4.0 POPULATION & HUMAN HEALTH

4.1 INTRODUCTION

The 2014 EIA Directive (2014/52/EU) has updated the list of topics to be addressed in an EIAR, replacing the term "Human Beings" with "Population and Human Health". This chapter also fulfils the requirement to assess "Human Beings" as outlined in Schedule 6 of the Planning and Development Regulations 2001 (as amended).

In preparing this chapter, careful consideration has been given to the other sections of this EIAR. Additionally, separate reports, including those on Construction and Demolition Waste Management and the Construction and Environmental Management Plan, have been taken into account. Population and Human Health represent a critical component of the environmental assessment, requiring thorough analysis of any potential impacts on human health arising from the proposed development. This topic encompasses a wide range of factors related to the existence, activities, and well-being of people as groups or populations. While most human developments have implications for people, this EIAR focuses on environmental aspects, such as changes in land use, increased building density, and emissions.

This section of the EIA Report has been prepared by John Spain Associates, Planning & Development Consultants, and provides a description of the proposed development. This chapter of the EIA Report was prepared by Blaine Cregan M.Sc. B.Sc. (hons) and B.Eng., Executive Director with John Spain Associates.

Blaine has acted as lead planning consultant on a range of high-quality complex planning applications across the country over an extended period. Blaine has wide-ranging experience in the management and review of Environmental Impact Assessment (EIA) Reports for major commercial and mixed-use development and redevelopment projects.

4.2 STUDY METHODOLOGY

In line with the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022), this chapter has incorporated the guidance that:

"In an EIAR the assessment of impacts on population and human health should refer to the assessment of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g., under environmental factors of air, water, soil, etc."

Further, the EPA EIAR Guidelines (2022) specify:

"The evaluation of effects on these pathways is carried out by reference to accepted standards (usually international) of safety in dose, exposure or risk. These standards are in turn based upon medical and scientific investigation of the direct effects on health of the individual substance, effect or risk. This practice of reliance upon limits, doses and thresholds for environmental pathways, such as air, water or soil, provides robust and reliable health protectors [protection criteria] for analysis relating to the environment."

According to Article 3 of Directive 2011/92/EU (as amended by Directive 2014/52/EU), the environmental impact assessment is required to identify, describe, and assess the significant direct and indirect effects of a project on:

"1) The environmental impact assessment shall identify, describe, and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:

a) population and human health;

b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;

c) land, soil, water, air and climate;

d) material assets, cultural heritage and the landscape;

e) the interaction between the factors referred to in points (a) to (d).

2) The effects referred to in paragraph 1 on the factors set out therein shall include the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned."

The European Commission's 2017 *Environmental Impact Assessment of Projects: Guidance on Preparing the Environmental Impact Assessment Report* elaborates that:

"Human health is a very broad factor that would be highly Project dependent. The notion of human health should be considered in the context of the other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise or air pollutants) are obvious aspects to study. In addition, these would concern the commissioning, operation, and decommissioning of a Project in relation to workers on the Project and surrounding population."

This chapter will adhere to the EC guidelines, examining the health impacts associated with the proposed development within a designated study area. The analysis of effects on population and human health will align with the requirements set forth in the EPA Guidelines.

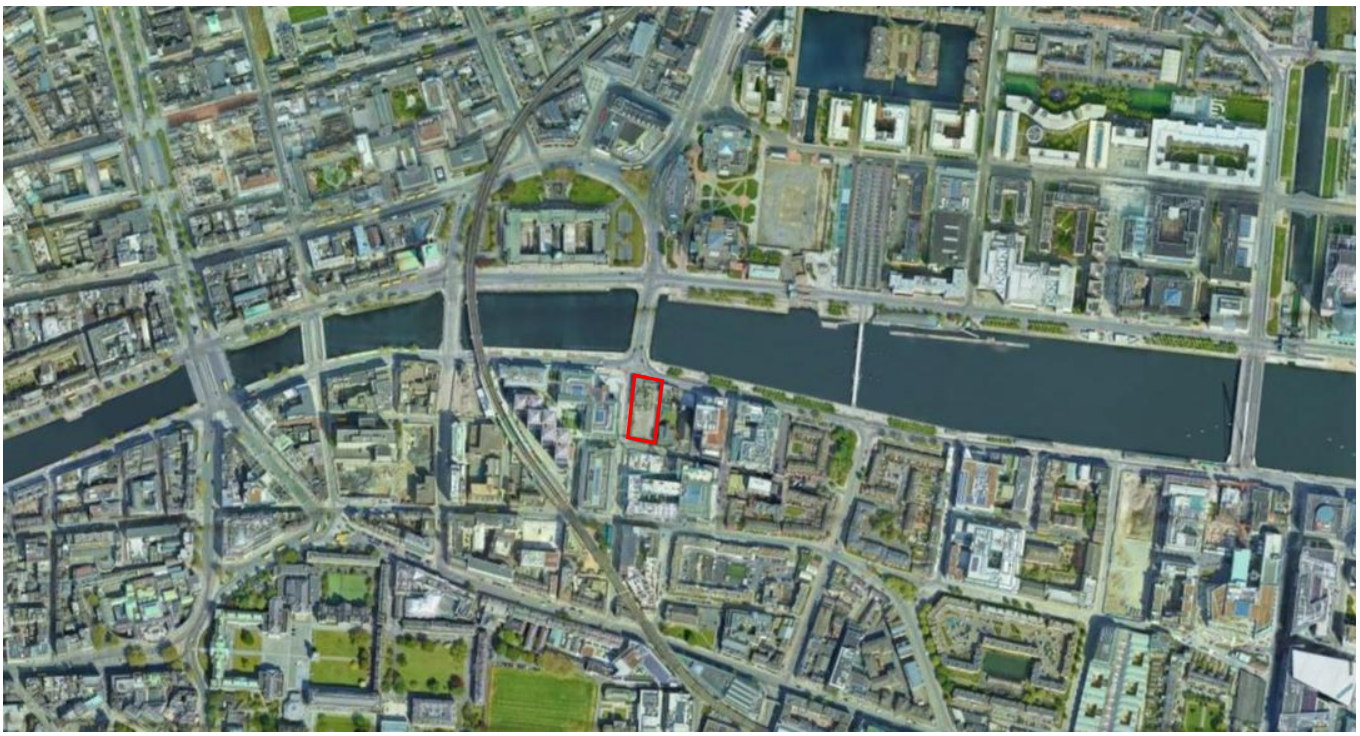
4.3 EXISTING RECEIVING ENVIRONMENT (BASELINE SCENARIO)

4.3.1 Introduction

A description of the relevant aspects of the current state of the environment (baseline scenario) in relation to population and human health is provided below. Specific environmental chapters in this EIAR provide a baseline scenario relevant to the environmental topic being discussed. Therefore, the baseline scenario for separate environmental topics is not duplicated in this section; however, in line with guidance provided by the EPA and the Department, the assessment of impacts on population and human health refers to those environmental topics under which human health effects might occur, e.g. noise, water, air quality, etc. An outline of the likely evolution without implementation of the project as regards natural changes from the baseline scenario is also provided. The existing environment is considered in this section under the following headings:

- Employment & Economic Activity in the broader context of Ireland;
- Socio-Economic Patterns within Dublin and Assessment Area;
- Human Health within the Assessment Area;
- Social and Community Infrastructure in the Site's Vicinity; and,
- Land-Use and Settlement Patterns in relation to the subject site.

Figure 4.1. Aerial View of the Subject Site



Source: Google Map

The proposed development site is situated in Dublin 2, bounded by City Quay to the north, Moss Street to the west, and Gloucester Street South to the south. The site includes properties at 1-4 City Quay (D02 KT32), 5 City Quay (D02 PC03), and 23-25 Moss Street (D02 F854) and benefits from frontage along the River Liffey to the north. Currently, the site is brownfield, featuring a deteriorating, vacant, three-story building dating to approximately the 20th century. The southern section of the site is used as a surface car park.

To the east, the site is neighboured by City Quay National School, St. Mary's Crèche & Pre-School, and City Quay Church. Across Moss Street to the west lies the St. George's Quay office development, which ranges from 6 to 13 stories, and within the same city block to the east, the Grant Thornton building rises 5 to 9 stories. A hotel and residential development, reaching 8 stories, is located to the south, while the Custom House and the IFSC are located to the north.

The site is centrally positioned in Dublin's city and highly accessible: it is approximately 165 meters east of Tara Street rail interchange, 250 meters south of Busáras bus station and Luas stop, and 400 meters south of Connolly Station. Dublin Bus stops and Dublin Bikes stations are also directly adjacent on City Quay.

Figure 4.2. Aerial View of the Subject Site

Source: Google Map

The surrounding area is currently evolving with numerous developments completed, underway or on stream. Such developments include the 8-storey, 393-bedroom hotel and residential development recently delivered to the immediate south of the subject site at 44-53 Townsend Street, 33-39 Moss Street, 31-33 Gloucester Street South,

and including Bracken's Lane, as well as the recently granted 22-storey residential development located to the west along Tara Street.

Figure 4.3. Bird View of the Subject Site

Source: Google Map

Additional existing buildings in the surrounding area include the Grant Thornton building which ranging in height from 5-9 storeys is located to the east along City Quay as well as the George's Quay office development which is located directly to the west across Moss Street reaches 13 no. storeys in height.

