



EIAR
Non-Technical Summary

Volume 3

Waterfront South Central SHD

North Wall Quay, Dublin 1

 **TOM PHILLIPS**
+ ASSOCIATES
PLANNING FOR THE FUTURE

Prepared For:
Waterside Block 9 Developments
Limited

Prepared By:
Tom Phillips + Associates

In Association With:
Environmental Resource Managment
CS Consulting
Axiseng
Irish Archaeological Consultancy
Henry J. Lyons

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Waterfront South Central – SHD Proposal – EIAR Vol. 3 (Non-Technical Summary)

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1.0 INTRODUCTION

1.1 Introduction

The *Environmental Impact Assessment Report* (EIAR) relates to a Strategic Housing Development (SHD) Planning Application by Waterside Block 9 Developments Limited¹ (referred to as the Applicant throughout) in relation to a proposed primarily residential development on lands at City Block 9, North Wall Quay, Dublin 1.

1.1 Purpose of the Environmental Impact Assessment Report

As noted, the 2014 Directive has redefined EIA as a process, whereby an Environmental Impact Assessment Report is a key informing element (this replaces the previous Environmental Impact Statement – EIS).

An EIAR's purpose is to predict and assess likely significant effects (direct and indirect) on the environment arising from the proposed development. It is used during the consent process to inform EIA.

As per Article 5(1) of the amended Directive, an EIAR should provide the following information:

- Description of Project;
- Description of Baseline Scenario;
- Description of Likely Significant Effects;
- Description of Avoidance / Mitigation Measures;
- Description of Reasonable Alternatives (and rationale for chosen option); and
- A Non-Technical Summary.

Annex IV of the Directive sets out a more detailed outline of the information required in an EIAR. The subject EIAR has been prepared in full accordance with these stated requirements of Annex IV.

Tom Phillips + Associates Town Planning Consultants,² co-ordinated the preparation of the *Environmental Impact Assessment Report* in association with other members of the Project Team as identified in Table 1.2 of the EIAR. Details in respect of the competence of the various experts is set out in Appendix 1.A1 of the EIAR (Shown below).

¹ Units 15/16 The Courtyard, Carmanhall Road, Sandyford, Dublin 18.

² Tom Phillips + Associates, Town Planning Consultants, 80 Harcourt Street, Dublin 2, D02 F449.



Chapter Number	Chapter Title	Company Name	Person Responsible
Chapter 1	Introduction & Methodology	Tom Phillips + Associates (TPA)	Tom Phillips
Chapter 2	Site Location & Context (incl. Receiving Environment)	TPA	Tom Phillips
Chapter 3	Description of Development / Proposed Project	TPA	Tom Phillips
		Henry J Lyons (HJL)	Orlaith Swords
Chapter 4	Key Alternatives Considered	TPA	Tom Phillips
		HJL	Orlaith Swords
Chapter 5	Population and Human Health	TPA	Tom Phillips
Chapter 6	Biodiversity	Environmental Resources Management (ERM)	Diane Corfe Bethan Caaney
Chapter 7	Land and Soils	ERM	Peter Rodgers
Chapter 8	Hydrology	CS Consulting Group (CS)	Robert Fitzmaurice Niall Barrett
Chapter 9	Air and Climate	ERM	Dr. Chris Hazell-Marshall
Chapter 10	Noise and Vibration	ERM	Jamie Hogg
Chapter 11	Material Assets – Waste (Construction & Demolition)	CS	Robert Fitzmaurice Niall Barrett
Chapter 12	Material Assets – Road & Traffic	CS	Robert Fitzmaurice Niall Barrett
Chapter 13	Material Assets – Site Services (incl. Energy Demand)	CS	Robert Fitzmaurice Niall Barrett
		Axiseng	Cian Dowling
Chapter 14	Cultural Heritage (incl. Archaeology)	Irish Archaeological Consultancy (IAC)	Faith Bailey
Chapter 15	Interactions	TPA	Tom Phillips
Chapter 16	Mitigation	TPA	Tom Phillips
Chapter 17	Difficulties Encountered	TPA	Tom Phillips
Volume 2	Heritage, Landscape, Landscape Visual Impact Assessment	City Designer	Richard Coleman
Non-Technical Summary	All Aspects of outlined in EIAR Volume 1 & 2	All Above	All Above



1.2 Scoping of the Environmental Impact Assessment

An informal EIA Scoping Report was undertaken by following the *Environmental Impact Assessment of Projects: Guidance on Scoping* with respect to the proposed development (European Commission, 2017). The purpose of the EIA Scoping exercise was to inform consultees of the proposed development, having regard to the extent of information to be contained within the *EIAR* for the project.

The scope of the *EIAR* has been prepared in consultation with the respective specialists within the EIA team. The Report set out a detailed justification relating to the environmental aspects to be considered in detail in the *EIAR* for the proposed development on the basis of the potential for significant effects. The Report also related to the construction and operational phases of the proposed development.

The following components are addressed in the *EIAR*:

- Site Context;
- Project Description;
- Alternatives Considered;
- Population and Human Health;
- Biodiversity;
- Lands and Soils;
- Hydrology;
- Air Quality and Climate;
- Noise and Vibration;
- Waste;
- Traffic and Transportation;
- Site Services;
- Cultural Heritage (Including Archaeology);
- Interactions;
- Mitigation Measures;
- Difficulties Encountered; and



- Heritage, Townscape, Landscape and Visual Impact Assessment (EIAR Volume 2).

2.0 SITE LOCATION AND CONTEXT

2.1 Location of the Subject Site

The subject site is principally bounded by: Mayor Street Upper to the north; North Wall Quay to the south; North Wall Avenue to the east; and the residual City Block 9 lands of 0.85 ha to the west. The overall site is located within City Block 9, as identified, in the *North Lotts and Grand Canal Dock SDZ Planning Scheme 2014*. (Figure 2.1.)



Figure 2.1: Approximate outline of the subject site in red. (Source: Bing Maps; annotated by TPA, January 2021.)

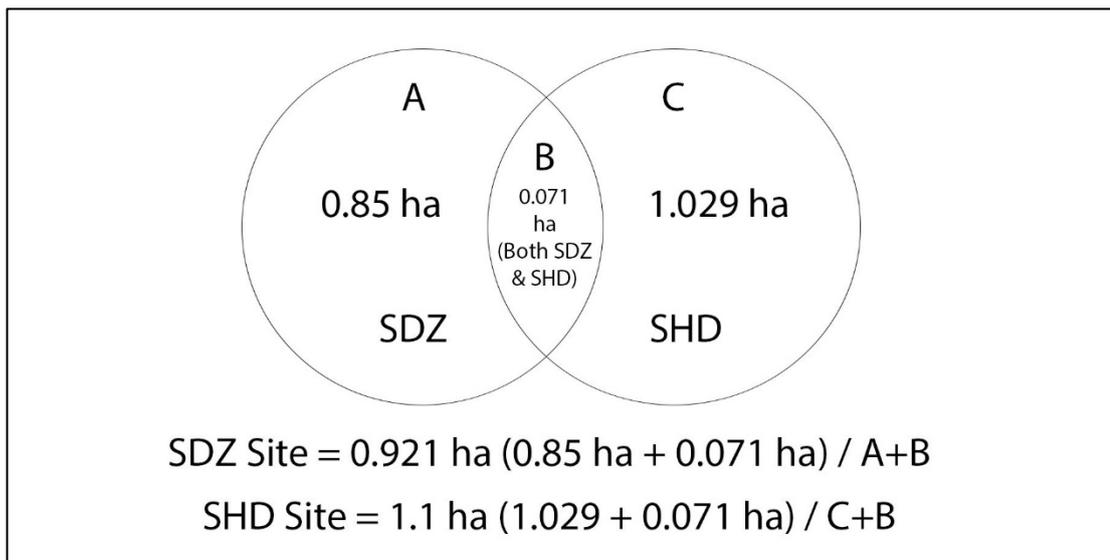


Figure 2.2: Venn Diagram showing SDZ and SHD (Subject Site) lands which overlap and lands which do not. (Source: TPA, January 2021.)



The above Figure 2.2 shows the quantum on land (hectares) which compose the Subject Site (SHD). The SHD site is 1.1 ha, which is broken down into 1.029 ha of land and 0.071 ha of land which overlaps with the concurrent SDZ Commercial Scheme.

The wider locality is characterised by a mix of employment, retail, commercial and residential uses. To the north of the site on Mayor Street Upper, are:

- Macken House (39/40 Mayor Street Upper); a 6-storey office building with retail units at ground floor. Current commercial tenants include Bulgari and a number of media companies including radio stations FM104 and Q102. Insomnia (a coffee chain) operates from one of the retail units.
- The corner of Block K of the Castleforbes Square residential development addresses Mayor Street Upper. The apartments of that residential development are located directly above the Insomnia café unit.
- 5 No. two-storey houses at Nos. 34-38 Mayor Street Upper, inclusive. These properties are in the ownership of the Applicant and are currently unoccupied.
- Castleforbes House (at the corner of Castleforbes Road and Mayor Street Upper); a 6-storey office building. Current commercial tenants include Radio Nova; Fenargo Limited; Sunshine Radio; and 4FM.

To the west of the site, across Castleforbes Road is the Dublin Landings development, measuring c. 2.35ha³. Developed by Ballymore, that project is approaching completion of the construction process. When fully operational, it will comprise, *inter alia*: 268 No. apartments; some 70,000 sq m of commercial floor space; retail and leisure facilities measuring c.1,600 sq m; and a variety of residential and commercial amenities. (Figure 2.3.)

The presence of 2 No. former electricity substations on Castleforbes Road, abutting City Block 9, is noted. These buildings are not on the Record of Protected Structures – however, they are listed on the *National Inventory of Architectural Heritage* (Reg. No. 50011185.).

To the south, the site is bounded by the natural edge formed by the River Liffey and the R801 regional, road which travels in an east to west direction. That road links the 3Arena and Dublin Port with the north Liffey quays as far as Custom House to the west.

To the east at City Block 10, 2 No. sites (North Dock 1 and 2) are currently in the final stages of the construction process, with planning permission obtained under, *inter alia*: Reg. Ref. DSDZ3800/17 and Reg. Ref. DSDZ3805/17.

The development at that location comprises, *inter alia*: a 241 No. bedroom aparthotel; and a 7-9-storey office building.

³ <https://www.ballymoregroup.com/project/detail/dublin-landings>

Beyond those construction sites lies the 3Arena – a multipurpose venue with a capacity of 9,000 persons fully seated and 13,000 persons fully standing⁴; and the Exo Building (currently under construction), which will be a 17 No. storey office building upon completion⁵.

The subject site is characterised as a highly accessible location, having regard to:

1. Luas Red Line with services operating from The Point to Saggart (via Belgard) and Tallaght (via Belgard). The closest Luas Stop to the site located at The Point, within c. 100m of the Site;
2. Existing Dart line with close proximity to Connolly Station and Grand Canal Dock Station;
3. Proposed Dart Underground with station proposed at City Block 2;
4. Bus Routes 33D, 33X, 41X, 53A, 142 and 151; and
5. Its location in the Dublin 1 postcode area.

The site is located c. 1.9km west of O’Connell Street in Dublin City Centre.



Figure 2.3: Context Map of Surroundings, with approximate site boundary indicated in red. (Source: Bing Maps; annotated by TPA, January 2021.)

⁴ <https://3arena.ie/faq>

⁵ <https://www.theexobuilding.com/>

Further north of the subject site, the area comprises primarily residential use, with associated retail use. In addition, some industrial/warehousing units are located on Sheriff Street Upper.

An edge is formed at Sheriff Street Upper by the railway sidings associated with Dublin Port.

Beyond that rail facility, to the north, is the established residential area of East Wall.

2.2 Existing Site Context

The site is brownfield, having been cleared of its previous warehousing and industrial structures, with the benefit of grants of planning permission received under Reg. Ref. DSDZ2242/16 and Reg. Ref. DSDZ3831/16.



Figure 2.4: Aerial image of City Block 9 (not to scale) showing the subject site's brownfield condition. (Source: Google Earth, 2021)

2.3 Planning Context

As illustrated by Figure 2.9, the subject site is located in zone Z14 *Strategic Development and Regeneration Areas (SDRAs)* with the objective:

“To seek the social, economic and physical development and/or rejuvenation of an area with mixed use of which residential and “Z6” would be the predominant uses”.

