Environmental Impact Assessment Report

PROPOSED OFFICE DEVELOPMENT LOCATED AT 1 NORTH WALL QUAY, DUBLIN 1

Volume 1 – Non-Technical Summary

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1.0 INTRODUCTION

This Non-Technical Summary (NTS) has been prepared to accompany the Environmental Impact Assessment Report (EIAR) prepared on behalf of NWQ Devco Limited (herein referred as 'the Applicant') in respect to the proposed construction of a new landmark 17 no. storey office building over 2 no. floor basement on a site of approximately 0.9 hectares located at 1 North Wall Quay, Dublin 1, D01 T8Y1. Figure 1.1 below shows the location of the proposed development.

This development will hereafter be referred to as the 'Proposed Development'. A full description of the development is provided in Chapter 2 (Description of the Proposed Development) of the EIAR.

Figure 1.1 *Aerial view of subject site with indicative site boundary outlined in red (Source: Google Earth)*

The aim of the Environmental Impact Assessment (EIA) approach, in the preparation of an EIAR, is to identify and predict (for a given development) any impacts of consequence; to describe the means and extent by which they can be reduced or ameliorated; to interpret and communicate information about the impacts and to provide an input into the decision making and planning process.

1.1 RELEVANT LEGISLATIVE REQUIREMENT FOR ENVIRONMENTAL IMPACT ASSESSMENT

Environmental Impact Assessment is an essential tool in the implementation of EU environmental legislation. According to the Guidelines for Planning Authorities and An

Bord Pleanála on carrying out Environmental Impact Assessment (August 2018) the objective of the Directive (Directive 2011/92/EU), as amended by Directive 2014/52/EU, is to ensure a high level of protection of the environment and human health, through the establishment of minimum requirements for environmental impact assessment (EIA), prior to development consent being given, of public and private developments that are likely to have significant effects on the environment.

The requirement for EIA Report is set out in the EIA Directive (Directive 2011/92/EU as amended by 2014/52/EU); the EIA Directives have been transposed into existing Irish planning consent procedures i.e., the *Planning and Development Act 2000 as amended* (the Act) and *Planning and Development Regulations, 2001 as amended* (the Regulations).

The proposed project and all components of the project have been reviewed against Section 5 (Parts 1 and 2) of the *Planning and Development Regulations 2001 to 2023* The development is not listed under Part 1; the most relevant threshold as set out in the Part 2 for the Proposed Development is:

> *10. Infrastructure projects*
>
> *(iv) Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere.*
>
> (In this paragraph, "business district" means a district within a city or town in which the predominant land use is retail or commercial use.).

The Proposed Development consists of 0.9 ha which does not exceed the relevant threshold of 2 hectares as stated above.

This EIAR describes the findings of the EIA process to the Planning Authority, to help determine if consent should be granted. It also informs statutory consultees, other interested parties, and the public in general, about the likely effects of the project on the environment.

1.2 FORMAT OF THIS ENVIRONMENTAL IMPACT ASSESSMENT REPORT

This report has been laid out using the grouped format structure, the EIA Report examines each environmental factor in a separate chapter (the chapters are listed in Table 1.1 of Chapter 1 of the EIAR). The EIA chapters have been prepared by a suitably qualified expert(s) and have considered the construction and operational phases of the Proposed Development under the following headings:

- Assessment Methodology;
- Receiving Environment;
- Characteristics of the Proposed Development;
- Potential Impacts of the Proposed Development;
- Mitigation Measures;
- Residual Impacts of the Proposed Development
- Monitoring or Reinstatement; and
- Cumulative Impacts of the Proposed Development

While the EIA focuses on the Proposed Development, each specialist chapters also considers the potential cumulative impact (as far as practically possible) of the

Proposed Development with any future development and the cumulative impacts with developments in the locality (including planned and permitted developments).

The quality, magnitude and duration of potential impacts are defined in accordance with the criteria provided in the Guidelines on Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022).

1.2.1 Consultation and Scoping

The scope of the EIAR has been defined at an early stage of the design process in order to identify and ensure that the environmental studies address all the relevant issues. This included a review of the context of the development site, locality, and previously permitted development, and of the development proposed to identify the matters to be covered within this environmental impact assessment.

The structure, presentation and the non-technical summary of the EIAR, as well as the arrangements for public access, all facilitate the dissemination of the information contained in the EIAR. A core objective is to ensure that the public and local community are aware of the likely environmental impacts of projects prior to the granting of consent.

Public participation in the EIA process will be affected through the statutory planning application process. Information on the EIAR has also been issued for the Department of Housing, Planning and Local Government's EIA Portal.

1.3 ADDITIONAL ASSESSMENTS REQUIRED

The additional reports and/or assessments required under Legalisation or EU Directives other than the Environmental Impact Assessment Directive in respect of the Proposed Development are listed below.

- A Site-Specific Flood Risk Assessment (FRA) has been prepared by CS Consulting in accordance with the Planning System and Flood Risk Management Guidelines for Local Government (2009). This Site-Specific FRA is included with the planning application.
- A Water Framework Directive (WFD) Screening Assessment has been prepared by AWN Consulting and is included as Appendix 6.2 to Chapter 6 (Hydrology).
- The Appropriate Assessment Screening and Natura Impact Assessment have been prepared by Altemar and are included with the planning application and is included with the planning application documentation.
- A Bat Fauna Impact Assessment has been prepared by Altemar and is included as Appendix 7.1 to Chapter 7 (Hydrology).

2.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 INTRODUCTION

This chapter presents the description of the proposed development comprising information on the Site, design, size and other relevant features of the proposed development. The scope of this chapter aligns with the relevant legislation and guidance which comprises the following:

- EIA Directive (2011/92/EU), as amended by the 2014 EIA Directive (2014/52/EU) (herein referred to as the EIA Directive)
- European Commission *'Environmental Impact Assessment of Projects - Guidance on the preparation of the Environmental Impact Assessment Report'* (2017)
- EPA '*Guidelines on the Information to be Contained in Environmental Impact Assessment Reports'* (2022) (herein referred to the as the EPA EIA Report Guidelines 2022), and

This chapter summarises the existing site, the proposed development, and the existence of the project as set out within the *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022). This guidance advises that description of the existence of the project should define all aspects of the proposed lifecycle of the facility, including:

- Description of Construction;
- Description of Commissioning;
- Operation of the Project;
- Changes to the Project; and
- Description of Other Related Projects.

This chapter draws on and has been informed by the project design and summarises the key relevant details of the proposed development and its lifecycle as it relates to this EIA Report. This description is not exhaustive, and as such this EIA Report should be read in conjunction with full application package. The description of the Proposed Development is described in this chapter in terms of those environmental topics that will form the basis of the impact assessment process and the characteristics of the Proposed Development and potential effects. The specialist assessments reported in this EIA Report have been conducted using this description, and the full application package as a guide to the details of the development under consideration.

2.2 DESCRIPTION OF THE EXISTING DEVELOPMENT AND SITE

The Proposed Development site is c. 0.9 hectares (8,859 m^2) located at 1 North Wall Quay, Dublin 1 D01 T8Y1 and currently occupied by the Citigroup Building, a six-storey, over-one-storey-basement office building (total Gross Internal Area of 35,649 m^2).

The site is located in the Dublin Docklands and is within walking distance to Dublin City Centre and to the main areas including the Grafton Street to the south west, and O'Connell Street to the west. The site has direct access onto the Quays and is located c. 400 m to the east of the Custom's House.

The site is bound by North Wall Quay to the south and Commons Street to the west. Existing commercial and residential buildings adjoin the site to the north and east. Clarion Quay runs immediately adjacent to the northern boundary of the site.

The site is located c. 380 m south east of Connolly Station and c. 580 m east of Tara Street Station, which are major commuter rail stations serving the Greater Dublin Area. The subject site is also 580 m east of the proposed MetroLink Tara station. The site is located a short distance south of the Red Line Luas cross city stop's George's Dock (c. 120 m) and Mayor Square – National College of Ireland (c. 170m) and close to the numerous bus routes and planned BusConnects routes.

The River Liffey is located immediately south from the Proposed Development site.

The existing Citigroup Building located at the site is a five storey building with the central block rising to sixth storeys with a balcony facing the river.

The existing office building occupying the development site has a total Gross Internal Area of 34,506 m^2 and a total Net Internal Area of 21,223 m^2 for office use, and includes 164 no. internal car parking spaces.

2.3 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT (GEOGRAPHICAL SECTIONS)

The proposed development provides for the demolition of the existing building and construction of a new building ranging in height from 9 no. to 17 no. storeys over lower ground floor and double basement comprising of office accommodation, arts/community/cultural uses and a retail/café/restaurant unit. Office accommodation is provided from lower ground floor to 15th floor level, arts/community/cultural uses are provided at lower ground, ground, 1st and 16th floor level with a retail/café/restaurant unit at ground floor level. Landscaped terraces are located at 8th, 9th, 10th, 11th, 15th, 16th floor level with winter terraces located at 4th, 6th 9th floor level. Provision of a new landscaped street to the east of the building to include external arts/community/cultural uses. The double basement comprises 30 no. car parking spaces, 923 no. bicycle parking spaces and 6 no. motorbike spaces as well as shower/changing facilities and plantroom.

An Environmental Impact Assessment Report and Natura Impact Statement have been prepared in respect of the Proposed Development and have been submitted with the planning application.

2.4 DESCRIPTION OF DEMOLITION, CONSTRUCTION, AND COMMISSIONING

The detailed construction programme will be developed by the selected construction Contractor. The key construction works relevant to this EIA Report are summarised in Table 2.2 below.

