible reusable soils.

Based on the implementation of the mitigation measures discussed above, the potential for residual impacts on the environment due to site operations is negligible.

The proposed Strategic Housing Development located at the White Heather Industrial Estate, South Circular Road, Dolphins Barn, Dublin 8 and No. 307/307a South Circular Road, Dublin, is an urban brownfield site with several industrial warehouses. Some activities from the construction phase might pose a risk of negative impact on the Site and its surrounding Land and soils if the protective/ avoidance/mitigation measurements are neglected. However, assuming all protective/ avoidance/mitigation measurements are being applied as per the mentioned EPA guidance, the proposed development will not give rise to any likely significant impacts.

If contaminated soils are removed from the Site, there will be a slightly negative, permanent impact.

## 8.0 Water and Hydrology

The full assessment of Hydrology is contained within Chapter 8 of Volume II.

An assessment of the existing Water & Hydrology environment was carried out for the proposed Strategic Housing Development located at the White Heather Industrial Estate, South Circular Road, Dolphins Barn, Dublin 8 and No. 307/307a South Circular Road, Dublin 8 and an industrial building at 12a St James Terrace. The data was collected from a detailed desk study and site-specific assessments.

The development site (1.535ha) is an urban brownfield site with several industrial warehouse units to be demolished. The existing Site comprises of a concrete yard area, roof area and a portion of Grand Canal bank area, summing up c. 1.535ha of developable area.

The Site lies on the Poodle water body sub-basin, part of the Dodder sub-catchment (Dodder_SC_010) that pertains to the Liffey and Dublin Bay Catchment. The Poodle water body runs into the Liffey River. The Liffey river flows for c.125 km through Co. Wicklow, Co. Kildare, and Co. Dublin before entering the Irish Sea at Dublin Bay. The Liffey and Dublin Bay catchment area is 1,616 km2.

The existing development appears to have two catchments. The major catchment consists of all industrial warehouse units surrounding the concrete yard with access to the South Circular Road. The minor catchment encompasses the industrial warehouse unit on the access road from St. James Terrace. The Liffey Estuary is transitional water (tidal) up to Islandbridge and has been classified as a eutrophic, nutrient sensitive water. The WFD report for the waterbody classifies the overall status as 'Good' with an objective to maintain good status by 2027. The catchment is currently 'at review' to access the achieving of the conservation objective.

No watercourses or surface water features are present within the site boundary. However, the Grand Canal is aligned to the southern boundary of the Site, and the site area includes c.0.22 ha of the Grand Canal bank area. The River Poddler is 0.9km to the east at its closest point from the centre of the Site.

Grand Canal WFD report 2013 to 2018 classifies its overall status as 'Good' with an objective to maintain good status by 2027. The Canal is currently 'not at risk' to not achieving the conservation objective. Poddle river's WFD status is unassigned. The river is currently 'at risk' of not achieving the good status by 2027 due to significant pressure of nutrients and diffuse urban sources of pollution.

The site area has 'Moderate' Vulnerability of groundwater to contamination. Based on the GSI website, the effective rainfall in the vicinity of the White Heather site is 275.300 – 285.200 mm/year. The GSI have designated the recharge coefficient in the immediate area of the

Site as 20%. Based on the GSI's Recharge Model, the total recharge would be equivalent to approximately 55- 57mm/year.

The project includes demolition and excavation works. Foul and surface water drains will be constructed and connected to the public network.

The potential effects of the proposed development on the water and Hydrology environment include:

Operational Phase:

- Accidental spills or contaminated run-off discharged to sewer during daily activities.
- The proposed development will result in an increase in water demand on the public water distribution network.

Construction Phase:

- There is a risk of groundwater/watercourses/surface water network pollution by accidental wastewater effluent spillage when connecting to live sewers.
- Pollution of groundwater/watercourses/soils by accidental spillage of oils/diesel from temporary storage areas, or where construction equipment is maintained, with particular risk to the adjacent Grand Canal.

The Site and its vicinity are located in Flood Zone C and are not at risk of fluvial, tidal, or groundwater flooding. Therefore, there are no flooding issues within Site and its surrounding area but with the Grand Canal to the Site's southern boundary. The Canal has a flood probability of 0.1% AEP.

Proper maintenance of the drainage system will be implemented in accordance with CIRIC 753, The SUDS Manual, to reduce any risk of human or mechanical error causing flood risk from blockages.

Suitable waste soils management to be implemented to avoid contamination and cross-contamination of waste soils.

Waste and Construction management plan will be followed during the construction phase to avoid accidental spills and risk of groundwater/watercourses/surface water network pollution.

As part of the proposed development, the existing surface water and wastewater networks will be decommissioned, and new surface water and wastewater networks will be constructed.

Based on the implementation of the mitigation measures discussed above, the potential for residual impacts on the environment due to site operations is negligible. An independent surface water and wastewater network will be provided for this development. However, it is noted that there is no public surface water network in the vicinity of the proposed Site.

The development's surface water network will combine with the wastewater network at the site boundary before discharging.

The proposed Strategic Housing Development located at the White Heather Industrial Estate, South Circular Road, Dolphins Barn, Dublin 8 and No. 307/307a South Circular Road, Dublin, is an urban brownfield site with several industrial warehouses. Some activities from the construction phase might pose a risk of negative impact on the Site and surrounds water and hydrology if the protective/ avoidance/mitigation measurements are neglected. However, assuming all protective/ avoidance/mitigation measurements are being applied as per mentioned EPA guidance, the proposed development will not give rise to any likely significant impacts.

The project impact on the local water and hydrology will be Slight negative impact permanente.

## 9.0 Material Assets – Built Services

This section of the Environmental Impact Assessment Report (EIAR) document has been prepared by OCSC Consulting Engineers and IN2 Engineering. The sections addressing the issues of the water was prepared by Mark Killian, CEng, BE (Civil), MSc (Civil Eng) of OCSC and follow the EPA guidance documents, "Advice notes on current practice (in the preparation of Environmental Impact Statements)" and "Guidelines in the information to be contained in Environmental Impact Statements.
The sections addressing the Electrical supply, Gas supply and Telecoms was prepared by James Redmond CEng, MIEI, a Director of IN2 Design Partnership Ltd.

The report section examines impact of, and from, the new development's foul water drainage, surface water drainage and water supply.

## 9.1 Water, Foul and Surface Water Drainage

The existing topography of the subject site was obtained by carrying out a topographical survey, with surface water catchments delineated accordingly. The details of acceptable methods of surface water discharge were submitted to Dublin City Council as part of the Stage 2 SHD submission, with no apparent issues with the design proposal.