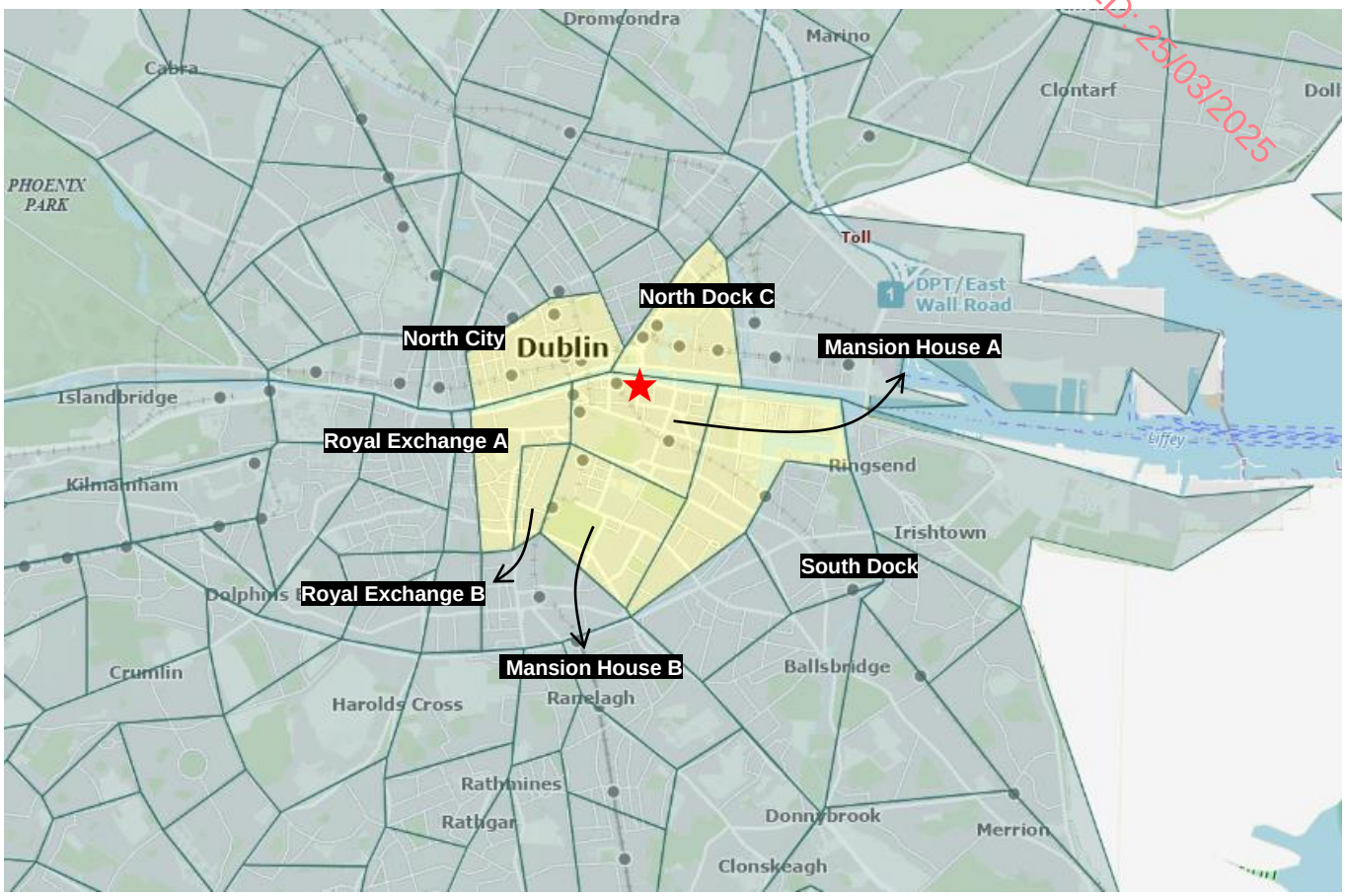
The surrounding area along the Liffey and within the George's Quay Local Area Plan is undergoing significant urban renewal and change. The subject site is a prime location to continue this urban renewal due to its location along the Quays and its proximity to high-quality public transport. The demolition of the existing buildings and redevelopment of the site by providing a high-density cultural and office scheme would have a vast improvement on the current streetscape.

A Demolition Justification Report has been prepared by Henry J Lyons Architects with input from other consultants and included with this application to provide a rationale for the demolition of the existing buildings on site.

From a statistical point of view, the subject site falls within the Electoral Division (ED) Mansion House A; However, the area selected for assessment of human health encompass a broader scope including EDs Mansion House A (02117), North city (02075), North Dock, C (02078), South Dock (02147), Mansion House, B (02118), Royal

Exchange, B (02145), and Royal Exchange A (02144). In the context of this EIAR, this broader area is referred to as the Assessment Area.

Figure 4.4. Spatial Scope of the Assessment Area (subject site location marked with a red star)



Source: CSO portal

In a strategic level, the site falls within the Dublin Strategic Planning Area (SPA) as per the Regional Spatial and Economic Strategy for Eastern and Midland Region, identified as the main global gateway to Ireland, with Dublin Airport one of the fastest growing in Europe and continued growth both in the import and export of goods through Dublin Port.

4.3.2 Employment & Economic Activity

The latest data from Ireland's Labour Force Survey, published by the CSO in August 2024, reveals a solid employment landscape, with a 2.7% increase in employment over the year leading to Q2 2024, translating to an additional 71,500 people working compared to the previous year. This brings total employment among individuals aged 15-89 to 2,754,200. Despite this growth, 20.8% of the workforce (571,600 people) remained in part-time roles, with nearly a quarter of these individuals (24.8%) expressing a desire for more hours and higher income.

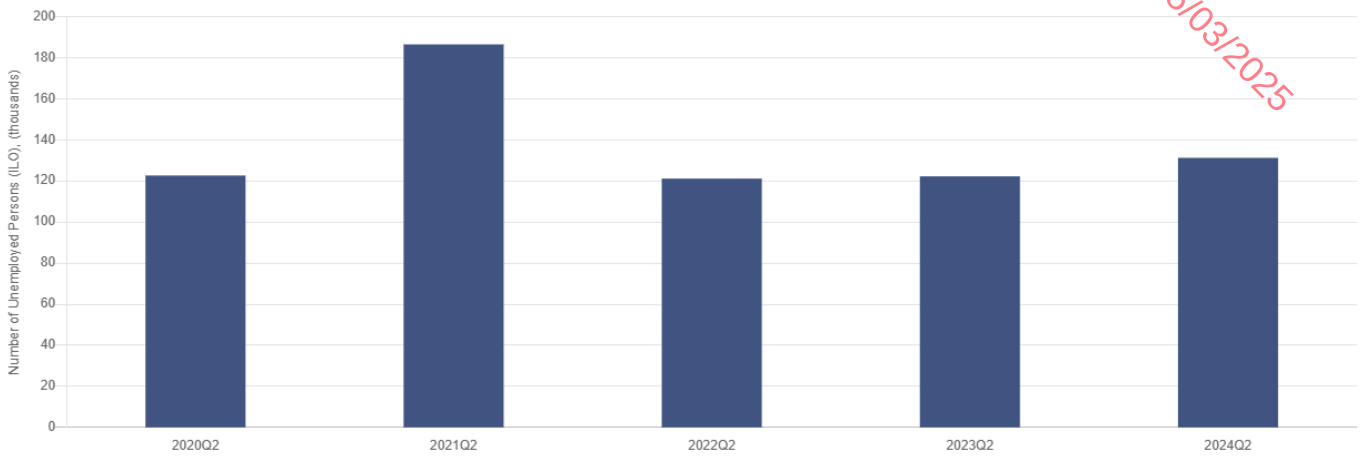
Age demographics show varying employment rates. The 35-44 age group had the highest employment rate at 84.7%, though this was a slight decrease from 85.5% the previous year. In contrast, the 15-19 age group had the lowest rate at 27.3%, while the 25-34 age group saw the largest increase, rising 1.7 percentage points to 84.3%.

Sector-specific shifts have been significant: the Wholesale & Retail Trade and Motor Vehicle & Motorcycle Repair sectors saw the largest declines, with employment dropping by 7.3%, followed by a 6.8% decrease in Construction. Meanwhile, Professional, Scientific, and Technical Activities showed a robust 12.7% increase, highlighting a shift toward knowledge-driven industries.

Unemployment figures reflect a slight uptick, with 131,200 people aged 15-74 classified as unemployed in Q2 2024, resulting in an unemployment rate of 4.6%, up slightly from 4.4% in Q2 2023. Overall, the labour force, which includes

all individuals aged 15-89 who are either employed or seeking work, rose by 2.9% (80,500 people) over the year to reach 2,885,400 in Q2 2024. Participation rates continued to rise, with an overall rate of 66.0% and a record-high female participation rate of 61.4%.

Figure 4.5. Number of unemployed persons aged 15-74 years, Quarter 2 2020 to Quarter 2 2024 (thousands)



Source: CSO statistical publication, August 2024

Economic reports from the Economic and Social Research Institute (ESRI) and the Central Bank of Ireland shed light on the broader economic context. The ESRI's quarterly economic commentary for Autumn 2024 highlights a continued decline in GDP through the first half of 2024, although the contraction slowed compared to 2023. In contrast, GNP, which was sustained in 2023 by income flows from the multinational sector, began to decline in Q2 2024 due to a reduction in these inflows. However, the ESRI notes that the robust labour market, with employment growth and a stable unemployment rate near 4%, underscores the resilience of the domestic economy, especially amid recent population increases.

The Central Bank of Ireland's Q3 2024 Quarterly Bulletin echoes this cautious optimism, stating that while economic growth and employment outlooks remain favourable, risks persist. Modified Domestic Demand (MDD)—a metric focusing on domestic economic activity—continued to grow annually, increasing by 1.4% compared to Q2 2023. However, it shrank by 0.5% on a quarterly basis in Q2 2024, driven by a 7.0% fall in Modified Investment. Growth in MDD was primarily supported by Personal Consumption (up 1.3%) and Government Consumption (up 3.7%).

Notably, the Central Bank's report points to high inward migration as a driver of employment growth, with 47,800 new jobs in the first half of 2024, nearly half of which were filled by non-Irish nationals. This influx has helped maintain strong employment figures despite broader economic headwinds, contributing to both the workforce and consumer spending, thus supporting domestic demand.

In summary, Ireland's labour market remains resilient, underpinned by growing participation rates and inward migration, even as the economy faces challenges with declining GDP and moderated growth in domestic demand. The outlook is cautiously positive, although economic uncertainties and sectoral shifts underscore the importance of monitoring these trends.