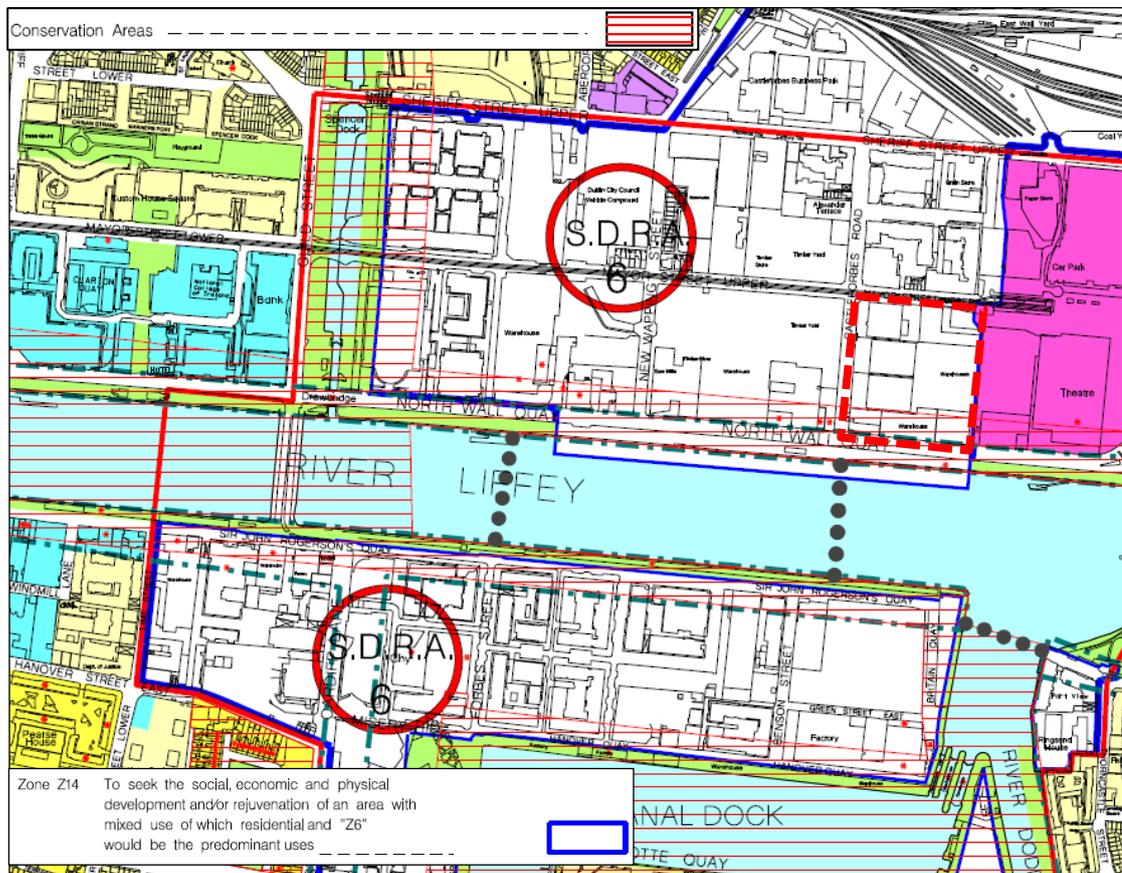


Figure 2.4: Extract of Map E of the *Development Plan*, showing City Block 9 outlined with the dashed red line. (Source: *Dublin City Development Plan 2016-2022*; annotated by TPA, 2020.)



3.0 DESCRIPTION OF PROPOSED DEVELOPMENT

3.1 Introduction

In summary, the proposed development comprises 3 No. residential blocks ranging in height from 8 – 45 storeys over basement levels; and supporting uses including office use in Block C, a childcare facility, restaurants, a foodhall, a Farmers' Market, cafés and a public bar/function room. The scheme, totalling 125,388 sq m, provides 22,499 sq m at basement levels, with 102,889 sq m from ground upwards.

The blocks are positioned to provide pedestrian routes through the site and to incorporate a landscaped public pocket park. Further landscaping is proposed at various levels throughout the blocks.

The scheme is defined in the statutory notices as follows:

1. Construction of 1,005 No. residential units (with balconies and winter gardens on all elevations) arranged in 3 No. blocks ranging in height from 8 No. storeys to 45 No. storeys over a triple-level basement (including mezzanine plant level), the former comprising: Block A (8-14 No. storeys (including roof level terrace and extended access core); with an apartment mix of: 116 No. 1-bed; and 92 No. 2-bed; with landscaped terraces at Level 1 (south east elevation), Level 8 (south west elevation), Level 11 (south west elevation) and Level 14 (roof level)); Block B (8-41 No. storeys (including roof level terrace and extended access core); with an apartment mix of: 172 No. 1-bed; and 247 No. 2-bed; with landscaped terraces at Level 5 (south west elevation), Level 8 (north west elevation and south west elevation), Level 11 (north elevation), Level 12 (west elevation), Level 13 (east elevation), Level 14 (east elevation), and at Level 41 (roof level)); and Block C (11-45 No. storeys (including roof level terrace and extended access core); with an apartment mix of: 207 No. 1-bed; 168 No. 2-bed; and 3 No. 3-bed units; with landscaped terraces at Level 11 (north elevation), Level 24 (south, west and east elevation), Level 32 (south, west and east elevation), and Level 45 (roof level), incorporating a public viewing deck at Levels 44 and 45).
2. Provision of ancillary residential amenities and support facilities including: a residential study area (321 sq m), a gym/spa reception (52 sq m), a residents' games room (91 sq m), a residents' common room (110 sq m), a residents-only social space (193 sq m), a management office (96 sq m), a security office (50 sq m), concierge spaces (GFA of 369 sq m) all located at ground floor level; a residents' games room (122 sq m) located at Level 1 of Block B; a residents' common room (86 sq m) located at Level 14 of Block B; a residents' wellness club and common room (408 sq m) located at Level 24 of Block C;
3. Construction of a triple level basement, comprising two levels of basement and a mezzanine plant level (total basement area 22,499 sq m), accommodating: waste storage areas (659 sq m), plant rooms (4,228 sq m), maintenance / management offices (GFA of 92 sq m), residents' courier / parcel rooms (GFA of 210 sq m), residents' laundry rooms (GFA of 138 sq m), ancillary residential storage (GFA of 291 sq m), residents' WCs (65 sq m), a residents' gym / spa (1,529 sq m) and ancillary gym storage



room (100 sq m), residents' screening rooms (240 sq m), a residents' indoor plant cultivation room (356 sq m), 176 No. car parking spaces, 10 No. motorcycle parking spaces and 1,693 No. bicycle parking spaces, with vehicular access provided by ramp from North Wall Avenue.

4. Provision of 4,307 sq m of "other uses" as defined by the *Planning and Development (Housing) and Residential Tenancies Act 2016*, comprising: a childcare facility (450 sq m), a restaurant (110 sq m), an indoor Farmers' Market/foodhall (299 sq m), and 3 No. café units (110 sq m, 167 sq m and 261 sq m, respectively), all located at ground floor level; a restaurant (609 sq m) located at Level 32 of Block C; office use (1,894 sq m) from Levels 41 to 43 inclusive at Block C; and a public bar / function room (407 sq m) located at Level 44 of Block C.
5. Provision of 84 No. surface-level bicycle parking spaces, a pocket park, an external market area, a winter garden/seating area, and new pedestrian lanes from North Wall Quay, North Wall Avenue and Mayor Street Upper to the centre of the site.
6. All enabling and site development works, landscaping (including living walls), lighting, services and connections, waste management, interim site hoarding, and all other ancillary works above and below ground including the use of existing secant piling permitted under Reg. Ref. DSDZ3779/17 and DSDZ3780/17 (as amended by DSDZ3042/19).



4.0 EXAMINATION OF ALTERNATIVES

4.1 Introduction

Tom Phillips + Associates has prepared this Chapter of the *Environmental Impact Assessment Report*, which details the rationale underpinning the proposed development and an examination of alternatives.

4.2 Rational for the Proposed Development

The rationale for the development is to provide a high quality residential and mixed use development, comprising a significant quantum of residential accommodation, and complementary office use, with commensurate commercial, community uses, and residential amenity uses to serve the development.

This is fully supported in National, Regional, and Local Planning Policy. The *National Planning Framework* (2018) outlines consolidation of growth as being an objective.

The provision of high-density apartment development is advocated in the *Urban Development and Building Heights for Planning Authorities* (2018), under which the site is classified as a 'Central and/or Accessible Urban Location'. The Guidelines recognise the importance of increasing building height and promoting compact urban development in existing urban areas.

The redevelopment of the site is also supported under the *Eastern & Midland Regional Assembly - Regional Spatial & Economic Strategy 2019-2031* (RSES) Objective (RPO) 4.3, which seeks the consolidation and re-intensification of infill / brownfield sites.

The RSES identifies, in the *Metropolitan Area Strategy of the Eastern & Midland Regional Assembly - Regional Spatial & Economic Strategy 2019-2031*, the objective of achieving a population capacity of 60,000 (35,000 in the short term; 10,000 in the medium term and 15,000 in the long term), providing intensification on brownfield sites in Dublin City.

As referenced in Chapter 2 of this EIAR, the site is subject to the zoning objectives under the *Dublin City Development Plan 2016-2022* and is located in zone Z14 Strategic Development and Regeneration Areas (SDRAs) with the objective of "social, economic and physical development and/or rejuvenation of an area with mixed use of which residential and "Z6" would be the predominant uses".

As detailed in Section 2 of this EIAR, the site is within immediate proximity of existing and proposed high frequency public transport services, notably the Luas Red Line which terminates some 50m north east of the site. As outline in National and Local Policy, development in areas close to public transport should be promoted so as the deliver sustainable development.



4.3 Main Alternatives Studied

The main alternatives studied during the development of the project comprise alternative design solutions and layouts for the redevelopment of the eastern portion of City Block 9 to provide a primarily residential development on the site, in accordance with national, regional and local planning policy guidelines, as discussed further in Section 4.3.4 below.

4.3.1 Alternative Locations

Given the project comprises the redevelopment of the last remaining city block within the North Lotts and Grand Canal Dock Strategic Development Zone, the consideration of alternative locations is not relevant in this instance.

4.3.2 “Do-Nothing” Alternative

In the “Do-Nothing” scenario, the subject site remains in a cleared, brownfield state with no useful purpose, and the potential to redevelop the site to provide for a residential and mixed use development, in accordance with national, regional and local planning policy would not be realised.

4.3.3 Alternative Processes

Given the zoning objectives for the site, the requirements of the *North Lotts and Grand Canal Dock SDZ Planning Scheme 2014*, and the rationale for the project, no reasonable alternative processes were studied.

4.3.4 Alternative Design Approach

At the outset, the project architects undertook an extensive site appraisal to determine the appropriate scale, mass and layout of this scheme. We refer to the *Design Statement (SHD)* prepared by Henry J Lyons Architects dated January 2021 in this regard.

The analysis includes an assessment of the:

- Characteristics of the site and wider environs, proximity to the City Centre, as described in Chapter 2 of this EIAR;
- Existing and permitted development adjoining the site and within the wider area which changes the character of the site environs; and the
- Provisions of local, regional and national planning policy as referenced above and in particular, the provisions of the *North Lotts and Grand Canal Dock SDZ Planning Scheme 2014* which sets out proposed uses, masterplan form, and building heights, and recent National Policy (*Building Height Guidelines, 2018* and the *Apartment Guidelines, 2018*).



The masterplan for the site has been informed by the guidance set out in the *North Lotts and Grand Canal Dock SDZ Planning Scheme 2014* with respect to the placement of blocks on the site. Various options were considered as the scheme progressed and key considerations and design amendments were analysed having regard to the key environmental issues pertaining to the lands.

The environmental issues that have most informed the design process, to date, relate to visual impact, ecological considerations, water, noise impacts, and the potential impacts upon existing and future traffic and transportation in the area. These matters informed the consideration of alternative designs, layouts, and access arrangements up to the formalisation of the scheme submitted in this final application to the Board.