It is proposed to provide an independent surface water system for this development, which will comprise an integrated sustainable drainage system; split into a number of sub-catchments for optimum management of SuDS. All treated surface water within the proposed development will discharge to the existing combined sewer network at South Circular Road, as there is no independent surface water network in the vicinity of the site. A capped spur to the site boundary will, however, be provided, in order to allow for potential connection to future infrastructure, as per best practice.

All rainfall runoff will be attenuated to a maximum of 2 l/s/ha, as agreed with both Dublin City Council and Irish Water, prior to discharging to the existing combined sewer network.

Green roofs, are to be provided across the development, along with further extensive use of SuDS, where practicable. These measures will assist in improving the water quality of the surface water runoff from these areas and will also assist in attenuating flows during periods of exceptional heavy rainfall, while also reducing the overall rainfall volume from leaving the site, through interception.

The assessment of the volume of wastewater that will be discharged from the proposed development is detailed within the Engineering Services Report that has been submitted under separate cover, as part of this application. The daily average flow from the proposed

development, as per current Irish Water design guidance, is calculated to be approximately 1.75 l/s.

There is the potential for incidences of wastewater and surface water exfiltrating from drains and percolating to ground and/or to watercourse. Similarly, any effluent exfiltrating from one drain type could potentially infiltrate another drain type. These works give rise to the potential for accumulations of top-soil and sediments to be washed to the adjacent Grand Canal and existing drainage infrastructure.

The use of chemicals, fuels and oils on site gives rise to the potential for multiple spills of toxic materials to ground and to water. This would delay any recovery and would make persistent effects more likely. Similar considerations apply to ongoing use of concrete, grout and other cementitious materials during construction.
Other than spills of chemical, etc., no Construction Stage Impacts are likely to potentially continue over to the Operational Phase. In the event of ongoing leaks from wastewater & surface water drains occurring there is the potential for contaminant to infiltrate to ground and to water, and, for fine particles in the soil matrix to be washed out; potentially leading to ground movement and/or structural damage. In the event of ongoing leaks from watermain occurring, there is the potential for fine particles in the soil matrix to be washed out; potentially leading to ground movement and/or structural damage.

A number of mitigation measure relating to surface water drainage will be implemented during construction and operational phase. These include:

- Temporary storage / loading areas shall be designed and constructed with suitable drainage provision.
- Construction of suitable silt traps prior to the surface water outfalling to the existing watercourses.
- Filter Drains, swales, pervious paving, green roofs, SuDS Tree Pits, intensive landscaping, and rainwater harvesting will assist in reducing runoff volume and improving water quality.

The surface water design has been prepared in accordance with best practice incorporating sustainable drainage systems, which include the installation of filter drains, swales, permeable paving, green roofs and rainwater harvesting. The sustainable urban drainage system will reduce runoff volume and improve water quality, hereby having a positive impact on the receiving environment.

## 9.2 Electrical Supply, Gas Supply and Telecoms

It is proposed to remove all of the existing Electrical, Gas and Telecoms cabling and pipework to the site. New Electrical infrastructure will be provided including new ESB Low Voltage(LV) Substations and associated infrastructure as required to service the proposed development. A new Gas Supply to the site will be provided from the South Circular Road

sized to provide heating and hotwater to the development. New Telecoms connections to the site will be provided from the South Circular Road from both Eir and Virgin Media to ensure all tenants have an option for alternative telecoms providers.

Desktop review of the local mobile telecoms infrastructure indicates the development will not impact any existing telecoms links however allowances have been included in the design for the reinforcement of the local mobile telecoms infrastructure if required.

Initial discussions with each of the relevant utility providers and the desktop study of the existing infrastructure records indicate there is little potential for any impacts on the existing infrastructure during the construction phase. The main contractor will follow best industry practice for the planning, supervision and construction of the works to mitigate any site risk.

The initial discussions with each of the relevant utility providers and the desktop study of the existing infrastructure records indicate there is little potential for any impacts on the existing infrastructure during the operational phase of the development. The detailed design of the site infrastructure will follow best industry practice for the design, planning and construction of the works to mitigate the impact of the development on each of the utilities.

## 10.0 Material Assets – Transportation

The assessment of transportation is contained within Chapter 10 of Volume II.

## 10.1 Existing Environment

The proposed development site is located in a highly accessible location within easy walking and/or cycling distance of the city centre, several major employment centre, local amenities and leisure facilities. The site is also close to good, frequent public transport links with the Cork Street Quality Bus Corridor and Red Line Luas both within walking distance.

There is a well-established network of footpaths within the local area, providing access to a wide range of local community, education, health, retail and employment facilities. There are a number of large employment centres as well as leisure and retail facilities.

The site benefits from proximity to bus lanes along the South Circular Road which provide facilities for cyclists segregated from the private vehicle driver. Furthermore, advanced stop lines for cyclists are provided at the Dolphin's Barn Street / South Circular signalised junction on the R110 in both directions. There are formal cycle lanes provided from Dolphin's Barn Cross to the City Centre and along the length of the Canal towards the docklands.

The surrounding land use is largely residential comprising of predominantly terraced housing. The site currently operates as White Heather Industrial Estate, accommodating a number of industrial units such as self-storage facilities, building suppliers and a Post Delivery Office.

The surrounding road network is a mix of quieter residential streets and more heavily trafficked regional, urban roads such as the R811 South Circular Road, the R110 Dolphin's Barn Street/Cork Street and the R111 Parnell Road (Canal Road). These roads carry heavier volumes of traffic particularly during the morning and evening peaks.

## 10.2 Impact Assessment

### 10.2.1 Demolition & Construction Phase

The demolition and construction will be short-term in nature relative to the operational phase. In total it will last approximately 42 months. The expected working hours for the site are 07:00 – 18:00 Monday to Friday and 08:00 – 14:00 on Saturdays (subject to confirmation/approval from DCC). During the construction phase on average 22 HGVs will travel to and from the site per working day.

The access points for HGV construction traffic will be limited to the South Circular Road, a designated HGV route within the DCC HGV Strategy. On average, this will increase the absolute number of HGVs along the South Circular Road by less than 10%, and on the Dolphin's Barn Cross Canal Bridge by less than 5%. The increase in overall traffic as result of the additional HGVs along these links will be less than 0.5%. This will have an imperceptible effect.