4.3.3 Socio-Economic Patterns

For the purpose of this EIAR, data from the 2016 and 2022 Census of Population has been reviewed to identify significant changes in population levels and age profiles at national, regional, county, and local levels. The 2022 Census results offer a comprehensive overview of current population figures, employment, economic statistics, and broader trends across the State. Additionally, census data on social class and household size at each of these levels was analysed. The following section provides a summary of the existing environment based on these key indicators.

4.3.3.1 Population

The 2022 Census marked a historic milestone, recording Ireland's population at 5,149,139—the first time it has exceeded five million since 1851. This reflects an 8.1% increase since 2016, with an additional 387,274 people over six years, averaging an annual growth rate of 1.3%.

In comparison, the previous census period (2011-2016) saw a total growth of 3.8%, or an annual average of 0.7%. Between 2016 and 2022, natural population growth accounted for 167,487 of the increase, while net migration added an estimated 219,787 people. This shift in dynamics shows that net migration (with an annual average of 36,631) contributed more to growth than natural increase (27,915) over the period, contrasting with prior censuses where natural growth was the primary driver.

While recent growth surpasses that of the 2011-2016 period, even higher average yearly increases were recorded in the census periods of 2002-2006 and 2006-2011. This trend highlights a return of inward migration and steady economic improvement, positioning Ireland for continued demographic and economic expansion.

Table 4.1. Population Change in Ireland and Dublin City during 2016-2022

Area	2016	2022	% Change 2016-2022
State	4,761,865	5,149,139	8.1%
County Dublin	1,347,359	1,485,154	10.2%
Dublin City Council	554,554	592,713	6.9%
Dún Laoghaire Rathdown County Council	218,018	233,860	7.3%
Fingal County Council	296,020	330,506	11.6%
South Dublin County Council	278,767	301,075	8.0%

Source: CSO StatsBank

At the county level, Census 2022 reveals a 10% population increase in Dublin, reaching 1,458,154 residents. This growth reflects an additional 137,795 people between April 2016 and April 2022. Over the same period, Ireland's total population also rose by 8%, from 4,761,865 to 5,149,139.

As summarised in the Table above, there appears a consistent population growth across all four Dublin local authorities, reflecting an overall trend of urban expansion. Fingal experienced the highest increase at 11.6%, indicating rapid suburban growth, while South Dublin saw an 8.0% rise. Dún Laoghaire-Rathdown and Dublin City had more moderate increases of 7.3% and 6.9%, respectively, with Dublin City's growth highlighting sustained demand within the urban core. Together, these figures underscore steady growth across the entire Dublin metropolitan area.

As summarised below, the Assessment Area experienced a notable population increase of 19.9% between 2016 and 2022, with the total population rising from 24,594 to 29,490 (i.e., +4,896 persons). This overall growth reflects a significant upward trend, particularly in areas such as South Dock and Royal Exchange A, which saw population increases of 19.1% and 12.0%, respectively. In contrast, Mansion House A, which contains the subject site, recorded a population decrease of 10.4%, declining from 4,665 in 2016 to 4,179 in 2022.

Table 4.2. Demographic Trend in the Assessment Area by ED, 2016-2022

Area	Area ID	2016	2022	% Change 2016-2022
Assessment Area	-	24,594	29,490	19.9%
Mansion House A	02117	4665	4,179	-10.4%
Mansion House B	02118	1,311	936	-28.6%
North City	02075	5,654	4,777	-15.5%
North Dock C	02078	4,214	4,254	0.9%
Royal Exchange A	02144	4,329	4,849	12.0%
Royal Exchange B	02145	2,082	2,150	3.3%
South Dock	02147	7,004	8,345	19.1%

Source: CSO StatsBank

This decline aligns with similar decreases in other neighbouring EDs, such as Mansion House B (-28.6%) and North City (-15.5%), highlighting a contrasting demographic trend within parts of the Assessment Area where some EDs

experienced notable population growth, while others, including Mansion House A, saw reductions. This suggests a possible shift in residential patterns within these urban core areas, as growth concentrates in other parts of the Assessment Area.

4.3.3.2 Age Profile

The age profile of the Assessment Area indicates that the majority of the population (47.6%) falls within the 25-44 age group, reflecting a predominantly working-age demographic. This trend is consistent across the majority of the EDs within the area, highlighting a concentration of residents in their prime employment years, which aligns with the area's role as an urban and commercial centre.

Other age groups show more variation across the EDs. The 0-14 age group represents 13.5% of the total population, with notable concentrations in areas like North City and South Dock, which may suggest family-oriented neighbourhoods or amenities that attract younger residents. Meanwhile, the 15-24 age group accounts for 14.7% of the population, with higher percentages in Royal Exchange A and South Dock, possibly indicating a presence of students or younger adults in these areas.

Table 4.3. Age Profile of the Assessment Area by ED, 2022

Area	0-14 y/o	15-24 y/o	25-44 y/o	45-64 y/o	65+ y/o
Assessment Area	**4,317**	**4,708**	**15,228**	**5,712**	**2,027**
% of Total	**13.5%**	**14.7%**	**47.6%**	**17.9%**	**6.3%**
Mansion House A	553	859	1,810	750	326
Mansion House B	109	112	452	245	103
North City	973	800	3,464	1,192	320
North Dock C	558	659	2,070	735	306
Royal Exchange A	604	964	2,271	930	294
Royal Exchange B	559	323	699	473	159
South Dock	961	991	4,462	1,387	519

Source: CSO StatsBank

The 45-64 age group makes up 17.9% of the population, while the 65+ age group, the smallest segment at 6.3%, is more evenly distributed but generally low across all EDs. Mansion House A and South Dock show relatively higher numbers of older residents, though these numbers remain modest. This overall age profile suggests a dynamic area, predominantly composed of young to middle-aged adults, with a smaller proportion of older residents, reflecting the area's appeal as a central, employment-oriented district rather than a retirement community.

4.3.3.3 Principal Economic Status & Social Class

The Table below outlines changes in the principal economic status of residents in the Assessment Area between 2016 and 2022, highlighting trends in employment, unemployment, new workforce entrants, and non-working categories. Key shifts include steady employment growth, a notable rise in new job seekers, and an increase in those unable to work due to permanent sickness or disability.

The economic status data for the Assessment Area shows a 2.3% increase in those "at work" from 2016 to 2022, indicating stable employment levels. There was a significant 19.7% rise in individuals "looking for their first regular job", pointing to more new entrants to the workforce. The category of "unable to work due to permanent sickness or disability" saw a 36.6% increase, suggesting a growing need for support services.

Declines were observed among those "unemployed after losing or giving up a job" (-4.8%) and the "retired" population (-8.5%). Meanwhile, the "other" category grew by 139.7%, though its overall numbers remain small. These trends reflect a mix of stable employment, an increase in new job seekers, and changes in non-working populations.

Table 4.4. Economic Status of Residents in the Assessment Area, 2016-2022

Economic Status	2016	2022	% Change 2016-2022
At work	17,327	17,730	2.3%
Looking for first regular job	279	334	19.7%
Unemployed having lost or given up previous job	1,755	1,670	-4.8%
Student	3,633	3,755	3.4%
Looking after home/family	943	1,083	14.8%
Retired	2,039	1,866	-8.5%
Unable to work due to permanent sickness or disability	786	1,074	36.6%
Other	68	163	139.7%
Total	**26,830**	**27,675**	3.1%

Source: CSO StatsBank

The following Table illustrates the distribution of social classes within the Dublin City Council area and the Assessment Area, highlighting shifts in employment categories between 2016 and 2022. The social class distribution in Dublin City shows a notable trend of growth in higher-skilled and professional categories, particularly among professional workers and managerial/technical roles. Between 2016 and 2022, the number of professional workers in the Dublin City Council area increased by 16.6%, while managerial and technical positions grew by 11.3%. This trend aligns with Dublin's position as a central employment hub, attracting higher-skilled and professional workforces, particularly in the inner city where access to employment and transportation is highly concentrated. These patterns reflect the city's evolving economic landscape, emphasising knowledge-intensive sectors and professional services.

Table 4.5. Social Class Distribution and Change in Dublin City Council and Assessment Area, 2016-2022

Area	Social Class	2016	2022	% Change 2016-2022
Dublin City Council	Professional workers	53,492	62,383	16.6%
	Managerial and technical	147,267	163,909	11.3%
	Non-manual	89,661	87,361	-2.6%
	Skilled manual	62,892	56,514	-10.1%
	Semi-skilled	50,188	57,990	15.5%
	Unskilled	20,871	19,717	-5.5%
	All others gainfully occupied and unknown	130,183	144,839	11.3%
	Total	**554,554**	**592,713**	**6.9%**
Assessment Area	Professional workers	2,770	2,802	1.2%
	Managerial and technical	6,994	7,157	2.3%
	Non-manual	3,527	3,248	-7.9%
	Skilled manual	2,051	1,908	-7.0%
	Semi-skilled	1,758	2,291	30.3%
	Unskilled	955	991	3.8%
	All others gainfully occupied and unknown	11,204	13,595	21.3%
	Total	**29,259**	**31,992**	**9.3%**

Source: CSO StatsBank

Conversely, there has been a decline in traditional skilled and unskilled roles, with skilled manual workers decreasing by 10.1% and unskilled workers by 5.5%. This decline points to a potential shift away from manual labour roles towards more knowledge-based employment, possibly driven by urban re-development and the increasing presence of high-skilled industries in central Dublin.

Within the Assessment Area, located in the inner city, these trends are echoed but with some unique distinctions. The total population in the Assessment Area increased by 9.3%, higher than the general city growth rate of 6.9%. This area saw a particularly significant increase in semi-skilled workers, rising by 30.3%, suggesting an influx of mid-level service or support roles that cater to the growing commercial activity in the area. Additionally, the category for

"all others gainfully occupied and unknown" also grew by 21.3%, possibly reflecting a broader diversity of occupations and roles not easily categorized, which may relate to the varied commercial activities surrounding the site.