Table 2.2 *Summary of key construction works*

Activity	Description of Activity
Site preparation Works and Establishment of Construction Services	The primary activities that will be required during the Site preparation phase for the development will be the establishment of construction fencing and hoarding and site compound. The site area shall be enclosed with hoarding, details of which are to be agreed with Dublin City Council. Hoarding panels shall be maintained and kept clean for

	the duration of the project. This shall involve erecting the hoarding around the proposed site perimeter in line with the finished development description. Scaffolding will be erected and the entire existing building will be wrapped in a Monarflex sheeting wrap to contain dust and debris. It is envisaged that the northern footpaths shall be utilised for scaffolding. The primary additional activity that will be required following Site preparation for the development will be the establishment of a site compound. The Site compound will provide office, portable sanitary facilities, equipment storage, parking etc for contractors for the duration of the works. The Site compound will be fenced off for health and safety reasons so that access is restricted to authorised personnel only. All areas under construction will be fenced for security and safety purposes and temporary lighting supplied, as necessary. All required enabling works and surveying and setting out for structures, archaeological impersonation (if required) etc. are carried out.
Demolition	The existing 6 no. storey building over single-storey basement (Gross Internal Area of 34,506.2m^2) is to be demolished as part of the Proposed Development. The works will include: • Demolition of existing 6-storey building on the site at present. The building is understood to be of reinforced concrete flat slab and concrete columns (there are some areas of precast beams and steelwork to be demolished also). • Demolition of existing roof-top plant rooms and lift rooms; • Existing single storey basement to be piled through and grubbed out to make-way for new foundations for the proposed vertical structure. Completion of Pre-Demolition Surveys including an asbestos survey and bat survey prior to works commencing; Stripping of hazardous materials; Removal of existing fixtures and fittings such as floors, doors, partitions, ceilings, windows, mechanical equipment and non-buried pipping and electrical services; Removal of all roof coverings and building envelope finishes. Support and then cut remaining roof structures before lowering to ground level for dismantling; Demolish internal walls and columns; Remove ground floor slab; Separation of demolition debris into different waste streams; Removal of all waste from site. Details of the demolition methodology are set out in the Demolition Method Statement prepared by CS Consulting (2023)
Site clearance, basement excavation earthworks, foundations	As the site is entirely covered by the existing building, site investigation works will take place following demolition of the existing building. A secant pile wall will be installed around the perimeter of the development site. This is socketed into unbroken bedrock and provides a barrier to lateral groundwater ingress. Following this, excavation to install temporary supports and installation of temporary supports will be undertaken, followed by full excavation required to facilitate the Proposed Development The proposed depth of the excavations is anticipated to be c. 15 m below surrounding ground level across entire basement footprint. This will require a bulk excavation (120,000 m^3) and removal from the site. This phase will include any additional site clearance, excavations and levelling of the Site to the necessary base level for construction. All services on site shall be disconnected, diverted or removed as agreed with service providers. Install granular fill for roads and footpaths. This will be followed by the construction of internal piles, piled foundations and basement slab and associated works.
Structural and Building envelope works	After the foundations are in place, the structural steel and building construction can begin. This involves erecting the steel framework for the building or structure and installing the exterior walls, roofing, and insulation. Once the structural works are complete, building envelope works can begin. This involves installing the roof, walls, and other components that make up the exterior envelope of the building or structure. The roofs are intended to support a selection of blue roofs for attenuation purposes, green biodiverse roofs, and landscaped areas. The supporting roof will be of concrete proprietary warrantied waterproofing system.

Site Utilities and Infrastructure	The completion of the Proposed Site Utilities and Infrastructure as set out in Section 2.3.6 of this Chapter to each unit will be undertaken in the initial development phase. Once the main structure is complete, services connections will be made to the established main network adjacent to the site. This will be carried out in accordance with the requirements of the various service providers / authorities. The installation of site utilities, such as water supply, sewer lines, and storm drainage systems may also continue throughout the construction phase. New electricity and telecommunications services infrastructure will be put in place to serve the various buildings. This will be carried out in accordance with the requirements of the various service providers / authorities.
, Commissioning and Fit Out	The fitout and commissioning will be completed within the construction duration. The fitting out includes the installation of: • Plant equipment; • Pipework; • Electrical works and IT equipment; and • Associated and ancillary works.
Landscaping	After the main construction works are completed hard and soft landscaping and reinstatement works will be carried out in accordance with the proposed landscaping design.

Subject to a successful grant of planning, it is intended for the works to commence in Q3 / Q4 of 2026.

The Proposed Development is anticipated to be completed over a 3.5 year period. The demolition phase duration is approximately 6 months, and the construction phase including basement excavations, structural works and fit out duration is approximately 36 months for construction

Commissioning

The commissioning involves a process of verifying and testing that all the building systems and components are functioning as intended and meeting the necessary standards and regulations. This process typically includes the mechanical, electrical, plumbing, and fire protection systems, as well as the architectural finishes and other elements of the building.

The commissioning will be carried out over a period of several months. The commissioning phase is included in the proposed construction timeline.

Potential Impacts and Mitigation Measures During Construction and Commissioning

There are potential short-term nuisances associated with demolition, excavations and construction such as dust, noise, as well as the potential for pollution of groundwater or the surface water infrastructure.

The main potential impacts during demolition, excavation, construction, and commissioning which require mitigation are:

- Control of construction run-off water in terms of silt runoff and dewatering, and disposal of construction water (see Chapter 5 (Land, Soils, Geology & Hydrogeology) and Chapter 6 (Hydrology) for further information);
- Impacts on human beings in terms of nuisances relating to the air quality of the environs due to dust and other particulate matter generated (see Chapter 8 (Air Quality) for further information);

- Potential impacts on Natura 2000 sites (SPA and SAC) linked to the proposed development site (See Chapter 7 (Biodiversity) and the accompanying Appropriate Assessment Screening and Natural Impact Statement);
- Potential impacts on human beings in terms of nuisances due to plant noise and vibration from equipment (see Chapter 10 (Noise and Vibration) for further information);
- Potential impacts on Archaeology and Cultural Heritage during the demolition and excavation works (See Chapter 12 (Archaeology and Cultural Heritage), and Chapter 13 (Architectural Heritage) for further details;
- Effects on the road network (due to construction workers and other staff attending site (see Chapter 14 (Traffic and Transportation) for further information); and
- The generation of construction waste materials generated will be soil from excavation works and litter (see Chapter 15 (Waste Management) for further information).

In order to manage these short-term impacts an Outline Construction Management Plan (CEMP) has been prepared by CS Consulting. The CMP will be updated by the Construction Manager, Environmental Manager and/or Ecological Clerk of Works, as required if site conditions change, and for any planning conditions that may be imposed. The CEMP will be implemented and adhered to by the construction Contractor(s).

The potential for impacts depends on the type of construction activity being carried out in conjunction with environmental factors including prevailing weather conditions i.e. levels of rainfall, wind speeds and wind direction; as well as the distance to potentially sensitive receptors. This will be taken into consideration in the EIA Report.

2.5 DESCRIPTION OF POTENTIAL CUMULATIVE DEVELOPMENTS

As part of the assessment of the impact of the Proposed Development, account has been taken of relevant developments that are currently permitted, or under construction and substantial projects for which planning has been submitted within the surrounding areas. The potential for Cumulative Impacts arising from these other related projects has been addressed within each specialist chapter of this EIA Report (Chapter 4 – 14).

The identification of relevant, currently permitted, and future developments follows a two-fold approach. Firstly, a comprehensive search is undertaken to identify all developments within the vicinity of the Proposed Development site. Subsequently, a review of the magnitude, size, scale, location and current status of these developments is undertaken to assess their potential to contribute to significant cumulative effects. This secondary stage is conducted in alignment with the 2017 guidance from the European Union (EU), which underscores the necessity to focus on effects that are either inherently significant or possess the potential for significance. This comprehensive review is crucial in the context of assessing the potential cumulative effects of a proposed project. It aids in gauging the extent to which these existing and future undertakings might, interact with the Proposed Development, and allow for the exclusion of insignificant developments from any further consideration. This strategic approach ensures that resources are not expended on negligible or inconsequential effects.

The initial stage of this process is facilitated through the utilisation of the planning search tools listed below which collectively hold a comprehensive inventory of planning

applications, which systematically generated a comprehensive list of relevant planning permissions granted within the immediate environs of the Proposed Development. A combination of online mapping tools was used for this search including:

- The Department of Housing, Local Government and Heritage EIA Portal[1]
- An Bord Pleanála Map Search[2]
- My Plan National Planning Application Map Viewer[3]
- Dublin City Council Planning Map Viewer[4]

The search also showed a significant number of retention and other minor alterations. These permissions were for established business within the vicinity of the development and have been considered as a part of the overall project impact. Given their proximity to the Proposed Development, scale, and extent the majority of developments in Appendix 2.1 are not likely to result in any cumulative effect, with the Proposed Development.

[1] https://www.gov.ie/en/publication/9f9e7-eia-portal/
[2] https://www.pleanala.ie/en-ie/Map-search
[3] https://www.myplan.ie/national-planning-application-map-viewer/
[4] https://mapzone.dublincity.ie/MapZonePlanning/MapZone.aspx?map=PlanningApplication&search=Plan_Ref&tooltip=Plan_Ref/

3.0 ALTERNATIVES

3.1 INTRODUCTION

In the process of conducting an Environmental Impact Assessment (EIA), it is a requirement to explore and consider reasonable alternatives to the project. This mandate is outlined in Annex IV (2) of the EIA Directive (2014/52/EU) and Schedule 6 of the Planning and Development Regulations, 2001. These regulations emphasise the need to present a description of viable alternatives relevant to the proposed development, along with the main reasons for selecting a particular option, taking into account its environmental effects.

The Environmental Protection Agency's (EPA) Guidelines further underscore the significance of thoroughly examining various practical alternatives during the EIA process. The goal is to present a diverse range of viable options considered by the developer or applicant. It is not obligatory to conduct a detailed assessment of each alternative; instead, a broad description of the main alternatives, along with their key environmental considerations, is sufficient for presentation within the EIA report.

Chapter 3 of the EIA report outlines the development's progression, and the reasonable alternatives explored during the design phase. It explains the primary justifications and rationale for opting for the Proposed Development, including a comparison of the likely or potential environmental impacts associated with each alternative options.

The reasonable alternatives assessed throughout the design process encompass a range of options, including the 'do nothing' alternative, alternative project locations or routes, alternative layouts or designs, alternative processes, and alternative mitigation measures. This chapter provides an account of the considered alternatives under each of these categories, along with the rationale for selecting the preferred option.

3.2 DO NOTHING ALTERNATIVE

If the Proposed Development does not proceed, the existing development would remain in place.

A do-nothing scenario would result in a neutral effect on all environmental receptors.

The demand for additional office space in Dublin City Centre would still persist, necessitating the construction of the Proposed Development or multiple smaller developments elsewhere. The designated site for the proposed development is classified as 'Zone Z5 - City Centre' in the in the Dublin City Development Plan 2022 – 2028, for which the zoning objective is to "*consolidate and facilitate the development of the central area, and to identify, reinforce, strengthen and protect its civic design character and dignity*".

Considering an alternative location for the project would essentially mean adopting a 'do-nothing' approach for the current site.

Therefore, opting for the 'do-nothing' scenario would be underutilising this strategically positioned city centre site.

3.3 ALTERNATIVE PROJECT LOCATIONS

As noted in Section 4.13 of the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment "*some projects may be site specific so the consideration of alternative sites may not be relevant."* We also refer to the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA 2022), which state that in some instances alternative locations may not be applicable or available for a specific project which is identified for a specific location.

The current zoning designation of the site already recognizes its compatibility with the proposed development, ensuring that it is in line with the intended land use objectives set forth by the local authority. Moreover, the presence of nearby developments of a similar nature further supports the appropriateness of the proposed project within the surrounding context. Additionally, the availability of necessary services and infrastructure in the vicinity enhances the feasibility and practicality of the proposed development. This ensures that the site is adequately equipped to accommodate the project's requirements without significant challenges or limitations.

Considering the present zoning of the site, the surrounding land uses, the close proximity to similar associated developments, and the availability of necessary services and infrastructure, it is evident that the proposed development aligns with the most suitable use for this particular location. Given these factors, it is deemed unnecessary to explore alternative site locations in accordance with the EIAR legislation and guidance.