Staff numbers onsite will range from approximately 100 – 200 per day, depending on the phase of construction. As a worst-case, this will result in a maximum of 400 two-way daily car trips to and from site over the course of the construction period (allowing for potentially multiple visitor trips per day and assuming that there will be an element of car-sharing amongst staff and visitors). The staff and visitor parking will be accessed via South Circular Road. The estimated annual average daily traffic (AADT) flow along the South Circular Road is 9,000 vehicles per day, therefore, the development's contribution of staff / visitor trips during the construction phase will represent a worst-case maximum increase of 4.4% of daily traffic, which is considered to be a negligible and 'not significant' short-term impact.

### 10.2.2 Operational Phase

The Operational Phase assessment has been undertaken in line with Transport Infrastructure Ireland's (TII's) Traffic and Transport Assessment Guidelines using outputs from the National Transport Authority's Eastern Regional Model and a local VISSIM model. The local model has been development in accordance with TII's Project Appraisal Guidelines Unit 5.1.

The vehicle trip generation, distribution and assigned adopted in the assessment is based on approached for the neighbouring Bailey Gibson Strategic Housing Development (SHD) site, in agreement with DCC.

A vehicle trip rate of 0.012 arrivals and 0.074 departures per unit in the AM peak hour, and 0.050 arrivals and 0.020 departures in the PM peak hour has been adopted for the residential element of the proposed development. A small number of external vehicle trips are assumed to be generated by the crèche, with the majority from the residential units of the proposed development and all café trips assumed as internal (or accessed by sustainable modes by non-residents).

Capacity analysis demonstrates that the access junction currently operates with significant reserve capacity during both the AM and PM peak periods and will continue to do so with development traffic in the 2024, 2029 and 2039 future year scenarios. The proposed development will not result in any additional queuing with the queues remaining less than one vehicle including on South Circular Road between the junctions. It is therefore

concluded that the proposed development will have a negligible impact on the operation of the junction.

The results demonstrate that during the operational phase, the proposed development will contribute, at most, a 2.75% increase in traffic flows in the 2024 AM peak period on the South Circular Road to the west of the site access, and significantly lower elsewhere. Similarly, in the PM peak period the maximum contribution is 2.27% on the South Circular Road to the west of the site access and significantly lower elsewhere. This is considered to be a negligible impact on all road links in both the AM and PM peak periods.

## 10.3 Cumulative Impact

### 10.3.1 Demolition & Construction Phases

Consideration has been given to the potential cumulative impact of the proposed development alongside the neighbouring Bailey Gibson and Player Wills SHDs in both the construction and operational phases.

Regarding the construction phase, the combined additional car and HGV traffic is likely to have a negative but slight effect on the local network and will be short-term in nature. The cumulative impact will be local and broadly limited to the South Circular Road. A CTMP will be implemented for all sites which will ensure that the impact of the construction traffic will be minimised as far as practicable, and will remain 'not significant' overall.

### 10.3.2 Operational Phase

Capacity analysis at the access junction demonstrates that the junction will continue to operate with significant residual capacity in the future year scenarios, taking committed developments into account. The proposed development in isolation will contribute to <3% impact along the South Circular Road and the impact reduces considerable beyond the site access (<1% elsewhere within the wider local area). With the MMP in place the car mode share should be reduced further. Therefore, the operational impact of the combined Masterplan lands is considered to be at worst, negative, slight and long-term but confined to the local network. This is considered 'not significant' overall.

## 10.4 Mitigation

### 10.4.1 Demolition & Construction Phases

A preliminary Construction Traffic Management Plan (CTMP) has been developed which will be reviewed, refined and implemented by the appointed contractor subject to agreement with the planning authority. The measures included in the CTMP are as follows:

- Construction Staff will typically arrive before 07:00 and leave after 18:00, Monday to Friday (i.e. avoiding network peak periods);
- Limited parking on site for staff (to prevent overspill onto surrounding roads), with majority required to arrive by sustainable means;
- Appointment of Construction Site Manager/Community Liaison Officer to manage the implementation of the CTMP and act as the main point of contact for staff, contractors, DCC and general public;
- Construction staff Travel Plan to be developed by appointed Contractor;
- Cycle parking, storage and drying areas provided on site;
- Agreed haulage routes along designated HGV routes;
- Minimising HGV deliveries during the peak hours (generally 08:00 - 09:00 and 17:00 - 18:00);
- On-site wheel wash facilities;
- HGVs carrying soil to be fully sheeted;
- HGVs inspected for dirt and mud before exiting onto public road network;
- Road cleaning and sweeping along section of South Circular Road adjacent to the site;
- Construction signage at all entrances and exits;
- Control and timing of deliveries where possible;
- Entrances and exits manned during deliveries.

The implementation and monitoring of the CTMP will be managed by the appointed Construction manager.

### 10.4.2 Operational Phase

A number of mitigation measures to alleviate the operational phase impact have been incorporated into the design of the development. Most significantly a car parking ratio of 0.29 spaces per units has been applied. This is well below the maximum standard of 1 per unit outlined in the Dublin City Development Plan 2016-2022. This significantly reduces the volume of car traffic generated by the development and the associated impact on the surrounding road network.

In addition, a Mobility Management Plan (MMP) has been developed for the site which will be implemented by the management company post-construction. This includes measures to further reduce car trips generated by the development including use of spaces for seven

GoCars, four of which are exclusively for the use of residents, appointment of a Mobility Manager, Welcome Travel Pack, incentivised use of public transport and/or Go Cars.

## 10.5 Residual Impact Assessment

The CTMP will help alleviate the impact of the development construction traffic, particularly during the peak hours. It will also help ensure that the standard of the surrounding public network is maintained and free from dust and dirt from construction traffic. With the CTMP in place, the impact will be 'not significant' both in terms of the development in isolation and cumulatively.

The MMP will help further reduce the car traffic, from an already low level, generated by the development. The residual impact of the development will be 'not significant' both in terms of the development in isolation and cumulatively.

## 10.6 Monitoring

The construction phase will be monitored by the appointed site manager and regular progress reports will be prepared. The manager will ensure the mitigation measures outlined will be implemented and adhered to.

Once operational, a Mobility Manager will be appointed from within the management company to ensure the implementation of the MMP. They will also be responsible for the undertaking of post-occupation travel surveys and act as a point of contact for residents for all mobility and access related issues.

## 11.0 Material Assets – Waste Management

AWN Consulting Ltd. carried out an assessment of the potential impacts associated with waste management during the construction and operational phases of the proposed development. The receiving environment is largely defined by Dublin City Council (DCC) as the local authority responsible for setting and administering waste management activities in the area through regional and development zone specific policies and regulations.