However, like the wider city trends, there was a decrease in non-manual (-7.9%) and skilled manual (-7.0%) roles, indicating a similar shift in employment composition toward higher-skilled roles and service-oriented occupations. The modest growth in professional (1.2%) and managerial/technical (2.3%) roles within the Assessment Area aligns with Dublin's broader employment trends, though at a slower pace, likely reflecting the area's mixed residential and commercial character.

Overall, the trends in the Assessment Area align with Dublin's citywide trajectory towards professional and semi-skilled employment growth, reflecting the area's attractiveness due to accessibility and its role within the city's commercial core.

4.3.3.4 Educational Attainment

The Table below presents changes in the highest level of education attained by residents in the Assessment Area between 2016 and 2022. Key trends include a substantial increase in residents with no formal education, a decline in lower-level qualifications, and growth in secondary and tertiary education levels, reflecting a shift towards a more educated population in the area.

Table 4.6. Educational Attainment Levels in the Assessment Area, 2016-2022

Education Level	2016	2022	% Change 2016-2022
No formal education	229	457	99.6%
Primary education	1,338	968	-27.7%
Lower secondary	1,201	1250	4.1%
Upper secondary	1,675	1818	8.5%
Technical or vocational qualification	873	737	-15.6%
Advanced certificate/Completed apprenticeship	499	426	-14.6%
Higher certificate	676	615	-9.0%
Ordinary bachelor degree or national diploma	1,726	1734	0.5%
Honours bachelor degree, professional qualification or both	2,799	3036	8.5%
Postgraduate diploma or degree	3,841	4153	8.1%
Doctorate (Ph.D) or higher	482	470	-2.5%
Not stated	4,990	5077	1.7%

Source: CSO StatsBank

As detailed in the Table, there was a nearly doubling (99.6%) of residents with "no formal education", though this remains a small group. Conversely, there was a significant decrease in individuals with "primary education" as their highest level, down by 27.7%, and declines in "technical or vocational qualification" (-15.6%) and "advanced certificate/completed apprenticeship" (-14.6%) categories, indicating a potential shift away from lower-level qualifications.

Higher levels of educational attainment saw moderate growth. Residents with "upper secondary" education rose by 8.5%, and those with "honours bachelor degrees, professional qualifications, or both" also increased by 8.5%. Similarly, those holding "postgraduate diplomas or degrees" grew by 8.1%, reflecting an increasing trend toward advanced education in the area.

While the proportion of residents with "doctorate (Ph.D) or higher" decreased slightly (-2.5%), the overall data suggests a move toward higher educational qualifications, with more residents achieving secondary and tertiary-level education. This trend is likely indicative of an evolving, increasingly educated population in the Assessment Area.

4.3.4 Human Health

As of 2023, Ireland's population was estimated at 5.3 million, marking a 14.4% increase over the past decade, the third highest growth rate in the European Union (EU27) after Malta and Luxembourg. This growth contrasts sharply

with the EU27 average increase of just 1.7%. Ireland's demographic profile is gradually aging, with the proportion of people aged 45 or over rising from 35.4% in 2013 to 40.6% in 2023, while those under 45 decreased from 64.5% to 59.4%. Additionally, the proportion of the population aged 65 or over increased from 12.3% in 2013 to 15.3% in 2023, reflecting an aging trend.

Life expectancy in Ireland is relatively high by EU standards. In 2021, male life expectancy at birth was 80.5 years, 3.3 years above the EU27 average, while female life expectancy was 84.3 years, 1.4 years above the EU27 average. Ireland also ranks well for healthy life expectancy—the number of years an individual can expect to live in good health—with males at 66.4 years and females at 68.0 years, which is 3.8 years above the EU27 average for women.

Despite its high life expectancy and health outcomes, Ireland's healthcare spending as a percentage of GDP was 6.6% in 2021, the fourth lowest in the EU27 and well below the EU average of 10.9%. Ireland's fertility rate, at 1.8 in 2021, was among the highest in the EU, tied with France, Czechia, and Romania, though still below the theoretical replacement rate of 2.1.

These statistics highlight Ireland's strong population growth, aging demographic, high life expectancy, and relatively high fertility rate within the EU context. However, lower healthcare spending as a percentage of GDP suggests a need to monitor future healthcare demands as the population continues to age.

In 2022 and as summarised in the Table below, the general health of residents in the Assessment Area reflects a predominantly positive self-assessment, with the majority of individuals reporting their health as "Very Good" or "Good". Across the area, 12,837 residents rated their health as "Very Good", while 7,698 stated their health as "Good". This suggests that a substantial proportion of the population perceives their health favourably.

Table 4.7. General Health in the Assessment Area as Stated by Residents, 2022

General Health	Very Good	Good	Fair	Bad	Very Bad	Not Stated
Mansion House A	1,778	1,168	350	82	20	900
Mansion House B	459	206	44	7	0	305
North City	1,948	1,478	329	57	17	2,920
North Dock C	1,927	1,264	351	74	14	698
Royal Exchange A	1,615	1,022	248	45	19	2,114
Royal Exchange B	675	423	140	37	10	928
South Dock	4,435	2,137	476	72	17	1,183
Total	**12,837**	**7,698**	**1,938**	**374**	**97**	**9,048**

Source: CSO StatsBank

However, smaller segments reported less optimal health. A total of 1,938 residents described their health as "Fair", while 374 stated it was "Bad" and 97 rated it as "Very Bad". Notably, there is a considerable number of residents who did not state their health status, totalling 9,048 across the Assessment Area. Among individual Electoral Divisions, South Dock had the highest number of residents reporting "Very Good" health (4,435), whereas areas like Mansion House B and Royal Exchange B had fewer respondents in this category, likely reflecting differences in population size or demographic composition within these areas.

Table 4.8. Persons with Disability in the Assessment Area, 2016-2022

Persons with Disability	2016	2022	% Change 2016-2022
Mansion House A	592	914	54.4%
Mansion House B	75	123	64.0%
North City	433	786	81.5%
North Dock C	549	867	57.9%
Royal Exchange A	420	696	65.7%
Royal Exchange B	276	397	43.8%
South Dock	582	1,425	144.8%
Total	**2,927**	**5,208**	**77.9%**

Source: CSO StatsBank

As detailed in the Table above, between 2016 and 2022, the number of persons with disabilities in the Assessment Area increased significantly, rising by 77.9% overall. This increase highlights a growing need for accessible infrastructure, services, and support within these communities. In 2022, a total of 5,208 residents across the area reported having a disability, compared to 2,927 in 2016, underscoring a trend that may be influenced by population growth, aging demographics, or increased self-reporting.

The South Dock ED saw the largest increase, with a 144.8% rise in residents with disabilities, reaching 1,425 in 2022. Other divisions also recorded substantial growth, including North City (up 81.5%) and Royal Exchange A (up 65.7%). Mansion House A and North Dock C saw increases of 54.4% and 57.9%, respectively, while Mansion House B and Royal Exchange B experienced more modest growth rates of 64.0% and 43.8%. These figures suggest an upward trend across the area, reflecting the diverse needs of persons with disabilities and emphasizing the importance of inclusive planning and services within these neighbourhoods.

4.3.5 Social Infrastructure

Social infrastructure refers to the variety of services and facilities that fulfil both local and strategic needs, contributing significantly to residents' quality of life. In this context, social infrastructure includes essential services such as local businesses, educational institutions, healthcare facilities, emergency services, places of worship, and natural resources, all of which create a supportive environment within Dublin City. It is critical to note that John Spain Associates have prepared a Social and Community Audit under a separate cover, submitted with the planning application which we respectfully invite the Planning Authority to refer to for full details.

4.3.5.1 Businesses

The site currently encompasses the disused former Dublin Arts Centre and surface car parking. The surrounding area supports a diverse range of commercial activities, including high- and low-density office buildings, tourist accommodations, pubs, cafes, and retail shops, underscoring the area's role as a key employment and business hub in central Dublin.

4.3.5.2 Education

Within the immediate area, City Quay National School is located adjacent to the eastern boundary of the site, serving as a key educational institution for local families. Additionally, Trinity College Dublin is situated approximately 220m south of the proposed development, contributing to the area's educational and cultural landscape.

4.3.5.3 Healthcare

Dublin City offers a wide range of healthcare facilities. The National Maternity Hospital on Holles Street is located about 850m southeast of the site, while the nearest general hospital, St. James's Hospital, is approximately 3.8km to the west. Various fitness centres, including the Gloucester Street Sports and Recreational Centre nearby, provide additional health and wellness amenities for the community.

4.3.5.4 Emergency Services

Emergency services are easily accessible from the proposed site. Pearse Street Garda Station is located around 320m to the southwest, and the Dublin Fire Brigade Headquarters on Townsend Street is about 190 meters away, ensuring prompt emergency response capabilities in the area.

4.3.5.5 Places of Worship

There are two notable places of worship in close proximity to the site: the Immaculate Heart of Mary Catholic Church, approximately 20 meters to the east on City Quay, and St. Mark's Pentecostal Church on Pearse Street, roughly 180m south of the development.

4.3.5.6 Natural Resources

Consideration has been given to the natural resources and land use in the vicinity of the proposed development, as these factors could have implications for the project.

The subject site was originally reclaimed from the River Liffey around 1720 and has been in urban use ever since. Initially developed for residential purposes, the southern portion of the site later transitioned to industrial use, housing a brewery in the early 1800s and a coal yard from the mid-1850s until the 1930s. Following this period, the site remained unused until it was repurposed as the City Arts Centre from 1987 to 2001, with surface parking introduced in the southern section. Currently, although surface parking persists, the rest of the site has reverted to a derelict state.

A review of geological heritage in the area, based on the Geological Survey of Ireland's Public Viewer, confirmed that there are no sites of geological heritage within the immediate vicinity of the proposed development. The nearest geological heritage site is located approximately 0.39km to the south at Trinity College Dublin's Museum Building, notable for its preserved original interior dating back to 1857.