3.4 ALTERNATIVE LAYOUT, SIZE AND SCALE, AND DESIGN

The project design team lead by HJL Architects undertook a comprehensive design process to determine an effective and efficient design and layout of the proposed development that had regard to the environmental sensitivities of the site, and the surrounding site context.

The reasonable site alternative layouts considered are as follows:

- Option 1 – Retain and Extend Option
- Option 2 – New Build – 17-Storey Over Basement Option (Chosen Design Submission)

3.4.1 Option 1 – 17 Storey Extend Option

Option 1 considers retaining and refurbishing the current 6-storey over basement structure, while extending the current building an additional nine floors. The result of Option 1 is an 17-storey over 1 storey basement structure.

Option 1 would result in the establishment of 87,244 m^2 GIA (including basement).

The 17 Storey Extend option assumes the majority of the existing structure (foundations, floor slabs, beams, columns) are retained, building is extended so that the floor area is the same as Option 2 (see below), only includes a single storey basement as per the existing building and the basement floor area is assumed to increase slightly to approximately match the area of Option 2, but the rest of the additional floor area is created in the superstructure.

3.4.2 Option 2 – New Build – 17-Storey Over Basement

Option 2 considers the demolition of the existing development at 1 North Wall Quay and the construction of 17-storey office building over 2 no. basement levels.

Option 2 would result in the establishment of 87,244 m^2 GIA (including basement) and of 49,397 m^2 net area of office space.

Option 2 provides for the demolition of the existing building and construction of a new building ranging in height from 9 no. to 17 no. storeys over lower ground floor and double basement comprising of office accommodation, arts/community/cultural uses and a retail/café/restaurant unit. Office accommodation is provided from lower ground floor to 15th floor level, arts/community/cultural uses are provided at lower ground, ground, 1st and 16th floor level with a retail/café/restaurant unit at ground floor level. Landscaped terraces are located at 8th, 9th, 10th, 11th, 15th, 16th floor level with winter terraces located at 4th, 6th 9th floor level. Provision of a new landscaped street to the east of the building to include external arts/community/cultural uses. The double basement comprises 30 no. car parking spaces, 923 no. bicycle parking spaces and 6 no. motorbike spaces as well as shower/changing facilities and plantroom.

3.4.3 Chosen Option

After careful analysis and comparison between Option 1 and Option 2, including an analysis of their relative environmental effects, it was determined that Option 1, although having certain construction phase environmental advantages was not the optimal choice. Factors such as additional office space achieved with Option 2, evolving design preferences and financial implications influenced this decision. The selected option, Option 2 Chosen Design, was deemed to better align with the project's current goals and objectives.

3.5 ALTERNATIVE PROCESSES (TECHNOLOGIES)

The EPA's Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2022) state that within each design solution there can be a number of different options as to how the processes or activities of the development can be carried out. These can include management of emissions, residues, traffic and the use of natural resources. A key consideration in the various options which were considered, as discussed above, was the overall scale of development proposed and the resulting impact on neighbouring and residential amenities. Where relevant, alternative processes are considered in each Chapter of the EIAR.

The following passive strategies will be implemented to reduce the energy consumption for the proposed development:

- Low air permeability
- High performance u-values
- Limiting thermal bridging
- Optimisation of solar gain
- Maximising daylight

Various renewable energy sources have been explored as part of the design process. The proposed renewable energy sources are Air Source Heat Pumps (ASHP) (Multifunctional [4-pipe] heat pumps) and photovoltaics (PV)

3.6 ALTERNATIVE MITIGATION

The EIA process for the proposed development involved a team of specialists, each with expertise in a specific aspect of the environment. For each aspect of the environment, each specialist has considered the existing environment, likely impacts of the proposed development and reviewed feasible mitigation measures to identify the most suitable measures appropriate to the environmental setting of the proposed development. In making a decision on the most suitable mitigation measure the specialist has considered relevant guidance and legislation. In each case, a comparison of environmental effects was made, and the specialist has reviewed the possible mitigation measures available and considered the use of the mitigation in terms of the likely residual impact on the environment. The four established strategies for mitigation of effects have been considered: avoidance, prevention, reduction and offsetting (not required in this development). Mitigation measures have also been considered based on the effect on quality, duration of impact, probability and significance of effects.

The selected mitigation measures for the proposed development are outlined in each of the EIA Report Chapters 4-14. These measures have been specifically chosen to address the potential environmental impacts of the proposed development and to minimize any adverse effects on the environment. By considering a range of mitigation measures and strategies, the specialist team has sought to ensure that the proposed development is as environmentally sustainable and responsible as possible.

3.7 CONCLUSIONS

Based on the assessment of reasonable alternatives (in relation to scale, design, technology, mitigation) relevant to the proposed development and its specific characteristics as set out in this chapter, the selected site is considered to be a suitable location for the proposed development from both an environmental perspective and a planning perspective. In terms of processes/technologies, the applicant has selected processes/technologies based on many factors including technical feasibility, environmental impact, efficiency, security, reliability, and cost.

The site is currently zoned for *City Centre* use and the proposed development is line with keeping with the policies and objectives of the Dublin City Development Plan 2022-2028.

The siting of the proposed facility has been carefully selected based on a suitably comprehensive assessment of reasonable alternative site locations, designs and processes. The proposed development will enhance the utilisation of the site. The proposal will allow the development potential of the site to be maximised while improving natural screening through landscaping treatments within the development site and along the site perimeter.

In conclusion it is considered that the proposed site has significant capacity for development and is highly suitable for the proposed development.

4.0 HUMAN HEALTH AND POPULATION

4.1 INTRODUCTION

This chapter has been prepared to assess the likely significant impacts on Population and Human Health in respect of the Proposed Development.

Human health is considered in the context of environmental pathways which may affect health such as air quality, noise, water and soil quality. An evaluation of the effects of these pathways on health, by considering the accepted standards of safety in dose, exposure or risk of air quality and noise levels for example, is considered appropriate, as these standards have been arrived at via scientific and medical research. Where these topics are dealt with in further detail elsewhere in this EIA Report, the relevant chapters have been cross referenced in this chapter.

4.2 BASELINE ENVIRONMENT

While a general study area of Electoral Divisions within 1 km from the site location is included for population statistics, the wider area of 2.5 km from the site location has been used to inform the baseline description of the area. The sensitivity of the surrounding area has been considered based on the details of the published data available from CSO and Pobal. Taking these factors into consideration, it can be concluded that the population in the study area exhibits a relatively lower sensitivity to change, categorising it with regard to the criteria set out in Figure 4.1 as having a Low to Medium population sensitivity.

The nearest residential settlement occurs to the immediate east of the site in the mixed use development comprising residential and retail units. There are primary and secondary schools, healthcare services, emergency services and places of worship in the vicinity of the Proposed Development site. There are no archaeological sites listed on the Sites and Monuments Record within the boundary of the proposed development site. The proposed development will support Fáilte Ireland in implementing the aims of its Docklands Visitor Experience Development Plan (2020) including various projects promoting sustainable tourism. The local environment is not an area of great significance in terms of natural resources. The Proposed Development site is not at risk of any major accidents, hazards of natural disasters.

4.3 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

Construction Phase

The main potential impacts on population and human health from the proposed development are employment, potential for spills/leaks, air/dust emissions, noise, visual, and traffic impacts:

- Construction will have an indirect positive effect on support industries and local services;
- The effects of the proposed development would be negative since construction is an inherently, unavoidably unsightly activity;
- Hydrocarbons and petroleum products have the greatest risk for human health when there is a risk to a drinking water source but this is not relevant for this development area;

- The greatest potential impact on air quality during the construction phase of the Proposed Development is from construction dust emissions and the potential for nuisance dust;
- A variety of items of plant, with associated noise impacts, will be in use, such as excavators, lifting equipment, dumper trucks, compressors and generators;
- Additional road traffic generated by the construction phase can be a cause of adverse health effects;
- There is a negligible risk of natural disasters or major accidents as a result of proximity to Seveso sites, and the Proposed Development is classified as appropriate for its flood zonation.

These potential impacts without mitigation are ***short-term*** and range from ***positive*** to ***negative***, and ***imperceptible*** to ***substantial***.

Operational Phase

The main potential impacts on population and human health from the proposed development are employment, potential for spills/leaks, air emissions, noise, visual, and traffic impacts:

- The Proposed Development will result in increased employment opportunities through both the office space provided and the staffing requirements of the building itself;
- The Proposed Development design includes spaces dedicated to community, arts and cultural uses;
- The high quality design of the Proposed Development ensures that it is likely to complement and enhance the character, legibility and connectivity of the North Wall Quay area;
- Any accidental emissions of oil, petrol or diesel from vehicles along access roads and in parking areas could cause contamination if the emissions enter the water environment unmitigated;
- Emissions of air pollutants are predicted to be significantly below the ambient air quality standards which are based on the protection of human health;
- Waste collection and deliveries, if not properly managed, could result in adjacent streets being temporarily obstructed by stopped/parked servicing vehicles; and
- There is a negligible risk of natural disasters or major accidents as a result of proximity to Seveso sites, and the Proposed Development is classified as appropriate for its flood zonation.

These potential impacts are ***long-term*** and range from ***positive*** to ***negative***, and ***imperceptible*** to ***substantial***.

4.4 MITIGATION AND RESIDUAL EFFECTS (POST-MITIGATION)

Construction Phase

Mitigation measures to address the potential impacts include:

- The construction contractor will establish a feedback mechanism for residents to report any concerns or issues related to construction activities;
- The mitigation of potential construction effects will follow industry best practice construction standards, such as the use of appropriate hoarding;

- All sampling and soil handling will be undertaken by suitably qualified and trained persons using suitable personal protective equipment to avoid risks to human health;
- Measures relating to site management and maintenance, operating vehicles and machinery, waste management, demolition, earthworks and trackout;
- The best practice measures set out in BS 5228 (2009 +A1 2014) Parts 1 and 2 will be complied with;
- A Construction Traffic management Plan will be in place during the construction phase; and
- No specific mitigation measures are required in respect of Major Accident Hazards or Natural Disasters.

The residual effects following the implementation of mitigation measures are ***short-term*** and range from ***positive*** to ***negative***, and ***imperceptible*** to ***moderate.***

Operational Phase

Mitigation measures to address the potential impacts include:

- Once construction works are completed there are no specific mitigation measures required in respect of local businesses and residences;
- Potential impacts on views more widely would also be mitigated by high quality detailing and a sensitive approach to the visibility and use of materials and colour;
- The proposed development stormwater drainage network design includes sustainable drainage systems (SuDS);
- No additional mitigation measures in respect of Air Quality are proposed for the operational phase of the Proposed Development;
- With due consideration as part of the detailed design process, this approach will result in the site operating within the constraints of the best practice guidance noise limits;
- a Travel Plan Coordinator shall be appointed for the Proposed Development, with the remit to implement and oversee an ongoing Workplace Travel Plan (WTP); and
- No specific mitigation measures are required in respect of Major Accident Hazards or Natural Disasters.