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. There will be soil and stones excavated to facilitate construction of the new building foundations, installation of services and carparking for the development extension. The volume of material to be excavated has been estimated by the project engineers (O'Connor Sutton Cronin) at c. 10,000m$^3$. Any suitable excavated material will be reused on site (c. 500 m$^3$), where possible, however it is anticipated that there will be c.9,500 m$^3$ will be removed from site. Excavated material which is to be taken offsite will be taken for offsite reuse, recovery, recycling and/or disposal.

A carefully planned approach to waste management and adherence to the mitigation measures in chapter 11 and the site-specific Resource Waste Management Plan (Appendix 11.1) during the construction phase will ensure that the effect on the local and regional environment will be **short-term, neutral** and **imperceptible**.

During the operation phase, waste will be generated from the residents, tenants and staff at the proposed development. Dedicated individual bins, satellite waste storage areas (WSA) and staging areas have been allocated throughout the development for residents and staff. The WSAs have been appropriately sized to accommodate the estimated waste arisings in individual spaces as well as in shared residential areas. 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 and within the curtilage by permitted waste contractors and removed off-site for re-use, recycling, recovery and/or disposal.

An Operational Waste Management Plan 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, medical waste, cardboard, plastic and glass as well as providing a strategy for management of waste batteries, WEEE, printer/toner cartridges,

chemicals, textiles, waste cooking oil and furniture / bulky items (Appendix 11.2). 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 11 and the site-specific Operational Waste Management Plan (Appendix 11.2) 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**.

# 12.0 Air Quality and Climate

The assessment of Air Quality & Climate is contained within Chapter 12.

## 12.1 Existing Environment

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

The existing climate baseline can be determined by reference to data from the 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 have determined that Ireland had total GHG emissions 57.7 Mt $CO_2$eq in 2020. This is 6.73 Mt $CO_2$eq higher than Ireland's annual target for emissions in 2020. The EPA predict that Ireland can achieve compliance with the GHG targets over the period 2021 – 2030 provided full implementation of the Climate Action Plan and use of the flexibilities available.

## 12.2 Impact Assessment

### 12.2.1 Do Nothing scenario

Under the Do Nothing scenario the proposed development will not be constructed. In this scenario, ambient air quality at the site will remain as per the baseline and will change in accordance with trends within the wider area. As the site is zoned for development, in the absence of the proposed development it is likely that a development of a similar nature would be constructed in the future in line with national policy and the development plan objectives. Therefore, the construction and operational phase impacts outlined in this assessment are likely to occur in the future even in the absence of the proposed development.

### 12.2.2 Construction Phase

The greatest impact to air quality during the construction phases of the proposed development is from dust emissions. There are a number of residential properties bordering the site as well as the Coombe Hospital to the north of the site. The UK Institute of Air Quality Management guidance was used to assign a high level of sensitivity to dust soiling impacts to the area in the immediate vicinity of the proposed development. The local area is considered of low sensitivity to human health impacts from dust emissions, high sensitivity to dust nuisance and ecology impacts from dust emissions.

The scale and nature of the construction works were reviewed, and it was determined that a high level of dust control was required for the construction phases of the proposed development. Once the dust mitigation measures outlined in Appendix xx.2 of Chapter xxx are implemented, dust emissions are predicted to be short-term, negative, localised and imperceptible and will not cause a nuisance at nearby sensitive receptors.

Construction phase traffic impacts on air quality and climate were scoped out of the assessment and are considered imperceptible.

Construction stage impacts to climate are considered short-term and imperceptible due to the scale and nature of the works.

### 12.2.3 Operational Phase

Potential impacts to air quality and climate during the operational phase of the proposed development are as a result of increased traffic volumes on the local road network. The changes in traffic flows were assessed against the UK Design Manual for Roads and Bridges (DMRB) screening criteria for an air quality and climate assessment. As the changes in traffic did not meet the screening criteria no air quality or climate assessment was required, and it can be determined that the operational phase of the proposed development will have an imperceptible, localised, neutral and long-term impact on air quality and climate.

The proposed development has been designed to reduce the impact on climate where possible during operation. The proposed development will comply with the NZEB standards. Electric vehicle car charging points have been incorporated into the development with a reduction in typical car parking spaces and increased bicycle parking to promote a modal shift and thus reduce GHG emissions.

## 12.3 Mitigation

### 12.3.1 Construction Phases

A detailed dust management plan has been included in Appendix 12.2 of Chapter 12 and will be incorporated into the overall Construction Environmental Management Plan for the site. The measures outlined in the plan will be in place for the duration of the construction phase to ensure no significant dust impacts occur.

### 12.3.2 Operational Phase

There are no mitigation measures proposed for the operational phase of the development as it is predicted to have an imperceptible impact to air quality and climate.

## 12.4 Residual Impact Assessment

Once the dust mitigation measures outlined in Appendix 12.2 are implemented dust related impacts during the construction are predicted to be short-term, negative and imperceptible.

The impact to air quality and climate as a result of increased traffic volumes during the operational phase of the proposed development is imperceptible, neutral and long-term.

## 12.5 Monitoring

Monitoring of construction dust deposition is recommended along the site boundary with sensitive receptors to ensure dust mitigation measures are working satisfactorily. Monitoring can be carried out using the Bergerhoff method in line with the requirements of the German Standard VDI 2119. Monitoring will ensure that mitigation measures are working satisfactorily. Compliance should be assessed against the TA Luft limit value of 350 mg/($m^2$*day) and averaged over the period of a year.

## 13.0 Noise and Vibration

AWN Consulting Limited has been commissioned to conduct an assessment of the likely noise and vibration impacts associated with the proposed Whiteheather residential development at the Whiteheather Industrial Estate, South Circular Road, Dublin 8. The existing noise climate in the vicinity of the proposed development has been surveyed. Prevailing noise levels are primarily due to local road traffic.

The noise impact assessment has focused on the potential outward impacts associated with the construction and operational phases of the proposed development on its surrounding environment.

During the main construction phase involving demolition, site clearance, building construction works, and landscaping the assessment has determined that for the majority of works, the construction noise criteria can be complied with at the nearest sensitive properties. During periods of construction in areas of the site closest to the boundary it is predicted that short term significant impacts are likely. Mitigation measures are recommended during construction so that impacts are reduced.