4.3.5 Alternative Land Use Mix

The allowable use mix in respect of the subject site is led by the requirements of the *North Lotts and Grand Canal Dock SDZ Planning Scheme 2014*. It is stated that “*For City Block 9, it is an objective to secure the 50:50 residential: commercial use mix.*”

This EIAR relates to the SHD Application, which provides for a primarily residential development, but with an element of commercial, as facilitated by the 2016 Act. It is noted that the Applicant has lodged an Application for a commercial development in the balance of City Block 9 – its form to be guided by the content of the 2014 Planning Scheme.

As per the requirements of the *North Lotts and Grand Canal Dock SDZ Planning Scheme 2014*, a *City Block Roll Out Agreement* has been prepared in respect of City Block 9. The CBRA demonstrates that the required mix will broadly be achieved at City Block 9 through the provision of a commercial development on the western portion (c. 0.85 ha), and a residential development on the eastern portion (c. 1.1 ha) of the site. Thus, a ratio of **1:0.82 or 50:41** (residential / commercial) is achieved.

It is therefore concluded that as the required land use mix has been achieved, no further alternatives should be considered.

4.3.6 Alternative Mitigation Measures

The mitigation measures which are outlined in the various chapters of the EIAR are considered appropriate to the location, nature and extent of the project and its potential impacts. As such, no alternative mitigation measures were considered.



5.0 Population and Human Health

5.1 Introduction

Tom Phillips + Associates has prepared this chapter of the *Environmental Impact Assessment Report* which examines the likely impacts of the proposed development on population and human health. The scope of the work includes an evaluation of the likely direct and indirect effects on human beings and addresses any likely impacts on amenity and the local economy.

5.2 Study Area

In order to assess the likely significant impacts of the proposed development on population and human health, an analysis of recent Census data was undertaken. Data relating to the economic, demographic, and social characteristics of the Electoral Districts within the surrounding area were examined.

In addition, the wider Dublin City area was also included, to provide a more accurate reflection of the current economic, demographic, and social trends relevant to the subject site and development.

5.3 Key Factors Assessed

A number of key factors were assessed in order to assess the potential impacts of the proposed development on the wider population and human health. These factors include the following:

- Population;
- Employment;
- Housing;
- Commuter Patterns / Traffic;
- Economy;
- Social Services and Amenities Provision; and
- Health and Safety.

5.4 Potential Impacts

5.4.1 Population Trends

The proposed development relates to residential Strategic Housing Development and as such will result in an increase in the population during the operational phase. As such, the potential



impact of the proposed development on population trends in the area is significant, positive, and long-term.

5.4.2 Housing

The site is currently an unused brownfield site and does not currently provide any form of residential housing to the local community. Generally, the potential impacts arising during the construction phase relate to quality of life, including visual impact, local amenity, noise, air quality and transport. It is unlikely that these impacts will be of a scale to either encourage people to move from the area or discourage people from moving to the area. Therefore, the impact on existing housing will be imperceptible.

At operational stage, the provision of various residential unit types within the development will help to address latent housing demand in the area. No negative impacts have been identified in relation to the increased provision of additional residential units in this location and as such, no mitigation measures are required.

5.4.3 Employment

The proposed development would result in an increase in employment numbers at the site at both the construction and operational phases. As such, the proposed development will have a short-term positive impact at construction stage and a long term, significant positive impact at operational stage. In a 'Do Nothing' scenario, the impact on employment arising from the proposed scheme not progressing would be negative and long-term.

5.4.4 Commuter Patterns / Traffic

Construction traffic movements will be scheduled and organised through the preparation of a Travel Plan. As such, impacts on the population as a result of traffic during the construction phase are considered to be short-term and not significant.

At operational phase, the proposed development will not alter the existing road network and will not impact existing public transport infrastructure, including the LUAS stops along the North Lotts. As such, the operation of the proposed development will have a neutral impact on the surrounding traffic conditions in the area. The permeable layout of the site and proximity to public transport is considered to improve sustainable transport. Thus, commuter patterns are considered to be significant, positive and long-term.

5.4.5 Economy

In a 'Do Nothing' scenario, the economic impacts of the proposed development not progressing would be long term, significant and negative. At construction phase, the increases in employment and consumption of building goods will result in a short term, moderate and positive impact. At operational phase, the development will accommodate between approximately 300 No. employees. As such this would represent a significant and long-term positive impact.



5.4.6 Social Infrastructure

At operational stage, the provision of a childcare facility, 2 No. restaurants, an indoor Farmers' Market/foodhall, 3 No. cafés, and a public bar / function room offer amenities for the Scheme's residents, local community, and wider society. As such, the proposed development would result in a long term, significant positive impact on the infrastructure and amenities available in the city centre.

5.4.7 Health and Safety

At construction phase, a detailed *Construction Management Plan* will be prepared to ensure that the relevant health and safety legislation is complied with, including Covid-19 related measures. Resulting from this, it is considered that the construction impacts of the proposed development on health and safety will be neutral.

At operational phase, proposed mitigation measures such as the provision of CCTV, the development of a building management plan and the erection of security barriers at the entrances to the new street are envisioned to reduce the risks associated with security threats.

5.5 Micro Climatic Assessments

In addition, the impact of microclimatic factors on the population have also been assessed and are included as additional reports accompanying the Application.

A *Daylight, Sunlight and Overshadowing Analysis* and a *Pedestrian Comfort CFD Analysis* by IES were also undertaken for the proposed development, which evaluated the wind conditions and airflow pattern around the development site. The findings of this assessment confirm that the proposed design will not have a significant impact on the wind comfort of the area. Indeed, the assessment finds that the proposed building improves wind comfort in comparison to the current building in a number of places on the northern and eastern site boundaries.

5.6 Additional Potential Environmental Impacts

The impact of the proposed development on Air and Climate, Noise and Vibration, and Landscape, Townscape and Visual are outlined in separate individual chapters of this *EIAR*.



6.0 Biodiversity

6.1 Introduction

ERM prepared a biodiversity impact assessment for the proposed development which assessed the potential impact to the ecological receptors during the construction and operational phase of the development.

6.2 Site Context and Characteristics

The Proposed Development will result in the loss of 0.2 ha of semi-natural habitats and 0.9 ha of recolonised bare-ground. The Proposed Development has the potential to affect the adjacent important ecological features (such as the local wildlife corridor of the River Liffey) during the construction and operation phases.

An Appropriate Assessment determined that there would be no adverse effects on European designated sites c. 2-3km away due to the construction or operation of the Proposed Development.

6.3 Potential Impact

The *Outline Construction Management Plan (CMP)* embeds mitigation approaches which reduce the effect of the Proposed Development on important ecological features so that they would not be adversely affected during construction. Measures in the CMP include scheduled working hours (8am – 6pm), construction lighting being switched off when not in use and the use of best practice measures to help ensure that the River Liffey is not contaminated as a result of construction activities. All of the measures in the CMP help to reduce the impact on species (such as birds and bats) which use the surrounding habitats for roosting and foraging.

The lighting of the River Liffey during operation is not considered to adversely impact the wildlife corridor due to the nature of the surrounding developments, as it will not significantly increase the amount of light spill onto the River Liffey. Operational biodiversity enhancements, including green walls, green roofs, pocket parks, ponds and roof terraces increase the provision of biodiverse habitats for foraging and roosting for birds, bats and insects. The provision of these enhancements is a net positive gain for biodiversity as a result of the Proposed Development, thus no mitigation is required.



7.0 LAND AND SOILS

7.1 Introduction

ERM prepared an assessment of the likely impact from the construction and operational phase of the development on the land and soils underlying the site.

7.2 Site Description and Context

The site is situated at North Wall Quay at the junction of North Wall Quay and Castleforbes Road, Dublin 1. The site covers an area of approximately 2 hectares. The site is currently vacant, existing above ground infrastructures have been demolished and removed from site. The site is underlain by imported made ground, natural alluvial deposits, still glacial boulder clay and Calp bedrock.

Land use surrounding the site is predominately mixed-use commercial and residential. To the north is Mayor Street Upper with office blocks and residential properties. To the south is the North Wall Quay with the River Liffey beyond. To the west is Castleforbes Road and a construction site. There is also a construction site to the east, beyond North Wall Avenue, for commercial and residential mixed use scheme.

7.3 Potential Impact

The proposed development will alter the current land use to a primarily residential development with some elements of commercial use. The implementation of the mitigation measures should reduce the potential risk to the land, soil and groundwater underlying the site. The risk of impact to the land, soil and groundwater environment is considered to be low and temporary in nature.

After implementation of the mitigation measures for the construction phase, the proposed development will not give rise to any significant long-term adverse impact. Moderate negative impacts during the construction phase will be short term only in duration.



8.0 HYDROLOGY (Water, Wastewater & Groundwater)

8.1 Introduction

This section of the EIAR has been prepared by Cronin and Sutton Consulting and describes the existing *Water & Wastewater* aspects on the proposed development site. ERM undertook an assessment of the potential risk local surface water receptors during the construction and operational phase of the development.

8.2 Hydrology

At present the subject lands are 100 percent impermeable. No water bodies cross the subject lands. The site's relative small size and its urban location indicate that the proposed re-development of the site will have no negative implications above the current hydrological regime on site. The subject site is deemed to be located in **Flood Zone C** under the Department of the Environment's Flooding Guidelines. An appropriate *Site Specific Flood Risk Assessment* has been carried out as part of this planning submission.

8.3 Water Supply

In accordance with the requirements of Irish Water the proposed connection location and internal details, including fittings and potable water storage will adhere to Irish Water Standards and specifications. It is proposed to take the new potable water connection off the existing 225mm HPPE main located to the north of the subject lands along Mayor Street. The proposed development shall adhere to the requirements of Irish Water for the provision of potable water resources. As required a Pre-Connection Enquiry was received from Irish Water indicating that the proposed development can be accommodated by local Irish Water infrastructure.

8.4 Surface Water Drainage

The proposed re-development of the site will require a new separate storm water collection and attenuation system in accordance with the requirements of Dublin City Council Drainage Division. Attenuation for the site will be provided and this will ensure that hydraulic capacity in the public sewer system is increased as the new development will restrict storm water flows from the site to 2.4l/s.

The proposed development will also provide an attenuation storage system, in the form of an underground tank, to withhold storm water from a 1 in 100 year extreme storm event suitably up-sized by 20% to address the predicted increase in precipitation due to climate change factors.

The proposed new drainage system will outfall into the existing 225mm storm sewer located in Mayor Street to the north of the adjacent site. In addition to the provision of storm water attenuation, which aids in the prevention of off site flooding during extreme storm water events a range of sustainable urban drainage measures, SuDs, are proposed for the site.



These measures to include green roofs & landscaping areas will ensure that the overall quality of storm water discharged from the site shall have improved water quality prior to ultimate discharge.

8.5 Wastewater

The proposed development will require a new internal foul drainage system to be constructed. The new internal system will outfall into the existing public 375mm foul sewer located to the north of the subject lands in Mayor Street, before ultimate treatment and disposal in the Regional Ringsend Wastewater Treatment Plant. All design, storage and materials are to be in accordance with Irish Water & Dublin City Councils requirements.

The proposed development shall adhere to the requirements of Irish Water for the provision of potable water resources. As required a Pre-Connection Enquiry was received from Irish Water indicating that the proposed development can be accommodated by local Irish Water infrastructure.

8.5 Potential Impact

Potential impacts were identified during the construction stage however these risks can be mitigated by the implementation of appropriate management controls and best practices which should be contained within the Contractor's Construction and Environmental Management Plan.



9.0 AIR AND CLIMATE

9.1 Introduction

ERM prepared an air quality impact assessment to assess the potential impact from the construction and operational stages of the proposed development.

9.2 Baseline Description

Based on the publicly available monitoring results, the following baseline has been used:

NO₂: 20.1µg/m³

PM₁₀: 16.1µg/m³

PM_{2.5}: 6.9µg/m³

9.3 Potential Impact

The development of the project has the potential to have adverse impacts on air quality at nearby receptors:

- Construction phase:
 - Dust and PM₁₀ from construction activities; and
 - NO₂ from road traffic.
- Operational phase:
 - NO₂ from road traffic.