The residual effects following the implementation of mitigation measures are ***long-term*** and range from ***positive*** to ***neutral***, and ***imperceptible*** to ***substantial.***

4.5 CUMULATIVE IMPACT OF THE PROPOSED DEVELOPMENT

Construction Phase

In a worst-case scenario, multiple developments in the area could be developed concurrently or overlap in the construction phase and contribute to additional impacts in terms of traffic, dust, and noise.

The implementation of mitigation measures within each chapter and detailed in Section 4.6.1; as well as the compliance of adjacent development with their respective planning permissions, will ensure there will be minimal cumulative potential for change in soil quality or the natural groundwater regime during the construction phase of the proposed development.

Contractors for the Proposed Development will be contractually required to operate in compliance with a project-specific CEMP and Construction Traffic Management Plan

which will include the mitigation measures outlined in this EIA Report. The construction phase for the overall development of the applicant owned lands would be restricted by the same binding limits for noise, dust, and emissions to water.

Operational Phase

The potential cumulative impacts of the Proposed Development during the operational phase in terms of Air Emissions, Noise generation and Traffic generation in the context of the Permitted Development have been considered in Chapter 8 Air Quality, Chapter 10 Noise and Vibration and Chapter 12 Material Assets (Traffic and Transportation). The assessments indicate that the Proposed Development is not likely to result in significant adverse impacts on Human Health either alone or in combination with any likely future projects.

5.0 LAND, SOILS AND HYDROGEOLOGY

5.1 INTRODUCTION

This chapter of the EIAR has been prepared by AWN Consulting Ltd. which assesses and evaluates the likely significant impacts of the proposed development on the land, soil, geological and hydrogeological aspects of the site and surrounding area.

5.2 BASELINE ENVIRONMENT

The site of the Proposed Development is contained within Dublin's North Quays in the eastern city centre, approximately 200m to the west of the Samual Beckett Bridge and circa 400m to the east of the Custom House. The site is bound by North Wall Quay to the south and Commons Street to the west. Existing commercial and residential buildings adjoin the site to the north and east. Clarion Quay runs immediately adjacent to the northern boundary of the site. The River Liffey is located immediately south of the Proposed Development site. The Site is presently occupied by Citigroup Building, a six-storey, over-one-storey-basement office building (total Gross Internal Area of 35,649 m^2). This building is currently in use. The existing building is due to be demolished as part of the Proposed Development enabling works. The development site covers an area of approx. 0.9 ha and is located in the operational area of Dublin City Council. The site topography can be described as generally flat / level with slight falls in elevation from a maximum of approx. 3.52m AOD (meters above ordnance datum) along the south-eastern corner of the site to a minimum of c. 3.32m AOD to the south-western boundary of the site, where the access of the existing building is located.

The GSI/Teagasc mapping shows that the soil type beneath the site and its surrounding immediate vicinity / locality comprises urban/ made ground. The sequence of subsoils deposits recorded during the site investigations in the vicinity, adjacent sites and immediate surrounding area are cumulatively displayed / shown in Table 5.1 below and can be summarized as superficial deposits of fluvial alluvium and cohesive glacial till (Dublin Boulder Clay) underlain by Carboniferous Limestone. Inspection of the available GSI (2024 on-line mapping database) shows that the site is entirely underlain by Dark Limestone and Shale of the Lucan formation, which comprises Carboniferous dark limestone and shale('Calp) Age Bracket (Late Chadian to Asbian), Rock Unit code (CDLUCN). The GSI currently denotes a 'Low' (L) vulnerability classification underlaying the entire Proposed Development site indicating +10m overburden of low permeability soils. This is consistent with site investigation data obtained from the site investigations carried out in the vicinity of the site by The Cementation Co. (Ireland) Ltd between 1968-1971 (GSI, 2024), where the bedrock / rock head or boulders were encountered in the area at depths from 13.0 and 14.6 mbgl.

The bedrock aquifers underlying the Proposed Development site and the surrounding area, according to the GSI (www.gsi.ie/mapping) National Draft Bedrock Aquifer Map, are classified as a "*Locally Important Aquifer – Bedrock which is Generally Moderately Productive*" which is described by the GSI as bedrock as '*Moderately Productive only in Local Zones*". The site is also underlain by a locally important gravel aquifer.

The Dublin GWB was given a classification of *"Good"* for the last WFD cycle (2016-2021). Presently, the groundwater body in the region of the site (Dublin GWB) is classified as being under 'Review' per the WFD Risk Score system in order to determine whether or not the GWB has achieved its objectives and has either no significant trends or improving trends. The site is not located near any public

groundwater supplies or group schemes and there are no groundwater source protection zones in the immediate vicinity of the site.

Above bedrock, the ground within the site principally comprises sandy silty gravel with alluvial deposits; this is classified by the GSI as a locally important gravel aquifer.

5.3 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

Construction Phase

In absence of mitigation measures, the construction phase would present potential impacts associated to the following activities:

- Excavation and Infilling.
- Accidental Spills, Discharges, and Leaks
- Management of Dewatering and Rainfall Runoff

Without the consideration and employment of mitigation measures the potential impacts during the construction phase on land, soils and geology, hydrogeology (groundwater) are **negative, not significant** and **short term**.

Operational Phase

In absence of mitigation methods, the operational phase would present potential impacts associated to the following activities:

- Accidental Leaks / Unmitigated spills.

In the absence of mitigation measures (or design measures) the potential impacts during the operational phase on land, soils, geology and hydrogeology are **negative, not significant**, and **long-term**.

5.4 MITIGATION AND RESIDUAL EFFECTS (POST-MITIGATION)

Construction Phase

In order to reduce impacts on the soils, geological and hydrogeological environment, a number of mitigation measures will be adopted as part of the construction works on site.

- Control of dewatering process;
- Control of soil excavation;
- Regular source of fill and aggregates
- Surface water management during construction
- Fuel and chemical handling.
- Implementation of the mitigation measures set out in the EIAR via a Construction and Environmental Management Plan (CEMP);

The predicted impact on the geological and hydrogeological environment during the construction phase is ***neutral, imperceptible*** and ***short-term***.

Operational Phase

A number of design measures will be put in place to minimise the likelihood of any spills entering the soil and groundwater environment to include the design with hydrocarbon / petrol interceptors. In the event of an accidental leakage of oil, this will be intercepted by the drainage infrastructure proposed.

The Proposed Development design includes hardstand cover across the entire site and as set out in the CS Consulting Group Engineering Services Report (2024) the proposed/existing surface water drainage system for this development has been designed as a sustainable urban drainage system (SuDS) and uses green blue roofs for attenuation together with a flow control device (hydro-brake or similar) and petrol interceptors. Therefore, the risk of accidental discharge of hydrocarbons or potential operational contamination sources has been adequately addressed through design.

No further mitigation measures are to be required during the operational phase.

The predicted impact on the geological and hydrogeological environment during the construction phase is ***neutral, imperceptible*** and ***long-term***.

5.5 CUMULATIVE IMPACT OF THE PROPOSED DEVELOPMENT

Construction Phase

All developments will have to incorporate measures to protect soil and water quality in compliance with legislative standards for receiving water quality (European Communities Environmental Objectives (Groundwater) Regulations (S.I. 9 of 2010 and S.I. 266 of 2016). As a result, there will be minimal cumulative potential for change in soil quality or the natural groundwater regime. The likely cumulative impact is considered to be ***short-term, neutral*** and ***imperceptible***.

Operational Phase

There are existing commercial developments in close proximity, along with the multiple permissions remaining in place. All developments are required to manage groundwater discharges in accordance with S.I. 9 of 2010 and S.I. 266 of 2016 amendments. As such, there will be no cumulative impact to groundwater quality and, therefore, there will be no cumulative impact on the Groundwater Body Status. The operation of the proposed development is concluded to have a ***long-term, imperceptible*** significance with a ***neutral*** impact on soil and groundwater in combination with other developments in the surrounding area.

6.0 HYDROLOGY

6.1 INTRODUCTION

This chapter of the EIAR assesses and evaluates the likely significant impacts on the surrounding hydrological environment associated with the proposed development.

6.2 BASELINE ENVIRONMENT

The site of the Proposed Development is contained within Dublin's North Quays in the eastern city centre, approximately 200m to the west of the Samual Beckett Bridge and c. 400m to the east of the Custom House. The site is bound by North Wall Quay to the south and Commons Street to the west. Existing commercial and residential buildings adjoin the site to the north and east. Clarion Quay runs immediately adjacent to the northern boundary of the site. The River Liffey is located immediately south of the Proposed Development site.The Site is presently occupied by Citigroup Building, a six-storey, over-one-storey-basement office building (total Gross Internal Area of 35,649 m^2), which is due to be demolished as part of the Proposed Development enabling works. The development site covers an area of approx. 0.9 ha and is located in the operational area of Dublin City Council. The site topography can be described as generally flat / level with slight falls in elevation from a maximum of approx. 3.52m AOD (meters above ordnance datum) along the south-eastern corner of the site to a minimum of c. 3.32m AOD to the south-western boundary of the site, where the access of the existing building is located.

The proposed development site is located within the former Eastern River Basin District (ERBD) (now the Irish River Basin District), as defined under the Directive 2000/60/EC of the European Parliament commonly known as the Water Framework Directive (WFD). The WFD establishes a framework for community action in the field of water policy.

The most recent published status (www.epa.ie - Transitional Waterbody WFD Status 2016-2021) for the proximal (c. 15 m north) Liffey Estuary Upper WFD transitional waterbody is 'Good' and its risk score is qualified by the WFD as being under '*Review'*. The main pressures identified on the Liffey Estuary Upper are associated with the presently 'Moderate' hydromorphological and biological conditions.

The Liffey Estuary Lower (IE_EA_090_0300) is located a further 200m downstream. The most recent published status (www.epa.ie - Transitional Waterbody WFD Status 2016-2021) for this transitional waterbody is 'Moderate' and its risk score is qualified by the WFD as 'At Risk*' of not achieving good status.* The main pressures identified on the Liffey Estuary Lower are associated with the presently 'moderate' ecological status or potential in relation to phytoplankton and invertebrates.

River Liffey (LIFFEY_190) is currently classified as Q3 'Poor' as per EPA records from the active water monitoring station (c. 6.35 km upstream (west) of the proposed development site) along the River Liffey in closest proximity to the site. This Value denotes a moderately polluted waterbody and is based primarily on the relative proportions of pollution sensitive to tolerant macroinvertebrates (the young stages of insects primarily but also snails, worms, shrimps etc.) resident at a river site.