During the operational phase, the outward noise impact to the surrounding environment will include any additional traffic on surrounding roads and plant noise from the residential and amenity buildings as part of the development. The impact assessment has concluded that additional traffic from the proposed development on local roads will have an insignificant impact on the surrounding noise environment.

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.

## 14.0 Microclimate – Daylight, Sunlight and Overshadowing

The following daylight, sunlight and overshadowing matters are considered within this Chapter:

- The potential effect of the Proposed Development on the daylight and sunlight amenity to sensitive existing neighbouring properties;
- The potential for overshadowing effects to existing neighbouring amenity areas;
- The daylight and sunlight amenity achieved by all newly proposed habitable rooms within the Proposed Development; and
- Overshadowing to newly proposed amenity areas.

Daylight, sunlight and overshadowing technical analysis has been undertaken in accordance with the Building Research Establishment Guidelines: '*Site Layout Planning for Daylight and Sunlight 2011: A Guide to Good Practice'* (the '*BRE Guidelines*'); and in consideration of the recommendations set out in BS 8206-2: 2008, '*Lighting for Buildings Part 2: Code of Practice for Daylighting'* ('*BS 8206-2*'). Supplementary analysis has also been undertaken in accordance with the European Standard EN 17037 and British Standard BS EN 17037.

### Existing Neighbouring Properties – Daylight/Sunlight/Overshadowing

The daylight and sunlight assessments undertaken have identified that there will be **negligible (not significant) to moderate adverse effects (significant)**.

In relation to Overshadowing, the effect is considered to be **minor adverse (not significant) to moderate adverse (significant)**.

Residual levels of daylight, sunlight and overshadowing will be consistent with findings set out in this chapter and the associated technical appendices.

### Within the Proposed Development - Daylight/Sunlight/Overshadowing

**90%** of the habitable rooms assessed will meet the minimum recommended ADF targets, and **72%** of the rooms assessed will achieve the recommended level of NSL.

**58%** of windows serving rooms with at least one window oriented within 90 degrees due south, will meet the recommended criteria for winter sunlight and **48%** for total sunlight.

If all windows including north facing windows were assessed, **44%** will meet the recommended criteria for winter sunlight and **37%** for total sunlight.

The effect of overshadowing to proposed amenity areas, roof terraces and proposed balconies and terraces is considered to be **negligible** to **minor adverse (not significant)**.

## Supplementary CBDM (Daylight) Technical Analysis

In consideration of the European Standard EN 17037, 44% of the rooms assessed will meet the 300-lux assessment and 55% will meet the 100-lux assessment.

In consideration of the British Standard BS EN 17037, 75% of rooms assessed will meet the 100-lux assessment (bedrooms) and 200 lux assessment (LKD's).

## 15.0 Chapter 15 (Wind Microclimate)

Chapter 15 (Wind Microclimate) outlines analysis of the impact of the proposed development on lands at White Heather SHD, South Circular Road, Dolphins Barn, Dublin 8 on the wind microclimate in the surrounding area.

Analysis was undertaken and conclusions determined from sophisticated Building Simulations performed with regards to Wind/ Pedestrian Comfort, in all cases validating results in accordance with robust best practice guidelines to ensure compliance.

Wind and airflow simulations were compiled and assessed against Lawson Criteria Methodology- an assessment method for Pedestrian Comfort in order to predict activity suitability (sitting/ standing etc.) for persons in the vicinity of the development.

This analysis undertaken identified that the proposed development was determined to not introduce any adverse wind effects to the receiving environment.

The majority of ground level amenity spaces across the proposed development are determined to be suited to "Long/Short Term Sitting" in accordance with the Lawson Criteria methodology utilised. The proposed landscaping was seen to positively impact sheltering effects between the two residential blocks.

While the majority of the 5th floor roof terraces are suitable for "Long/Short Term Sitting" localised mitigation measures such as trees and shrubbery were seen improve wind conditions in areas which were subjected to higher exposure.

All balconies across the development were assessed and deemed suitable for "Long/Short Term Sitting" according to the Lawson scale.

Therefore the analysis undertaken identified that the proposed development was determined to not unduly impact on the local wind micro-climate, with no adverse wind effects predicted to be introduced to the receiving environment.

## 16.0 Landscape and Visual Impact Assessment

Chapter 16 assessing the likely landscape and visual impacts of the proposed development on the surrounding urban area was completed by W. H. Hastings B. Arch FRIAI, RIAI Grade 1 accredited Conservation Architect.

The site of the proposed development is currently occupied by industrial buildings. These buildings are generally modest in height. The proposed development ranges in height from 2 to 10 stories. Parts of the proposed development will, therefore, be taller than most of the buildings on the surrounding streets. However, there is extensive modern development in the area, both existing and proposed, that is of a similar or greater scale to that of the proposed development, especially along the Grand Canal and Cork Street / Dolphin's Barn corridors.

The proposed development will be visible along some sections of nearby streets and along nearby parts of the Grand Canal. The extent of visibility development is likely to be quite limited. From locations to the west and north, even nearby locations, visibility of the proposed development will be restricted to upper parts of one or two buildings in the scheme. From some locations to the east, upper parts of the development are likely to be seen as small elements in the distance, while from other locations to the east and south the proposed development is likely to be entirely concealed from view or be only just discernible in the distance.

The surrounding built environment is quite varied in character and scale. In addition to typical two and three storey terraces along South Circular Road, there is extensive modern development in the area that is of a similar or greater scale to that of the proposed development, especially along the Grand Canal and Cork Street / Dolphin's Barn corridors.

The existence of the proposed development will bring about changes in the visual character of the immediate surrounding. Even though the proposed development will include buildings that are larger in scale than the existing industrial sheds on the site, the residential character of the proposed development has the potential to provide a higher standard of visual amenity than what is on the site at present, and the scale of the proposed development is not out of character with that of other existing developments in the area.

A survey of the potential visibility of the proposed development was carried out by ARC on several dates in the autumn and winter of 2020, and further surveys of potential visibility were carried out in early 2021. Following analysis,18 view locations representative of the likely extent of visibility of the proposed development were selected, and photomontages were prepared from these view locations by Model Works.

## 17.0 Cultural Heritage - Archaeology

IAC Archaeology has prepared Chapter 17 in order to assess the impact, if any, on the archaeological and cultural heritage resource of a proposed redevelopment of the existing White Heather Industrial Estate, South Circular Road, Dublin 8. The assessment has been undertaken by Faith Bailey (MA, BA (Hons), MIAI, MCIfA) of IAC Archaeology.