The Institute of Air Quality Management (IAQM) set out a screening method for construction dust and PM₁₀. This methodology identifies the risk of significant impacts, due to the type and scale of activities, and proximity to receptors. On the basis of the risk identified, mitigation measures are then recommended to render impacts as negligible, or at worse, minor. Using this approach, mitigation has been identified for the project, and this will be implemented through the project construction.

The impacts of exhaust emissions from road traffic are assessed using a two step process. An initial screening step is used based upon IAQM guidance. If the number of vehicles, expressed as the Annual Average Daily Traffic (AADT), are below screening thresholds then traffic impacts are negligible and can be excluded from further assessment. If the AADT is above the screening threshold then detailed modelling is required. Construction traffic numbers are below the screening threshold, and therefore impacts are negligible. Operational traffic numbers are above the screening threshold for two sections of North wall avenue, and therefore detailed modelling has been undertaken using the ADMS-Roads



model for these. The model considered the with and without project future traffic, road dimensions, locations of receptors and road canyons. The local meteorology and baseline air quality were also considered. The detailed modelling identified that the impacts of operational traffic is negligible, and no mitigation is required.

Re-fuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles will take place off site or in a designated area that will be away from any existing surface water drains/open hole areas.

Following implementation of mitigation measures detailed in Chapter 9 of the EIA Report, the predicted impact during construction of the proposed development will be Neutral, Imperceptible, Likely and Temporary.

9.5 Operational Stage

During the operational phase, there are limited activities that could potentially impact on the land soils, geological and hydrogeological environment due to accidental leaks. The site will be covered with the basement slab. The impermeable surface will minimise the potential influx of any localised leaks or spill within the basement from entering the soils and underlying groundwater environment. Any accidental leaks from cars within the car parking/road areas will be directed through the surface drainage system via an appropriately sized interceptor.

The predicted impact during operation of the proposed development, following implementation of mitigation measures detailed in Chapter 9 of the EIA Report will be Neutral, Imperceptible, Unlikely and Long-term.



10.0 NOISE AND VIBRATION

10.1 Introduction

A noise and vibration impact assessment has been conducted by ERM following recognised guidance to consider the potential for significant effects during the construction and operation phases of the Project.

10.2 Potential Impacts

10.2.1 Construction Phase

Noise from construction has been assessed following the guidance in BS 5228⁶. The assessment considers the noisiest phase of works during the day, expected to be concreting works required to construct the superstructure. In addition, at night, power floating following concrete pours of the larger floors and slip form works have been considered (although it should be noted that slip form would not be the preferred option for construction of the RC cores).

As initial modelling showed the potential for significant noise impacts, standard mitigation measures have been assumed to provide a reduction for most plant items.

Construction plant generating high levels of vibration which may be significant at the nearest NSRs are not expected to be required. Therefore, vibration has been scoped out of further assessment.

Enabling works do not generally require large quantities of plant, are limited to the daytime, and progress at a reasonably rapid rate. Therefore, they are not considered to have potential to cause significant noise impacts and have been scoped out of further assessment. In the unlikely event the need for enabling works at night arise during detailed design, an assessment of the magnitude and duration of works will be carried out to determine whether mitigation measures are appropriate.

Mitigated construction noise levels during the daytime are predicted to exceed the criterion by up to 2 dB, resulting in impacts of Minor or below at all NSRs.

At night, noise from slip form works of up to Major are predicted at all residential NSRs when works are at their closest. If this construction method is adopted (noting it would not be the preferred option), further mitigation will be considered, such as the use of local screening placed around the slip form rig. Mitigation to eliminate significant impacts as far as practicable will be agreed with the local authority.

Up to medium magnitude exceedances are predicted during the night from power floating works at the closest residential NSRs on Mayor Street Upper and North Wall Avenue. No exceedances are predicted at NSRs to the south of the River Liffey. Impacts at this level may occur for up to 15 nights based on the highest adjacent residential block being approximately 15 storeys high, as once the floor level of each project block exceeds that of the surrounding receptors, noise from power floating is expected to be reduced by screening from the floors

⁶ BS 5228-1:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites', BSI, 2014



themselves. In addition, power floating would not occur more than 4 nights in any 7. Therefore, the significance of this impact is considered Minor.

Changes in traffic noise are predicted to be less than 3 dB during the day and night-time and therefore not significant.

In terms of cumulative effects, should construction of the Project be carried out at the same time as the construction of other nearby developments, it could contribute to an increase in cumulative construction noise levels of up to 3 dB which is not considered a significant increase. In addition, basement construction of the City Block 9 development (assessed as part of a separate application) and construction of neighbouring blocks may extend the duration of construction effects at receptors nearby.

10.2.2 Operational Phase

During detailed design, residential units will be designed to reduce external noise levels, to ensure adequate internal noise levels are achieved. Therefore, an assessment of noise effects on proposed residential units has been scoped out.

Changes in noise from traffic increases as a result of the Project are predicted to be less than 1 dB on all roads, below the 3 dB criterion and therefore not considered significant.

Building services plant will be designed to meet the noise standards from NG4⁷ at the nearest NSRs.

Cumulative increases in traffic noise are predicted to be below 3 dB on all surrounding roads, except along North Wall Avenue adjacent to the site, where a small (0.1 dB) exceedance is predicted. However, the contribution to these noise increases from the project is predicted to be small; approximately 1 dB or less during the day, with negligible increases expected at night.

(7) EPA's "Guidance Note for Noise: Licence Applications, Survey and Assessments in Relation to Scheduled Activities (NG4)". 2016



11.0 MATERIAL ASSETS – WASTE

CS Consulting has prepared this chapter of the EIAR. This chapter of the EIAR comprises an assessment of the likely impact of the proposed development on the waste generated from the development as well as identifying proposed mitigation measures to minimise any impacts.

At present the subject site is undergoing excavation works permitted from an earlier planning application. The proposed application does not address material currently being excavated to form the basement area of the development. The water chapter address the waste generated during the construction/operational phase of the development.

In accordance with local and regional guidance, along with a review of industry best practice the potential impact of the proposed development during its construction & operational phase has been assessed. The assessment reviewed the likely causes of onsite waste production during the construction stages regarding construction materials and waste material generated by the construction operatives. In addition, the assessment looked at the operational phase for the development.

Should no development take place on the subject lands then there will be no increase in construction or operational waste above what is currently being excavated as part of the permitted permission.

The operation impact of the proposed development will require waste management protocols to be adopted. These allow for a more sustainable/recycling culture to be developed and used post construction. These protocols operate around waste reduction and recycling. As it is not practical to completely remove the generation of waste by-products. Waste which cannot be eliminated will be, where practical, recycled using various waste segregation systems to separate out as much material as possible for recycling.

The proposed development mitigation measures regarding the generation of waste both at the construction phase and operational phase will take the form of implementing strategies to ensure that waste streams are kept to a minimum. The proposed implementation of the waste hierarchy approach will ensure that best practices are followed to reduce & recycle waste materials.

The impact from the proposed development will be that material which can be recycled will be sent to suitable facilities, while material which has no further use will be sent to a suitable facility for ultimate disposal, this may still have a benefit if the waste material is sent to the Dublin regional municipal incinerator. From which waste material is used as fuel to be converted into a power source which feeds the local district heating system. As noted, waste minimisation, reuse and recycling are at the core of the proposed developments waste management strategy it will not be possible to completely recycle all elements of waste generated, and as such a percentage of waste generated will be unsuitable for any disposal option but landfill.

All waste generated either during the construction phase or the operational phase will be required to be ultimately disposed of. The required segregation and disposal of waste ensures that a high level of onsite operational management is in place to reduce this as far as is practical, due to the financial expenditure required in the disposal of same. To ensure this



occurs the management company tasked with the operational running of the proposed development will use a detailed waste minimisation plan to ensure that waste generated is disposed of in accordance with the developments waste procedures while adhering to the local & regional regulations.



12.0 MATERIAL ASSETS – TRAFFIC AND TRANSPORTATION

This chapter has been prepared by Gordon Finn, BA, BAI, MAI, MIEI, Roads and Traffic Engineer with Cronin & Sutton Consulting Engineers (CS Consulting). This assessment is based in part on the outcome of the Traffic Impact Assessment (TIA) report prepared by CS Consulting and submitted separately in support of this SHD planning application.

12.1 Existing Environment

Vehicular access to the proposed development shall be via a priority-controlled junction on North Wall Avenue, at the eastern boundary of the development site. This 4-way junction shall also serve the permitted development currently under construction on the eastern side of North Wall Avenue. The scope of the impact assessment encompassed this new access junction, as well as the following five existing junctions on the surrounding street network:

- Castleforbes Road / Mayor Street Upper;
- North Wall Avenue / Gibson Hotel Access / Luas Stop / Exo Construction Site / Mayor Street Upper;
- North Wall Quay / Castleforbes Road;
- North Wall Quay / North Wall Avenue; and
- Castleforbes Road / 'Project Wave' Underground Car Park.

Baseline modelling has shown that these five existing junctions currently operate well within their effective capacities during peak periods, and that queues and delays on these junction approaches are generally low.

12.2 Impact Assessment

Traffic survey data recorded on the 10th of April 2019 were used to determine the local peaks in background traffic flow. The surveyed traffic flows were scaled up to obtain background traffic flows for the baseline year of 2020.

Trip generation factors from the industry-standard TRICS database have been used to predict the trip generation to and from the proposed development, for both the morning and evening peak hour periods. In addition to the subject development, vehicular trips predicted to be generated by committed and planned developments in the vicinity of the subject site were included in the background traffic flows for future assessment years. At each of the junctions assessed, vehicular arrivals and departures were distributed in accordance with the directional splits observed at the junction during the traffic survey.

The operational performance of the five existing junctions and development's proposed new access junction on North Wall Avenue was assessed using industry-standard TRANSYT software. An integrated model was constructed that incorporated these six linked junctions;



the performance of these was then assessed under current traffic conditions, as well as for the planned year of opening, 5 years after opening, and 15 years after opening (the design year).

12.2.1 Do Nothing Scenario

Modelling results for the design year 2038 show that background traffic growth and the addition of vehicular traffic related to committed and planned developments (excluding the subject development), shall not have a significant adverse impact on the operational efficiency of the five existing junctions assessed. All junction approaches shall continue to operate within capacity, with queues and delays remaining at levels similar to those currently existing.

12.2.2 Construction Phase Impact

Development traffic during the construction phase is likely to reach at most 80 vehicle movements per day at its peak (a maximum of approx. 16PCU/hr in each peak hour period). Consequently, the impact of construction traffic on the operation of the surrounding road network shall be less significant than the impact of operational traffic related to the subject development. This impact shall be confined to the duration of construction activity on the subject site.

12.2.3 Operational Phase Impact

Modelling results for the design year 2038 show that operational traffic related to the subject development is likely to have a long-term slight adverse impact on the operational efficiency of the five existing junctions assessed, in comparison to the Do-Nothing Scenario. Development traffic shall not be the cause of any junction becoming oversaturated and shall result in only minor increases in vehicle queues and delays.

The development's proposed new access junction on North Wall Avenue is shown to operate well within effective capacity past the year 2038, with negligible vehicle queueing or delay.

12.3 Mitigation

12.3.1 Construction Phase

The lead contractor appointed for the construction of the development shall be required to prepare a Construction Management Plan, including a plan for the scheduling and management of construction traffic, which shall outline measures to be taken to mitigate the impact of construction traffic on the surrounding road network.



12.3.2 Operational Phase

The development shall incorporate several design elements intended to mitigate the impact of the development on the operation of the surrounding road network. These include a reduced car parking provision, which shall discourage higher vehicle ownership rates and excessive vehicular trips to the development, and a high provision of secure bicycle parking, which shall serve to encourage bicycle journeys by both development occupants and visitors.

In addition, a Mobility Management Coordinator shall be appointed for the proposed development, with the remit to implement and oversee an ongoing Mobility Management Plan (MMP). This shall assist development occupants and their visitors in making the most of sustainable transport opportunities and in avoiding single-occupant car journeys.

12.4 Residual Impact

In terms of traffic and transport considerations, the residual impact of the subject development – in its operational phase – is equivalent to the operational impact. The development's construction phase shall have no residual impact in terms of traffic and transport.