As outlined in the CS Consulting Engineering Services Report (2024) (included with the planning application documentation) Uisce Éireann drainage and supply records provided by DCC which are corroborated by topographical survey, indicate that the

following relevant existing dedicated surface water drainage infrastructure elements are in place surrounding the development site:

(A) An existing 375mm vitrified clay combined sewer running east to west in North Wall Quay, along the development site's southern boundary. This combined sewer turns north at the junction of North Wall Quay and Commons Street and continues to flow northward along the development's western boundary.
(B) A concrete stormwater sewer (between 525mm and 600mm in diameter) in Clarion Quay, at the development site's north-eastern boundary.
(C) A brick stormwater sewer (between 1820mm and 2030mm in diameter) running north to south in Commons Street.
(D) The existing 375mm stormwater sewer running east to west in North Wall Quay (site southern boundary) discharges / connects to the existing 1870 brick stormwater sewer running north to south in Commons Street, which then outfalls to the River Liffey. The stormwater sewer in Clarion Quay discharges to a 1700mm diameter stormwater sewer running west to east in Mayor Street Lower; this ultimately outfalls to either the River Liffey or the Royal Canal, in proximity to the Samuel Beckett Bridge.
(E) In addition, there is also an existing 525mm concrete storm sewer running east to west and then turning northwards in Clarion Quay along development site's northern boundary.

The discharges to surface water will be adequately treated via SuDS measures, hydro-brake (or equivalent) and oil/water interceptor / separator to ensure there is no long-term negative impact to the WFD water quality status of the receiving watercourse. The SuDS and proposed measures have been designed in detail with the ultimate aim of protecting the hydrological (& hydrogeological) environment.

As outlined in the CS Consulting Engineering Services Report (2024) (included with the planning application documentation), Uisce Éireann drainage and supply records indicate that an existing 200mm ductile iron and an existing 600mm cast-iron watermains in North Wall Quay runs along the development site's southern boundary. The records also indicate an existing 6-inch (150mm approx.) diameter cast-iron watermain is in place in Commons Street and an existing 150mm ductile iron watermain is in place in Clarion Quay at the development site's north-eastern boundary.

6.3 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

Construction Phase

In absence of mitigation measures, the construction phase would present potential impacts associated with the following activities:

- Suspended solids (muddy water with increase turbidity) – arising from exposed ground, stockpiles and access roads and ground disturbance.
- Cement/concrete (increase turbidity and pH) – arising from construction materials.
- Hydrocarbons and other construction chemicals (ecotoxic) – accidental spillages from construction plant or onsite storage.
- Wastewater (nutrient and microbial rich) – arising from accidental discharge from on-site toilets and washrooms.

Without the consideration and employment of mitigation measures, the potential impacts during the construction phase on surface water quality are ***negative***, ***significant*** and ***short term***.

Operational Phase

In absence of mitigation methods, the operational phase would present potential impacts associated with the following activities:

- Discharges to the Liffey Estuary and subsequent Natura 2000 conservation sites.

In the absence of mitigation measures (or design measures) the potential impacts during the operational phase are ***negative, not significant***, and ***long-term***.

6.4 MITIGATION AND RESIDUAL EFFECTS (POST-MITIGATION)

Construction Phase

In order to reduce impacts on the hydrological environment, a number of mitigation measures will be adopted as part of the construction works on site.

- Fuel and chemical handling.
- Soil removal and compaction.
- Silt reduction measures on site will include a combination of silt fencing and settlement measures (silt traps, silt sacks and settlement tanks/ponds).
- Any surface water run-off collecting in excavations will likely contain a high sediment load. This will be diverted to settlement ponds and will not be allowed to directly discharge to existing onsite concrete storm water sewer drains within the site boundary or the Liffey Estuary.
- Depending on the stage of construction and the quality of water, the disposal of water (required for basement excavation and general site water management) will occur to surface water (via the storm water network to the River Liffey); or to Ringsend WWTP (via the combined foul wastewater network). The discharge to surface water sewer is subject to agreement with Dublin City Council (DCC); and the discharge to the combined foul sewer are subject to agreement with Uisce Eireann (formerly Irish Water IW).
- A staged treatment system (treatment-train) will be in place during construction works that will ensure the quality of the discharge water to foul sewer and storm sewer is maintained in accordance with permit conditions from Dublin City Council and Irish Water.
- Implementation of the mitigation measures set out in the EIAR and NIS via a Construction & Environmental Management Plan (CEMP).

The predicted impact on the hydrological environment during the construction phase is ***neutral, imperceptible*** and ***short-term***.

Operational Phase

A number of design measures will be put in place to minimise the likelihood of any spills entering the hydrological environment and to include the design with hydrocarbon interceptors. In the event of an accidental leakage of oil from the parking areas, this will be intercepted by the drainage infrastructure proposed.

The proposed surface water drainage system comprises infiltration areas which operate at a feasible rate. A number of design measures will be in place (interception system, petrol inceptors, SuDS measures, Green and Blue Roofs etc.). No further mitigation measures are to be required during the operational phase. Uisce Éireann has confirmed that the connection to the public wastewater network is feasible subject to upgrades.

The predicted impact on the hydrological environment during the operational phase is ***neutral, imperceptible*** and ***long-term***.

6.5 CUMULATIVE IMPACT OF THE PROPOSED DEVELOPMENT

As has been identified in the receiving environment section, all cumulative developments that are already built and in operation contribute to the characterisation of the baseline environment. As such any further environmental impacts that the proposed development may have in addition to these already constructed and operational developments has been assessed in the preceding sections of this chapter.

There are no relevant other than the permitted or proposed developments within the immediate vicinity of the proposed development site.

Construction Phase

All developments will have to incorporate SuDS measures to protect water quality in compliance with legislative standards for receiving water quality (European Communities Environmental Objectives (Surface Water) Regulations (S.I. 272 of 2009 and S.I. 77 of 2019). As a result, there will be minimal cumulative potential for change in the natural hydrological regime. The cumulative impact is considered to be ***short-term***, ***neutral*** and ***imperceptible***.

Operational Phase

There are existing commercial developments close by, along with the multiple permissions remaining in place. All the operational cumulative developments are required to manage discharges in accordance with S.I 272/2009 and 77/2019 amendments. As such there will be no cumulative impact to surface water quality and therefore there will be no cumulative impact on the Surface Waterbody Status. The operation of the proposed development is concluded to have a ***long-term***, ***imperceptible*** significance with a ***neutral*** impact on surface water quality.

7.0 BIODIVERSITY

7.1 INTRODUCTION

This chapter of the EIAR was carried out by Altemar Ltd. It assesses the biodiversity value of the Proposed Development area and the potential effects of the development on the ecology of the surrounding area and within the potential zone of influence (ZOI).

7.2 BASELINE ENVIRONMENT

The site of the Proposed Development is contained within Dublin's North Quays in the eastern city centre, approximately 200m to the west of the Samual Beckett Bridge and circa 400m to the east of the Custom House.

The site is located adjacent to the River Liffey. Given the nature of the proposed demolition, excavation and site clearance works, and the close proximity of the River Liffey (25m), out of an abundance of caution it is considered that the ZOI of the proposed project includes the site outline, the River Liffey and Natura 2000 sites located within Dublin Bay. In the absence of mitigation, there is the potential for dust and surface water runoff to enter the River Liffey with the potential for downstream effects on Natura 2000 sites located within Dublin Bay, namely South Dublin Bay SAC, North Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA and North-West Irish Sea SPA.

A pre-survey data search was carried out. This included a literature review to identify and collate relevant published information and ecological studies previously conducted and comprised of information from the following sources: the National Parks and Wildlife Service, NPWS Rare and Protected Species Database, National Biodiversity Data Centre, EPA WMS watercourses data, in addition to aerial, 6 inch, satellite imagery. Following the desktop study, a walk-over and bat assessment of the site was carried out on the 28th of September 2023.

The Proposed Development consists largely of Built land (BL3) with some ornamental shrubs, and flower beds. No flora or habitats of National or International conservation importance were noted on site during the surveys. No invasive flora species were noted on site. No flora species of conservation importance or invasive species were noted on site during site surveys. No amphibians or reptiles were noted on site.

7.3 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

Construction Phase

In the absence of mitigation, the construction of the Proposed Development, would affect the existing ecology of the site and the surrounding area. These construction effects would include effects that may arise during the site clearance, re-profiling of the site and the building phases of the Proposed Development which include works proximate to the River Liffey. Dust and surface water runoff during site works re-profiling and the construction of project elements could effect on the River Liffey and downstream European sites at Dublin Bay.

The effect of the development during construction phase will be a loss of existing habitats and species on site in addition to localised noise and dust generated from

construction. It would be expected that the flora and fauna associated cleared habitats would also be displaced.

During the site visits no terrestrial mammal species of conservation importance were recorded on site or in NPWS or NBDC records. No protected flora or invasive species were noted on site. Site clearance will remove the flora species on site. There is no evidence of a bat roost on site, therefore no significant negative effects on bats are expected to result from the Proposed Development. No foraging was noted on site.

The River Liffey runs parallel to the southern boundary of the subject site. However, foul and surface water will be diverted to a combined sewer and will be treated in Ringsend WwTP under licence. During construction silt and pollution could potentially effect the water quality of river in absence of mitigation.

Site clearance could effect on bird nesting if carried out during bird nesting season. Noise during construction could potentially effect on roosting wintering birds proximate to the site.

Operational Phase

Once constructed, all on-site foul drainage will be directed to a combined sewer on Commons Street where it will ultimately flow to Ringsend WwTP for treatment under licence. In the absence of mitigation, no significant effects on the qualifying interests of Natura 2000 sites are foreseen via foul water drainage. The existing office building on the development site has surface water drainage connections to the stormwater sewers in Clarion Quay and Commons Street and will comply with SUDS. It is proposed to retain these and use them for the Proposed Development. There is therefore an indirect hydrological pathway between the subject site and Natura 2000 sites in Dublin Bay via surface water drainage to the River Liffey during the operational phase of development. No significant effects on designated sites are likely during operation.

The Proposed Development is within an existing brightly lit urban environment. The Proposed Development will change the local environment as new structures are to be erected and some of the existing vegetation will be removed. However, additional vegetation will be added which will improve plant species diversity and thus insect populations. No bat roosts or potential bat roosts will be lost due to this development. The Proposed Development would not be seen to have a significant collision risk for bat strikes.

The Proposed Development will change the local environment as new structures are to be erected. The buildings are comprised of solid materials consisting of a solid material on the exterior. These buildings would be clearly visible to bird species and would not pose a significant collision risk.

7.4 MITIGATION AND RESIDUAL EFFECTS (POST-MITIGATION)

Construction Phase

- A project ecologist will be appointed and consulted in relation to all onsite drainage during works.
- All site clearance and drainage work methodologies will have prior approval of a project ecologist.

- The project will be carried out in consultation with the project ecologist to reduce risks of onsite drainage to the River Liffey.
- Local drainage connections, gullies and watercourses will be protected from dust, silt and surface water throughout the works.
- All onsite drainage network connections will be blanked off and sealed at the first phase of the construction works.
- There will be no entry of solids or petrochemicals to the drainage network during the works.
- Spill containment equipment shall be available for use in the event of an emergency. The spill containment equipment shall be replenished if used and shall be checked on a scheduled basis.
- Dust mitigation will be in place as outlined in Chapter 8 (Air Quality).
- A pre-demolition inspection for roosting bats and nesting birds will be carried out.
- A watching brief will be incorporated on site in relation to contaminated soils and the project ecologist informed if any contaminated material is found on site. Should any contaminated material be found on site a methodology statement will be provided to the project ecologist for treatment/removal in compliance with legislation.