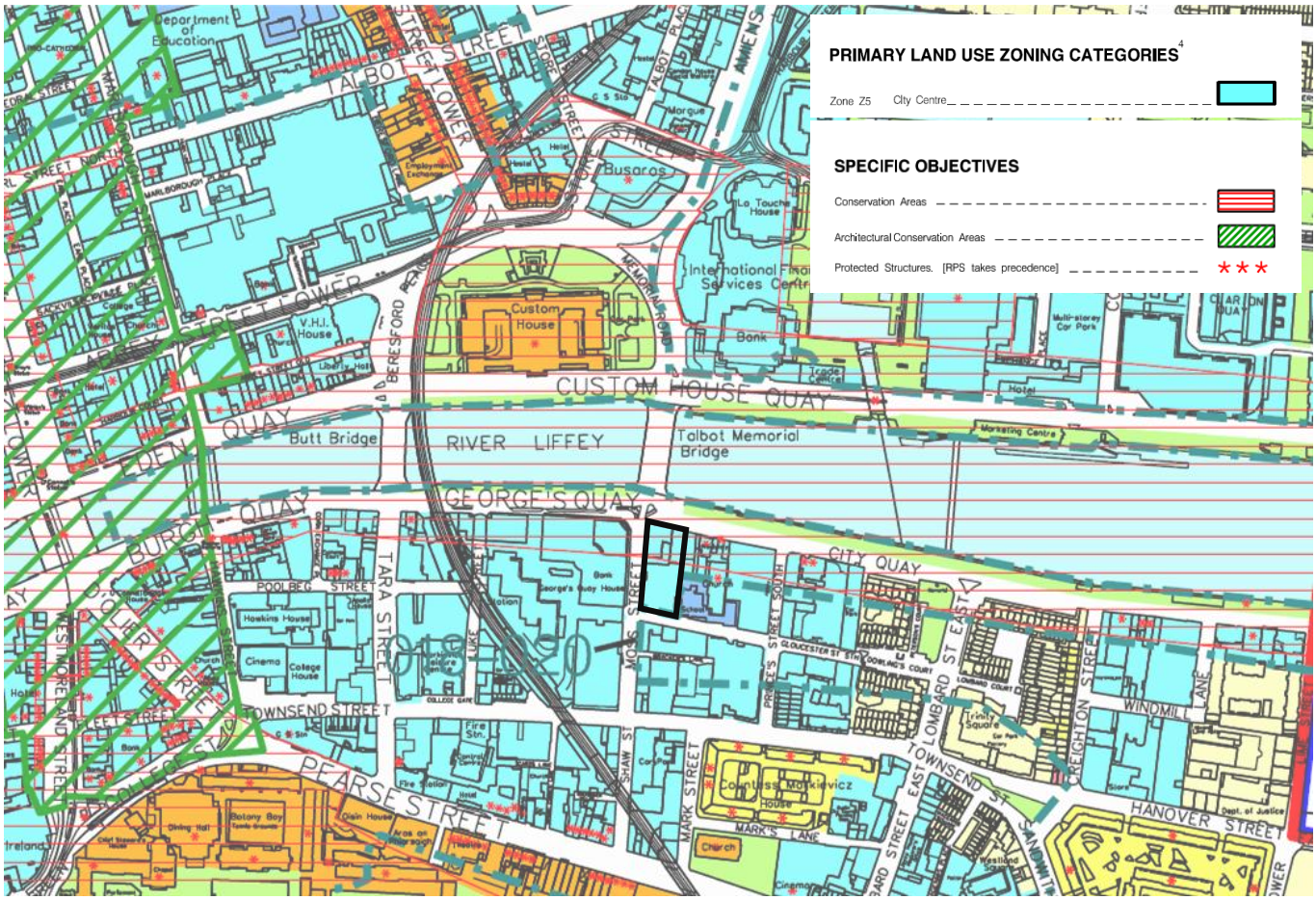
The GSI's 2021 mineral database was also consulted to assess the proximity of mineral extraction sites. The nearest active quarry, Huntstown Quarry, is approximately 9km northwest of the proposed development. This limestone quarry supplies aggregates and fill materials, but it is sufficiently distant to have no direct impact on the subject site.

Additional information on extractive industries and their regional impact can be found in the Chapter 7 covering Land, Soils, Geology, and Hydrogeology.

4.3.6 Land Use & Settlement Patterns

The subject site is located within the administrative boundaries of Dublin City Council with its development governed by Dublin City Development Plan 2022-2028 (CDP). Under the current CDP, the subject site is zoned *"**Z5 – City Centre**"* with an objective *"To consolidate and facilitate the development of the central area, and to identify, reinforce, strengthen and protect its civic design character and dignity"*.

Figure 4.6. Land use zoning map extracted from the Development Plan (approximate boundaries of the site outlined in black)



Source: Dublin City Development Plan 2022-2028, Development Plan Mapset E

With respect to the permissible uses under pertinent zoning objective, the proposed commercial development, consisting of office use, arts and cultural spaces, and café is permitted in principle under Z5 zoning and therefore, the proposal is consistent with the pertinent zoning objective.

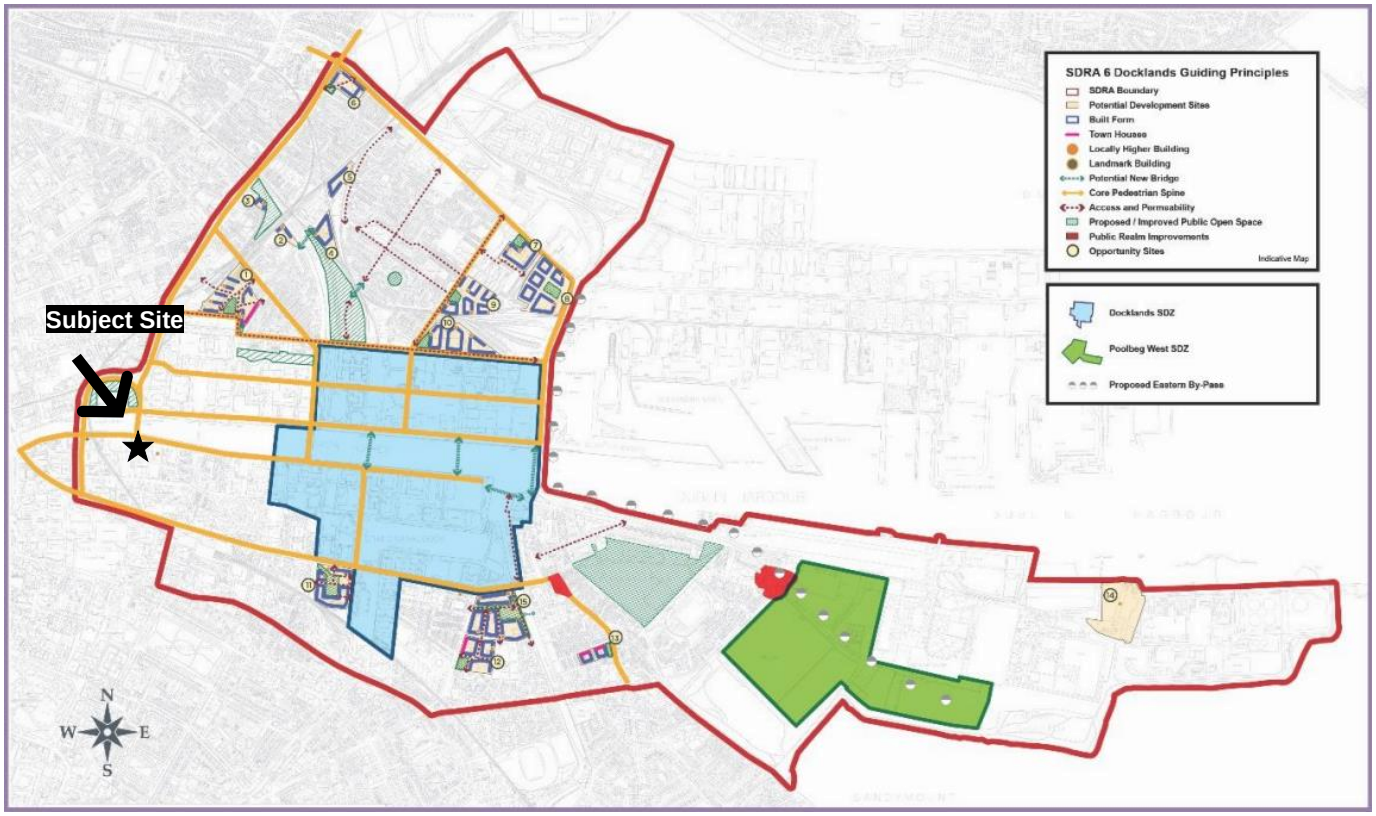
Stated in the Development Plan, *"The primary purpose of this use zone is to **sustain life within the centre of the city through intensive mixed-use development**. The strategy is to provide a dynamic mix of uses which interact with each other, help create a sense of community, and which sustain the vitality of the inner city both by day and night. As a balance, and in recognition of the growing residential communities in the city centre, adequate noise reduction measures must be incorporated into development, especially mixed-use development, and regard should be given to the hours of operation.*

*Ideally, **a mix of uses should occur both vertically through the floors of buildings as well as horizontally along the street frontage**. A general mix of uses, e.g. retail, commercial, residential, will be desirable throughout the area and **active, vibrant ground floor uses promoted**. On Category 1 retail streets, retail should be the predominant ground floor use"*. [emphasis added]

In line with the Development Plan's vision for Z5 zoned lands, which highlights the importance of central urban sites, the proposal aims to establish a balanced mix of uses that responds both to the site's strategic location and the scheme's viability. By facilitating the demolition of the existing, non-protected buildings and structures, the proposal allows for a comprehensive re-development that will bring the site in closer alignment with these strategic objectives. This re-development not only supports the area's urban context but also enhances the potential of the site to contribute meaningfully to the surrounding urban fabric, reinforcing the goals of compact growth and central city revitalisation.