12.5 Monitoring

A Mobility Management Coordinator shall be appointed for the proposed development, with the remit to implement and oversee an ongoing Mobility Management Plan (MMP). In conjunction with this, the Mobility Management Coordinator shall be responsible for monitoring the travel habits of development occupants and visitors, for instance by conducting periodic travel surveys.



13.0 MATERIAL ASSETS – SITE SERVICES

This chapter was prepared by Robert Fitzmaurice of CS Consulting. Robert is a Chartered Engineering with Engineers Ireland and has been practicing as a consulting engineer for twenty years. Robert holds an undergraduate degree in Civil & Environmental Engineering, a postgraduate Diploma in Environmental Engineering and has a master's degree in Industrial Engineering.

The elements relating to power, gas and telecoms was prepared by Cian Dowling of Axiseng. Cian is a Chartered Engineering with Engineers Ireland and has been practicing as a consulting engineer for twenty years.

13.1 Material Assets

Material Assets considers physical resources in the environment which may be of human or natural origin. The objective of the assessment is to ensure that these assets are used in a sustainable manner, so that they will be available for future generations, after the development of the proposed development.

Economic assets of a natural origin include the assimilative capacity of air, water, landscape; together with non-renewable resources such as minerals and soils and renewable resources such as biodiversity.

This sub-section considers the key aspects relating to material assets of the proposed development site and the surrounding area, namely traffic infrastructure, waste, potable water supply, wastewater discharge, electricity and gas supply.

The Material Assets chapter describes existing services to the application site and describes the predicted impacts which the development may have on these services.



14.0 CULTURAL HERITAGE INCL. ARCHAEOLOGY

14.1 Introduction

The proposed development area is situated within a brownfield site bordered by the North Wall Quay to the south, Mayor Street Upper to the north, and North Wall Avenue to the east. The zone of archaeological potential for Dublin City (DU018-020) is located adjacent to the southern section of the proposed development. There are a further three recorded monuments within 250m of the site, including Sir John Rogerson's Quay (DU018-020201), the Great South Wall (DU018-066) and North Wall Quay (DU018-020564).

Archaeological monitoring of excavations associated with a permitted basement within the proposed development area is currently ongoing (October 2020) (Planning Ref.: DSDZ3042/19). This work is being carried out under the supervision of Muireann Ni Cheallachain of IAC Archaeology, under licence 19E0436, as issued by the DoCHG. To date, no features of archaeological significance have been identified.

A review of the Excavations Bulletin (1970–2019) revealed that a large number of previous investigations have taken place within the study area of the proposed development, many of which encountered evidence of post-medieval reclamation layers and/or structures. Three investigations encountered evidence of prehistoric fishing activity preserved underneath reclamation layers to the west of the proposed development.

An analysis of the cartographic sources has shown that the proposed development area was situated within the flood plains of the River Liffey to the east of Amiens Street (then known as the Strand) until the 18th century when it was reclaimed as part of the North Lotts Scheme. Initial development was slow in this area; however, the establishment of the Grand Canal, docks, and railways led to the industrialisation of the docklands in the later 18th and early 19th century. A number of structures associated with a saw mill, cattle pens, and timber yards were built within the proposed development area during the late 19th and early 20th century, although none survive today. The aerial photographic coverage of the site and the site inspection failed to identify any previously unknown archaeological and cultural heritage features within the site. All post medieval structures have been removed and the site was covered by a concrete slab until the commencement of enabling works.

14.2 Potential Impacts

14.2.1 Construction Stage

Archaeology

Archaeological monitoring of excavations associated with a permitted basement within the proposed development area is currently ongoing (October 2020) (Planning Ref.: DSDZ3042/19) under licence 19E0436. As such, any archaeological remains that may be present will be identified and mitigated as part of the existing permission. Therefore, no negative impacts are predicted upon the archaeological resource as a result of the construction of the development.



Cultural Heritage

No potential negative impacts upon the cultural heritage resource are predicted as a result of the construction of the proposed development.

14.2.1 Operational Stage

No negative impacts during operation are predicted upon the archaeological and cultural heritage resource.

14.2.3 Do Nothing Impact

If the proposed development were not to proceed, there would be no negative impact on the archaeological or cultural heritage resource.

14.2.4 Worst Case Impact

No worst-case impacts have been identified, as any archaeological remains will be mitigated for as part of the existing permitted development on site.

14.3 Mitigation Measures

14.3.1 Archaeology

No mitigation is required in relation to the archaeological resource.

14.3.2 Cultural Heritage

No mitigation is required in relation to the cultural heritage resource.

14.4 Monitoring

None required.

14.5 Cumulative Impacts

No cumulative impacts are predicted upon the archaeological or cultural heritage resource.

14.6 Residual Impacts

There will be no residual impacts upon the archaeological or cultural heritage resource.



15.0 INTERACTIONS

15.1 Introduction

Tom Phillips + Associates has prepared this Chapter of the *EIAR*. It deals with likely interactions between effects predicted as a result of the proposed development.

In addition to the requirement under the *Planning and Development Regulations, 2001 – 2020*, to describe the likely significant effects of the proposed development on particular aspects of the environment, it is also required to consider the interaction of those effects.

As such, these are assessed below.

This section addresses the intra-project significant effects (i.e. those occurring between environmental topics within the project). Inter-project effects (i.e. those which are likely to occur as a result of the likely impacts of the proposed development interacting with the impacts of other projects in the locality) have also been considered.

We have established a range of planned / permitted projects have the potential to interact to with either the construction or operational phases of the development. These are identified in Table 3.1 of this *EIAR*.

Further detail relevant to the interaction of impacts may be found in the earlier chapters of the *EIAR*.

15.2 Inter-Relationships/ Interactions

It is noted that all aspects of the environment are likely to interact to some extent and to various degrees of complexity. The likely significant interactions between factors arising from the proposed development are set out in the matrix provided as Table 15.1 below.



Table 15.1: Matrix of Interactions Between Environmental Factors

	Population & Human Health	Biodiversity	Land and Soils	Water & Hydrology	Air Quality/ Climate	Noise & Vibration	Traffic	Waste	Site Services	Archaeology, & Cultural Heritage	Townscape, Landscape and visual
Population & Human Health					✓	✓	✓	✓	✓		✓
Biodiversity			✓	✓	✓	✓		✓			✓
Land and Soils				✓	✓			✓		✓	
Water & Hydrology									✓		
Air Quality/ Climate							✓		✓		
Noise & Vibration							✓				
Traffic											
Waste											
Site Services											
Archaeology & Cultural Heritage											
Townscape, Landscape & Visual											



16.0 MITIGATION MEASURES

16.0 MITIGATION MEASURES

The chapters contained within this EIAR have been ordered in a grouped format by their relevant topic. This chapter summarises all mitigation measures proposed in order to provide a comprehensive overview of the full range of mitigation measures discussed within each chapter.

For clarity, the *EPA Guidelines (2017)* define mitigation measures as those “*measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements*”.

16.1 Population and Human Health

16.1.1 Construction Phase

Regarding population, housing, employment, economy, and social services and amenity, no negative impacts have been identified in relation to the provision of a Strategic Housing Development at a site zoned for such development and as such, no mitigation measures are required.

Regarding traffic, a *Construction Traffic Management Plan* will be prepared to encourage sustainable travel modes for construction workers and outline an appropriate control and routing strategy for HGVs accessing the site.

Regarding Health and Safety, during the construction phase, there is a requirement for adherence to the legal duties under the *Construction Regulations (Safety, Health and Welfare at Work (Construction) Regulations 2013*⁸).

Strict security measures will also be implemented to deal with all access to the site. These measures will require all vehicles and personnel visiting the site to be logged in and out.

Regarding Covid-19, precautions will be implemented on site in accordance with the Construction Industry Federation approved document. Management will keep up to date with the latest updates and ensure these are implemented on site.

16.1.2 Operational Phase

Regarding population, housing, employment, economy, and social services and amenity, no negative impacts have been identified in relation to the provision of a Strategic Housing Development at a site zoned for such development and as such, no mitigation measures are required.

⁸ Health and Safety Authority (2017) http://www.hsa.ie/eng/Your_Industry/Construction/Construction_Duty_Holders/



Regarding Traffic, the design approach to access and layout ensures a high degree of sustainability by maximising pedestrian spaces and providing significant cycling infrastructure. In order to ensure that sustainable transport means are encouraged, a Mobility Management Plan will be prepared. In particular, use of high-capacity traffic infrastructure proximate to the site will be encouraged.

Regarding Health and Safety, at operational phase, proposed mitigation measures such as the provision of CCTV, the development of a building management plan and operational management plan are envisioned to reduce any potential security / anti-social behaviour issues.

16.1.2 Monitoring

The lead contractor appointed for the construction of the development shall be required to prepare a *Construction Management Plan (CMP)* that shall include a plan for the scheduling and management of construction traffic. This *CMP* shall outline measures for monitoring the impact of construction traffic on the operation and condition of the surrounding street network, including remedial actions to be taken in the event of construction traffic causing damage to road infrastructure.

Covid-19 will be considered when preparing method statements and when carrying out the works on site. All works will be monitored by the Site Covid Compliance Officers and Safety Officers.

Monitoring typical levels of noise and vibration during critical periods and at sensitive locations.

16.2 Biodiversity

The following mitigation measures will be implemented as part of the proposed project in order to minimise the potential effects on the existing ecology as discussed above.

16.2.1 Operational Phase

Mitigation Measures for Designated Sites

- In accordance with good practice, construction methods would minimise environmental effects on site. These standard measures would be implemented to prevent significant impacts from contamination, pollution and suspended sediment entering the River Liffey from surface water networks and dust during the construction phase.
- Overall, the removal of contaminated fill material, subsoils and treatment of the contaminated groundwater during the dewatering construction works would improve the environmental quality of the area. There is not anticipated to be a direct adverse environmental impact of the construction works on the soil / geological or



groundwater on-site or on surrounding off-site environmental receptors (including designated sites), due to the implementation of the detailed dewatering plan.

Mitigation Measures for Birds

- All vegetation clearance would take place outside the bird breeding season, which runs from approximately March to August (inclusive). If any areas of vegetation cannot be cleared outside this period, a breeding bird check would be required no more than 24 hours before the vegetation is due to be removed. If nests are present or signs of nest making activity, then vegetation would remain in place until the young had fledged and verified that this had occurred by a suitably qualified ecologist.

Mitigation Measures for Bats

- In order to reduce the amount of light spill from construction lighting, any lighting which is not required during the night will be switched off.

16.2.2 Operational Phase

No operational impacts are predicted and therefore, no mitigation measures are required.

16.2.3 Monitoring

- Ecological monitoring would be carried out during the construction stage to ensure mitigation measures regarding water quality of the River Liffey are implemented properly.
- Surface water samples would be recovered from the Liffey upstream, adjacent to, and downstream of the site at regular intervals during the development works to monitor conditions for the potential of impacted groundwater discharging from the site to impact the quality of the River Liffey.
- Installation of monitoring well(s) outside the pile wall would provide information on any potential groundwater mounding / lowering.
- Treated water during enabling works and construction would require continual monitoring to check that water quality standards are in compliance with the requirements of the discharge license.
- Regular monitoring of the on-site treatment plant would be undertaken to ensure the discharge water is being adequately treated prior to discharge.



16.3 Land and Soils

16.3.1 Construction Phase

Prior to the start of redevelopment works, the Contractor should produce a *Construction Environmental Management Plan (CEMP)* which will incorporate mitigation measures such as containment procedures, audit and review schedules and an Emergency Response Plan in the event of spills, flooding or other incidents that may contribute to pollution to water during construction.

Dewatering and surface water discharges on the site, during construction and prior to completion will be controlled. All necessary facilities will be incorporated such as settlement ponds/tanks, oil/grit interceptors with shut down valves, bunded oil storage tanks adjacent to a petrol interceptor for storage of any recovered oil. A monitoring programme including sampling for water quality before discharge to the Council sewer during construction will be carried out to ensure that only clean surface water is discharged to the receiving systems.

