
Bailey Gibson 2
Proposed Strategic Housing Development

VOLUME II
ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

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Volume II - Table of Contents

1. Introduction
2. Development Description
3. Alternatives
4. Population & Human Health
5. Landscape & Visual
6. Material Assets: Traffic & Transport
7. Material Assets: Built Services
8. Land & Soils
9. Water & Hydrology
10. Biodiversity (Flora & Fauna)
11. Noise & Vibration
12. Air Quality & Climate
13. Archaeological & Cultural Heritage
14. Built Heritage
15. Interactions of the Foregoing
16. Summary of Mitigation Measures

CHAPTER 1

INTRODUCTION

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|--------------|---|-------------|
| 1 | Introduction | 1-2 |
| 1.2 | Proposed Development Site | 1-5 |
| 1.2.1 | Site Description | 1-5 |
| 1.2.2 | Surrounding Context | 1-5 |
| 1.2.3 | Strategic Development Regeneration Area 12 | 1-6 |
| 1.3 | The Applicant/Project Developer | 1-8 |
| 1.4 | Requirement for EIAR | 1-9 |
| 1.5 | Purpose of Environmental Impact Assessment | 1-10 |
| 1.6 | Content of Environmental Impact Assessment Report..... | 1-10 |
| 1.7 | Competency | 1-11 |
| 1.8 | Format and Structure of the EIAR | 1-12 |
| 1.9 | Scoping | 1-13 |
| 1.10 | Scope of Cumulative Effects..... | 1-13 |
| 1.11 | Impact Assessment Methodology..... | 1-18 |
| 1.12 | Consultation..... | 1-20 |

Table of Figures

| | | |
|------------|--|-----|
| Figure 1.1 | Site Location (Site outlined in red) | 1-3 |
| Figure 1.2 | Proposed Site Layout | 1-4 |
| Figure 1.3 | SDRA 12 Lands | 1-8 |

Table of Tables

| | | |
|-----------|--|------|
| Table 1.1 | - EIAR Chapters and Contributors | 1-13 |
| Table 1.2 | Impact Rating Terminology | 1-19 |

1 Introduction

This Environmental Impact Assessment Report (EIAR) was prepared by McCutcheon Halley Planning Consultants together with a team of specialist consultants on behalf of CWTC Multi Family ICAV acting solely in respect of its sub fund DBTR SCR 1 Fund (the “Applicant”) to accompany a Strategic Housing Development (SHD) application for permission for a residential-led development on a site of 5.5 hectares at the former Bailey Gibson Site, former Player Wills site, Dublin City Council land (formerly Boys Brigade pitch site and part of St. Teresa’s Gardens (all within Strategic Development Regeneration Area 12).

This Chapter describes the existing site and its surrounding area. Further to this, **Chapter 2** of this EIAR provides a detailed description of the construction and operation phases of the development. This description sets the basis against which the specialist assessments presented in this EIAR were undertaken.

The housing component is part Build to Rent (BtR) and part Build to Sell (BtS) scheme and it is proposed at the former ‘Bailey Gibson’ site (1.53 hectares). It is proposed to deliver public amenities and infrastructure on the balance of the lands (3.97 hectares). See **Figure 1.1**.

A Letter of Consent from Dublin City Council is included with this application.

Briefly, the former Bailey Gibson site is vacant, and brownfield. The site is almost entirely comprising of buildings and artificial surfaces. The site is completely built up, with a mix of buildings, mainly warehouses and storage sheds. Apart from small patches of ruderal plants and some isolated pockets of scrub and small trees there are no vegetated habitats of any description on the site. All existing buildings on the site will be demolished to make way for the proposed development of a high-quality residential led scheme, comprising 345 no. residential units in 5 no. blocks BG1, BG2, BG3, BG4 and BG5 ranging in height from 2 to 7 storeys together with residential amenities and services, communal open space, and commercial uses. The development will also include a range of diverse public open spaces on mainly land in the ownership of DCC including; 2 public parks ‘Players Park’ and St. Teresa’s Playground, a multi-sport playing pitch, a public plaza ‘Rehoboth Plaza’ and a verdant boulevard ‘St. Teresa’s Boulevard’.

A summary of the proposed residential units across 5 no. proposed blocks is presented below. The distribution of the proposed buildings across the site is illustrated in **Figure 1.2**.

- BG1 (BtR) will encompass 151 no. apartments
- BG2 (BtR) will encompass 89 no. apartments
- BG3 (BtR) will encompass 52 no. apartments
- BG4 (BtS) will encompass 49 no. apartments
- BG5 (BtS) will encompass 4 no. houses

1.1 Proposed Development

The full description of the proposed development is set out in **Chapter 2** Development Description.

Broadly, the proposed development will deliver a high-quality, sustainable, mixed-tenure residential led development together with non-residential floor space and open space for active and passive surveillance.

This EIAR identifies, describes and assesses the likely significant effects of the project as a whole, in accordance with the EIA Directive 2011/92/EU as amended by Directive 2014/52/EU the description of the proposal should comprise “...*information on the site, design, size and other relevant features of the project*”.



Figure 1.1 Site Location (Site outlined in red)

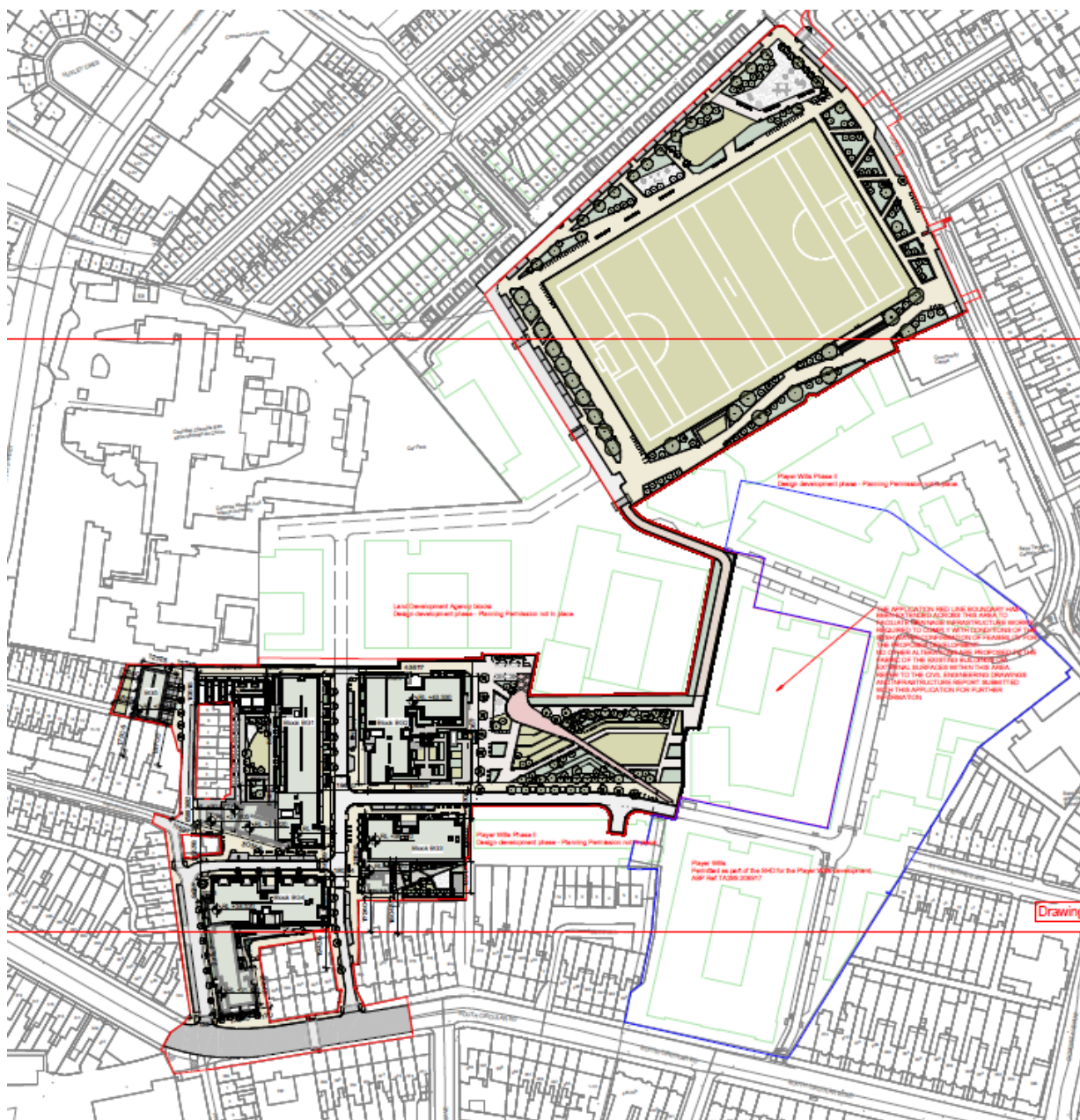


Figure 1.2 Proposed Site Layout

The application may be inspected in the offices of the Dublin City Council and online on the Dublin City Council website.

The Department of Housing, Planning and Local Government has issued an EIA Portal confirmation for the proposed project and the referenced number is contained in the cover letter.

1.2 Proposed Development Site

1.2.1 Site Description

The site has frontage to SCR to the south and Rehoboth Place / Avenue to the west. It is occupied by vacant industrial buildings and associated yard areas on its western side, and by vacant ground on its eastern side. The north-eastern part of the lands, with frontage to Donore Avenue to the east and Margaret Kennedy Road to the north, comprises part of the former St. Teresa's Gardens flat complex, now largely demolished. Lands to the east and south are in predominantly residential use, while the Player Wills redevelopment site lies further to the east. To the northwest is the Coombe Hospital. See **Figure 1.1**.

The site is accessed via an entrance between no's 324 and 330 SCR, and 2-storey Victorian-era houses line the street to the east and west of the entrance. The site has secondary access point along its frontage with Rehoboth Place.

There is a chimney to the north of the former Bailey Gibson site. It is not a Protected Structure and does not have any historical significance. The chimney is a simple red brick extrusion lacking in articulation, save for a simple corbel below its concrete cap. It is not a free-standing structure and was built as part of a concrete blockwork structure.

The application area also includes lands that extend beyond the Baily Gibson site to facilitate a multi-purpose play pitch, 2 public open spaces and a boulevard in addition to works to the public road to upgrade and provide for connections to municipal services, all on DCC owned lands.

1.2.2 Surrounding Context

The application area is approximately 2.5kms southwest of Dublin city centre (O'Connell Street).

The land uses immediately adjacent to the site comprise residential, health and undeveloped lands. Within the immediate wider area is the Player Wills Factory site to the east (RPS No: 855), St. Teresa's Gardens to the northeast, St. Catherine's National School, and places of worship. An extant permission has been granted on the Player Wills Factory site (ABP Reg Ref: 308917-20) which included the demolition of all buildings excluding the original fabric of the former Player Wills Factory, and the construction of 492 no. Build to Rent apartments, 240 no. Build to Rent shared accommodation along, creche and associated site works.

South Circular Road consists almost exclusively of 2-storey dwellings and Donore Avenue, Maxwell St. and Eugene St. are predominately residential with some small neighbourhood shops.

Rehoboth Place is a narrow route, connecting the former Bailey Gibson site with Dolphin's Barn Street and is occupied by terraces of 2-storey houses.

Dolphins Barn Street/Cork Street (R110) is 120m west of the site. This street acts as a major thoroughfare to the City Centre and is flanked with an eclectic mix of architectural styles with traditional buildings pepper potted with modern development (6-8 storeys). A period of redevelopment between 2003 and 2010 produced some notable new buildings and brought new residents to the street, with large residential schemes such as Timberyard and Southgate. The street is in a state of transition and is now undergoing a second phase of rehabilitation in tandem with the regeneration of neighbouring Newmarket. The Cork Street/ Marrowbone Lane/Donore

Avenue junction and environs is a commercial and community hub for Cork Street with a range of retail outlets including a Lidl supermarket, furniture store, pharmacy, Centra convenience store with post office and a café.

Dolphins Barn is approximately 180m to the west of the site and is characterised by a mix of low-rise housing and newer apartment buildings ranging from six to eight-storeys in height. It supports an array of retail uses including a Tesco Express supermarket, SPAR convenience store, Lowes Bar and Lounge, launderette, pharmacy, funeral service, multiple hair salons, fast food outlets and specialty ethnic grocers (Afro-Caribbean, Bulgarian, Polish and Middle-Eastern).

The site is located within a 5-minute walk of numerous high-frequency Dublin Bus & Go-Ahead services along Dolphin's Barn Street/Cork Street, a dedicated Quality Bus Corridor, and the South Circular Road. It is also a 9-minute walk to the Fatima Red line Luas stop.

1.2.3 Strategic Development Regeneration Area 12

The Dublin City Development Plan 2016-2022 designates 18 areas across the city as Strategic Development and Regeneration Areas (SDRA). According to the Development Plan, SDRAs have substantial development capacity and the potential to deliver the residential, employment and recreational needs of the city.

The proposed development site is part of SDRA 12, St. Teresa's Gardens & Environs. It encompasses a landbank of 11.65 hectares including, DCC owned lands, the Coombe site, Bailey Gibson and the Player Wills site, see **Figure 1.3**. It is noted that the red line boundary on this plan (extracted from the Development Plan) excludes approx. half of the Bailey Gibson site, however the inclusion of the whole Bailey Gibson site is confirmed in the text which accompanies this map. Section 1.6 of the Development Plan confirms that this is the correct interpretation as it states:

"Should any conflict arise between the written statement and the maps or diagrams, the written statement shall take precedence."

For each of the 18 SDRAs, Chapter 15 of the Development Plan sets out guiding principles i.e., the key objectives that must be achieved such as: mix of uses; street network and linkages within the area and to surrounding areas; provision of urban spaces, parks and playgrounds; and provision of retail and recreational facilities.

The overall guiding principles for SDRA 12 as set out in Chapter 15 of the Development Plan are set out below:

- The development of a network of streets and public spaces will be promoted to ensure the physical, social and economic integration of St Teresa's Gardens with the former Player Wills and Bailey Gibson sites, with further integration potential with the sites of the Coombe Hospital and White Heather Industrial Estate.
- A vibrant mixed-use urban quarter will be promoted with complementary strategies across adjoining sites in terms of urban design, inter-connections and land-use. To provide for an area zoned sufficient in size to accommodate a minimum 80 m by 130 m playing pitch.

- A new public park is proposed as a landmark feature with passive supervision by residential and other uses; it will have a comprehensive landscaping strategy to provide significant greenery within the scheme and will make provision for a diverse range of recreational and sporting facilities for use by the wider neighbourhood.
- There is potential for one or two midrise buildings (up to 50 m) within the site, subject to the criteria set out in the standards section of this plan. To acknowledge the existing sports lands of St Teresa's gardens and its environs and act to retain and augment these lands as sporting facilities for the benefit of the wider community and use by local sports clubs. That at least 20% of the SDRA 12 be retained for public open space, recreation & sporting facilities including an area to facilitate organised games.
- Strong permeability through these lands will be encouraged to generate movement and activity east-to-west (connecting Dolphin's Barn Street and Cork Street with Donore Avenue) and north-to-south (connecting Cork Street and Donore Avenue with the South Circular Road and Grand Canal corridor); a high-quality public domain, provision of pedestrian and cyclist routes and provision of active streets will be promoted.
- A community hub will be incorporated into the scheme to provide a wide range of community facilities accessible to the wider neighbourhood; opportunities to highlight the heritage of the local area by proposing community uses close to important landmark buildings such as St Teresa's Church will be promoted.

Provision shall be made for the expansion of St Catherine's National School, Donore Avenue, in the redevelopment of the former Player Wills site, subject to agreement with the Department of Education and Skills.

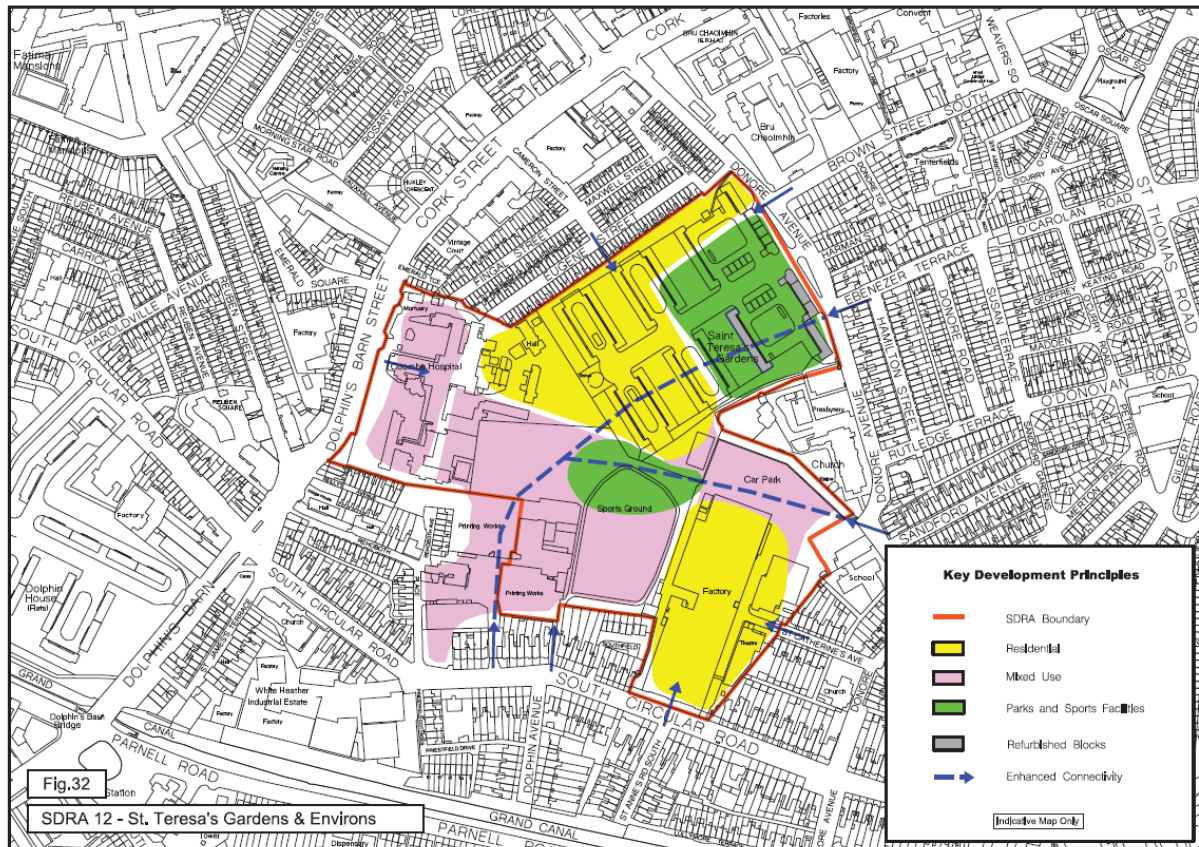


Figure 1.3 SDRA 12 Lands

1.3 The Applicant/Project Developer

CWTC Multi Family ICAV acting solely in respect of its sub fund DBTR SCR1 Fund, the Applicant, is an investment fund. Hines on behalf of the Applicant will deliver the site to market.

Hines is a privately owned global real estate investment, development, and management firm. The company was founded in 1957 and has a presence in 205 cities in 24 countries.

Hines' experience in the living/housing sector began in 1976 with the award-winning 9,700-acre First Colony development in Houston, Texas. Since then, the firm has successfully delivered premier communities around the world as it excels in advancing design, construction, and marketing of residential projects.

Hines' residential experience includes;

- 30.3 million + square feet of developments completed
- 24.4 million + square feet of developments underway
- 3.3 million square feet acquired
- 5.3 million square feet managed
- 52 projects; 18,012 units completed, acquired or underway
- 5,665 hectares (14,000 acres) of land

Operating from an owner's perspective, Hines takes a thorough approach—from land acquisition to infrastructure improvements, through design and construction management, to creating the finished product and delivering an optimum environment for living, fostering prosperous communities and enduring value for both investor partners and homebuyers.

With a number of residential projects currently under development across Dublin, Hines has been at the forefront of innovative residential development in Ireland. Currently developing 1,300 new Build-to-Rent apartments in Cherrywood Town Centre, Dublin 18, Hines have combined world-class design with an unrivalled park and woodland setting by investing heavily in front-loading key infrastructure for the future Cherrywood community including roads, parks, and cycleways. Hines has pioneered an open-plan living design at Cherrywood and has implemented several sustainability initiatives including the Global Real Estate Sustainability Benchmark (GRESB), the Building Research Establishment Environmental Assessment Method (BREEM), and the Leadership in Energy and Environmental Design (LEED) certification and have also registered the development for WELL Community certification with a view to becoming the first WELL certified development in Ireland. This experience will be shared across all of Hines's residential projects in Ireland, ensuring future residents move into thriving and vibrant communities.

1.4 Requirement for EIAR

Environmental Impact Assessment (EIA) requirements derive from EU Directives. Council Directive 2014/52/EU amended Directive 2011/92/EU and is transposed into Irish Law by the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.

Proposed development which falls within one of the categories of development specified in Schedule 5 of the Planning and Development Regulations 2001, as amended, which equals or exceeds, a limit, quantity, or threshold prescribed for that class of development must be accompanied by an EIAR.

The subject development does not fall within development classes set out in Part 1 of Schedule 5. However, it does exceed the thresholds applied for the type of development proposed as set out under Part 2 of Schedule 5, namely;

10(b) (i) Construction of more than 500 dwellings

The proposed development includes 345 new homes, and this is below the 500-unit threshold for mandatory EIA. Having regard to the wide scope and broad purpose of the EIA Directive, it is deemed appropriate to examine extant permissions within the wider SDRA 12 area. The Player Wills site received permission (Ref. 308917-20) from An Bord Pleanála in April 2021 for the development of 492 no. apartments, 240 no. shared accommodation units. Cumulatively, this proposed development together with the permitted development would breach the 500-unit threshold and it could thus be concluded that EIA is mandatory.

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

The proposed development site 5.5 hectares within the inner-city area. Existing land uses within the Dublin 8 'district' comprise a mix of residential, health, educational, worship, office, and retail. Having regard to this, and the fact that Dublin 8 is undergoing significant change, there is

no predominant land use within this district, and it could be deemed to satisfy the notion of a 'business district'. In this circumstance, the threshold of 2 hectares would apply and this is exceeded in the proposed development. The Applicant in drawing this conclusion is applying a precautionary approach and has prepared an EIAR on this basis.

1.5 Purpose of Environmental Impact Assessment

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

The 2014 Directive, for the first time, provides a definition of EIA and this is now defined by section 171A of the Planning and Development Act, 2000 (as inserted by Regulation 16 of the 2018 Regulations).

It is defined as a process consisting of:

- a) the preparation of an EIAR by the developer;
- b) the carrying out of consultations with the public, prescribed bodies (and, where relevant, any affected Member States);
- c) the examination by the competent authority of the EIAR, any supplementary information provided, where necessary, by the developer and relevant information received through the consultation process;
- d) the reasoned conclusion of the competent authority on the significant effects of the project on the environment; and
- e) the integration of the competent authority's reasoned conclusion into any development consent decision.

The definition of EIA thus provides for a clear distinction between the process of environmental impact assessment to be carried out by the competent authority and the preparation by the developer of an EIAR.

Section 2 of the 2000 Act has been amended to define an EIAR as 'a report of the effects, if any, which proposed development, if carried out, would have on the environment and shall include the information specified in Annex IV of the Environmental Impact Assessment Directive'.

1.6 Content of Environmental Impact Assessment Report

This EIAR addresses the matters detailed in Article 5(1) (a-f) of the Directive, including:

- a) A description of the project comprising information on the site, design, size and any other relevant features of the project.
- b) A description of the likely significant effects of the project on the environment;
- c) A description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;

- d) A description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics and an indication of the main reasons for the options chosen, considering the effects of the project on the environment
- e) A non-technical summary; and,
- f) Any additional information specified in Annex IV of the Directive/Schedule 6 to the 2001 Regulations, as amended, relevant to the specific characteristics of the project and to the environmental features likely to be affected.

As is required by Annex IV of the 2014 Directive, this EIAR addresses matters including proposed demolition works, risks to human health, major accidents/disasters, biodiversity, climate change and cumulative effects with other existing and/or approved projects.

1.7 Competency

It is a requirement that the EIAR must be prepared by competent experts. For the preparation of this EIAR, the Applicant engaged McCutcheon Halley Chartered Planning Consultants to direct and coordinate the preparation of the EIAR and a team of qualified specialists were engaged to prepare individual chapters, the consultant firms and lead authors are listed in the **Table 1.1**. Details of competency, qualifications, and experience of the lead author of each discipline is outlined in the individual chapters.

1.8 Format and Structure of the EIAR

This EIAR is prepared according to the 'Grouped Format Structure' as described in the Guidelines on information to be contained in Environmental Impact Statements (EPA, 2022). This means that each topic is considered as a separate section. The advantages of using this format are that it is easy to investigate a single topic and it facilitates easy cross-reference to specialist studies.

The EIAR is sub divided into 3 no. volumes as follows:

- **Volume I** Non-Technical Summary;
- **Volume II** Environmental Impact Assessment Report; and
- **Volume III** Appendices to Environmental Impact Assessment Report.

Volume II is presented as 16 no. chapters as outlined in **Table 1.1**.

| Chapter | Aspect | Consultancy | Lead Consultant |
|---------|--------------------------------------|---|-----------------------------------|
| 1 | Introduction | McCutcheon Halley Planning Consultants | Kayleigh Sexton |
| 2 | Project Description | McCutcheon Halley Planning Consultants / Henry J. Lyons / Barrett Mahony Consulting Engineers | Kayleigh Sexton |
| 3 | Alternatives | McCutcheon Halley Planning Consultants / Henry J. Lyons | Paula Galvin |
| 4 | Population and Human Health | McCutcheon Halley Planning Consultants | Kayleigh Sexton |
| 5 | Landscape & Visual | Kennett Consulting Ltd. | Chris Kennett |
| 6 | Material Assets: Traffic & Transport | Systra | Arantxa Martinez-Peral |
| 7 | Material Assets: Built Services | Barrett Mahony Consulting Engineers & O'Connor Sutton Cronin | Ciaran O'Rafferty Mark Hopkins |
| 8 | Land & Soils | O'Callaghan Moran & Associates | Sean Moran |
| 9 | Water & Hydrology | O'Callaghan Moran & Associates | Sean Moran |
| 10 | Biodiversity (Flora & Fauna) | Brady Shipman Martin | Matt Hague |
| 11 | Noise & Vibration | AWN Consulting | Mike Simms |
| 12 | Air Quality & Climate | AWN Consulting | Ciara Nolan |
| 13 | Cultural Heritage - Archaeology | IAC Archaeology | Faith Bailey |
| 14 | Cultural Heritage – Built Heritage | Slattery Conservation | Shóna O'Keeffe |

| Chapter | Aspect | Consultancy | Lead Consultant |
|---------|--------------------------------|--|-----------------|
| 15 | Interactions of the Foregoing | McCutcheon Halley Planning Consultants | Kayleigh Sexton |
| 16 | Summary of Mitigation Measures | McCutcheon Halley Planning Consultants | Kayleigh Sexton |

Table 1.1 - EIAR Chapters and Contributors

In preparing the EIAR the following regulations and guidelines were considered:

- The requirements of applicable EU Directives and implementing Irish Regulations regarding Environmental Impact Assessment, as cited in section 1.5 above;
- Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Reports (European Commission, 2017)
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (Environmental Protection Agency, May 2022).
- Guidelines on Information to be Contained in Environmental Impact Statements (EIS) (Environmental Protection Agency, 2002)
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government, 2018).

In addition, contributors have had regard to other relevant discipline-specific guidelines, these are noted in individual chapters of the EIAR.

1.9 Scoping

The purpose of scoping is to identify the information to be contained in an EIAR and the methodology to be used in gathering and assessing that information. The scope of this EIAR is informed by the requirements of the Directive 2014/52/EU and the transposing Regulations together with the Guidelines set out above. Applicants are not required to seek a formal scoping opinion.

The scope of individual assessments is informed by discipline specific guidelines and, where this is the case, they are referenced in each chapter.

1.10 Scope of Cumulative Effects

Directive 2014/52/EU substituted a new Annex IV into Directive 2011/92/EU. Annex IV of the EIA Directive is to be read in conjunction with article 5(1) and sets out the information to be included in an EIAR. Annex IV was transposed into national law via article 97 of the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (the “2018 Regulations”) which substituted a new Schedule 6 into the Planning and Development Regulations 2000, as amended.

The Directive requires that the EIAR describes the cumulation of effects with other existing and/or approved projects.

Cumulative effects may arise from:

- “- The interaction between the various impacts within a single project;*
- The interaction between all the differing existing and / or approved projects in the same areas as the proposed project.”¹*

In August 2018, the Department of Housing, Planning and Local Government issued Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment. The Guidelines summarise “cumulative effects” in the following way at page 40;

“Effects are not to be considered in isolation but cumulatively i.e., when they are added to other effects. A single effect on its own may not be significant in terms of impact on the environment but, when considered together with other effects, may have a significant impact on the environment. Also, a single effect which may, on its own, have a significant effect, may have a reduced and insignificant impact when combined with other effects.

Paragraph 2(e)(i)(V) of Schedule 6 (paragraph 5(e) of Annex IV) provides as follows;

*“the cumulation of effects with other **existing or approved developments, or both**, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.”* (emphasis added).

The permitted SHD development for the Player Wills site, also within SDRA 12 is relevant in the context of cumulative assessment. Accordingly, each chapter of this EIAR assesses the cumulative effect of this permitted development in combination with the proposed development.

Individually, each specialist consultant has reviewed under construction, permitted, and or under consideration development in the local area, and using their expertise they have identified projects relevant to their discipline that may interact to produce a cumulative effect. The detail of the identified projects and plans is set out within each specialist chapter of this EIAR.

Wastewater from the proposed development will be treated at Ringsend Wastewater Treatment Plant prior to its discharge to Dublin Bay. The cumulative effect of the additional loading on the treatment plant is assessed in the Material Assets: Built Services chapter and the Biodiversity Chapter of this EIAR.

While the Directive does not require a cumulative assessment of future proposals where a planning application has not been lodged, recognising the broad scope and purpose of the EIA Directive, regard is had to the judgement of *Fitzpatrick v An Bord Pleanála* [2019] IESC 23, henceforth referred to as the ‘Apple Case’.

¹ Department of Housing, Planning and Local Government, “Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment” (August 2018), page 40.

The Supreme Court in the Apple Case held that:

- 1) An EIA must contain an assessment of the cumulative effects of future developments that form an “integral part” of the development applied for (i.e., where there is a “functional or legal interdependence” between the development applied for and the envisaged future development).

There is an extant Dublin City Council Part VIII permission, Ref. 2475/18 that has relevance for the proposed development. The permission amends a previously permitted development comprising 50 no. units (Ref. 2033/14). Of relevant to this application is that the permission includes the demolition of 2 blocks comprising: a football club premises, boxing club premises / changing facility and a shop premises to facilitate the future development of an enlarged park and multisport playing pitch. The application was accompanied by an EIA Screening Report and an AA Screening Report. The documentation available on DCCs online planning database concludes that the proposed development in accordance with the Development Plan 2016-2022.

The demolition of the 2 blocks required to facilitate those aspects (namely amenities – multi sports play pitch, boulevard and playground) of this proposed development that will take place on the St. Teresa’s Garden site will be undertaken by Dublin City Council under permission 2475/18 and in line with the conditions attached to that permission.

- 2) Any current plans to extend the project (i.e., future plans that are not yet the subject of planning applications) that are not functionally or legal interdependent should be assessed as far as practically possible.

The Applicant progressed a proposed development ‘Player Wills Phase 2’ to the pre-application consultation stage of the SHD process and an Opinion was received from An Bord Pleanála (Ref. 309408-21). It was for a 4.86-hectare site, being the balance of the Player Wills site i.e. not included in the permitted site referenced above, together with development on DCC lands within SDRA 12 lands and on the adjacent St. Teresa’s church site. Broadly, the proposed development included the demolition of the parish centre and parish house to make way for the construction of a community resource building, a new parish hall and a new presbytery. The construction of 403 new homes across 5 blocks (A-F), commercial floor space including a creche, a multi-purpose pitch and playground on DCC land (note now included in this subject application) and all ancillary site development works. The proposed heights of the blocks ranged from 3-16 storeys. The Opinion from ABP identified that the proposed development represented a reasonable basis for making an SHD application. However, having regard to the transitional arrangements introduced in the provisions in the Planning and Development (Amendment) (Large-scale Residential Development) Act 2021, the timeframe to lodge this application under the SHD process has now expired. Notwithstanding, it is reasonably considered that the design may at some point proceed via the new LRD process, and accordingly, it is included in the cumulative assessment in this EIAR.

The ‘Donore Project’ (<https://donoreproject.ie>) is in the design development phase. It relates to the development of DCC-owned lands within SDRA 12. The Land Development Agency is progressing the preparation of this application. While an application for permission has not yet been lodged for this development, the detail as known up to May 2022 i.e. before finalising this EIAR is considered in the cumulative assessment sections of this EIAR as relevant.

It is noted that the Coombe Hospital site is included in SDRA 12. In 2015, the Government proposed relocating the Coombe Hospital to the St James Hospital campus. While the proposal is included in the National Development Plan 2018-2027 as a Strategic Investment Priority for the Health Service, the Minister for Health announced in 2019 that funding was not available for this project. It is reasonably concluded that there is no short to medium-term plan to relocate the Coombe services. Indeed, a search of the DCCs planning database identifies the approval (Reg. Ref. 3537/21) for a three-storey comprises of the development of a new dedicated Colposcopy/Women's Health Unit which provides evidence that the future use of this site will remain as health care.

Cumulative effects are not limited to projects, and it is necessary to also consider relevant Plans. According to the Environment Protection Agency (2020), in Ireland, key cumulative effects – where environmental receptors are at, or near, their thresholds or their capacity to assimilate more change – include climate change; water quality, flood risk, air quality, biodiversity and landscape. For the purpose of this EIAR, the following have been considered in relation to culminative impacts:

- **Dublin City Council Development Plan 2016-2022** – gives spatial expression to the city's economic, social, housing, and cultural development. The Plan has a key role in protecting the environment, heritage, and amenities of the city and in mitigating against the impacts of climate change. It includes policies and objectives for all of the aspects included in this EIAR. Accordingly, each chapter of the EIAR provides a narrative on the cumulative effect of the proposed development together with the Development Plan policies and objectives.
- **The Climate Action Plan, 2019** - climate change is the ultimate cumulative effect, nationally and internationally. Thresholds for greenhouse gas emissions are being exceeded. Under the Paris Agreement, Ireland pledged to reduce greenhouse gas emissions to 20% below 2005 levels by 2020, but it is set to exceed this target by 5–6%, and to exceed the 2021–2030 target by 25%. The Climate Action Plan 2019 puts forward measures for improving these trends, including increased use of renewable energy, and improved building energy efficiency, empowering a modal shift, and expanding the EV charging network, (DCCAE 2019). The cumulative effects of this Plan together with the proposed project are considered in the following chapters; Population & Human Health, Material Assets: Traffic & Transport, and Air Quality & Climate.
- **The Greater Dublin Strategic Drainage Study (GDSDS)** – healthy waters are a valuable natural resource. They support a rich and diverse range of ecosystems, habitats, and species. They are also important for recreational activities and tourism. The GDSDS was prepared to develop an environmentally sustainable drainage strategy for the Region consistent with the EU Water Framework Directive. The strategy outlines the requirements for foul and stormwater drainage capable of meeting the demands and longer-term development potential of the Region. The Study is relevant to this subject proposal, and it is considered in the cumulative effects sections of the Material Assets – Built Services chapter and the Water & Hydrology chapter.
- **Flood Risk Management Plan for the Liffey & Dublin Bay River Basin** - Increases in population can pose development pressures resulting in changes in land use. The purpose of the plan is to set out the strategy, including a set of measures, for the cost

effective and sustainable, long-term management of flood risk in the Liffey-Dublin Bay River Basin. The cumulative effects of this Plan together with the proposed project is considered in the Water and Hydrology chapter.

- **National Biodiversity Plan** - The Plan sets out actions through which a range of government, civil and private sectors will undertake to achieve Ireland's 'Vision for Biodiversity'. It has been developed in line with the EU and International Biodiversity strategies and policies. The cumulative effects of this Plan together with the proposed project is considered in the Biodiversity chapter.
- **Transport Strategy for the Greater Dublin Area 2016-2035** - Land use and the way it is developed is the primary influencing factor for travel demand. The cumulative effect of this strategy together with the proposed project is considered in the Material Assets – Transport & Traffic chapter.
- **Standards in the EU Air Quality Directive and 'daughter' directives** – establish the levels of air pollutants that have no significant impacts on human health or the environment. The cumulative effects of the Directive together with the proposed project is considered in the Population & Human Health Chapter and the Air Quality & Climate Chapter.

In addition, each of the specialist chapters (4-14) considers the cumulative effects of projects and plans relevant to the zone of influence and discipline specific factors.

1.11 Impact Assessment Methodology

Each chapter of this EIAR assesses the direct, indirect, cumulative, and residual impact of the proposed development for both the construction and operational stage of the proposed development.

The identified quality, significance, and duration of effects for each aspect is primarily based on the terminology set out in the EPA's *Guidelines on the information to be contained in Environmental Impact Assessment Reports* (2022) as summarised in **Table 1.2** below.

| Quality of Effect | |
|-----------------------------------|---|
| Positive | A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities). |
| Neutral | No effects of effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error. |
| Negative/Adverse Effects | A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance). |
| Significance of Effect | |
| Imperceptible | An effect capable of measurement but without significant consequences. |
| Not Significant | An effect which causes noticeable changes in the character of the environment but without significant consequences |
| Slight Effect | An effect which causes noticeable changes in the character of the environment without affecting its sensitivities. |
| Moderate Effect | An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends. |
| Significant Effect | An effect which, by its character, magnitude, duration, or intensity alters a sensitive aspect of the environment. |
| Very Significant Effect | An effect which, by its character, magnitude, duration, or intensity significantly alters most of a sensitive aspect of the environment. |
| Profound Effect | An effect which obliterates sensitive characteristics. |
| Duration and Frequency of Effects | |
| Momentary | Seconds to minutes |
| Brief | Less than 1 day |
| Temporary | Less than 1 year |
| Short-term | 1-7 years |
| Medium-term | 7-15 years |
| Long-term | 15-60 years |
| Permanent | Over 60 years |
| Reversible Effects | Effects that can be undone, for example through remediation or restoration. |
| Frequency of Effects | Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly or hourly, daily, weekly, monthly, annually) |
| Extent and Context of Effects | |
| Extent | Describe the size of the area, the number of sites, and the proportion of a population affected by an effect. |

| | |
|-------------------------------|--|
| Context | Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?). |
| Probability of Effects | |
| Likely | The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented. |
| Unlikely | The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented. |
| Type of Effects | |
| Indirect | Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway. |
| Cumulative | The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects. |
| Do Nothing | The environment as it would be in the future should the subject project not be carried out. |
| Worst Case | The effects arising from a project in the case where mitigation measures substantially fail. |
| Indeterminable | When the full consequences of a change in the environment cannot be described. |
| Irreversible | When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost. |
| Residual | The degree of environmental change that will occur after the proposed mitigation measures have taken effect. |
| Synergistic | Where the resultant effect is of greater significance than the sum of its constituents, (e.g. combination of SOx and NOx to produce smog). |

Table 1.2 Impact Rating Terminology

1.12 Consultation

A dedicated website for this proposed development is established and the EIAR is available at <https://bgscr1shd2.ie/>

Additionally, prior to lodging this application, the required information has been issued for the Department of Housing, Planning and Local Government's EIA Portal. The purpose of this tool is to inform the public, in a timely manner, of applications that are accompanied by an EIAR.

An Opinion was received from An Bord Pleanála following the pre-application consultation meeting and it contained details of the prescribed bodies to be notified of the making of this application. We can confirm that each identified body has received a copy of the application including the EIAR which includes:

1. Irish Water
2. Transport Infrastructure Ireland
3. National Transport Authority
4. Dublin City Childcare Committee

CHAPTER 2

DEVELOPMENT DESCRIPTION

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|----------|--|----------|
| 2 | Development Description | 3 |
| 2.1 | Introduction..... | 3 |
| 2.2 | Expertise and Qualifications | 3 |
| 2.3 | Proposed Development | 3 |
| 2.3.1 | Existing Structures..... | 7 |
| 2.3.2 | Residential..... | 7 |
| 2.3.3 | Non-Residential Uses | 8 |
| 2.3.4 | Height..... | 9 |
| 2.3.5 | Massing | 9 |
| 2.3.6 | Materiality..... | 10 |
| 2.3.7 | Access, Parking & Connections | 12 |
| 2.3.8 | Landscape..... | 14 |
| 2.3.9 | Drainage | 18 |
| 2.3.10 | Sustainability | 23 |
| 2.3.11 | Services | 25 |
| 2.4 | Changes to the Proposed Development Following Section 5 Tripartite Meeting | 28 |
| 2.5 | Demolition & Construction Phase | 29 |
| 2.5.1 | Programme | 29 |
| 2.5.2 | Site Compound..... | 30 |
| 2.5.3 | Access and Parking..... | 32 |
| 2.5.4 | Construction Hours | 32 |
| 2.5.5 | Construction Personnel & Parking | 32 |
| 2.5.6 | Construction Traffic..... | 32 |
| 2.5.7 | Demolition Phase | 33 |
| 2.5.8 | Earthworks | 35 |
| 2.6 | Health and Safety..... | 37 |
| 2.6.1 | Construction Phase | 37 |
| 2.6.2 | Operational Phase..... | 37 |
| 2.7 | Monitoring..... | 37 |
| 2.7.1 | Community Liaison..... | 37 |
| 2.7.2 | Integrated Pest Management | 37 |
| 2.7.3 | Environmental..... | 38 |

| | | |
|-------------|----------------------------------|-----------|
| 2.8 | Commissioning..... | 38 |
| 2.9 | Property Management | 38 |
| 2.10 | Decommissioning | 38 |
| 2.11 | Conclusion | 39 |

Table of Figures

| | | |
|-------------|--|----|
| Figure 2.1 | Proposed Layout | 5 |
| Figure 2.2 | Existing Buildings..... | 7 |
| Figure 2.3 | Height Distribution on Former Bailey Gibson Site | 9 |
| Figure 2.4 | Proposed Pedestrian, Cycle & Car Access | 13 |
| Figure 2.5 | Proposed Service Vehicles Access..... | 14 |
| Figure 2.6 | View of St. Teresa’s Playground with Playing Pitch to the North – Computer Generated Images..... | 15 |
| Figure 2.7 | Open Space | 16 |
| Figure 2.8 | Proposed Wastewater Drainage Strategy..... | 19 |
| Figure 2.9 | Proposed Surface Water Drainage Strategy | 21 |
| Figure 2.10 | Proposed SuDS Strategy for the SDRA 12 with Application Site Outlined in Red | 22 |
| Figure 2.11 | Proposed Water Supply | 23 |
| Figure 2.12 | Proposed ESB Infrastructure..... | 25 |
| Figure 2.13 | Proposed Gas Infrastructure..... | 26 |
| Figure 2.14 | Proposed Telecoms Infrastructure | 27 |
| Figure 2.15 | Construction Phasing Plan | 30 |
| Figure 2.16 | Details of Primary Compound..... | 31 |
| Figure 2.17 | Proposed Construction Traffic Routes | 33 |

Table of Tables

| | | |
|-----------|--|----|
| Table 2.1 | Development Overview..... | 6 |
| Table 2.2 | Unit Numbers and Mix | 7 |
| Table 2.3 | Building Height | 9 |
| Table 2.4 | Stormwater Peak Outflow Rates..... | 20 |
| Table 2.5 | Demolition Waste Breakdown | 34 |
| Table 2.6 | Typical Breakdown of Demolition Waste..... | 36 |

2 Development Description

2.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) sets out the proposed development and provides details in relation to the demolition, construction and operational phases of the scheme. The chapter was prepared in conjunction with the relevant member of the Design Team, and it should be read in conjunction with the submitted drawings together with supporting reports.

2.2 Expertise and Qualifications

This chapter was prepared by Kayleigh Sexton of McCutcheon Halley Chartered Planning Consultants. Kayleigh graduated from University College Cork with a MA in Planning and Sustainable Development in 2016, and a BA in Geography in 2014. Kayleigh is currently a Senior Planning Consultant in the Practice and is experienced in the field of planning and development consultancy which includes providing consultancy services in respect of major urban regeneration projects and residential developments. Directly relevant experience to this proposed development that Kayleigh has been involved in is the direction of EIARs and Environmental Reports to accompany residential led applications that received permission for development including;

- Connolly Quarter (PL29N.305676) - Demolition of 4 no. structures, construction 741 no. build to rent apartments, retail space and associated site works.
- Knockboy, Waterford – (WCC Reg Ref: 2011) Construction of 89 no. dwellings, alterations to public road, SuDS and associated site works.
- Belgard Square North – Construction of 113 affordable rental apartments (Part VIII behalf of South Dublin County Council).
- Player Wills (ABP Reg Ref: 308917) - Demolition of all buildings excluding the original fabric of the former Player Wills Factory, construction of 492 no. Build to Rent apartments, 240 no. Build to Rent shared accommodation along, creche and associated site works.

2.3 Proposed Development

The design rationale is to create and deliver a high quality sustainable residential led mixed use strategic housing development within this strategic infill site which respects its setting and maximises the site's natural attributes while achieving maximum efficiency of existing infrastructure. The Proposed Site Layout is illustrated on **Drawing No. PL0005** contained within the architectural suite of drawings.

CWTC Multi Family ICAV acting solely in respect of its sub fund DBTR SCR1 Fund intend to apply to An Bord Pleanála for permission on a site of 5.5 hectares for a mixed-use combined Build to Rent and Build to Sell Strategic Housing Development at the Former Bailey Gibson Site, former Player Wills Site, Dublin City Council land (formerly Boys Brigade pitch and part of St. Teresa's Gardens (all within Strategic Development Regeneration Area 12)), South Circular Road and Donore Avenue, Dublin 8. The design rationale is to create and deliver a high quality, sustainable, mixed tenure residential led mixed use strategic housing

development within this inner-city brownfield site which respects its setting and maximises the site's natural attributes while achieving maximum efficiency of existing infrastructure.

This application relates to a proposed mixed-use strategic housing development (SHD) on a site of approx. 5.5 hectares in Dublin 8. It includes all of the former Bailey Gibson site and a small portion of the former Player Wills site, both of which are owned by the Applicant, CWTC Multi Family ICAV acting solely in respect of its sub fun DTBR SCR1 Fund. The balance of the proposed development site relates to land owned by Dublin City Council (DCC) known locally as the 'Boys Brigade pitch' and part of the St. Teresa's Gardens site, together with DCC controlled public roads.

The application area is predominately within Strategic Development Regeneration Area (SDRA) 12, St. Teresa's Gardens & Environs as identified in the Dublin City Development Plan 2016-2022. The part of the proposed development site not within SDRA 12 relate to works proposed in the public roads surrounding the site, South Circular Road, Donore Avenue and Rehoboth Place.

A comprehensive description of the proposed development is set out in the Planning Statement. The Statutory Notices should also be referenced.

Briefly, it is proposed to demolish the existing vacant buildings and structures on the Bailey Gibson site to make way for development of 345 new homes across 5 blocks, BG 1 - BG 5, ranging in height from 2-7 storeys. The residential blocks will be contained within the Bailey Gibson site. The typology is predominantly apartments with 4 townhouses proposed in block BG5.

This is a mixed tenure scheme, with 292 units proposed as Build to Rent (BtR) across blocks BG1-BG3 and 53 units proposed as Build to Sell (BtS) in blocks BG4 and BG5. It is proposed to deliver 34 social and affordable homes as part of the overall total.

All apartments have private amenity space. At ground floor this is in the form of terraces and on upper levels, balconies. Each of BG1-BG4 have communal amenity areas either as a courtyard or podium area.

Tenant amenities and facilities are proposed in the BtR blocks and include a gym, co-working space, kitchen/lounge areas, concierge, and waste facilities.

Over 2 hectares of public open space including a multi-sport play pitch, a playground, 'St. Teresa's Playground', a boulevard, 'St. Teresa's Boulevard', a park, 'Players Park', a plaza, 'Rehoboth Plaza'.

The proposed non-residential uses include in blocks BG1 and BG2 commercial units that have the capacity to support daily living needs e.g., a shop, pharmacy and professional services. A creche with capacity for approx. 60 children. In block BG2 the design includes floorspace for a café/restaurant/bar.

In total there are 89 car parking spaces allocated to the proposed apartments and all are contained within the Bailey Gibson site. Apart from 1 space at podium level, the parking is contained within a basement. Additionally, 10 'Go Car' spaces are proposed at podium level for residents use only. Each of the 4 townhouses has 1 on-curtilage car parking space.

Visitor parking is at street level and the proposed sport pitch will be serviced separately by new spaces on the public roads. The scheme includes set down parking for the creche, a loading bay for deliveries and coach parking area.

Provision is made for disabled parking, electric vehicle charging, a car sharing scheme and motorcycle parking.

784 spaces are proposed for cycle parking including secure residents parking, visitor parking and spaces for cargo bicycles.

Other works include the development of a network of streets across the proposed development site that will link with other sites within SDRA 12 and into the wider street network of Dublin 8. Improvement works within existing local streets to facilitate access and safe movement.

Ancillary development works includes the construction of electricity substations, meter rooms, plant rooms at basement level, waste storage areas, solar photovoltaics, drainage, landscaping, and lighting.

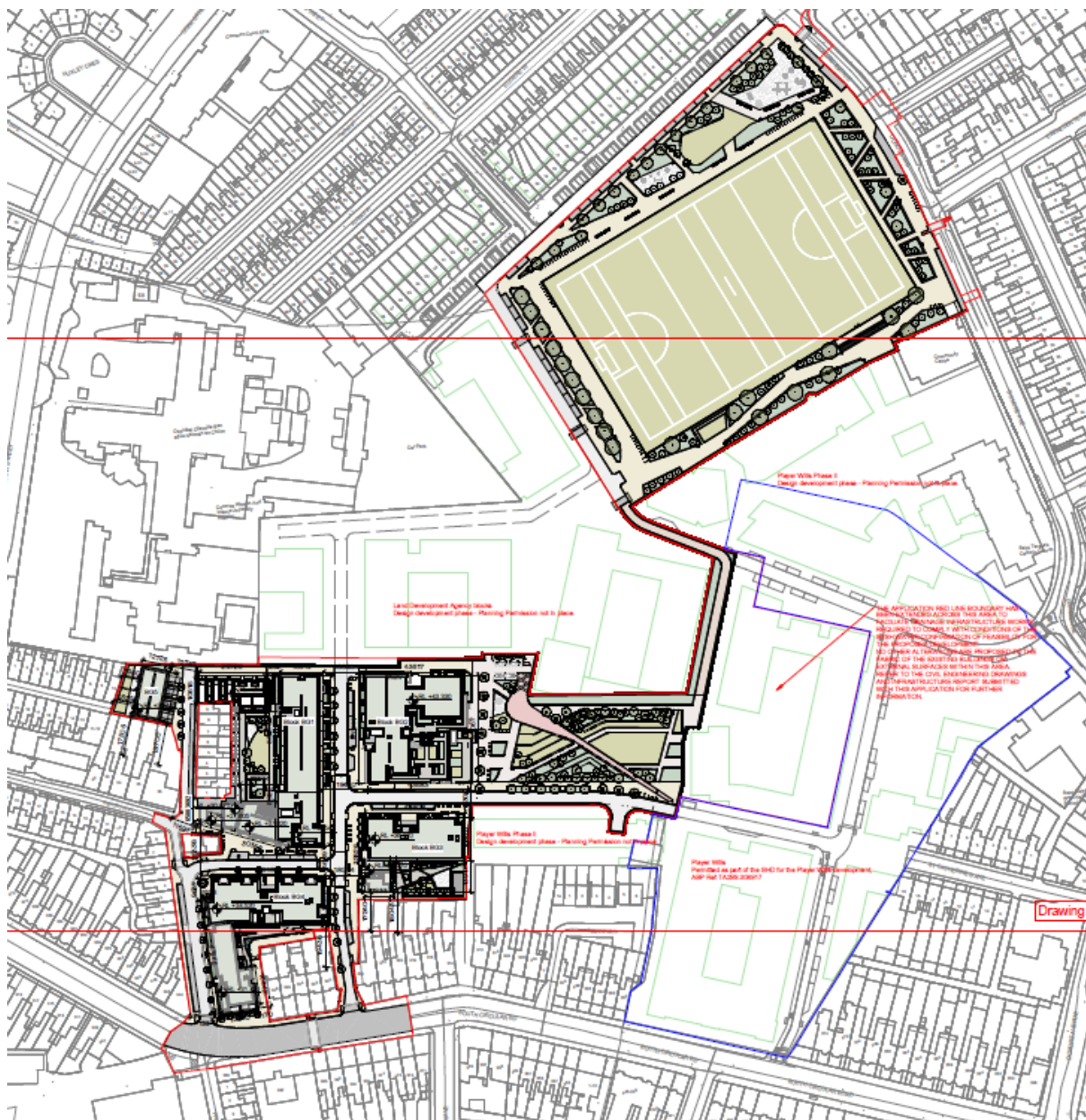


Figure 2.1 Proposed Layout

An overview of the key development statistics is set out in the Table below.

| Development Statistics | |
|--|--|
| Site Area | 5.5 ha (gross) 2.22 ha (under Applicant's control) |
| No. Units | 345 no. units in 5 no. blocks (BG1, BG2, BG3, BG4 and BG5). |
| Tenant Amenities & Facilities | <ul style="list-style-type: none"> • 151 sq.m in BG1 • 1,000 sq.m in BG2 • 38 sq.m in BG3 |
| Non-Residential Uses | <ul style="list-style-type: none"> • BG1 – 2 commercial units (82 sq.m and 240 sq.m) to facilitate a range of uses including Class 1 (shop), Class 2 (financial/professional services), Class 8 (health services), Class 10 (community/arts) and Class 11 (bingo hall); • BG2 – restaurant/café/bar 163 sq.m • BG2 Basement – Bulky Storage 288 sq.m • Creche – 347 sq.m |
| Density | 225 uph (net) (excludes DCC lands) |
| Building Height | 2 to 7 storeys |
| Unit Mix Summary | <ul style="list-style-type: none"> • 10% Studio • 57% 1-Bedroom • 30% 2-Bedroom • 2% 3-Bedroom • 1% 4-Bedroom |
| Car Parking | <ul style="list-style-type: none"> • 88 no. Spaces (plus 10 car share spaces) |
| Bicycle Parking | <ul style="list-style-type: none"> • 468 no. long stay • 172 no. short stay |
| Dual Aspect Units | 42% |
| Public Open Space | <ul style="list-style-type: none"> • A multi-purpose play pitch • A public boulevard, 'St. Teresa's Boulevard', • A public park, 'St. Teresa's Playground' • A public park 'Players Park' • A public plaza 'Rehoboth Plaza' |
| Communal Amenity Space | A total of 2,526 sq.m including: <ul style="list-style-type: none"> • BG1 – 775 sq.m of courtyard • BG2 – 909 sq.m of podium level terrace • BG3 – 527 sq.m of courtyard • BG4 – 315 sq.m of courtyard |
| Plot Ratio | 1.84 (nett) |
| Site Coverage | 43% |

Table 2.1 Development Overview

2.3.1 Existing Structures

The site contains existing vacant industrial buildings that will be demolished to make way for the proposed development. None of the structures on the subject site are included on the Dublin City Council Record of Protected Structures or listed on the National Inventory of Architectural Heritage (NIAH).