It is also critical to note that as per City Development Plan, the subject site falls within Strategic Development Regeneration Area (SDRA) 6 – Docklands, which accordingly forms a key part of delivery delivering compact growth within Dublin.

Figure 4.7. Subject Site within the SDRA 6 (approximate location of the site denoted with a black star)



Source: Dublin City Development Plan 2022-2028

As outlined in the Chapter 13 of the Development Plan, SDRA 6 "*extends to circa 520 hectares and has **significant potential for further regeneration with a number of key development sites throughout the area**. These sites*

can make a valuable contribution to the future physical and social regeneration of this part of the city, consolidating the area as a vibrant economic, residential, cultural and amenity quarter of the city, whilst simultaneously nurturing sustainable well-integrated neighbourhoods and communities". [emphasis added]

Stated under **Policy CEE19** of the Development Plan, the Council seeks:

*"**To promote and facilitate the transformation of Strategic Development and Regeneration Areas (SDRAs) in the city**, as a key policy priority and opportunity to improve the attractiveness and competitiveness of the city, including by promoting high-quality private and public investment and by seeking European Union funding to support regeneration initiatives, for the benefit of residents, employees and visitors."* [emphasis added]

With respect to the above, the subject site is essentially identified for regeneration, change and transformation and therefore, demolition of the non-protected buildings on the site is in keeping with the relevant planning policy.

The Planning Report which accompanies this application addresses the planning context issues in more detail, which we respectfully invite the Planning Authority to refer to same.

4.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The proposed development aims to transform a significant brownfield site at the junction of City Quay, Moss Street, and Gloucester Street South in Dublin's city centre. This ambitious project envisions a 14-story building featuring office spaces, co-working/cafe space, art gallery, art studios and multi-functional space, with a total height of 61.05 meters above ground, complemented by a two-level basement. The site includes addresses at 1-4 City Quay, 5 City Quay, and 23-25 Moss Street and covers an area of over 0.2 hectares. Currently, the site is vacant, with its last use being surface parking and remnants of the former City Arts Centre, now in a derelict state. The development presents a unique opportunity to rejuvenate this prime, underutilised urban land within Dublin's core.

The development also emphasises accessibility and sustainable transport options. The two basement levels will provide 9 no. car parking spaces, 314 no. bicycle parking spaces and 1 no. motorbike parking spaces, supporting an active commuting culture in this well-connected area. Ancillary works, including public realm improvements, landscaping, telecommunications infrastructure, and utility connections, will complement the building's design and enhance the site's integration with its surroundings.

A full description of the proposed development is provided in Section 2 of this EIAR document, along with the alternatives explored on the site, which we respectfully invite the Planning Authority to refer to.

4.5 POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT

This section provides a description of the specific, direct and indirect, impacts that the proposed development may have during both the demolition/construction and operational phases of the proposed development. As stated, guidance documents from the EPA and the Department outline that the assessment of impacts on population and human health should focus on health issues and environmental hazards arising from the other environmental factors and does not require a wider consideration of human health effects which do not relate to the factors identified in the EIA Directive. Additionally, this section addresses the socio-economic and employment impacts of the proposed development.

The specific chapters of the EIA Report (4-15) assess the environmental topics outlined in the EIA Directive.

4.5.1 Construction Phase

The construction phase of the proposed development, which includes demolition of existing structures and new building work on-site, is not expected to create any long-term changes to population demographics in the area nor the subject site. However, this phase will generate a range of *short-term impacts* on the community, both *positive* and *negative*, with implications for human health and safety, economic activities, and local infrastructure. Below, an overview of these potential impacts on human health, economic activity, and community infrastructure is provided.

4.5.1.1 Human Health and Safety

During the demolition and construction phases, human health and safety will be influenced primarily by changes in air quality, noise, and vibration levels. As outlined in Chapter 8 of the EIAR, demolition and excavation works will

occur in separate phases, potentially generating fugitive windblown dust from mechanical equipment like excavators, tipper trucks, and vehicle movement on exposed surfaces. Demolition waste will be removed by HGV trucks, which may also produce dust during loading. Construction vehicle movement and concrete cutting will contribute to further dust emissions, particularly when dusty material is loaded onto trucks traveling on public roads. Additionally, the use of site vehicles, plant, machinery, pumps, and generators will result in fossil fuel emissions. As detailed in the aforesaid chapter, the potential impacts of the demolition and construction phase on air quality will be *negative*, *significant* and *short-term*. Therefore, best practice dust mitigation measures appropriate for sites with a high risk of dust impacts will be implemented to ensure there are no significant impacts at nearby sensitive receptors.

As outlined in Chapter 9 of the EAIR, the demolition of existing buildings and hard-standing areas will utilise a variety of plant and machinery and will include excavators, dump trucks, compressors and generators. The operation of these items of plant has the potential to generate *short term* elevated noise levels and ground vibration. Demolition works will occur for an approximate 2–4-week period. Furthermore, the 'Site set up' activities prior to construction will involve the construction of security hoarding, site offices, storage areas, and staff facilities, which will generate minimal noise. Site clearance, levelling, and excavation will require the use of equipment like excavators, dump trucks, compressors, and pneumatic breakers, potentially causing short-term elevated noise levels beyond the site boundary. Truck movements for site clearance and basement excavation will increase HGV traffic and noise levels. During the construction phase, extensive machinery and traffic will generate noise, with the highest levels occurring during general construction activities. Noise will be *short-term* and *limited to daytime hours* to minimise impacts. There is potential for a moderate short-term increase in noise, including tonal and impulsive sounds from typical construction activities.

Overall, the results of the assessment have indicated that the construction daytime noise limit of 75dB $L_{Aeq,\ 11hr}$ can be complied with during both demolition and construction works. It is also important to note that the impact due to construction activities will be transient in nature. The vibration impact associated with construction works will result in a *negative, moderate,* and *short-term* effect at the closest receptors during the construction phase.

Full details of the impacts from the proposed development on Air Quality is covered under Chapter 8, while Chapter 9 is focused on Noise and Vibration, which we respectfully invite the Planning Authority to refer to.

4.5.1.2 Economic Activity and Employment

The construction phase will contribute positively to local economic activity by generating temporary employment for approximately 300 workers. This influx of workers will support local businesses, such as cafes, restaurants, and shops, as workers utilise these facilities, providing an economic boost to the area. These benefits will be particularly valuable for businesses looking to recover from economic downturns or expand their customer base.

With close proximity to major transport hubs, including Tara Street Station and various bus routes, most workers are expected to commute from their homes, thus minimising demand on local housing resources and short-term accommodations. The project will also indirectly benefit local suppliers and service providers in related industries, including construction materials, waste disposal, and equipment rentals. Additionally, specialised workers will be brought in periodically for specific tasks, adding to economic activity without placing pressure on local housing.

Overall, this phase is anticipated to yield a *moderate*, *short-term positive* impact on the local and wider economy, stimulating both direct and indirect employment and business opportunities.

4.5.1.3 Local Amenities and Community Infrastructure

The construction phase will create temporary visual impacts that may affect the aesthetic appeal of certain views, particularly along the River Liffey Conservation Area. While construction equipment, scaffolding, and materials will alter the landscape, these impacts are anticipated to be *moderate* and *short-term*.

Despite these temporary changes, local amenities such as water supply, transportation, and tourism services are not expected to be adversely impacted. The site's existing connections to water, sewer, and electricity infrastructure are confirmed as adequate to meet the construction demands, ensuring no disruption to public utilities, as confirmed by Irish Water in Chapter 13 of the EIAR.

The project's design and health and safety planning, in compliance with the *Safety, Health, and Welfare at Work Act 2005*, will ensure that risks associated with construction are managed to protect both workers and the public.

Additionally, the site has been assessed for natural disaster risks, such as flooding, with mitigation strategies in place to prevent impacts from minor flood risks identified along the northern boundary.

In summary, the demolition and construction phases are expected to have mixed impacts. Positive impacts include short-term boosts to employment and local business activity, while negative impacts, such as temporary disruptions to air quality, noise levels, and visual amenity, will be managed through rigorous mitigation strategies.

4.5.2 Operational Phase

The operational phase of the proposed development will establish a permanent change in land use, transforming the site from a long-vacant, derelict area into an active commercial and cultural hub. The new development will include commercial spaces and community-supporting facilities, such as dedicated cultural and art spaces, designed to integrate with the public realm at ground level. These spaces will create a vibrant extension of the public area, revitalising this centrally located site. The surrounding land uses—currently a mix of commercial and residential activities—will remain largely unchanged, allowing the new development to positively complement the area's character.

This shift in land use is anticipated to have a lasting positive impact, aligning with the zoning objectives in the Dublin City Development Plan 2022-2028. The site's re-development, spanning approximately 0.2 hectares, will support economic activity through modern, open floorplates suitable for commercial headquarters, and provide much-needed cultural amenities, elevating the site's profile within the immediate community as well as the wider context. The addition of a high-quality commercial development and carefully designed public spaces is expected to make a positive contribution to the surrounding area, enhancing local engagement and supporting long-term community and economic goals.

Below, the expected impacts during the operational phase are detailed under the categories of Human Health and Safety, Economic Activity and Employment, and Local Community Infrastructure.

4.5.2.1 Human Health and Safety

As outlined in Chapter 8 of the EIAR, if modern energy efficient mechanical plant, insulated materials and low-quality windows were not to be used in the design and construction and mechanical plant was not maintained correctly, the impact on air quality would result in greater emissions to atmosphere which would result in a *negative, slight* and *long-term.*

In terms of noise and vibration, there will be minimal noise sources associated with its operation that may cause nuisance at local receptors. Mechanical roof plant to be located at 7th floor level when maintained on a routine basis will not generate audible noise at any receptor. The operation of the proposed development will not generate ground vibrations.