Based on the implementation of the mitigation and monitoring measures set out in Section 7.6 and 7.7 above, in addition to the mitigation measures set out in Chapter 5, Land and Soils, Geology and Hydrogeology, Chapter 6, Hydrology and Chapter 10, Noise and Vibration of this EIAR the residual effects on biodiversity during the construction phase are: Slight effects / site / Negative effect / Not significant / short term / likely. Standard mitigation will be in place on site. No significant effects on biodiversity are likely in relation to the operation of the Proposed Development.

Operational Phase

Standard operational mitigation measures as outlined in the engineering report will be in place to protect surface water networks from pollution. Refer to Engineering Services Report (prepared by CS Consulting Engineers) submitted as part of this planning application which details the proposed separate foul and surface water drainage system.

Based on the implementation of the mitigation and monitoring measures set out in Section 7.6 and 7.7 above, in addition to the mitigation measures set out in Section 5.6 and 5.7 of Chapter 5 (Land, Soils, Geology and Hydrogeology) and in Section 6.6 and 6.7 of Chapter 6 (Hydrology) the residual effects on biodiversity during the operational phase are: Slight effects / site / Negative effect / Not significant / long term/likely. Standard mitigation will be in place on site. No significant effects on biodiversity are likely in relation to the operation of the Proposed Development.

7.5 CUMULATIVE IMPACT OF THE PROPOSED DEVELOPMENT

Construction Phase

The residual cumulative impact of the Proposed Development in combination with other planned or permitted developments can therefore be considered to be neutral, imperceptible and short-term..

Operational Phase

The residual cumulative impact of the Proposed Development in combination with other planned or permitted developments can therefore be considered to be neutral, imperceptible and long-term.

8.0 AIR QUALITY

8.1 INTRODUCTION

AWN Consulting Limited has been commissioned to conduct an assessment of the likely impact on air quality associated with the proposed residential development at 1 North Wall Quay, Dublin 1.

8.2 BASELINE ENVIRONMENT

Baseline data and data available from similar environments indicates that levels of nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM_{10}) and particulate matter less than 2.5 microns ($PM_{2.5}$) and are generally well below the National and European Union (EU) ambient air quality standards.

8.3 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

Construction Phase

An assessment of the potential dust impacts as a result of the construction phase of the proposed development was carried out based on the UK Institute for Air Quality Management 2024 guidance *'Guidance on the assessment of Dust from Demolition and Construction'*. This established the sensitivity of the area to impacts from construction dust in terms of dust soiling of property and human health effects within 250 m of the proposed development. The surrounding area was assessed as being of medium sensitivity to dust soiling and of low sensitivity to dust-related human health effects.

The sensitivity of the area was combined with the dust emission magnitude for the site under three distinct categories: earthworks, construction and trackout (movement of vehicles) in order to determine the mitigation measures necessary to avoid significant dust impacts. It was determined that there is at most a high risk of dust related impacts associated with the proposed development. In the absence of mitigation there is the potential for ***direct***, ***short-term, negative*** and ***not significant*** impacts to air quality.

In addition, construction phase traffic emissions have the potential to impact air quality, particularly due to the increase in the number of HGVs accessing the site. Construction stage traffic did not meet the scoping criteria for a detailed modelling assessment outlined in Transport Infrastructure Ireland's 2022 guidance document '*Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106'* As a result a detailed air assessment of construction stage traffic emissions has been scoped out from any further assessment and the construction stage traffic emissions will have a ***direct***, ***short-term, negative*** and ***imperceptible*** impact on air quality.

Operational Phase

Operational phase traffic has the potential to impact air quality due to vehicle exhaust emissions as a result of the increased number of vehicles accessing the site. The change in traffic associated with the operational phase of the proposed development did not meet the PE-ENV-01106 criteria requiring a detailed air dispersion modelling assessment. Therefore, it can be determined that during the operational phase, the proposed development will have a ***direct***, ***long-term, negative*** and ***imperceptible*** impact on air quality.

8.4 MITIGATION AND RESIDUAL EFFECTS (POST-MITIGATION)

Construction Phase

Detailed dust mitigation measures are outlined within Section 8.6.1 of Chapter 8 and are incorporated into the Construction Environmental Management Plan for the site to ensure that no significant nuisance as a result of construction dust emissions occurs at nearby sensitive receptors. Once these best practice mitigation measures, derived from the Institute for Air Quality Management 2024 guidance *'Guidance on the assessment of Dust from Demolition and Construction'* as well as other relevant dust management guidance, are implemented the impacts to air quality during the construction of the proposed development are considered ***direct***, ***short-term, negative*** and ***not significant***, posing no nuisance at nearby sensitive receptors (such as local residences).

Operational Phase

As the predicted concentrations of pollutants will be imperceptible no mitigation is required. The impact to air quality has been assessed as ***direct***, ***long-term, negative*** and ***imperceptible.***

8.5 CUMULATIVE IMPACT OF THE PROPOSED DEVELOPMENT

Construction Phase

There is the potential for cumulative impacts to air quality should the construction phase of the proposed development coincide with that of other developments within 500m of the site. A review of proposed/permitted developments in the vicinity of the site was undertaken and relevant developments with the potential for cumulative impacts were identified.

There is a high risk of dust impacts associated with the proposed development. The dust mitigation measures outlined in Section 8.6.1 of Chapter 8 will be applied during the construction phase which will avoid significant cumulative impacts on air quality. With appropriate mitigation measures in place, the predicted cumulative impacts on air quality associated with the construction phase of the proposed development and the permitted cumulative developments are deemed ***direct***, ***short-term, negative*** and ***not significant.***

Operational Phase

The direct impacts of the operational phase on air quality associated with the proposed development are predicted to be imperceptible. Cumulative impacts are considered ***direct***, ***long-term, negative*** and ***imperceptible***.

Overall no significant impacts to air quality are predicted during the construction or operational phases of the proposed development.

9.0 CLIMATE

9.1 INTRODUCTION

AWN Consulting Limited has been commissioned to conduct an assessment of the likely impact on climate associated with the proposed residential development at 1 North Wall Quay, Dublin 1.

9.2 BASELINE ENVIRONMENT

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 estimate that Ireland had total GHG emissions of 61.5 Mt CO_2eq in 2021. This is 2.71 Mt CO_2eq higher than Ireland's annual target for emissions in 2021. However, the EPA predict that Ireland can achieve compliance with the GHG targets up to 2030 provided full implementation of the Climate Action Plan and use of the flexibilities available.

9.3 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

The potential impacts on climate have been assessed in two distinct ways – a greenhouse gas assessment (GHGA) and a climate change risk assessment (CCRA). The GHGA quantifies the GHG emissions from a project over its lifetime and compares these emissions to relevant carbon budgets, targets and policy to contextualise magnitude. The CCRA considers a projects vulnerability to climate change and identifies adaptation measures to increase project resilience.

Construction Phase

Calculation of the GHG emissions during the full lifecycle of the proposed development including construction, operation and decommissioning was based on the Carbon Designer for Ireland tool, developed by the Irish Green Building Council in partnership with One Click LCA Ltd. GHG emissions associated with the proposed development are predicted to be a small fraction of Ireland's Residential Buildings and Industrial sector 2030 emissions ceilings of 4 Mt CO_2eq each. The proposed development will incorporate a number of mitigation measures which will aim to reduce climate impacts during construction and once the development is operational.

Operational Phase

GHG emissions during the operational phase due to road traffic were assessed. The changes in traffic volumes associated with the operational phase of the development were not substantial enough the meet the assessment criteria requiring a detailed climate modelling assessment, as per Transport Infrastructure Ireland (TII) 2022 guidance "*PE-ENV-01104: Climate Guidance for National Roads, Light Rail and Rural Cycleways (Offline & Greenways) – Overarching Technical Document"*. The proposed development has incorporated a number of sustainability measures into the design of the development which will aid in reducing impacts to climate once operational.

A CCRA was conducted to consider the vulnerability of the proposed development to climate change, as per the TII 2022 PE-ENV-01104 guidance. This involves an analysis of the sensitivity and exposure of the development to future climate hazards which together provide a measure of vulnerability. The hazards assessed included

flooding (coastal, pluvial, fluvial), extreme heat, extreme cold, wildfire, drought, extreme wind, snow, lightning, hail, landslides and fog. Wildfire and landslides were not considered relevant to the proposed development due to the project location and have been screened out of the assessment. Overall the proposed development has a worst-case low vulnerability due to potential future flooding, determined using information in the Site-Specific Flood Risk Assessment. All other vulnerabilities have been identified as low and therefore are not a risk.

Overall, no significant impacts to climate are predicted during the construction or operational phases of the proposed development.

9.4 MITIGATION AND RESIDUAL EFFECTS (POST-MITIGATION)

A number of best practice mitigation measures are proposed for the construction phase of the proposed development to ensure that impacts to climate are minimised. Additionally, the proposed development has incorporated a number of sustainability measures into the design of the development which will reduce climate impacts once the development is operational. Design mitigation has been considered when assessing the vulnerability of the development to future climate change.

The impact to climate as a result of a proposed development must be assessed as a whole for all phases. The proposed development will result in some impacts to climate through the release of GHGs. TII state that the crux of assessing significance is *"not whether a project emits GHG emissions, nor even the magnitude of GHG emissions alone, but whether it contributes to reducing GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050".* 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 and has aims to achieve a more energy efficient design. Electric vehicle car charging points have been incorporated into the development in addition to bicycle parking to promote a modal shift and thus reduce GHG emissions. Once mitigation measures are put in place, the effect of the proposed development in relation to GHG emissions is considered ***direct***, ***long-term, minor adverse*** and ***not significant*** in EIA terms.

In relation to climate change vulnerability, it has been assessed that there are no significant risks to the proposed development as a result of climate change.

9.5 CUMULATIVE IMPACT OF THE PROPOSED DEVELOPMENT

With respect to the requirement for a cumulative assessment PE-ENV-01104 states that "*for GHG Assessment is the global climate and impacts on the receptor from a project are not geographically constrained, the normal approach for cumulative assessment in EIA is not considered applicable."*

However, by presenting the GHG impact of a project in the context of its alignment to Ireland's trajectory of net zero and any sectoral carbon budgets, this assessment will demonstrate the potential for the project to affect Ireland's ability to meet its national carbon reduction target. Therefore, the assessment approach is considered to be inherently cumulative.

The cumulative impact of the proposed development in relation to GHG emissions is considered ***direct***, ***long-term, minor adverse*** and ***not significant*** in EIA terms.

10.0 NOISE AND VIBRATION

10.1 INTRODUCTION

Chapter 10 of the EIAR provides information on the assessment of noise and vibration impacts on the surrounding environment during both the construction and operational phases of the proposed development.

10.2 BASELINE ENVIRONMENT

The baseline environment was quantified by undertaking environmental noise surveys, the results of which are presented within Chapter 10. The baseline noise surveys determined that the noise environment was largely dominated by noise from the local road networks surrounding the proposed development site as well as construction noise within the survey areas.