Figure 2.2 Existing Buildings

2.3.2 Residential

The total number and mix of apartments are set out below.

| Built to Rent | | | | | | | |
|---------------|--------|-------|-------|--------------|---------------|-----------------|-------|
| Building Ref. | Studio | 1 Bed | 2 Bed | 2 Bed Duplex | 3 Bed Triplex | 4 Bed Townhouse | Total |
| BG 1 | 28 | 108 | 10 | - | 5 | - | 151 |
| BG 2 | - | 44 | 45 | - | - | - | 89 |
| BG 3 | 5 | 30 | 15 | 2 | - | - | 52 |
| Total | 33 | 182 | 70 | 2 | 5 | 4 | 292 |
| Build to Sell | | | | | | | |
| BG 4 | - | 15 | 34 | - | - | - | 49 |
| BG 5 | - | - | - | - | - | 4 | |
| Total | - | 15 | 34 | - | - | 4 | 53 |
| | 33 | 197 | 104 | 2 | 6 | 4 | 345 |

Table 2.2 Unit Numbers and Mix

The proposed unit mix as a percentage of the overall development is:

- 33 no. Studios – 10%
- 197 no. 1 Bed Apartments – 57%

- 106 no. 2 Bed Apartments– 30%
- 5 no. 3 Bed Apartments– 2%
- 4 no. 4-Bed Townhouses – 1%

It is proposed to provide 34 no. units for Part V (of the Planning and Development Act 2000) purposes, and these will be contained in BG3. The Part V mix is 12% (4 no.) studio's, 62% (21 no.) 1-bed units, 26% (9 no.) 2-bed units and 33% (16 no.) 3-bed units. A Part V Letter of Validation from Dublin City Council is included with this application.

As a part Build to Rent scheme, there is a specific planning policy requirement (SPPR 7) for resident support facilities, services and amenities contained within the Sustainable Urban Housing: Design Standards for New Apartments (2020) which would apply;

“BTR development must be:

(b) Accompanied by detailed proposals for supporting communal and recreational amenities to be provided as part of the BTR development. These facilities to be categorised as:

- i. Resident Support Facilities - comprising of facilities related to the operation of the development for residents such as laundry facilities, concierge and management facilities, maintenance/repair services, waste management facilities, etc.*
- ii. Resident Services and Amenities – comprising of facilities for communal recreational and other activities by residents including sports facilities, shared TV/lounge areas, work/study spaces, function rooms for use as private dining and kitchen facilities, etc.”*

In total 1,189 sq.m of residential support and amenities is proposed;

- BG1 - 151 sq.m
- BG2 – 1,000 sq.m
- BG3 – 38 sq.m

2.3.3 Non-Residential Uses

The scheme includes a childcare facility that will accommodate 60 no. pre-school children. The creche is of a sufficient scale to accommodate all of the scheme's childcare demand, estimated to be 11 no. spaces (see **Childcare Demand Report**) and it will be open for use by the wider community where a deficit in childcare is identified in the **Social Infrastructure Audit**.

2 commercial units are proposed in BG1 (82 sq.m and 240 sq.m) which will be reserved for Class 1, 2, 8, 10 and 11 uses. Food and beverage floor space is proposed in Block BG2 (163 sq.m) which will contribute to ground floor activation and vibrancy both during the day and night.

A bulky storage area (288 sq.m) for rent is also proposed to serve the future occupants of the development, which is located in the basement of BG2.

The **Social Infrastructure Audit** that accompanies this application identifies a deficit in local service providers and this proposal includes appropriate floor space and the range of uses outlined above to safeguard against vacancy.

2.3.4 Height

A full description is contained in the **Architectural Design Statement** that accompanies this application under separate cover and it should be read in conjunction with this section.

A sensitive approach has been taken to building height having regard to the standards as set out in the City Development Plan, incorporating four apartment blocks (BG1-BG4) ranging in height from two to seven storeys, and 4 three storey town houses.

The height of the individual blocks is set out in the Table below and the distribution of height is illustrated on **Figure 2.3**.

| Building Ref. | No. of Floors | Max Height |
|---------------|---------------|------------|
| BG1 | 2-7 | 23.97m |
| BG2 | 2-7 | 23.94m |
| BG3 | 3-5 | 16.495m |
| BG4 | 3-4 | 14.045m |
| BG5 | 3 | 9.82m |

Table 2.3 Building Height

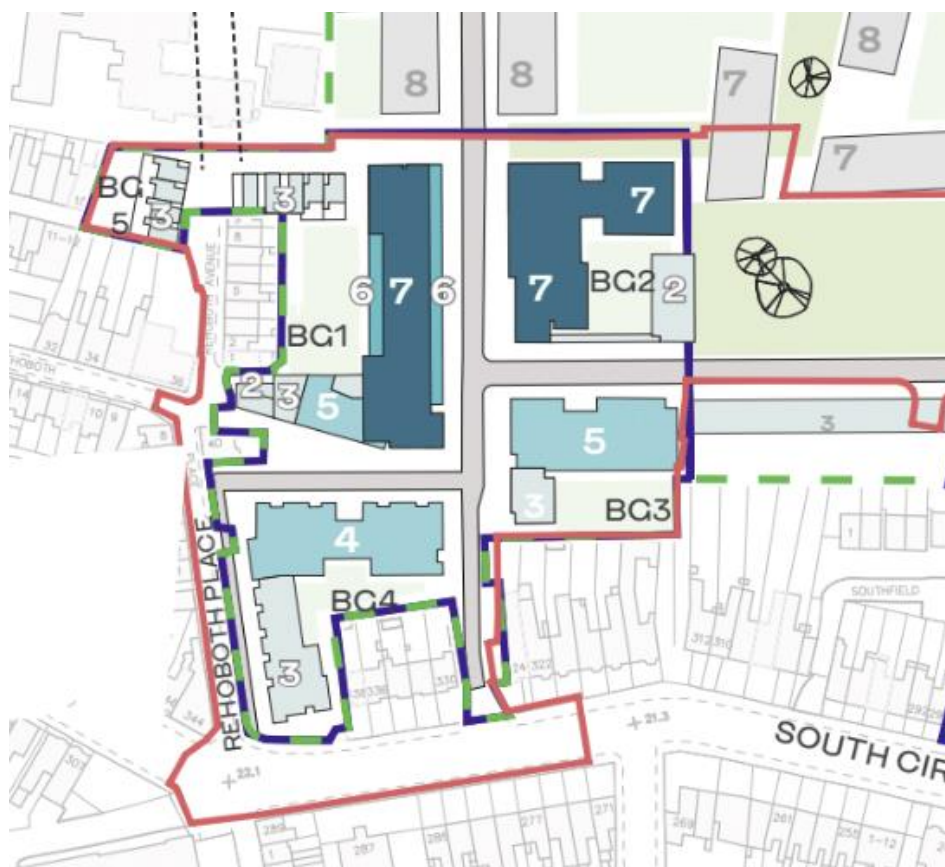


Figure 2.3 Height Distribution on Former Bailey Gibson Site

2.3.5 Massing

A full description is contained in the **Architectural Design Statement** that accompanies this application under separate cover and it should be read in conjunction with this section.

Varied building heights are proposed which are consistent with the Dublin City Development Plan 2016-2022 are used to create a dynamic built environment with rich character, variety

and structure. The overall guiding principle for SDRA 12 as included in Chapter 15 of the Dublin City Development Plan states; “*There is potential for one or two midrise buildings (up to 50 m) within the site, subject to the criteria set out in the standards section of this plan.*” 2 midrise buildings has been approved as part of the extant planning permission on the Player Wills site (ABP Reg. Ref: 308917).

The height disposition generally builds towards the centre of the site flanking the neighbourhood park. The 7 storey elements as proposed are positioned to terminate key vistas or address the primary open spaces.

The view below (Plate 2-1) indicates the proposed 2/3 storey perimeter blocks. Placed where the Bailey Gibson lands interface with adjoining 2 storey neighbourhood streets, these smaller scaled blocks enable the development to knit into its surrounding neighbourhood context.



PLATE 2-1 CGI View of Block BG4 with Existing Dwellings Located on South Circular Road to the Right

2.3.6 Materiality

A full description is contained in the **Architectural Design Statement** that accompanies this application under separate cover and it should be read in conjunction with this section.

Brick is the dominant material in the surrounding area and is used in both domestic and commercial buildings.

The key concepts for the facade expression include:

- Reflect the domestic proportions of openings in the surrounding areas;
- Create a material palette that is sympathetic to surrounding urban fabric and builds on the established sense of place of Dublin 8;
- Generate a material palette for Bailey Gibson that creates order between the elements and has a connection to its context.;
- Balconies are semi-recessed to help with wind loading and improve the daylighting within units, and;
- Create depth within the facade to articulate the building volume.



PLATE 2-2 PROPOSED MATERIALS

The proposal aims to enhance and build upon the existing materiality in the area while maintaining a distinct character. The material language will give this new neighbourhood its own distinct quality. Dublin 8 is renowned for its brick buildings and the proposal will utilise two styles of brick from the area, the redbrick of South Circular Road and the Dolphin's Barn-style brick.

Red brick and Dolphin's Barn-style brick are both dominant in the area and allows the proposal to integrate into the neighbourhood and complements the nearby Player Wills factory building. Other brick types including grey brick, buff brick and dark coloured bricks are also used to provide for different character areas throughout the development and enhance navigation around the site.

It is proposed to introduce a grey brick to identify public nodes within the site. To add accent and to echo the site's industrial heritage, dark aluminium with bronze hues is proposed.

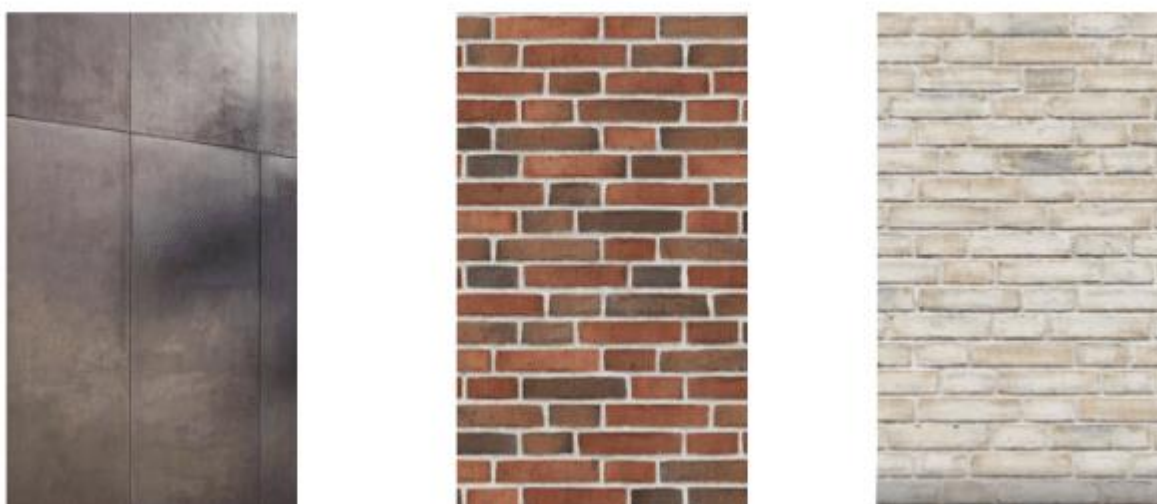


PLATE 2-3 MATERIAL EXAMPLES

Metal accents are used to articulate the contemporary brick façade and reflect the sites industrial past.

2.3.7 Access, Parking & Connections

Vehicular access to the development will be via a one-way entrance off South Circular Road/Rehoboth Place with a one-way exit via South Circular Road. The road network will ultimately link to the DCC lands north and east of the development which will provide further accesses to Donore Avenue. A secondary access will be provided to the north of Rehoboth Avenue; however, this will provide access to just 4 houses and accompanying parking spaces. The access to the multi-purpose playing pitch on-street car parking will be from Donore Avenue, along Margaret Kennedy Road and the proposed new road Western Connection Road, which will be a no through road with a turning facility for cars.

Car Parking is proposed as follows:

- At basement level, the provision of 88 no. car parking spaces including 10 disabled parking spaces. 20% of spaces will be fitted with electric charging points. 12 motorcycle spaces will also be provided at basement level.
- At podium level, the provision of 11 car parking spaces, including 1 disabled parking space and 10 no. reserved for a car sharing scheme, 'Go Car' or similar.
- 15 on street visitor car parking spaces (4 of which will be reserved for a car sharing scheme), including 2 disabled parking spaces, together with 3. set down parking spaces for taxis and crèche drop offs and a loading bay to service the commercial units.

Additionally, 33 on-street parking spaces are proposed for visitors to serve the playing pitch including 4 spaces on Donore Avenue (including 2 disabled parking), 20 spaces on Margaret Kennedy Road and 9 spaces provided along the proposed Western Connection Road west of the proposed playing pitch.

Access to the basement is proposed via a ramp access to the south of the BG2 building.

468 no. long-stay bicycle parking spaces are proposed, comprising of 207 spaces at basement level for residents and staff of commercial units accessed via a dedicated cycle stairway and a bike lift and 4 cargo bike spaces at podium level for resident use. 2 no. bike sheds are also proposed comprising 257 spaces in BG1 and BG4 for the residents of BG1 and staff of the creche.

172 no. short stay visitor cycle spaces including 8 spaces for cargo bicycles at surface level within the Bailey Gibson site and 144 bike parking spaces including 8 spaces for cargo bicycles are proposed to serve the playing pitch.

The public realm is conceived as a pedestrian priority environment and the internal road network has been designed to encourage lower speeds (30kph or less). Pedestrian access to the external network is provided at multiple points across the development to promote the principle of permeability. These include two access onto Rehoboth Place and a further two onto the South Circular Road. The site itself is also permeable with footpaths provided through the site and a shared pedestrian/cycle path around the perimeter. A walking/cycling path is provided from 'Players Park' to the south corner of the multi-purpose playing pitch to provide filtered permeability. The multi-purpose playing pitch is surrounding by paths and will be

accessible from the north and east residential areas.

Cycling access follows the one-way system for vehicular traffic off the South Circular Road with additional accesses provided onto Rehoboth Place. There are shared pedestrian/cycle paths around the perimeter which also provide access to some of the long stay cycle parking. The 4m wide path from Players Park to the Multi-purpose Playing Pitch will also provide filtered permeability for cyclists.

The proposed vehicular access strategy, location of car and cycle parking is illustrated below.

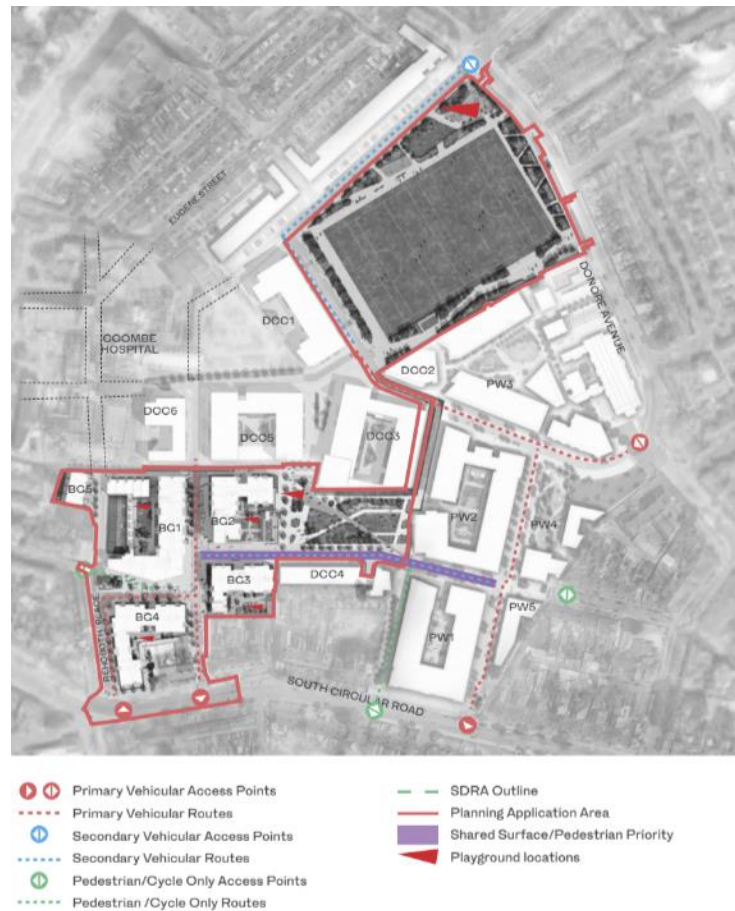


Figure 2.4 Proposed Pedestrian, Cycle & Car Access

The proposed access strategy for service vehicles (fire, waste and taxis) is illustrated in the Figure below:



Figure 2.5 Proposed Service Vehicles Access

2.3.8 Landscape

A full description of the strategy is contained in the **Landscape Design Statement** that accompanies this application under separate cover and it should be read in conjunction with this section.

The proposed development establishes a hierarchy of private, communal and public open space in a way that will ensure all open spaces are owned and taken care of. Landscape proposals were developed in conjunction with the proposed surface water drainage strategy and encompasses interception storage (green roofs and rainwater harvesting) together with attenuation storage (blue roofs and tree pits).

2.3.8.1 Public Open Space

Throughout the scheme a clear hierarchy of attractive and usable open spaces have been designed to respond to both the active and passive needs of the residents and wider area. These vary in size, scale and programme such as children's play, exercise, open flexible space for residents to gather in all underpinned by the need to promote biodiversity and sustainable practices.

5 no. public open spaces are proposed;

- A multi-purpose play pitch within DCC lands to the northeast of the application area (12,344 sq.m);
- A public boulevard, 'St. Teresa's Boulevard', to the south of the proposed pitch (2,645 sq.m);
- A public park, 'St. Teresa's Playground' incorporating a playground to the north of the proposed pitch (2,155 sq.m);
- A public park ('Players Park') to the east of the Bailey Gibson site (4,182 sq.m); and,
- A public plaza ('Rehoboth Plaza') at the entrance to the Bailey Gibson site (420sq.m).



Figure 2.6 View of St. Teresa's Playground with Playing Pitch to the North – Computer Generated Images

2.3.8.2 Communal Amenity Space

Communal amenity space in the form of courtyards and podium level terraces is distributed throughout the scheme as illustrated in the **Figure 2.7** below.

The distribution is as follows;

- BG1 – 775 sq.m of courtyard
- BG2 – 909 sq.m of podium level terrace
- BG3 – 527 sq.m of courtyard
- BG4 – 315 sq.m of courtyard

In accordance with Appendix 1 of the Sustainable Urban Housing: Design Standards for New Apartments (2020), the minimum requirement is 1,912 sq.m and the proposed development incorporates 2,526 sq.m in the form of courtyards and ground and podium level terraces. Accordingly, the scheme is compliant with Appendix 1 and flexibility with regard to the application of the Guidelines is not sought.

The scale of the individual courtyards is varied and provides for play, active and passive recreation and will act as hubs where the new community can gather and interact.

A Daylight and Sunlight Availability Assessment prepared by ARUP accompanies this application. The report concludes that all the proposed amenity areas have been tested for sunlight provision and all meet the B2 209 (2022) recommendation for direct sunlight.

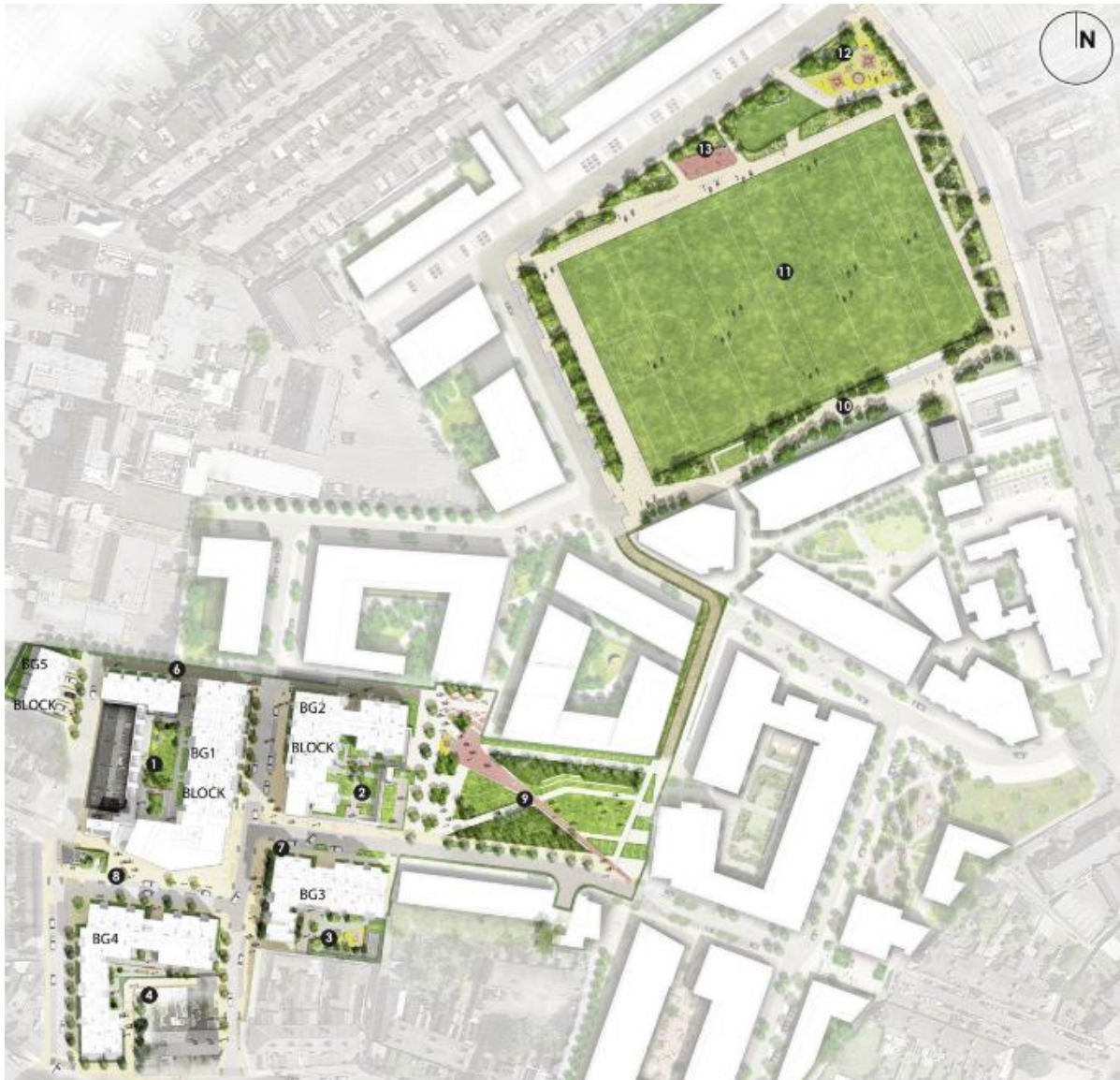


Figure 2.7 Open Space

The individual courtyards and ground floor and podium level terraces integrate both hard and soft landscaping that provide variety both in form and use. An extensive tree planting schedule is proposed for enhanced biodiversity and to provide a sense of place. Formal and informal play areas together with seating, lawn areas and opportunities for community gathering are all features of the proposed design. Paving proposals for courtyards will have a rustic feel using a combination of paving flags and smaller setts and cobbles. Red carpet paving is also proposed which will draw occupants into the main open spaces including 'Players Park' within the development.



PLATE 2-4 CGIs OF COURTYARDS

2.3.8.3 Private Amenity Space

The **Housing Quality Audit** that accompanies this application demonstrates that the proposed private amenity space is compliant with Appendix 1 of the Apartment Guidelines. Notwithstanding the flexibility provided in the Design Standards for New Apartments, regarding the provision of private amenity space for Build to Rent (BtR) proposals, the proposed design includes private amenity space for all of the proposed BtR units i.e. 292 of the total 345 units.

The primary type of private amenity are semi-recessed glass balconies. They maximise light penetration to individual units and enhance outward views. The semi-recessed design provides privacy and shelter such that the balconies can be used throughout the year.

The majority of ground floor apartments have an outdoor terrace which will be slightly raised above street level to assist with privacy. This design feature will also enhance passive surveillance of streets together with providing another layer of street activation.

2.3.8.4 Public Realm/Perimeter Treatment

The vision for the public realm is to provide a high quality, attractive and coherent new development, where streets are distinctive and contribute to sense of place; with a clear and legible streetscape where pedestrians are prioritised.

The proposed design promotes health and well-being through active and passive measures including the provision of allotment gardens, nature trails and the variety of spatial typologies, which have a positive mental impact both to look upon and to be in. These are the key building blocks to encourage a healthy neighbourhood, located in close proximity and appropriately to adjacent ground floor programme.

The proposed design responds to the detailed and 'human' scale of spaces, materials, lighting, seating, paving, and planting. The ground surfaces including the proposed 'red carpet' concept in the 'Players Park' move people along; they are spaces they can spend time in; the provision and quality of seating; the comfort and adequacy of lighting; the ease of access and separation from vehicles; the use of colour and planting – all of these, together with the retail and other experiences on offer, contribute to the quality and character of the proposed streets, and to the sense of place and ultimate enjoyment of that place.

A comprehensive schedule of street tree planting is proposed, and the species selected will enhance biodiversity while also creating a hierarchy of identifiable streets. Seating areas are integrated into the public realm. On-street car parking is minimised with 33 no. visitor car

parking spaces proposed together with a loading bay and 3 no. set down spaces for taxi and creche drop offs to service the development.

The feature paving links 'Players Park' with a visual way finder. The high-quality paving is a motif with the theme of weaving a thread across the various sites. The path widens to create an informal gathering space and weaves into the market square where it blends into the park paving.

All streets and shared surfaces will be finished with asphalt with coated grey chippings. Edge treatment to raised shared surface will be contrasting in colour to the pavement and street materials in order to allow for easy wayfinding for the visually impaired. Rumbled strips will be placed on the edge of the carriageway as informal tactile paving to compliment tactile paving at crossing points. Colour will be grey to mid grey, and sizes will vary with cropped, and bush hammered finishes in a concrete or natural stone material.

The perimeter landscape includes the retention of existing boundary walls where possible and existing party walls will be retained where feasible along all other interfaces.



PLATE 2-5 PROPOSED HARD LANDSCAPE MATERIALS

2.3.9 Drainage

A full description is contained in the **Engineering Services Report** that accompanies this application under separate cover and it should be read in conjunction with this section.

2.3.9.1 Wastewater

The local area gradually falls from south-west to north-east. The existing 225mm combined sewer, which is currently located within the multi-sport playing pitch site, will be diverted to the north side of the multi-sport playing pitch and increased in size to cater for the proposed Bailey Gibson development flows as well as future development flows which may arise from the development of the wider SDRA 12 landbank. The foul sewer design has been carried out in accordance with the Irish Water Code of Practice for Wastewater.

The proposed basement car park will be a concrete structure design to withstand hydrostatic water pressures, comprising a series of gullies and drainage channels cast into the floor slab to cater for a limited amount of run off. These channels will connect to a buried gravity pipe network that will fall to a petrol interceptor, with an outflow to flow to a sump with duty and standby pumps from where it will be pumped through a rising main to the nearest foul manhole on the main gravity system via a standoff manhole.

A Pre-connection Enquiry was submitted to Irish Water on 11.04.2019 with details of the development proposals and foul flow calculations. A response to the Pre-Connection Enquiry was received on 11th May 2022 and confirms feasibility of a connection to the Irish Water network at this location. The foul sewer design has been carried out in accordance with the Irish Water Code of Practice for Wastewater. Foul wastewater discharge from the proposed development will be Average – c.1.892 l/s and Peak – c. 8.518 l/s.

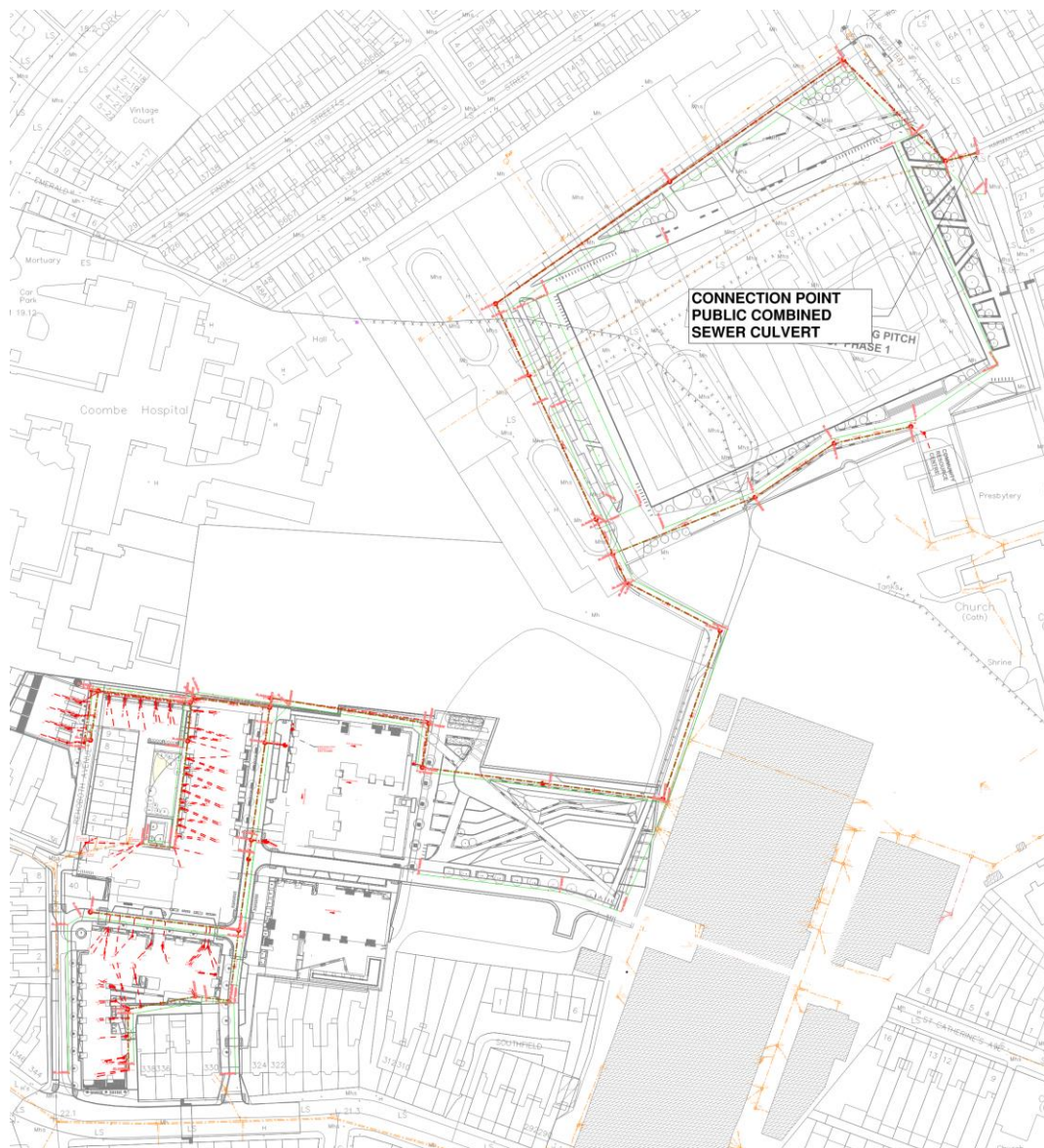


Figure 2.8 Proposed Wastewater Drainage Strategy

2.3.9.2 Surface Water

DCC Drainage Planning Department required that consideration be given to storm water

management across the proposed development site, the adjacent Player Wills site and adjoining DCC owned land, all contained within SDRA 12. A drainage strategy has been developed in consultation with DCC and this strategy plan is provided as part of the submitted civil engineering drawings. The three individual sites within SDRA 12 will be developed in different stages and as a result, the stormwater management and drainage strategy includes provision to account for this staging.

To facilitate a gravity connection to the public stormwater network and ensure no stormwater flows from any part of the proposed development site are directed to the combined sewer network, the new stormwater drainage system for the proposed development will flow generally northeast, through Players Park to the east of the Bailey Gibson site and the multi-sport playing pitch and its surrounds, before finally discharging to the existing stormwater culvert in Donore Avenue, close to Ebenezer Terrace. This stormwater drainage system has also been designed to cater for runoff from the DCC owned land in the north west section of SDRA 12 which is to be developed by the LDA.

The multi-sport playing pitch surface which forms part of this application, shall be a fast draining synthetic or similar type surface. Runoff from the pitch shall be attenuated by means of a hydrobrake located in the final manhole prior to discharge to the main surface water network upstream of the pitch side attenuation tank. Attenuation storage for the surface area of the pitch only shall be provided by a minimum 250mm deep crushed rock layer (minimum 20% void ratio) beneath the pitch surface. The existing 375mm diameter stormwater pipe, which is currently located under the multi-sport playing pitch site, will be diverted to the north side of the pitch and will not receive any additional stormwater flow from the proposed development.

The proposed Players Park to the east of the Bailey Gibson site, which also forms part of this application, *will have a significant area of soft landscaping throughout. Hard paved surfaces forming footpaths through the park will all drain to filter strips located along the verge/kerb line of each footpath or to tree-pits. From here, the stormwater will filter into the permeable hardcore build-up beneath the full area of the paved surface above. Essentially, this shall ensure that all stormwater in the park shall be capable of discharging to ground over the full surface area of the park. Due to the poor permeability of the boulder clays which are present at this site, and to ensure the ongoing functionality of the park during and after high intensity storm events, the filter strips will incorporate a land drain which will have an overflow connection to the main surface water network.*

Part of the stormwater management strategy includes the construction of a stormwater attenuation tank to the north side of the proposed multi-sport playing pitch. This attenuation tank has been sized to cater for stormwater runoff from the Bailey Gibson site, the adjacent DCC owned land and any runoff from Players Park to the east of the Bailey Gibson site and the multi-sport playing pitch and surrounding landscaped areas.

| Storm Event | Flow (l/s) |
|--------------------------------------|------------|
| 5 Year ARI +20% for climate change | 24.7 |
| 30 Year ARI +20% for climate change | 27.4 |
| 100 Year ARI +20% for climate change | 28.3 |

Table 2.4 Stormwater Peak Outflow Rates

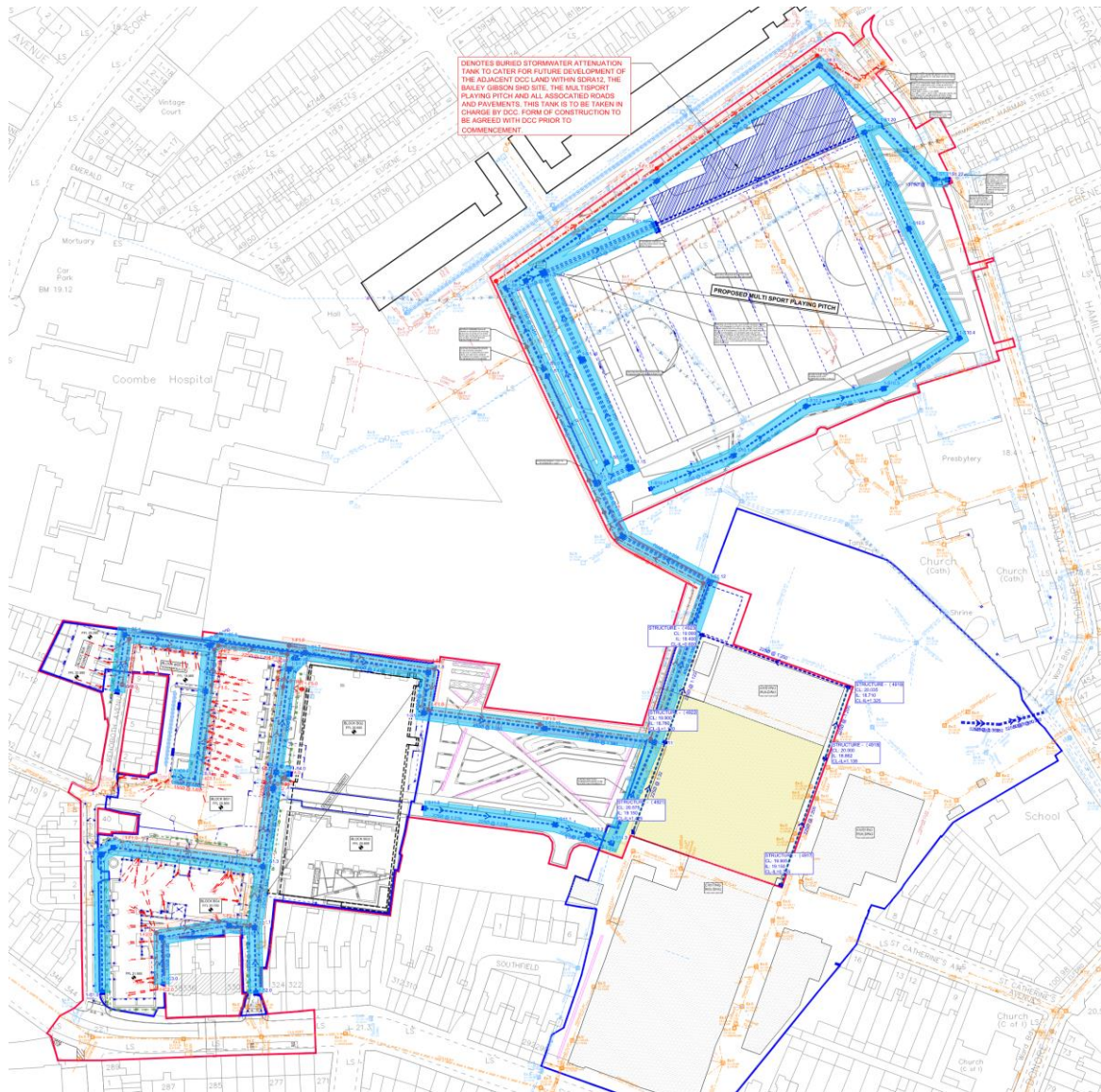


Figure 2.9 Proposed Surface Water Drainage Strategy

2.3.9.3 Sustainable Urban Drainage Systems (SuDS)

SuDS measures are incorporated into the surface water management system. They include both intensive and extensive green roofs, blue roofs, interconnected tree pits, attenuation storage and petrol interceptors.

Intensive Green Roofs: All roof terraces and podium terraces over basements shall be provided with a proprietary cellular drainage mat under the hard and soft landscaping to give a minimum interception storage volume of 10l/m² as well as contributing to filtration and attenuation of surface water.

Extensive Green Roofs – All roofs accessed only for maintenance and repair will be provided with a sedum blanket over a proprietary cellular drainage mat to give a minimum interception storage volume of 10l/m², as well as contributing to filtration and attenuation of surface water.

Paved Areas: Roads and paved surfaces will be finished in impermeable surfacing, either flexible bituminous pavement, rigid bound paving, impermeable concrete paver or stone pavers. Typically, all streets are provided with trees and soft landscaping zones, with car

parking on at least one side. The roads and footpaths will be drained by gullies that connect to tree pits which are interlinked with perforated distribution pipes to create infiltration trenches. The perforated pipes will allow discharge directly to the ground through the surrounding gravel bed. Due to the limited permeability which can be achieved through the sub-surface boulder clays, these pipes will also be connected to the surface water network via silt trap manholes. Notwithstanding the poor sub soil permeability, the gravel bed beneath the tree pits and surrounding the perforated pipes will provide good interception storage, which will retain, filter and attenuate run-off.

Ground Levels Courtyards and Landscaped Areas (outside basement footprints): Ground level courtyards shall discharge surface water directly to ground. Hard landscaping zones within paved areas shall be drained to adjacent infiltration trenches within soft landscaped areas.

Basement: All basements shall be constructed as waterproof structures to prevent drainage of ground water. Incidental run-off from the basement entry ramp and cars etc. shall be directed to a suitably sized petrol interceptor prior to discharge via a pumped system to the foul drainage network.



Figure 2.10 Proposed SuDS Strategy for the SDRA 12 with Application Site Outlined in Red

2.3.9.4 Water Supply

In accordance with Irish Water Code of Practice for Water Infrastructure (2020), a new 250mm diameter looped watermain is proposed to service the Bailey Gibson development with a connection to the 18-inch cast iron watermain in the South Circular Road. Water demand for the proposed development is as follows; Average – 2.155. Peak – 10.754 l/s and this is confirmed as feasible by Irish Water.

Hydrants will be provided on the loop main in accordance with Part B of the Building Regulations and the Fire Safety Certificate's Requirements. Sluice valves will be provided at appropriate locations to facilitate isolation and purging of the system. Twenty-four-hour storage will be provided to cater for possible shutdowns in the system.



Figure 2.11 Proposed Water Supply

2.3.10 Sustainability

It is noted that this application is accompanied by an **Energy & Sustainability Report**, and it should be referenced in conjunction with this section.

The proposed residential aspects of the development will comply with Part L 2021 (Dwellings), and Part L 2021 (Buildings Other Than Dwellings) for non-residential areas. As part of the development's efforts to further reduce energy consumption, the project is targeting a

minimum A3 BER (Building Energy Rating) across the development.

2.3.10.1 Building Regulations

Part L 2021 (Dwellings) of the Technical Guidance Document has been issued by the Minister for Housing, Local Government and Heritage. This document is the new standard for dwellings constructed from 27th July 2021. The Part L 2021 (Dwellings) regulations set energy performance requirements to achieve Nearly Zero Energy Buildings performance as required by Article 4 (1) of the Directive for new buildings. The definition of Nearly Zero Energy Buildings is defined as:

“‘Nearly zero-energy building’ means a building that has a very high energy performance, as defined in Annex 1. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby”.

The residential units are designed in compliance with Regulations for the conservation of fuel and energy and will meet the requirements for Nearly Zero Energy Building (NZEB). Residential units will achieve a Building Energy Rating (BER) of A2-A3 and the non-residential elements will achieve an A3 BER.

To achieve these BER ratings it is necessary to incorporate renewable energy technologies. The proposed development incorporates roof mounted solar photovoltaic (PV) panels across all buildings. They convert solar radiation into electricity, which can be connected to the mains supply of a dwelling unit. The panels are placed on the roof and are most efficient with an incline angle of 30°. Panels are typically arranged in arrays on building roofs, with the produced electricity fed either directly into the apartment or into the landlord's supply.

Additionally, exhaust air heat pumps may be utilised. They work by collecting warm air as it leaves a building via the ventilation system and then reuse the heat that would otherwise be lost to heat fresh air coming into the building. Exhaust air heat pumps operate on a similar basis to other heat pumps and are suitable for providing hot water and heating for apartments.

Air-Source Heat Pumps (ASHP) are deemed a renewable energy technology under Part L 2017 (NZEB). In heating mode, ASHPs are designed to extract heat from the ambient outside air and release it inside the building via heat emitters. In cooling mode, the cycle is reversed with heat being extracted from inside the building to the outside. This type of renewable energy source may be used in the proposed development.

A BEMS (Building Energy Management System) is to be installed in the non-residential areas to monitor the use of all major systems in the building, including space heating; space cooling; water consumption; and water leak detection. The BEMS system is a graphical interface which allows the facilities/building manager to monitor and control all systems throughout the building.

2.3.10.2 Traffic

The quantum of carparking proposed is below the maximum standards established in the Dublin City Development Plan. The basis for the reduction is set out in the **Traffic and Transport Assessment** that accompanies this application. Reducing carparking has a positive impact on greenhouse gas emissions.

According to European Energy Agency (EEA) in 2018 private cars emitted 120.4g of CO₂/km

DCCs maximum car parking standard is 1 car parking space/unit, for the proposed scheme this would mean providing 345 carparking spaces and based on the foregoing this would give rise to the emission of 703,800 kgs of CO₂/annum.

2.3.11 Services

The **Figure** below shows the proposed electrical infrastructure for the Proposed Development. A new underground cable shall connect into the existing network and route through our development to serve 2 new Sub-stations with the final location to be agreed with ESB Networks. The existing sub-station is to be decommissioned.



2.3.11.2 Gas Supply

The **Figure** below shows the proposed gas infrastructure for the Proposed Development. The supply of gas to the Proposed Development site will be provided by way of a metered connection to the main plant room(s) from the existing Gas Networks Irelands national gas supply network, the red line shows the proposed connection point to the existing network.

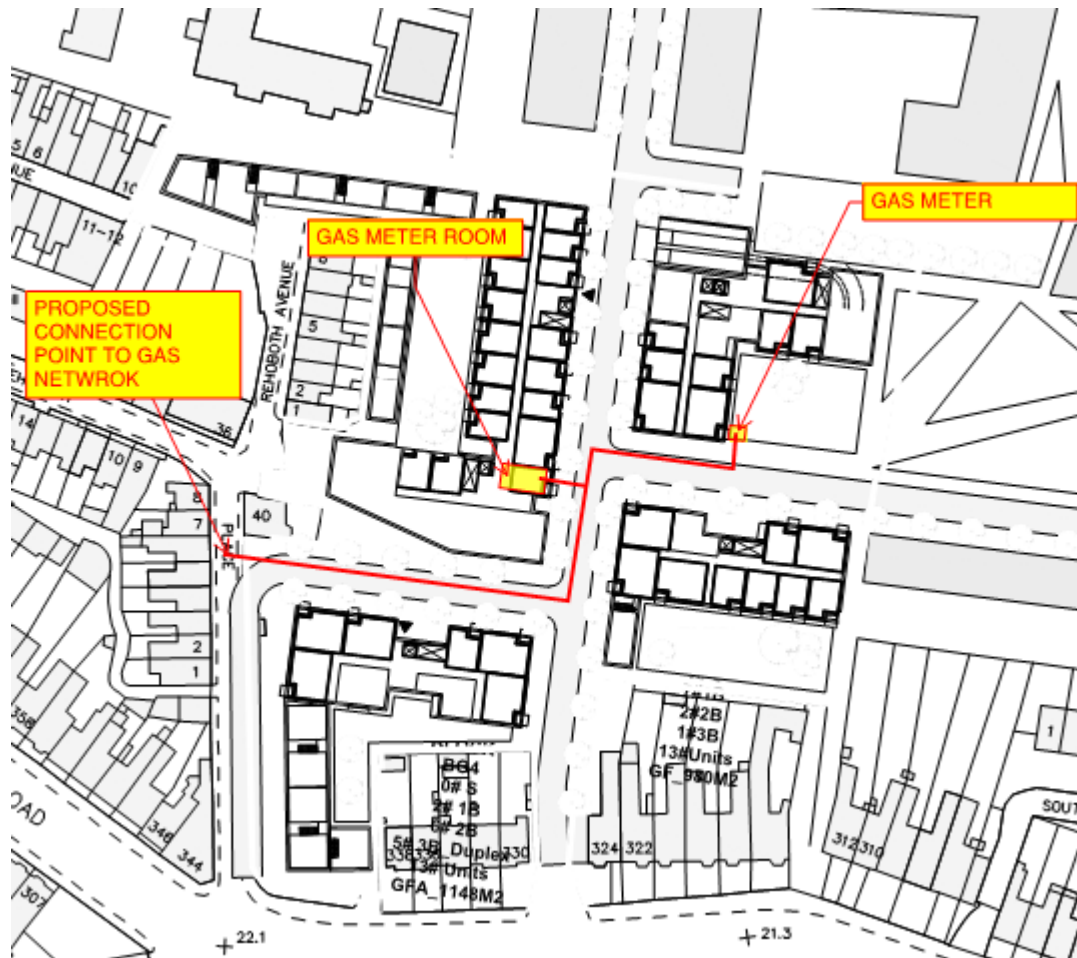


Figure 2.13 Proposed Gas Infrastructure

2.3.11.3 Telecommunications

The **Figure** below shows the proposed telecoms infrastructure for the Proposed Development. The supply of telecoms infrastructure to the Proposed Development site will be provided by way of a connection to a telecoms control room from the existing telecommunication networks.

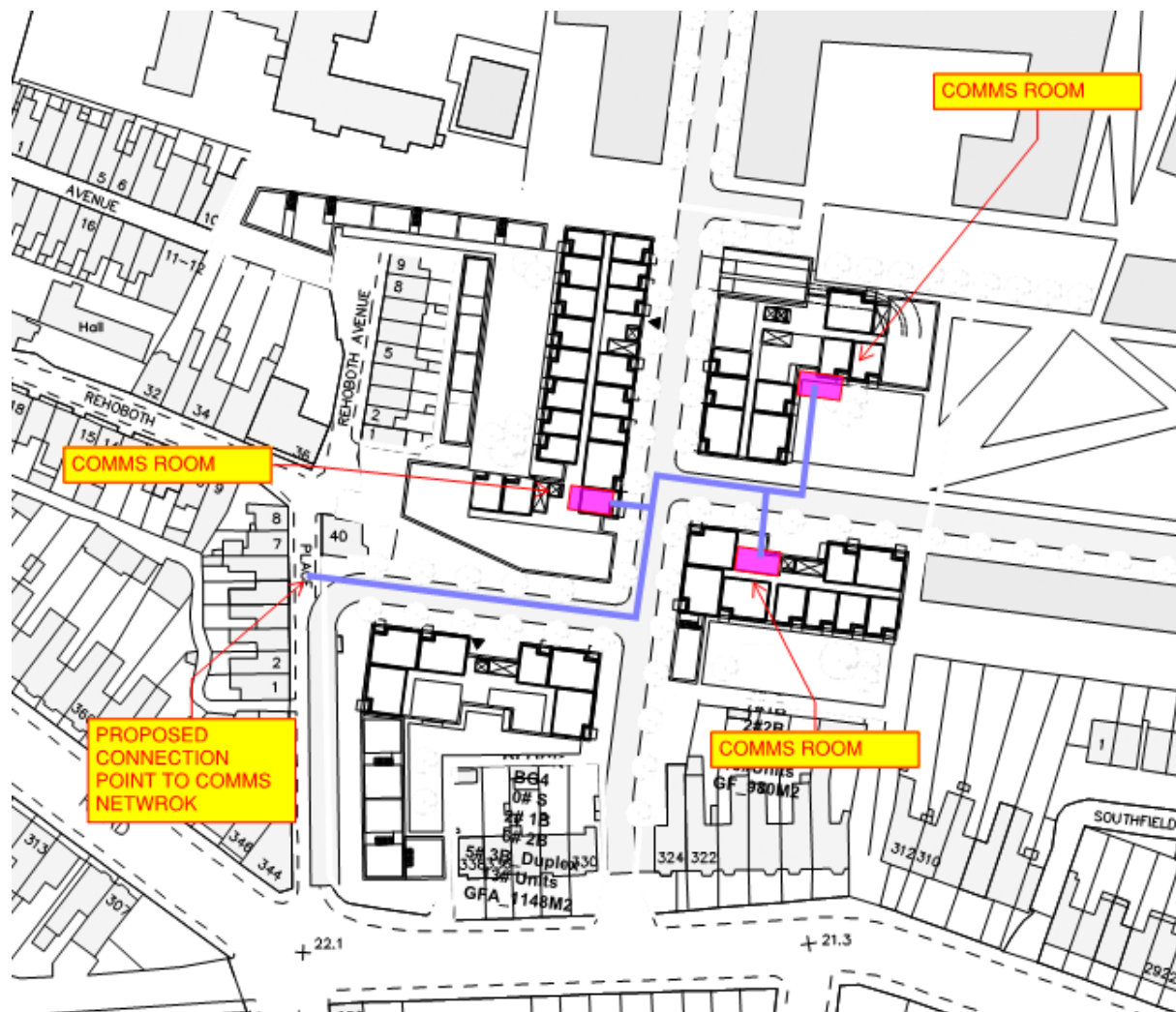


Figure 2.14 Proposed Telecoms Infrastructure

2.3.11.4 Waste Management

An **Operational Phase Waste Management Plan** prepared by Byrne Environmental accompanies this application under separate cover. Please refer to **Figure 2.5** for details on waste storage area locations.

The typical wastes that will be generated at the proposed development will include the following:

- Dry Mixed Recyclables (DMR) - includes waste-paper (including newspapers, magazines, brochures, catalogues, leaflets), cardboard and plastic packaging, metal cans, plastic bottles, aluminium cans, tins and Tetra Pak cartons;
- Organic waste – food waste and green waste
- Glass; and
- Mixed Non-Recyclable (MNR)/General Waste.

To facilitate source segregation of wastes and to maximise the re-use, recycling and recovery of waste with diversion from landfill wherever possible, communal 3-bin systems are provided and a Bring Bank for glass are proposed.

Residents will be required to take their segregate waste materials to the dedicated waste storage areas (WSAs) and dispose of their segregated waste into the appropriate waste receptacle. Each bin/container in the WSA will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted above or on the bins to show exactly which waste types can be placed in each bin. Access to WSAs will be restricted to residents and building management personnel.

Bins will be brought to a dedicated street level pick-up location immediately prior to the scheduled collection period and will be promptly returned to the basement after being emptied. The building management company will be required to maintain the bins and WSA in good condition.

Waste generated by the creche shall be separately managed by the operators of the creche who shall engage a commercial waste contractor to collect waste generated. Wastes from the creche shall be stored within the curtilage of the premises and shall be segregated into grey (mixed waste), green (dry recyclable), brown (organic) and cardboard packaging waste.

Wastes from the retail and café units shall be stored within a dedicated, separate and lockable commercial waste area within the basement bin store and shall be segregated into grey (mixed waste), green (dry recyclable), brown (organic) and cardboard packaging waste.