The potential impacts of the development on sunlight and daylight have been extensively analysed, with careful attention to surrounding properties, including the City Quay National School. A Sunlight and Daylight Assessment carried out by 3D Design Bureau indicates that the level of effect to all residential properties within the area have all been categorised as *negligible* and *minor adverse*. As stated within the aforesaid report, while the levels of effect to the commercial premises vary, these have been clearly identified and rationalised within the assessment.

A Pedestrian Wind Comfort Analysis, conducted by BPC Engineers, evaluated the wind comfort levels within and around the site post-construction and identified areas where potential wind mitigation measures may be needed. Overall, the analysis found that most areas at ground level, including adjacent public footpaths and streets, meet or exceed the Lawson 'Strolling' criteria for wind comfort. Some ground-level areas meet the Lawson 'Business Walking' criteria; however, these are generally located on the roadway, where pedestrian impact is expected to be *minimal*. According to this assessment, the prevailing wind directions are from the west-southwest and west, with the building's largest façade positioned perpendicular to these winds. This orientation results in a downwash effect, particularly impacting the wind comfort on Moss Street. Nevertheless, even with this effect, most surrounding footpaths and walkways meet the 'Standing' or 'Strolling' criteria. Consequently, the wind environment at ground level after construction is expected to be *comfortable* for most users throughout the year.

Overall, the effect on human health from noise, air quality, vibration, sunlight/daylight, and wind conditions during the operational phase is expected to be *neutral* and *requires no additional mitigation*.

Safety measures for both workers and visitors will be governed by a comprehensive Environmental Management System (EMS), which will ensure compliance with all relevant health and safety regulations. The EMS includes training for employees on safety protocols and ongoing measures to address health guidelines, ensuring a safe environment for all users of the development.

4.5.2.2 Economic Activity and Employment

The operational phase will deliver *long-term positive* impacts on economic activity and employment in the area. The commercial spaces and cultural amenities within the development, particularly the arts centre, will attract office workers, visitors, and tourists, stimulating economic activity in surrounding businesses, such as cafes, restaurants, shops, and service providers. This influx of patrons will support local revenue and enhance the area's economic resilience.

The arts centre, in particular, is expected to function as a cultural destination within the Dublin Docklands, increasing foot traffic and generating positive spillover effects for the local business community. In line with Dublin City Council's policies for cultural and tourism development, the addition of cultural facilities will attract new visitors, while also supporting the area's reputation as a vibrant economic and cultural hub. This activity will sustain employment opportunities both directly within the development and indirectly in surrounding businesses, contributing significantly to the local and broader economy.

4.5.2.3 Local Amenities & Community Infrastructure

The proposed development will integrate with and enhance existing community infrastructure, bringing *positive long-term* benefits to the local area. The inclusion of a cultural arts centre will not only enrich the area's amenities but also support Dublin City Council's objectives to expand public access to cultural resources. The arts centre will encourage public engagement, foster community connections, and attract tourists, enhancing Dublin Docklands as a key cultural and economic destination. The development's position along the River Liffey will further establish it as a key structure enhancing legibility of the city, bridging the gap between the city centre and Docklands and adding visual interest to the urban landscape.

Utility needs for the development have been carefully planned to ensure that existing community resources remain unaffected. The building's energy requirements will be met through photovoltaic (PV) panels on the southern façade, supplemented by the national grid, ensuring *no adverse impact* on the local power supply. Irish Water has confirmed that there is sufficient capacity for potable water and wastewater management, guaranteeing reliable service without straining existing resources for local residents and businesses.

Traffic impacts are expected to be *minimal* due to the development's proximity to major public transportation hubs, including the existing Tara Street station and emerging MetroLink station. Many visitors and employees are likely to rely on public transit, reducing the number of additional vehicles on local roads. As detailed in Chapter 11, the increase in traffic volume will be *negligible* and is not expected to disrupt local traffic flow or place strain on the road network. This strategic positioning supports sustainable transportation use and aligns with the city's goals for reducing traffic congestion in urban areas.

In summary, the operational phase of the proposed development will create *meaningful long-term* benefits for the community, with *positive effects* on economic activity, cultural engagement, and local infrastructure. Human health and safety considerations will remain *neutral* and *manageable*, and the development will contribute to the vitality and accessibility of Dublin's Docklands area, aligning with broader urban planning and community goals.

4.6 POTENTIAL CUMULATIVE IMPACT

The cumulative impacts of the proposed development on population and human health have been evaluated in light of ongoing changes in the surrounding area. This assessment included site visits, a desk-based review of relevant planning applications, and an examination of nearby land uses and developments. These efforts aimed to understand the current development pattern and identify any relevant projects—either permitted or under construction—that could influence the baseline environment in terms of population and human health.

The proposed commercial development, along with other ongoing and permitted projects in the area—predominantly commercial with some residential elements—will drive increased commercial activity and employment opportunities in the vicinity, contributing positively to local population dynamics and supporting pertinent planning policy and zoning objectives.

During the construction phase, including demolition activities, the project is not expected to significantly affect the established population or demographic trends in the area. However, from a human health perspective, these emerging developments may temporarily impact the surrounding population due to noise, traffic, and general construction activity. As outlined in the EIAR, the implementation of noise and traffic management measures will help minimise disruptions to nearby communities, ensuring a controlled and manageable construction environment.

In the operational phase, the cumulative effect of this development and adjacent projects is anticipated to bring a sustained increase in population and foot traffic, particularly in the commercial sector. This growth will have a moderately positive impact on the immediate area, fostering a more dynamic urban environment and contributing slightly to broader population and economic growth within Dublin's city centre. The area's visual character will also evolve, as new commercial structures and arts and cultural spaces blend into the urban landscape, reinforcing its role as a vibrant and modern commercial hub.

The review of surrounding developments focused on larger, more impactful projects based on their scale, use mix, and proximity to the proposed development. Minor applications, such as small extensions, minor works, etc. were excluded. The search primarily covered relevant permissions from the last five years, with additional consideration for longer-term projects holding 10-year permissions.

Key projects in the area include:

- Dublin City Council Reg. Ref. 3684/21: Amendments to Reg. Ref. 4170/19 (ABP-306335-20), a 12-storey, 58-unit "Built-to-Rent" development at Apollo House, currently under construction.

- Dublin City Council Reg. Ref. 3091/21: A 9-storey office building over a double basement at 157-164 Townsend Street, Dublin 2, currently under construction.

- Dublin City Council Reg. Ref. 2877/21: Amendments to Reg. Ref. 4778/19 – A 9-storey mixed use development over single-storey basement at Brunswick Villas, Shaw Street, Townsend Street and Spring Garden Lane, approved permission.

- Dublin City Council Reg. Ref. 3054/22: 12 to 16 storeys office development across 4 building blocks at "Dublin Arch", on a site adjacent to Connolly Station, Sheriff Street Lower, approved permission.

In combination with these nearby projects, potential cumulative impacts on human health during construction include increased pressure on road infrastructure from additional HGV traffic, economic benefits to local businesses and suppliers, and potential negative effects from dust and noise. Each of these cumulative impacts has been analysed within the relevant chapters of the EIAR.

The expected residual effects from demolition and construction activities, when considered alongside cumulative developments, have been assessed in Chapters 8 and 9 (air quality, noise, and vibration) and are found to be non-significant. Similarly, potential cumulative impacts on visual aesthetics, material assets, and traffic, as reviewed in Volume 3 of the EIAR and Chapters 11-13, are also anticipated to be non-significant.

Post-construction (operational phase), cumulative impacts from air quality, noise, visual impact, and traffic have been evaluated in Chapters 9-13, incorporating the potential effects of nearby developments into their modelling. These impacts are expected to be long-term, neutral, and not significant.

As detailed in Chapter 16, the residual cumulative impacts of the proposed development in conjunction with local committed developments are not expected to have a significant effect on unplanned events, human health, or safety during the operational phase.

4.7 "DO-NOTHING" IMPACT

To provide a comprehensive assessment of the proposed development, this section evaluates the potential impacts on the receiving environment if the project were not to proceed.

In a "do-nothing" scenario, the site would remain vacant and undeveloped, leading to an under-utilisation of this strategic location, particularly given its designation as a Strategic Development and Regeneration Area (SDRA 6 - Docklands) within the Dublin City Development Plan. Without development, the opportunity to achieve urban

regeneration, economic growth, and visual enhancement in this prominent area would be lost, missing a chance to align with city planning goals for sustainable and impactful urban development.

The absence of the proposed development would also mean forgoing the opportunity to address local demand for commercial space and job creation in a highly accessible area. The project's construction and operational phases are expected to stimulate employment growth, directly and indirectly benefiting local businesses, especially in the construction sector and service industries. In a "do-nothing" scenario, the local economy would miss out on these positive economic impacts, diminishing economic vibrancy and stalling the intended urban transformation.

Environmentally, leaving the site as-is would mean the current baseline remains unchanged. While this would avoid the temporary environmental impacts associated with construction, it would also forgo the lasting benefits of environmental enhancements and sustainable design features embedded in the proposed project. Moreover, without development, the derelict structures on the site would likely continue to deteriorate, impacting the townscape of this high-profile waterfront location. The decaying buildings would detract from the visual quality and coherence of the urban fabric, at odds with the regeneration objectives for the area and potentially inviting anti-social behaviour, which can be associated with neglected spaces.

The do-nothing scenario would also mean missed opportunities to enhance population dynamics, local employment, and community resources in alignment with the objectives of the City Development Plan. The public realm and community amenities envisioned for the site would remain unfulfilled, leaving a gap in the area's contribution to the cityscape and failing to support the projected growth of Dublin's Docklands.

In terms of natural progression without the project, baseline conditions regarding population, human health, and economic activity would likely remain largely static, with minimal change over time. The site would remain visually and functionally disconnected from Dublin's evolving urban landscape, missing an opportunity to contribute to the area's transformation into a vibrant, attractive, and sustainable part of the city core. In contrast, the proposed development offers a chance to reinvigorate the area, providing a well-integrated, high-quality urban environment with lasting benefits for the community and city alike.