Excavation of Subsoil Layers

Subsoils should be excavated, stored and transported in accordance with the Contractor's CEMP. The CEMP should include details of the National Waste Collection Permit of haulage contractors along with the waste soil classification report. Waste Transfer Certificates issued from receiving waste facilities should also be logged and stored.

Imported Fill

If imported material is required, the source, quality and contamination status of the material should be confirmed by the Contractor and approved by a suitably qualified Environmental Consultant prior to importation and placement.

Construction Traffic

The Contractor should provide wheel wash facilities close to the site entrance to reduce the deposition of mud, soils and other substances on the surrounding road network.

Accidental Spills and Leaks

All refuelling and plant servicing should be undertaken in designated hard standing areas away from any water courses or site drains. Any fuel or chemicals should be stored in appropriate double skinned tanks/containers within bunded areas. The Contractor shall also provide spill kits to clean up any accidental spills and leaks.



Geological Environment

The proposed development will not impact on the underlying bedrock geology as the basement will be excavated into the overlying alluvial deposits and boulder clay.

16.3.2 Operational Phase

Based on the proposed activities of the development and the installation of a drainage system no mitigation measures have been identified.

16.3.3 Monitoring

The Contractor should include monitoring and auditing of the implementation of the *CEMP* to ensure appropriate mitigation measures are being applied during the construction stage of the development.

16.4 Landscape and Visual Impact

16.4.1 Construction Phase

The building site including a site compound with site offices, site security fencing, scaffolding and temporary works will be visible during the construction phase. The provision of site hoarding along the property boundaries will substantially address many potential effects of construction operations at ground level during the delivery stage.

Construction cranes (and of course, the emerging buildings) will become visible from neighbouring properties and also from a number of more distant vantage points as the development proceeds.

The cranes and site facilities are generally viewed as a temporary and unavoidable feature of construction, particularly in urban settings. Mitigation measures proposed during the construction stage of the development, revolve primarily around the implementation of appropriate site management procedures during the construction works – such as the control of lighting, storage of materials, placement of compounds, control of vehicular access, and effective dust and dirt control measures, etc.

The *Outline Construction Management Plan* for the project, which is submitted with this Application, sets out the basic measures to be employed in order to mitigate potential negative effects during construction. This is a working document which is refined and added to as the project proceeds.

16.4.2 Operational Phase

The designed scheme seeks to harmonise and integrate the development within the existing landscape and the broader urban environment whilst adhering to National Planning policy



which seeks the densification and the provision of increased height on appropriate urban sites.

The design rationale and detail employed seeks to mitigate potential negative effects on the landscape character and visual amenity of the area by:

- Establishing an integrated relationship between the proposed development and surrounding buildings and the broader urban landscape beyond, incorporating aspects of current and emerging trends in built-form, scale, texturing, colour and materials;
- The insertion, positioning and detailed modelling of the buildings, in order to assist in the appropriate visual assimilation of their mass;
- Appropriate architectural detailing to assist in the integration of the external building facades – including the modulation of openings and fenestration;
- Rationalisation of all services elements and any other potential visual clutter and its incorporation internally within building envelopes (as far as practically possible);
- Simplification and rationalisation of the proposed roof lines with integrated communal gardens on the roofs of all buildings;
- Use of appropriate materials;
- The provision of significant additional public space;
- The provision of communal/public uses within the development; and
- Pedestrian and cycle facilities and linkage are proposed as an integral feature through the proposed scheme.

16.4.3 Monitoring

There is no monitoring associated with this aspect of the *Environmental Impact Assessment Report*.

16.5 Hydrology

16.5.1 Construction Phase

- Prior to construction the Contractor will be required to develop an *Environmental Management Plan* which will incorporate mitigation measures such as containment procedures, audit and review schedules and an Emergency Response Plan in the event of spills, flooding or other incidents that may contribute to pollution to water during construction.



- All batching and mixing activities will be located in areas away from watercourses and drains.
- Protection measures will be put in place to ensure that all materials used during the construction phase are appropriately handled, stored and disposed of in accordance with recognized standards and manufacturer's guidance.
- Surface water drainage around the batching plant will be controlled and washout from mixing plant will be carried out in a designated, contained impermeable area.
- Spills of concrete, cement, grout or similar materials will not be hosed into drains.
- Rainwater that accumulates on site will be discharged to the DCC sewer system.
- The Contractor will comply with the following guidance documents:
 - CIRIA – Guideline Document C532 Control of Water Pollution from Construction Sites (CIRIA, 2001)*
 - CIRIA – Guideline Document C624 Development and Flood Risk - guidance for the construction industry (CIRIA, 2004).*
- Dewatering and surface water discharges on the site, during construction and prior to completion will be controlled. All necessary facilities will be incorporated such as settlement ponds/tanks, oil/grit interceptors with shut down valves, bunded oil storage tanks adjacent to a petrol interceptor for storage of any recovered oil. A monitoring program including sampling for water quality before discharge to the Council sewer during construction will be carried out to ensure that only clean surface water is discharged to the receiving systems.
- The Contractor will make all necessary arrangements for a temporary water supply in agreement with Irish Water and or Dublin City Council, in addition temporary pumping of ground water to facilitate the proposed basement construction will be licensed by Dublin City Council and the water levels monitored as outlines in the basement impact assessment.

16.5.2 Operational Phase

- Incidental surface run-off from underground basement car parks, compactor units and waste / service yard areas will be discharged into the foul drainage system. Grit / petrol / oil separators will be provided in all of the above areas to improve the quality of water discharging.
- The provision of flow control with storm-water attenuation will ensure the rate of discharge of surface water is limited to greenfield run-off rates of 2 litres/second/hectare with a total allowable surface water discharge of 2 litres/second in line with the recommendations of the Greater Dublin Regional Code of Practice for Drainage Works and the Greater Dublin Strategic Drainage Study.



- SuDS proposals will improve the quality and reduce the quantity of surface water discharging into the receiving system.
- Removal of the surface water from the existing combined sewers will reduce the hydraulic loading on the existing sewerage network and Waste Water Treatment Plant (WWTP) at Ringsend.
- Moderate negative impacts during the construction phase will be short term only in duration. Implementation of the above measures will mitigate any significant long-term adverse impact.

16.5.3 Monitoring

Ongoing monitoring of the water quality during construction is proposed. It is not foreseen that any monitoring will be required on completion of the proposed development.

16.6 Air and Climate

16.6.1 Construction Phase

The pro-active control of fugitive dust will ensure the prevention of significant emissions, rather than an inefficient attempt to control them once they have been released. The main contractor will be responsible for the coordination, implementation and ongoing monitoring of the dust management plan. The key aspects of controlling dust are listed below. Full details of the dust management plan can be found in Section 9.4.1 of this EIAR and as part of the *Outline Construction Management Plan*.

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
- Display the head or regional office contact information.
- Develop and implement a *Dust Management Plan (DMP)*, which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. In London additional measures may be required to ensure compliance with the Mayor of London's guidance. The DMP may include monitoring of dust deposition, dust flux, real time PM10 continuous monitoring and/or visual inspections.
- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.



- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.
- Hold regular liaison meetings with other high risk construction sites within 500 m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/ deliveries which might be using the same strategic road network routes.
- Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary.
- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- Agree dust deposition, dust flux, or real-time PM10 continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks, and construction.
- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
- Avoid site runoff of water or mud. Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
- Cover, seed, or fence stockpiles to prevent wind whipping.
- Ensure all vehicles switch off engines when stationary - no idling vehicles.



- Avoid the use of diesel or petrol-powered generators and use mains electricity or battery powered equipment where practicable.
- Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
- Produce a *Construction Logistics Plan* to manage the sustainable delivery of goods and materials.
- Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).
- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and conveyors and covered skips.
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
- Avoid bonfires and burning of waste materials.
- Avoid scabbling (roughening of concrete surfaces) if possible.
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overflowing during delivery.
- For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.



- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site log book.
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- Access gates to be located at least 10 m from receptors where possible.

At all times, the procedures within the plan will be strictly monitored and assessed. In the event of dust nuisance occurring outside the site boundary, movements of materials likely to raise dust would be curtailed and satisfactory procedures implemented to rectify the problem before the resumption of construction operations.

The assessment illustrates that there are potentially significant impacts associated with construction dust. Mitigation measures are therefore recommended. The uptake and correct implementation of these mitigation measures are designed to result in impacts being reduced to negligible.

The construction of the project will generate traffic on nearby roads. The assessment illustrates that the impact to air quality as a result of emissions from this traffic are negligible. On this basis no mitigation is required.

16.6.2 Operational Phase

No mitigation measures are required for the operational phase of the development.

The operation of the project will generate traffic on nearby roads. Stage 1 screening identified that there was the potential for significant impacts on North Wall Avenue. Stage 2 detailed modelling was therefore undertaken. The assessment illustrates that the impact to air quality as a result of emissions from this traffic are negligible. On this basis no mitigation is required.



Construction traffic and embodied energy of construction materials are expected to be the dominant source of greenhouse gas emissions as a result of the construction phase of the proposed development. Construction vehicles, generators etc., may give rise to some CO₂ and N₂O emissions. However, based on the short-term nature and moderate scale of the works, the impact on climate will not be significant.

Nevertheless, some site-specific mitigation measures can be implemented during the construction phase of the proposed development to ensure emissions are minimised. In particular, the prevention of on-site or delivery vehicles from leaving engines idling, even over short periods. Minimising waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the site.

16.6.3 Monitoring

Daily on-site and off-site inspections will be conducted, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary. Additionally, regular site inspections will be carried out to monitor compliance with the *DMP*, record inspection results, and make an inspection log available to the local authority when asked.

At operational phase, monitoring of the EPA's annual air quality reports will be conducted. Air quality monitoring programs have been undertaken in recent years by the EPA at a number of locations in Dublin city centre. The most recent annual report on air quality, "Air Quality in Ireland 2019" (EPA 2020), details the range and scope of monitoring undertaken throughout Ireland.

16.7 Noise and Vibration

16.7.1 Construction Phase

Initial modelling showed the potential for significant construction noise impacts at the nearest NSRs and therefore mitigation measures have been considered. Mitigation measures are available which will reduce impacts, including, where necessary, the generic measures listed below:

- Use of stationary equipment, e.g. compressors, generators and pumps fitted with properly lined and sealed acoustic covers or enclosures, which will be kept closed whenever the machines are in use;
- Fitting of mufflers or silencers of the type recommended by manufacturers;
- Shutting down of machines in intermittent periods between work, or throttling down to a minimum;
- Maintenance of plant in good working condition to minimise noise; and



- Siting noisy plant and equipment as far away as possible from NSRs, and use of barriers (eg site huts, acoustic sheds or partitions) to reduce the level of construction noise at receptors wherever possible.

It is assumed that the majority of plant can be mitigated to some degree, either by choosing quieter models or through enclosure or partial enclosure. A reduction of 5 dB has been assumed to be achievable for most plant items, with a reduction of 10 dB assumed for generators. No reductions have been assumed for concrete trucks or hand-held welders.

Installation of site hoardings, security measures and signage etc along with later stages, such as landscaping and internal fit-out, are not considered to have the potential to cause significant noise impacts.

Enabling works such as diverting existing services and the installation of new services do not generally require large quantities of plant, are limited to the daytime, and progress at a reasonably rapid rate. Therefore, they are not considered to have potential to cause significant noise impacts and have been scoped out of further assessment. In the unlikely event the need for night working for enabling works arise during detailed design, an assessment of the magnitude and duration of works will be carried out to determine whether mitigation measures are appropriate.

The modelling assumes that all three blocks will be constructed simultaneously. The construction noise predictions have been made based on preliminary site layout drawings showing the locations of fixed plant items such as tower cranes, concrete placing booms and the placing boom pump unit. Handheld and mobile plant such as poker vibrators and circular saws have been distributed towards the edges of all of the three blocks to provide a reasonable worst-case estimate of noise levels for all receptors simultaneously, for the daytime concreting phase. No screening from buildings, site hoardings or other objects has been included, which is conservative.

Slip form and power floating works may be required at night. Slip form works have been modelled assuming that a single RC core is constructed at a time. Power floating will be carried out following a floor pour. It is expected to begin before the night-time period and normally be complete by 1am at the latest, although, by exception, may need to continue later as a result of cold, inclement weather. For the purpose of assessment, it is assumed that power floating continues until 1am. For each activity, several scenarios have been modelled to represent construction works taking place within the three blocks and a range of predicted noise levels presented in Section 10.2 of this EIAR.