2.4 Changes to the Proposed Development Following Section 5 Tripartite Meeting

There have been three material changes made to the development since the Section 5 – PAC Meeting request was submitted. These have been made in response to An Bord Pleanála's Opinion which was issued on the 20th of April 2022 (ABP Reg. Ref: 311959), and as a result of working up a more detailed design. These changes are outlined below:

- **Car Parking** – The car parking ratio for the proposed development has increased from 75 no. spaces with a ratio of 0.25 spaces per unit (which included the car sharing spaces), to 88 car parking spaces with a ratio of 0.26 spaces per unit which excludes the car sharing spaces. It was raised by Dublin City Council in their Opinion to An Bord Pleanála that the car parking ratio for the proposed development should reflect the other permissions approved in SDRA (including the extant Player Wills development),

and therefore, the Applicant increased the car parking ratio to overcome DCC's concerns.

- **Inclusion of a Section of the Existing Player Wills Factory for Infrastructure Works** – A section of the Player Wills Factory building has been included in the red line for this application to facilitate drainage infrastructure works required to comply with the conditions of the Irish Water Confirmation of Feasibility for the proposed development.
- **Removal of the Community Resource Building**
- **Upgrade Works to the Public Realm including Road and Footpath Upgrades** – The details of this can be found in the **Traffic and Transport Assessment** prepared by Systra which is submitted under separate cover.

2.5 Demolition & Construction Phase

This application is accompanied by a **Construction Environmental Management Plan** (CEMP) and a **Construction and Demolition Waste Management Plan**. Both reports should be read in conjunction with this chapter for a comprehensive description of the construction phase.

2.5.1 Programme

Construction works will take place in accordance with a single agreed phasing plan, shown in the **Figure** below. It is estimated that the development will be constructed over 24-30 months. The commencement date is dependent on successfully securing planning permission together with the time taken for procurement.

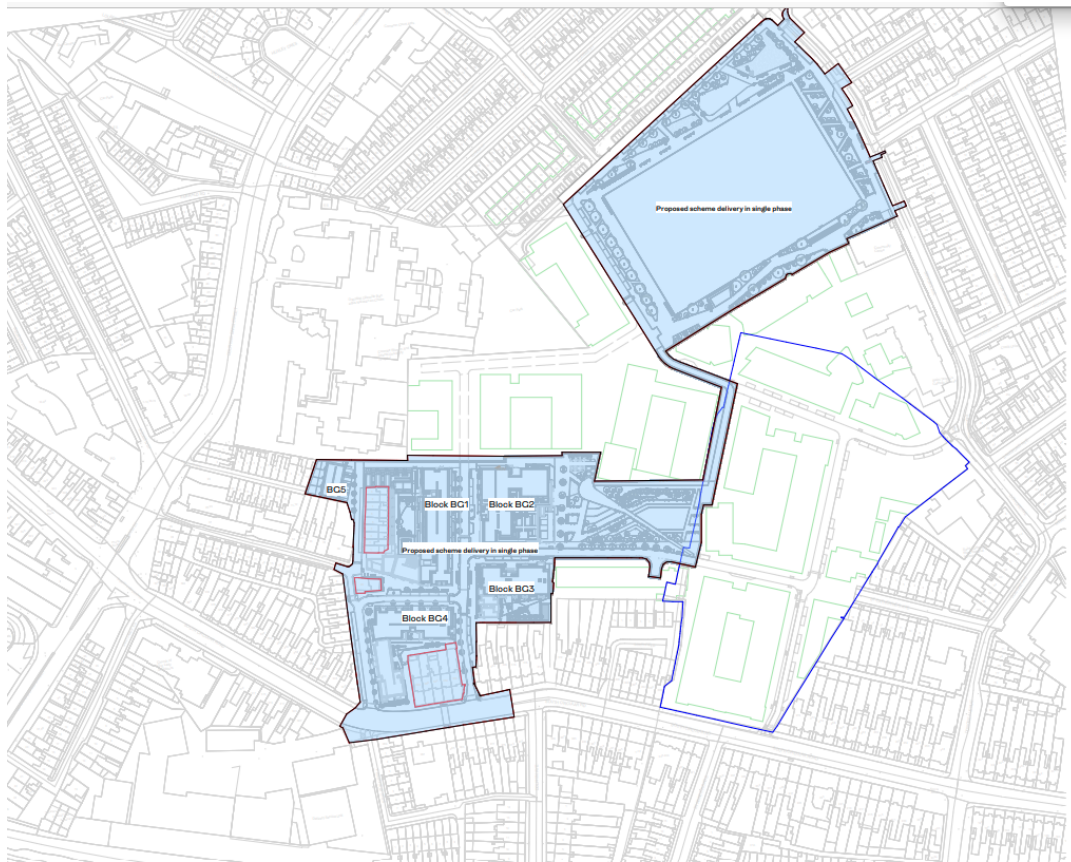


Figure 2.15 Construction Phasing Plan

The principal stages of the construction stage are;

- i. Demolition of existing buildings
- ii. Removal of existing services
- iii. Site strip and basement bulk excavation
- iv. Excavation of new foundations
- v. Construction of the new reinforced concrete buildings
- vi. Mechanical & electrical installation
- vii. Cladding & building fit out
- viii. Services installation and connections
- ix. Landscaping, roads and footpaths.

2.5.2 Site Compound

The Contractor's construction compound will be included within the Bailey Gibson Development site. The site compound will include as a minimum offices, accommodation, and welfare facilities. The compound will be serviced with electrical power, water supply and toilet facilities. Details of the primary compound are illustrated in the **Figure** below. The primary compound will comprise a total area of 5,190m². Staging areas for haul routes and storage will be established within each Block site area.

Storage staging areas will vary, depending on Block spatial allocation and their exact locations will be decided taking ecology, proximity to local rivers, canals, and archaeology into consideration. Fuel storage areas will not be located within 50.00m of any watercourse.



Figure 2.16 Details of Primary Compound

All construction chemicals, fuels and hydrocarbons maintained on site will be stored in a safe and secure manner. Dedicated fuel bowzers with dedicated bunds will be used to ensure that spillages are fully contained. All bunds will be roofed to exclude rainwater. Refuelling will only be performed in dedicated refuelling locations, away from watercourses, drains, etc. and with dedicated spill prevention controls and mitigation equipment

Waste fuels and materials will be stored in designated areas isolated from surface water, drains or open waters (e.g. excavations). Skips will be closed or covered to prevent materials being blown or washed away and to reduce the likelihood of contaminated water leakage. Hazardous wastes such as waste oil, chemicals and preservatives, shall be stored in sealed containers and kept in a designated area, separate from other waste materials, while awaiting collection by a registered waste carrier. Fuelling, lubrication and storage areas and welfare facilities will not be located within close proximity to drainage ditches, surface waters or open excavations. Fuel interceptor tanks will be installed as required to treat any runoff from the site.

2.5.3 Access and Parking

It is anticipated that the majority of construction vehicles accessing the sites will come from the M50 via the Long Mile Road. Traffic would access the site via the left-in/left-out gateway on the South Circular Road.

Construction traffic will be generated for the duration of works on site, with levels of vehicles movements varying throughout the demolition process depending on activities on-going. Circa 150 no. carparking spaces are available in areas of the site. A similar number of spaces can also be made available on the Player Willis site as required.

Should a need arise to provide temporary pedestrian and/or vehicular access outside the hoarding line, a detailed Traffic Management Plan will be developed in compliance with the relevant requirements. This plan will be required to be approved by Dublin City Council prior to implementation with appropriate forward notice shared with all Dublin 8 stakeholders.

Signage will be erected at all site access points. Appropriate overflow contractor car parking can be available in areas of the Client landholding, where required. They will be maintained secure and unauthorised access will be strictly prohibited.

2.5.4 Construction Hours

The proposed construction hours are 07:00-18:00 on weekdays (Monday to Friday) and 08:00-14:00 on Saturdays with no work on Sundays or bank/public holidays in accordance with the Environmental Noise regulations 2006 and subject to final agreement with Dublin City Council (DCC).

In exceptional instances where works or deliveries (e.g. abnormal loads, or connections to public service systems or utilities) are required outside of these hours, bespoke agreement will be sought from DCC prior to any works taking place. It is respectfully requested that any condition of planning regarding construction hours include a degree of flexibility to accommodate exceptional circumstances.

To limit the impact of construction traffic during the AM (08:00-09:00) and PM (17:00-18:00) peak, deliveries to site will be limited.

2.5.5 Construction Personnel & Parking

During the peak construction phase, it is estimated that there will be 150-200 personnel on site. Workers will be instructed to use public transport and to 'car share' where possible. Some 150 no. car parking spaces for workers and visitors will be provided within the site compound areas. The provision of onsite parking will mitigate overspill of traffic onto the surrounding street network. A total of 180 no. cycle parking spaces will be provided and appropriate changing and drying facilities will be available within the site compound to further encourage sustainable travel patterns.

The majority of movements associated with construction personnel will occur before 07:00 and depart after 18:00, limiting the impact on peak hour conditions.

Locally, on street parking is €3.20 per hour and over a working week this would result in a charge of €150 and this is considered a significant deterrent to the use of on street parking.

2.5.6 Construction Traffic

A **Construction Traffic Management Plan** prepared by Systra accompanies this application under separate cover. The level of construction traffic movements will vary over the course of

the project.

On average there will be 40 one-way Heavy Vehicle trips to the site during the course of construction. However, this figure will vary depending on the construction activity with a greater number (70 no.) of heavy vehicles expected during the basement excavation. Where feasible the contractor will seek to minimise deliveries during the peak hours (0700-0900 and 1700-1900).

The proposed routes of construction vehicles across the wider network is shown in **Figure 2.17** These routes follow the DCC designated HGV routes. It is proposed the red route would be the main access route with the alternative routes provided along the purple or blue routes.

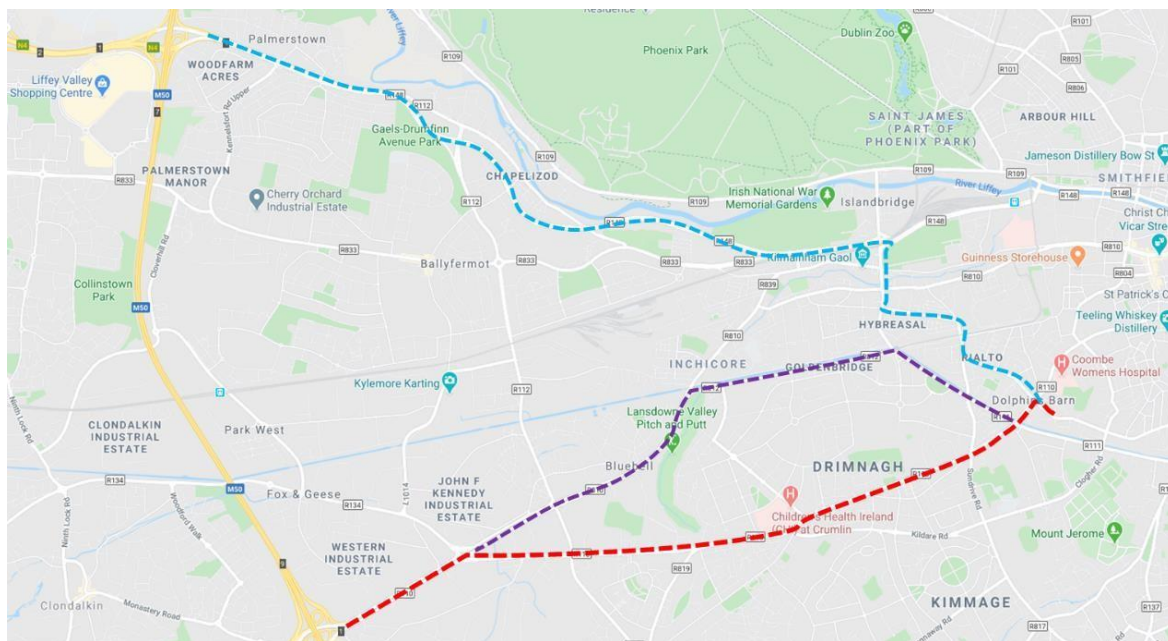


Figure 2.17 Proposed Construction Traffic Routes

All vehicles will be met by a banksman before being directed into a dedicated unloading area. Vehicles will then load / unload before exiting along the routes outlined. All users associated with the site will be made aware of construction deliveries and appropriate safety measures will be put in place to ensure safety of staff, pedestrians and cyclists. The Site Manager will stagger the deliveries to minimise the impact on and off the site. A banksman will meet all deliveries on site prior to them undertaking any manoeuvres.

2.5.7 Demolition Phase

All demolition works are to be in accordance with 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 & Vibration Control on Construction & Open Sites'.

The proposed hard demolition works shall include the safe removal of all building structural members, external facades and roof finished.

The demolition contractor is required by law to appoint a competent person, experienced or trained for the operations they are involved in, to supervise and control work on site.

The BRE Waste Benchmark Data, June 2012, provides guidance on demolition waste estimates based on the gross internal floor area of a building and the type of building;

- Commercial Offices 16.8 tonnes/ 100m²
- Industrial Building 12.6 tonnes / 100m²

Based on the above it is estimated that 1,502 tonnes of waste will be generated from the building demolition.

The demolition waste breakdown on a typical construction site, based on the BRE document is typically as follows;

| Number | Product | Percentage (%) | Tonnage (tn) |
|--------------------|--------------------------------|----------------|--------------|
| 1 | Concrete | 64 | 962 |
| 2 | Timber | 13 | 195 |
| 3 | Slate | 8 | 120 |
| 4 | Asphalt, tar, and tar products | 6 | 90 |
| 5 | Plasterboard | 4 | 60 |
| 6 | Glass | 3 | 45 |
| 7 | Metals | 2 | 30 |
| Total waste | | 100% | 1,502 |

Table 2.5 Demolition Waste Breakdown

Concrete and masonry waste will be source segregated and removed off-site to a reprocessing facility to facilitate its beneficial reuse as a product thereby diverting it from landfill. The closest reprocessing facility to the subject site is Panda in Ballymount, Dublin.

Timber, glass and metals will be stored separately at an approved recycling facility off-site.

Details on asbestos are contained in section 3.2.7 of the **Construction Environmental Management Plan** that accompanies this application. It establishes the presence of Asbestos Containing Materials (ACMs) within the Player Wills site. The material will be removed by a suitably qualified contractor (United Metals Recycling) in accordance with S.I. No. 386 of 2006 and S.I. No. 589 of 2010 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010. ACMs will be disposed of at an appropriately licenced facility.

2.5.8 Earthworks

2.5.8.1 Ground Conditions

A geotechnical investigation undertaken by Ground Investigations Ireland has established the sequence of strata across the site;

- Surfacing | topsoil;
- Fill;
- Made Ground;
- Cohesive Deposits; and
- Bedrock.

2.5.8.2 Invasive Species

It is confirmed in the Construction Environmental Management Plan that there are no invasive species on site. Therefore, no specialist treatment is required prior to construction.

2.5.8.3 Waste

An **Environmental Risk Assessment and Waste Characterisation Report** prepared by O'Callaghan Moran is included in Volume III and establishes that the soils and subsoils are generally uncontaminated across most of the site. The includes Dig Plans identifying the zones attributable to each of the above classifications to a depth of 3.00m. The vast majority of the material is classified as "Meets Inert WAC".

Excavation and the stripping of topsoil or the placement of soil stockpiles etc. will not be undertaken until absolutely necessary as this can lead to sediment run off and leaching of nutrients from soils into nearby waterways. Excavated material shall undergo earthworks testing in accordance with the TII Specification for Road Works (SRW) to establish its suitability for reuse as engineering fill.

Demolition works at the site will involve the removal of the existing buildings on site, bituminous and concrete surfaces, grubbing up existing buried services, and bulk excavation for basements areas, as well as general site strip and foundation excavations. Demolition figures published by the EPA in the 'National Waste Reports'14 and data from previous projects have been used to estimate the approximate break down of demolition waste by type and estimates have also been made for indicative reuse (onsite and/or offsite), recycling and disposal targets. This breakdown is shown in the **Table** below.

| Waste Material | % by weight | Tonnes | Reuse/Recovery | | Target Recycle | | Disposal | |
|------------------------------------|-------------|-------------|----------------|-------------|----------------|-------------|----------|------------|
| | | | % | Tonnes | % | Tonnes | % | Tonnes |
| Glass | 3 | 125 | 0 | 0 | 85 | 106 | 15 | 19 |
| Concrete, Masonry, Tiles, Ceramics | 46 | 1911 | 95 | 1815 | 0 | 0 | 5 | 96 |
| Plasterboard | 4 | 166 | 0 | 0 | 80 | 133 | 20 | 33 |
| Metals | 20 | 831 | 5 | 42 | 80 | 665 | 15 | 125 |
| Timber | 13 | 540 | 20 | 108 | 60 | 324 | 20 | 108 |
| Asphalts | 6 | 249 | 50 | 125 | 25 | 62 | 25 | 62 |
| Slate | 8 | 332 | 0 | 0 | 85 | 282 | 15 | 50 |
| Total | 100 | 4154 | | 2090 | | 1572 | | 493 |

Table 2.6 Typical Breakdown of Demolition Waste

2.5.8.4 Bulk Excavation

The bulk earthworks for the proposed development are associated with the basement excavation for BG2 and BG3. In addition, earthworks consist of site strip, levelling to suit the new buildings, foundations, and trenches for services. The ground floor levels of the building structures are intentionally located close to the existing ground surface level to minimise excavations. Based on the ground conditions encountered, it is envisaged that toothed buckets on standard large excavation plant will be used up to depths of approximately 3.00m below existing ground level(s). Deeper excavations may require mechanical extraction by other means such as breaking or drilling. In areas where there is sufficient space, a battered excavation can be provided for the single level basement. A batter of 45° (1V:1H) is recommended for the Made Ground and 63° (2V:1H) in the stiff clays.

It is estimated that approximately 30,120m³ will be excavated. Based on the proposed design of the development, it is envisaged that the excavated material generally will be disposed of off-site at a licenced facility as there are limited opportunities for re-use. It is predicted within the Development Construction & Demolition Waste Management Plan (DC&DWMP) that the volume of material to be disposed of will equate to circa 837-50 nr. tuck loads, based on a 4-axle truck with an 18-tonne capacity (36m³). There will be little or no stockpiling of excavated soils. In the event that short term (24 – 48 hour) storage is required, the material will be retained in the designated stockpile storage area. All excavated soils being disposed of will be recorded using a material dispatch log detailing the date of transport, vehicle registration, quantity, type of material and the destination.

Groundwater pollution will be minimised by the implementation of good construction practices by the Contractor. Such practices will include adequate bunding for all potentially contaminating liquids including fuel and lubricating oils and chemicals, wheel wash and dust suppression on site roads, and regular plant maintenance to ensure ecologically protected sites and sensitive receptors.

2.5.8.5 Foundations and Services

There will be excavation associated with the pouring of foundations and the establishment of trenches for site services.

It is confirmed in the **Environmental Risk Assessment and Waste Characterisation Report**

that the excavated material is suitable for removal to an inert waste landfill and/or a soil and stone recovery facility.

2.6 Health and Safety

2.6.1 Construction Phase

Project supervisors for the construction phase will be appointed in accordance with the Health, Safety and Welfare at Work (Construction Regulations) 2013, and a Preliminary Health and Safety Plan will be formulated during the detailed design stage which will address health and safety issues from the design stages, through to the completion of the construction phases. This Health and Safety Plan will be developed further for the construction stage of the project.

2.6.2 Operational Phase

A COVID-19 site prevention strategy will be prepared by the Contractor and implemented to ensure that all WHO and HSE protocols have been met on site, and that the possible transfer of the virus is significantly reduced.

2.7 Monitoring

2.7.1 Community Liaison

It is important that discussions with local residents, businesses and the general public continue well in advance of work commencing on site. Public open days were held in July 2019 and March 2020 where feedback was obtained from the members of the community to incorporate into the proposed development. The appointed Main Contractor will be required to follow best practice 'Code of Considerate Practice' guidelines. The Considerate Constructor experience in Ireland has been that early positive and proactive engagement with businesses and residents impacted by building works is the best approach.

A Community Liaison Officer (CLO) will be appointed by the Main Contractor to lead and manage all community related issues. The CLO will initially host and attend regular community meetings. Following the initial meetings, the CLO will compile a list of stakeholders in the area. These stakeholders will be kept informed of progress and planned works on the site through the publication and distribution of a Monthly Progress Newsletter.

2.7.2 Integrated Pest Management

An Integrated Pest Management (IPM) is to be established in accordance with best practice within the guidelines for the campaign for responsible rodenticide use (CRRU Ireland – Wildlife Aware).

Competent rodent pest control technicians (i.e. included on the register of 'pest management trained professional users' [PMUs] maintained by the Department of Agriculture Food and the Marine) will be appointed to fully implement best practice in the delivery of rodent pest management services, based on consideration of the risk hierarchy and implementation of an Integrated Pest Management (IPM) approach.

Records of the conclusions and decisions reached by PMUs and by professional users on site will be maintained for management purposes and to facilitate auditing and compliance inspections by regulatory authorities.

2.7.3 Environmental

The monitoring proposed in Chapters 4 to 14 of this EIAR will be carried out during the demolition and construction phases. This monitoring is integrated to ensure that there will be no likely significant impact during development of the site.

A bespoke site Construction Environmental Management Plan (CEMP) will be prepared by the appointed contractor prior to work commencing on site. The main purpose of a CEMP is to provide a mechanism for implementation of the various mitigation and monitoring measures which are described in the EIAR. The CEMP demonstrates the applicant's commitment to implementing the proposed development in such a way as to avoid or minimise the potential environmental effects resulting from construction activities. All personnel will be required to understand and implement the requirements of the plan.

Aspects that will be addressed within the CEMP will include but are not limited to, waste and materials management; noise and vibration; dust and air quality; traffic and vehicle management; pollution incident control; and protection of vegetation and fauna. A summary of the mitigation measures to be incorporated into the CEMP is provided in Chapter 16 of the EIAR.

2.8 Commissioning

The testing and commissioning of services (drainage, watermain, gas, electricity) will be completed in accordance with relevant codes of practice as set out in **Chapter 7** of the EIAR.

2.9 Property Management

A property management company would be appointed to manage the scheme and common areas to ensure that the scheme is well managed, and the development is maintained to an extremely high level. They will be responsible for *inter alia* cleaning, landscaping, refuse management, insurance, maintenance of mechanical/electrical lifts/ life safety systems, security etc.

The property management agents will be responsible for setting the service charge budget for the common areas and the estate. In order to effectively manage the estate and common areas an annual budget would be billed to the owners / tenants on a quarterly in advance basis to ensure enough funds are received to enable effective management of the estate.

2.10 Decommissioning

The design life of the scheme is greater than 60 years. Thus, for the EIA process, the development is considered permanent, and a decommissioning phase is not considered in this report.

2.11 Conclusion

This chapter sets out the development parameters for the proposed development including an overview of the Architectural, Landscape and Engineering strategy. An overview of the phasing for construction has also been provided, and further information can be found in the **Construction and Environmental Management Plan** prepared by DCON.

A **Housing Quality Audit** has been submitted under separate cover which indicates compliance with relevant standards in the Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities' 2020, and a **Planning Statement** and the two **Statements of Consistency** prepared by McCutcheon Halley submitted under separate cover which highlights the developments compliance with the Local, Regional and National Planning Policy including the S.28 Ministerial Guidelines.

CHAPTER 3

ALTERNATIVES

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|------------|---|-------------|
| 3 | Alternatives..... | 3-2 |
| 3.1 | Introduction..... | 3-2 |
| 3.2 | Consideration of Alternatives | 3-3 |
| 3.2.1 | Do Nothing | 3-3 |
| 3.2.2 | Alternative Locations | 3-8 |
| 3.2.3 | Alternative Uses | 3-11 |
| 3.2.4 | Alternative Design (including size & scale) | 3-12 |
| 3.2.5 | Alternative Processes..... | 3-17 |
| 3.3 | Difficulties Encountered | 3-17 |
| 3.4 | Proposed Preferred Alternative | 3-18 |
| 3.5 | Conclusion | 3-19 |

Table of Figures

| | | |
|------------|---|------|
| Figure 3.1 | Permissible & Open for Consideration uses | 3-11 |
|------------|---|------|

Table of Tables

| | | |
|-----------|---|------|
| Table 3.1 | Do Nothing Description Of Effects | 3-5 |
| Table 3.2 | Strategic Environmental Protection Objectives (source SEA DCDP 2016-2022)..... | 3-8 |
| Table 3.3 | Assessment of Development Alternatives (source SEA DCDP 2016-2022)..... | 3-9 |
| Table 3.4 | Summary of Impacts of Landuse Zoning (source SEA (Chp. 8) DCDP 2016-2022) | 3-10 |
| Table 3.5 | High-level Comparison of Environmental effects of 2 no. Design Alternatives | 3-19 |

3 Alternatives

This chapter was prepared by Paula Galvin of McCutcheon Halley Chartered Planning Consultants. Paula holds an MSc in Spatial Planning, a BA in Geography, a Diploma in Environmental Impact Assessment (EIA) Management and a Diploma in Planning and Environmental Law. She has practised as both a planning and environmental consultant for over 15 years and has directed the preparation of Environmental Impact Assessment Reports (EIARs) for a range of development types including residential, commercial, renewable energy and waste. Directly relevant experience to this proposed development include the following projects that all required the preparation of an EIAR with each directed by Paula;

- Bailey Gibson (PL29S.307221) - Demolition of all structures, construction of 416 no. residential units (4 no. houses, 412 no. apartments) and associated site works.
- Player Wills (TA29S.308917) - Demolition of all buildings excluding the original fabric of the former Player Wills Factory, construction of 492 no. Build to Rent apartments, 240 no. Build to Rent shared accommodation units, community, arts and cultural and exhibition space, retail/café/office uses, creche and associated site works.
- Connolly Quarter (PL29N.305676) - Demolition of 4 no. structures, construction 741 no. build to rent apartments, retail space and associated site works.
- Chesterfield, Cross Avenue (PL06D.302921) - Demolition of the non-original fabric of Chesterfield House (a protected structure) and derelict sheds. Construction of 214 apartments and 7 no. houses, residents amenity facility and all associated works.
- Hansfield SDZ (FW18A/1061) permission for development of 247 no. apartments at Zone 7, Hansfield SDZ, Hansfield, Dublin 15.

3.1 Introduction

The requirement to consider alternatives within an Environmental Impact Assessment Report (EIAR) is set out in Annex IV (2) of the EIA Directive (2014/52/EU) and in Schedule 6 of Planning and Development Regulations 2001 (as inserted by article 97 of the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 which state (at paragraph 1(d));

“A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment”.

The requirement is elaborated at paragraph 2(b), which makes clear that reasonable alternatives may include project design proposals, location, size and scale, which are relevant to the proposed development and its specific characteristics. The Regulations require that an indication of the main reasons for selecting the preferred option, including a comparison of the environmental effects be presented in the EIAR.

The Environmental Protection Agency Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, 2022 states:

The objective is for the developer to present a representative range of the practicable alternatives considered. The alternatives should be described with ‘an indication of the main reasons for selecting the chosen option’. It is generally sufficient to provide a broad description

of each main alternative and the key issues associated with each, showing how environmental considerations were taken into account in deciding on the selected option. A detailed assessment (or 'mini-EIA') of each alternative is not required.

The Guidelines also state that the range of alternatives considered may include the 'do-nothing' alternative.

Accordingly, this chapter of the EIAR provides an outline of the main alternatives examined during the design phase. It sets out the main reasons for choosing the development as proposed, taking into account and providing a comparison on the environmental effects. The assessment of alternatives is considered under the following headings;

- i. Do Nothing Alternative
- ii. Alternative Use
- iii. Alternative Locations
- iv. Alternative Project Design (3 no. alternative scenarios)
- v. Alternative Processes

Notwithstanding the above, pursuant to Section 3.4.1 of the 2022 EPA Guidelines, the consideration of alternatives also needs to be cognisant of the fact that *"in some instances some of the alternatives described below will not be applicable – e.g. there may be no relevant 'alternative location'..."* The Guidelines are also instructive in stating: *"Analysis of high-level or sectoral strategic alternatives cannot reasonably be expected within a project level EIAR... It should be borne in mind that the amended Directive refers to 'reasonable alternatives... which are relevant to the proposed project and its specific characteristics'"*.

3.2 Consideration of Alternatives

3.2.1 Do Nothing

3.2.1.1 Actual Do Nothing

The 'Do-nothing' alternative is a general description of the evolution of the key environmental factors of the site and environs if the proposed project did not proceed. Each Chapter of this EIAR includes a description of the 'Do Nothing' alternative and should be referenced in conjunction with this Chapter.

Under a 'Do-nothing' scenario, the Bailey Gibson site would remain in its current condition, impermeable, predominantly hardstanding with vacant industrial units. The site in its present condition adversely affects the visual amenity of the local area, contributes to urban blight and decay locally and encourages anti-social behaviour. The buildings are in a poor state of structural repair. In the short-term (1-7 years) they would likely go into further decline, and may pose a health and safety risk due to the presence of asbestos containing materials.

A do-nothing approach would mean that much needed homes in the inner city area would not be delivered with consequent negative effects to human health, air quality and climate change. Having regard to the time required to progress through design development, planning, procurement and build out, it is likely that this would remain the case in at least the short-term.

In the absence of this proposed development, delivery of the sports pitch, playground and public park would be at risk. However, it is reasonably assumed that given that the lands are DCC owned, a separate application could be progressed in a timely manner to deliver it separately.

The Material Assets – Traffic & Transport chapter identifies that given the unused nature of the proposed development site, it doesn't generate traffic. In the absence of the project, the baseline conditions are anticipated to evolve in accordance with regional forecasts for the Dublin Metropolitan Area alone. This results in the following growth in background traffic for each year:

- 2020 – 2024: 4.9%
- 2020 – 2029: 13.7%
- 2020 – 2039: 22.9%

The existing noise levels and air quality are considered representative of an urban area near a major route. In the absence of this proposed development, noise levels would likely increase reflecting the growth in background traffic. Similarly ambient air quality would remain as per change in accordance with trends within the wider area including influences from potential new developments in the surrounding area and changes in road traffic.

If the proposed development were not to proceed, there would be no increase in the demand on built services (water demand, electricity and gas supply) and the effect would be neutral.

The land and soils chapter identifies that while the soils and subsoils are generally uncontaminated across most of the site, the investigations established the presence of hydrocarbon contamination, which the laboratory analysis has identified as kerosene, between c. 0-2m below ground level across an area of approx. 800 sq.m around the above ground oil storage tank in the north-east of the Bailey Gibson site. In the event that the site is not developed the hydrocarbon contaminated soils would remain on site with the potential to impact on the soil and groundwater environment beneath and down hydraulic gradient of the site. If it is not addressed the contamination will have a significant impact on the soils beneath this part of the site.

All collected surface water from the site drains to combined sewers located in Rehoboth Place and the South Circular Road. There are no sustainable drainage systems or flow control devices in place at the site. In storm events, un-attenuated and untreated surface water discharge can contribute significant flows to the combined sewers. The foul and combined sewer flows in this area discharge to the Wastewater Treatment Plant (WwTP) in Ringsend. Surface water discharge to the combined sewer system contributes to inundation of this system in storm events and recurring untreated discharge of combined sewer flows to open water bodies in Dublin Bay through combined sewer overflows. This scenario would fail to address water quality issues in Dublin Bay.

The Biodiversity chapter of this EIAR identifies that the proposed development site is of no ecological importance, and with the exception of the community garden and the Boys Brigade lands, the site is virtually entirely hardstanding, buildings or heavily disturbed. Should the site remain undeveloped, no significant improvement in the biodiversity value of the proposed development site can be expected. If left unmanaged, the Dublin City Council-owned lands would develop more scrub vegetation which could in turn provide additional nesting bird habitat.

In terms of built heritage, the existing Block D contains some architectural features of interest and it is presently vacant. The building is not in good condition and it is likely that its condition will continue to deteriorate if the site is not redeveloped, causing damage to the features of interest.

The Table below summarises the effect of the 'Do Nothing' alternative described above. All of the predicted effects are determined to be likely to occur. It is noted that the duration of effects under this scenario are considered at least short-term (1-7 years), this reflects a reasonable timeframe for a further application for development to come forward on the site in the absence of this subject application.

| Aspect | Quality of Effect | Significance | Context | Duration |
|---|--------------------|--------------|----------------|------------|
| Population & Human Health | Negative | Profound | City | Short-term |
| Landscape & Visual | Negative | Significant | Local | Short-term |
| Material Assets: Traffic & Transport | Neutral | Moderate | Local | Short-term |
| Material Assets: Utilities | Neutral | N/A | City | Short-term |
| Land & Soils | Negative | Significant | Local/City | Short-term |
| Water & Hydrology | Negative | Significant | Local/City | Short-term |
| Biodiversity | Neutral | Slight | Local | Short-term |
| Noise & Vibration | Neutral | Moderate | Local | Short-term |
| Air Quality & Climate | Neutral - Negative | Moderate | Local/National | Short-term |
| Cultural Heritage: Archaeology | Neutral | N/A | Local | Short-term |
| Cultural Heritage: Built Heritage | Negative | Significant | Local | Short-term |

Table 3.1 Do Nothing Description Of Effects

In conclusion, a 'Do-nothing' scenario is an inappropriate and unsustainable approach that would result in the inefficient use of a strategically located and serviced landbank of zoned lands which would have negative environmental consequences for population and human health, the local landscape and visual environment, land and soils, water quality in Dublin Bay and the industrial built heritage that exists at Bailey Gibson.

With the mitigation measures proposed in this EIAR and having regard to the findings that no significant effects on the environment are expected for the proposed development, the proposed development is significantly positive when the comparative environmental effects is considered.

3.2.1.2 Do Nothing - Implement Extant Permission

In September 2020, An Bord Pleanála granted permission (Ref. ABP-307221-20) for a Build to Rent strategic housing development (SHD) development at the Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8. The permission is for;

- i. **Demolition** - The demolition of all buildings and structures on site including the demolition of 9 buildings comprising of a gross floor area of 11,234.42 square metres and the demolition of an ESB substation (21 square metres) to facilitate the following on site.
- ii. **Residential Accommodation** - The construction of 416 residential units set out in five blocks together with 812 sq.m of tenant amenities. The proposed development is summarised in more detail below.

- a. Block No. 1 (BG1) is centrally located in the northern portion of the site. It is configured in an inverted “C shape” overlooking a central courtyard of open space which is located to the immediate west of the rear gardens of the dwellings on Rehoboth Avenue. Block 1 ranges in height from 3 to 11 storeys, providing a total of 161 residential units, accommodating the following: 4 studio apartments, 132 one-bed apartments, 9 two-bed apartments and 6 three-bed apartments.
 - b. Block No. 2 (BG2) is located in the north-eastern corner of the site. It lies above the entrance to the basement level car parking area. The central courtyard in the centre of the block provides access to the basement car parking and bicycle parking area. A number of surface car parking spaces (GoCar – 10 spaces) are provided at ground floor level within the car park. This block ranges from two-storeys to 16 storeys, providing a total of 160 units, accommodating the following: 74 one-bedroomed apartments and 76 two-bedroomed apartments
 - c. Block No. 3 (BG3) is located in the south-eastern quadrant of the site to the rear of Nos. 314 to 325 South Circular Road. The building ranges from 3 to 5 storeys in height and accommodates 52 units as follows: 5 studio units, 30 one-bedroomed apartments, 15 two-bedroomed apartments, 2 no. two-bed duplex apartments.
 - d. Block No. 4 (BG4) is located in the south-west corner of the site to the immediate rear of House Nos. 330 to 338 South Circular Road. It ranges from 3 to 4 storeys in height with the 3- storey element located on the western side of No. 338 South Circular Road. It accommodates 49 units as follows: 15 one-bedroomed apartments and 34 two-bedroomed apartments.
 - e. Block No. 5 (BG5) is located in the north-western corner of the site on the western side of Rehoboth Avenue and comprises 4 no. four-bed townhouses facing eastwards towards the main development. One off-street car parking space per unit is provided. These townhouses are three storeys in height.
- iii. **Communal Open Space** A total of 2,618 square metres of communal space is provided in the form of courtyards and roof terraces is distributed throughout the scheme.
- iv. **Non-residential Accommodation** is as follows:
- a. A creche at ground floor level in BG1 with a gross floor area of 233 square metres.
 - b. A retail/community space/office area (intended to facilitate classes of use as per Article 10 of the Planning and Development Regulations including Class 1, 2, 8, 10 and 11) at the southern end of BG1 adjacent to the creche facility.

The development includes 140 car parking spaces with 106 of these at basement level. Bicycle parking includes 543 long term spaces and 84 short term (visitor) spaces.

The application was accompanied by an Environmental Impact Assessment Report (EIAR) and the Board's Order under the section titled *Reasoned Conclusions on the Significant Effects*, identifies the main significant direct and indirect effects of the proposed development on the environment as follows;

- i. Population and Human Health: Significant direct positive effects with regard to population due to the increase in the housing stock and economic activity. The extant permission provides for the delivery 416 units on the Bailey Gibson site, including 41 social and affordable houses. The effect of delivering new homes is significantly positive for population and human health both locally and in the context of the wider city, as much needed new homes would be delivered with consequent benefits for climate, air quality, health etc. as people would live within close proximity to employment opportunities, daily services etc. that could be accessed by public transport/active travel modes. When compared with Actual Do Nothing Scenario presented above, the effect is significantly positive.
- ii. Landscape and Visual Amenity: The extant permission ranges from 2-16 storeys in height and the increased scale is concentrated toward the centre of the Bailey Gibson site with a tapering down toward the site's boundaries. The Board concluded that significant direct positive effects with regard to landscape and visual amenity would occur. When compared with Actual Do Nothing Scenario presented above, the effect is significantly positive.
- iii. Archaeological impacts which will be mitigated by archaeological monitoring of ground disturbance works. When compared with Actual Do Nothing Scenario above, the effect is neutral as it is likely that ground disturbance would be required at some stage in the future having regard to the site's zoning designation.
- iv. Air quality impacts which will be mitigated by dust minimisation measures during the construction phase. Traffic and Transportation impacts which will be mitigated by the management of construction traffic, urban realm improvement works and the modest provision of car parking within the scheme. The Board note the recommendation of Transport Infrastructure Ireland for zero car parking, but are satisfied that it is appropriate that the potential impact of car ownership of future residents of the development, should be mitigated by the provision of a quantum of on-site car parking rather than overspill into the surrounding streets. In comparison, the Actual Do Nothing would not generate construction or operational traffic and so air quality impacts would not occur. However, it would not achieve the benefits that would occur under this scenario which presents a significant opportunity for less reliance on cars.
- v. Noise and Vibration: Noise and vibration impacts which will be mitigated by adherence to requirements of relevant codes of practice, proactive community relations, and noise control techniques. In comparison, the Actual Do Nothing would not generate construction noise, however this is short term in duration under this scenario and deemed not significant. .
- vi. Built Heritage: Positive impact with any adverse impact mitigated by design. In comparison, the Actual Do Nothing would put at risk the architectural features of merit in the Bailey Gibson site.
- vii. Material Assets-Services impacts which will be mitigated by consultation with relevant service providers, a final Construction Management Plan and a Traffic Management Plan to be implemented, and service disruptions kept to a minimum. Resource and Waste Management impacts which will be mitigated by preparation of a site-specific Construction and Demolition Waste Management Plan.

The Order identifies that the Board concluded in their EIA that the proposed development would not be likely to have significant adverse effects on;

- i. human health,
- ii. biodiversity,
- iii. land and soil, climate,
- iv. micro-climate,
- v. material assets and
- vi. archaeological, architectural and cultural heritage.

The proposed development was determined not likely to increase the risk of natural disaster.

3.2.2 Alternative Locations

The Dublin City Development Plan 2016-2022 was the subject of a Strategic Environmental Assessment (SEA). Article 5 of the SEA Directive requires the environmental report to consider “reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme” and the significant effects of the alternatives selected. 3 no. strategic alternatives were considered;

1. Targeted growth around existing identified growth centres
2. Market led growth
3. Selected Concentration of growth targeted on existing Strategic Development & Regeneration Areas (SDRAs)/ Key Development Centres (KDCs) / Strategic Development Zones (SDZ): elements of a phased approach to the development of land

The three alternatives outlined were assessed against a set of Environmental Protection Objectives, see **Table 3.2**.

| Environmental Receptor | Environmental Protection Objectives (EPOs) |
|--|--|
| Population & Human Health (PH1) | To create a sustainable compact city and a high quality safe environment in which to live, work and/ or visit. |
| Biodiversity / flora & fauna (BFF1) | To protect and where appropriate, enhance the diversity of habitats, species, ecosystems and geological features. |
| Climatic Factors and Air Quality (CF1) | Contribute to the mitigation of/and adaptation to climate change and implement requirements of Strategic Flood Risk assessment. |
| Climatic Factors and Air Quality (AQ1) | Minimise emissions of pollutants to air associated with development activities and maintain acoustic quality. |
| Water (W1) | To protect and where necessary improve the quality and management of watercourses and groundwater, in compliance with the requirements of all water and habitat based legislation including the River Basin Management Plan of the Eastern River Basin District. |
| Material Assets (MA1) | To make best use of Dublin city's infrastructure and material assets and to promote the sustainable development of new infrastructure to meet the needs of the City's population |
| Cultural Heritage (CH1) | To protect and where appropriate enhance the character, diversity and qualities of Dublin city's cultural, including architectural and archaeological, heritage |
| Landscape and Soils (L1) | To protect and where appropriate enhance the character, diversity and special qualities of Dublin City's landscapes and soils |

Table 3.2 Strategic Environmental Protection Objectives (source SEA DCDP 2016-2022)

Table 3.3 provides a summary overview of the assessment of each of the three Alternatives against the Environmental Protection Objectives. It was concluded that Alternative 1, was the

preferred scenario and would contribute to sustainable development, and as such, would result in positive impacts when tested against the Environmental Protection Objectives.

Alternative 1 seeks to target and consolidate growth around the Z5 city-centre mixed use zoning area as well as existing identified growth centres such as the Key District Centres (KDCs), the SDRAs, the Strategic Development Zones and areas identified in Local Area Plans. Under this scenario, the Council favour the development of vacant lands within the canal area of the city and to incentivise owners to redevelop these lands.

| Environmental Protection Objectives (EPOs) | Alternative 1 - Growth around identified centres | Targets existing growth | Alternative 2 - Market Growth | Alternative 3 - Selected Concentration of growth targeted on existing SDRAs/KDC/SDZ areas - elements of a phased approach to the development of land |
|--|--|---------------------------------|-------------------------------|--|
| PH1 | ++ | | - | + |
| BFF1 | + | - | - | + |
| CF1 | + | 0 | + | + |
| AQ1 | + | | ? | + |
| W1 | + | - | - | + |
| MA1 | + | | - | + |
| CH1 | + | - | ? | ? |
| L1 | + | 0 | - | + |
| Positive | Very Positive | Insignificant/ No impact | Negative | Very Negative |
| + | ++ | 0 | - | ? |

Table 3.3 Assessment of Development Alternatives (source SEA DCDP 2016-2022)

The proposed development site is subject to three land use zonings.

- The majority of the site is zoned Objective Z14 - Strategic Development and Regeneration Area (SDRA) 12 St Teresa's Gardens and Environs. The aim of the Z14 Zoning Objective is "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. The purpose of the Z6 zoning is to provide for the creation and protection of enterprise and facilitate opportunities for employment creation."
- The western part of the Bailey Gibson site is zoned Z4 – District Centres, which aims 'To provide for and improve mixed-services facilities'.
- A portion of the site along Rehoboth Avenue to the north-west is zoned Z1 Sustainable Residential Neighbourhoods - 'to protect, provide and improve residential amenities.'

An assessment of the land-use zoning policies was undertaken during the preparation of the SEA against a range of environmental parameters and the results are summarised below.

| Aspect | Impact Rating |
|---|--|
| Population & Human Health | Significant Beneficial |
| Biodiversity, Flora & Fauna | Largely Insignificant |
| Climate | Largely Insignificant |
| Air (Air Quality & Noise) | Some policies and objectives were found to have significant beneficial impacts with some insignificant impacts on air quality and noise. |
| Water | Mostly Insignificant |
| Material Assets (Transport & Waste Management) | Significant Beneficial |
| Cultural Heritage | Mostly Insignificant |
| Landscape & Soils | Majority Insignificant |

Table 3.4 Summary of Impacts of Landuse Zoning (source SEA (Chp. 8) DCDP 2016-2022)

The development of the site has been determined to be acceptable in principle with regard to the environmental matters considered in the SEA. The site and proposed development present an opportunity to deliver a substantial quantum of housing and public amenities in Dublin 8. This approach represents a sustainable urban expansion and consolidation of Dublin City that would contribute in a sustainable manner to meeting strategic planning objectives at a local and regional level.

It is one of only a handful of sites of scale identified in the Residential Land Availability Survey 2014 within the canal cordon. The site's designation as Strategic Development Regeneration Area (SDRA) 12 in the Dublin City Development Plan 2016-2022 confirms the site's suitability for intensification and the delivery of a significant quantum of homes for the city together with non-residential uses.

The suitability of this site for the proposed development has been anticipated in the DCDP which itself was subject to Strategic Environment Assessment (SEA) and the consideration of alternatives for this site and area. Accordingly, the consideration of alternative locations for the proposed development has been considered at the strategic level or framework for development consent level.

It is noted that prior to the acquisition, the site's ability to satisfy environmental criteria was considered by the Applicant and it was found to offer the following attributes;

- The application area offered the opportunity to bring a vacant brownfield industrial site in close proximity to Dublin City into productive use, thus promoting the principles of compact growth.
- The site's location within walking distance of public transport modes (Dublin Bus and LUAS, Fatima Stop) would promote a modal shift from the private car to more sustainable forms of transport. This in turn would assist with achieving overarching environmental objectives such as improved air quality (CO₂, NO₂ and particulate emissions).
- The site is not subject to any statutory nature conservation designation.
- There are no listed views or vistas pertaining to the site.

Redevelopment of this site will allow people to live close to employment opportunities and thus contribute to reducing urban sprawl as well as enhancing quality of life. It will reduce the need

for car based travel and in doing so contribute to a critical mass which is needed to realise the full potential of sustainable transport modes while reducing greenhouse gas emissions.

3.2.3 Alternative Uses

3.2.3.1 Dublin City Development Plan

The primary determinant of suitable uses is established in the site's zoning. The majority of the proposed development site is zoned Z14, with the western part of the Bailey Gibson site zoned Z4 and a small area to the north west zoned Z1. The permissible uses and open to consideration uses attached to each of these zonings is set out below.

| | | |
|---|---|--|
| <p>Zoning Objective Z1</p> <p>Permissible Uses</p> <p>Buildings for the health, safety and welfare of the public, childcare facility, community facility, cultural/recreational building and uses, education, embassy residential, enterprise centre, halting site, home-based economic activity, medical and related consultants, open space, park-and-ride facility, place of public worship, public service installation, residential, shop (local), training centre.</p> <p>Open for Consideration Uses</p> <p>Bed and breakfast, betting office, car park, civic and amenity/recycling centre, garden centre, golf course and clubhouse, hostel, hotel, industry (light), live/work units, media-associated uses, petrol station, pigeon lofts, public house, restaurant, veterinary surgery.</p> | <p>Zoning Objective Z4</p> <p>Permissible Uses</p> <p>Amusement/leisure complex, bed and breakfast, betting office, buildings for the health, safety and welfare of the public; car park, car trading, childcare facility, civic offices, community facility, cultural/recreational building and uses, delicatessen¹, education, embassy office, enterprise centre, garden centre, guest house, halting site, home-based economic activity, hostel, hotel, industry (light), live work units, media-associated uses, medical and related consultants, motor sales showroom, office (max. 600 sq m.), off-licence, open space, park and ride facility, part off-licence, petrol station, place of public worship, public house, residential, restaurant, science and technology-based industry, shop (district), shop (neighbourhood), take-away, training centre.</p> <p>Open for Consideration Uses</p> <p>Advertisement and advertising structures, civic and amenity/recycling centre, conference centre, embassy residential, factory shop, financial institution, funeral home, garage (motor repair/service), household fuel depot, internet café, nightclub, office (max. 1200 sq m) outdoor poster advertising, shop (major comparison), warehousing (retail/non-food)/retail park.</p> | <p>Zoning Objective Z14</p> <p>Permissible Uses</p> <p>Betting office, buildings for the health, safety and welfare of the public; childcare facility, community facility, conference centre, cultural/recreational building and uses, education, embassy office, embassy residential, enterprise centre, green/clean industries, halting site, home-based economic activity, hotel, industry (light), live-work units, media-associated uses, medical and related consultants, offices, open space, park and ride facility, part off-licence, place of public worship, public service installation, residential, restaurant, science and technology-based industry, shop (neighbourhood), training centre.</p> <p>Open for Consideration Uses</p> <p>Advertisement and advertising structures, bed and breakfast, car park, car trading, civic and amenity/recycling centre, factory shop, financial institution, funeral home, garage (motor repair/service), garden centre, golf course and clubhouse, hostel, internet café, nightclub, off-licence, outdoor poster advertising, petrol station, pigeon lofts, public house, take-away, veterinary surgery, warehousing (retail/non-food)/retail park, warehousing.</p> |
|---|---|--|

Figure 3.1 Permissible & Open for Consideration uses

Having regard to the permissible and open for consideration uses, the reasonable alternative scenarios for development of the proposed development site are;

- i. A commercial led development with a smaller quantum of residential; or,
- ii. A residential led development with a smaller quantum of commercial.

Having regard to overarching national and regional planning policy to deliver compact growth through densification, under either of these options the site would be developed as a high density development. The objective to achieve permeability with the wider SDRA 12 lands would be realised under either alternative.

It is noted that the anticipated environmental effects of the construction stage of either option would be similar as both would require demolition of the existing structures and a similar approach to the build stage. Thus, as determined in this EIAR, with the correct implementation of standard construction management measures, likely significant effects during the construction stage, including noise, dust and traffic, would be short-term in duration and the significance would range from not significant to at worst moderate.

The primary difference between these 2 no. scenarios would be that the opportunity to deliver much needed homes closer to workplaces would not be realised under a commercial led scheme and this would have a significant negative effect on population and human health. While Covid-19 has had an impact on working patterns, there are significant employment opportunities locally that require attendance at the workplace, including The Coombe and St. James's Hospital.

Under the commercial option, it is likely that people would need to travel to the site for employment and this would likely realise a higher car dependency and associated greenhouse gas emissions, with a consequent significant negative effect on air quality locally.

Positive effects would arise from the development of a commercial scheme at this location which would increase employment opportunities within the City.

On balance, the environmental effects of delivering either of the 2 no. alternatives are largely similar and either scenario is justifiable in terms of its environmental consequences.

3.2.4 Alternative Design (including size & scale)

The Dublin City Development Plan 2016-2022 establishes the overall guiding principles for development within SDRA 12 and these principles are the framework for the design development. The Applicant must demonstrate compliance with these design principles in so far as they relate to the development proposed.

The guiding principles that are relevant to this application are:

- The development of a network of streets and public spaces will be promoted to ensure the physical, social and economic integration of St Teresa's Gardens with the former Player Wills and Bailey Gibson sites, with further integration potential with the sites of the Coombe Hospital and White Heather Industrial Estate.
- A vibrant mixed-use urban quarter will be promoted with complementary strategies across adjoining sites in terms of urban design, inter-connections and land-use. To provide for an area zoned sufficient in size to accommodate a minimum 80 m by 130 m playing pitch.
- A new public park is proposed as a landmark feature with passive supervision by residential and other uses; it will have a comprehensive landscaping strategy to provide significant greenery within the scheme and will make provision for a diverse range of recreational and sporting facilities for use by the wider neighbourhood.
- There is potential for one or two midrise buildings (up to 50 m) within the site, subject to the criteria set out in the standards section of this plan.
- To acknowledge the existing sports lands of St Teresa's gardens and its environs and act to retain and augment these lands as sporting facilities for the benefit of the wider community and use by local sports clubs. That at least 20% of the SDRA 12 be retained for public open space, recreation & sporting facilities including an area to facilitate organised games.
- Strong permeability through these lands will be encouraged to generate movement and activity east-to-west (connecting Dolphin's Barn Street and Cork Street with Donore

Avenue) and north-to-south (connecting Cork Street and Donore Avenue with the South Circular Road and Grand Canal corridor); a high-quality public domain, provision of pedestrian and cyclist routes and provision of active streets will be promoted.

- A community hub will be incorporated into the scheme to provide a wide range of community facilities accessible to the wider neighbourhood; opportunities to highlight the heritage of the local area by proposing community uses close to important landmark buildings such as St Teresa's Church will be promoted. It is noted that this is provided for in the extant Player Wills permission.

There is an extant permission for a strategic housing development on the Bailey Gibson site. That permission relates to a smaller application area. It constitutes a reasonable design alternative and is presented as Alternative Design No. 1.

The proposed development represents an alternative design and is reasonably included for assessment as Alternative Design No. 2.

This section of the report sets out the high-level assessment of the environmental issues associated with each alternative design which have been fully considered by the applicant in advance of selecting the proposed preferred alternative.

3.2.4.1 Alternative Design No. 1 – Extant Permission

As set out in 3.2.2.2, in September 2020, An Bord Pleanála granted permission for a Build to Rent SHD at Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8. The permission is for the demolition of all buildings and structures within the Bailey Gibson site and the development of 416 units across 5 blocks together with 812 sq.m of tenant amenities. Open space is predominately for residents in the form of communal amenity courtyard areas. The commercial floorspace includes a creche and a retail/community space/office area. The development includes 140 car parking spaces. Bicycle parking includes 543 long term spaces and 84 short term (visitor) spaces.

Population and Human Health: Significant direct positive effects with regard to population due to the increase in the housing stock and economic activity. The extant permission provides for the delivery 416 units including 41 social and affordable units on the Bailey Gibson site. The effect of this increase is significantly positive for population and human health both locally and in the context of the wider city, as much needed new homes would be delivered with consequent benefits for climate, air quality, health etc. as people would live within close proximity to employment opportunities, daily services etc. that could be accessed by public transport/active travel modes. The design includes a creche that would provide approx. 54 childcare spaces. The overall effect of these aspects on population is significantly positive.

Landscape and Visual Amenity: The extant permission ranges from 2-16 storeys in height and increased scale is concentrated toward the centre of the Bailey Gibson site with a tapering down toward the site's boundaries. This permission would introduce significant change to the townscape but in the context of developing a new urban neighbourhood and having regard to the studies that demonstrate no residual negative permanent impact this is determined to be acceptable.