4.8 AVOIDANCE, REMEDIAL & MITIGATION MEASURES

Avoidance, remedial and mitigation measures describe any corrective or mitigative measures that are either practicable or reasonable, having regard to the potential likely and significant environmental impacts.

4.8.1 Construction Phase

A comprehensive range of construction-related mitigation and remedial measures are proposed throughout this EIAR to address potential environmental impacts across various topics and their inter-relationships. These measures are designed to avoid any significant adverse environmental effects on population and human health during the construction phase. For a summary of all proposed mitigation and remedial measures, readers are directed to Chapter 15 of this EIAR.

To protect the amenities enjoyed by nearby residents, businesses, and employees, the appointed contractor will submit and implement a detailed Construction Environmental Management Plan (CEMP) prior to commencement. The CEMP will be based on the mitigation measures outlined in this EIAR and will address all relevant environmental controls and emergency procedures for the duration of the construction phase.

A Resource Waste Management Plan, prepared by Byrne Environmental Consulting Ltd., is included with this planning application. The plan's objective is to ensure that waste generated during both the construction and operational phases is managed and disposed of in compliance with the Waste Management Acts 1996-2023 and all associated Waste Management Regulations.

Prior to beginning demolition, the contractor must obtain formal agreement from the Local Authority regarding pollution prevention measures, as well as emergency procedures for all stages of construction. All demolition works will adhere to the following guidelines:

- BS 6187:2000 'Code of Practice for Demolition'
- Health and Safety Executive Guidance Notes GS 29/1, 2, 3, & 4
- S.I. 504 Safety, Health & Welfare at Work (Construction) Regulations 2013
- Air Pollution Act 1987

- Environmental Protection Agency Act 1992
- BS 5228:2009 Part 1 'Noise Control on Construction & Open Sites'

Additional site controls and measures include:

- Road Cleanliness: Roadways will be kept clean of dirt and debris, with a road-sweeping truck on standby if required.

- Site Security and Safety: The contractor will secure the site perimeter with appropriate hoarding and ensure all staff complete a site induction process. Safe pass cards will be required for all workers, and separate pedestrian access will be provided at main site entrances. Controlled access points, equipped with gates or turnstiles, will remain locked outside of monitored hours.

- Traffic Management: A Traffic Management Plan, to be agreed with Dublin City Council's Transportation Department and An Garda Síochána, will be implemented to mitigate potential impacts on surrounding road networks.
- Surface Water Management: In alignment with Sustainable Drainage Systems (SuDS) Best Management Practices, surface water proposals aim to reduce site runoff to 2 l/s. Measures include green roofs, stormwater attenuation, hydrobrake systems, and a Class 1 interceptor. The stormwater drainage system is designed for a 100-year storm event. Further details on surface water and flood risk are provided in Chapter 6 (Water and Hydrology).

- Dust Control: To mitigate dust-related health impacts, a dust minimisation plan will be implemented based on best practices from Ireland, the UK, and the USA. Additional details are provided in Chapter 8 of this EIAR.

- Noise and Vibration Control: Specific noise and vibration control measures are outlined in Chapter 9. The contractor will adhere to noise abatement guidelines per BS 5228–1 (BSI 2014a) and S.I. No. 241/2006 for outdoor equipment. Noise monitoring will follow ISO 1996–1 (ISO 2016) and ISO 1996–2 (ISO 2017), and operational plant items will comply with BS 4142 guidance for noise control.

These combined measures reflect a structured approach to managing environmental, safety, and operational impacts, ensuring compliance with best practices and relevant regulatory standards throughout the construction phase.

4.8.2 Operational Phase

Since the impacts of the proposed development on Human Health and Population are either non-significant, positive, or cannot be further mitigated, no additional mitigation measures are required.

4.9 RESIDUAL IMPACT OF THE PROPOSED DEVELOPMENT

4.9.1 Construction Phase

4.9.1.1 Human Health and Safety

The primary residual impact on air quality during demolition and construction is anticipated to come from construction dust and the potential for nuisance dust. However, with the implementation of the mitigation measures detailed in Chapter 8 of this EIAR, no residual air quality impact on human health is expected.

In terms of noise, while mitigation measures outlined in Chapter 9—such as selecting quieter equipment, controlling noise sources, implementing screening, limiting work hours, engaging with the public, and monitoring—will significantly reduce noise impacts, some residual noise may occur. During intrusive activities near the eastern site boundary, noise levels may intermittently reach up to 5 dB above the lower CNT of 70 dB LAeq,T at upper floors of the City Quay National School. This results in a temporary, moderate to significant residual negative impact during these specific periods. For most other construction activities, noise levels are expected to remain within acceptable limits, resulting in a moderate, short-term negative impact on nearby receptors.

In terms of health and safety, no significant residual impacts are anticipated from unplanned events or on-site health and safety during construction. With the application of measures outlined in Chapter 5 (Land, Soils, Geology, and Hydrogeology) and Chapter 6 (Hydrology), the likelihood of minor accidents, such as spills or leaks, is minimised, resulting in an imperceptible residual impact on the environment.

4.9.1.2 Economic Activity and Employment

The anticipated residual impact on businesses and residences during the demolition and construction phase of the proposed development is expected to be moderately positive and short-term, reflecting the temporary economic boost from construction activity and associated employment opportunities.
Local Amenities and Community Services

No significant residual impacts are anticipated on local amenities or tourism due to demolition or construction activities. Mitigation measures will be implemented to ensure that community services and tourism facilities remain unaffected by construction impacts.

With adherence to measures outlined in collaboration with Irish Water, the residual impact on material assets, such as water supply and wastewater infrastructure, is expected to be non-significant.

An analysis in Chapter 11 of this EIAR determined that additional traffic generated during demolition and construction will have no significant residual effect on local traffic conditions, as the road network can accommodate the increase without major disruptions.

4.9.1.3 Local Amenity & Community Infrastructure

No significant residual impacts are anticipated on local amenities or tourism due to demolition or construction activities. Mitigation measures will be implemented to ensure that community services and tourism facilities remain unaffected by construction impacts.

With adherence to measures outlined in collaboration with Irish Water, the residual impact on material assets, such as water supply and wastewater infrastructure, is expected to be non-significant.

An analysis in Chapter 11 of this EIAR determined that additional traffic generated during demolition and construction will have no significant residual effect on local traffic conditions, as the road network can accommodate the increase without major disruptions.

4.9.2 Operational Phase

4.9.2.1 Human Health and Safety

It is anticipated that there will be no significant residual impact on air quality affecting human health during the operational phase, as all air quality standards will be met without the need for additional mitigation.

In terms of noise, with the application of the design and mitigation measures outlined in Chapter 9, there will be no residual noise, or vibration impacts on human health. The development's operations, including HVAC systems and any other potential noise sources, are designed to comply with noise standards to ensure a neutral impact on nearby sensitive receptors.

In relation to health and safety, the operational phase has been designed to adhere to robust safety protocols, with no significant residual impact anticipated from unplanned events or on human health and safety. The development will operate under comprehensive safety management systems to ensure continued protection of all users and the surrounding community.

4.9.2.2 Economic Activity and Employment

The residual impact of the operational phase on local businesses and residences is expected to be positive, significant, and long-term. The increased commercial activity will contribute to sustained employment opportunities and economic growth, enhancing the vibrancy of the local area.

4.9.2.3 Local Amenities and Community Services

The operational phase of the proposed development will have a positive, significant, and long-term residual impact on local amenities and tourism. The addition of cultural and commercial spaces will enhance the attractiveness of the area for visitors, supporting local tourism and adding value to the community amenities available.

The operational phase will not have a significant residual impact on material assets, including water, energy, and other essential services. These services have sufficient capacity to meet the demand generated by the development without negatively affecting existing infrastructure.

As outlined in Chapter 11, any additional traffic generated by the development during its operational phase is anticipated to have no significant residual impact on human health or local road conditions. The surrounding road network is equipped to handle the additional flow without notable disruptions.

While the playground of the nearby City Quay National School will not experience reduced sunlight during school hours, there will be a slight reduction in daylight levels to some classroom windows on the courtyard side. This decrease remains within Building Energy Rating (BER) VSC (Vertical Sky Component) targets, resulting in a slight, long-term negative impact on the affected classrooms.

According to the Pedestrian Wind Comfort Analysis, conducted by BPC Engineers, with implemented mitigation measures, ground-level wind conditions around the proposed development will be suitable for all pedestrian activities at all measurement locations throughout the year, with no adverse residual impact on pedestrian comfort during either summer or winter.

4.9.3 "Worst-Case" Scenario

If the proposed development does not proceed, no new commercial opportunities or local employment will be generated. However, the absence of the project or the failure of any proposed mitigation measures would not result in any severe, irreversible, or life-threatening outcomes. Therefore, no further consideration of this scenario is necessary with respect to health, community, employment, or population matters.

4.10 MONITORING

In relation to the impact of the development on population and human health it is considered that the monitoring measures outlined in this EIAR in regard to the other environmental topics such as water, air quality and climate and noise and vibration sufficiently address monitoring requirements.

4.11 REINSTATEMENT

This does not apply to the Population and Human Health chapter.

4.12 DIFFICULTIES ENCOUNTERED IN COMPILING

No significant difficulties were encountered in compiling this chapter of the EIAR document.

4.13 REFERENCES

- **Central Bank of Ireland, 2024.** *Quarterly Bulletin, Q3 2024.* Central Bank of Ireland.
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- **Central Statistics Office, 2022.** *Census of Population 2022: CSO's PxStat Open Data Statistical Database.* Central Statistics Office.
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- **Dublin City Council, 2022.** *Dublin City Development Plan 2022-2028.* Dublin City Council.
- **Economic and Social Research Institute. (2024)**. *Quarterly Economic Commentary, Autumn 2024.* Economic and Social Research Institute.
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