The zones of archaeological potential for three recorded monuments are located within 200m of the proposed development, which all represent the site of historic watercourses (DU018-020576, DU018-020692 and DU018-043002). The closest of these, DU018-020576, is located c. 58m to the north and either this watercourse and/or DU018-020692 appears from historic mapping to have continued south and passed within c. 60m of the proposed development, to the west, possibly linking with the city watercourse (DU018-043002) to the south.

The site of two laundry buildings are recorded within the Dublin City Industrial Heritage Record (DCIHR) (No. 18 14 008 01 and No. 18 14 009 01) within the site, but these structures are no longer extant. Also within the proposed development area is the site of a canal docks, visible on early 19th century mapping and included in the DCIHR as No. 18 14 006 01.

Whilst it is clear that the proposed development area has been subject to a large degree of modern development, it remains probable that the backfilled post-medieval canal docks survive beneath the current ground level. It is possible that ground disturbances associated with the development may have a direct negative significant impact on these remains.

It is also possible that ground disturbances may have a direct negative impact on any surviving previously unrecorded archaeological feature or deposits that have the potential to survive beneath the current ground level. The significance of effect, prior to the application of mitigation, may range from moderate to profound, dependant on the nature, extent and significance of any remains.

A programme of test trenching will be carried out within the site following demolition and clearance of the standing buildings. The testing will investigate the potential for survival of remains associated with the former canal docks and post-medieval laundry remains, as well as any earlier features that may survive on the site. Testing will be carried out under licence and dependent on the results, further mitigation may be required, such as preservation in-situ or by record (archaeological excavation). Any further mitigation will require agreement from the National Monuments Service of the DoHLGH and the Dublin City Archaeologist.

All ground disturbances, including site investigations, associated with the proposed development will be monitored by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works further archaeological mitigation may be required, such as preservation in-situ or by record. Any further mitigation will require approval from the National Monuments Service of the DoHLGH and the Dublin City Archaeologist.

Should the mitigation measures be carried out fully and successfully there will be no predicted significant negative residual impacts on the archaeological and cultural heritage resource as a result of the proposed development going ahead.

## 18.0 Architectural Heritage

Chapter 18 assessing likely impacts of the proposed development on architectural heritage was completed by W. H. Hastings B. Arch FRIAI, RIAI Grade 1 accredited Conservation Architect.

The site of the proposed development is currently occupied by industrial buildings. These buildings are generally modest in height. The proposed development ranges in height from 2 to 10 stories. Parts of the proposed development will, therefore, be taller than most of the buildings on the surrounding streets. However, there is extensive modern development in the area, both existing and proposed, that is of a similar or greater scale to that of the proposed development, especially along the Grand Canal and Cork Street / Dolphin's Barn corridors.

The proposed development will be visible along nearby streets and along nearby parts of the Grand Canal. The development is likely to be most openly visible from nearby sections of the South Circular Road and from the Grand Canal south of the subject site. Moving away from the site along the South Circular Road, Dolphin's Barn Street, the Crumlin Road and the Grand Canal, visibility of the proposed development will reduce.

The proposed development will have no direct physical effect on the architectural heritage of protected structures in the surrounding area. Where the proposed development can be seen in the context of one or more of the nearby protected structures, the protected structure and the proposed development both being seen in the same view, then there is a potential for effects on the setting of that protected structure.

An analysis of the 19 protected structures nearest to the proposed development indicated that the proposed development would not give rise to any impact on the setting of 10 of these protected structures. In the case of 8 of the protected structures analysis indicated that there was a potential for impacts on setting to range from 'slight' to 'moderate'. In the case of one protected structure, the Church of Our Lady of Dolours, the potential impact on setting was assessed as 'significant', but there was no potential for impact on the physical fabric of the church.

# 19.0 Risk Management

## 19.1 Introduction

Chapter 19 of the EIAR provides an assessment of the potential significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters.

The 2014 EIA Directive (2014/52/EU) requires that EIA shall include the expected effects on population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage and landscape deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned. This Chapter summarises the expected effects arising from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project, in accordance with Article 3(2) of the EIA Directive.

## 19.2 Consultation

Hazards were reviewed through the identification of likely risks in consultation with the Design Team and relevant specialists, in order to ensure that the safety and precautionary measures required to protect the proposed scheme in the event of a major accident are in place. The classification of risks and their likelihood are set out in Table 19.1.

**Table 19.1: National Classification of Likelihood**

| Ranking | Classification | Likelihood |
|---|---|---|
| 1 | Extremely Unlikely | May occur only in exceptional circumstances; Once every 500 or more years |
| 2 | Very Unlikely | Is not expected to occur; and/or no recorded incidents or anecdotal evidence; and/or very few incidents in associated organisations, facilities or communicates; and / or little opportunity, reason or means to occur; May occur once every 100-500 years. |
| 3 | Unlikely | May occur at some time; and /or few, infrequent, random recorded incidents or little anecdotal evidence; some incidents in associated or comparable organisations worldwide; some opportunity, reason or means to occur; may occur once per 10-100 years. |
| 4 | Likely | Likely to or may occur; regular recorded incidents and strong anecdotal evidence and will probably occur once per 1-10 years |
| 5 | Very Likely | Very likely to occur; high level of recorded incidents and/or strong anecdotal evidence. Will probably occur more than once a year. |

**Source**: '*A Framework for Major Emergency Management Guidance Document 1: A Guide to Risk Assessment in Major Emergency Management*' (DEHLG, 2010), pg 12.

## 19.3 Impact from Construction Phase

The Outline Construction Management Plan (OCMP) prepared by OCSC Consulting Engineers outlines a number of potential hazards during construction stage including inter alia: water pollution, noise and vibration from machinery, hazardous and contaminated materials, construction traffic, crane movements, adverse weather conditions and

contamination/disturbance from dust and dirt. The Site Specific Flood Risk Assessment, also prepared by OCSC, outlines a number of potential flood risk categories including, tidal, fluvial, pluvial, and groundwater.

Other relevant potential risks at construction stage relate to traffic accidents, mechanical failure, explosions, fire and building/scaffold collapse.

The fire risk mitigation for the project will comprise all fire safety measures necessary to comply with the requirements of Part B (Fire) of the Second Schedule to the Building Regulations 1997-2019. It is noted that these measures will be validated under the Building Control Act 1990-2007 through the obtaining, in due course, of statutory Fire Safety Certificates under Part III of the Building Control Regulations 1997-2021 from Dublin City Council/Dublin Fire Brigade.