Air: Air quality impacts which will be mitigated by dust minimisation measures during the construction phase. Traffic and Transportation impacts which will be mitigated by the management of construction traffic, urban realm improvement works and the modest provision of car parking within the scheme. The Board note the recommendation of Transport Infrastructure Ireland for zero car parking, but are satisfied that it is appropriate that the potential impact of car ownership of future residents of the development, should be mitigated by the provision of a quantum of on-site car parking rather than overspill into the surrounding streets.

Noise and Vibration: Noise and vibration impacts which will be mitigated by adherence to requirements of relevant codes of practice, proactive community relations, and noise control techniques.

Built Heritage: Positive impact with any adverse impact mitigated by design.

Material Assets-Services impacts which will be mitigated by consultation with relevant service providers, a final Construction Management Plan and a Traffic Management Plan to be implemented, and service disruptions kept to a minimum. Resource and Waste Management impacts which will be mitigated by preparation of a site-specific Construction and Demolition Waste Management Plan.

The Order identifies that the Board concluded in their EIA that the proposed development would not be likely to have significant adverse effects on;

- human health,
- biodiversity,
- land and soil, climate,
- micro-climate,
- material assets and
- archaeological, architectural and cultural heritage.

The proposed development was determined not likely to increase the risk of natural disaster.

3.2.4.2 Alternative Design No. 2 - Proposed Development

In design terms this proposed development is very similar to the extant permission. The key differences relate to tenure, building height (max. 7 storeys), number of units and inclusion of public amenities namely, the sports pitch and public park.

Population and Human Health

This is a 345 unit scheme i.e. 17% less units than the extant permission. Under this option 34 social and affordable homes would be delivered, this is 7 units less than the extant scheme. The effect in terms of delivery of new homes slightly less positive when compared with the extant permission.

This scheme design includes a mix of build to rent (85%) and build to sell (15%) units. The introduction of choice in the tenure is a positive when compared with the previous mono-tenure approach.

This design includes a larger creche and this is deemed positive in the context of the identified existing local need.

This alternative has significant benefits for health when compared with the extant permission having regard to the inclusion of the sports pitch and the public park, Players Park.

Landscape & Visual

The height strategy in the proposed development is compliant with the City Development Plan. Having regard to the Board's assessment with regard to the extant permission i.e. that it would not negatively impact the landscape and visual amenity of the area, it is reasonably concluded that the significantly reduced height proposed in this development would have a lesser impact with at worst a moderate effect on the skyline.

Material Assets: Traffic & Transport

According to the European Energy Agency (EEA) in 2018 private cars emitted 120.4g of CO₂/km¹ and according to the Central Statistics Office (CSO) for the same year each private car travelled on average 17,000. Thus each car emits 2,040kgs of CO₂ per annum. DCCs maximum car parking standard is 1 car parking space/unit, for the proposed scheme this would mean providing 345 carparking spaces and based on the foregoing this would give rise to the emission of 703,800kgs of CO₂/annum. This alternative design approach of reducing car parking means that the scheme would generate 187,680kgs of CO₂/annum which is a significant positive benefit for air quality and climate change.

¹ <https://www.eea.europa.eu/data-and-maps/data/co2-cars-emission-18>

When benchmarked against, the CO₂/annum emitted by each of the 2 design scenarios is;

- i. Extant Permission – 285,600kgs
- ii. Proposed Development - 187,680kgs

Put in context, it takes 5 trees to offset 1 tonne of CO₂, so under this scenario the reduced car parking associated with the proposed development when compared with the extant permissions parking is the equivalent of planting approx. 100 trees.

Material Assets: Built Services

The reduced number of units in this alternative will place less demand on services. However, it is noted that there are no service supply issues in the local area and so the effect under all 2 no. design alternatives on built services is neutral.

The segregation of foul and surface water and controlled release would be required under any of the 2 no. options in line with the requirements of the GDSDS. As such, the effect would be positive for water quality in Dublin Bay under both scenarios.

Land & Soils

Development of the site would require clearance and excavation of soils to facilitate the basement construction and this is also the case in the extant permission. Thus, the effect on soils is permanently negative with an imperceptible to not significant effect under both options.

Both alternatives would offer the opportunity to remediate the contaminated land on the Bailey Gibson site with a consequent positive effect.

Water & Hydrology

The hydrogeological environment would be protected under both options due to the hardstanding for buildings and the public realm. The effect would thus be neutral and imperceptible locally with a permanent duration.

Biodiversity

This option includes a significant quantum of public and communal open space that far exceeds the extant permission. It includes a comprehensive landscape scheme that incorporates a planting regime to promote biodiversity. The effect locally is deemed a permanent moderate positive effect.

Noise & Vibration

The introduction of development will increase the noise generated at the site, the effect is considered to be locally neutral and not significant with a permanent duration under all options.

Air Quality & Climate

Having regard to the site's location, any development on this site would promote a modal shift and this will have moderate-significant positive effects on air quality locally.

The development of the site would be required to comply with the Nearly Zero Energy Building Regulations and this would have a slight-moderate effect on national climate change targets to reduce greenhouse gas emissions.

Cultural Heritage - Archaeology

Due to the developed nature of large areas of the proposed development site, it has already been subject to a significant degree of disruption. However, basement excavations may reveal hitherto undisturbed archaeological deposits. The effect is at this stage not determinable until it is known if archaeological remains exist.

Cultural Heritage – Built Heritage

The effect of implementing this proposed design on the built heritage is consistent with the other option as it would also offer the opportunity to recover the salvage deemed to have architectural merit during the construction process.

3.2.5 Alternative Processes

When considering the relevant construction processes, including those outlined in the Construction and Demolition Environmental Management Report submitted as part of this application, alternative construction processes were considered as part of this process.

The Applicant intends seeking BREEAM (Building Research Establishment Environmental Assessment Method) certification for the proposed development. This is a sustainability assessment method that sets standards for the environmental performance of buildings. The process evaluates the procurement, design, construction and operation of a development against a range of targets based on performance benchmarks.

- Energy
- Land use and ecology
- Water
- Health and wellbeing
- Pollution
- Transport
- Materials
- Waste
- Management

Independent licenced assessors carry out an assessment of a scheme and each of the criteria is scored and then multiplied by a weighting.

The Applicant is seeking to achieve an 'Excellent' rating to enhance the wellbeing of the people who live, work and visit the scheme. In light of the objective of BREEAM certification, it is assessed that the construction processes included in the development will have a significant positive effect of permanent duration, and are assessed as having a better impact than the alternative processes that would be implemented if BREEAM certification was not an objective.

3.3 Difficulties Encountered

There were no difficulties encountered in the preparation of this assessment for the proposed development.

3.4 Proposed Preferred Alternative

The multidisciplinary EIAR team reviewed the extant permission against all environmental topics and proposed alternatives to achieve environmental improvements while remaining compliant with the Development Plan objectives to achieve regeneration of the site. This approach is consistent with the requirements of the EIA Directive.

This chapter demonstrates that the proposed preferred alternative performs better in terms of human health having regard to the quantity of public open space included that provides a variety of opportunities to engage in active recreation.

The height strategy under each of the 2 design alternatives is to increase height above the existing surrounding context. This will change the local landscape and visual character and is consistent with the principles of compact growth. Increased height is appropriate, considering the location of the site within the canal cordon and in the inner city area. The preferred alternative is 7 storeys consistent with the City Development Plan's height strategy.

The preferred scenario safeguards human health from the negative effects of substandard traffic measures and there is a significantly positive effect for air quality and climate arising from the preferred car parking strategy.

3.5 Conclusion

The site's ability to satisfy environmental criteria has been considered and it offers the following attributes;

- Development of the site offers the opportunity to bring a previously developed brownfield industrial site in close proximity to Dublin City into productive use, thus promoting the principles of compact growth.
- The site's location within walking distance of public transport options would promote a modal shift from the private car to more sustainable forms of transport. This in turn would assist with achieving overarching environmental objectives such as improved air quality (CO₂, NO₂ and particulate emissions) and a reduction in noise pollution.
- The site is not subject to any statutory nature conservation designation.

In light of the foregoing, it is considered that the application area is an appropriate site from an environmental perspective for the proposed development of a mixed-use scheme.

To conclude, **Table 3.5** sets out a high level quality of effects for the operational phase of the 2 design options. As is demonstrated neither alternative has a clear advantage over the other. However, on balance, having regard to the quantity of public open space in the proposed development, the increased childcare spaces and the reduced height, it is considered that the proposed development is appropriate.

| Aspect | Alternative Design No. 1 Extant Bailey Gibson Permission | Alternative Design No. 2 Development |
|--|--|---|
| Population - Housing Delivery | Significantly Positive | Significantly Positive |
| Population - Social & Affordable Homes | Significantly Positive | Significantly Positive |
| Human Health – Public Open Space | Neutral | Significantly Positive |
| Human Health – Air Quality (CO ₂ emissions) | Significantly Positive | Significantly Positive |
| Landscape Character – New Urban Neighbourhood | Significantly Positive | Significantly Positive |
| Visual – Height | Positive | Positive |
| Material Assets – Efficient use of existing built services and utilities | Significant Positive | Significant Positive |
| Water & Hydrology | Significant Positive | Significant Positive |
| Biodiversity – quantum of communal and public open space | Positive | Significant Positive |
| Noise & Vibration | Neutral | Neutral |
| Air Quality & Climate – reduction in CO ₂ emissions | Significant Positive | Significant Positive |
| Cultural Heritage - Archaeology | Neutral | Neutral |
| Cultural Heritage - Built Heritage | Significant Positive | Significant Positive |

Table 3.5 High-level Comparison of Environmental effects of 2 no. Design Alternatives

CHAPTER 4

POPULATION & HUMAN HEALTH

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|----------|--|------------|
| 4 | Population & Human Health | 4-4 |
| 4.1 | Introduction..... | 4-4 |
| 4.2 | Expertise and Qualifications | 4-4 |
| 4.3 | Project Description..... | 4-5 |
| 4.4 | Methodology | 4-6 |
| 4.5 | Baseline Environment..... | 4-7 |
| 4.5.1 | Application Area..... | 4-7 |
| 4.5.2 | Bailey Gibson Zoning..... | 4-9 |
| 4.5.3 | Surrounding Land Uses | 4-10 |
| 4.5.4 | Public Transport | 4-11 |
| 4.5.5 | Air Quality | 4-13 |
| 4.5.6 | Population..... | 4-13 |
| 4.5.7 | Deprivation Index..... | 4-16 |
| 4.5.8 | Households..... | 4-17 |
| 4.5.9 | Housing Delivery | 4-17 |
| 4.5.10 | Tenure | 4-17 |
| 4.5.11 | Owner Occupancy | 4-18 |
| 4.5.12 | Private Rented..... | 4-19 |
| 4.5.13 | Rented from Local Authority/Housing Body | 4-21 |
| 4.5.14 | Employment..... | 4-22 |
| 4.5.15 | Social Infrastructure..... | 4-25 |
| 4.6 | Do Nothing Scenario..... | 4-31 |
| 4.6.1 | Actual Do Nothing..... | 4-31 |
| 4.6.2 | Do Nothing – Implement Extant Permission..... | 4-31 |
| 4.7 | Difficulties Encountered | 4-33 |
| 4.8 | Impact Assessment | 4-34 |
| 4.8.1 | Construction Phase | 4-34 |
| 4.8.2 | Operational Phase..... | 4-36 |
| 4.8.3 | Cumulative Impacts | 4-41 |
| 4.9 | Mitigation Measures | 4-43 |

| | | |
|-------------|--|-------------|
| 4.9.1 | Incorporated Design..... | 4-43 |
| 4.9.2 | Construction Phase | 4-44 |
| 4.9.3 | Operational Phase..... | 4-44 |
| 4.10 | Residual Impact Assessment..... | 4-44 |
| 4.11 | Interactions..... | 4-45 |
| 4.12 | Monitoring..... | 4-45 |
| 4.13 | Worst Case Scenario..... | 4-45 |
| 4.14 | Conclusion | 4-45 |
| 4.15 | References | 4-47 |

Table of Figures

| | |
|--|------|
| Figure 4.1 Application Area..... | 4-8 |
| Figure 4.2 Residential Land Availability Survey 2014..... | 4-9 |
| Figure 4.3 Site Zoning..... | 4-10 |
| Figure 4.4 Public Transport..... | 4-12 |
| Figure 4.5 Walking Catchment..... | 4-13 |
| Figure 4.6 Electoral Divisions in the Study Area | 4-14 |
| Figure 4.7 Deprivation Index..... | 4-16 |
| Figure 4.8 Percentage of people according to occupancy type, Dublin City, 2016 | 4-18 |
| Figure 4.9 Owner Occupancy | 4-18 |
| Figure 4.10 People living in owner occupied dwellings, Dublin City, 2016..... | 4-19 |
| Figure 4.11 Private Rented Households..... | 4-20 |
| Figure 4.12 People living in private rented dwellings, Dublin City, 2016 | 4-20 |
| Figure 4.13 People living in dwellings rented from the Local Authority or Voluntary Housing Body, Dublin City, 2016..... | 4-21 |
| Figure 4.14 Percentage Social Housing Rented, 2016 | 4-22 |
| Figure 4.15 Percentage Of Workers Over Daytime Population, CSO 2016..... | 4-23 |
| Figure 4.16 Commuter Flows (Inward Commuters Less Outward) By ED, CSO 2016 | 4-24 |
| Figure 4.17 Cycling Catchment for the Bailey Gibson Site (Source: SYSTRA TTA) | 4-25 |
| Figure 4.18 Schools in Study Area..... | 4-26 |
| Figure 4.19 Healthcare Facilities in Study Area | 4-28 |
| Figure 4.20 Sports and Recreational Facilities in Study Area..... | 4-29 |
| Figure 4.21 - Youth and Community Facilities in Study Area..... | 4-30 |

Table of Tables

| | |
|--|------|
| Table 4.1 Population 2011 & 2016 and Percentage Change (Source: CSO) | 4-15 |
| Table 4.2 Breakdown of the Population by Age Cohort (Source: CSO) | 4-16 |
| Table 4.3 Census 2016, 1-2 Person Households | 4-17 |
| Table 4.4 Population and Housing in Dublin City (Source: CSO)..... | 4-17 |
| Table 4.5 Schools in Study Area | 4-27 |
| Table 4.6 Medical Facilities in Study Area..... | 4-28 |
| Table 4.7 Sports and Recreational Facilities in Study Area..... | 4-30 |
| Table 4.8 Unit Mix & Projected Population | 4-37 |
| Table 4.9 Childcare Employment Generation..... | 4-38 |

4 Population & Human Health

4.1 Introduction

According to the European Commission's Environmental Impact Assessment of Projects: Guidance on the Preparation of the Environmental Impact Assessment Report (2017), 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."*

The Environmental Protection Agency (EPA) Guidelines on the Information to be contained in Environmental Impact Assessment Reports (2022) advise that *"in an EIAR, the assessment of impacts on population and human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in this EIAR e.g. under the environmental factors of air, water, soil etc."*

This chapter addresses the likely significant environmental impacts of the proposed development on population and human health. It is noted that other chapters of the EIAR also deal with likely significant environmental effects on population and human health arising from traffic and transportation, air quality and climate, noise and vibration, landscape and visual, material assets: utilities and the risk of major accidents and/or disasters and those chapters should be referenced in conjunction with this chapter of the EIAR.

4.2 Expertise and Qualifications

This chapter was prepared by Kayleigh Sexton of McCutcheon Halley Chartered Planning Consultants. Kayleigh graduated from University College Cork with a MA in Planning and Sustainable Development in 2016, and a BA in Geography in 2014. Kayleigh is currently a Senior Planner in the Practice and is experienced in the field of planning and development consultancy which includes providing consultancy services in respect of major urban regeneration projects and residential developments. Directly relevant experience to this proposed development that Kayleigh has been involved in is the direction of EIARs and Environmental Reports to accompany residential led applications that received permission for development including;

- Connolly Quarter (PL29N.305676) - Demolition of 4 no. structures, construction 741 no. build to rent apartments, retail space and associated site works.
- Knockboy, Waterford – (WCC Reg Ref:2011) Construction of 89 no. dwellings, alterations to public road, SuDS and associated site works.
- Belgard Square North – Construction of 113 affordable rental apartments (Part VIII behalf of South Dublin County Council).

- Player Wills (ABP Reg Ref: 308917) - Demolition of all buildings excluding the original fabric of the former Player Wills Factory, construction of 492 no. Build to Rent apartments, 240 no. Build to Rent shared accommodation along, creche and associated site works.

4.3 Project Description

A full description of the proposed development is provided in **Chapter 2** of this EIAR. The design rationale is to create and deliver a high quality, sustainable, residential led mixed use strategic housing development within this strategic infill site which respects its setting and maximises the site's natural attributes while achieving maximum efficiency of existing infrastructure. The Proposed Site Layout is illustrated on **Drawing No. A0005**.

This application relates to a proposed mixed-use strategic housing development (SHD) on a site of approx. 5.5 hectares in Dublin 8. It includes all of the former Bailey Gibson site and a small portion of the former Player Wills site, both of which are owned by the Applicant, CWTC Multi Family ICAV acting solely in respect of its sub fun DTBR SCR1 Fund. The balance of the proposed development site relates to land owned by Dublin City Council (DCC) known locally as the 'Boys Brigade pitch' and part of the St. Teresa's Gardens site, together with DCC controlled public roads.

The application area is predominately within Strategic Development Regeneration Area (SDRA) 12, St. Teresa's Gardens & Environs as identified in the Dublin City Development Plan 2016-2022. The part of the proposed development site not within SDRA 12 relate to works proposed in the public roads surrounding the site, South Circular Road, Donore Avenue and Rehoboth Place.

A comprehensive description of the proposed development is set out in the Planning Statement. The Statutory Notices should also be referenced.

Briefly, it is proposed to demolish the existing vacant buildings and structures on the Bailey Gibson site to make way for development of 345 new homes across 5 blocks, BG 1 - BG 5, ranging in height from 2-7 storeys. The residential blocks will be contained within the Bailey Gibson site. The typology is predominantly apartments with 4 townhouses proposed in block BG5.

This is a mixed tenure scheme, with 292 units proposed as Build to Rent (BtR) across blocks BG1-BG3 and 53 units proposed as Build to Sell (BtS) in blocks BG4 and BG5. It is proposed to deliver 34 social and affordable homes as part of the overall total.

All apartments have private amenity space. At ground floor this is in the form of terraces and on upper levels, balconies. Each of BG1-BG4 have communal amenity areas either as a courtyard or podium area.

Tenant amenities and facilities are proposed in the BtR blocks and include a gym, co-working space, kitchen/lounge areas, concierge, and waste facilities.

Over 2 hectares of public open space including a multi-sport play pitch, a playground, 'St. Teresa's Playground', a boulevard, 'St. Teresa's Boulevard', a park, 'Players Park', a plaza, 'Rehoboth Plaza'.

The proposed non-residential uses include in blocks BG1 and BG2 commercial units that have the capacity to support daily living needs e.g., a shop, pharmacy and professional services. A creche with capacity for approx. 60 children. In block BG2 the design includes floorspace for a café/restaurant/bar.

In total there are 89 car parking spaces allocated to the proposed apartments and all are contained within the Bailey Gibson site. Apart from 1 space at podium level, the parking is contained within a basement. Additionally, 10 'Go Car' spaces are proposed at podium level for residents use only. Each of the 4 townhouses has 1 on-curtilage car parking space.

Visitor parking is at street level and the proposed sport pitch will be serviced separately by new spaces on the public roads. The scheme includes set down parking for the creche, a loading bay for deliveries and coach parking area.

Provision is made for disabled parking, electric vehicle charging, a car sharing scheme and motorcycle parking.

784 spaces are proposed for cycle parking including secure residents parking, visitor parking and spaces for cargo bicycles.

Other works include the development of a network of streets across the proposed development site that will link with other sites within SDRA 12 and into the wider street network of Dublin 8. Improvement works within existing local streets to facilitate access and safe movement.

Ancillary development works includes the construction of electricity substations, meter rooms, plant rooms at basement level, waste storage areas, solar photovoltaics, drainage, landscaping, and lighting.

4.4 Methodology

To inform this assessment, the application area and surrounds were visited on a number of occasions in 2019, 2020 and 2021. The purpose of the site walkover was to identify the characteristics of the subject land and surrounding area. Ordnance Survey maps and aerial photography were also examined to assist in this process.

Publications and other data sources consulted include;

- National Planning Framework, Ireland 2040 – Our Plan (Government of Ireland, 2018)
- Regional Planning Guidelines for the Greater Dublin Area 2010-2022
- Regional Planning Guidelines for the Greater Dublin Area 2010-2022;
- Eastern and Midlands Regional Spatial and Economic Strategy 2019-2031;
- Dublin City Council Development Plan 2016-2022;
- Development Framework for St. Teresa's Gardens and Environs March 2017
- Dublin City Local Economic and Community Plan 2016–2021
- Central Statistics Office (CSO) website www.cso.ie; and
- GeoDirectory-GeoFindIT App
- Dublin Housing Observatory Mapping Viewer <https://airomaps.geohive.ie/dho/>
- Pobal website <https://maps.pobal.ie/>

- Health and Safety Authority website <https://hsa.ie>

Additionally, reports prepared by McCutcheon Halley Planning Consultants and included in this application under separate cover were consulted;

- Social Infrastructure Audit
- Childcare Demand Report

This chapter has been prepared having regard to the following guidelines;

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022)

The impact assessment section of this chapter follows the terminology (where applicable) used in the EPA Guidelines as set out in **Chapter 1** of this EIAR.

4.5 Baseline Environment

4.5.1 Application Area

The application area is c.5.5 hectares, it includes the Bailey Gibson site (1.53 hectares) and 2.74 hectares to accommodate public open space and works to facilitate connections to municipal services and works proposed to public roads, see **Figure 4.1**. It forms part of a wider Strategic Development and Regeneration Area (SDRA) as include in the Dublin City Council Development Plan 2016-2022.



Figure 4.2 Residential Land Availability Survey 2014

The application area predominately forms part of a wider regeneration area, SDRA 12, located between the South Circular Road (SCR), Cork Street and Donore Avenue in Dublin 8. It is approximately 2.3km southwest of Dublin city centre and within the canal cordons.

The site is accessed via an entrance between numbers 324 and 330 SCR and 2-storey Victorian era houses line the street to the east and west of the entrance. The site has a secondary access point along its frontage with Rehoboth Place.

The site is irregularly-shaped and contains former industrial premises and hardstanding which is in poor repair. The land included in the application under the ownership of Dublin City Council are undeveloped, greenfield and brownfield in nature.

There are no Protected Structures located on the site, however the roof of the Player Wills factory building (RPS No. 855) is included within the site boundary which has been extended across this area to facilitate drainage infrastructure works required to comply with conditions applied by Irish Water in the confirmation of feasibility received.

The application area includes lands that extend beyond the former Bailey Gibson site to facilitate a public park, playground, a playing pitch and a public road connecting the Bailey Gibson and Player Wills site, public road improvements and connections to municipal services. This area comprises 3.97 hectares and is in the ownership of Dublin City Council.

4.5.2 Bailey Gibson Zoning

The proposed development site is predominantly zoned Z14 Strategic Development and Regeneration Area, and the objective is “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. The purpose of the Z6 zoning is to provide for the creation and protection of enterprise and facilitate opportunities for employment creation.”

A portion of the site to the west is zoned Z1 – Sustainable Residential Neighbourhoods, and Z4 – District Centres. A very small portion of the site to the south east of the former Bailey Gibson site is zoned Z2 - Residential Neighbourhoods (Conservation Areas). The aim of the Z1 zoning Objective is ‘to protect, provide and improve residential amenities.’, the aim of the Z2 zoning Objective is ‘To protect and/or improve the amenities of residential conservation areas.’ and the aim of the Z4 zoning Objective is ‘To provide for and improve mixed-services facilities.’

The uses proposed in this application are all permissible in principle.

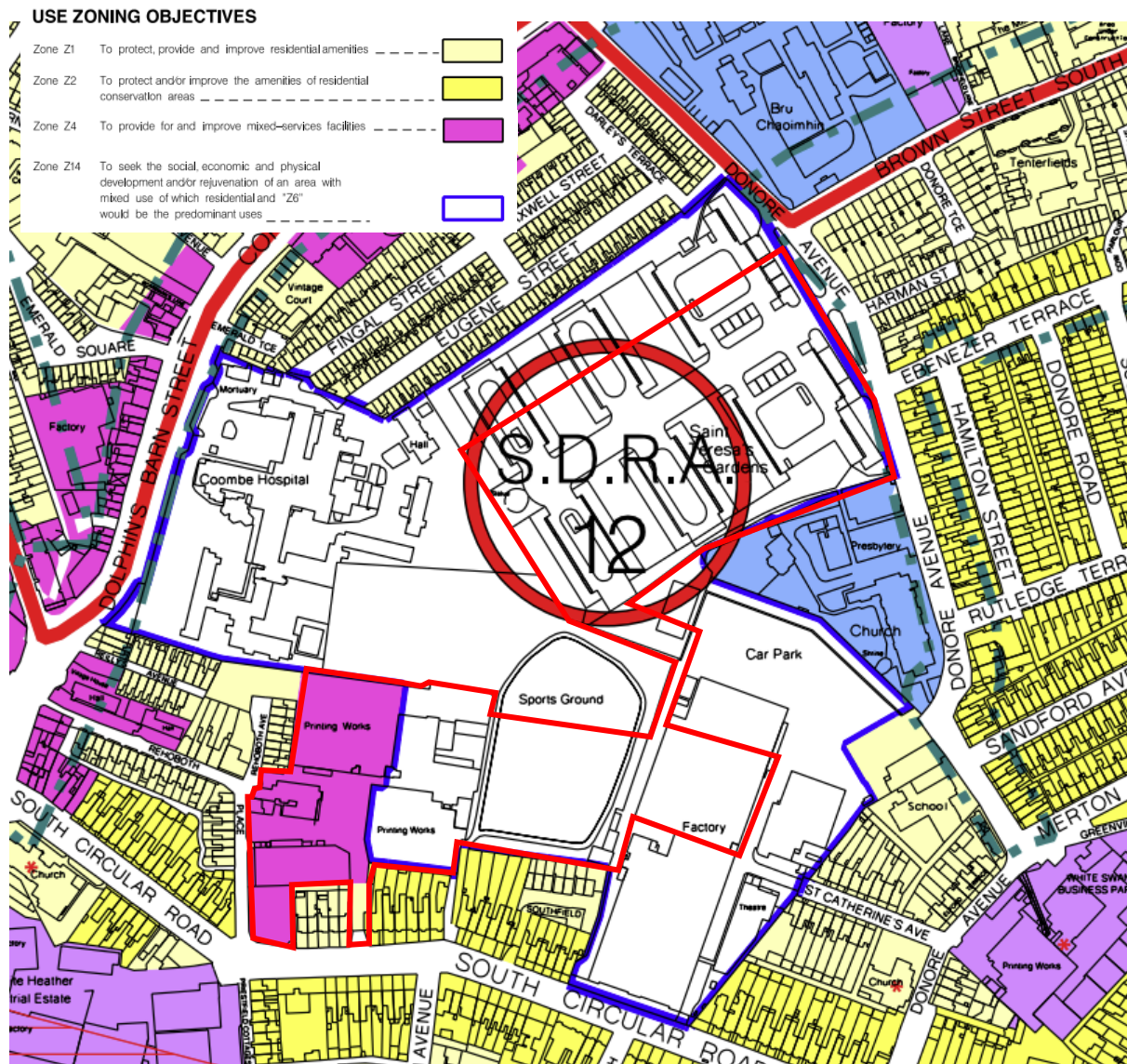


Figure 4.3 Site Zoning

4.5.3 Surrounding Land Uses

The land uses immediately adjacent to the site comprise residential, health and undeveloped lands. Within the immediate wider area is the Player Wills Factory site to the east, St. Teresa's Gardens to the north east, St. Catherine's National School and places of worship.

South Circular Road consists almost exclusively of 2-storey dwellings and Donore Avenue, Maxwell and Eugene St. are predominately residential with some small neighbourhood shops.

Rehoboth Place is a narrow route, connecting the Bailey Gibson site with Dolphin's Barn Street and is occupied by terraces of 2-storey houses.

Dolphins Barn Street/Cork Street (R110) is 120m west of the site. This street acts as a major thoroughfare to the City Centre and is flanked with an eclectic mix of architectural styles with traditional buildings pepper potted with modern development (6-8 storeys). A period of redevelopment between 2003 and 2010 produced some notable new buildings and brought new residents to the street, with large residential schemes such as Timberyard and Southgate. The street is in a state of transition and is now undergoing a second phase of rehabilitation in tandem with the regeneration of neighbouring Newmarket. The Cork Street/ Marrowbone Lane/Donore Avenue junction and environs is a commercial and community hub for Cork Street with a range of retail outlets including a Lidl supermarket, furniture store, pharmacy, Centra convenience store with post office and a café.

Dolphins Barn is approximately 180m to the west of the site and is characterised by a mix of low rise housing and newer apartment buildings ranging from six to eight storeys in height. It supports an array of retail uses including a Tesco Express supermarket, SPAR convenience store, Lowes Bar and Lounge, launderette, pharmacy, funeral service, multiple hair salons, fast food outlets and specialty ethnic grocers (Afro-Caribbean, Bulgarian, Polish and Middle-Eastern). Sensitive Receptors

For the purpose of this chapter, the primary sensitive receptors identified are:

- residential dwellings in surrounding streets; South Circular Road, Rehoboth Place and Avenue, Reilly's Avenue, Donore Avenue and St. Catherine's Avenue.
- Occupants of the Coombe Hospital,
- St. Catherine's National School, and,
- users of the public road network surrounding the site.

4.5.4 Public Transport

The site is located within a 5-minute walk of a numerous high-frequency Dublin Bus & Go-Ahead services along Dolphin's Barn Street/Cork Street, a dedicated Quality Bus Corridor, and the South Circular Road. It is also a 9-minute walk to the Fatima Red line Luas stop.

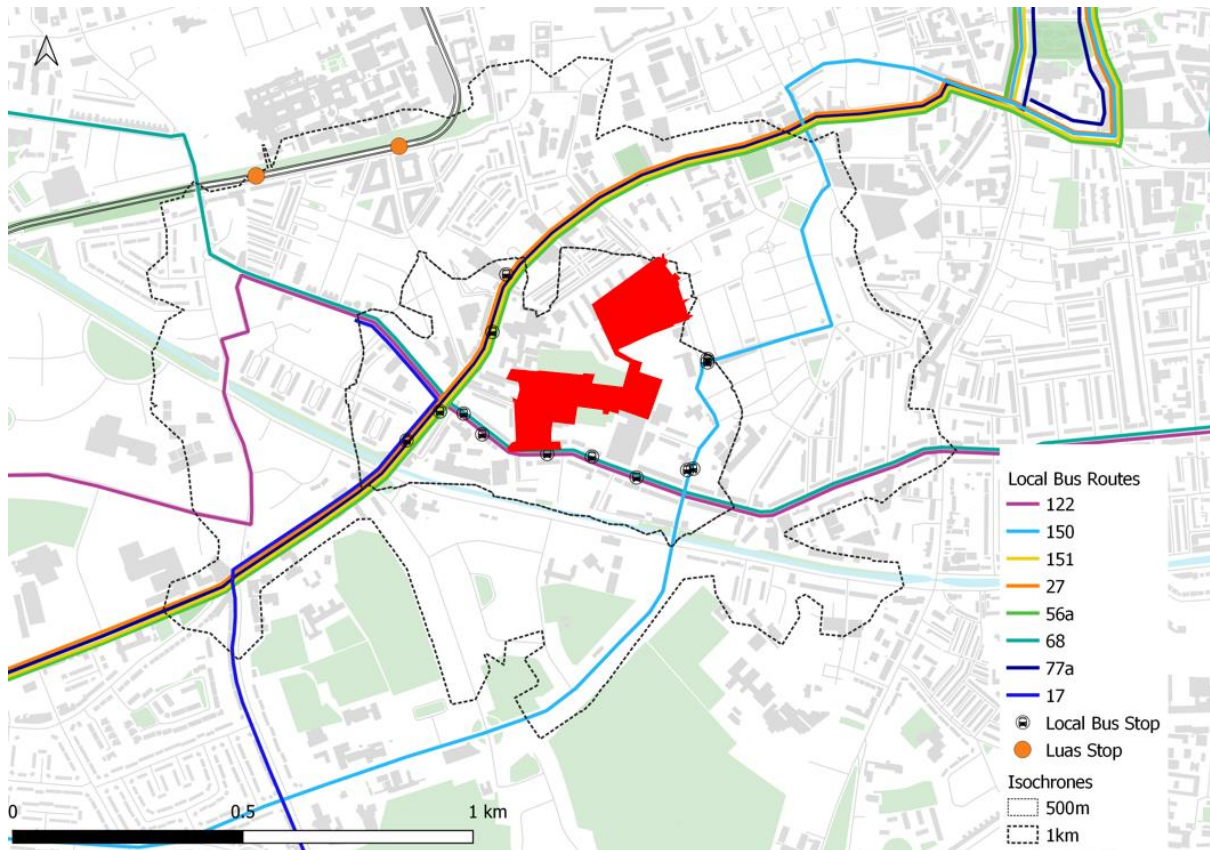


Figure 4.4 Public Transport

The site is also within a convenient walking and cycling distance of the city centre and a number of other large employment centres as well as leisure and retail facilities.

St. James's Hospital, home to the new children's hospital, is within 15 minute walk of the sites, as is Griffith College and the Guinness Store. The city centre is a 25-30 minute walk. Heuston Station, the Phoenix Park and the Royal Hospital Kilmainham are also within a 30 minute walk of the site. In total, there are an estimated 90,000+ jobs within a 30 minute walk of the site.

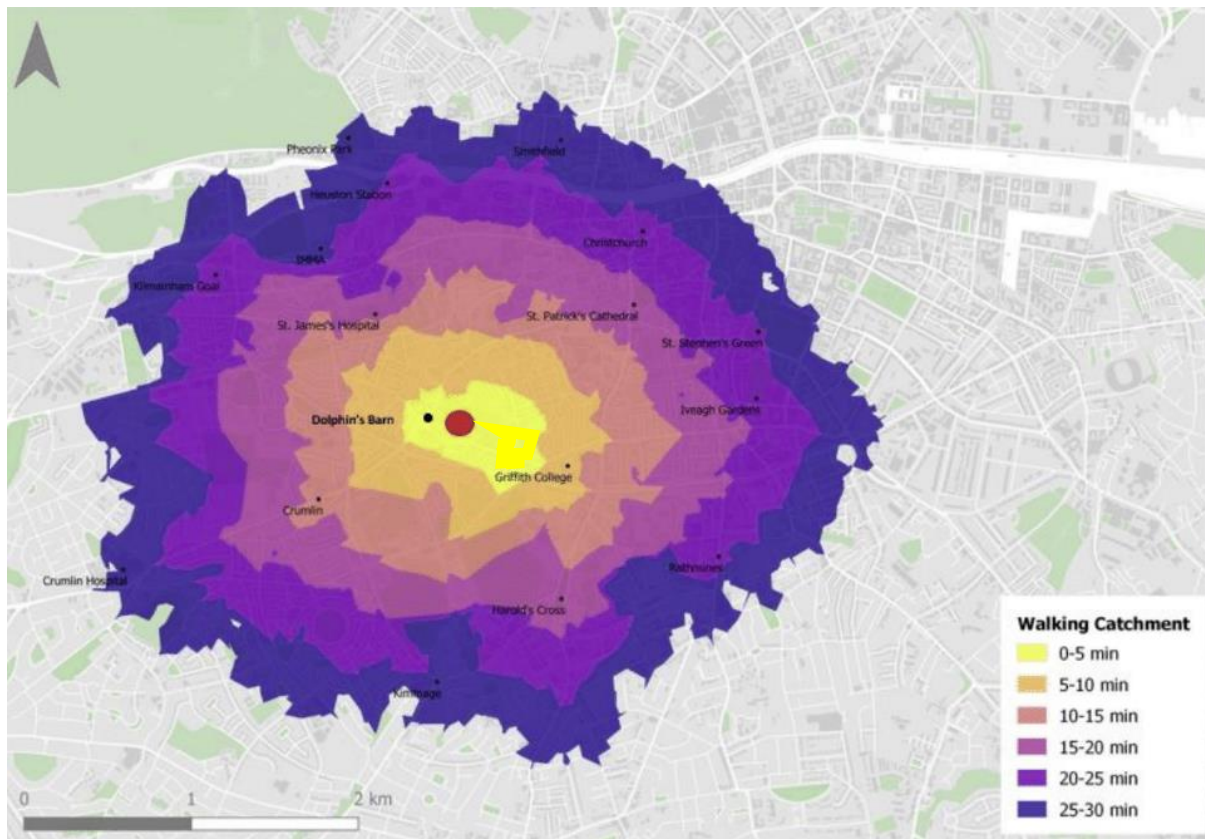


Figure 4.5 Walking Catchment

4.5.5 Air Quality

The air quality in the Dublin area is generally good, with concentrations of the key pollutants generally well below the relevant limit values. However, the EPA have indicated that road transport emissions are contributing to increased levels of NO_2 with the potential for breaches in the annual NO_2 limit value in future years at locations within urban centres and roadside locations. In addition, burning of solid fuels for home heating is contributing to increased levels of particulate matter (PM_{10} and $\text{PM}_{2.5}$). The EPA predict that exceedances in the particulate matter limit values are likely in future years if burning of solid fuels for residential heating continues (EPA, 2021a).

4.5.6 Population

For the purpose of this assessment, Electoral Divisions (EDs) within 1 km of the site have been analysed. There are no guidelines that stipulate the zone of influence of the study area. Professional judgement is used and the rationale for the selection of this radius is based on the need to understand the capacity of the existing housing and employment profile in the local area and the existing social infrastructure available within a c.15 minute walk time, which represents a reasonable distance for people to access services.

There are 21 no. EDs within this zone of influence and the Bailey Gibson site is located in the 'Merchants Quay F' ED, see **Figure 4.6**. The other 20 no. EDs included in the catchment area are; 'Crumlin B'; 'Crumlin C'; 'Crumlin D'; 'Kimmage B'; 'Kimmage C'; 'Merchants Quay B'; 'Merchants Quay C'; 'Merchants Quay D'; 'Merchants Quay E'; 'Rathmines West A';

'Rathmines West F'; 'St Kevin's'; 'Terenure A'; 'Ushers A'; 'Ushers C'; 'Ushers D'; 'Ushers E'; 'Ushers F'; 'Wood Quay A'; and 'Wood Quay B'.



Figure 4.6 Electoral Divisions in the Study Area

According to Census 2016, the population of the study area is 68,945. This represents an increase of 2,743 (or 4.1%) from the 2011 Census. This increase is 1 percentage point below the Dublin City growth which was 5.1% for the same period but higher than the State's growth of 3.8%.

Notably, the ED within which the Player Wills site is located, 'Merchant's Quay F' ED, witnessed a 10% decrease in population between 2011 and 2016.

| ED | 2011 | 2016 | Change | Percentage Change |
|-------------------------|---------------|---------------|--------------|-------------------|
| Crumlin B | 2,953 | 2,968 | 15 | 0.5 |
| Crumlin C | 2,264 | 2,331 | 67 | 3.0 |
| Crumlin D | 3,992 | 4,089 | 97 | 2.5 |
| Kimmage B | 3,485 | 3,572 | 87 | 2.5 |
| Kimmage C | 2,944 | 3,043 | 99 | 3.5 |
| Merchants Quay B | 3,822 | 3,966 | 144 | 3.8 |
| Merchants Quay C | 3,480 | 3,566 | 86 | 2.5 |
| Merchants Quay D | 2,024 | 2,185 | 161 | 8.0 |
| Merchants Quay E | 2,353 | 2,489 | 136 | 5.8 |
| Merchants Quay F | 2,405 | 2,158 | -247 | -10.3 |
| Rathmines West A | 5,013 | 5,461 | 448 | 8.9 |
| Rathmines West F | 2,752 | 2,859 | 102 | 3.9 |
| St. Kevin's | 4,910 | 5,122 | 212 | 4.3 |
| Terenure A | 3,549 | 3,741 | 192 | 5.5 |
| Ushers A | 3,089 | 3,930 | 841 | 27.2 |
| Ushers C | 3,730 | 3,983 | 253 | 6.8 |
| Ushers D | 2,075 | 2,188 | 113 | 5.5 |
| Ushers E | 1,830 | 1,790 | -40 | -2.2 |
| Ushers F | 3,381 | 3,484 | 103 | 3.0 |
| Wood Quay A | 2,669 | 2,606 | -63 | -2.5 |
| Wood Quay B | 3,482 | 3,414 | -68 | -2.0 |
| Total | 66,202 | 68,945 | 2,743 | 4.1 |

Table 4.1 Population 2011 & 2016 and Percentage Change (Source: CSO)

In 2016, the study area had a large proportion of young adults (20–39 years old) at 32,349 or 47% of the total population. In comparison Dublin City had 39% and the same age group makes up 28% of the population of the State.

Older people in the study area (aged 65+ years) totalled 7,397 persons (10.7%) which is low compared to the State's 18.3%.

The average age of those residing in Merchant's Quay F ED was 33 years and the settlement of Dublin city and suburbs had an average age of 37.1 in 2016.

There were 3,478 (5%) children aged 0-4 years i.e. pre-school children in the study area in 2016 this is consistent with Dublin City's 5.5% and lower than the State's 7.6%. Within Merchants Quay F ED the pre-school population is 9.6%.

Within the primary school age category, 5-12 year olds there are 4,019 no. children in the study area, 5.8% of the total population. This is lower than Dublin City where the primary school age category represents 7.8% of the overall population.

Post primary children i.e. 13-18 year olds number 2,733, representing 3.9% of the overall study area. This too is lower than Dublin City where post primary children represent 5.7% of the total population.

| Age Cohorts | Cumulative ED Study Area | |
|--------------|--------------------------|------------------------|
| | Population | Age Cohorts Percentage |
| 0-4 years | 3,478 | 5.0 |
| 5-9 years | 2,669 | 3.9 |
| 10-14 years | 2,161 | 3.1 |
| 15-19 years | 2,517 | 3.7 |
| 20-24 years | 6,390 | 9.3 |
| 25-29 years | 9,833 | 14.3 |
| 30-34 years | 9,097 | 13.2 |
| 35-39 years | 7,029 | 10.2 |
| 40-44 years | 4,851 | 7.0 |
| 45-49 years | 4,047 | 5.9 |
| 50-54 years | 3,387 | 4.9 |
| 55-59 years | 3,256 | 4.7 |
| 60-64 years | 2,699 | 3.9 |
| 65-69 years | 2,310 | 3.4 |
| 70-74 years | 1,721 | 2.5 |
| 75-79 years | 1,371 | 2.0 |
| 80-84 years | 1,091 | 1.6 |
| 85+ years | 904 | 1.3 |
| Total | 68,945 | 100 |

Table 4.2 Breakdown of the Population by Age Cohort (Source: CSO)

4.5.7 Deprivation Index

Figure 4.7 shows the level of affluence and deprivation at ED level, according to the Pobal Haase Relative Deprivation Index. Scores range from -35 (Extremely Disadvantaged) to +35 (Extremely Affluent). The overall score for Dublin City following the 2016 Census was 3.12 and Merchant's Quay F was 5.4, 'Marginally above average'.

Scores for large areas such as Dublin City can mask pockets of extreme affluence or disadvantage in smaller areas. For example, Merchant's Quay D, the ED that abuts Player Wills to the north east has a score of 10.34, which is 'Affluent'. Large areas to the south, south east and northeast of Merchant's Quay F are 'Marginally below average'.



Figure 4.7 Deprivation Index

4.5.8 Households

There are 28,804 households within the study area and 871 no. in Merchant's Quay F ED.

1-2 person households make up a substantial number of households, 66% in the study area and 69% in the Merchants Quay F ED. This is higher than the proportion for Dublin City (60%) and the State (52%). However, it is consistent with demographic trends which indicate that two-thirds of households added to those in Ireland since 1996 comprise 1-2 persons. Despite the substantial rise in 1-2 person households, only 21% of new dwellings completed since that time contain apartments.

| Location | 1-2 Person Households | Total Households | % 1-2 Person Household |
|------------------|-----------------------|------------------|------------------------|
| Merchants Quay F | 605 | 871 | 69% |
| Study Area | 19,141 | 28,804 | 66% |
| Dublin City | 127,639 | 211,747 | 60% |
| State | 886,351 | 1,702,289 | 52% |

Table 4.3 Census 2016, 1-2 Person Households

The Department of Housing, Planning & Local Government Homelessness Report February 2020 identifies that there were 4,550 people rendered homeless in Dublin during the reporting period and 1,178 were families. This figure accounts for 69% of the overall national homeless population.

4.5.9 Housing Delivery

According to the CSO Q4 New Dwelling Completions Report 2019, 21,241 new dwellings have been completed in 2019. For context, the total population and total housing stock for 2011 and 2016 is given in **Table 4.4**. Over 5-years the population in Dublin City has increased by approximately 26,942 (4.9%) people and the housing stock has decreased by approximately 1,125 (0.47%) people.

| | 2011 | 2016 | 5-year change |
|------------------|---------|---------|---------------|
| Total Population | 527,612 | 554,554 | 4.9% |
| Housing Stock | 241,678 | 240,553 | -0.47% |

Table 4.4 Population and Housing in Dublin City (Source: CSO)

The Dublin Housing Observatory provides housing completion statistics for Dublin 8 in 2018 and the total new dwellings was 179.

4.5.10 Tenure

The information presented in this section is derived from Dublin City Council's *Dublin City Local Economic and Community Plan 2016–2021* and the All Island Research Observatory Dublin Housing Observatory (DHO) Mapping Viewer.

Across Dublin City, 51% of the housing stock is owner occupied and 42% is rented either through private landlords or from a public body.

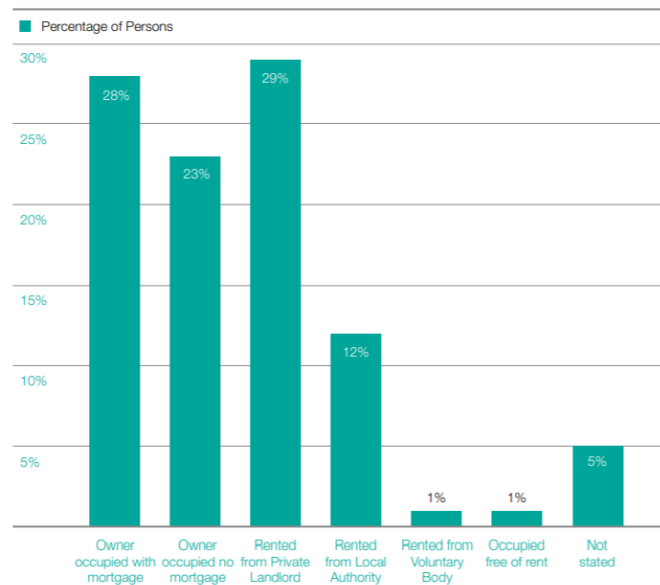


Figure 4.8 Percentage of people according to occupancy type, Dublin City, 2016

4.5.11 Owner Occupancy

In Merchants Quay F ED, owner occupancy is 28.7% and this rises to 37.9% in the small area (268103009) within which the Player Wills site is located. Across the Crumlin-Kimmage Municipal Division, owner occupancy is 41.9%. **Figures 4.9** and **4.10** illustrate that the percentage of homes that are owner occupied increases to the south and south west in the city suburbs and to the north and east, toward the city centre, the percentage decreases.

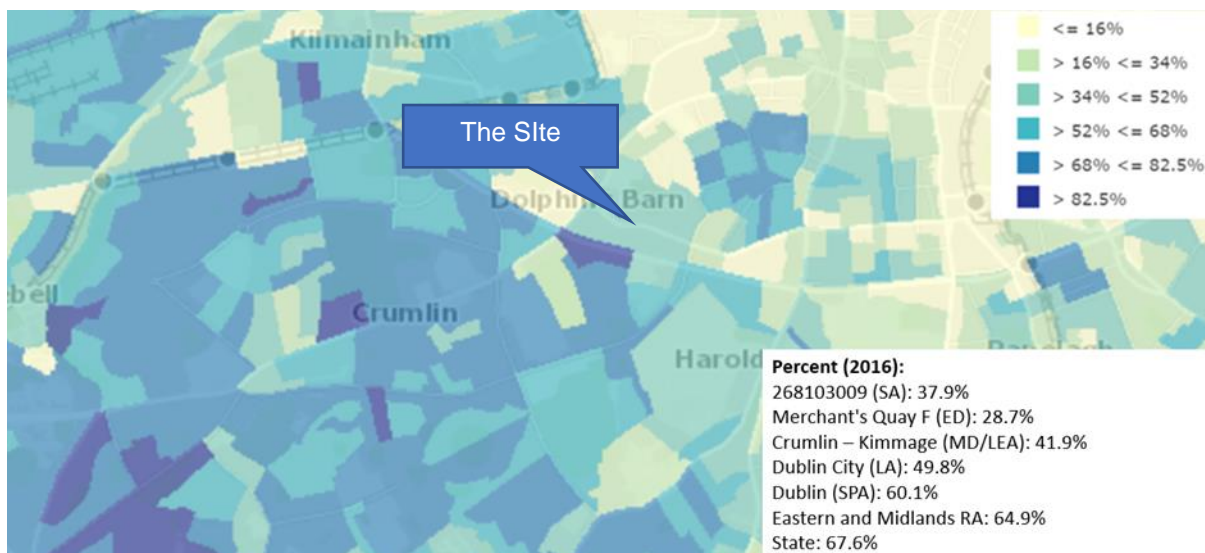


Figure 4.9 Owner Occupancy

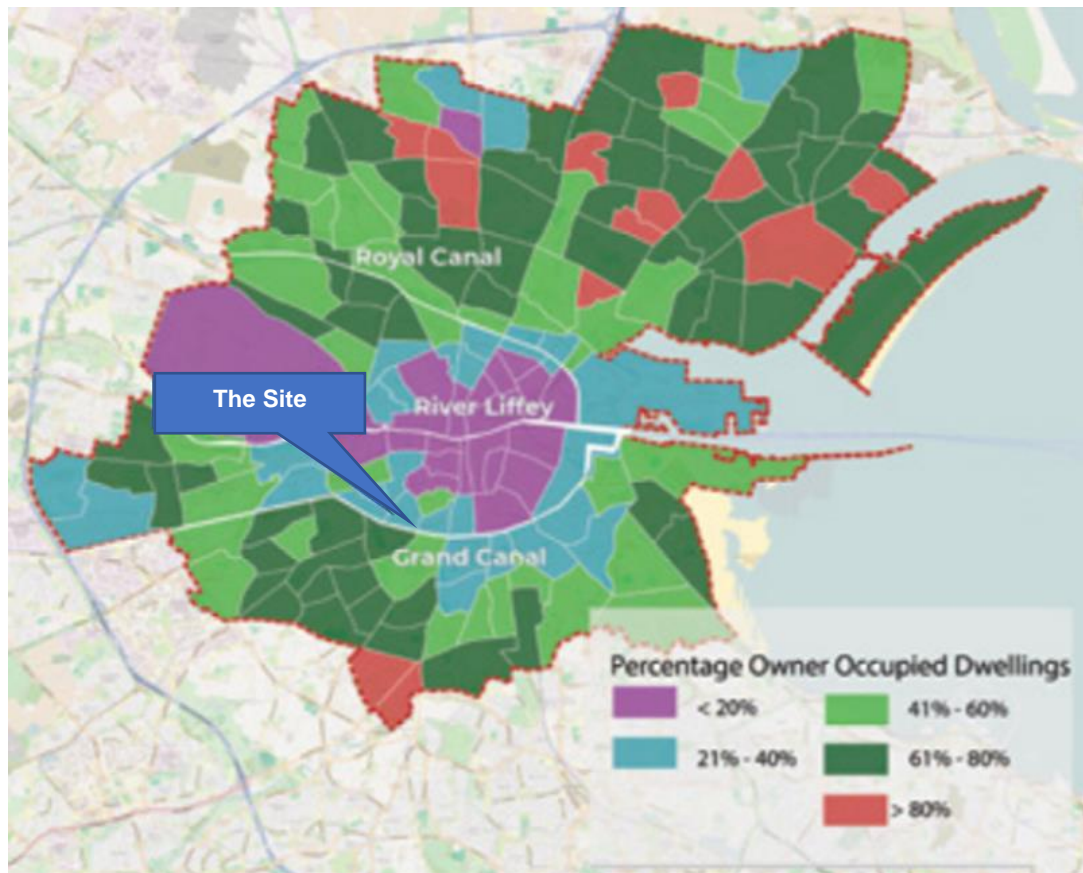


Figure 4.10 People living in owner occupied dwellings, Dublin City, 2016

4.5.12 Private Rented

Within this area of the City, the percentage of private rented dwellings ranges from 41% to 60%. To the south and southwest of the application area the percentage reduces to between 11% and 40%, see **Figure 4.12**.

In Merchants Quay F ED, the percentage of Private Rented households in 2016 was 47.1% and this increased slightly to 49.1% in the small area (2681030009) within which the Player Wills site is located. Across the Crumlin-Kimmage Municipal Division, private rented households account for 32.6%.