16.7.2 Operational Phase

Residential

During detailed design, residential units will be designed to reduce external noise levels, to ensure adequate internal noise levels are achieved. Therefore, an assessment of noise effects on proposed residential units has not been included.



As for construction, changes in road traffic noise from the operation of the Project are assessed using CRTN, with noise changes of greater than 3 dB(A) identified as a significant effect.

Noise from building services has been assessed using the standards set out in the NG4 (9). This guidance sets out different noise standards depending on the local noise environment. Following the screening guidance for Quiet Areas, it was determined that the site is not located in a Quiet Area as it fails the criteria for being more than 7.5 km from a motorway. As a result of the urban nature of the site setting, it is considered unlikely that the nearest NSRs fall within areas of 'Low Background Noise'. Therefore, the standards set out in Table 10.6 of this EIAR have been adopted.

Additional Traffic

Changes in road traffic noise from the operation of the Project are assessed using CRTN, with noise changes of greater than 3 dB(A) identified as a significant effect.

Noise from building services has been assessed using the standards set out in the NG4 (see Chapter 10.2.2 of this EIAR). This guidance sets out different noise standards depending on the local noise environment.

Following the screening guidance for Quiet Areas, it was determined that the subject site is not located in a Quiet Area as it fails the criteria for being more than 7.5 km from a motorway.

As a result of the urban nature of the site setting, it is considered unlikely that the nearest NSRs fall within areas of 'Low Background Noise'. Therefore, the standards set out in Table 10.6 have been adopted.

NG4 states that during the daytime and evening, rigorous efforts should be made to avoid clearly audible tones and impulsive noise at all sensitive locations, with a penalty of 5 dB applied if audible tones or impulsive noise is present. During the night-time period, no tonal or impulsive noise should be clearly audible or measurable at any noise sensitive location.

Changes are predicted to be less than 3 dB during the day and night-time and therefore not significant.

Plant

The various plant areas within the proposed development have the potential to be significant noise sources.

Building services noise can cause disturbance principally at noise sensitive receptors located directly adjacent to them, particularly if they operate during the night.

(9) EPA's "Guidance Note for Noise: Licence Applications, Survey and Assessments in Relation to Scheduled Activities (NG4)". 2016



Heating, ventilation, air conditioning and other plant associated with the proposed development that is to operate during night-time periods will be attenuated accordingly in the design of the proposed development.

To avoid significant noise impacts at adjacent existing receptors, building services plant will be designed to meet the noise standards from NG4 at the nearest NSRs (Noise Sensitive Receptors).

16.7.3 Monitoring

Noise from construction has been assessed at the nearest NSRs. BS 5228¹⁰ sets out guidance on construction plant noise levels and on the threshold of significant noise effects on NSRs.

Thresholds for assessing potential noise impacts are based on the levels in Annex E of BS 5228, considered conservative for this urban setting. Before construction begins, noise monitoring may be carried out to confirm appropriate levels using the 'ABC' method. This would require a baseline survey to be carried out under typical conditions (which are unlikely to be present currently due to COVID-19 restrictions). The use of the 'ABC' method would be expected to result in lower impacts and could be used to inform detailed mitigation.

16.8 Waste

16.8.1 Construction Phase

A project specific *Outline Construction Management Plan* has been prepared in line with the requirements of the guidance document issued by the DoEHLG.

Adherence to the high-level strategy presented in this *CMP* will ensure effective waste management and minimisation, reuse, recycling, recovery and disposal of waste material generated during the demolition, excavation and construction phases of the proposed development.

Prior to commencement of demolition, the contractor(s) will be required to refine/update the *CMP* or submit an addendum to *CMP* to DCC to detail specific measures to minimise waste generation and resource consumption and provide details of the proposed waste contractors and destinations of each waste stream.

CS Consulting have estimated that c. 600,000 tonnes of soils and stones will be generated from the excavations required to facilitate basement completion and construction of new foundations, the installation of underground services and attenuation tank.

It is anticipated that none will be reused on site and the majority of this material will require removal from site for offsite reuse, recovery, recycling and/or disposal.

The contractor(s) will endeavour to ensure that material is reused or recovered off-site insofar as is reasonably practicable or disposed of at authorized facility.

¹⁰ BS 5228-1:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites', BSI, 2014



In addition, the following mitigation measures will be implemented:

- Building materials will be chosen with an aim to ‘design out waste’;
- On-site segregation of waste materials will be carried out to increase opportunities for off-site reuse, recycling and recovery – it is anticipated that the following waste types, at a minimum, will be segregated;
- Left over materials (e.g. timber off-cuts, broken concrete blocks/bricks) and any suitable construction materials shall be re-used on-site, where possible;
 - Concrete rubble (including ceramics, tiles and bricks);
 - Plasterboard;
 - Metals;
 - Glass; and
 - Timber;
- All waste materials will be stored in skips or other suitable receptacles in designated areas of the site;
- Any hazardous wastes generated (such as chemicals, solvents, glues, fuels, oils) will also be segregated and will be stored in appropriate receptacles (in suitably bunded areas, where required);
- A waste manager will be appointed by the main contractor(s) 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;
- All waste leaving site will be reused, recycled or recovered where possible to avoid material designated for disposal;
- All waste leaving the site will be transported by suitable permitted contractors and taken to suitably registered, permitted or licenced facilities; and
- All waste leaving the site will be recorded and copies of relevant documentation maintained.

Nearby sites requiring clean fill material will be contacted to investigate reuse opportunities for clean and inert material, if required. If any of the material is to be reused on another site as by-product (and not as a waste), this will be done in accordance with Article 27 of the EC (*Waste Directive*) Regulations (2011). EPA approval will be obtained prior to moving material as a by-product. However, it is not currently anticipated that article 27 will be used.

These mitigation measures will ensure that the waste arising from the construction phase of the development is dealt with in compliance with the provisions of the *Waste Management Act 1996*, as amended, associated Regulations and the *Litter Pollution Act 1997*, the *EMR Waste Management Plan (2015 - 2021)*. It will also ensure optimum levels of waste reduction, reuse, recycling and recovery are achieved and will encourage sustainable consumption of resources.

16.8.2 Operational Phase

Waste will be managed in accordance with all legal requirements, and in accordance with the waste hierarchy (see Figure 17.x below). By ensuring that different wastes are appropriately segregated, the aim will be to maximise the potential for reuse and recycling of materials and hence to minimise the amount of waste that needs to be disposed and, specifically, the amount that needs to be landfilled.

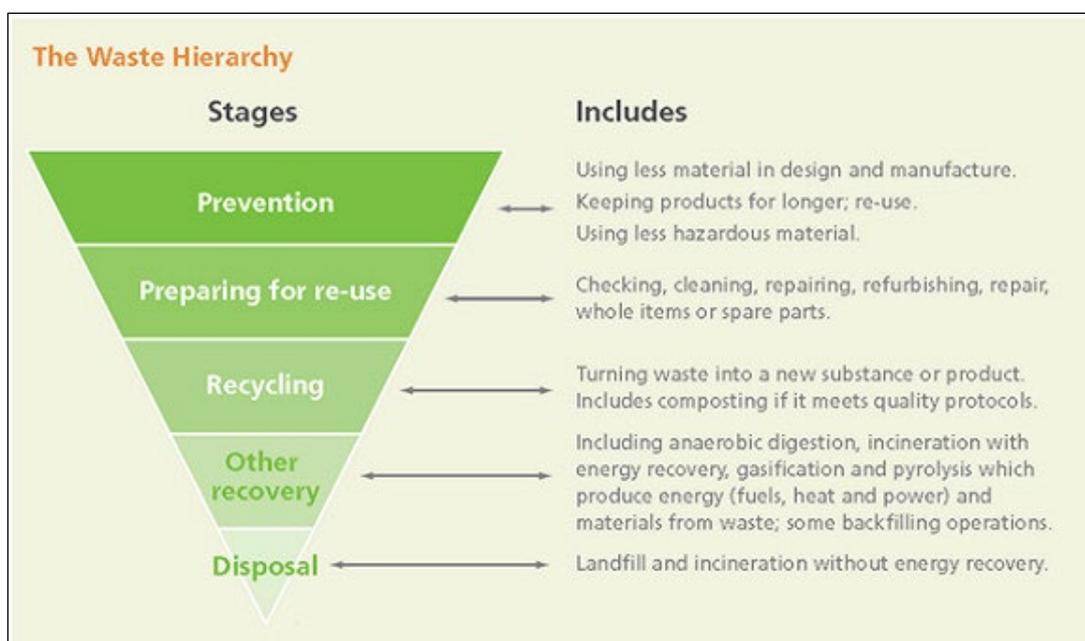


Figure 17.1: Waste Hierarchy. (Source: Defra, Guidance on applying the Waste Hierarchy, June 2011.)

It is expected that:

- Residents will take their waste to a centralised waste storage area on the basement floor – one store per block so that residents don't need to carry waste too far;
- Restaurants – similarly; and
- Office units – similarly.

The service management company will be responsible for managing the waste store(s) and arranging for the collection/treatment/disposal of the wastes by a licensed contractor.



16.8.3 Monitoring

The objective of setting targets for waste management is only achieved if the actual waste generation volumes are calculated and compared. This is particularly important during the demolition, excavation and construction phases where there is a potential for waste management to become secondary to progress and meeting construction schedule targets.

The C&D WMP specifies the need for a waste manager to be appointed who will have responsibility to monitor the actual waste volumes being generated and to ensure that contractors and sub-contractors are segregating waste as required. Where targets are not being met, the waste manager should identify the reasons for targets not being achieved and work to resolve any issues. Recording of waste generation during the project will enable better management of waste contractor requirements and identify trends. The data should be maintained to advise on future projects.

The building's facilities management team will be responsible for monitoring compliance with various aspects of the OWMP. This will include the following:

- Checking the waste deposited in the bins to make sure it complies with the waste segregation requirements. If necessary they will advise residents and occupants of units in a particular block about which wastes can be placed in each of the four main types of container;
- Checking on the permit of the waste collection contractor prior to contract award and periodically throughout the contract;
- Checking on the suitability of the vehicle and security of the waste as the waste is collected by the waste transporter;
- Ensuring that all wastes are being taken to appropriately licensed waste processing/disposal facilities; and
- Periodically checking the facilities to which the building's waste is taken to make sure it is being managed appropriately and as much as possible is being recycled.

In addition, records will be kept of the volumes of waste produced from operation of the building together with data regarding the proportion of waste that is recycled and disposed (landfilled and incinerated). Trends in these data will be analysed and the building's occupants will be advised accordingly – for example by means of notices in residents' communal areas. The aim will be for the building as a whole to meet the targets set by Dublin City Council to recycle at least 50% of all the waste generated. In addition, the target will be to reduce year on year the amount of waste generated (on a per capita basis) as well as increasing the percentage of waste recycled.

In order to help achieve these target, the facilities management team will monitor any developments in local waste management services – specifically the introduction of any new recycling schemes. The four-bin system of waste collection will be periodically reviewed and revised if appropriate (e.g., through the collection of additional materials and/or introduction of a different segregation system).



16.9 Traffic and Transportation

16.9.1 Construction Stage

The lead contractor appointed for the construction of the development shall be required to prepare a *Construction Management Plan (CMP)* that shall include a plan for the scheduling and management of construction traffic. This *CMP* shall outline measures to be taken to mitigate the impact of construction traffic on the surrounding road network.

16.9.2 Operation Stage

As described in the accompanying *Traffic Impact Assessment*, the development shall incorporate several design elements intended to mitigate the impact of the development on the operation of the surrounding road network. These include:

- a reduced car parking provision, which shall discourage higher vehicle ownership rates and excessive vehicular trips to the development (by residents and visitors); and
- a high provision of secure bicycle parking, which shall serve to encourage bicycle journeys by both residents and visitors.