10.3 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

10.3.1 Construction Phase

Construction noise impacts will vary at the noise sensitive locations throughout the construction phase of the proposed development. The main construction activities in relation to noise are:

- Building Demolition
- Piling and Basement Excavation
- Foundation Construction
- Site Services Installation (drainage, power, water)
- Construction of building frame and envelope; and
- Fit out of interior and exterior landscaping

Without mitigation the worst-case effect of the construction phase will occur during the building demolition phase which is likely to result in a ***negative***, ***very significant to profound*** and ***temporary*** impact. The general construction phase beyond this is likely to result in a ***negative, moderate*** *and* ***short term*** effect reducing to ***negative***, ***slight to moderate*** and ***short term*** impact beyond 25m from the construction works.

10.3.2 Operational Phase

The noise impacts relating to the operational phase of the proposed development will relate to:

- Building Services Plant Noise
- Traffic and Vehicle Noise

The noise impacts relating to mechanical plant and services are likely to be are ***neutral, not significant*** and ***long-term*** if guidelines, limits and recommendations within the EIAR chapter are followed. The noise impacts relating to Additional Road Traffic on Public Roads will be ***neutral, imperceptible*** and ***long-term***.

10.4 MITIGATION AND RESIDUAL EFFECTS (POST-MITIGATION)

10.4.1 Construction Phase

Mitigation measures to be implemented during the construction phase are discussed within the full EIAR, these measures include but are not limited to:

- Selection of quiet plant;
- Control of noise sources;
- Screening;
- Hours of work;
- Liaison with the public; and
- Monitoring.

With the inclusion of the various available noise and vibration control measures, noise levels can be controlled to within the CNTs at the closest NSLs for the majority of the Construction Phases, thus resulting in a ***negative, moderate to significant*** and ***short term impact.***

10.4.2 Operational Phase

Mitigation measures to be implemented during the operational phase are discussed within the full EIAR these measures mainly relate to the selection of quiet plant as well the suppression of break out noise from items of mechanical plant, where required for apartment buildings. The residual operational noise impact in relation to the mechanical plant and services noise will be ***neutral***, ***not significant*** and ***long term***.

The residual impact of the traffic on the surrounding road will be ***neutral, imperceptible,*** and ***long-term.***

10.5 CUMULATIVE IMPACT OF THE PROPOSED DEVELOPMENT

10.5.1 Construction Phase

Cumulative noise impacts in relation to construction noise are unlikely to occur due to the distance of the proposed development to noise sensitive locations. Construction noise associated with the development are likely to dominate the surrounding noise environment. The noise contribution of other sites would need to be equal to those associated with the proposed development to result in any cumulative effect.

10.5.2 Operational Phase

The noise limits set within the EIAR are designed to avoid any significant increase in the prevailing background noise environment. There is not expected to be a cumulative effect in relation to either operational mechanical plant noise or road traffic noise during the operational phase of the proposed development.

11.0 ARCHAEOLOGY AND CULTURAL HERITAGE

11.1 INTRODUCTION

CRDS Ltd undertook an assessment of available research resources with the aim of predicting the potential impacts of the proposed development on archaeological and cultural heritage. Please note that architectural heritage is being dealt with by CityDesigners in Volume 3 (Heritage, Townscape, Landscape and Visual Impact Assessment (HTLVIA)) of the EIAR. The proposed development is located at the junction of North Wall Quay and Commons Street, Dublin City (ITM E. 716841m, 734548m; see Figure 11.1). A study area of c. 300m from the proposed development was taken to provide context, with references to relevant findings further afield made.

11.2 BASELINE ENVIRONMENT

There are no recorded archaeological sites within the proposed development, although it should be noted that the development lies within the zone of archaeological potential for the city of Dublin (SMR No. DU18-020). There are two recorded archaeological sites listed in the RMP within the study area. Neither of these will be impacted, directly or indirectly, by the proposed development.

There have been numerous development led licensed archaeological investigations in the area of the proposed development, including eight within c. 300m of the site. One of these revealed medieval remains, and four revealed post-medieval remains. More significantly, c. 450m east of the proposed development site, the remains of Mesolithic fish traps were recovered from beneath the overlying 18th century reclaimed land.

The desktop survey did not highlight any previously unrecorded archaeological sites within the site of the proposed development.

The land on which the proposed development is sited has been subjected to substantial development in the recent past and is currently offices with a basement car park.

11.3 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

Construction Phase

Given that the proposed development will involve ground disturbance to a deeper level than for previous recent developments, potentially below the depth of reclaimed land, there is the potential for impact on archaeological features or finds that may survive below the land infilled in the 18th century.

Therefore, the potential impact of the proposed development on the archaeological, architectural and cultural heritage is deemed to be ***negative, moderate*** and ***permanent***.

Operational Phase

No impacts on archaeological, architectural and cultural heritage are expected as a result of the operational phase of the Proposed Development.

11.4 MITIGATION AND RESIDUAL EFFECTS (POST-MITIGATION)

Construction Phase

In order to mitigate against the potential impacts of the proposed development on archaeological heritage, the following will be required:

A suitably qualified archaeological consultant will be required to oversee the works and undertake the required archaeological mitigation strategy.

The appointed archaeological consultant should consult with the Dublin City Archaeologist and National Monuments Service of the Department of Housing, Local Government and Heritage, to discuss the construction methodology and agree an appropriate strategy to mitigate against the potential impacts of the proposed development on archaeology.

It is envisaged that archaeological monitoring of ground works will be carried out to identify features or deposits of archaeological significance. Should such features be discovered, further mitigation may be required, such as preservation by record or in-situ.

Financial, logistical and time provision should be made for archaeological excavation, if required.

Should these mitigation measures be implemented, the potential impact of the proposed development on the archaeological, architectural and cultural heritage is deemed to be ***positive*** and ***moderate***.

Please note that the recommendations given here are subject to the approval of the Dublin City Archaeologist and the National Monuments Service, Department of Housing, Local Government and Heritage.

Operational Phase

No mitigation measures are required for archaeological, architectural and cultural heritage during the operational phase of the Proposed Development.

11.5 CUMULATIVE IMPACT OF THE PROPOSED DEVELOPMENT

Construction Phase

During construction there is low potential for cumulative impact as the lands on which the proposed development are sited as they have been extensively and significantly developed in the past. Should any features exist, they will be archaeologically recorded in advance of construction works in these areas.

Previous development in the wider area has uncovered previously unrecorded archaeology. The academic knowledge gained from the excavation of these features, has resulted in a net cumulative ***permanent***, ***significant***, ***positive*** impact.

Operational Phase

During operation there is no potential for cumulative impact as there will be no disturbance to ground.

12.0 TRAFFIC AND TRANSPORTATION

12.1 INTRODUCTION

This chapter of the EIAR assesses and evaluates the likely impact of the proposed development on the operation of the surrounding transportation infrastructure and nearby transport services.

12.2 BASELINE ENVIRONMENT

The development site is located at the corner of North Wall Quay and Commons Street. The site is occupied by an existing office building that shall be demolished as part of the proposed development, but which is presently still in full use. The proposed development shall have its vehicular access on Clarion Quay, to the rear of the site, as does the existing office building.

The traffic and transport assessment presented in this chapter primarily considers the net influence of the development on vehicular traffic flows at nearby junctions. The development site is within convenient walking distance of numerous train, bus, and tram services; this EIAR chapter (in conjunction with the appended Public Transport Capacity Assessment) also considers the development's effects on demand for these public transport services.

12.3 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

Construction Phase

In the absence of any mitigation measures, the development has the potential to produce the following ***negative***, ***short-term***, ***significant*** impacts in its construction phase:

- Oversaturation of nearby junctions due to vehicular construction traffic, leading to increased vehicle queue lengths and delays.
- Surrounding streets being temporarily obstructed by stopped/parked construction vehicles or by delivery/loading operations.
- Surrounding street surfaces being temporarily degraded by the presence of dirt/debris originating from the construction site.

At most nearby junctions, however, the net potential effect of the development in its construction phase shall be to reduce the total traffic flows during peak hours, due to the removal of traffic currently generated by the existing office building. This would produce a ***slight positive short-term*** effect on the operation of the surrounding road network.

The overall potential construction-phase effect of the proposed development on the operation of the surrounding road network (absent mitigation measures) is therefore considered to be ***negative*** in nature, ***short-term*** in duration, and of ***moderate*** significance.

Operational Phase

In the absence of any mitigation measures, the development has the potential to produce the following ***negative***, ***long-term***, ***moderate*** impacts in its operational phase:

- Temporary obstruction of adjacent streets by stopped/parked servicing vehicles (e.g. waste collection and deliveries).
- Overspill car parking on surrounding streets by development occupants driving to work but not being able to park on site.

The proposed development will however result in negligible changes to existing vehicular traffic flows in its vicinity. The overall potential operational-phase effect of the proposed development on the operation of the surrounding road network (absent servicing-related mitigation measures) is therefore considered to be ***negative*** in nature, ***long-term*** in duration, and of ***slight*** significance.

The potential operational-phase effect of the proposed development on the operation of local public transport services is determined in the Public Transport Capacity Assessment report prepared by Derry O'Leary, which is attached as Appendix 12.3. This effect is considered to be ***negative*** in nature, ***long-term*** in duration, and of ***slight*** significance.

12.4 MITIGATION AND RESIDUAL EFFECTS (POST-MITIGATION)

Construction Phase

The following construction phase mitigation measures will be implemented:

- Restricting all heavy construction traffic to a designated route.
- Conducting all loading and unloading operations within the site.
- Scheduling deliveries outside of peak hour periods to avoid disturbance to surrounding pedestrian and vehicular traffic.
- Staggering HGV movements to/from site to avoid site queues.
- Preventing haulage vehicles travelling in convoys of more than two vehicles at any time and spacing haulage vehicles by a minimum of 250m at all times.
- Installation of a wheel wash at exit from the site to prevent any dirt being carried out onto surrounding roads.
- Deployment of a road sweeper as necessary to keep roads around the site clean.
- Consolidation of delivery loads to/from the site and management of large deliveries on site to occur outside of peak periods.
- Use of precast/prefabricated materials where possible.
- Reuse on site of 'cut' material generated by the construction works, where possible, through various accommodation works.
- Provision of adequate storage space on site.
- Development of a strategy to minimise construction material quantities as much as possible.
- Encouraging construction personnel to make use of public transport or to commute by bicycle.

At most nearby junctions, the net residual effect of the development in its construction phase shall be to reduce the total traffic flows during peak hours, due to the removal

of traffic currently generated by the existing office building. This would produce a ***slight positive short-term*** effect on the operation of the surrounding road network.