## 19.4 Impact from Operational Phase

The main potential risks associated with the operational phase of the proposed development are fire, adverse weather events, flooding and building collapse. The Site Specific Flood Risk Assessment prepared by OCSC addresses a number of potential flood risk categories including, tidal, fluvial, pluvial and groundwater.

The proposed uses comprise 335 residential units with associated support facilities, café, childcare and commercial units. These uses are considered normal hazard fire risks as would be encountered in most developments and do not include any hazards which would be regarded as presenting an exceptional environmental fire hazard.

During operation, the provision of early warning fire detection systems will ensure the earliest possible intervention in the event of fire occurrence. Facilities to assist the fire service including fire-fighting shafts, dry rising mains, and external fire hydrants will be provided.

## 19.5 'Do Nothing' Scenario

The potential risk of Major Accidents at the subject site in a 'do nothing' scenario would be low due to the existing buildings on site not being redeveloped and the lack of potential receptors.

The EIAR concludes that through the implementation of the appropriate mitigation measures, there are no identified major accidents and/or natural disasters that present a sufficient risk and that, in turn, would lead to significant impacts or environmental effects.

### 19.5.1 Potential Cumulative Impacts

The cumulative impact of the proposed development, together with other existing and proposed projects on the Risk of Major Accidents is considered to be long term and insignificant. Subject to the implementation of mitigation measures set out in this EIAR, there are no identified potential major accidents and/or disasters that present a sufficient degree of risk resulting in significant negative impacts and/or environmental effects deriving from its vulnerability to such major accidents and/or disasters.

# 20.0 Interactions and Cumulative Impacts

## 20.1 Introduction

Chapter 20 of the EIAR describes the interactions between the environmental factors and the likely significant effects of the proposal on the environment as a result of cumulative impacts. The EIA Directive (2011/92/EU, amended by 2014/52/EU) requires that the environmental assessment identifies, describes and assesses the interactions between the environmental factors.

## 20.2 Interactions

### 20.2.1 Population and Human Health

There are several inter-related environmental factors described throughout this EIAR which interact with Population and Human Health. During the construction and operational stages, Air Quality and Climate, Noise and Vibration, Landscape and Visual Impacts, Waste Management and Wind Microclimate are the main environmental factors which may impact on Population and Human Health. Following implementation of the mitigation measures outlined in the EIAR, the impacts will be long term, positive and imperceptible.

### 20.2.2 Biodiversity

Biodiversity interacts with several environmental factors including Land and Soils, Noise and Air Quality and Climate. Changes to these environmental factors could result in significant impacts on biodiversity by way of surface water run off, and noise and air emissions.

The potential significant impacts on biodiversity arising from these interactions have been considered within the relevant discipline and mitigation measures outlined where required. With mitigation measures in place, no significant permanent residual negative impacts will occur.

### 20.2.3 Land & Soils

Chapter 7 Land & Soils considers the likely interactions with other environmental factors and it is noted that there are interactions between site preparatory works in the construction phase having a potential impact of waste management and the potential for accidental leaking of sewage, fuel, oil, etc. during the operational phase. The potential significant impacts on land & soils arising from these interactions have been considered within the relevant discipline and mitigation measures outlined where required. With mitigation measures in place, no significant permanent residual negative impacts will occur.

### 20.2.4 Hydrology

Chapter 8 of this EIAR notes that during the construction phase there would be interactions with Land & Soils and Built Services regarding the risk of contaminating surface water run off. In the absence of mitigation, these may give rise to significant effects.

The potential significant impacts on water and hydrology arising from these interactions have been considered within the relevant discipline and mitigation measures outlined where required. With mitigation measures in place, no significant permanent residual negative impacts will occur.

### 20.2.5 Material Assets: Built Services

Material Assets: Built Services has the potential to interact with Biodiversity, Land & Soils, Hydrology and Population and Human Health. These potential effects have been reviewed within their respective chapters and, with the implementation of mitigation measures, the potential for significant impacts are minimised.

### 20.2.6 Material Assets: Transportation

Material Assets: Transportation interacts with Noise (Chapter 13) and Air Quality and Climate (Chapter 12) through the increased levels of traffic resulting from the proposed development.

### 20.2.7 Material Assets: Waste Management

Waste Management interacts with Land & Soils, Transportation and Population and Human Health regarding the excavation of ground material, the increase in vehicle movements, and littering and presence of vermin. However, following implementation of the associated mitigation measures, these effects are considered to be long term, imperceptible and neutral.

### 20.2.8 Air Quality and Climate

Air Quality and Climate interacts with Population and Human Health due to the potential for health and dust nuisance issues; Traffic and Transport due to the increate in vehicular movements; and, Ecology/Biodiversity due to the nearby sensitive location. With implementation of the mitigation measures, the effects are expected to be localised and imperceptible.

### 20.2.9 Noise and Vibration

There are potential interactions between Noise and Vibration and Transportation and Population and Human Health with regard to the construction and operational noise levels impacting nearby residences. Implementation of the mitigation measures set out and adherence to good practice noise reducing measures will ensure that the residual impacts are lessened.

### 20.2.10 Daylight, Sunlight and Overshadowing

There is the potential for Daylight, Sunlight and Overshadowing to interact with Biodiversity regarding the potential for light spill in sensitive locations, however, the lighting design for the project has been designed to ensure that this will not impact on these areas.

### 20.2.11 Wind

In relation to Chapter 15, the proposed development has been determined to increase the area which is "Suitable for Sitting". This results in an increase in the quantity and quality of amenity space which will be suitable for long term seated use. Therefore, the proposed development is predicted to have a positive interaction with population and human health.

### 20.2.12 Landscape and Visual Impact Assessment

Chapter 16 of the EIAR notes that the development will result in a change to the visual environment of the area and the landscape and visual impacts of the development will result in long term, positive interactions with Population and Human Health, Material Assets and Cultural Heritage.

### 20.2.13 Cultural Heritage – Archaeology

Archaeology has an interaction with Chapter 18 – 'Cultural Heritage – Architectural Heritage' and this chapter is cross-referenced, where applicable, in order to prevent the replication of information. A full analysis of the architectural heritage resource, along with impacts and mitigation, is provided in Chapter 18.

### 20.2.14 Cultural Heritage – Architectural Heritage

As outlined in Chapter 18, where the development results in a change to the setting of built heritage in the surrounding area, the landscape and visual impacts of the development will result in interactions with Population and Human Health, Landscape and Visual Character, Material Assets and Cultural Heritage. No significant impacts resulting from interactions are identified.