As described in the accompanying *Mobility Management Plan (MMP) Framework* document, the development site is situated in proximity to existing high-quality bus, rail, and light rail services through Dublin City, as well as proposed future transport infrastructure. The site benefits from a location close to numerous amenities and centres of employment and is within approximately 20 minutes' walk of O'Connell Bridge, at the heart of the city centre.

As also described in the *MMP Framework*, a Mobility Management Coordinator shall be appointed for the proposed development, with the remit to implement and oversee an ongoing *Mobility Management Plan (MMP)*. This shall assist residents and their visitors in making the most of sustainable transport opportunities and in avoiding single-occupant car journeys.

16.9.3 Monitoring

The lead contractor appointed for the construction of the development shall be required to prepare a *Construction Management Plan (CMP)* that shall include a plan for the scheduling and management of construction traffic. This *CMP* shall outline measures for monitoring the impact of construction traffic on the operation and condition of the surrounding street network, including remedial actions to be taken in the event of construction traffic causing damage to road infrastructure.

As described in the accompanying *MMP Framework* document, a Mobility Management Coordinator shall be appointed for the proposed development, with the remit to implement and oversee an ongoing *Mobility Management Plan (MMP)*. In conjunction with this, the



Mobility Management Coordinator shall be responsible for monitoring the travel habits of development occupants and visitors.

An *MMP* is a dynamic process whereby a package of measures and campaigns is identified, piloted, and then monitored on an ongoing basis. The *MMP* will identify specific targets against which the effectiveness of the plan can be assessed at each review; these will typically take the form of target modal splits for journeys to and from a site.

The Mobility Management Coordinator shall gather data on travel patterns, for instance by conducting periodic travel surveys of development occupants.

16.10 Site Services

16.10.1 Construction Phase

The main potential impacts are associated with the Construction Phase of the proposed development.

Mitigation measures are outlined below:

Gas Supply

The Contractor will not require a new gas supply connection for the site.

Power Supply

The Contractor will apply for a new temporary power supply for the site. This will likely require a temporary ESB networks supply which will be removed upon connection of the permanent power supply to the site. This will be installed in accordance with ESB standards for temporary power supplies.

Telecoms Supply

The Contractor will apply for a new temporary telecom supply for the works. This will be minimal in nature and will be removed when the works are completed.

Water Construction Phase

- Prior to construction the Contractor will be required to develop an Environmental Management Plan which will incorporate mitigation measures such as containment procedures, audit and review schedules and an Emergency Response Plan in the event of spills, flooding or other incidents that may contribute to pollution to water during construction.
- All batching and mixing activities will be located in areas away from watercourses and drains.



- Protection measures will be put in place to ensure that all materials used during the construction phase are appropriately handled, stored and disposed of in accordance with recognized standards and manufacturer's guidance.
- Surface water drainage around the batching plant will be controlled and washout from mixing plant will be carried out in a designated, contained impermeable area.
- Spills of concrete, cement, grout or similar materials will not be hosed into drains.
- Rainwater that accumulates on site will be discharged to the DCC sewer system.
- The Contractor will comply with the following guidance documents:
 - CIRIA – *Guideline Document C532 Control of Water Pollution from Construction Sites* (CIRIA, 2001)
 - CIRIA – *Guideline Document C624 Development and Flood Risk - guidance for the construction industry* (CIRIA, 2004).
- Dewatering and surface water discharges on the site, during construction and prior to completion will be controlled. All necessary facilities will be incorporated such as settlement ponds/tanks, oil/grit interceptors with shut down valves, bunded oil storage tanks adjacent to a petrol interceptor for storage of any recovered oil. A monitoring programme including sampling for water quality before discharge to the Council sewer during construction will be carried out to ensure that only clean surface water is discharged to the receiving systems.

The Contractor will make all necessary arrangements for a temporary water supply in agreement with Irish Water and or Dublin City Council, in addition temporary pumping of ground water to facilitate the proposed basement construction will be licensed by Dublin City Council and the water levels monitored as outline sin the basement impact assessment.

16.10.2 Operational Phase

Mitigation measures proposed in relation to the drainage and water infrastructure include the following:

Gas

- The Completed gas system will consist of gas meters which will be controlled by GNI and will serve a private gas network system. As such the ongoing maintenance will be carried out by the maintenance company operating for the management firm.

Power

- The Completed power distribution system will consist of ESB Networks substations and private distribution rooms. The substations will be controlled by ESB Networks. All substations will be constructed to ESB Networks standards and will be handed over to ESB upon completion.



Telecoms

- A new arrangement of telecoms distribution will be provided throughout the development. This will allow for multiple providers to be connected to the site.

Water Operational Phase

- Incidental surface run-off from underground basement car parks, compactor units and waste / service yard areas will be discharged into the foul drainage system. Grit / petrol / oil separators will be provided in all of the above areas to improve the quality of water discharging.
- The provision of flow control with storm-water attenuation will ensure the rate of discharge of surface water is limited to greenfield run-off rates of 2 litres/second/hectare with a total allowable surface water discharge of 2 litres/second in line with the recommendations of the *Greater Dublin Regional Code of Practice for Drainage Works* and the *Greater Dublin Strategic Drainage Study*.
- SuDS proposals will improve the quality and reduce the quantity of surface water discharging into the receiving system.
- Removal of the surface water from the existing combined sewers will reduce the hydraulic loading on the existing sewerage network and Waste Water Treatment Plant (WWTP) at Ringsend.

Moderate negative impacts during the construction phase will be short term only in duration. Implementation of the above measures will mitigate any significant long-term adverse impact.

16.10.3 Monitoring

Ongoing monitoring of the water quality during construction is proposed. It is not foreseen that any monitoring will be required on completion of the proposed development.

16.11 Cultural Heritage

16.11.1 Mitigation

Chapter 14 of this EIAR notes that, while no mitigation measures are required in relation to the archaeological and cultural heritage resources, there are best practice guidelines regarding the avoidance of damage and disturbance to said resources.

The best opportunities for avoiding damage to archaeological remains or intrusion on their setting and amenity arise when the site options for the development are being considered. Damage to the archaeological resource immediately adjacent to developments may be prevented by the selection of appropriate construction methods.



Reducing adverse effects can be achieved by good design, for example by screening historic buildings or upstanding archaeological monuments or by burying archaeological sites undisturbed rather than destroying them. Offsetting adverse effects is probably best illustrated by the full investigation and recording of archaeological sites that cannot be preserved in situ.



17.0 DIFFICULTIES ENCOUNTERED

No significant difficulties, in terms of technical deficiencies or lack of sources of information, were encountered (including *EIAR Volume 2*) in compiling the specified information contained in the Statement.

References to published sources of information are acknowledged in the text. In addition, studies commissioned specifically for the purposes of this Environmental Impact Assessment Report are also referenced.

A list of all consultants involved in the compilation of information for this *EIAR* is provided in Chapter 1.

As the proposed development will not require the use of natural resources that are in short supply, nor will the development result in the emission of pollutants that will create nuisance or hazard, the matters referred to in Schedule 6(2)(c) of the *Planning and Development Regulations, 2001* (as amended) do not apply.

The full impact analysis was carried out by experienced consultants and the best available methods were employed to forecast environmental effects.



EIAR VOLUME 2 – HERITAGE TOWNSCAPE LANDSCAPE AND VISUAL IMPACT ASSESSMENT

1.0 Introduction

City Designer has prepared the *EIAR Volume 2 – Heritage, Townscape, Landscape and Visual Impact Assessment*. The purpose of the *Heritage, Townscape, Landscape and Visual Impact Assessment (HTLVIA)* is to determine which effects on heritage, townscape, landscape, and visual amenity are likely to be significant and whether those changes will be negative (adverse) or positive (beneficial). The early chapters of the HTLVIA set out contextual information about the site and its surroundings. The application site is located at City Block 9, along North Wall Quay.

2.0 Methodology

The *HTLVIA* methodology explains how judgements are made about the sensitivity of heritage receptors and the townscape environment potentially affected by the proposal as well as about the sensitivity of people potentially affected and the views they experience.

These judgements are combined with visual information, including a model of the development superimposed on accurately surveyed photographs (called Accurate Visual Representations (AVRs)) to show how the proposed development would look when built. This information allows the assessor to make an overall judgement on the significance of the heritage, townscape, landscape, and visual amenity effects of the proposed development and whether these effects are positive or negative.

3.0 Potential Impacts (Construction)

The assessments in Chapter 9.0 consider the effects of the proposed development during construction. On balance, these were found to range from negligible to major in quantum and to be adverse in nature, owing to the disturbance caused by cranes, scaffolding, the view of the incomplete buildings, site-deliveries, lighting, and service connections. These effects, however, would be temporary in nature.

4.0 Potential Impacts (Residual)

Residual effects on townscape and landscape receptors are assessed in Chapter 10.0. The proposed development would have a significant beneficial effect on local townscape by: providing a landmark; providing considerable improvement to the permeability and legibility of its immediate context; and providing considerable improvement to the quality of the public realm.

It would be in accordance with policy for the area in that it: would bring design of the highest quality to an area identified as being of low design quality; and would respond to the docklands character, providing a focus to views from the west and acts as a marker for the docklands.



5.0 Potential Impacts (Built Heritage)

Effects on built heritage receptors are assessed in Chapter 11.0. The proposed development is located partly within the Development Plan's Conservation Area. The improvements to the public realm and landmark quality of the architecture would enhance the character of the area, without causing harm to the special interest of the conservation area. The application scheme would not affect distant views from the following architectural conservation areas (ACAs): Grafton Street, South City Retail Quarter and Fitzwilliam Square ACAs. The lack of effect on their settings, therefore, would not diminish their significance; the proposals being neither visible from them, or forming part of their wider setting.

From the O'Connell Street ACA a view would be available from the junction of O'Connell Street Lower with O'Connell Bridge, within which the distance away shows the proposed development to be of modest influence on the ACA compared to Liberty Hall, the Custom House, and George's Quay Plaza, though its high quality design can still be gauged. It causes no harm to the significance of the ACA, nor to established views from within it or out of it.

6.0 Potential Impacts (Protected Structures)

The proposed development would not give rise to any harm to the significance of nearby protected structures. It would be partly visible from Dame Street on the approach to Trinity College and would be hardly discernible from within the college internal courtyards. Such conjunctions are not considered harmful owing to (i) the present context, (ii) the varying townscape status of the viewpoint positions, and (iii) the redeeming qualities of the high-quality design and its publicly accessible top. It would enhance the immediate setting of protected structures along North Wall Quay and introduce a contemporary landmark development.

7.0 Potential impacts (Townscape Views)

The effect of the proposed development in townscape views is illustrated in Chapter 12.0 of this *HTLVIA*. They show that, when visible, it would give rise to an addition of quality, public meaning and urban legibility. The form of the proposed development has been carefully tested in views both static and kinetic in an iterative design process to ensure that it would not impact adversely on the local and wider environment.

The views considered in Chapter 12.0 are the principal tool with which to illustrate how the proposed development would perform, in addition to the architects' drawings and an understanding of the application site and its context. The verified views projected from 54 viewpoints, with summer and winter variations where appropriate, enable detailed assessment of the proposal and each includes a commentary on the effects and how people's perceptions of the view are likely to be affected.

The assessments indicate that the design would be of high quality; incorporate appropriate mitigation/enhancement through design; would be appropriate for the development site; and that its effects on the visual environment would be broadly beneficial. Of the 64 views assessed in Chapter 12.0 (54 viewpoints, 10 of which have both summer and winter versions



assessed), the proposed development would have major and beneficial effects in 4 views; moderate and beneficial or neutral effects in 22 views. 26 minor and beneficial, balanced or neutral effects have been recorded, with 11 views experiencing no-change or a negligible effect in the view. One winter view along Dame Street was found to have a minor and adverse effect. There are no moderate or major and adverse effects.

9.0 Cumulative Impacts

Cumulative effects, arising from the interaction of the proposed development with the committed developments listed at Chapter 5.0, would not result in any change to the effects for the development in isolation for built heritage receptors nor townscape and landscape receptors. Cumulative effects on views would in the majority of cases be either non-existent or not change the effect of the development when assessed in isolation. Only in three of the long-range views (40, 41 and 44) is there a meaningful cumulative effect, where the committed schemes result in an increase in the significance of the effect from 'minor' and 'beneficial' to 'moderate' and 'beneficial'.