Operational Phase

The development shall incorporate several design and management elements intended to mitigate the impact of the development on the surrounding road network during its operational phase:

- A reduced car parking provision, which shall discourage excessive vehicular trips to the development (by both development occupants and visitors).
- A high provision of secure bicycle parking, which shall serve to encourage bicycle journeys by both development occupants and visitors.
- Implementation of a Workplace Travel Plan to assist development occupants and visitors in making the most of sustainable transport opportunities and in avoiding single-occupant car journeys to and from the development site.
- Implementation of a Development Servicing Management Plan to coordinate vehicular servicing trips, ensuring that servicing of the development can be carried out efficiently, whilst minimising effects on the safety and operational performance of the surrounding road network.

The overall residual operational-phase effect of the proposed development on the operation of the surrounding road network shall be ***negative*** in nature, ***long-term*** in duration, but ***not significant***.

12.5 CUMULATIVE IMPACT OF THE PROPOSED DEVELOPMENT

The application of Transport Infrastructure Ireland (TII) standard traffic growth rates provides a means of accounting for the potential influence of other traffic-generating developments in the area of the proposed development, whether or not already planned or permitted.

Construction Phase

The overall cumulative construction-phase effect of the proposed development on the operation of the surrounding road network (in conjunction with background traffic growth) shall be ***negative*** in nature, ***short-term*** in duration, and of ***slight*** significance.

Operational Phase

In the proposed development's operational phase, by the design horizon year of 2045, there shall therefore be a ***long-term significant negative*** cumulative effect on the operation of the surrounding road network. This cumulative effect is however due almost entirely to the TII-derived projected growth in background traffic over the coming 22 years, which is unrelated to the proposed development.

13.0 MATERIAL ASSETS – WASTE MANAGEMENT

13.1 INTRODUCTION

AWN Consulting undertook the waste management assessment. 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.

13.2 BASELINE ENVIRONMENT

There is currently no waste generated at the proposed development site, however commercial activities that generated waste, were undertaken on this site.

13.3 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

Construction Phase

During the construction phase the mismanagement of waste, including the inadequate storage of waste, inadequate handling of hazardous waste, the use of inappropriate or insufficient segregation techniques, and the use of non-permitted waste contractors, would likely lead to negative impacts such as waste unnecessarily being diverted to landfill, litter pollution which may lead to vermin, runoff pollution from waste, fly tipping and illegal dumping of waste. In the absence of mitigation, the effect on the local and regional environment is likely to be **long-term, significant** and **negative**.

Operational Phase

The potential impacts on the environment during the operational phase of the proposed development would be caused by improper, or lack of waste management. In the absence of mitigation, the effect on the local and regional environment is likely to be ***long-term, significant*** *and* ***negative***.

13.4 MITIGATION AND RESIDUAL EFFECTS (POST-MITIGATION)

Construction Phase

A Resource & Waste Management Plan (RWMP) has been prepared and is included as Appendix 13.1. During the construction phase, typical construction waste materials will be generated which will be source segregated on-site into appropriate skips/containers, within designated waste storage areas and removed from site by suitably permitted waste contractors as required, to authorised waste facilities, by appropriately licensed waste contractors. While the accurate keeping of waste records will be undertaken. All waste leaving the site will be recorded and copies of relevant documentation maintained.

This will all be overseen by the main contractor, who will appoint a construction phase Resource Manager to ensure effective management of waste during the excavation and construction works. All construction staff will be provided with training regarding the waste management procedures on site.

A carefully planned approach to waste management and adherence to the site-specific RWMP (Appendix 13.1) and chapter 13 during the construction phase, this will ensure that the effect on the environment will be ***short-term, neutral*** and ***imperceptible.***

Operational Phase

During the operational phase, waste will be generated by the operators and staff. A dedicated waste storage area (WSA) has been allocated throughout the development for the use of staff and operators. The WSA has been appropriately sized to accommodate the estimated waste arisings from the development. The WSA has been allocated to ensure a convenient and efficient management strategy with source segregation a priority. Waste will be collected from the designated waste collection areas by permitted waste contractors and removed off-site for re-use, recycling, recovery and/or disposal.

An Operational Waste Management Plan (OWMP) has been prepared and is included as Appendix 13.2. The new development will give rise to a wide variety of waste streams during the operational phase, i.e. when the project is completed, open and occupied. Operational waste will be generated on a daily basis by the operator including cardboard, plastic, paper, glass, dry mixed recyclables, mixed non-recyclables, cooking oil, lightbulbs, batteries, WEEE waste, and organic waste.

All recyclable materials will be segregated at source where possible to reduce waste contractor costs and ensure maximum diversion of materials from landfill in line with the development OWMP. This strategy will be supplemented, as required, by the operator as required with any new information on waste segregation, storage, reuse and recycling initiatives that are subsequently introduced.

Provided the mitigation measures in the development OWMP (Appendix 13.2) and in Chapter 13 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**.

13.5 CUMULATIVE IMPACT OF THE PROPOSED DEVELOPMENT

Construction Phase

There are existing residential and commercial developments close by, along with the multiple permissions remaining in place in the area. In a worst-case scenario, multiple developments in the area could be developed concurrently or overlap in the construction phase. Due to the high number of waste contractors in the DCC region, as provided from the National Waste Collection Permit Office and the EPA, there would be sufficient contractors available to handle waste generated from a large number of these sites simultaneously, if required. Similar waste materials would be generated by all of the developments.

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 cumulative effect will be ***short-term, imperceptible*** and ***neutral.***

Operational Phase

There are existing residential and commercial developments close by, along with the multiple permissions remaining in place. All of the current and potential developments will generate similar waste types during their operational phases. Authorised waste contractors will be required to collect waste materials segregated, at a minimum, into recyclables, organic waste and non-recyclables. An increased density of development in the area is likely improve the efficiencies of waste collections in the area.

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

14.0 MATERIAL ASSETS - UTILITIES

14.1 INTRODUCTION

This chapter assesses ownership and access, built services and infrastructure, which have not already been addressed elsewhere in this EIA Report. The associated built services and infrastructure in the vicinity of the site are summarised in the following sections; further detail is provided within the planning application documentation.

14.2 BASELINE ENVIRONMENT

The Proposed Development site is c. 0.9 hectares and is presently occupied by the Citigroup Building, a six-storey, over-one-storey-basement office building, which shall be demolished as part of the Proposed Development at 1 North Wall Quay, Dublin 1.

Uisce Éireann drainage and supply records indicate that the following relevant existing drainage infrastructure elements are in place surrounding the development site:

(A) An existing 375mm vitrified clay combined sewer running east to west in North Wall Quay, along the development site's southern boundary. This combined sewer turns north at the junction of North Wall Quay and Commons Street and continues to flow northward along the development's western boundary.
(B) An existing 225mm concrete foul sewer to the east and north of the development's site boundary.
(C) An existing 375mm storm sewer running west to east in North Wall Quay, along development site's southern boundary. This sewer connects to an existing 1870 brick storm sewer at the junction of North Wall Quay and Commons Street, which discharges into River Liffey. In addition, there is also an existing 525mm concrete storm sewer running east to west and then turning northwards in Clarion Quay along development site's northern boundary.

Uisce Éireann Drainage Records indicates an existing 200mm ductile iron and an existing 600mm cast-iron watermains along North Wall Quay to the development's site southern boundary. The records also indicate an existing 6-inch (150mm approx.) diameter cast-iron watermain is in place in Commons Street as well as the existing 150mm ductile iron watermain in place in Clarion Quay along the western and northern boundaries of the development site, respectively.

14.3 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

Construction Phase

During the construction phase there are potential short-term impacts on land use, property, access, power supply, electricity supply and telecommunications.

The potential impact associated with land use, property, access, power, electrical supply and telecommunications for the construction phase will be, ***neutral-negative, not significant***, and ***short term***.

During the construction phase, there is potential for an increase in run-off due to the introduction of impermeable surfaces and the compaction of soils. This will reduce the infiltration capacity and increase the rate and volume of direct surface run-off. The potential impact of this is a possible increase in surface water run-off and sediment

loading which could potentially overwhelm existing drainage systems, leading to localized flooding. Run-off containing substantial amounts of silt can cause damage to surface water networks.

The potential impact of surface water run-off and increased suspended sediment load in surface water run-off could potentially overwhelm existing drainage systems, leading to localized flooding. Run-off containing substantial amounts of silt can cause damage to surface water networks.

The potential impact on surface water networks during the construction phase in the absence of mitigation measures is ***negative, slight,*** and ***short term.***

Welfare facilities will be provided for the construction workers on site during the construction works; foul effluent will be appropriately managed and treated off site. The works contractor will be obliged to comply with any conditions of a temporary connection agreement with Uisce Éireann, if required, to control discharge quality and rate of flow and remove any wastewater collected on site.

The potential impact on foul drainage for the construction phase is ***negative, not significant,*** and ***short term.***

The water demand during the construction phase will not be significant enough to affect existing pressures. The potential impact on potable water supplies and infrastructure during the construction phase is ***negative, imperceptible,*** and ***short term.***

Operational Phase

During the operational phase there are potential short-term impacts on land use, property, access, power supply, electricity supply and telecommunications.

The potential impact associated with land use, property, access, power, electrical supply and telecommunications for the operational phase will be, ***neutral, imperceptible-slight***, and ***long term***.

During operation, the primary risk of water quality impact is surface water runoff from roads, car parking and hardstand areas which can potentially contain elevated levels of contaminants such as hydrocarbons.

The potential impacts during the operational phase on surface water quality are ***neutral, imperceptible,*** and ***long-term.***

Foul water will be discharged in accordance with Uisce Éireann licence requirements. Considering the design of the wastewater infrastructure on and off site, the impact is expected to be ***neutral, imperceptible,*** and ***long-term.***

design. Water saving devices are considered for use within the Proposed Development units, to conserve the use of water, as part of the internal fit-out. A bulk water meter is to be provided at the connection to the public watermain, at the development entrance. All metering is to be provided in accordance with Uisce Éireann’ss requirements.

Based on the feasibility of connection issued by Uisce Éireann, the potential impact on potable water infrastructure for the operational phase is ***neutral, imperceptible,*** and ***long term.***

14.4 MITIGATION AND RESIDUAL EFFECTS (POST-MITIGATION)

Construction Phase

Consultation with Dublin City Council, Uisce Éireann, EirGrid, ESB Networks and other relevant service providers within the locality and compliance with any requirements or guidelines they may have will ensure a smooth construction schedule without disruption to local and business community. The works contractor will be obliged to put best practice measures in place to ensure, any planned interruptions are agreed in advance with the utilities suppliers.

The mitigation measures set out in this EIAR will be implemented and adhered to by the construction Contractor and will be overseen and updated as required if site conditions change by the Project Manager, Environmental Manager, Resource Manager and Ecological Clerk of Works where relevant. All personnel working on the Site will be trained in the implementation of the procedures.

The implementation of mitigation measures within each chapter will ensure that the predicted impacts on the material assets will be ***neutral, not significant,*** and ***short - term*** for the construction phase.

Operational Phase

There are no potential impacts during the operational phase in respect of material assets utilities and therefore no mitigation measures are proposed. Residual effects on the material assets during the operational phase will be ***neutral, imperceptible*** and ***long-term***.