### 20.2.15 Risk Management

The risk of major accidents and/or disasters has the potential to interact with Population and Human Health, Biodiversity, Air Quality and Climate, Land and Soils, Hydrology, Material Assets: Built Services and Material Assets: Transportation. The proposed development has the potential to be vulnerable to fire and flooding which would interact with Population and Human Health, Air Quality and Biodiversity. Subject to the outlined mitigation measures (see Chapter 19), the vulnerability of the proposed project to risk of fire and flooding is not expected to be significant.

## 20.3 Cumulative Impacts

The assessment of the likely cumulative effects requires knowledge of the likely effects of all other relevant existing or permitted projects. Any predicted cumulative impacts arising from the proposed development in combination with other existing and permitted projects are outlined in the various chapters in the EIAR.

### 20.3.1 Population and Human Health

Cumulative impacts on Population and Human Health could arise from increased levels of dust, noise and construction traffic. There are no significant negative impacts envisaged in relation to Population and Human Health as a result of the proposed development in combination with other existing or approved projects in the local or wider area. The impacts of the proposed development in relation to dust and noise are expected to be slight, neutral and localised in scale.

### 20.3.2 Biodiversity

Potential cumulative impacts may arise during construction and operation, as a consequence of the proposed development acting in-combination with other plans and projects, on water quality, fauna such as birds and mammals and freshwater habitats supported by the Grand Canal. There is potential for cumulative impacts to arise with other local developments that would also result in increased noise, vibration, human presence and lighting. No cumulative effects are predicted in conjunction with the proposed development.

### 20.3.3 Land & Soils

As outlined in Section 7.12 of this EIAR, the residual impact from the developments identified in Table 20.2 on land and soils was determined to be negative, imperceptible, and permanent.

### 20.3.4 Hydrology

Chapter 8 notes that any new developments in the surrounding area would be required to provide sustainable drainage systems, designed to reduce flow rates to greenfield equivalent and reduce overall discharge volumes, while improving the discharge quality. Therefore, the cumulative impact of new developments in the vicinity of the subject development would likely have just a minor but sustainable impact on the receiving environment.

Any redevelopment in the area complying with current best-practice methods will likely lead to an improvement in surface water runoff conditions, similar to the subject proposed development.

### 20.3.5 Material Assets: Built Services

Regarding Chapter 9, taking account of the environment surrounding White Heather, the potential cumulative impacts are considered to be moderate and long term. Any new developments in the surrounding area would be required to provide sustainable drainage systems, designed to reduce flow rates to greenfield equivalent and reduce overall discharge volumes, while improving the discharge quality.

The impact of the local Player Wills and Baily Gibson sites has been considered by the Utilities providers in their assessment of the local capacity to service the proposed White Heather development. The potential cumulative impacts of the development on utilities infrastructure are slight.

### 20.3.6 Material Assets: Transportation

In relation to the construction phase, a Construction Traffic Management Plan will be implemented on all sites which will ensure that the impact of the construction traffic will be minimised and can be expected to be negative, slight and short-term. The impact will be local and broadly limited to the South Circular Road.

Regarding the operational phase, capacity analysis at the access junction demonstrates that the junction will continue to operate with significant residual capacity in the future year scenarios, taking committed developments into account. With the Mobility Management Plan in place the car mode share should be reduced further. Therefore, the operational impact of the combined Masterplan lands is considered to be at worst, negative, slight and long-term but confined to the local network. This is considered 'not significant' overall.

### 20.3.7 Material Assets: Waste Management

Given the high number of waste contractors operating in the Dublin region, there would be sufficient contractors available to handle waste generated from a large number of SHD sites simultaneously, if required. Other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will mitigate against any potential cumulative effects associated with waste generation and waste management. As such the effect will be short-term, not significant and neutral.

With reference to the operational phase, other developments in the area will be required to manage waste in compliance with national and local legislation, policies and plans which will minimise/mitigate any potential cumulative impacts associated with waste generation and waste management. As such the effect will be a long-term, imperceptible and neutral.

### 20.3.8 Air Quality and Climate

Cumulative construction phase impacts will result from dust emissions impacting people and property within 350m of the proposed development site and neighbouring sites. Impacts are predicted to be negative, short-term and imperceptible at nearby receptors once the best practice dust mitigation measures are implemented.

Operational phase impacts involve an increase in traffic related pollutants in the local area. The traffic data for the proposed development in conjunction with other nearby permitted and proposed developments was found to have an imperceptible, neutral and long-term impact on local air quality and climate.

### 20.3.9 Noise and Vibration

Chapter 13 notes that should another construction site become active in proximity to the proposed development, there is the possibility that cumulative noise impacts could occur at sensitive receptors that are equidistant to both sites. In this scenario, it is recommended that liaison between construction sites is on-going throughout the duration of the construction phase. Contractors should schedule work in a co-operative effort to limit the duration and magnitude of potential cumulative impacts on nearby sensitive receptors.

In the context of the operational phase, permitted developments are included in the traffic impact and therefore the potential for a cumulative impact has been assessed.

### 20.3.10 Daylight, Sunlight and Overshadowing

Chapter 14 makes reference to the Bailey Gibson and Player Wills developments and notes that, in consideration of their location and distance in relation to the proposed development site, they have not been considered relevant for consideration in terms of a cumulative assessment relating to daylight, sunlight and overshadowing.

### 20.3.11 Wind

Chapter 15 notes that through an analysis of the proposed development and its interactions with its receiving environment, it has been determined that although the proposed development alters wind and airflow across its own site and immediate vicinity, this does not extend past the White Heather site boundaries, or beyond to the Bailey Gibson or Player Wills sites. From a wind and airflow perspective, the interaction between the proposed development and these two nearby developments is minimal.

As a result of this, the proposed development is not predicted to impact the wind environment at the Bailey Gibson or Player Wills sites. Therefore, there are unlikely to be significant potential cumulative impacts on wind microclimate.

### 20.3.12 Landscape and Visual Impact Assessment

Chapter 16 notes that following a review of the online planning register, there were no developments identified which were not under review by the courts which, in combination with the development now proposed, would have the potential to result in material cumulative impacts on the visual environment surrounding the application site.

### 20.3.13 Cultural Heritage – Archaeology

The archaeological assessment as part of Chapter 17 noted that with regard to proposed and permitted developments in the environs of the proposed development, no potential significant cumulative impacts on the archaeological and cultural heritage resource have been identified.

### 20.3.14 Cultural Heritage – Architectural Heritage

No potential significant cumulative effects have been identified which will impact on Architectural Heritage.

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