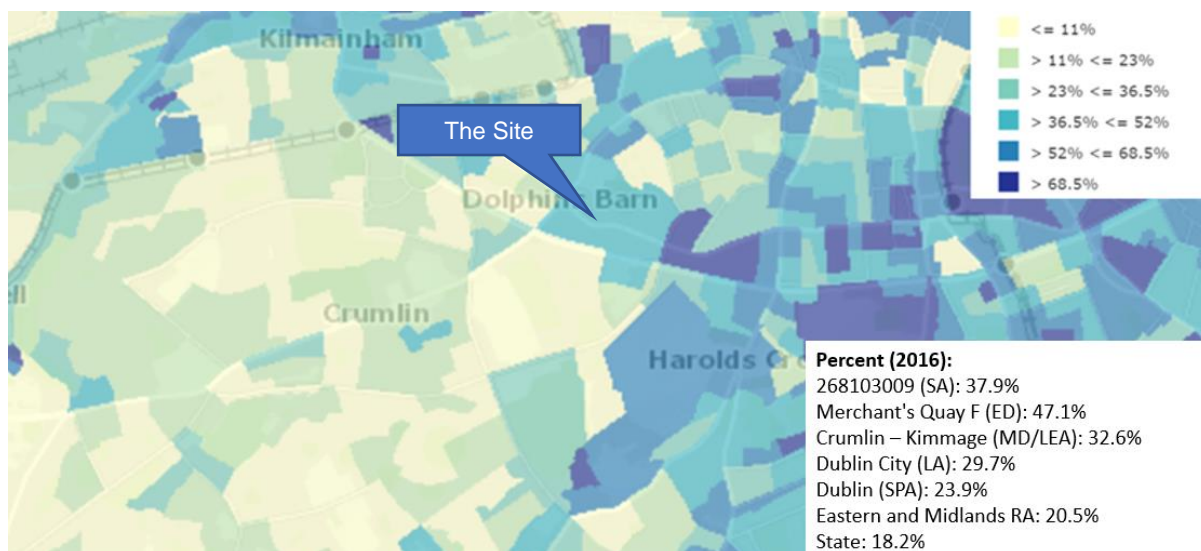


Figure 4.11 Private Rented Households

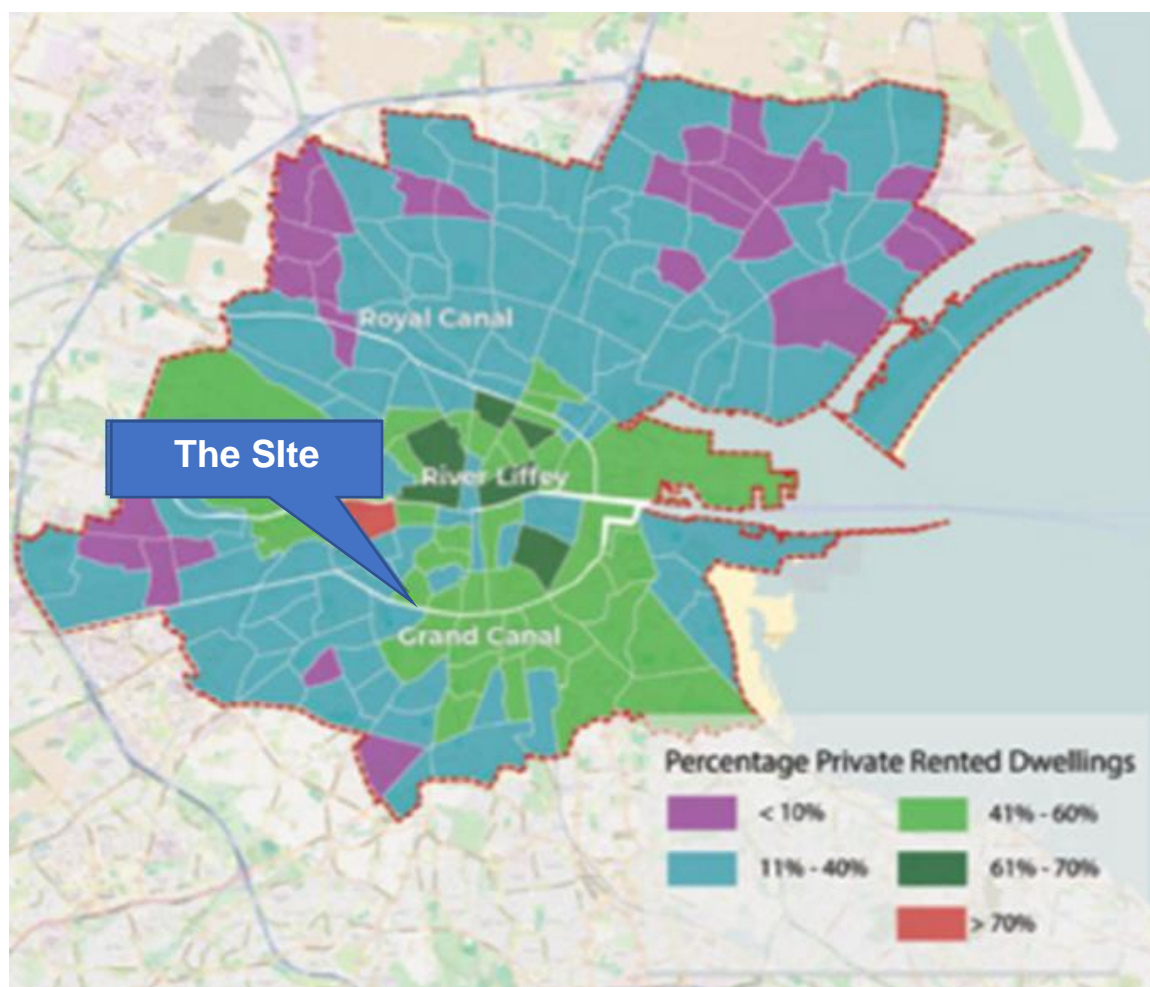


Figure 4.12 People living in private rented dwellings, Dublin City, 2016

4.5.13 Rented from Local Authority/Housing Body

Figure 4.13 illustrates the percentage of dwellings rented from the local authority or a voluntary housing body across Dublin City. The Player Wills site is within an area where 11% to 20% of dwellings are rented, this decreases to the east of the site to below 10%. To the immediate north and east it increases to between 21% and 40% consistent with the location of public housing schemes including St. Teresa's Gardens and Dolphins Barn.

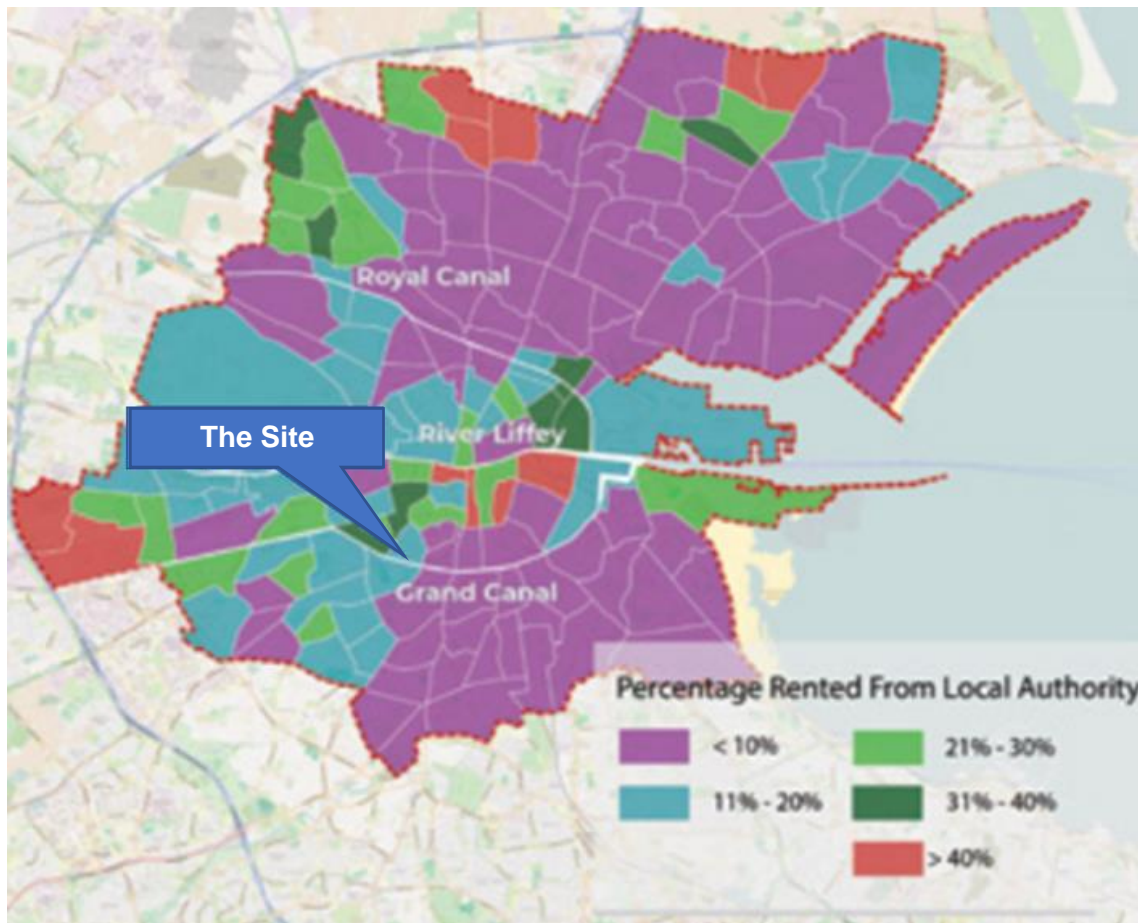


Figure 4.13 People living in dwellings rented from the Local Authority or Voluntary Housing Body, Dublin City, 2016

An examination of the micro level statistics identifies that within the small area, 11.6% of households are rented from the local authority and/or a housing body and within Merchants Quay F ED this increases to 16.9%.

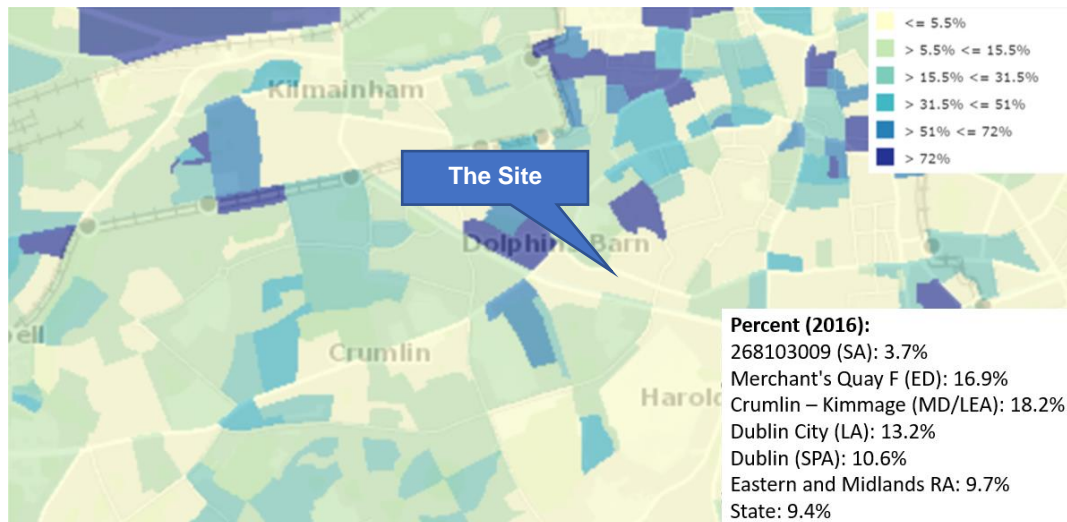


Figure 4.14 Percentage Social Housing Rented, 2016

4.5.14 Employment

At the start of 2022 the State's labour market is still recovering from the Covid-19 Pandemic. The CSOs monthly release issued in February 2022 states;

“the COVID-19 crisis has continued to have an impact on the labour market in Ireland in February 2022. While the standard measure of Monthly Unemployment was 5.2% in February 2022, the COVID-19 Adjusted Measure of Unemployment could indicate a rate of 7.0% if all claimants of the Pandemic Unemployment Payment (PUP) were classified as unemployed. This alternative measure is down from a rate of 7.8% in January 2022 and 27.0% in February 2021.”

Setting the impact of Covid-19 aside as it is too early to accurately determine how it will impact the labour market in the medium to long term, the information presented in this section focusses on relevant data from Census 2016.

Census 2016 is the first census for which data on the 'daytime population' of areas were published. The daytime population includes everybody who indicated they worked or studied in the area, along with persons in that area who do not work or study (and so are there during the day). **Figure 4.15** illustrates work place zones (WPZs) in the study area and it shows that the area immediately surrounding the Player Wills site attracts a significant number of workers reflecting the close proximity of employment opportunities. The data shows that in 2016 there was an estimated daytime population of 1,041 persons in this WPZ and 924 persons at work. The Coombe Women's Hospital is likely to account for a significant proportion of the workers in this location.

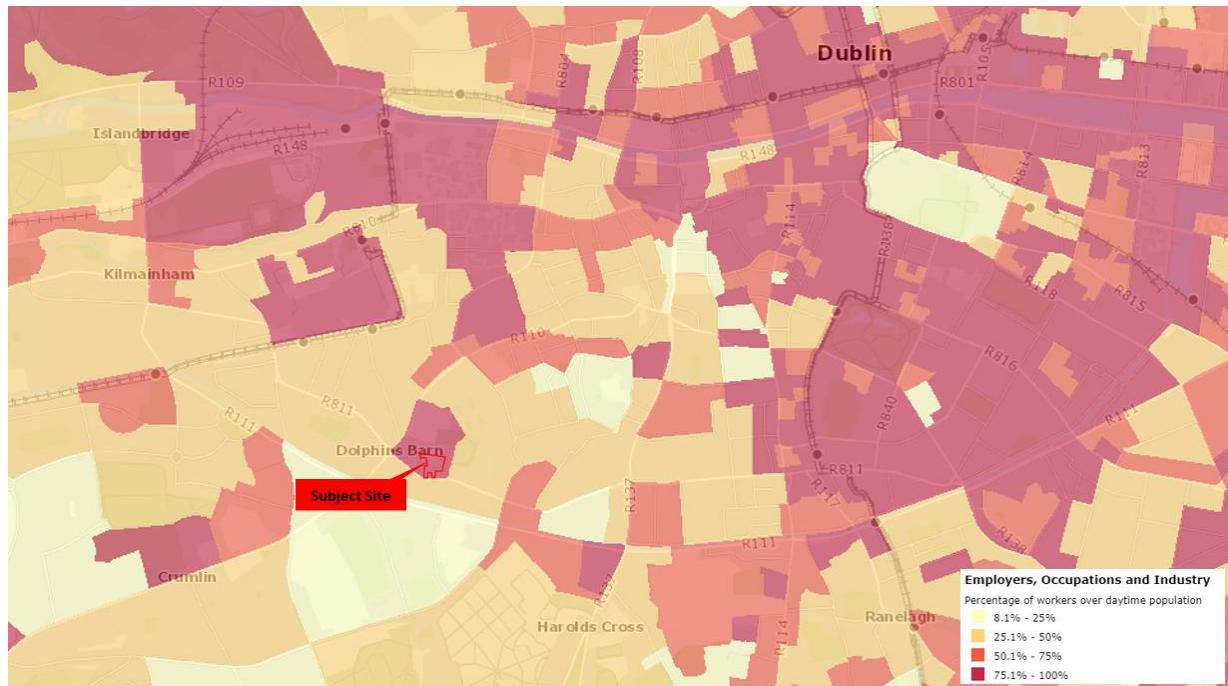


Figure 4.15 Percentage Of Workers Over Daytime Population, CSO 2016

This is further substantiated by commuter flow information (inward commuters less outward) by Electoral Division, see **Figure 4.16**. It illustrates that Merchants Quay F ED is attracting more persons than are travelling outside the area for the purposes of employment and education.

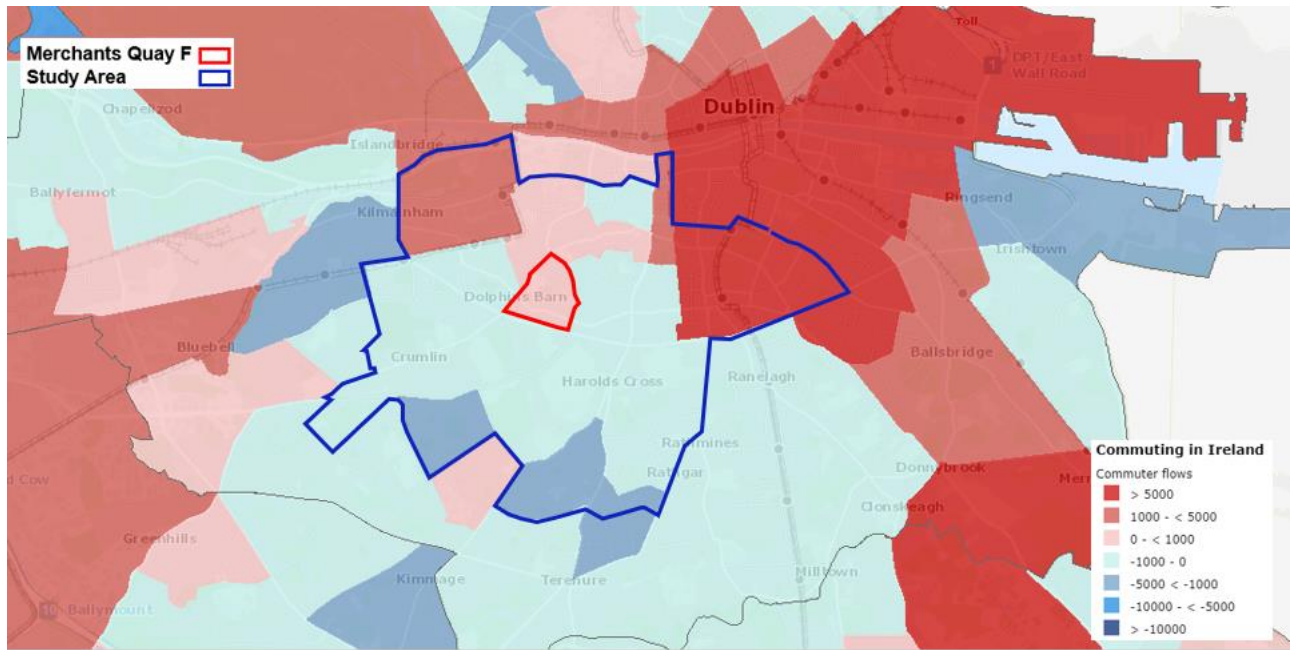


Figure 4.16 Commuter Flows (Inward Commuters Less Outward) By ED, CSO 2016

The number of persons at work coupled with the mapping of commuter flows corresponds with the concentration of jobs in nearby employment centres. The Coombe Hospital and St James's Hospital are located in the study area. To the north and east of the study area, the substantial employment generated in Dublin city centre and Dublin Docklands is reflected by commuter flows to these locations.

The **Traffic and Transport Assessment** prepared by SYSTRA and submitted under separate cover, further highlights the scale of employment opportunities in the vicinity of the Bailey Gibson site. It indicates that there are over 72,000 jobs within a 30 minute walk.

In addition, Section 3.4 of the TTA highlights the number of jobs within a 30 minute cycle of the subject site *"The city centre, TUD Grangegorman, Coombe and St James's Hospitals and Heuston Station are all within a 15-minute cycle of the site. There are an estimated 148,050 jobs within a 15-minute cycle of the site and over 340,000 within a 30-minute cycle."* as shown in **Figure 4.17**.

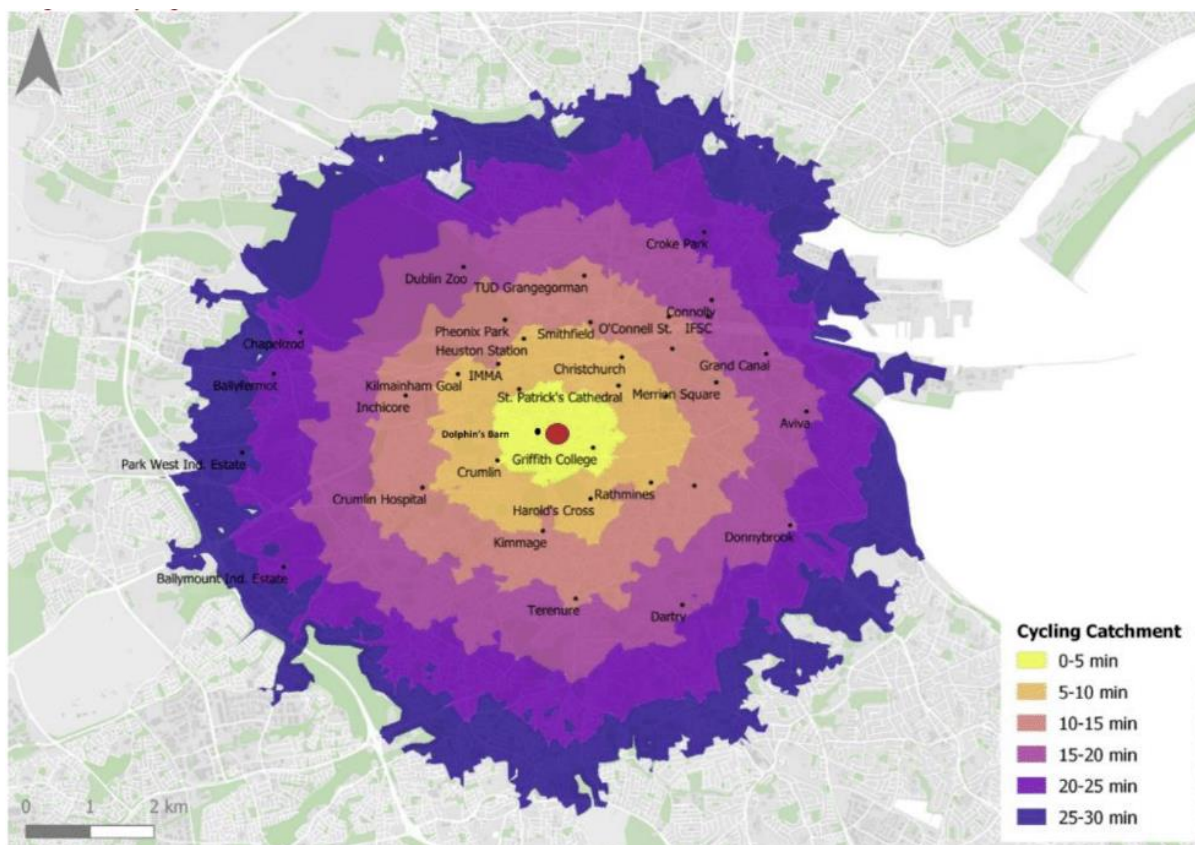


Figure 4.17 Cycling Catchment for the Bailey Gibson Site (Source: SYSTRA TTA)

4.5.15 Social Infrastructure

This application is accompanied by a **Social Infrastructure Audit** and should be read in conjunction with this section. It identifies that Cork Street provides convenience retailing services in this area of the city. Dolphins Barn is approximately 180m to the west of the site and supports a range of retail uses including a Tesco Express supermarket, SPAR convenience store, Lowes Bar and Lounge, launderette, pharmacy, funeral service, multiple hair salons, fast food outlets and specialty ethnic grocers (Afro-Caribbean, Bulgarian, Polish and Middle-Eastern).

The Audit identifies that there is a deficit in local health care service providers e.g. general practitioners, dental clinics and childcare providers and concludes:

There is an evident deficit in childcare facilities in the surrounding study area. The proposed development includes a childcare facility able to accommodate the demand generated by the development and serve the existing community.

The area is well served by public transport and bike share schemes. It is recommended that adequate supply of bicycle parking is integrated into the proposed development for residents to avail of the bike share schemes.

There appears to be a deficit in local health care service providers e.g. dental services and pharmacies. The proposed commercial floor area may be suitable for such uses.

Cork Street is the convenience retailing centre and as such this should not be undermined. Therefore, any retail land-use should be confined to local neighbourhood shops.

Provision exists within the SDRA 12 Framework for the expansion of St. Catherine's National School, and for the development of a large public open space area to include 20% of the Framework Area which is included in the proposed development (Players Park).

4.5.15.1 Education

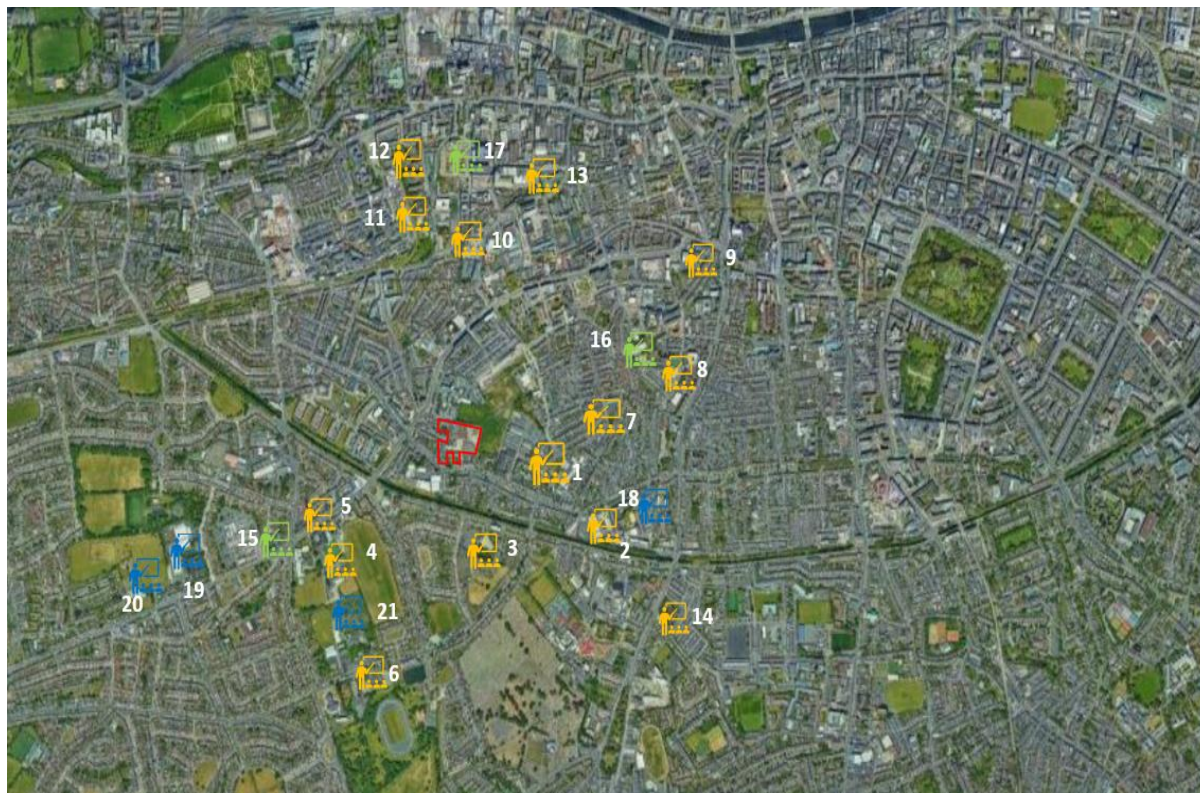


Figure 4.18 Schools in Study Area

The catchment area contains 14 no. primary and 3 no. secondary schools within approximately 15-minute walk (1 km) from the proposed development site. There are also 4 no. third level institutions located within Dublin City centre. **Figure 4.18** shows the numbered location of the primary schools, secondary schools, and the third level institutions. **Table 4.5** shows the name of all schools and the approximate number of students (for primary and secondary schools only) attending.

| No. | Educational Establishment | Location | Student Enrolment 2021/2022 |
|-----|-------------------------------------|--|-----------------------------|
| | <u>Primary School</u> | | |
| 1 | St. Catherine's National School | Donore Avenue, Dublin 8 | 202 |
| 2 | Griffith Barracks School | South Circular Road, Dublin 8 | 361 |
| 3 | Scoil Iosagain | Crumlin Road, Dublin 12 | 81 |
| 4 | Scoil Mhuire Ogi | Crumlin Road, Dublin 12 | 216 |
| 5 | Loreto Primary School | Crumlin Road, Dublin 12 | 193 |
| 6 | Marist National School | Clogher Road, Crumlin, Dublin 12 | 239 |
| 7 | Scoil Treasa Naofa | Petrie Road, Merchant's Quay | 180 |
| 8 | Presentation Primary School | Clarence Managan road, Warrenmount, Dublin 8 | 122 |
| 9 | St. Brigid's Primary School | The Coombe, The Liberties, Dublin | 249 |
| 10 | Canal Way Educate Together | Basin Lane, James Street, Dublin | 380 |
| 11 | St. James Primary School | Basin View, Ushers, Dublin | 260 |
| 12 | Mater Dei National School | Basin Lane, James Street, Dublin | 176 |
| 13 | St. Catherine's Primary School | Crane Street, Ushers, Dublin | 202 |
| 14 | St. Clare's Convent National School | Harold's Cross, Rathmines | 214 |
| | <u>Post-Primary</u> | | |
| 14 | Loreto College | Crumlin Road, Crumlin, Dublin 12 | 381 |
| 15 | Presentation Secondary School | Clarence Managan Road, Warrenmount | 131 |
| 16 | Christian Brothers Secondary School | Basin View, Ushers, Dublin | 163 |
| | <u>Third Level</u> | | |
| 18 | Griffith College | South Circular Road, Dublin 8 | |
| 19 | Pearse College | Crumlin Road, Dublin 8 | |
| 20 | Pearse College | Crumlin Road, Dublin 8 | |
| 21 | St. Kevin's College | Clogher, Dublin 12 | |

Table 4.5 Schools in Study Area

4.5.15.2 Health Services

St. James's Hospital is located approximately 1.5 km northwest of the subject site and Our Lady's Hospice is located approximately 1.3 km southeast of the subject site. The Coombe Women's Maternity Hospital adjoins the subject site and is located just 0.3 km to the north. There are also 12 no. general practitioners within the study area (See **Figure 4.19** and **Table 4.6**).

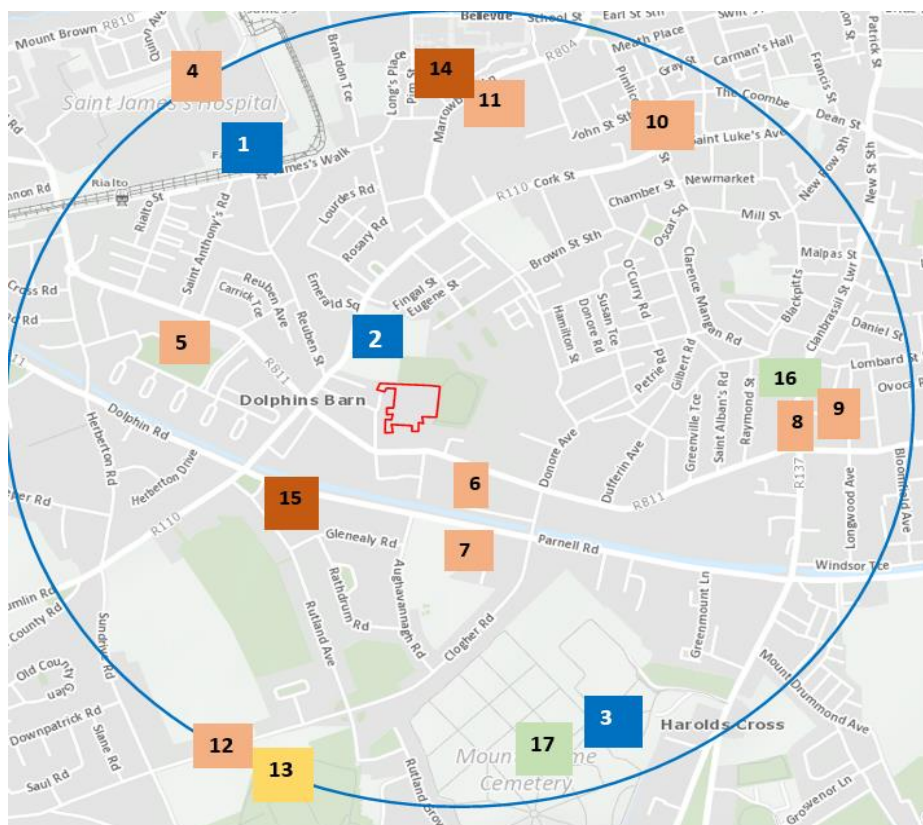


Figure 4.19 Healthcare Facilities in Study Area

| No. | Hospital |
|-----|---|
| 1 | St. James Hospital |
| 2 | Coombe Maternity Hospital |
| 3 | Our Lady's Hospice |
| No. | General Practice |
| 4 | St. James Medical Centre |
| 5 | Rialto Medical Centre |
| 6 | Dr. O'Flynn Family Practice |
| 7 | Dr. Andrew Low- Family Practice |
| 8 | Eldon Family Practice |
| 9 | South Circular Road Surgery |
| 10 | Dr. James O'Neill Family Practice |
| 11 | Thomas Court Primary Care Family Practice |
| 12 | Dr. Catherine King Family Practice |

Table 4.6 Medical Facilities in Study Area

4.5.15.3 Community and Amenity Services

The nearest park is Weaver Park, located approximately 1km (12-minute walk time) northeast of the subject site and Eamonn Ceannt Park & Playground approximately 1.2 km (16-minute walk time). The Grand Canal is less than 100m south of the Bailey Gibson site

There are many sports clubs in the study area including Synge Street, Templeogue approximately 0.75 km and Clogher Road. Sports Centre approximately 1.2 km south of the site, and Donore Boxing Club approximately 1 km North of the site. The sports and recreation facilities are shown in **Figure 4.20** and **Table 4.7**.



Figure 4.20 Sports and Recreational Facilities in Study Area

| No. | Facility |
|-----|-------------------------------|
| 1 | Synge St. Templeogue GAA |
| 2 | St. Teresa's Football Club |
| 3 | St. Catherine's Sports Centre |
| 4 | Donore Boxing Club |
| 5 | National Stadium |
| 6 | Clogher Road Sports Centre |
| 7 | Eamonn Ceannt Playground |

| No. | Facility |
|-----|------------------------------------|
| 8 | Harold's Cross Park and Playground |
| 9 | Pearse College Allotments |
| 10 | Weaver Park |
| 11 | Weaver Square Community Gardens |
| 12 | Pimlico Allotments |
| 13 | Pimlico Playground |
| 14 | Flanagan's Fields Community Garden |
| 15 | Grand Canal |

Table 4.7 Sports and Recreational Facilities in Study Area

There are 4 no. Youth and Community services within the study area, shown in **Figure 4.21**. These include (1) Donore Youth and Community Centre approximately 200m north-east, (2) Rialto Youth Project approximately 500m north-west, (3) Clay Youth Project approximately 400m m west, and (4) Fr. Lar Redmond Community Centre approximately 800m west.

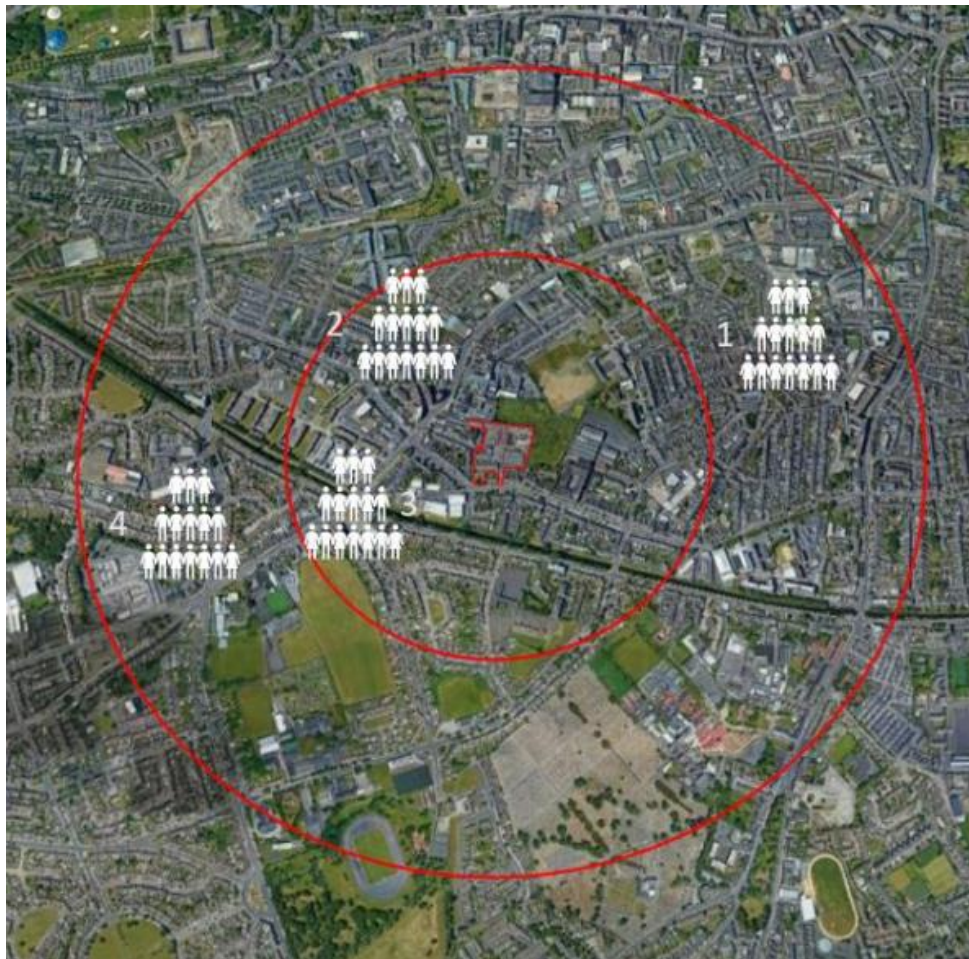


Figure 4.21 - Youth and Community Facilities in Study Area

4.6 Do Nothing Scenario

4.6.1 Actual Do Nothing

If the proposed development is not realised, it is anticipated that in the short to medium term the Bailey Gibson site would remain a vacant brownfield site. Without developments such as this, the existing unsustainable urban sprawl and affordability issues will continue with associated negative effects on population and human health.

Vacant sites have adverse effects on the character of an area resulting in urban blight and decay. Anti-social behaviour is often associated with vacant sites and this would have a significant negative effect on the local population.

It is noted that the site is within a designated regenerated area in the Dublin City Development Plan and so it is a statutory objective to achieve its redevelopment, and as such will be developed in a similar manner to this proposal in the future. The effects of any other type of development are predicted to be consistent with those outlined in the impact section below.

4.6.2 Do Nothing – Implement Extant Permission

In September 2020, An Bord Pleanála granted permission (Ref. ABP-307221-20) for a Build to Rent development at the Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8. The permission is for;

- i. **Demolition** - The demolition of all buildings and structures on site including the demolition of 9 buildings comprising of a gross floor area of 11,234.42 square metres and the demolition of an ESB substation (21 square metres) to facilitate the following on site.
- ii. **Residential Accommodation** - The construction of 416 residential units set out in five blocks together with 812 sq.m of tenant amenities. The proposed development is summarised in more detail below.
 - a. Block No. 1 (BG1) is centrally located in the northern portion of the site. It is configured in an inverted “C shape” overlooking a central courtyard of open space which is located to the immediate west of the rear gardens of the dwellings on Rehoboth Avenue. Block 1 ranges in height from 3 to 11 storeys, providing a total of 161 residential units, accommodating the following: 4 studio apartments, 132 one-bed apartments, 9 two-bed apartments and 6 three-bed apartments.
 - b. Block No. 2 (BG2) is located in the north-eastern corner of the site. It lies above the entrance to the basement level car parking area. The central courtyard in the centre of the block provides access to the basement car parking and bicycle parking area. A number of surface car parking spaces (GoCar – 10 spaces) are provided at ground floor level within the car park. This block ranges from two-storeys to 16 storeys, providing a total of 160 units, accommodating the following: 74 one-bedroomed apartments and 76 two-bedroomed apartments
 - c. Block No. 3 (BG3) is located in the south-eastern quadrant of the site to the rear of Nos. 314 to 325 South Circular Road. The building ranges from 3 to 5 storeys in height and accommodates 52 units as follows: 5 studio units, 30 one-bedroomed apartments, 15 two-bedroomed apartments, 2 no. two-bed duplex apartments.
 - d. Block No. 4 (BG4) is located in the south-west corner of the site to the immediate rear of House Nos. 330 to 338 South Circular Road. It ranges from 3 to 4 storeys in height

with the 3- storey element located on the western side of No. 338 South Circular Road. It accommodates 49 units as follows: 15 one-bedroomed apartments and 34 two-bedroomed apartments.

- e. Block No. 5 (BG5) is located in the north-western corner of the site on the western side of Rehoboth Avenue and comprises 4 no. four-bed townhouses facing eastwards towards the main development. One off-street car parking space per unit is provided. These townhouses are three storeys in height.

iii. **Communal Open Space:** A total of 2,618 square metres of communal space is provided in the form of courtyards and roof terraces is distributed throughout the scheme.

iv. **Non-residential Accommodation** is as follows:

- a. A creche at ground floor level in BG1 with a gross floor area of 233 square metres.
- b. A retail/community space/office area (intended to facilitate classes of use as per Article 10 of the Planning and Development Regulations including Class 1, 2, 8, 10 and 11) at the southern end of BG1 adjacent to the creche facility.

The development includes 140 car parking spaces with 106 of these at basement level. Bicycle parking includes 543 long term spaces and 84 short term (visitor) spaces.

The application was accompanied by a Environmental Impact Assessment Report (EIAR) and the Board's Order under the section titled Reasoned Conclusions on the Significant Effects, identifies the main significant direct and indirect effects of the proposed development on the environment as follows;

- i. Population and Human Health: Significant direct positive effects with regard to population due to the increase in the housing stock and economic activity. The extant permission provides for the delivery 416 units on the Bailey Gibson site, including 41 social and affordable houses. The effect of delivering new homes is significantly positive for population and human health both locally and in the context of the wider city, as much needed new homes would be delivered with consequent benefits for climate, air quality, health etc. as people would live within close proximity to employment opportunities, daily services etc. that could be accessed by public transport/active travel modes. When compared with Actual Do Nothing Scenario presented above, the effect is significantly positive.
- ii. Landscape and Visual Amenity: The extant permission ranges from 2-16 storeys in height and the increased scale is concentrated toward the centre of the Bailey Gibson site with a tapering down toward the site's boundaries. The Board concluded that significant direct positive effects with regard to landscape and visual amenity would occur. When compared with Actual Do Nothing Scenario presented above, the effect is significantly positive.
- iii. Archaeological impacts which will be mitigated by archaeological monitoring of ground disturbance works. When compared with Actual Do Nothing Scenario above, the effect is neutral as it is likely that ground disturbance would be required at some stage in the future having regard to the site's zoning designation.
- iv. Air quality impacts which will be mitigated by dust minimisation measures during the construction phase. Traffic and Transportation impacts which will be mitigated by the

management of construction traffic, urban realm improvement works and the modest provision of car parking within the scheme. The Board note the recommendation of Transport Infrastructure Ireland for zero car parking, but are satisfied that it is appropriate that the potential impact of car ownership of future residents of the development, should be mitigated by the provision of a quantum of on-site car parking rather than overspill into the surrounding streets. In comparison, the Actual Do Nothing would not generate construction or operational traffic and so air quality impacts would not occur. However, it would not achieve the benefits that would occur under this scenario which presents a significant opportunity for less reliance on cars.

- v. Noise and Vibration: Noise and vibration impacts which will be mitigated by adherence to requirements of relevant codes of practice, proactive community relations, and noise control techniques. In comparison, the Actual Do Nothing would not generate construction noise, however this is short term in duration under this scenario and deemed not significant. .
- vi. Built Heritage: Positive impact with any adverse impact mitigated by design. In comparison, the Actual Do Nothing would put at risk the architectural features of merit in the Bailey Gibson site.
- vii. Material Assets-Services impacts which will be mitigated by consultation with relevant service providers, a final Construction Management Plan and a Traffic Management Plan to be implemented, and service disruptions kept to a minimum. Resource and Waste Management impacts which will be mitigated by preparation of a site-specific Construction and Demolition Waste Management Plan.

The Order identifies that the Board concluded in their EIA that the proposed development would not be likely to have significant adverse effects on;

- i. human health,
- ii. biodiversity,
- iii. land and soil, climate,
- iv. micro-climate,
- v. material assets and
- vi. archaeological, architectural and cultural heritage.

The proposed development was determined not likely to increase the risk of natural disaster.

4.7 Difficulties Encountered

The National Planning Framework (NPF) has explicit objectives to achieve more consistent and explicit methodologies to deal with housing need forecasting. In relation to housing need forecasting it states that projecting housing requirements more accurately into the future will be enabled by the preparation of a 'Housing Need Demand Assessment' for each local authority area. To date, this is not available for the Dublin City Council administrative area.

The CSOs New Dwelling Completions is reported nationally and data sets are not available at Local Authority level, this prohibits accurate analysis of new dwellings in the study area.

4.8 Impact Assessment

This section describes the environmental effects that are likely to arise during the construction and operation of the proposed development. **Section 4.9** sets out the mitigation measures required to alleviate identified effects.

Potential Impacts are considered under the following headings in line with the Guidelines set out in section 4.3:

- Land use
- Population
- Employment and Economics
- Health
- Residential Amenity
- Local Amenity Impacts

Specific effects with respect to matters such as air quality, noise, traffic, visual impact etc. are dealt with in the respective assessments in this EIAR.

4.8.1 Construction Phase

The potential impacts of the proposal during the construction phase of the development are outlined below.

4.8.1.1 Land Use

Demolition of the existing dilapidated vacant warehousing and replacement with architecturally designed high quality residential buildings together with open space and enhanced permeability will have a **likely significant permanent positive effect** on the **local** townscape and existing surrounding residents as the redevelopment would connect with local neighbourhoods with lively and useable spaces.

The proposed development complies with the statutory land use zoning. There will be no severance of land, loss of rights of way or amenities as a result of the proposed development. Development of the subject site is aligned with the objective to achieve compact growth contained within the National Planning Framework and will realise the efficient use of currently-underutilised brownfield land with higher housing density that is well served by public transport. The impact is **likely** and will have a **permanent significant positive effect** that will achieve **local and wider** county, regional and national objectives.

4.8.1.2 Population

It is estimated that during peak construction there will be approximately 150-200 people employed. It is not anticipated that this will generate a temporary increase in population locally as employees will travel to the site from their existing place of residence. The likely impact on population is thus neutral.

4.8.1.3 Employment & Economics

A key characteristic of the proposed development in terms of its potential economic impact relates to its capital value, of which a significant portion will be for the purchase of Irish sourced goods and services. The construction phase will provide a boost for the local construction sector in terms of employment generation and capital spend on materials and construction labour costs. It is expected that during peak activities, approximately 150-200 people will be working directly on the construction site. The staff will comprise of managerial, technical, skilled and unskilled workers. As far as practicable local labour will be employed.

In addition to direct employment, there will be substantial off-site employment and economic activity associated with the supply of construction materials and provision of services such as professional firms supplying financial, architectural, engineering, legal and a range of other professional services to the project. The impact of the construction phase will at least extend to the eastern region in terms of the requirement for labour, goods and services. The effect is **likely** and will be **significantly positive** in the **short-term**.

The daytime increase in working population is likely to have a **slight-moderate positive effect** on local retail service providers in the **short-term**, as expenditure on convenience goods will increase.

4.8.1.4 Health

Construction sites pose potential risks to the health and safety of workers and the public. Unauthorised access would be considered trespassing on private property. In the absence of mitigation, the effect would be **likely, negative** with an effect that might range from **slight** to **profound** depending on the magnitude of the incident.

Asbestos containing materials (ACMs) have been identified on site. The ACM's are contained in large structural areas such as the roof, external cement panels, asbestos cement shutters casings, corrugated sheeting, cement flue pipes, insulation boards along with other building fabrics. Further details are contained in the **Section 3.2.7** of the Construction and Environmental Management Plan that accompanies this application under separate cover. The risk associated with exposure to asbestos relates to the possibility that the fibres within the ACMs become released into the air and are then inhaled. Breathing in air containing asbestos fibres can lead to asbestos-related diseases. It is noted that as long as asbestos is in good condition and there is no disturbance or damage to the ACM, it will not pose a risk to health as fibres will not be released. In addition, the Health and Safety Plan to be issued by the contractor to all employees on site will clearly state that asbestos is present within some of the materials on the buildings which are to be demolished to make way for the proposed development. The Contractor will engage a competent ACM specialist contractor who will complete the removal of all ACM for transport to an approved disposal facility. All ACM works will be in adherence to current Asbestos Legislation, CoP Guidelines and HSA notification. In the absence of mitigation, the anticipated effect is **neutral** if undisturbed to **negative** with **significant effect** if not in good condition.

The wider potential for effects on health during the construction phase are dealt with in this EIAR under the more specific topics of the environmental media by which they might be caused including air, traffic and noise.

4.8.1.5 Residential Amenity

Construction works, and emergence of taller structures such as cranes will be seen in the context of existing views and development occurring in the wider area. Many of these are significant developments, which will have the effect of backgrounding and contextualising the proposed works. The anticipated effect is **local** and of **temporary** to **short-term** duration with a **neutral** and **slight** significance.

Works to the public road will require a road-opening licence and temporary closures. The impact of these works is **neutral**, **not significant** and **temporary**.

Specific potential for effects on residential amenities during the construction phase are dealt with in this EIAR under the more specific topics of the environmental media by which they might be caused including air, traffic and noise.

4.8.2 Operational Phase

4.8.2.1 Land Use

The proposed development complies with the statutory land use zoning, all use classes proposed are permissible in principle.

The National Planning Framework (NPF) indicates that an increased housing output will be required between 2018 and 2040 to deal with a deficit that has built up since 2010. To meet projected population and economic growth as well as increased household formation, the NPF states that an annual housing output of 30,000 to 35,000 homes per annum in the years to 2027 will be needed. The long term target is for 25,000 homes to be constructed annually to 2040. Rebuilding Ireland, Action Plan for Housing and Homelessness targets the delivery of 47,000 social housing units to 2021. To achieve the objective of compact growth, 40% of future housing delivery is to be delivered within and close to the existing footprint of built-up areas. The subject development will deliver 732 no. residential units to the market of which 240 no. will be shared accommodation and 49 no. will be Part V on a brownfield site proximate to Dublin city centre and thus will contribute to the targets above. The anticipated effect of a high-density mixed-use development at this location for the city is **positive**, **significant** and of **permanent** duration as it would realise the objectives of urban consolidation through the efficient use of a zoned and serviced landbank to provide *inter alia* much needed housing together with high-quality amenities for future occupants.

The Social Infrastructure Audit undertaken to inform the non-residential land uses proposed identified a deficit in childcare and community scale health providers such as GPs and dental practices. Accordingly, a creche is included in the subject proposal. The childcare facility is capable of accommodating all the childcare needs (see **Childcare Demand Report** included with this application under separate cover) of future occupants together with the needs of the wider area. While the commercial floor area will accommodate small scale retail, food and beverage with the balance available for a range of use classes including *inter alia* Class 2 which provides for professional services and Class 8, health services. Locally, the non-residential land uses will have a **moderate positive** effect with a **permanent** duration.

4.8.2.2 Population

A breakdown of the proposed units is set out below, applying a future occupancy of 1 per shared accommodation private living area and studio, 2 per 1-bed and the national household average of 2.75 to all other units the anticipated future population is 761. This increase in population will contribute positively to the long-held regeneration objectives for SDRA 12, St. Teresa's Gardens and Environs.

| Building Ref. | Studio | 1 Bed Apartment | 2 Bed Apartment | 3 Bed Apartment | 2 Bed Duplex Apartments | 3 Bed Triplex Apartment | 4 Bed House | Total |
|-----------------------------|-----------|-----------------|-----------------|-----------------|-------------------------|-------------------------|-------------|------------|
| BG1 | 28 | 108 | 8 | 4 | 0 | 5 | 0 | 151 |
| BG2 | 0 | 44 | 45 | 0 | 0 | 0 | 0 | 89 |
| BG3 | 5 | 30 | 15 | 0 | 2 | 0 | 0 | 52 |
| BG4 | 0 | 15 | 34 | 3 | 0 | 0 | 0 | 49 |
| BG5 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 |
| Total Units | 33 | 197 | 102 | 7 | 2 | 5 | 4 | 345 |
| Occupancy | 1 | 2 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | |
| Projected Population | 33 | 394 | 281 | 19 | 6 | 14 | 14 | 761 |

Table 4.8 Unit Mix & Projected Population

The **Childcare Demand Report** that accompanies this application estimates that the proposed development will generate a requirement for 11 no. childcare spaces, and all will be accommodated on site.

As outlined above, the proposed creche is oversized and will provide places for 69 no. children above the estimated generated demand and so there will be a **significantly positive** effect for the existing population as more childcare spaces are made available in the Dublin 8 area.

Based on 2016 Census data, the study area would generate 53 no. primary school children, if the Dublin City value is applied this could increase to 70 no. children. The regeneration of St. Teresa's Gardens and Environs is a long-held objective for City Council and the criteria used by the Department of Education and Skills in planning for the delivery of schools includes *inter alia* demographic demand. It is noted that there are 14 no. existing schools within the 1km catchment area and a site within the Applicant's control on the Player Wills site, east of the Bailey Gibson site, is reserved for the future expansion of St. Catherine's National School. Overall, the impact of the proposed development on primary schools is determined to be **locally neutral** with a significance that at worst would have a **moderate effect**.

Regarding post primary schools, there are 3 no. in the study area and the scheme would generate between 36 and 52 spaces. Similar to primary school provision, responsibility for the delivery of post primary school places is the responsibility of the Department of Education and Skills. The NPF and Eastern and Midlands Regional Spatial and Economic Strategy supports higher density development within the existing built environment and strategic infrastructure should be planned in parallel with this objective. The impact of the proposed development on post-primary schools is determined to be **locally neutral** with a significance that at worst would have a **moderate effect**.

There is a wealth of existing amenities in the wider area including sport and recreation. Within the application site, there is a full-scale playing pitch is proposed that will be available for residents and the wider population. The increase in population will place additional demands on existing amenities but will also provide a critical mass to support the delivery of social infrastructure. The proposed development also includes dedicated amenities and facilities to serve future occupants. Additionally, 2 no. public parks are proposed that integrate a wide range of passive and active functions and children's play. The impact of the proposed development on amenities is determined to be **significantly locally positive** with a significance that at worst would have a **moderate effect**.

To support sustainable travel, it is necessary for future population growth to predominantly take place in sustainable compact urban areas, which discourage dispersed development and long commuting. Development of the Bailey Gibson site would deliver a critical mass of growth in population that would ensure the long-term viability of public transport delivery in the City. The effect is thus determined to be **moderate-significant, positive, and permanent**.

4.8.2.3 Employment & Economy

The proposed development includes 485 sq.m of floorspace to facilitate a range of uses including Class 1 (shop), Class 2 (financial/professional services), Class 8 (health services), Class 10 (community/arts) and Class 11 (bingo hall) and cafe/bar/restaurant use. The estimated employment that will be generated from the non-residential uses is 30 jobs. This is based on a number of information sources including the Homes & Communities Agency, *Employment Density Guide* (2013) employment density per floor area and the adult:child ratio required in childcare settings. It is noted that a blended employment density of 1 job per 16 sq.m of gross internal floorspace is used with reference to corporate, professional services, financial/insurance and small business workspace.

The Childcare Regulations stipulate adult:child ratios that must be maintained in childcare settings. The proposed creche will generate 12 no. employment positions.

| Age Group | No. of Children | Adult: Child Ratio | Employees |
|--------------|-----------------|--------------------|-----------|
| 0-1 year | 8 | 01:03 | 3 |
| 1-2 years | 19 | 01:05 | 4 |
| 2-3 years | 14 | 01:06 | 3 |
| 3-6 years | 19 | 01:08 | 2 |
| Total | 60 | - | 12 |

Table 4.9 Childcare Employment Generation

As this is a Build to Rent development, it incorporates tenant amenities and facilities and will be operated by a Management Company, additional employment opportunities will be generated.

Additionally, part-time employment opportunities will be generated with respect to maintenance and professional services.

The overall effect on employment **locally** is **moderately positive** and **permanent**.

The new residential population will generate additional spending within the area which will likely have a **local permanent slight positive** impact on local economic activity generated through the multiplier effect.

The State will benefit from revenue generated in the form of rental income tax and this will realise a **positive** effect.

4.8.2.4 Health

Insufficient physical activity has been identified by the World Health Organisation as the fourth leading risk factor for global mortality. Urban air pollution and traffic injuries are also responsible for a further 2.6 million deaths annually. The health benefits of active transport (walking and cycling combined with public transport) can prevent many of these deaths from physical inactivity. The proposed scheme minimises car parking and prioritises both pedestrian and cyclists. 471 no. long-stay secure cycle storage area are proposed, and a gymnasium is included as part of the tenant amenities. The layout provides for the segregation of pedestrians and traffic and incorporates the principles of universal access and the requirements of Part M of the Building Regulations so that the development will be readily accessible to all, regardless of age, ability or disability. The predicted effect of these combined measures on the health and wellbeing of future occupants is **significantly positive**.

The scheme includes a comprehensive landscape plan encompassing 2 no. public parks, 'Players Park' and 'St. Theresa's Playground' and communal open spaces distributed throughout the development in the form of courtyards and podium level terraces. All spaces benefit from good access to sunlight (see below) and the individual spaces provide for both active and passive amenity including formal and informal play areas. Accordingly, the effect is deemed **locally, permanent and positive**.

The integration of energy efficient measures into the design will provide for healthier living standards for future occupants and less dependence on fossil fuels for energy generation. This coupled with the low level of carparking (88 no. spaces) which will result in significant CO₂ savings will contribute to improved air quality and the impact is likely to be **locally significantly positive** and of **permanent duration**.

Adequate and appropriate exposure to light is critical for health and well-being. Light impacts human health and performance by enabling performance of visual tasks, controlling the body's sleeping and walking system and affecting mood and perception.

This application is accompanied by a '**Daylight and Sunlight Availability Assessment**' prepared by ARUP and should be referenced in conjunction with this chapter. The report has been prepared in line with the following three documents:

- BR 209 (2022) – Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice.
- BS EN 17037:2018 – Daylight in Buildings.
- IS EN 17037:2018 – Daylight in Buildings.

The report assessed the impact of the proposed development on the existing surrounding environment and the performance of the proposed development. It concludes as follows;

- i. **Illuminance of Proposed Buildings:** 68% of relevant rooms meet the alternate target illuminance recommendations given in the BR 209 (2022) and the national annex of BS EN 17037:2018 (i.e. relating to “dwellings situated in dense urban areas”), 35% of relevant rooms meet the minimum target illuminance recommendations given In the main body of all three guidance documents.
- ii. **Views** – Minimum quality of views will be achieved in all units and the minimum recommendations for quality of view are satisfied in all units.
- iii. **Impact on Surrounding Buildings:** The proposed development would have a negligible impact on almost all surrounding buildings, aside from a minor adverse impact experienced at a small number of properties at Rehoboth Avenue and South Circular Road (full details contained in the accompanying report).
- iv. **Proposed Amenity Spaces** - All the proposed amenity areas have been tested for sunlight provision and all meet the B2 209 (2022) recommendation for direct sunlight.

A **Wind Microclimate Assessment Report** prepared by ARUP accompanies this application under separate cover. The model predicts the wind patterns around the subject site, under mean and peak wind conditions typically occurring in the area.

Steady state CFD simulations were performed to study the impact of wind movement on pedestrian comfort within the proposed development. For the analysis, 8 steady state CFD simulations were performed, one each for the 8 main wind directions – N, NE, E, SE, S, SW, W and NW. The wind speed was set to the annual average wind speed for Dublin. The wind was assumed to have the characteristics associated with wind flowing through a city centre. The results from these simulations were extrapolated along the annual weather data for Dublin to obtain the most probable local air speed for each hour of the year. Statistical analysis was performed on this dataset to check compliance against the Lawson’s Pedestrian Comfort criterion.

Thoroughfares:

The Lawson’s Leisure Walking comfort criteria stipulates that the local air speed at designated locations should not exceed 8m/s for more than 5% of the duration analysed. The Lawson’s Business Walking comfort criteria stipulates that the local air speed at designated locations should not exceed 10m/s for more than 5% of the duration analysed. The wind conditions estimated at key locations along the thoroughfares shows compliance with the requirements of these criteria, except for one location as discussed below.

The Lawson’s Pedestrian safety criteria for Able-bodied Access stipulates that the local air speed at designated locations should not exceed 20m/s for more than one hour a year. The Lawson’s Pedestrian safety criteria for General Public Access stipulates that the local air speed at designated locations should not exceed 15m/s for more than one hour a year. Elderly people and children are usually classified as general public. The wind conditions along a section of the walking path connecting Players Park to the multi-sport playing pitch are in marginal exceedance of the safety criteria for general public access for up to 3 hours per year. This would not be considered significant.

Entrances:

The Lawson's Standing comfort criteria stipulates that the local air speed at designated locations should not exceed 6m/s for more than 5% of the duration analysed. The wind conditions estimated at the primary entrances of the proposed development shows compliance with the requirements of these criteria.

Public open spaces (including the amenity spaces around the buildings and public parks):

The Lawson's Sitting comfort criteria stipulates that the local air speed at designated locations should not exceed 4m/s for more than 5% of the duration analysed. The Lawson's Standing comfort criteria stipulates that the local air speed at designated locations should not exceed 6m/s for more than 5% of the duration analysed. The wind conditions estimated at key sitting locations in the amenity spaces around the buildings show compliance with the requirements of these criteria. The wind conditions estimated at key sitting locations in the parks (Players Park and the multi-sport player pitch) show compliance with the requirements of these criteria with the exception of a sitting area to the east of Players Park, where the wind conditions are in the 'walking' range. This could lead to some discomfort during windy days for sedentary activities and does not pose a safety risk.

Balconies:

The Lawson's Sitting comfort criteria stipulates that the local air speed at designated locations should not exceed 4m/s for more than 5% of the duration analysed. More than 95% of the balconies shows compliance with the requirements of this criterion.

For more details refer to the wind microclimate assessment report.

4.8.3 Cumulative Impacts

The proposed development forms part of a **Strategic Development and Regeneration Area (SDRA 12)**. The application area forms part of a wider SDRA 12, including the proposed development site, permitted Player Wills SHD 1, LDA/DCC Donore Project and Player Wills Phase 2. Proposed development details:

- **Permitted St. Teresa's Gardens Part VIII** – includes the demolition of the 2 blocks required to facilitate those aspects (namely amenities – multi sports play pitch, boulevard and playground) of this proposed development that will take place on the St. Teresa's Garden site will be undertaken by Dublin City Council under permission 2475/18 and in line with the conditions attached to that permission.
- **Permitted Player Wills 1 development** – construction of 492 no. Build to Rent (BTR) apartments, 240 no. Build to Rent shared accommodation along, creche and associated site works. Including 280 car parking spaces (249 on basement, 31 on-street parking and creche/taxi set down and loading bays), 903 long stay cycle parking spaces and 110 short-stay bicycle spaces.
- **LDA/DCC Donore Project** - an application for permission on this site has not been lodged at the time of making this application. It is acknowledged that the project is in design development phase. The information used is derived from the available published information <https://donoreproject.ie/> - It is envisaged circa 550 new homes

will be provided over four separate buildings. The current proposal shows that car parking will be provided at ground floor level, with approximately 79 parking spaces.

- **Player Wills Phase 2** - an application for permission on this site has not been lodged at the time of making this application. It relates to the balance of land not in the permitted PW1 together with land associated with the adjacent St. Teresa's Church site. The applicant is progressing the design development phase and it will likely be a large-scale residential development application to DCC. Proposed number of units 403 BTR, proposed car parking spaces approx. 81.

The additional population that will be generated by the proposed development coupled with the permitted Player Wills development and the anticipated development in the wider SDRA 12 area will increase the demand on existing social infrastructure capacity.

The **Social Infrastructure Audit** submitted with this application was prepared in parallel with the preparation of the Masterplan to inform on the existing capacity of social infrastructure and to identify deficits.

Recognising the deficiency in childcare locally, both the Player Wills and the proposed development include childcare facilities that are capable individually of meeting the demand of future occupants together with contributing toward the identified need locally. Cumulatively, the childcare provision on the Bailey Gibson and Player Wills site will have a **significant positive** effect **locally** with a **permanent** duration.

The traffic, noise, air quality, landscape and visual chapters and Built Heritage chapters of this EIAR consider the cumulative impacts of the development of the proposed development site in so far as is practical. They conclude that there are no residual likely significant environmental effects on population and human health.

The cumulative effect on housing delivery is **significantly positive** for the City with a **permanent** duration. Allowing people to live in close proximity to centres of employment will contribute toward reducing dependence on car-based travel and this will be **positive** in the context of greenhouse gas emissions. These positive effects of housing delivery will be further strengthened by the delivery of further residential development on the remainder of the Player Wills site (Player Wills Phase 2) and on lands which will be developed by the Land Development Agency on behalf of Dublin City Council (the Donore Project) as envisaged in the SDRA 12 which are also considered in the cumulative impact within this EIAR.

The SDRA 12 lands are largely inaccessible, and the proposed layout provides for permeability to adjacent lands and the existing street network, this will have a **significant positive** effect in terms of integrating the existing and proposed new community with a **permanent** duration.

Dublin 8 generally is undergoing significant change and there are several recently consented and under consideration developments, with a large concentration along Cork Street, Newmarket Square and Rialto. This is not an exhaustive list, as this review focused on mixed use developments within the study area and wider Dublin 8 area. The type of developments are generally mixed use i.e. commercial at ground floor level and residential overhead and student accommodation. Relevant developments include;

- TA29S.308917, permission for a strategic housing development on the Former Player Wills site, Dublin 8 for the demolition of all buildings excluding the original fabric of the former Player Wills Factory, construction of 492 no. Build to Rent apartments, 240 no. Build to Rent shared accommodation along, creche and associated site works in blocks ranging in height from 2 to 19 storeys.
- PL29S.305324 permission for a strategic housing development at 'Brewery Rock' at 13/14 Ardee Street, Dublin 8 including 368 no. student accommodation bedspaces, a co-working shared space and café over 3 no. blocks ranging from 2-8 storeys;
- PL29S.305061, permission a strategic housing development at the former Rialto cinema, 355 South Circular Road, Dublin 8 including 317 no. student accommodation bedspaces and ancillary café in a building ranging in height from 3-7 storeys over basement;
- PL29S.303436, permission a strategic housing development at Mill Street, Dublin 8, including 235 no. student accommodation bedspaces, 37 no. build to let residential units, 1 no. commercial unit, 1 no. café, in blocks that range from 3-7 storeys.
- PL29S.300184, permission for a strategic housing development for 399 student accommodation bed spaces with associated ancillary services and a retail/cafe unit with frontage onto Cork Street and Brickfield Lane.
- Reg. Ref. 2475/18, St. Teresa's Gardens, Dublin 8, amendment to previously granted permission for 50 no. residential units, to allow for the construction of an additional 4 no. units and development of a temporary grass multisport pitch.
- Reg. Ref. 3197/18, permission for an increase in student bedspaces from 276 no. permitted under Reg. Ref. 3316/16 to 281 no. and relocation of gymnasium.
- Reg. Ref. 3086/17, permission for a mixed use 6-storey building over basement at 75-78 Cork Street, including commercial uses at ground floor and 39 no. apartments.

Each of these developments requires a construction and environmental management plan (CEMP) to manage each of the construction phases. Subject to adherence to measures contained in the individual plans, the cumulative effect of these developments is **likely, short term** and **not significant**.

These developments will generate additional population locally and the consequent effect will be increased demand for local services. However, the majority of permitted developments and those under consideration are for mixed-use development incorporating floor space for non-residential uses that together will augment the supply of social infrastructure locally in parallel with the growing population. The effect is **locally moderate** with a **permanent** effect.

4.9 Mitigation Measures

4.9.1 Incorporated Design

A project supervisor for the design process (PSDP) is appointed by the Applicant and has overseen the coordination of the design work. The role of the PSDP is to ensure co-ordination of the work of designers throughout the project;

- Identify hazards arising from the design or from the technical, organisational, planning or time related aspects of the project;

- Where possible, eliminate the hazards or reduce the risks;
- Communicate necessary control measures, design assumptions or remaining risks to the PSCS so they can be dealt with in the safety and health plan; and,
- Ensure that the work of designers is coordinated to ensure safety.

The proposed development complies with the Building Regulations which provide for the safety and welfare of people in and about buildings. The Building Regulations cover matters such as structure, fire safety, sound, ventilation, conservation of fuel and energy, and access, all of which safeguard users of the buildings and the health of occupants.

4.9.2 Construction Phase

A **Construction and Environmental Management Plan** (CEMP), and a **Construction and Demolition Waste Management Plan** (CDWMP) have been prepared and are submitted under separate cover. The CEMP and CDWMP will be further updated by the contractor and agreed with Dublin City Council prior to commencement of any construction (i.e. including demolition) works on site. The purpose of a CEMP is to provide a mechanism for implementation of the various mitigation measures which are described in this EIAR.

All construction personnel will be required to understand and implement the requirements of the CEMP and CDWMP and shall be required to comply with all legal requirements and best practice guidance for construction sites.

Project supervisors for the construction phase (PSCS) will be appointed in accordance with the Health, Safety and Welfare at Work (Construction Regulations) 2013, and a Preliminary Health and Safety Plan will be formulated during the detailed design stage which will address health and safety issues from the design stages, through to the completion of the construction phases.

All other environmental aspects relating to the human environment which could have an adverse effect on the local population such as soils, geology & hydrogeology, water and ecology have been addressed in the relevant chapters of this EIAR.

Adherence to the construction phase mitigation measures presented in this EIAR will ensure that the construction of the proposed development will have an **imperceptible** and **neutral** impact in terms of health and safety during the **short-term** duration of the works.

4.9.3 Operational Phase

The impact assessment section did not identify likely significant environmental impacts on population and human health arising from the operational phase of the proposed development. Accordingly, mitigation measures are not proposed.

4.10 Residual Impact Assessment

It is anticipated that the proposed development will realise **significant positive** overall economic and social benefits for the local community and the wider local area.

All other environmental aspects relating to residual impact which could have an adverse effect on the local population such as soils, geology & hydrogeology, water and ecology have been addressed in the relevant chapters of this EIAR.

Strict adherence to the mitigation measures recommended in this EIAR will ensure that there will be no negative residual impacts or effects on Population and Human Health from the construction and operation phases of the proposed scheme. Indeed, the delivery of much needed housing will realise a likely **significant positive** effect for the local area.

4.11 Interactions

Interactions are dealt with in Chapter 15 of this EIAR.

4.12 Monitoring

Measures to avoid impacts on Population and Human Health are largely integrated into the design and layout of the proposed development. Compliance with the design and layout will be a condition of any permitted development.

Monitoring will be undertaken by the Building Regulations certification process and by the requirements of specific conditions of a planning permission.

Monitoring of compliance with Health & Safety requirements will be undertaken by the Project Supervisor for the Construction Process and the Facilities Management company during the operational stage.

4.13 Worst Case Scenario

The worst-case scenario is considered to be the risk of an accident during the construction phase. According to the Health and Safety Authority, in 2018 (latest available data) nationally the total construction workforce was 143,475 and there were 5 no. fatalities on construction sites in 2018. This is an incident rate of 3.5 per 100,000 workers. In terms of non-fatal injuries, in 2018, there were 579 no. construction related notifications to the HSA, this accounts for 0.4% of the total workforce.

The HSA has undertaken a range of activities in regulation, education, accreditation and enforcement to reduce incidents on construction sites. The appointed contractor is required to comply with all relevant Health and Safety legislation and the risk of a fatality is deemed **unlikely**.

4.14 Conclusion

There are no significant adverse effects with respect to socio-economic factors, land use, or the amenity value potential of the area. Issues which may cause risks and hazards during the construction and operational phase of the development are given due consideration. All necessary mitigation measures will be put in place to ensure the health and safety of all site personnel and neighbouring properties. All other environmental aspects relating to the human environment which could have an adverse effect on the local population such as soils, geology

& hydrogeology, water and ecology have been addressed in the relevant chapters of this EIAR.

4.15 References

- National Planning Framework, Ireland 2040 – Our Plan (Government of Ireland, 2018)
- Regional Planning Guidelines for the Greater Dublin Area 2010-2022
- Eastern and Midlands Regional Spatial and Economic Strategy
- Dublin City Development Plan 2016-2022
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017)
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022)
- Central Statistics Office (CSO) website www.cso.ie
- Department of Education and Sciences (DES) website www.education.ie.

CHAPTER 5

LANDSCAPE & VISUAL

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|------------|---|-------------|
| 5 | Landscape and Visual | 5-3 |
| 5.1 | Introduction | 5-3 |
| 5.2 | Proposed Development | 5-4 |
| 5.2.1 | Aspects Relevant to this Assessment | 5-5 |
| 5.3 | Methodology | 5-5 |
| 5.3.1 | Relevant Legislation & Guidance | 5-5 |
| 5.3.2 | National Planning Policy | 5-6 |
| 5.3.3 | Local Planning Policy | 5-7 |
| 5.3.4 | Consultation | 5-11 |
| 5.4 | Baseline Environment | 5-12 |
| 5.4.1 | Landscape Character | 5-12 |
| 5.4.2 | Landscape Context | 5-13 |
| 5.4.3 | Views & Prospects | 5-14 |
| 5.5 | The ‘Do Nothing’ Scenario | 5-16 |
| 5.6 | Potential Significant Effects | 5-17 |
| 5.6.1 | Demolition Phase | 5-17 |
| 5.6.2 | Construction Phase | 5-17 |
| 5.6.3 | Operational Phase | 5-18 |
| 5.6.4 | Cumulative Effects | 5-20 |
| 5.6.5 | Summary | 5-22 |
| 5.7 | Mitigation | 5-24 |
| 5.7.1 | Demolition and Construction Phase Mitigation | 5-24 |
| 5.7.2 | Operational Phase Mitigation | 5-24 |
| 5.8 | Residual Impact Assessment | 5-27 |
| 5.8.1 | Demolition Phase | 5-27 |
| 5.8.2 | Construction Phase | 5-27 |
| 5.8.3 | Operational Phase - Landscape Character | 5-28 |
| 5.8.4 | Visual Impacts – Donore Avenue and the eastern residential environs | 5-29 |
| 5.8.5 | Visual Impacts: South Circular Road and Dolphins Barn | 5-33 |
| 5.8.6 | Visual Impacts: Cork Street residential environs | 5-37 |

| | | |
|-------------|---|-------------|
| 5.8.7 | Visual Impacts: Grand Canal and southern residential environs | 5-39 |
| 5.8.8 | Visual Impacts – longer views from south | 5-43 |
| 5.8.9 | Summary of Post-mitigation Effects | 5-44 |
| 5.8.10 | Cumulative Residual Effects | 5-46 |
| 5.9 | Interactions..... | 5-47 |
| 5.10 | Monitoring..... | 5-47 |
| 5.11 | Summary of Mitigation & Monitoring | 5-48 |
| 5.12 | References and Sources..... | 5-49 |

Table of Figures

| | | |
|------------|---|------|
| Figure 5.1 | Extract from Map E, Dublin City Development Plan 2016-2022 (application area outlined in red, Protected Structures emphasised with red stars) | 5-8 |
| Figure 5.2 | Aerial view of the Bailey Gibson site from the south (source: Google Maps 3D, annotated) | 5-12 |
| Figure 5.3 | Aerial view from the south (source: Google Maps 3D, annotated) | 5-13 |
| Figure 5.4 | Photomontage View Location Plan, indicating a selection of representative views towards the site (source: Google Maps, annotated by Modelworks); Refer to Booklet of Verified Photomontages by Modelworks. | 5-15 |

Table of Tables

| | | |
|-----------|--|------|
| Table 5.1 | Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation | 5-23 |
| Table 5.2 | Summary of Operational Phase Likely Significant Effects in the absence of mitigation | 5-23 |
| Table 5.3 | Summary of Demolition & Construction Phase Effects Post Mitigation | 5-45 |
| Table 5.4 | Summary of Operational Phase Effects Post Mitigation | 5-46 |
| Table 5.5 | Summary of Demolition & Construction Phase Mitigation and Monitoring..... | 5-48 |
| Table 5.6 | Summary of Operational Phase Mitigation and Monitoring..... | 5-48 |

5 Landscape and Visual

5.1 Introduction

This chapter on Landscape and Visual Impacts has been prepared by Chris Kennett, a Chartered Member of the Landscape Institute since 1996 and director of Kennett Consulting Limited. Chris has a BSc in Landscape Design and Plant Science and a Diploma in Landscape Architecture, both from Sheffield University. He qualified for full membership of the Landscape Institute (UK) in 1996. He also has a MSc in Sustainable Development from Dublin Institute of Technology (2013) and a Diploma in Urban Design from Oxford Brookes University (2017).

Chris has been preparing landscape and visual impact assessments since the 1990s for a wide range and scale of urban and rural development projects. The focus of Kennett Consulting's work has been landscape and visual impact assessment, including for EIAR, for residential, commercial and retail projects in and around the Dublin area. Most recently, Chris completed the landscape and visual impacts chapter of the EIAR for a planning application for the adjacent Player Wills site (SHD0031/20 (ABP-308917-20)), as well as for the previous SHD scheme for the Bailey Gibson site (SHD0009/20 (ABP-307221-20)). Other relevant examples include: mixed use development of Blocks 2 and 7 at Spencer Dock, Dublin 1 (2016, 2019); student accommodation at the Digital Hub, Dublin 8 (2015); a strategic housing development at Eglinton Road / Donnybrook Road, Dublin 4 (2018); and a strategic housing development at Clare Hall, Dublin 13 (2019).

This assessment addresses two separate but closely related aspects: the first is visual impacts focusing on the extent to which new developments can be seen, the potential loss of existing site features and the introduction of new site features; the second aspect is impacts on the character of the landscape, the changes the proposed development will bring to the landscape in general, the impacts of those changes upon views from the surrounding area, and examining responses which are felt towards the combined effects of the new development.

This latter topic is complex because it can encompass many other environmental topics such as ecology, archaeology and architectural history and because attempts to scientifically measure feelings and perceptions are not universally reliable.

For clarification, this chapter does not address technical impacts on light and shadowing, which has been assessed separately in the Daylight, Sunlight and Overshadowing Study prepared by Integrated Environmental Solutions and is included with this application.

5.2 Proposed Development

This application relates to a proposed mixed-use strategic housing development (SHD) on a site of approx. 5.5 hectares in Dublin 8. It includes all of the former Bailey Gibson site and a small portion of the former Player Wills site, both of which are owned by the Applicant, CWTC Multi Family ICAV acting solely in respect of its sub fund DTBR SCR1 Fund. The balance of the proposed development site relates to land owned by Dublin City Council (DCC) known locally as the 'Boys Brigade pitch' and part of the St. Teresa's Gardens site, together with DCC controlled public roads.

The application area is predominately within Strategic Development Regeneration Area (SDRA) 12, St. Teresa's Gardens & Environs as identified in the Dublin City Development Plan 2016-2022. The part of the proposed development site not within SDRA 12 relate to works proposed in the public roads surrounding the site, South Circular Road, Donore Avenue and Rehoboth Place.

A comprehensive description of the proposed development is set out in the Planning Statement. The Statutory Notices should also be referenced.

Briefly, it is proposed to demolish the existing vacant buildings and structures on the Bailey Gibson site to make way for development of 345 new homes across 5 blocks, BG 1 - BG 5, ranging in height from 2-7 storeys. The residential blocks will be contained within the Bailey Gibson site. The typology is predominantly apartments with 4 townhouses proposed in block BG5.

This is a mixed tenure scheme, with 292 units proposed as Build to Rent (BtR) across blocks BG1-BG3 and 53 units proposed as Build to Sell (BtS) in blocks BG4 and BG5. It is proposed to deliver 34 social and affordable homes as part of the overall total.

All apartments have private amenity space. At ground floor this is in the form of terraces and on upper levels, balconies. Each of BG1-BG4 have communal amenity areas either as a courtyard or podium area.

Tenant amenities and facilities are proposed in the BtR blocks and include a gym, co-working space, kitchen/lounge areas, concierge, and waste facilities.

Over 2 hectares of public open space including a multi-sport play pitch, a playground, 'St. Teresa's Playground', a boulevard, 'St. Teresa's Boulevard', a park, 'Players Park', a plaza, 'Rehoboth Plaza'.

The proposed non-residential uses include in blocks BG1 and BG2 commercial units that have the capacity to support daily living needs e.g., a shop, pharmacy and professional services. A creche with capacity for approx. 60 children. In block BG2 the design includes floorspace for a café/restaurant/bar.

In total there are 89 car parking spaces allocated to the proposed apartments and all are contained within the Bailey Gibson site. Apart from 1 space at podium level, the parking is contained within a basement. Additionally, 10 'Go Car' spaces are proposed at podium level for residents use only. Each of the 4 townhouses has 1 on-curtilage car parking space.

Visitor parking is at street level and the proposed sport pitch will be serviced separately by new spaces on the public roads. The scheme includes set down parking for the creche, a loading bay for deliveries and coach parking area.

Provision is made for disabled parking, electric vehicle charging, a car sharing scheme and motorcycle parking.

784 spaces are proposed for cycle parking including secure residents parking, visitor parking and spaces for cargo bicycles.

Other works include the development of a network of streets across the proposed development site that will link with other sites within SDRA 12 and into the wider street network of Dublin 8. Improvement works within existing local streets to facilitate access and safe movement.

Ancillary development works includes the construction of electricity substations, meter rooms, plant rooms at basement level, waste storage areas, solar photovoltaics, drainage, landscaping, and lighting.

The Proposed Site Layout is illustrated on **Drawing No. PL0005**.

5.2.1 Aspects Relevant to this Assessment

Key elements of the proposed development most relevant to this assessment of landscape and visual effects are the following:

- Removal of existing buildings, structures and planting
- Layout and scale of new buildings, streets, open spaces and planting
- Building heights, elevation details and materials

5.3 Methodology

5.3.1 Relevant Legislation & Guidance

This chapter has been prepared having particular regard to the following guidelines:

- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017).
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (Environmental Protection Agency, 2022);
- Guidelines for Landscape and Visual Impact Assessment, Third Edition (2013) published by the Landscape Institute and the Institute of Environmental Management and Assessment (generally referred to as 'GLVIA3')

Specific guidance for the assessment of Landscape and Visual Impacts for an EIAR is given in the GLVIA3. This is UK guidance but the Irish Landscape Institute identifies this as applicable to projects in Ireland, while the EPA refers to this as an 'agreed referable approach' in section 3.7.2 of its Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2022).

GLVIA3 is helpful in outlining a methodology for determining the sensitivity of a landscape or view to the proposed development and the significance of effects arising from the development. Sensitivity of a landscape or view is judged by balancing its value with its susceptibility to the type of development proposed. The significance of effects on that landscape or view is then judged by balancing its sensitivity with the magnitude of change it might experience as a result of the proposed development. GLVIA3 recognises (at para 2.23) that "professional judgement is a very important part of LVIA. While there is scope for quantitative measurement of some relatively objective matters much of the assessment must rely on qualitative judgements."

5.3.2 National Planning Policy

Irish national policy of particular relevance to the assessment of Landscape and Visual Impacts is the Urban Development and Building Heights Guidelines for Planning Authorities (December 2018, Department of Housing, Planning and Local Government). This is rooted in the National Planning Framework 2018 ('the NPF'), which states in Chapter 4 'Making Stronger Urban Places' page 67 that "To enable brownfield development, planning policies and standards need to be flexible, focusing on design-led and performance-based outcomes, rather than specifying absolute requirements in all cases."

The NPF also sets out National Policy Objective 13, which states "In urban areas, planning and related standards, including in particular building height and car parking will be based on performance criteria that seek to achieve well-designed high quality outcomes in order to achieve targeted growth. These standards will be subject to a range of tolerance that enables alternative solutions to be proposed to achieve stated outcomes, provided public safety is not compromised and the environment is suitably protected."

The Urban Development and Building Heights Guidelines 2018, at paragraph 3.1, state unequivocally that "In relation to the assessment of individual planning applications and appeals, it is Government policy that building heights must be generally increased in appropriate urban locations. There is therefore a presumption in favour of buildings of increased height in our town/city cores and in other urban locations with good public transport accessibility."

Section 3.2 of the Urban Development and Building Height Guidelines then sets out a series of guiding principles for delivering good urban design and architectural standards where increased building height is proposed, which include the following:

At the scale of the relevant city/town

- The site is well served by public transport with high capacity, frequent services and good links to other modes of transport.
- Development proposals incorporating increased building height, including proposals within architecturally sensitive areas, should successfully integrate into / enhance the character and public realm of the area, having regard to topography, its cultural context, setting of key landmarks, protection of key views.
- On larger urban redevelopment sites, proposed developments should make a positive contribution to place-making, incorporating new streets and public spaces, using massing

and height to achieve the required densities but with sufficient variety in scale and form to respond to the scale of adjoining developments and create visual interest in the streetscape.

At the scale of district/ neighbourhood/ street

- The proposal responds to its overall natural and built environment and makes a positive contribution to the urban neighbourhood and streetscape
- The proposal is not monolithic and avoids long, uninterrupted walls of building in the form of slab blocks with materials / building fabric well considered.
- The proposal enhances the urban design context for public spaces and key thoroughfares and inland waterway/ marine frontage, thereby enabling additional height in development form to be favourably considered in terms of enhancing a sense of scale and enclosure while being in line with the requirements of “The Planning System and Flood Risk Management – Guidelines for Planning Authorities” (2009).
- The proposal makes a positive contribution to the improvement of legibility through the site or wider urban area within which the development is situated and integrates in a cohesive manner.
- The proposal positively contributes to the mix of uses and/ or building/ dwelling typologies available in the neighbourhood.

It must be emphasised that the following assessment of landscape and visual effects does not rely on the above national planning policy and guidance, particularly with regard to building heights, but instead applies the policies and principles set out in adopted Dublin City Development Plan 2016-2022. This is because the proposed development is max 7 storeys and low-rise as per the plan.

5.3.3 Local Planning Policy

Local area/site-specific planning guidance and policy is set out in the Dublin City Development Plan 2016-2022. Key policies and guidance from this Plan are as follows.

The proposed development site includes the following planning designations:

- Strategic Development & Regeneration Area (SDRA) 12;
- The majority of the site falls under Land Use Zone Z14: Strategic Development and Regeneration Areas 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. The purpose of the Z6 zoning is to provide for the creation and protection of enterprise and facilitate opportunities for employment creation.
- Other included Land Use Zones include Z1 (Residential), Z2 (Residential Conservation Area) and Z4 (District Centre).

Nearby, lands have the following land use designations in the Development Plan:

- SDRA 12 extends across adjoining land to the north and east, encompassing the Coombe Hospital, DCC lands and the Player Wills site.

- Land to the east and south is predominantly Z1 (Residential) and Z2 (Residential Conservation Area) residential areas with pockets of Z15 institutional and community uses.
- Land to the west and north is mostly a mix of Z4 mixed use land and Z1 residential land with pockets of Z15 institutional and community uses.
- To the south, the Grand Canal is a Conservation Area and the only significant green network / recreational open space (Z9) in the vicinity of the site.

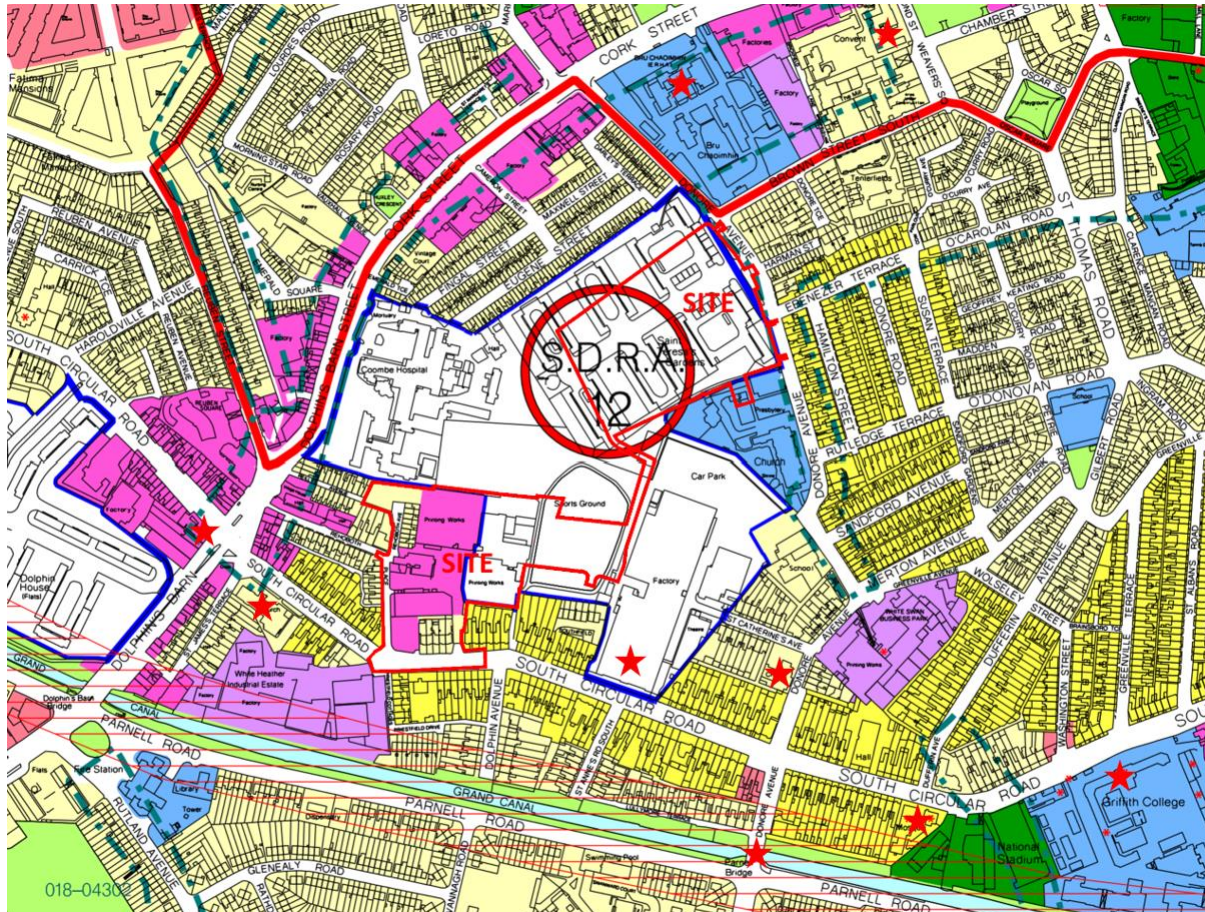


Figure 5.1 Extract from Map E, Dublin City Development Plan 2016-2022 (application area outlined in red, Protected Structures emphasised with red stars)

The land use zonings, SDRA 12 designation and associated design principles in Chapter 15 together help to inform assessment of the existing landscape character and the vision for future development on the site and in the local urban area.

Chapter 4 of the Development Plan addresses the Structure and Shape of the city, containing the following key policies and objectives concerning the impact of development on the character and visual amenity of the city:

Policy SC5: “to promote the urban design and architectural principles set out in Chapter 15, and in the Dublin City Public Realm Strategy 2012, in order to achieve a quality, compact, well-connected city.”

Policy SC7: “to protect and enhance important views and view corridors into, out of and within the city, and to protect existing landmarks and their prominence.”

There are no designated views within the environs of the proposed development site that the proposed development might impact upon. The more sensitive landscape characters and views occur within the Grand Canal Conservation Area and the streetscapes of the residential conservation areas (Z2) to the south and east.

Policy SC25: “To promote development which incorporates exemplary standards of high-quality, sustainable and inclusive urban design, urban form and architecture befitting the city’s environment and heritage and its diverse range of locally distinctive neighbourhoods, such that they positively contribute to the city’s built and natural environments. This relates to the design quality of general development across the city, with the aim of achieving excellence in the ordinary, and which includes the creation of new landmarks and public spaces where appropriate.”

Policy SC28: “To promote understanding of the city’s historical architectural character to facilitate new development which is in harmony with the city’s historical spaces and structures.”

The proposed development seeks to make a major positive contribution to the city’s urban fabric through a high standard of urban design. The details of the approach to this are outlined later in sections of this chapter and in the **Architectural Design Statement** by Henry J Lyons architects.

Chapter 11 of the Development Plan addresses culture and heritage, including Protected Structures and Conservation Areas:

Policy CHC2 seeks (in summary) to ensure that the special interest of protected structures is protected, where development will conserve and enhance Protected Structures, avoid harm to the curtilage of the structure, and relate to and complement the special character of the protected structure.

There are Protected Structures within the area surrounding the proposed development site; key locations are highlighted with red stars in **Figure 5.1** above. Views of the towers of local churches nearby merit consideration - St. Catherine & St. James lies nearby to the east on Donore Avenue while Our Lady of Dolour’s Church lies to the west on South Circular Road; there is also the Dublin Mosque, a former church, to the southeast on South Circular Road. Griffith College also lies to the southeast on South Circular Road. Parnell Bridge on the Grand Canal is a Protected structure and also lies to the southeast. Bank House on Dolphin’s Barn Road lies west of the proposed development site. Beyond the wider SDRA 12 lies the former Convent on Cork Street / Ormond Street (northeast of the proposed development site) and nearby Bru Chaoimhin hospital (to the north).

The former Player Wills factory on South Circular Road is a fine art-deco building that has recently been added to the Record of Protected Structure. Its retention is proposed as an integral part of a planning consent to redevelop the Player Wills site (ABP. Ref.

TA29S.308917), drawing upon its historic and architectural value and its positive contribution to the urban character of South Circular Road.

Policy CHC4 seeks “to protect the special interest and character of all Dublin’s Conservation Areas” (11.1.5.4). Summarising the text supporting this policy, a Conservation Area comprises buildings, streetscapes and open spaces, whose special interest lies in its historic and architectural qualities as well as design and scale. Development within or affecting all conservation areas will contribute positively to the character and distinctiveness; and take opportunities to protect and enhance the character and appearance of the area and its setting, wherever possible. Development will not harm the setting of a conservation area or constitute a visually obtrusive or dominant form.

The more sensitive landscape characters and views occur within the Grand Canal and the streetscapes of the residential conservation areas (Z2) to the south and east.

Chapter 16 addresses development standards and states (at 16.2.1):

“In the appropriate context, imaginative contemporary architecture is encouraged, provided that it respects Dublin’s heritage and local distinctiveness and enriches its city environment. Through its design, use of materials and finishes, development will make a positive contribution to the townscape and urban realm, and to its environmental performance. In particular, development will respond creatively to and respect and enhance its context, and have regard to:

1. The character of adjacent buildings, the spaces around and between them and the character and appearance of the local area and the need to provide appropriate enclosure to streets.
2. The character, scale and pattern of historic streets, squares, lanes, mews and passageways
3. Existing materials, detailing, building lines, scale, orientation, height and massing, plot width
4. The form, character and ecological value of parks, gardens and open spaces, and
5. Dublin’s riverside and canal-side settings.

With regard to respecting and enhancing character and context, chapter 16 states (at 16.2.1.1):

“The City Council will seek to ensure that the design of new development respects and enhances these and other elements that contribute positively to the cityscape and urban realm, the settings of protected structures, areas of special interest and important views and that such design incorporates high-quality detail, materials and craftsmanship. Design must also recognise the diversity of the city environment and respond to the distinctiveness of Dublin as a capital city, a diverse residential community and a centre of business and commerce.

“In assessing new development, consideration will be given to how the design has responded to the existing context and its relationship to the established pattern, form(s), density and scale of surrounding townscape, taking account of existing rhythms, proportion, symmetries, solid to void relationships, degree of uniformity and the composition of elevations, roofs and building lines.”

Finally, with regard to building height in a sustainable city, Chapter 16, Section 16.7, states:

“Dublin City Council acknowledges the intrinsic quality of Dublin as a low-rise city and it is policy that it should predominantly remain so. There is a recognised need to protect conservation areas and the architectural character of existing buildings, streets and spaces of artistic, civic or historic importance. There is no further detailed guidance on appropriate building heights in low-rise areas.”

The guiding principles for SDRA 12 are set out in Chapter 15 of the Development Plan and include the following (summarised from 15.1.1.15):

- Provide network of connected streets and public spaces throughout;
- Establish a vibrant mixed-use urban quarter that is permeable and connected to its surroundings, incorporating a community hub and expanded school;
- Include “one or two mid-rise buildings (up to 50 m) within the site” where appropriate;
- Provide a ‘landmark’ public park as part of at least 20% public open space throughout.

The principal influences concerning landscape and visual impacts are therefore the quality of the new urban environment, the character and setting of a new public park and the potential impact of taller buildings on visual amenity and landscape character.

5.3.4 Consultation

Pre-application consultation was undertaken with Dublin City Council (ref. SHDPAC0020/21, 9th December 2021) and details of the formal Opinion from the Council are presented in the Planning Statement that accompanies this application. Some of the points most relevant to this chapter include:

- “Overall it is considered that the development, a new urban quarter, will be a positive addition to the surrounding neighbourhood and will not conflict with Development Plan policy to protect Dublin City Council built heritage, landscapes and valued views and prospects.”
- Notwithstanding this, the Council would prefer to see a single application for the Bailey Gibson and Player Wills/Churchlands sites to ensure, amongst other things, “appropriate height is achieved across the lands in line with the provisions of SDRA 12.”
- The Council’s Parks and Landscape Services Department has no objection to the overall development subject to consideration of some of the detailed design of the open spaces and streets.

5.4 Baseline Environment

5.4.1 Landscape Character

The Bailey Gibson site falls within Strategic Development and Regeneration Area 12 as set out in the Dublin City Development Plan 2016-2022, along with adjoining lands at the former Player Wills Factory, the Coombe Hospital and the St. Teresa's Gardens housing area.



Figure 5.2 Aerial view of the Bailey Gibson site from the south (source: Google Maps 3D, annotated)

The Bailey Gibson site is mainly occupied by single- and two-storey factory buildings in brick and render, accompanied by concrete yards; a modest brick chimney provides a local landmark; it is illustrated in **Figure 5.2**. The gardens of one- and two-storey houses back onto its southern and western boundaries. It has a distinctly industrial character and the majority of the site does not support trees, green spaces or other landscape features; however a small enclosed green space (allotments / community garden) fronting onto South Circular Road and Rehoboth Place is included within the development boundary. The existing site has a very low landscape and visual sensitivity to the proposed development. It forms part of the subject site for the development proposals considered in this report.

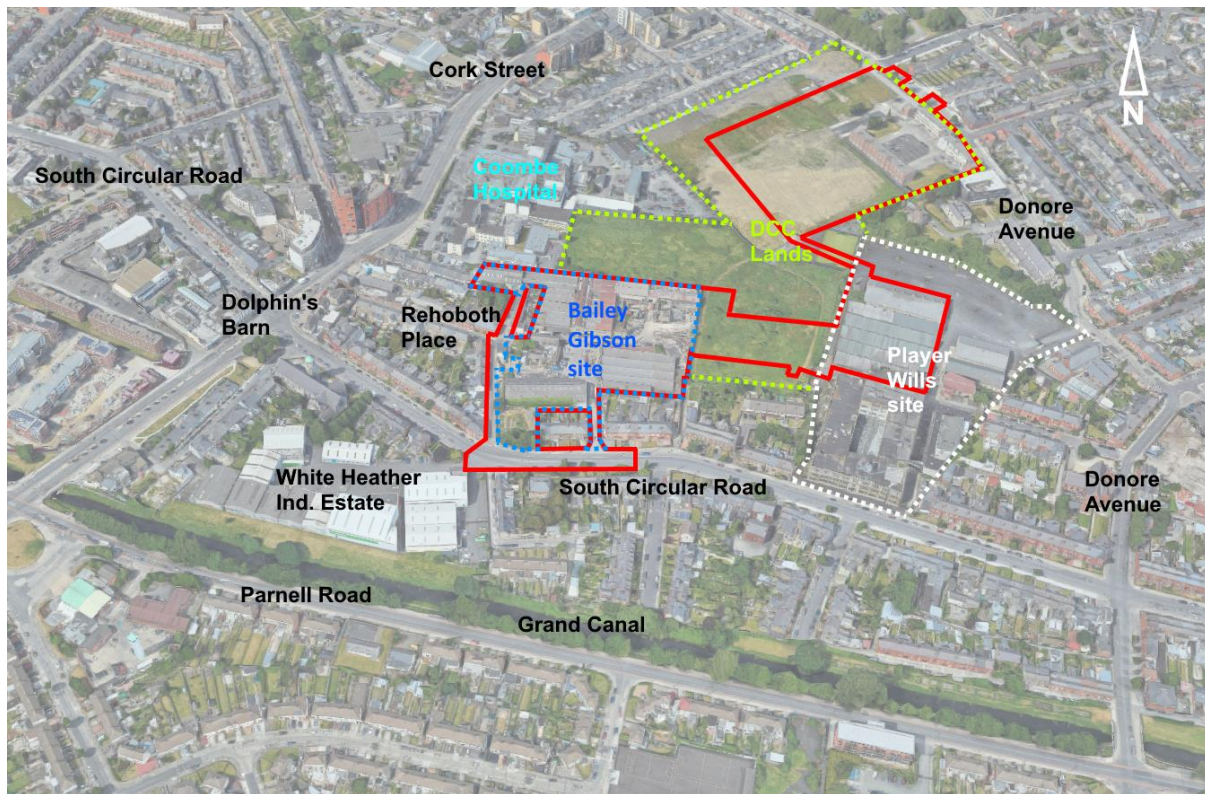


Figure 5.3 Aerial view from the south (source: Google Maps 3D, annotated)

The application area also includes parts of the DCC land at St Teresa's Gardens, an area of former public housing (now largely demolished) and communal open space, all now largely vacant and covered in rough grassland; this can be seen in **Figure 5.3**. The northern edge of this area, backing onto Eugene Street, has recently undergone residential development by Dublin City Council which is now served by an extension to Cameron Street and the new Margaret Kennedy Road. This is part of the area covered by SDRA 12 and has a low landscape and visual sensitivity to the proposed development.

5.4.2 Landscape Context

The Coombe Hospital to the northeast is part of SDRA 12. It comprises a cluster of varied mid- and late-20th century buildings, mostly 3-5 storeys high with some 1-2 storey elements, plus associated car parking. These buildings have no positive architectural merit and low landscape and visual sensitivity to the proposed development.

To the south and east of SDRA 12 lie extensive residential areas comprising traditional two-storey Victorian terraced houses laid out in a fairly regular street grid. Along South Circular Road, Donore Avenue and beyond to the east, many of these houses lie within a residential conservation area, including at the site entrances. To the east, the streets are relatively narrow and quiet with low traffic volumes and modest street trees along some of them, while South Circular Road to the south is broader and busier. The character of these residential areas is consistent and intact and landscape sensitivity to the proposed development is moderate. The former printing works and White Swan Business Park to the east is the principal exception to this, where new office development is imminent and sensitivity is low.

Beyond South Circular Road, south of SDRA 12, lies the Grand Canal, a Conservation Area where the canal, bankside green spaces and street trees provide a strong green east-west spine through the area. The northern bank comprises a green open space where the Conservation Area extends to encompass adjacent industrial units and houses/gardens that back/front onto the canal. Parnell Road runs immediately parallel to the canal overlooked by two-storey houses from mid-20th century. Landscape character along the canal itself is very consistent, though with variable character and quality along its northern boundary. Landscape and visual sensitivity to the proposed development is moderate to high.

Beyond the canal to the south lies more modern residential suburbs than those closer to the site and incorporating local schools. These comprises mostly terraced two-storey houses of mid-twentieth century age, with low sensitivity to the proposed development.

The commercial centre of Dolphins Barn lies a short distance to the west and includes shops, community facilities and apartments ranging from 4 to 12 storeys high. As an area of mixed uses and mixed-age buildings, it has a modern urban character that has low sensitivity to the proposed development.

The residential areas immediately neighbouring SDRA 12 to the east and west comprise mostly two storey Victorian terraced houses, some of which front onto South Circular Road. The intimate human scale of the side streets combined with proximity to the proposed development site lend them a moderate to high landscape and visual sensitivity to the proposed development.

Beyond the SDRA 12 to the north lies a residential area comprising one- and two-storey Victorian terraced houses at Eugene Street / Cameron Street / Fingal Terrace and others. These streets have a strong consistent character and are potentially sensitive to the scale and character of the proposed development. However, this area is adjoined to the north by contemporary apartments fronting onto Cork Street that already influence the character and outlook from these streets, while contemporary terraced housing is under construction immediately south of them. Landscape and visual sensitivity to the proposed development is considered low.

5.4.3 Views & Prospects

The likely extent of significant views and prospects towards the SDRA 12 area, and the proposed development site in particular, has been professionally assessed as an initial desk study supported with subsequent fieldwork in June 2019, followed by desk-based updates in 2021 and 2022. The outcome of those studies also informed the selection of photographic viewpoints, most recently captured in 2022, for supporting photomontages. These studies and verified photomontages have been presented to Dublin City Council, who has not requested any additional vantage points to be considered. Refer to **Figure 5.4** below.

The selection of viewpoints has also sought to be consistent with those used in support of the permitted Player Wills development (ABP. Ref. TA29S.308917), and to incorporate the wider SDRA 12, to enable the cumulative impacts of development to be assessed. Given that views towards the site are frequently obscured by intervening existing buildings and trees, especially

in a broader urban context, the selected vantage points emphasise the relatively limited range of available views and may be considered a 'worst case scenario'.

Visibility of the subject site at close quarters will occur principally from South Circular Road and Donore Avenue, including adjoining streets, with more intermittent views from Dolphin Barn Street / Cork Street and from Parnell Road / the Grand Canal. Further afield, there is likely to be glimpsed views of the proposed development from South Circular Road both east and west of SDRA12, also the Grand Canal both east and west, and from parts of the residential neighbourhoods east and south of the sites. Views from the south are also likely from Mount Jerome Cemetery. Further views from the west appear very limited but are likely from the Crumlin Road approach, while views from the north are likely to be obscured by intervening development along Cork Street and its surrounds.

Figure 5.4 below is drawn from the booklet of **Verified Photomontages** by Modelworks, and is presented here to indicate the range of representative views towards the proposed development site that are available from the surrounding area. These views are considered in detail later in this chapter. Longer range views associated with views of/from key built heritage in Dublin City are assessed in Chapter 14 Cultural Heritage: Built Heritage.



Figure 5.4 Photomontage View Location Plan, indicating a selection of representative views towards the site (source: Google Maps, annotated by Modelworks); Refer to Booklet of Verified Photomontages by Modelworks.

5.5 The ‘Do Nothing’ Scenario

This section considers what would happen to the baseline situation if the proposed development were not to go ahead. There are two likely outcomes from this, one temporary (less than 1 year) and one short-term (1-7 years)

In the event that the proposed development does not go ahead, the Bailey Gibson site will temporarily retain its industrial landscape character. The industrial buildings and yards areas lack maintenance while not in use and are likely to continue to decay and become overgrown, which would have a further negative impact upon the local urban landscape character.

In the event of doing nothing on this site, adjacent lands are likely to be redeveloped in the meantime, parts of which will have a poor outlook onto this site and may further increase pressure for its development.

In the short term, the extant permission for a Strategic Housing Development (Ref. ABP-307221-20) at the Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8 would be implemented. The effect would be as per the post mitigation effects outlined in the LVIA included in the EIAR that accompanied that application where the introduction of a new urban character area was deemed moderate positive while visual impacts were concluded to range from slight negative to moderate positive. The Board in their decision concluded the following;

“Significant direct positive effects with regard to landscape and visual amenity. In disagreeing with the Inspector, the Board did not consider the impact to be a significant adverse impact, in that the development: (a) results in improvements in the public realm with the creation of new thoroughfares and amenity areas within the site, which currently accommodates old industrial buildings and open stock yards. (b) provides a financial contribution to the planning authority to assist and provide for the delivery of a public park within the area, and on lands within the control of Dublin City Council, and as proposed by the Chief Executive as being the preferred means of providing open space for this development and for the existing and future residents of the surrounding area (c) is of an architectural quality and design responsiveness to the physical environment into which it is located, contributing to the regeneration of the urban fabric of this part of the city, and (d) is of a height, scale, layout and form appropriate to its location, having regard to the objectives of the Development Plan, as they relate to Strategic Development and Regeneration Area Number 12, and the Urban Development and Building Height Guidelines 2018.”

In the medium- to long-term, another development proposal for the site is likely to come forward and bring about significant change to the site's existing character and its visual impact upon the surrounding area.

5.6 Potential Significant Effects

This section addresses the likely impacts of the demolition, construction and operation stages of the development in the absence of any mitigation measures.

5.6.1 Demolition Phase

Landscape and visual impacts arising during the demolition stage are likely to be very localised and temporary. Demolition will take approximately 3-6 months.

There are no tall structures on the site to be demolished, therefore there will be no change to the wider landscape arising from the removal of buildings and structures from the landscape/skyline.

Securing of the site with hoardings is likely to have a slight adverse effect on the streets immediately adjoining the site – South Circular Road, Rehoboth Place and Donore Avenue – and to the rear of existing houses on those streets. These will be fixed and present throughout the demolition and construction phases.

Moderate adverse landscape impacts within the site are likely to occur as a result of the demolition process, with the dynamic presence of partially demolished buildings and structures, and the processing and stockpiling of demolition waste. Most potential visual impacts are likely to be contained by perimeter hoardings and neighbouring buildings, though the demolition of buildings at St. Teresa's Gardens on Donore Avenue will be more prominent in the public realm, with potential for moderate to high adverse visual impacts. Slight to moderate adverse visual impacts are likely from the operation of demolition plant within the site where these are glimpsed in views from South Circular Road and Rehoboth Place.

There will be moderate adverse visual impacts arising from the removal of trees and other vegetation at the site boundary, notably on South Circular Road where green space and some mature trees occur within the existing site. Street trees on Donore Avenue may be retained or replaced as part of the landscape scheme for the new public open space.

Slight adverse visual impacts in the immediately surrounding streets are likely to occur as a result of vehicle movements carrying plant and materials to and from the site.

Landscape and visual impacts from the demolition phase will be temporary, and is expected to lead directly into the construction phase.

5.6.2 Construction Phase

The construction phase is expected to take approximately 24-30 months. During construction, potentially significant negative temporary or short-term landscape and visual impacts are likely as a result of the following.

Hoardings will be present at the site perimeter following the demolition phase and are likely to have slightly adverse short-term landscape and visual impacts upon South Circular Road, Rehoboth Place and Donore Avenue, and the rear of existing houses on those streets.

Contractors' compounds within the site and the movement of plant and materials to/from the site are likely to have a slight to moderate adverse visual impact at/near the site entrance/exit

routes. The primary contractors' compound is likely to be located in the space which will be reinstated as Players Park (see **Construction and Environmental Management Plan**).

Basement construction is likely to have little landscape or visual impact except for the operation of plant for excavation, transport and piling, with a temporary slight adverse visual impact where these are visible from beyond the perimeter hoardings.

Tower cranes will be used on the Bailey Gibson part of the site. While these are temporary structures, they will stand higher than the tallest building, making them visually prominent from a relatively wide area. Their 'industrial' character, dynamic nature and significant visual intrusion above the surrounding roofscape is likely to give rise to a short-term but moderate to high adverse visual impact.

As the early stages of construction progress, the reinforced concrete frames of the new buildings at the Bailey Gibson site will emerge relatively quickly above the site hoardings in the first place and then above the surrounding buildings. Buildings at the site perimeter will be low-rise and seen mostly from neighbouring streets, while taller elements of Blocks BG1 and BG2 will be visible from a slightly wider area. The raw appearance of early construction and the dynamic presence of partially-completed structures are likely to have a temporary or short-term moderately to highly adverse impact upon landscape character and visual amenity.

However, once the main building structures are completed and the cladding to the building envelopes installed, the character of the site's landscape will begin to change. Construction activities will move to the building interiors as fit-out progresses, resulting in less movement and disturbance outside the buildings above ground level. With the final character of the proposed development emerging, this is likely to begin having a moderately positive impact upon landscape character and visual amenity.

The last stages of construction will comprise buried site services followed by hard and soft landscaping and the removal of compound areas and hoardings. In the wider landscape, this is likely to have a negligible impact upon landscape character and visual amenity, but for neighbouring streets and spaces this is likely to have a moderately positive impact upon landscape character and visual amenity.

5.6.3 Operational Phase

The effects described below for the operational phase are likely to be permanent. Sensitivity of landscape character areas and views discussed below is outlined in section 5.4 above.

With any new buildings, there is the risk that the new structures may be designed in largely functional terms with little regard for distinctive aesthetics and local urban landscape character. At best this is a wasted opportunity and will have a neutral impact on landscape character and visual amenity; at worst, poor design may diminish local urban aesthetics and have a negative impact upon landscape character and visual amenity.

The proposed development takes the former industrial Bailey Gibson site and transforms it into a vibrant residential quarter, which is a positive effect. The development adopts a contemporary approach to housing in terms of scale, form and detailing, which has the potential to have either a positive or negative effect on the existing urban landscape,

depending on how sensitively it is executed. As part of the wider SDRA 12, the proposed development aims to establish a new high quality urban neighbourhood with its own character and identity.

The proposed development will also deliver two major public open spaces – the formal and ‘civic’ Players Park adjacent to the east, and the multi-sport playing pitch with surrounding parkland to the northeast. In addition to providing high quality amenity space for new and existing residents, these spaces provide an important landscape setting that compliments the adjacent built development.

New development generally seeks to maximise the development potential of a building plot, which in itself is a sustainable development objective, but can result in development proposals pushing building height significantly upwards and extending above the prevailing building height in the locality. Such increases in height can be to the detriment of urban landscape character and visual amenity.

The proposed development incorporates buildings ranging from 2 to 7 storeys high. Lower buildings will be easily screened from most vantage points by intervening buildings, while taller buildings are likely to be visible from a wider area, with the potential to intrude upon sensitive landscapes and views. The layout and form of taller buildings will influence the positive or negative effects on those landscapes where they are seen from.

New development of this scale will be partially visible from neighbouring residential areas surrounding the site, mainly the taller blocks. The sensitivity of these areas to landscape and visual effects is generally low, though increases to moderate in the residential conservation areas to the south. There is scope for a major contrast of scale and architectural styles to give rise to low/moderate adverse visual impacts in residential areas generally and moderate/major adverse landscape and visual effects in the residential conservation areas, particularly at close quarters.

The development will adopt a contemporary approach to housing in terms of scale, form and detailing, of a character similar to the recently permitted development at the Player Wills site (ABP. Ref. TA29S.308917) though with much lower maximum building heights. This approach will complement the existing area of mixed use development on Dolphin’s Barn / Cork Street and more recent development on Margaret Kennedy Road. This approach is also consistent with other permitted and newly built developments in the wider area. This potentially has a moderately positive impact on landscape character by extending an established high quality modern city neighbourhood.

Site development can often result in the loss of existing buildings or other site features that might otherwise make a positive contribution to the local landscape. New development can also change the character of the existing streets and open spaces upon which it is set, with scope for either positive or negative effects on landscape character and visual amenity.

While most of the Bailey Gibson does not contain any features of landscape value, the green space and trees fronting onto South Circular Road currently make a positive contribution to the character of the site and adjoining streetscape; these features will be replaced by new buildings, with scope for localised adverse landscape and visual impacts. However, significant

new green open spaces will be created in other parts of the site, where these are likely to have significant positive impacts upon landscape character and visual amenity.

The proposed development will incorporate new streets as an extension to the local road network. These will replace the enclosed yards and industrial buildings, framed by new buildings of a larger scale and more contemporary character. By integrating new streets with the local residential street network and extending local residential neighbourhoods into the site, these are likely to make a moderately positive contribution to landscape character within the site.

The Grand Canal lies nearby to the south, with moderate to high sensitivity to the proposed development. The proposed development, where visible from Parnell Road and the bridges crossing the canal, will contrast with the tree-lined waterway and the mixture of modern and traditional low-rise buildings adjoining it. As a more intense urban form of development interrupting the skyline, there is likely to be slight to moderate adverse visual impacts upon views from the canal corridor.

The proposed development will potentially be visible from some of the main road approaches to the site. These include South Circular Road, from both east and west and the R110 approaching the city from the southwest, comprising the Crumlin Road and Dolphin's Barn Street. The traditional housing fronting South Circular Road makes these views slightly sensitive to the proposed development, while the busy urban route of the R110 has low sensitivity to the development. Therefore visual impacts are likely to be slight to moderate and neutral.

5.6.4 Cumulative Effects

The cumulative impact of the proposed development and neighbouring developments has the potential to be a significant influence upon urban landscape character and visual amenity in the wider area.

In the first instance, the proposed development site is part of the SDRA 12, where the future development of other land parcels is anticipated. The Player Wills site to the east (ABP. Ref. TA29S.308917) comprises retention and extension of the Player Wills factory building (to 5 storeys) plus four residential blocks of 2-8 storeys with 16 and 19 storey tower elements. An application has yet to be submitted for the remainder of the Player Wills site and associated land within the adjacent St. Teresa's Church site. The applicant is progressing the design development phase and is likely to make a Large Scale Residential Development application to Dublin City Council.

Draft proposals for the remaining DCC land within SDRA 12 are also being prepared on behalf of the Land Development Agency and Dublin City Council, currently comprising a series of seven storey residential blocks and a tower building of 15/16 storeys. Those developments are of greater scale but complementary character to the proposed development and will integrate closely in terms of building relationships, street networks and open spaces. Information at the time of preparing this chapter has been derived from that publicly available at <https://donoreproject.ie/>.

On its own, the proposed development of five blocks (up to seven storeys) plus public open spaces is likely to appear as a modest contemporary urban intervention set in a relatively 'traditional' residential suburb, but as part of the wider SDRA 12 it will make a significant contribution to a new urban neighbourhood with its own character and identity. Resulting cumulative impacts on local landscape character and visual amenity are potentially positive on account of the regeneration of this area, but have the potential for adverse landscape and visual impacts upon immediately neighbouring areas on account of contrasting character and scale of development.

In the wider area, there is ongoing change to the surrounding urban landscape. Dolphin's Barn and Cork Street have undergone significant change in the last 15-20 years, supporting several contemporary buildings of 4-12 storeys high. Consented and built developments in this area provide buildings typically of 4-7 storeys, occasionally eight storeys. Examples include: 43-50 Dolphin's Barn Street providing 4-7 storey residential/retail building (3853/17); 75-78 Cork Street providing a 6-storey mixed use building (3086/17); and the Old Glass Factory rear of 113-122 Cork Street providing 4-7 storeys.

On South Circular Road to the west, the former Rialto Cinema has consent for a 6-storey mixed-use development (2203/15).

At Brickfield Lane / Brown Street / Cork Street to the northeast there is consent for 6/7 storey student accommodation buildings (3316/16, 3197/18 and SHD0001/17), while in St. Teresa's Gardens, 3-5 storey residential buildings have recently been completed fronting the multi-use sports pitch and gardens that are proposed as part of this planning application.

There is planning consent for a four-storey office building at the White Swan Business Park to the east on Donore Road (2027/17) and for a four-storey laboratory building at the Coombe Hospital to the north (4049/19).

At Grand Canal Place, some 700+ metres north of the site, there is consent for a development of 3-14 storeys across five blocks (2765/20), currently under construction. Similarly at Newmarket, approximately 500 metres northeast of Donore Avenue, new development is under way for residential-led mixed use development of 6-13 storeys (SHD0007/20 (ABP-307067-20)).

These consented and new developments illustrate a changing urban landscape character that incorporates clusters of contemporary development, often of significantly greater height than the adjacent 2-3 storey traditional residential neighbourhoods. The proposed development will build upon this emerging urban landscape by establishing a comprehensive cluster of contemporary development as a new urban neighbourhood that complements those changes already happening nearby. The impact of this upon landscape character and visual amenity is likely to be positive in the medium term as consented developments get built.

5.6.5 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development before mitigation measures are applied.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|-------------------|----------------------|-------------|------------------------|--------|
| Hoardings at the site perimeter | Negative | Slight | Site specific | Likely | Short-term | Direct |
| Contractors' compound | Negative | Slight | Site specific | Likely | Short-term | Direct |
| Partially demolished buildings | Negative | Moderate - High | Site specific | Unlikely | Temporary | Direct |
| Stockpiles of demolition waste | Negative | Slight | Site specific | Likely | Temporary | Direct |
| Operation of demolition / construction plant | Negative | Moderate | Site specific, local | Likely | Short-term | Direct |
| Demolition not completed | Negative | Slight - moderate | Site specific | Unlikely | Medium or long-term | Direct |
| Vehicles movements to/from site. | Negative | Slight-moderate | Site-specific | Likely | Short-term | Direct |
| Excavation / construction of basements | Negative | Slight | Site specific | Likely | Temporary | Direct |
| Presence of tower cranes | Negative | Moderate - high | Site specific, local | Likely | Short-term | Direct |
| Emerging building structures (incomplete) | Negative | Moderate - high | Site specific, local | Likely | Temporary / Short-term | Direct |
| Construction not completed | Negative | Moderate - high | Site specific, local | Unlikely | Medium or Long-term | Direct |
| Completed building envelopes | Positive | Moderate | Site specific, local | Likely | Permanent | Direct |
| Removal of compounds, plant and hoardings. | Positive | Slight - moderate | Site specific, local | Likely | Permanent | Direct |

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---------------------------|----------|-----------------|----------------------|-------------|-----------|--------|
| Hard and soft landscaping | Positive | Moderate - high | Site specific, local | Likely | Permanent | Direct |

Table 5.1 Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation

The Table below summarises the identified likely significant effects during the operational phase of the proposed development before mitigation measures are applied.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|--------------------|-------------------|----------------------|-------------|-----------|--------------------|
| Introduce a new urban character area | Neutral - Positive | Moderate | Site Specific, Local | Likely | Permanent | Direct, cumulative |
| Scale and heights of buildings | Negative - Neutral | Moderate | Site Specific | Likely | Permanent | Direct |
| Changes to existing streetscapes | Neutral - Positive | Slight - Moderate | Site Specific | Likely | Permanent | Direct |
| New streetscapes | Positive | Moderate | Site Specific | Likely | Permanent | Direct |
| Visual impact upon neighbouring residential areas | Negative | None - Moderate | Local | Likely | Permanent | Direct |
| Visual impact upon the Grand Canal Conservation Area | Negative | None - Moderate | Local | Likely | Permanent | Direct |
| Visual impact upon major road corridors | Neutral | None - Moderate | Local | Likely | Permanent | Direct |

Table 5.2 Summary of Operational Phase Likely Significant Effects in the absence of mitigation

5.7 Mitigation

5.7.1 Demolition and Construction Phase Mitigation

The demolition and construction phases of development will be completed expediently through careful construction planning and management prior to commencing on site and throughout the construction phase. Even with all reasonable mitigation measures in place (described below), construction activities will most likely have significant negative effects on visual amenity for adjoining buildings, streets and open spaces for a planned period of approximately 24-30 months. Completing the construction programme in this period represents an expedient construction programme and will ensure negative landscape and visual impacts are removed as quickly as possible.

The contractors' compound, including site offices and parking, will be located within the site and away from nearby houses, where it will have minimal visual impact.

Perimeter hoardings will be installed along the site boundaries and maintained in good condition and free of unsolicited graffiti and fly-posting.

A construction materials and waste storage area will be located within the proposed development site, screened from public view by intervening buildings as well as perimeter hoardings.

Visual impacts will increase and extend to a wider area with the installation of tower cranes across the site and the gradual emergence of the building structures. The tower cranes will be the tallest and most visible elements, but are temporary structures for the duration of construction only. These will be 'parked' in an orderly manner when not in use (e.g. without overhanging neighbouring residential areas) and removed from the site at the earliest opportunity.

Plant machinery generally within the site, especially during demolition and the early stages of construction, are likely to be partially visible from neighbouring streets and open spaces. When not in use, these will be parked in compound areas and/or away from the site perimeter in order to minimise visibility outside of working hours.

A vehicle management strategy will be implemented, to minimise visual impacts and other impacts on neighbouring streets and residents, including the defined haul routes and times of operation; consolidation of vehicle movements for deliveries to site or removal of materials from site; and staggering of vehicle movements to minimise or avoid queuing on neighbouring streets.

5.7.2 Operational Phase Mitigation

The design evolution of the proposed development has incorporated a series of measures to minimise or avoid adverse landscape and visual impacts while delivering a scale and quality of development envisaged by SDRA 12. The design approach also seeks to satisfy the guiding principles of good urban design contained in section 3.2 of the Urban Development and Building Height Guidelines, and also the development standards contained in Chapter 16 of the Development Plan.

The design of the proposed development has also evolved from the previously permitted scheme for the Bailey Gibson site under ABP Ref. TA29S.307221, particularly with regard to the scale and height of the proposed buildings. Key changes are described below, while a more detailed account of the changes can be found in Section 4.8 of the **Architectural Design Statement** that accompanies the planning application.

5.7.2.1 Scale and height

A sensitive approach has been taken to layout and height of buildings, incorporating transitions to the surrounding low-rise neighbourhoods. Two- to four-storey blocks are positioned at the site perimeter adjoining existing residential areas, in Blocks BG3, BG4 and BG5, providing screening and a transition to taller blocks behind them in Blocks BG1 and BG2. The tallest elements at seven storeys are located towards the centre of SDRA 12, where they will provide a transition towards a cluster of taller buildings located in the adjacent Player Wills site (consented, up to 16 and 19 storeys) and DCC site (draft proposals, up to 15/16 storeys).

In the previously consented scheme (ABP Ref. TA29S.307221), tower elements within Blocks BG1 and BG2 extended to 11 and 16 storeys respectively. The planning inspector for that application expressed concern, at section 13.6 of the report, regarding the height of those buildings and their scope for significant adverse landscape and visual impacts upon nearby existing dwellings. Now proposed at seven storeys, these elements have been significantly reduced and now fall within the 'low rise' category of building heights and comply with the height strategy envisaged by the Dublin City Development Plan 2016-2022 height strategy for this area.

5.7.2.2 Massing and Built Form

Varied building heights are used to create a dynamic built environment with rich character, variety and structure, where taller buildings provide focus for open spaces and vistas within the development and beyond, while lower buildings interface with the street scale and neighbouring residential areas. A range of built form is used within the site in response to existing/neighbouring buildings and opportunities elsewhere for a bolder approach.

In addition to its reduced height, BG1 now incorporates setbacks to the top floor to reduce the perception of height from street level and the neighbouring context. Mirroring apartments has also allowed larger window openings in the façade to convey a lighter and more open character.

The lower maximum height of BG2 reduces its presence and impact upon the new internal street network, remaining a backdrop to the view across Players Park from the east but now opening up the setting of the park and conveying a greater sense of space.

Changes to the massing and built form of BG3, BG4 and BG5 have been minor. They serve as the transition between neighbouring residential areas and the heart of the proposed development and wider SDRA 12, where their response to scale, massing and built form is a contemporary reflection of a traditional residential grain and character.

5.7.2.3 Streets and open spaces

The layout adopts a street hierarchy, some with slow speeds, shared surfaces and pedestrian priority or home zones.

Active street frontages add visual richness, a human scale and encourage lively dynamic streets through regular front doors and community/retail spaces.

Street trees, soft landscaping and rich/dynamic hard surfaces create high quality streets and reinforce the human scale, guiding pedestrians and vehicles through the centre of the Player Wills site from South Circular Road and Donore Avenue.

A 'chain' of hard and soft public open spaces weave their way through the site, while courtyard spaces provide a green outlook and buffer to adjacent existing residential areas. Streets and open spaces provide green infrastructure functions, including sustainable drainage systems.

The inclusion of Players Park, the multi-use sports pitch and neighbouring parkland serves to deliver these key public open spaces early in the development of SDRA 12. This will not only introduce significant green open spaces into the neighbourhood but will also enrich the streetscapes of Donore Avenue and Margaret Kennedy Road.

5.7.2.4 Façades and materials

The rhythm and proportions of windows echo those found in more traditional buildings, particularly in the smaller perimeter blocks and those fronting existing streets, while the subdivision of larger façades into smaller/narrower elements add finer scale and proportion. Double-height street façades below taller buildings emphasise the human/street scale. Semi-recessed balconies add depth and contrast within elevations.

Sympathetic palettes of materials incorporate traditional brick and render with complementary modern materials. The use of traditional red brick (as found along South Circular Road) and buff brick (as found in Dolphins Barn and the former Player Wills factory building) complements the development's surroundings but are used with a more contemporary expression of texture and arrangement.

A simple approach to courtyard-facing elevations uses both brick and render to reflect light and contrast with other materials. Glass balustrades and dark coloured aluminium finishes add further detail and contrast.

Regular maintenance of the external building fabric and public/private open spaces will be undertaken to maintain the highest standards of building presentation and landscaping, ensuring the completed development continues to make a strong positive contribution to the urban fabric and character of the area.

5.8 Residual Impact Assessment

5.8.1 Demolition Phase

There is limited scope for the reduction of adverse landscape and visual impacts arising from the proposed development. Slight reductions in adverse effects will be achieved through the location of the contractor's compound away from housing and the site perimeter, and management of vehicle movements to and from the site, while the temporary processing and stockpiling of demolition waste will not take place on the site. Carefully monitored and executed site housekeeping will ensure streets around the site are maintained to a high standard.

Residual impacts upon landscape character and visual amenity during the demolition phase will benefit most from efficient and expedient execution of demolition works to ensure the anticipated adverse impacts upon landscape character and visual amenity in the immediate site surroundings are short-lived. Residual impacts will be slightly to moderately adverse and temporary.

5.8.2 Construction Phase

As with the demolition phase, there are few mitigation measures available to significantly reduce adverse landscape and visual effects during construction, where the most significant mitigation measure is the shortest construction timescale. During construction, overall landscape and visual impacts will remain as mainly slightly to moderately negative, with a moderate to major adverse impacts at the stage when the building frameworks are under construction but unclad.

Hoardings will be present at the site perimeter following the demolition phase, with a slightly adverse landscape and visual impacts upon immediately neighbouring streets in the short-term.

The contractors' compounds within the site have been located to positions that minimise their landscape and visual impact upon the surrounding area. The movement of plant and materials to/from the site will be proactively managed to minimise their impact on neighbouring streets and residents, but will continue to have a slightly adverse visual impact at/near the site entrance/exit routes.

Basement construction is likely to have little landscape or visual impact except for the operation of plant for excavation, transport and piling, with a temporary slight to moderate adverse visual impact where these are visible from beyond the perimeter hoardings.

Tower cranes will be used throughout the site. While these are temporary structures, they will stand higher than the tallest building, making them visually prominent from a relatively wide area. Their 'industrial' character, dynamic nature and significant visual intrusion above the surrounding roofscape is likely to give rise to a short-term but moderate to high adverse visual impact; their impact will be reduced when not in use by positioning them in an orderly manner and avoiding overhanging adjacent residential areas.

As the early stages of construction progress, the reinforced concrete frames of the new buildings will emerge relatively quickly above the site hoardings in the first place and then

above the surrounding buildings. Buildings at the site perimeter will be low-rise and seen mostly from neighbouring streets, while taller buildings towards the north/east quadrant of the site will be taller and visible from a wider area. The raw appearance of early construction and the dynamic presence of partially-completed structures are likely to have a temporary or short-term moderately to highly adverse impact upon landscape character and visual amenity.

However, once the main building structures are completed and the cladding to the building envelopes installed, the character of the site's landscape will begin to change. Construction activities will move to the building interiors for fit-out, resulting in less movement and disturbance outside the buildings above ground level. With the final character of the proposed development emerging, this will begin to have a moderately positive impact upon landscape character and visual amenity.

The last stages of construction will comprise hard and soft landscaping and the removal of compound areas and hoardings. In the wider landscape, this will have a negligible impact upon landscape character and visual amenity, but for neighbouring streets and spaces, removing the hoardings will have a slight to moderate positive impact and landscaping will have a moderately to highly positive impact upon landscape character and visual amenity.

5.8.3 Operational Phase - Landscape Character

Within the context of the wider SDRA 12 landscape, the proposed Bailey Gibson development will make a moderate and positive contribution to this new urban neighbourhood. Impacts upon the surrounding urban landscape will also be moderately positive, replacing an abandoned industrial premises with an attractive residential environment.

The taller blocks BG1 and BG2, at a modest seven storeys, give structure and form to the development, helping to define its core and creating a gateway into the site from the west (via Rehoboth Place) and from the south (via South Circular Road). Lower buildings of 2-4 storeys at the site perimeter provide a contemporary transition of scale between neighbouring traditional residential areas and the taller blocks in blocks BG1 and BG2. This restraint of building height/scale, the extensive use of brick and the echoes of traditional window proportions complements the more traditional style of housing nearby.

A human scale is reinforced at street level through active frontages, double-height where retail/community uses are place; through height transitions to existing streets and neighbouring dwellings; and through comprehensive high-quality detailing to the streetscape, including street trees and shrub planting, generous pavements, cycle parking and seating.

Material detailing includes extensive use of red, grey and buff coloured brickwork throughout, echoing the character of neighbouring areas, while also incorporating the clean lines and fine detailing of glazed balustrades and bronze-coloured aluminium panels/detailing.

Enclosed communal courtyards and gardens provide an outlook from some neighbouring residential areas as well as a spatial buffer between them and the proposed residential buildings. They have a more domestic character defined by their detailing and the simple approach to building materials/detailing.

The residential development along the eastern side of Rehoboth Place will provide a much more complete and unified streetscape. Modern terraced dwellings will replace the existing industrial building/yard areas and reinforce the character of this residential neighbourhood. Similarly, the existing site entrance to the Bailey Gibson yard from South Circular Road will be remodelled as a one-way residential street, replacing the existing industrial character. In both cases, these new streetscapes will have a small-scale but highly positive impact upon the residential character of this neighbourhood.

The new multi-use sports pitch and adjacent park / play space will transform the former St. Teresa's Gardens from remnant housing and vacant land to a major new public space, providing a setting for the proposed development and for recent development on Margaret Kennedy Road while also enhancing the streetscape of Donore Road. The high quality landscape and public access to this space will have a major positive impact upon landscape character for this part of the site and adjacent streets.

5.8.4 Visual Impacts – Donore Avenue and the eastern residential environs

A series of verified photomontage views (9a, 9b, 10a, 10b, 10c, 11 and 12) illustrate the residual visual impacts arising from the proposed development and are appraised below. Refer to the booklet of **Verified Photomontages** by Modelworks. Photomontages include the proposed development in detail, plus the consented Player Wills development and the emerging proposals for development of the DCC lands (hereafter called the LDA/DCC Scheme) both in outline only.

View 09a – Existing

The outlook from Donore Avenue across the northern part of the SDRA 12 encompasses what remains of St. Teresa's Gardens council estate. Much has been cleared, but two remaining blocks are visible in this view. Recent residential development by Dublin City Council has established Margaret Kennedy Road on the right of this view, with a new wall and railings surrounding the open space at the centre of this view. This view across the SDRA 12 has a low sensitivity to the proposed development (refer to section 5.4.2).

View 09a – Proposed

This photomontage illustrates the removal of the remaining housing at St. Teresa's Gardens and the introduction of a broad green recreational space with playground and perimeter tree planting. Bailey Gibson development and the introduction of a broad green recreational space with playground, seating and tree/shrub planting. The park greatly enriches the streetscape of Donore Road and invites the viewer to enter and explore, while the proposed development on the Bailey Gibson site forms a new backdrop on the right of this view.

It is the taller buildings (up to seven storeys) of blocks BG1 and BG2 that are visible in this view, as part of the backdrop to the new park, which have a slightly positive impact upon visual amenity. They appear as a compact cluster of contemporary buildings, forming a cohesive and dynamic arrangement of building volumes and heights, with complementary warm coloured brickwork as the prevailing material while window openings and balconies add contrast, texture, depth and emphasise a vertical grain. The appearance of the Bailey Gibson development reinforces the new contemporary neighbourhood established by the DCC

development on Margaret Kennedy Road (out of view to the right), which together contain and frame the park, giving it scale, and establishes a new contemporary skyline. It is a major positive impact upon landscape character and visual amenity.

View 09a – Proposed + Player Wills and Draft LDA/DCC Scheme

The addition of the Player Wills and Draft LDA/DCC Scheme will bring a major magnitude of change to this view, where new buildings within the DCC lands (red outline) will screen the Bailey Gibson development from view, while the Player Wills development (blue outline) will continue the new urban backdrop across the park. The Bailey Gibson development will make no contribution to visual impacts at this stage. The full character of the SDRA 12 area will be evident in this view, with the extensive green landscape of the park enhancing the setting of the foreground street, while a range of building heights and character will bring a visually rich new neighbourhood into the area and define an entirely new backdrop/skyline to the park. As a result, the cumulative development will have a major positive visual impact upon this view.

View 09b – Existing

The vista along Ebenezer Terrace is one of Victorian terraced houses, terminated at close quarters by an existing residential block at Donore Street / St. Teresa's Gardens. The terraces are attractive but the outlook at the end of the street is not, on account of the poor architectural qualities of the residential block. This view to the edge of SDRA 12 has a low sensitivity to the proposed development as a result (refer also to section 5.4.2).

View 09b – Proposed

This moderate magnitude of change gives rise to a moderate positive impact upon visual amenity. The greatest positive visual impact arises from the removal of the existing flats along with the introduction of a major new park comprising a broad green recreational space and perimeter trees/shrubs. There is glimpse of the Bailey Gibson development, partially visible as a backdrop to park, lending it a sense of scale and enclosure. New building elevations employ brick finishes along with the proportions and rhythm of window openings that echo those of the foreground buildings, though these are fine details at this distance. The foreground park provides an attractive linking element between established and new neighbourhoods.

View 09b – Proposed + Player Wills and Draft LDA/DCC Scheme

Development of the wider SDRA 12 will bring about a high magnitude of change to the view that significantly enhances its outlook. The new park provides an open space and destination at the end of the street, softening the appearance of the existing street. New buildings on the DCC lands (outlined in red) will provide a focus for this vista and contrast with the traditional streetscape in the foreground and a backdrop to the intervening park, while screening the Bailey Gibson development entirely from view. The Player Wills development will be partially visible above intervening rooftops, signalling the wider extent of this new neighbourhood. The result will be a visually rich urban landscape, where visual impacts of the cumulative development are likely to be moderately positive.

View 10a – Existing

This view is from the western end of Rutledge Terrace where the flank of St. Teresa's Church terminates the view, with street trees framing the vista. The credit union building in the foreground is modern and unremarkable in character, while the church is clearly recognisable and make a slightly positive contribution to this view. Sensitivity to the proposed development is considered to be low as a result.

View 10a – Proposed

This view demonstrates that the proposed development will not be visible from here, as the green outline indicates that the Bailey Gibson development is entirely screened by intervening buildings. Even from the opposite side of Rutledge Road (to the viewer's left), the proposed development would evidently still be hidden from view behind the intervening church building. There will be no visual impact arising from the proposed development as a result.

View 10a – Proposed + Player Wills and Draft LDA/DCC Scheme

The coloured outlines in this view indicate that part of the Player Wills development (blue outline) would be clearly visible above the existing skyline, providing a contrasting contemporary character and a focal feature at the end of the vista long the street. Development of the DCC lands (red outline) would not be visible from here.

There is no dominant architectural style of quality in either the existing or proposed views. The proposed tower element of the Player Wills development flags the presence of the wider development within SDRA 12 but lacks context to make it a cohesive part of this particular view. The Bailey Gibson development continues to make no contribution to this view. The magnitude of change is moderate and cumulative visual impacts are considered slightly adverse.

View 10b – Existing

This view south along Donore Avenue encompasses St. Teresa's Church and its grounds, adjoining the youth centre. The church is the dominant feature in this view and a local landmark for those travelling along Donore Avenue, while the youth centre adds a contrasting and distinctly contemporary theme to the view. The green space and street trees make a positive contribution to this attractive view of the church. Sensitivity to the proposed development is considered low to moderate.

View 10b – Proposed

In the absence of any change to this view, it demonstrates that the approach to St. Teresa's Church from the north does not encompass the Bailey Gibson site, nor does it encompass the proposed multi-use sports pitch and park / play areas on the former St. Teresa's Gardens. There will be no visual impact on this view arising from the proposed development.

View 10b - Proposed + Player Wills and Draft LDA/DCC Scheme

Block PW2 of the consented Player Wills development is clearly visible as a new background element between the church and youth centre. It provides a visual contrast to the church and the traditional streetscape of Donore Avenue, while somewhat complementing the

contemporary character of the youth centre in the foreground. The church largely retains its visual separation from the Player Wills development in this view and remains the dominant feature, though to a lesser extent than in the existing view. The magnitude of change is moderate and the cumulative visual impact is considered to be slightly to moderately negative.

View 10c – Existing

This view observes the garden area between St. Teresa's Church, the youth centre and the residential/office buildings in the background. It's a reasonably pleasing and coherent view and sensitivity to the proposed development is low.

View 10c – Proposed

The proposed development at Bailey Gibson is outlined in green to demonstrate that it is almost entirely screened from view by intervening buildings. It appears that there will be a very minor glimpse to part of the development between the existing buildings at the centre of this view. The magnitude of change is imperceptible and visual impacts will be imperceptible and neutral.

View 10c – Proposed + Player Wills and Draft LDA/DCC Scheme

The blue and red outlines indicate a major magnitude of change to this view primarily as a result of the proposed Player Wills development (blue outline) along with part of the future development of the DCC lands (red outline). These buildings are likely to dominate the view with a much greater degree of enclosure than there is at present, while also changing to character of the view to being predominantly contemporary as a setting for the church. The Bailey Gibson development will not contribute to the cumulative development in this view, where cumulative visual impacts are likely to be moderately negative.

View 11 – Existing

This view is from the top of Sandford Avenue, a vista along a street of traditional terraced two-storey houses where the existing Player Wills factory building terminates the view beyond Donore Avenue. Street trees frame the view. Sensitivity to the proposed development is considered low to moderate (refer to section 5.4.2).

View 11 – Proposed

This view demonstrates that the proposed development will not feature in this view, being entirely screened by the nearby terraced houses to the left. The existing Player Wills factory building remains a subtle terminating feature of this view. There will be no visual impacts arising as a result.

View 11 – Proposed + Player Wills and Draft LDA/DCC Scheme

The existing Player Wills factory building is supplemented with additional floors (blue outline) to provide a more pronounced termination of the vista along the street. Other parts of the Player Wills development would be partially visible from elsewhere on the street, above the rooftops to the right, though much of that development would remain largely screened in this

view. As the principal effect is a more pronounced terminating feature to this view, cumulative visual impacts are considered slight and neutral.

View 12 – Existing

This vista along Rutledge Terrace encompasses a moderately attractive suburban streetscape of modern and traditional two-storey houses with mature gardens and street trees; it is also a quiet street. There is no focal point to the vista and it is considered to have a low to moderate sensitivity to the proposed development.

View 12 – Proposed

The Bailey Gibson development is outlined in green in this view and indicates that the proposed development will be entirely screened from view. There will be no change to this view as a result and there will be no visual impacts arising from the proposed development.

View 12 – Proposed + Player Wills and Draft LDA/DCC Scheme

The proposed development will remain screened from view while the intervening presence of buildings at player Wills (blue outline) and the DCC lands (red outline) will establish a moderate magnitude of change to this view. Intervening street trees will provide a foil to the cluster of taller buildings that are visible and provide a more dynamic and contemporary skyline at the termination of this vista. The cumulative development will add depth and variety to this urban landscape, aiding legibility and signalling a new neighbourhood nearby. Visual impacts are likely to be slightly positive.

5.8.5 Visual Impacts: South Circular Road and Dolphins Barn

A series of verified photomontage views (1, 2, 3a, 4, 5a, 6 and 13) illustrate the residual visual impacts arising from the proposed development and are appraised below. Refer to the booklet of **Verified Photomontages** by Modelworks. The appraisal below follows a sequence from east to west.

View 13 – Existing

South Circular Road approaches from the east with this vista directly towards the proposed development site. It is a reasonably consistent mix of late Georgian houses fronting a broad street lined with relatively young street trees. The proposed development site is distant from this vantage point and sensitivity to the proposed development is considered moderate (refer to section 5.4.2).

View 13 – Proposed

The green outline in this view indicates that the proposed development lies entirely screened from view at this location, with no visual impacts arising as a result. It also seems likely that as the viewer progresses towards the site along this section of South Circular Road, the proposed development will continue to remain entirely screened from view.

View 13 – Proposed + Player Wills and Draft LDA/DCC Scheme

The blue outline in this view indicates that the proposed Player Wills development will be partially visible as a terminating feature to this vista, while the future development on DCC land (red outline) is entirely screened from view. In this scenario, the cumulative impact is likely to have a slightly adverse visual impact upon those views as a result of the Player Wills development, with no contribution to this from the proposed Bailey Gibson development.

View 01 – Existing

South Circular Road is a residential conservation area and significant transport route. The two-storey Victorian/Edwardian terraces have a distinctive and reasonably consistent character, with the broad street affording a wide vista accompanied by occasional street trees. The existing Player Wills factory, a Protected Structure, is a distinctive building in this streetscape, a contrasting intervention in the street's residential character, though only glimpsed from this particular vantage point. This view is moderately sensitive to the proposed development (refer to section 5.4.2).

View 01 – Proposed

The proposed development, outlined in green, will have an imperceptible neutral visual impact upon this view. It remains almost entirely screened from view, with perhaps a minor or imperceptible glimpse of the proposed buildings beyond the street trees in this vista. The character of South Circular Road prevails in the context of the Bailey Gibson development.

View 01 – Proposed + Player Wills and Draft LDA/DCC Scheme

The cumulative development introduces a moderate magnitude of change to this view, where the blocks within the Player Wills site (outlined in blue) are partially visible above the intervening roofscape. The proposed buildings within the DCC lands (outlined in red) will remain screened from view. Collectively, these developments will introduce contemporary built elements to the skyline that contrast with the more historic streetscape to the foreground. The significant set-back of the new buildings and their contrasting character and grain allows the terraces along South Circular Road to remain dominant and the integrity of their elevations and rooflines remains intact. An emerging modern neighbourhood provides a new and contrasting backdrop to South Circular Road. Cumulative visual impacts are considered likely to be moderate but neutral.

View 03a – Existing

This part of South Circular Road contains a mix of residential conservation area (Victorian/Edwardian terraces) adjoined by pockets of industrial land, including the proposed development site. This view contains a notable gap in the streetscape where a pocket of undeveloped land forms part of the proposed development site. The roofscape of the existing factory units provides a backdrop in part of this view. Two mature trees punctuate the centre of this view, where the streetscape is otherwise largely built-up. The street is wide and a broad vista stretches along it towards the Player Wills site. This view has a moderate sensitivity to the proposed development (refer to section 5.4.2).

View 03a – Proposed

The proposed development introduces a moderate to high magnitude of change to this view that results in a slightly positive visual impact overall. Contemporary apartments extending to just three storeys high frame the entrance to Rehoboth Place from South Circular Road alongside existing offices and houses. The slight to moderate adverse visual impact of losing the existing trees from the existing plot are counterbalanced by the removal of the old industrial roofscape, introduction of a new complementary residential architecture, and by the introduction of street trees to Rehoboth Place.

View 03a – Proposed + Player Wills and Draft LDA/DCC Scheme

The cumulative development will introduce a high magnitude of change to this view. Taller buildings set back within SDRA 12, principally within the Player Wills site to the right, define a new skyline and provide a strong contemporary backdrop to the traditional terraces along South Circular Road. The prevailing traditional suburban streetscape character is retained while new buildings add depth and diversity to create a more structured and contemporary urban landscape and define a stronger sense of place. Cumulative visual impacts are likely to be moderately positive, with the Bailey Gibson development continuing to make a slightly positive contribution.

View 04 – Existing

This view extends along South Circular Road to the right, with the building fronting the corner of Dolphin's Barn Street centre and left. While the distinctive and consistent character of Victorian terraces on South Circular Road are evident, there is a distinct contrast with the commercial buildings fronting onto the junction. The road is broad and busy, and with a clutter of signal, signage and railings, this view has a poor urban quality with a low sensitivity to the proposed development (refer to section 5.4.2).

View 04 – Proposed

The proposed Bailey Gibson development is almost entirely screened from view, with an imperceptible change to the assembly of buildings at the centre of this view where a glimpse of the roof of a factory building is replaced by a similar glimpse of the upper floors of the proposed development. The magnitude of change is very minor and the visual impact is imperceptible and neutral.

View 04 – Proposed + Player Wills and Draft LDA/DCC Scheme

This view indicates that future development of the DCC land (red outline) and the Player Wills development (blue outline) will introduce small elements of contemporary new buildings as part of the backdrop/skyline in conjunction with the glimpse of the Bailey Gibson development. The magnitude of change is minor and not sufficient to effect any significant change to the character of this view. Cumulative visual impacts will therefore be minor and neutral.

View 05a – Existing

This view from the junction of Reuben Street and Dolphin's Bart Street illustrates the very low-rise development currently fronting this part of the road frontage and allowing relatively open views towards the proposed development site. The existing buildings present a contrasting range of building styles and land uses, with the Coombe Hospital at the left and a mix of residential and commercial buildings to the centre and right. It is a low value landscape with low sensitivity to the proposed development (refer to section 5.4.2).

View 05a – Proposed

The proposed development introduces partial views of the upper floors of blocks BG1 and BG5. The latter echoes the built form and colour of other rendered buildings in this view, while the elevation of BG1 appears complementary to the Coombe Hospital. It has a more open and warm appearance than the hospital on account of its extensive glazed openings, balconies and warm brick tones. It consolidates the background and enriches the architectural qualities of this view, resulting in a slightly positive visual impact.

View 05a – Proposed + Player Wills and Draft LDA/DCC Scheme

The upper floors of proposed buildings in the Player Wills site (blue outlines) and DCC land (red outlines) are likely to complement the character of the proposed development at the Bailey Gibson site, by assembling a collection of open and visually rich residential facades with high quality brick/glazed finishes apparent in this view. The magnitude of change from the cumulative development will be moderate and visual impacts moderately positive.

View 06 – Existing

This vista along South Circular Road to the west of the SDRA 12 is characterised mainly by red brick Victorian terraces, although tall contemporary buildings located on Dolphin's Barn terminate the vista. The contemporary Primary Care Centre on the right of this view also contrasts with the prevailing Victorian terraces. It is a wide suburban street but without the benefit of street trees, and is therefore a somewhat hard landscape. This view has a low sensitivity to the proposed development (refer to section 5.4.2).

View 06 – Proposed

The proposed development is outlined in green and indicates that it will be entirely screened from view by intervening buildings. There will be no visual impacts arising from it as a result.

View 06 – Proposed + Player Wills and Draft LDA/DCC Scheme

Cumulative development within SDRA 12 brings only a low magnitude of change to the view, with most development within the Player Wills site (blue outline) and DCC lands (red outline) being hidden from view. A contrast of materials and grain will allow the existing building on Dolphin's Barn to remain the dominant terminating feature, and rather than standing in isolation as it does now, this building will appear to be part of a wider and more cohesive neighbourhood that lies beyond. The effect will be to reinforce the existing urban landscape of

contemporary buildings as a backdrop to a traditional streetscape. Cumulative visual impacts are likely to be slightly positive, while the Bailey Gibson development remains out of view.

5.8.6 Visual Impacts: Cork Street residential environs

While Cork Street itself appears to have little or no view towards the proposed development site, there are glimpsed views from some of the neighbouring residential areas, as described below. A series of verified photomontage views (7, 8, 16 and 24) illustrate the residual visual impacts arising from the proposed development and are appraised below. Refer to the booklet of **Verified Photomontages** by Modelworks.

View 08 – Existing

This residential area adjoins the northern edge of the wider SDRA 12, characterised by one- and two-storey terraced houses. While the streets are reasonably narrow, the low-rise nature of the houses affords relatively open views above the rooftops towards the development site, with the prospect of views to the proposed development. However, recent residential development at the edge of SDRA 12 behind these houses has established a slightly high skyline and the prospects of views to more distant buildings are reduced as a result. The character of these streets is traditional and consistent, but this is not a residential conservation area. Sensitivity to the proposed development is low to moderate (refer to section 5.4.2).

View 08 – Proposed

The green outline in this view indicates that the proposed development at Bailey Gibson will be entirely screened from view. Beyond the houses centre and left in this view lies the proposed multi-use sports pitch and park / play area, with the proposed Players Park beyond. However, neither include any significant built elements and there are no views to these open space from here. There will be no visual impacts arising from the proposed development as a result.

View 08 – Proposed + Player Wills and Draft LDA/DCC Scheme

The new residential rooftops at the back of the existing houses provide a buffer and transition to a series of new taller buildings that will be partially visible as a backdrop. New buildings in this landscape arise mostly from development of the Player Wills lands (blue outline) and to a lesser degree development of the DCC lands (red outline). The magnitude of change to this view will be moderate, introducing elements of a new contemporary landscape as a backdrop to the existing terraced houses. The contemporary architectural character and contrast in grain and materials will add depth and diversity to the urban landscape while remaining distinctly separate to the existing houses. Cumulative visual impacts are likely to be moderate and neutral, with no contribution from the Bailey Gibson development.

View 16 – Existing

This view from Cameron Street overlooks the former St. Teresa's Gardens, where new houses by Dublin City Council front an extension to the street and out across the park beyond. The character of the street is that of two-storey Victorian houses plus new contemporary houses, framing the view towards the proposed development site. Factory buildings at the Player Wills

site currently terminate the view across the park. It is an ordinary quality streetscape with low sensitivity to the proposed development (refer to section 5.4.2).

View 16 – Proposed

The proposed Bailey Gibson development will be entirely screened from view by buildings at the right of this view. However, the proposed multi-sport pitch and park beyond Cameron Street and Margaret Kennedy Road have been completed and opened up the vista a little, removing the wall and railings and framing the view with new tree planting. There is a slight positive visual impact arising as a result.

View 16 – Proposed + Player Wills and Draft LDA/DCC Scheme

Proposed development at the Player Wills and DCC sites will be prominent in this view, extending above intervening rooftops and terminating the vista. Details and materials in the building facades will be clearly evident, defining a contrasting character to the street in the foreground and providing visual richness as a result. These will consolidate the character of this new urban neighbourhood beyond this existing residential area. The cumulative visual impact of development in SDRA 12 will be moderate and positive.

View 07 – Existing

This modern residential area on Our Lady's Road nestles behind contemporary development along Cork Street, north of the proposed development site. It therefore has a mixed character of 'traditional' suburban residential estate and contemporary inner suburb. Street trees soften the view, which is otherwise a rather hard urban landscape. Sensitivity to the proposed development is considered to be low (refer to section 5.4.2).

View 07 – Proposed

The green outline against the intervening trees and buildings indicate that the proposed Bailey Gibson development will be entirely screened from view, resulting in no change and no visual impacts as a result.

View 07 – Proposed + Player Wills and Draft LDA/DCC Scheme

This view indicates that the future development at Player Wills (blue outline) and DCC lands (Red outline) will also be entirely screened from view by the intervening buildings, with no visual impacts arising as a result.

View 24 – Existing

This view illustrates a glimpsed view towards the proposed development site along Morning Star Road from Lourdes Road, north of Cork Street. It is a standard residential estate with a rather hard streetscape punctuated by street trees. While houses occupy the left of this view, community and employment buildings occupy the right. Above these there is a potential view beyond the end of the street towards the site. It has no special qualities and sensitivity to the proposed development is low (refer to section 5.4.2).

View 24 – Proposed

In this view, the green outline indicates that the proposed development at Bailey Gibson will be entirely screened from view by intervening buildings and there will be no visual impacts arising as a result.

View 24 – Proposed + Player Wills and Draft LDA/DCC Scheme

The view indicates that future development of the sites at Player Wills (blue outline) and the DCC lands (red outline) will give rise to a moderate magnitude of change to this view. These will form a small cluster of contemporary buildings with modulated roofscapes, elevations and a high standard of finishes may also be evidence. Cumulative visual impacts will be slightly positive visual impact.

5.8.7 Visual Impacts: Grand Canal and southern residential environs

A series of verified photomontage views (14, 15, 17, 18, 19, 20, 22, 23) illustrate the residual visual impacts arising from the proposed development and are appraised below. Refer to the booklet of **Verified Photomontages** by Modelworks.

View 14 – Existing

This panorama from Emmet Bridge incorporates a vista along the Grand Canal Conservation Area plus a view across Griffith College to the right. The canal is an attractive landscape feature, including the mature trees that line its banks. Griffith College supports buildings up to four storeys, which are reasonably attractive, but the foreground is less so. Beyond the college buildings lies the proposed development site. This view is moderately sensitive to the proposed development (refer to section 5.4.2).

View 14 – Proposed

The proposed Bailey Gibson development is entirely screened from view by intervening buildings, as indicated by the green outline. There will be no visual impacts arising as a result.

View 14 – Proposed + Player Wills and Draft LDA/DCC Scheme

This view demonstrates the extent to which development of the SDRA lands will be screened from view by intervening buildings. Some of the uppermost floors of the Player Wills development will be visible above the intervening rooftops while the future DCC development will be entirely screened from view. The magnitude of change is slight, and with the position of the new buildings positioned between buildings and features of interest at the skyline, cumulative visual impacts are considered slightly adverse, though the Bailey Gibson development plays no part in this.

View 15 – Existing

This view along Mount Drummond Avenue is orientated towards the site from the southeast. The street is characterised by 20th century semi-detached houses and a line of street trees along the centre of the road. It is a pleasant but ordinary view with low sensitivity to the proposed development (refer to section 5.4.2).

View 15 – Proposed

The green outline in this view demonstrates that intervening houses and trees screen the proposed development entirely from view. There will be no adverse visual impacts upon this view as a result.

View 15 – Proposed + Player Wills and Draft LDA/DCC Scheme

This view demonstrates that the future development of the Player Wills site (blue outline) may be glimpsed beyond the end of the street, with future development on the DCC lands (red outline) glimpsed behind it. Intervening buildings and trees substantially screen these from view and visual impacts will be slight and neutral, with the proposed development at Bailey Gibson (green outline) playing no part in this.

View 17 – Existing

This view from the Grand Canal Conservation Area opposite Clogher Road encompasses Lullymore Terrace in the foreground – one and two storey houses, mostly red brick, that add character to the canal bank and have a very low skyline. Views don't really extend beyond this line of houses, though at the centre of this view it is just possible to make out a tiny part of the roof of the former Player Wills factory building, which this makes an imperceptible contribution to the view. This view is considered moderately sensitive to the proposed development (refer to section 5.4.2).

View 17 – Proposed

The proposed development is represented by the green outline that indicates the proposed development will be entirely screened from view and there will be no visual impacts arising from it as a result.

View 17 – Proposed + Player Wills and Draft LDA/DCC Scheme

This view incorporates future development at Player Wills (blue outline) and the DCC lands (red outline), creating a cluster of taller contemporary buildings as a new backdrop to the canal. A high standard of architectural design and detailing is likely to be evident and will create a cohesive yet dynamic and visually rich architectural composition. The character of this new urban neighbourhood will contrast with the heritage character that prevails in the foreground, establishing a layered and legible urban landscape. The contrast of appearance and evident physical separation will allow the Grand Canal Conservation Area to retain its character and prominence in this view, but with the contemporary city as part of its backdrop. The magnitude of change is moderate to high and cumulative visual impacts will be moderately positive.

View 18 – Existing

Aughavanagh Road lies south of the Grand Canal with a vista towards the SDRA 12 beyond. The street is characterised by terraces and semi-detached houses from the 1950s/60s set along a harsh concrete street with no street trees and little by way of green front gardens. The adjacent school also contributes to the hard character of this suburban landscape. The green

backdrop of trees along the canal corridor provides a degree of visual relief while also helping to screen the existing site from view. Sensitivity to the proposed development is low (refer to section 5.4.2).

View 18 – Proposed

The Bailey Gibson development is represented by the green outline and indicates that it is likely to be entirely screened from view by intervening trees, though filtered views through the trees may occur in the winter months. If so, the appearance of the proposed development will bring about a minor magnitude of change and elevation details are unlikely to be discernible. Visual impacts will be imperceptible or slight and neutral.

View 18 – Proposed + Player Wills and Draft LDA/DCC Scheme

Proposed development within other parts of SDRA 12 will bring about a moderate magnitude of change to this view, where a range of taller buildings define a new skyline and signal a new neighbourhood beyond the canal. While reinforcing a predominantly hard urban landscape, cumulative development will add visual richness and diversity the character of this view by incorporating contemporary buildings with a range of heights, detailing and materials. The green canal corridor appears as a setting to the new development and aids its integration into the existing urban landscape. From this vantage point, the cumulative development is likely to have a moderate and neutral visual impact upon the residential area.

View 19 – Existing

There are glimpsed views towards the proposed development site from several locations along the canal corridor, including this one that overlooks the White Heather Industrial Estate. The industrial estate provides an unattractive middle-ground to this view, framed by mature trees and detracting from the otherwise scenic qualities of the canal corridor. Only a small number of nearby houses are visible and overall this is a poor quality view with low to moderate sensitivity to the proposed development (refer to section 5.4.2).

View 19 – Proposed

The Bailey Gibson development introduces a subtle change to the skyline by introducing the uppermost floors of the proposed development above/between intervening buildings and trees. Nearby houses are finished in a mix of render brick and stone, which the warm brick tones of the proposed buildings complement, while their contemporary character and modern material details are barely discernible. The magnitude of change is slight and visual impacts are slight and neutral.

View 19 – Proposed + Player Wills and Draft LDA/DCC Scheme

The cumulative developments within SDRA 12 will add more prominent contemporary feature buildings to the background of this view, subtly shifting the balance of character towards a high quality residential environment, with a slight to moderate magnitude of change in this view. Future development of the DCC lands (outlined in red) will be the principal additional development beside and beyond the Bailey Gibson development. The Player Wills development (outlined in blue) will remain substantially hidden in this particular view, though

may feature from other nearby vantage points. The cumulative development is likely to result in a moderately positive visual impact, with the Bailey Gibson development continuing to make a slightly positive contribution to this.

It should be noted also that the White Heather Industrial Estate itself may be the subject of future development (see section 15.1.1.15 of the Development Plan 2016-2022), which would fundamentally influence the effects of the proposed development on this view, as well as the character of this section of the Grand Canal Conservation Area. It is likely that any future redevelopment of this site would reduce the visibility of the proposed development.

View 20 – Existing

This view from Parnell Road, at its junction with Crumlin Road and the canal bridge, encompasses the Barn House pub, St. James Terrace and the nearby White Heather Industrial Estate, with the tower of Our Lady of Dolours Church providing a focal feature at the skyline. Railings, traffic signals, lighting and signage clutter the view. This is a busy junction, often dominated by traffic, to which the green corridor of the Grand Canal is the principal relief from an otherwise hard urban landscape. This view has a low sensitivity to the proposed development (refer to section 5.4.2).

View 20 – Proposed

The proposed development is represented by the green outline in this view, indicating that it will be entirely screened from view by intervening buildings. There will be no visual impacts arising as a result.

View 20 – Proposed + Player Wills and Draft LDA/DCC Scheme

The cumulative development within SDRA 12 will introduce an imperceptible to slight magnitude of change to this view, with the tallest buildings within the DCC lands (outlined in red) and Player Wills (outlined in blue) featuring subtly at the skyline above intervening rooftops. The wider character of the cumulative development will not be evident from the little that is visible from here. There is no significant change to the character of this urban landscape as a result of the cumulative development and visual impacts will be imperceptible and neutral.

View 22 – Existing

This open space at Dolphin Road adjoins the Grand Canal Conservation Area (centre and left in this view). In summer it appears very green and relatively unbuilt, with houses to the right nestled behind intervening trees while the gull-wing roof of Grand Canal Court on Herberton Road can be glimpsed between the treetops. Surrounding buildings are likely to be more visible in winter once the trees have shed their leaves. Sensitivity to the proposed development is considered to be low to moderate (refer to section 5.4.2).

View 22 – Proposed

The green outline against the intervening trees indicates that the proposed Bailey Gibson Development will be entirely screened from view by intervening trees and buildings, with no visual impacts arising as a result.

View 22 – Proposed + Player Wills and Draft LDA/DCC Scheme

This view indicates that not only will the proposed Bailey Gibson development be screened from view but so will the future development of the Player Wills (blue outline) and DCC lands (red outline). There will be no cumulative visual impacts as a result.

5.8.8 Visual Impacts – longer views from south

Verified photomontage views 21 and 25 illustrate the residual visual impacts arising from the proposed development and are appraised below. Refer to the booklet of **Verified Photomontages** by Modelworks.

View 21 – Existing

This view illustrates the approach towards the site from the R110 Crumlin Road. It is a wide and busy urban thoroughfare, softened by occasional street trees, and with a varied street frontage in this location. It is a low value landscape and has low sensitivity to the proposed development.

View 21 – Proposed

The green outline in this view indicates the proposed development will be entirely screened from view by intervening buildings and there will be no visual impacts as a result.

View 21 – Proposed + Player Wills and Draft LDA/DCC Scheme

This view indicates that future development within SDRA 12 will be partially visible in the distance, terminating this vista. Part of the future development of DCC lands (red outline) will consolidate with the proposed Player Wills development (blue outline) as features above the existing skyline and terminating the vista along the road. Their contemporary character will complement this mixed urban landscape, although details will not be evident at this distance, where the magnitude of change is low and cumulative visual impacts low and neutral.

View 25 – Existing

The graveyard at Mount Jerome is not strictly a public space but is a space accessed frequently by members of the public and affords potential views towards the development from what is a relatively open landscape within an otherwise urban area. Houses back onto it from Clogher Road, visible in the background of this view, largely defining the horizon and limits of this view. It has no special landscape status but its role as a place of memorial and contemplation lends it a potentially moderate sensitivity to the proposed development.

View 25 – Proposed

The green outline superimposed on this view indicates that the proposed development will be entirely screened from view by intervening buildings and trees, with no visual impacts arising as a result.

View 25 – Proposed + Player Wills and Draft LDA/DCC Scheme

This view indicates that the cumulative development of SDRA 12 will add context and a notably regular rhythm of built development to part of the skyline. Development at Player Wills (blue

outline) will make the greater contribution, with development on the DCC lands (red outline) continuing the pattern of development west (left) of Player Wills. This cluster of taller buildings signal the presence of a distinct and contemporary urban neighbourhood beyond the intervening houses, adding depth, perspective and orientation to this view and enriching the urban context for the graveyard, rather than being intrusive. The magnitude of change is slight to moderate and visual impacts considered to be slightly positive.

5.8.9 Summary of Post-mitigation Effects

The Table below summarises the identified likely significant residual effects during the demolition and construction phase of the proposed development following the application of mitigation measures.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|-------------------|----------------------|-------------|------------------------|--------|
| Hoardings at the site perimeter | Negative | Slight | Site specific | Likely | Short-term | Direct |
| Contractors' compound | Negative | Slight | Site specific | Likely | Short-term | Direct |
| Partially demolished buildings | Negative | Moderate - High | Site specific | Unlikely | Temporary | Direct |
| Stockpiles of demolition waste | Negative | Slight | Site specific | Likely | Temporary | Direct |
| Operation of demolition / construction plant | Negative | Moderate | Site specific, local | Likely | Short-term | Direct |
| Demolition not completed | Negative | Slight - moderate | Site specific | Unlikely | Medium or long-term | Direct |
| Vehicles movements to/from site. | Negative | Slight-moderate | Site-specific | Likely | Short-term | Direct |
| Excavation / construction of basements | Negative | Slight | Site specific | Likely | Temporary | Direct |
| Presence of tower cranes | Negative | Moderate - high | Site specific, local | Likely | Short-term | Direct |
| Emerging building structures (incomplete) | Negative | Moderate - high | Site specific, local | Likely | Temporary / Short-term | Direct |
| Construction not completed | Negative | Moderate - high | Site specific, local | Unlikely | Medium or Long-term | Direct |

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|-------------------|----------------------|-------------|-----------|--------|
| Completed building envelopes | Positive | Moderate | Site specific, local | Likely | Permanent | Direct |
| Removal of compounds, plant and hoardings. | Positive | Slight - moderate | Site specific, local | Likely | Permanent | Direct |
| Hard and soft landscaping | Positive | Moderate - high | Site specific, local | Likely | Permanent | Direct |

Table 5.3 Summary of Demolition & Construction Phase Effects Post Mitigation

The Table below summarises the identified likely residual significant effects during the operational phase of the proposed development post mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|--------------------|---------------|----------------------|-------------|-----------|--------------------|
| Introduce a new urban character area | Positive | Moderate | Site Specific, Local | Likely | Permanent | Direct, cumulative |
| Scale and heights of buildings | Neutral - Negative | Slight | Site Specific | Likely | Permanent | Direct |
| Changes to existing streetscapes | Positive | Moderate | Site Specific | Likely | Permanent | Direct |
| New streetscapes | Positive | Moderate | Site Specific | Likely | Permanent | Direct |
| Visual impact upon Donore Avenue and adjoining residential areas | Positive | None - Major | Local | Likely | Permanent | Direct |
| Visual impact upon South Circular Road and adjoining residential areas | Neutral - positive | None - Slight | Local | Likely | Permanent | Direct |
| Visual Impact upon Cork Street / Dolphins Barn and adjoining residential areas | Neutral - Positive | None - Slight | Local | Likely | Permanent | Direct |
| Visual impact upon residential | Neutral | None - Slight | Local | Likely | Permanent | Direct |

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|--------------------|---------------|--------|-------------|-----------|--------|
| areas south of the Grand Canal | | | | | | |
| Visual impact upon the Grand Canal Conservation Area | Neutral | None - Slight | Local | Likely | Permanent | Direct |
| Visual impact upon long views from Crumlin Road | Neutral | None | Local | Likely | Permanent | Direct |
| Visual impact from Mount Jerome. | Neutral - Positive | None | Local | Likely | Permanent | Direct |

Table 5.4 Summary of Operational Phase Effects Post Mitigation

5.8.10 Cumulative Residual Effects

The cumulative effects of the proposed development are two-fold.

Firstly, the proposed development will take place as part of the wider redevelopment of SDRA 12, and the cumulative effects of this wider development upon landscape and visual impacts are illustrated and discussed in the appraisal above. The wider SDRA 12 development will adopt a similar approach to layout, scale and architectural design with a coordinated network of streets and open spaces. This will make the proposed development part of a much more extensive and cohesive urban landscape than might be less evident when seen on its own. While the landscape and visual effects of the proposed development sometimes appear neutral or even slightly negative on their own, the inclusion of further development on adjacent land within SDRA 12 significantly enhances the scope for, and delivery of, good placemaking which is likely to have a more positive effect upon landscape character in particular, and upon visual amenity in some cases too.

Secondly, the proposed development along with the wider development of SDRA 12 will take place in an already changing urban environment, where land along Dolphin's Barn Street and Cork Street in particular have already undergone transformation to contemporary architecture and taller buildings - typically 6/7 storeys but up to 12 storeys. The proposed development will complement the scale and character of these recent and emerging development, positively reinforce this emerging urban character, having a slightly or moderately positive impact upon landscape character and visual amenity as a result.

5.9 Interactions

Principal interactions will be with Built Heritage. Refer to Chapter 14 of this EIAR, which assesses the likely heritage impacts of the proposed development and refers to additional photomontages to illustrate the anticipated effects on views of / from heritage assets.

The assessment of Landscape and Visual Effects is in line with the findings of the assessed effects upon Built Heritage. Both conclude that the likely impacts of the proposed development are low / not significant and neutral, while in conjunction with the cumulative development of SDRA 12, these impacts increase but remain neutral. Both assessments conclude that the removal of the existing buildings and the introduction of the proposed development will have a positive impact upon the character of the site, with no existing buildings or landscape features of interest / significance to be lost.

5.10 Monitoring

During construction, daily inspections of the site perimeter will be undertaken to ensure hoardings and pavements are maintained to a high standard.

Monitoring is required post-completion with regard to the establishment phase of hard and soft landscaping. Defects inspections will take place at pre-defined intervals for a fixed period following completion of the construction contract, with remedial works undertaken immediately afterwards.

An ongoing management and maintenance programme will be required for all soft landscaping. An outline specification for hard and soft landscape plus an outline programme for implementation, maintenance and defects are provided towards the end of the Landscape Design Statement by Niall Montgomery + Partners, one of the accompanying submission documents.

5.11 Summary of Mitigation & Monitoring

The Table below summarises the Demolition & Construction Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|---|--|---|
| Site perimeter hoardings – slightly adverse visual impacts | Maintain to high standard, remove graffiti and fly-posters | Daily inspection |
| Partially demolished structures – moderately adverse landscape and visual impacts | Complete efficiently and quickly | None |
| Vehicle movements to/from site entrance / exit areas – slightly adverse visual impacts | Manage timing of vehicles to avoid queueing / parking on neighbouring streets. | Daily programming |
| Excavation / construction of basements – slight neutral landscape and visual impact | Complete efficiently and quickly | None |
| Presence of tower cranes – moderate to high adverse landscape and visual impacts | ‘Park’ cranes in orderly manner, with least visual impact, when not in use | Periodic inspection |
| Emerging, incomplete building structures – moderate to high adverse landscape and visual impacts. | Complete efficiently and quickly. | Planning and review of Construction Environmental Management Plan |
| Completed building envelopes – moderately positive landscape and visual impacts | Complete efficiently and quickly | None |
| Removal of plant, compounds and site hoardings – moderately positive landscape and visual impact | Complete efficiently and quickly, follow immediately with completion of landscaping. | Inspect and reinstate adjacent roads and footpaths where needed |
| Hard and soft landscaping – moderate to high positive landscape and visual impacts | Complete efficiently and quickly | Periodic defects check and establishment maintenance. Ongoing maintenance to follow |

Table 5.5 Summary of Demolition & Construction Phase Mitigation and Monitoring

The Table below summarises the Operational Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|--|---|---|
| Damage and decay of buildings and roads | Regular maintenance – cleaning and repair | Regular inspections and reporting (e.g. annual) |
| Damage or neglect of hard and soft landscape areas | Maintenance and management schedule / contract, routine maintenance. Refer to Landscape Design Statement. | Regular inspections and reporting. Refer to Landscape Design Statement. |

Table 5.6 Summary of Operational Phase Mitigation and Monitoring

5.12 References and Sources

Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017).

'National Planning Framework' 2018 (Government of Ireland)

'Urban Development and Building Heights, Guidelines for Planning Authorities' 2018 (Government of Ireland)

'Dublin City Development Plan 2016-2022' 2016 (Dublin City Council)

'Guidelines for Landscape and Visual Impact Assessment' Third Edition 2013 (Landscape Institute; Institute of Environmental Management and Assessment)

Google Maps & Aerial Imagery 2020 (Infoterra Ltd. and Maxar Technologies)

CHAPTER 6

MATERIAL ASSETS: TRAFFIC & TRANSPORT

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|----------|---|------------|
| 6 | Material Assets: Traffic & Transport | 6-5 |
| 6.1 | Introduction | 6-5 |
| 6.2 | Expertise and Qualifications | 6-5 |
| 6.3 | Proposed Development | 6-6 |
| 6.3.1 | Aspects Relevant to this Assessment | 6-7 |
| 6.4 | Methodology | 6-10 |
| 6.4.1 | Consultation | 6-11 |
| 6.5 | Baseline Environment | 6-12 |
| 6.5.1 | Surrounding Land Use | 6-12 |
| 6.5.2 | Site Location | 6-12 |
| 6.5.3 | Walking Accessibility & Infrastructure | 6-13 |
| 6.5.4 | Cycling Accessibility & Infrastructure | 6-14 |
| 6.5.5 | Public Transport Accessibility & Infrastructure | 6-15 |
| 6.5.6 | Existing Public Transport Capacity Assessment | 6-17 |
| 6.5.7 | Road Network Infrastructure & Traffic Conditions | 6-18 |
| 6.5.8 | Projected Increases in Traffic without the Current Proposed Development | 6-23 |
| 6.5.9 | Heavy Goods Vehicles | 6-23 |
| 6.5.10 | Road Safety | 6-24 |
| 6.5.11 | Future Infrastructural Improvements | 6-26 |
| 6.6 | Do Nothing Scenario | 6-29 |
| 6.6.1 | No Project Scenario | 6-29 |
| 6.6.2 | Extant Bailey Gibson Permission | 6-30 |
| 6.7 | Risk of Major Accidents | 6-30 |
| 6.8 | Potential Significant Effects Impact Assessment | 6-31 |
| 6.8.1 | Assessment Criteria | 6-31 |
| 6.8.2 | Demolition & Construction Phase | 6-32 |
| 6.8.3 | Operational Phase | 6-34 |
| 6.8.4 | Modelled Hours & Years | 6-34 |
| 6.8.5 | Cumulative | 6-49 |
| 6.8.6 | Summary | 6-56 |
| 6.9 | Mitigation | 6-57 |
| 6.9.1 | Incorporated Design Mitigation | 6-57 |

| | | |
|-------------|--|-------------|
| 6.9.2 | Construction Phase Mitigation | 6-58 |
| 6.9.3 | Operational Phase Mitigation | 6-59 |
| 6.10 | Monitoring | 6-59 |
| 6.10.1 | Demolition & Construction Phase | 6-59 |
| 6.10.2 | Operational Phase | 6-59 |
| 6.11 | Residual Impact Assessment | 6-59 |
| 6.11.1 | Demolition & Construction Phase | 6-59 |
| 6.11.2 | Operational Phase | 6-59 |
| 6.11.3 | Cumulative..... | 6-60 |
| 6.11.4 | Summary..... | 6-60 |
| 6.12 | Interactions..... | 6-61 |
| 6.13 | Summary of Mitigation & Monitoring..... | 6-61 |
| 6.14 | Conclusion..... | 6-63 |
| 6.15 | References and Sources | 6-64 |

Table of Figures

| | |
|--|------|
| Figure 6.1 Proposed Site Layout | 6-7 |
| Figure 6.2 Vehicular Access | 6-8 |
| Figure 6.3 Context Plan - SDRA 12 Permitted Developments & Future Developments | 6-12 |
| Figure 6.4 Proposed Development Site Location & Surrounding Road Network | 6-13 |
| Figure 6.5 Walking Catchment..... | 6-14 |
| Figure 6.6 Cycling catchment | 6-15 |
| Figure 6.7 Local Public Transport Services | 6-16 |
| Figure 6.8 Bus Capacity vs Passenger Load – Cork Street Services northbound AM peak | 6-17 |
| Figure 6.9 Bus Capacity vs Passenger Load – South circular Road Services Eastbound AM peak | 6-18 |
| Figure 6.10 Traffic Survey Locations | 6-19 |
| Figure 6.11 AM Peak Traffic Volumes | 6-20 |
| Figure 6.12 PM Peak Traffic Volumes | 6-21 |
| Figure 6.13 AM Peak (8-9) Queue Lengths | 6-22 |
| Figure 6.14 PM Peak (17-18) Queue Lengths | 6-23 |
| Figure 6.15 Permitted HGV Routing | 6-24 |
| Figure 6.16 RSA Collision Map | 6-25 |
| Figure 6.17 Bus Connects Network Resign – City Routes & Frequencies | 6-28 |
| Figure 6.18 GDA Cycle Network Plan – City Centre | 6-29 |
| Figure 6.19 Site Layout During construction phase | 6-32 |
| Figure 6.20 Construction HGV Potential Routes to Site | 6-33 |
| Figure 6.21: VISSIM Model Extent..... | 6-35 |
| Figure 6.22: Peak Hour Model Split (Person Trips)..... | 6-40 |
| Figure 6.23: AM Peak Development Traffic Distribution | 6-42 |
| Figure 6.24: PM Peak Development Traffic Distribution..... | 6-42 |
| Figure 6.25: Development Contribution Locations | 6-43 |
| Figure 6.26: Modelled Journey Time Routes | 6-48 |
| Figure 6.27: Local Commuting Mode Shares by Housing Type | 6-58 |

Table of Tables

| | |
|---|------|
| Table 6.1 Local Public Transport Services Frequency (min) | 6-16 |
| Table 6.2 Local Accident Summary..... | 6-26 |
| Table 6.3 Rating of Effects based in Traffic Contribution..... | 6-31 |
| Table 6.4 HGV Trips by Construction Stage | 6-33 |
| Table 6.5 DCC Household Size by no. of occupied rooms (2016 Census–Statbank Table E1035) | 6-37 |
| Table 6.6 Estimated Development Population by Unit Type | 6-38 |
| Table 6.7 Estimated Peak Hour Residential Person Trips Generated by the Development | 6-38 |
| Table 6.8 Assumed Peak Hour Retail Vehicular Trips Generated by the Development | 6-38 |
| Table 6.9 Estimated Peak Hour Creche Vehicular Trips Generated by the Development..... | 6-39 |
| Table 6.10 Delivery Trip Generation Multi-purpose Playing Pitch | 6-39 |
| Table 6.11 Estimated Peak Hour Residential Person Trips by Mode Generated by the Development..... | 6-40 |
| Table 6.12 Estimated Peak Hour Residential Vehicular Trips Generated by the Development | 6-41 |
| Table 6.13 Combined Peak Hour Vehicular Trips Generated by the Development..... | 6-41 |
| Table 6.14 AM Peak Link Flows Development Contribution | 6-43 |
| Table 6.15 PM Peak Link Flows Development Contribution..... | 6-44 |
| Table 6.16 Peak Junction Flow Development Contribution | 6-44 |
| Table 6.17 Development Impact on AM Peak Network Statistics | 6-45 |
| Table 6.18 Development Impact on PM Peak Network Statistics | 6-45 |
| Table 6.19 Development Impact on AM Peak Average Queue Lengths (m)..... | 6-46 |
| Table 6.20 Development Impact on PM Peak Average Queue Lengths (m)..... | 6-47 |
| Table 6.21 AM Peak Journey Times – Do-Minimum vs Do-Something (sec) | 6-48 |
| Table 6.22 PM Peak Journey Times – Do-Minimum vs Do-Something (sec) | 6-49 |
| Table 6.23 SDRA 12 lands and operational timeline..... | 6-50 |
| Table 6.24 HGV Trips by Construction Stage | 6-51 |
| Table 6.25 Development Impact on AM Peak Network Statistics | 6-52 |
| Table 6.26 Development Impact on PM Peak Network Statistics | 6-52 |
| Table 6.27 Cumulative Development Impacts on AM Peak Average Queue Lengths(m) | 6-53 |
| Table 6.28 Cumulative Development Impacts on PM Peak Average Queue Lengths(m)..... | 6-54 |
| Table 6.29 AM Peak Journey Times – Do-Minimum vs Do-Something (Cumulative)(sec) | 6-55 |
| Table 6.30 PM Peak Journey Times – Do-Minimum vs Do-Something (Cumulative)(sec) | 6-55 |
| Table 6.31 Summary of Demolition & Construction Phase Likely Significant Effects | 6-56 |
| Table 6.32 Summary of Operational Phase Likely Significant Effects | 6-56 |
| Table 6.33 Summary of Demolition & Construction Phase Effects Post Mitigation | 6-60 |
| Table 6.34 Summary of Operational Phase Effects Post Mitigation | 6-60 |
| Table 6.35 Summary of Demolition & Construction Phase Mitigation and Monitoring | 6-61 |
| Table 6.36 Summary of Operational Phase Mitigation and Monitoring | 6-62 |

6 Material Assets: Traffic & Transport

6.1 Introduction

This chapter of the EIAR has been prepared to assess the potential impact of the proposed development in terms of traffic and transport. This chapter provides an overview of the existing receiving environment, a detailed and robust assessment of the proposed developments potential impacts on the operation of the local road network during the short-term construction phase and long-term use phase, and outline of mitigation measures to ensure any significant effects are minimised or avoided.

Full details of the Traffic Impact Assessment undertaken by SYSTRA are provided in the Traffic & Transport Assessment, Construction Traffic Management Plan and Mobility Management Plan reports included under separate cover as part of the planning application for the Proposed Development.

6.2 Expertise and Qualifications

The assessment of the traffic and transport section has been prepared by Andrew Archer, BEng Hons, CEng, and Arantxa Martinez Peral, BEng, CEng, of SYSTRA Ltd.

Andrew Archer is a Project Director for SYSTRA's operation in Ireland, with over 20 years of diverse and challenging experience in a wide range of transportation planning and engineering projects. Relevant works completed include detailed Traffic and Transport assessments prepared for residential and commercial developments throughout Dublin & Ireland; including mixed use development at Player Wills SHD, Holy Cross College SHD, White Heather, Liffey Valley, Clonburris SDZ, Monard SDZ & Cherrywood SDZs, in addition to residential developments at Water Rock, Midleton and Oldtown, Celbridge amongst others.

Arantxa is a principal consultant and Chartered Engineer with 18 years' experience in transport planning, traffic engineering and development planning. She has worked on numerous Transport Impacts Assessments and Mobility Management Plans across Ireland.

Relevant projects for which the Transportation Team contributed to the EIAR include:

- TA29S.308917 - the adjacent permitted Player Wills SHD for the demolition of all buildings excluding the original fabric of the former Player Wills Factory, construction of 492 no. Build to Rent apartments, 240 no. Build to Rent shared accommodation along, creche and associated site works.
- TC29N.308744 - Lands at Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9. Demolition of existing structures on site, construction of 1635 no. apartments, childcare facility and associated site works.
- TC29S.311359 - White Heather Industrial Estate, South Circular Road, Dublin 8 307/307a, South Circular Road, 12a St James's Terrace, Dublin 8. 337 no. residential units (7 no. houses, 330 no. apartments), creche and associated site works.
- TA29S.307239 - Former RTE Lands at RTE Campus Montrose, Stillorgan Road (R138) and Ailesbury Close, Donnybrook, Dublin 4. Demolition of existing buildings,

construction of 614 no. residential units (3 no. townhouses, 611 no. apartments), childcare facilities and associated site works.

6.3 Proposed Development

This application relates to a proposed mixed-use strategic housing development (SHD) on a site of approx. 5.5 hectares in Dublin 8. It includes all of the former Bailey Gibson site and a small portion of the former Player Wills site, both of which are owned by the Applicant, CWTC Multi Family ICAV acting solely in respect of its sub fund DTBR SCR1 Fund. The balance of the proposed development site relates to land owned by Dublin City Council (DCC) known locally as the 'Boys Brigade pitch' and part of the St. Teresa's Gardens site, together with DCC controlled public roads.

The application area is predominately within Strategic Development Regeneration Area (SDRA) 12, St. Teresa's Gardens & Environs as identified in the Dublin City Development Plan 2016-2022. The part of the proposed development site not within SDRA 12 relate to works proposed in the public roads surrounding the site, South Circular Road, Donore Avenue and Rehoboth Place.

A comprehensive description of the proposed development is set out in the Planning Statement. The Statutory Notices should also be referenced.

Briefly, it is proposed to demolish the existing vacant buildings and structures on the Bailey Gibson site to make way for development of 345 new homes across 5 blocks, BG 1 - BG 5, ranging in height from 2-7 storeys. The residential blocks will be contained within the Bailey Gibson site. The typology is predominantly apartments with 4 townhouses proposed in block BG5.

This is a mixed tenure scheme, with 292 units proposed as Build to Rent (BtR) across blocks BG1-BG3 and 53 units proposed as Build to Sell (BtS) in blocks BG4 and BG5. It is proposed to deliver 34 social and affordable homes as part of the overall total.

All apartments have private amenity space. At ground floor this is in the form of terraces and on upper levels, balconies. Each of BG1-BG4 have communal amenity areas either as a courtyard or podium area.

Tenant amenities and facilities are proposed in the BtR blocks and include a gym, co-working space, kitchen/lounge areas, concierge, and waste facilities.

Over 2 hectares of public open space including a multi-sport play pitch, a playground, 'St. Teresa's Playground', a boulevard, 'St. Teresa's Boulevard', a park, 'Players Park', a plaza, 'Rehoboth Plaza'.

The proposed non-residential uses include in blocks BG1 and BG2 commercial units that have the capacity to support daily living needs e.g., a shop, pharmacy and professional services. A creche with capacity for approx. 60 children. In block BG2 the design includes floorspace for a café/restaurant/bar.

In total there are 89 car parking spaces allocated to the proposed apartments and all are contained within the Bailey Gibson site. Apart from 1 space at podium level, the parking is contained within a basement. Additionally, 10 'Go Car' spaces are proposed at podium level for residents use only. Each of the 4 townhouses has 1 on-curtilage car parking space.

Visitor parking is at street level and the proposed sport pitch will be serviced separately by new spaces on the public roads. The scheme includes set down parking for the creche, a loading bay for deliveries and coach parking area.

Provision is made for disabled parking, electric vehicle charging, a car sharing scheme and motorcycle parking.

784 spaces are proposed for cycle parking including secure residents parking, visitor parking and spaces for cargo bicycles.

Other works include the development of a network of streets across the proposed development site that will link with other sites within SDRA 12 and into the wider street network of Dublin 8. Improvement works within existing local streets to facilitate access and safe movement.

Ancillary development works includes the construction of electricity substations, meter rooms, plant rooms at basement level, waste storage areas, solar photovoltaics, drainage, landscaping, and lighting.



Figure 6.1 Proposed Site Layout

6.3.1 Aspects Relevant to this Assessment

6.3.1.1 Internal Road Layout, Access and Parking

Vehicular access to the development will be via a one-way entrance off South Circular Road/Rehoboth Place with a one-way exit via South Circular Road. The road network will ultimately link to the LDA/DCC Donore Project situated to the north of the site and Player Wills SHD situated to the east of the development, which will enable the provision of an additional 2-way access via Donore Avenue. A secondary access will be provided to the north of Rehoboth Avenue; however, this will provide access to just 4 houses and accompanying

parking spaces. The access to the multi-purpose playing pitch on-street car parking will be from Donore Avenue, along Margaret Kennedy Road and the proposed new road Western Connection Road, which will be a no through road with a turning facility for cars.

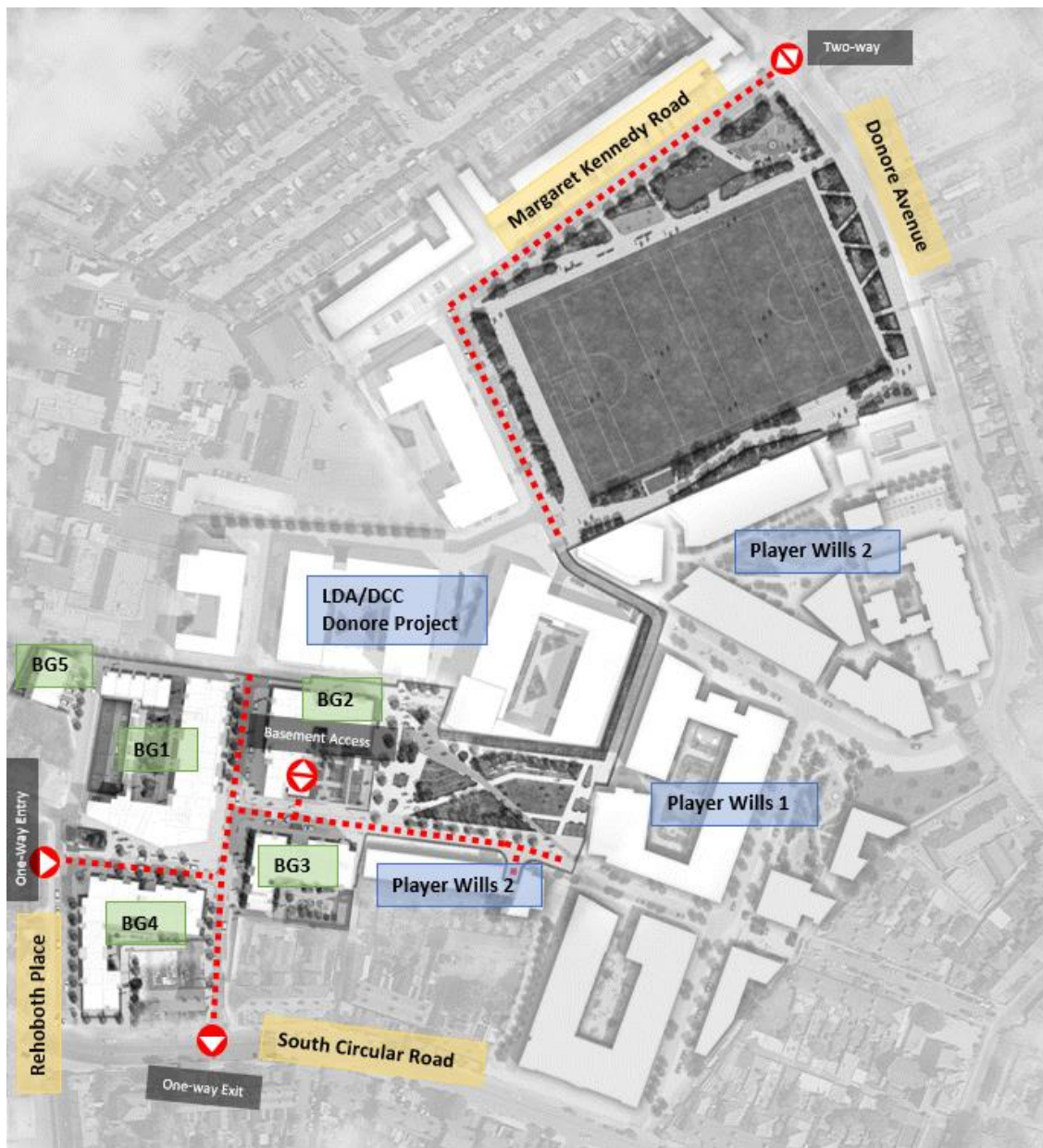


Figure 6.2 Vehicular Access

Car Parking is proposed as follows:

- At basement level, the provision of 88 no. car parking spaces including 10 disabled parking spaces. 20% of spaces will be fitted with electric charging points. 14 motorcycle spaces will also be provided at basement level. Access to the basement is proposed via a ramp access to the south of the BG2 building.
- At podium level, the provision of 11 car parking spaces, including 1 disabled parking space and 10 no. reserved for a car sharing scheme, 'Go Car' or similar. Access to the podium is proposed via a gate to the south of the BG2 building.

- 15 on street visitor car parking spaces (4 of which will be reserved for a car sharing scheme), including 2 disabled parking spaces, together with 3. set down parking spaces for taxis and crèche drop offs and a loading bay to service the commercial units.

Additionally, 33 on-street parking spaces are proposed for visitors to serve the playing pitch including 4 spaces on Donore Avenue (including 2 disabled parking), 20 spaces on Margaret Kennedy Road and 9 spaces provided along the proposed Western Connection Road west of the proposed playing pitch.

468 no. long-stay bicycle parking spaces are proposed, comprising of 207 spaces at basement level for residents and staff of commercial units accessed via a dedicated cycle stairway and a bike lift, 4 cargo bike spaces at podium level for resident use. 2 no. bike sheds are also proposed comprising 174 spaces in BG1 for the residents of BG1 and staff of the creche and, 83 spaces in BG4.

172 no. short stay visitor cycle spaces including 8 spaces for cargo bicycles at surface level within the Bailey Gibson site and 144 bike parking spaces including 8 spaces for cargo bicycles are proposed to serve the playing pitch.

The public realm is conceived as a pedestrian priority environment and the internal road network has been designed to encourage lower speeds (30kph or less). Pedestrian access to the external network is provided at multiple points across the development to promote the principle of permeability. These include two access onto Rehoboth Place, a further two onto the South Circular Road and accesses from Donore Avenue. The site itself is also permeable with footpaths provided through the site and a shared pedestrian/cycle path around the perimeter. A walking/cycling path is provided from 'Players Park' to the south corner of the multi-purpose playing pitch to provide filtered permeability. The multi-purpose playing pitch is surrounding by paths and will be accessible from the north and east residential areas.

Cycling access follows the one-way system for vehicular traffic off the South Circular Road with additional accesses provided onto Rehoboth Place. There are shared pedestrian/cycle paths around the perimeter which also provide access to some of the long stay cycle parking. The 4m wide path from Players Park to the Multi-purpose Playing Pitch will also provide filtered permeability for cyclists.

The proposed vehicular access strategy, location of car and cycle parking is illustrated below.

6.3.1.2 External Road Improvements

A number of infrastructural measures are proposed to improve access for all modes to the site and limit the impact of any additional demand on the immediate network. The width of Rehoboth Place to the west of the development site will be increased using land from the applicant. This will improve access to the site but also improve the access and public realm for existing residents. Dropped kerbs to facilitate informal crossing points have been provided along Rehoboth Place and Avenue.

It is also proposed to relocate the existing informal pedestrian crossing across the South Circular Road to the west of the site exit point, east of its current location. This will improve visibility for oncoming traffic and provide a greater reaction time for drivers, particularly for bus drivers, and for pedestrians. The current location does not comply with the requirement

sightlines in DMURS. The crossing will also provide a safer crossing point for resident alighting and boarding from buses along the South Circular Road. Other locations were considered as part of the design, however, after consultation with DCC, it was decided the proposed location would best serve the pedestrian desire lines of the development and wider area.

In addition to the crossing, the footpath to the south of South Circular Road opposite Rehoboth Place will be improved and a pedestrian refuge provided between the access to Priestfield Cottages and White Heather Industrial Estate. This is designed to reduce the crossing distance for pedestrians and encourage lower vehicle speeds by passing and turning vehicles. The turning radius entering Rehoboth Place have also been reduced to shorten pedestrian crossing distance and encourage lower vehicular speeds. These changes were implemented based on recommendations made by DCC and in consultation with DCC.

The external network improvements around the multi-purpose playing pitch include for the replacement and realignment of footpaths along the eastern section of Donore Avenue to provide for improved pedestrian conditions; the reinstatement of centreline markings along the road; the provision of 1no. of controlled crossing on Donore Avenue aligning with Ebenezer Terrace and 1no. of courtesy crossing including build out kerbs in Donore Avenue aligning with Brown St.

6.4 Methodology

This chapter has been prepared in accordance with best practice, having regard to the following guidelines;

- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022)
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Transport Infrastructure Ireland's (TII's) PE-PDV-02045 - Traffic & Transport Assessment Guidelines (2014).
- Guidelines for the Environmental Assessment of Road Traffic, 2003, Institute of Environmental Management & Assessment (UK Based).
- TII PE-PAG-02017 - Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections.

There are also a number of relevant national, regional and local policies which have guided the assessment and the identification and, where necessary, the design of mitigation measures. These include the following documents;

- The Dublin City Development Plan 2016-2022 (DCC, 2016)
- Design Manual for Urban Roads and Streets (DTTAS & DHPLG, 2013)
- National Cycle Manual (NTA, 2011)

The methodology adopted for the assessment is outlined below and in line with the guidance set out in TII's Assessment Guidelines.

- **Baseline Assessment:** Site Visits, Data Collection (incl. Surveys), Existing Accessibility, Identification of Opportunities & Constraints, Local Travel Patterns & Policy Review.
- **Trip Generation:** Forecast person trips to/from development. These are converted to modal trips based on the expected mode share, to be informed by modelling and baseline assessment. Trip Generation during construction period based on preliminary construction programme and estimated movements.
- **Traffic Growth:** Growth in traffic volumes to be forecast based on TII forecasts.
- **Trip Assignment & Distribution:** Vehicular Trips to be assigned based on predicted final destination & distributed across the wider network based on strategic modelling and/or baseline travel patterns.
- **Impact Analysis:** Assessment of the resultant impact of development on the wider network with detailed modelling undertaken locally. The rating of impacts is in line with the terminology set out in Table 3.4 of the EIAR Guidelines – EPA May 2022.
- **Conclusion and Recommendations:** Identification of potential impacts and necessary mitigation and supporting measures.

6.4.1 Consultation

A number of Pre-Application meetings were held with Dublin City Council's Transportation Planning Division as part of the planning consultation process for the extant permission Bailey Gibson SHD - An Bord Pleanála Ref: 307221-20. These were held in DCC's offices on the 9th April 2019, 1st August 2019, 16th September 2019 & 4th February 2020. During the meetings the methodology for the Transport Assessment was presented along with the proposed access strategy and road layout design. The proposed parking strategy and proposed mobility management measures were also discussed at length. DCC accepted the proposed strategies in principle and emphasised the importance of mobility management on the proposed development site and supporting measures required to support planning application.

For the current application, pre-planning consultation was held with DCC's Transportation Planning Division online on the 14th of September 2021. The proposed transport assessment approach was reaffirmed and the modifications with regards to the previous application were presented and discussed.

DCC's Transportation Planning Division provided comments to the "Transport Assessment & Mobility Management Plan – Summary Report" submitted as part of the Pre-Application process in their report to An Board Pleanála, dated 7th December 2021, which was issued by DCC, via email on 13th of December 2021. In this report, DCC's Transportation Division raised a number of recommendations, including emphasising that works carried out on public roads adhere to DCC Construction Standards for Roads and Street Works, ensuring that the public realm and footpaths are unaffected by refuse collection, to review and provide increased car parking for the residential use and the requirements for taking in charge.

A second meeting with DCC's Transportation Planning Division was held on the 20th of January to discuss the comments and recommendations included in their opinion to ABP.

A tripartite meeting – Applicant / ABP / DCC various departments - was held on the 11th of March 2022 to discuss some of the issues raised by DCC's various departments.

A third meeting with DCC's Transportation Planning Division was held on the 7th of April 2022 to present updated changes to the design addressing comments raised in the DCC opinion report and discussions at the Tripartite meeting.

Opinion from ABP was received on the 21st of April 2022. With regards Traffic and Transport, the issues raised have been addressed in this application.

6.5 Baseline Environment

6.5.1 Surrounding Land Use

The surrounding land use to the South, East and West is largely residential comprising of predominantly terrace housing. To the South-west there are a number of industrial units housing self-storage facilities, pipe suppliers and An Post Delivery Office. To the north-east is St. Teresa's Gardens which forms part of SDR 12. The Coombe hospital is located to the north-west. The site formerly accommodated the Bailey Gibson Architectural & Reclamation Salvage Yard. There are 9 no. buildings on site with total GFA of approximately 11,234.42sq.m and 1 no. ESB substation.

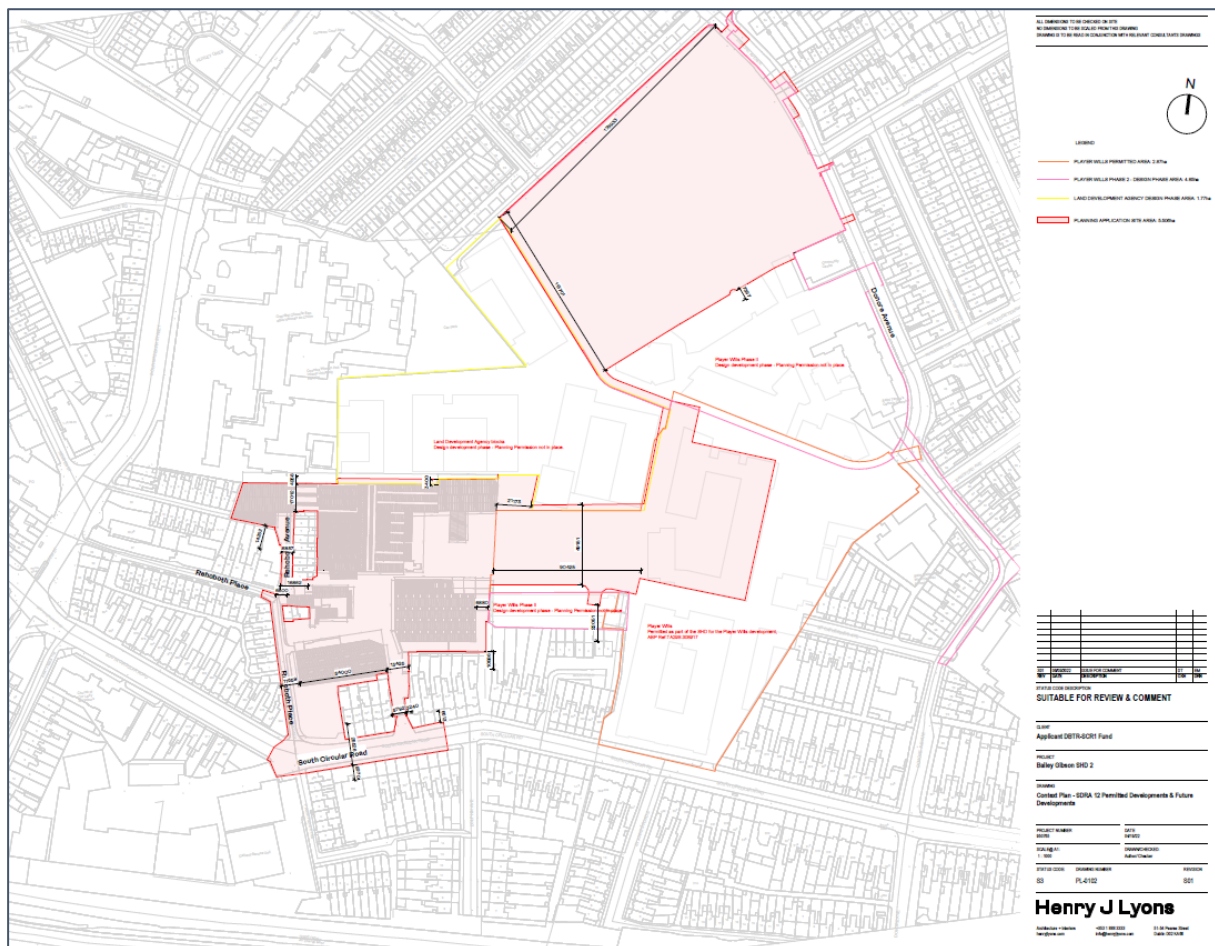


Figure 6.3 Context Plan - SDR 12 Permitted Developments & Future Developments

6.5.2 Site Location

The Bailey Gibson application site is located between the South Circular Road and Cork Street in Dublin 8. To the south it borders the South Circular Road, to the west Rehoboth Place &

Rehoboth Avenue, to the east Donore Avenue and to the north Margaret Kennedy Road. The location of the site in relation to the surrounding road network is shown in **Figure 6.4** below.

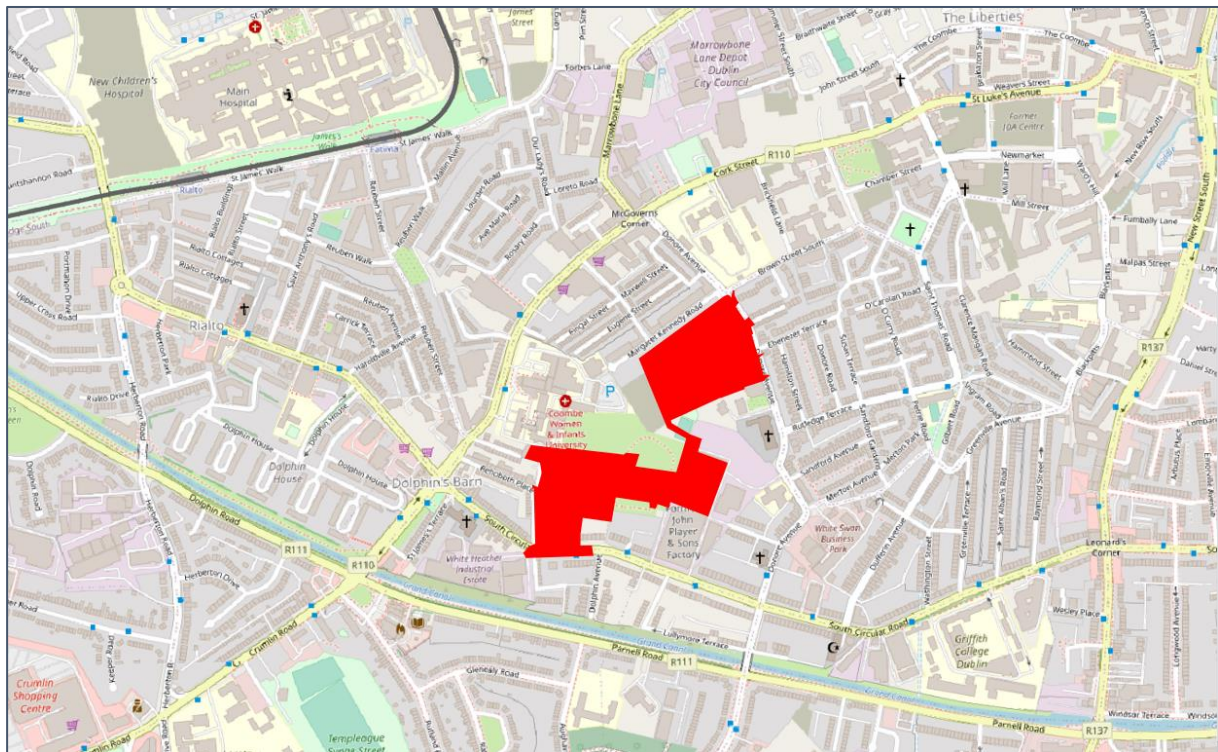


Figure 6.4 Proposed Development Site Location & Surrounding Road Network

6.5.3 Walking Accessibility & Infrastructure

The site is within a convenient walking distance of the city centre and a number of large employment centres as well as leisure and retail facilities. The Coombe Maternity Hospital is located within less than 5-minute walk of the site. St. James's Hospital, home to the future national children's hospital, is within a 15-minute walk of the site as is Griffith College and the Guinness Storehouse. The city centre is a 25–30-minute walk. Heuston Station, the Phoenix Park and the Royal Hospital Kilmainham are also all within a 30-minute walk of the site. **Figure 6.5** below outlines the walking catchment in 5-minute intervals.

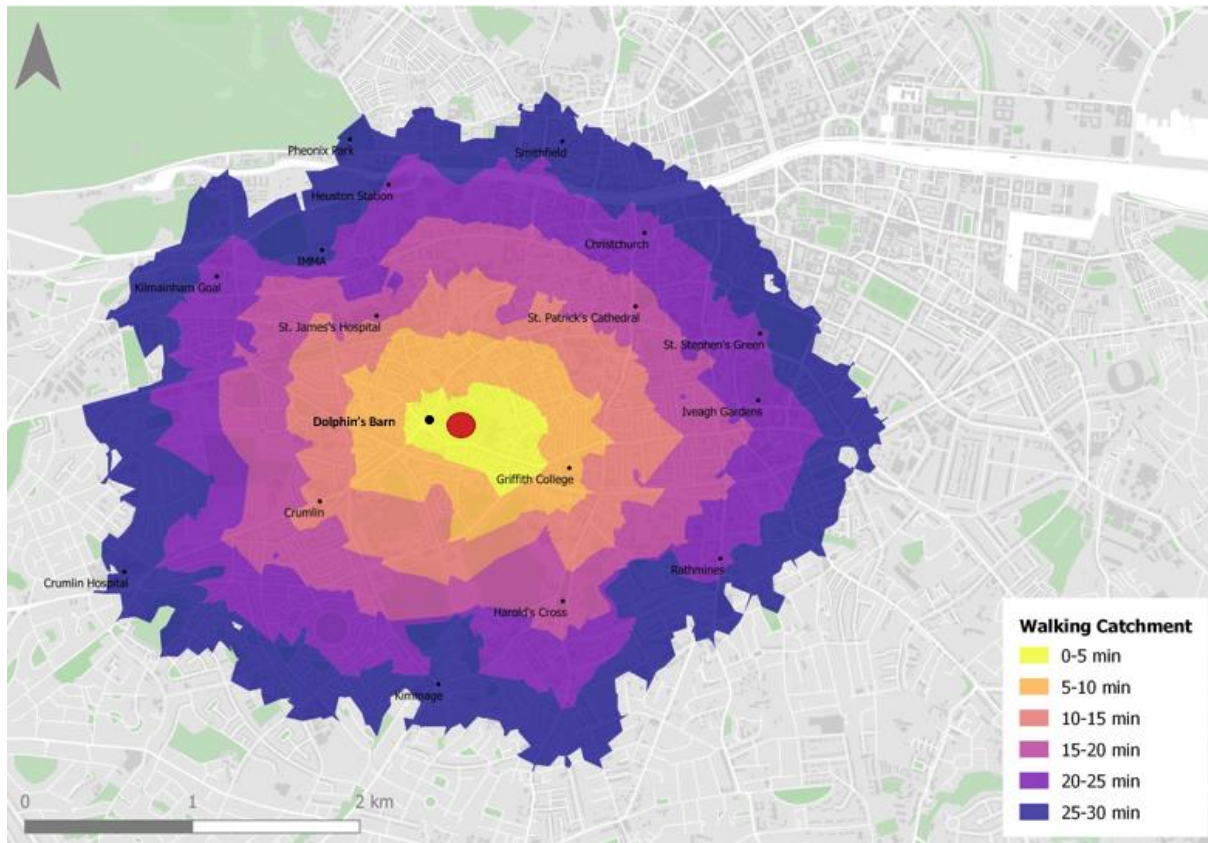


Figure 6.5 Walking Catchment

In the immediate vicinity of the site there are good quality pedestrian routes along South Circular Road with footpath widths of 2.2 & 4.2m between Donore Avenue and Dolphin's Barn Cross and good quality lighting. There are no formal zebra or signalised crossing point along this stretch of the South Circular Road. However, there is an unmarked pedestrian crossing, with dropped kerb lines and a traffic island directly in front of the development. Along Rehoboth Place the footpaths are narrower varying between 1.1-1.6m though this street is very lightly trafficked.

6.5.4 Cycling Accessibility & Infrastructure

The site is also highly accessible by bike, with the city centre, TUD Grangegorman, Coombe and St James's Hospitals, and Heuston Station all within a 15-minute cycle of the site. There are an estimated 148,050 jobs within a 15-minute cycle and over 340,000 within a 30-minute cycle of the site. **Figure 6.6** outlines the cycling catchment in 5-minute intervals.



Figure 6.6 Cycling catchment

Cycle lanes are provided along the majority of the route from Dolphin's Barn Cross to the City Centre and along the length of the Canal towards the docklands. There are currently no cycle lanes along the South Circular Road and Donore Avenue but there is a bus lane eastbound along the South Circular Road and westbound on approach to Dolphin's Barn Cross.

6.5.5 Public Transport Accessibility & Infrastructure

The site is located within a 5-minute walk of a numerous high frequency Dublin Bus & Go-Ahead services along Dolphin's Barn Street/Cork Street, a dedicated Quality Bus Corridor, and the South Circular Road. It is also a 9-minute walk to the Fatima Red line Luas stop. **Figure 6.7** below illustrates the existing public transport network and stop locations.

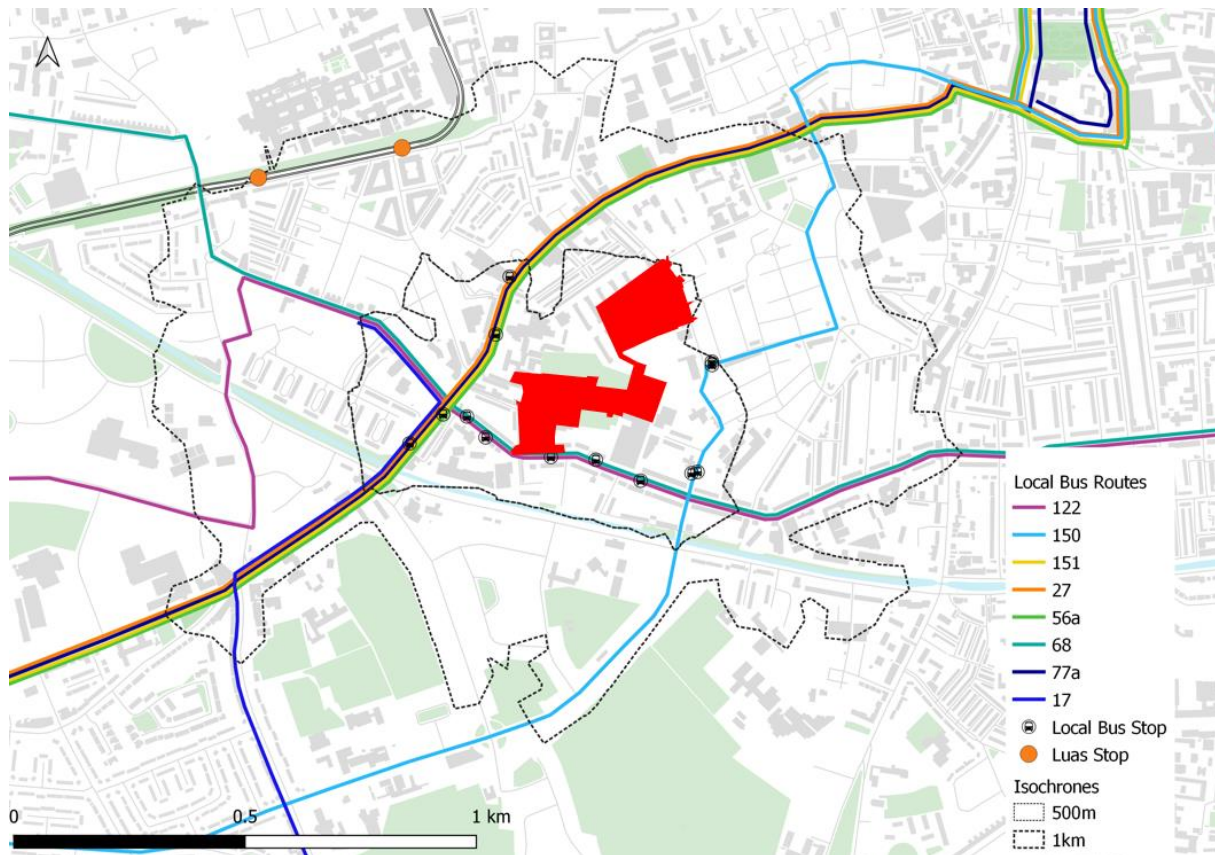


Figure 6.7 Local Public Transport Services

Table 6.1 outlines the frequency of the bus services, along with the red line Luas, during the weekday AM peak hour & Inter peak as well as the weekend Inter peak.

| Route | | Weekday | | Weekend | |
|---------------|--|---------|-----------|----------|--------|
| | | AM Peak | Interpeak | Saturday | Sunday |
| 68 | Hawkins St./Newcastle | 60 | 60 | 60 | 45-90 |
| 122 | Ashington/Drimnagh | 10 | 20 | 20 | 20 |
| 27 | Clarehall/Jobstown | 10 | 10 | 10 | 15 |
| 56a | Ringsend/Tallaght | 60 | 75 | 75 | 75 |
| 77a | Ringsend/Citywest | 20 | 20 | 20 | 30 |
| 151 | Docklands/Foxborough | 20 | 20 | 20 | 30 |
| 150 | Hawkins St/Rossmore | 15 | 20 | 20 | 30 |
| 17 | Blackrock/UCD/Rialto | 20 | 20 | 20 | 30 |
| Luas Red Line | Tallaght/Saggart/Citywest-Connolly/Point | 3 | 9 | 10 | 10 |

Table 6.1 Local Public Transport Services Frequency (min)

6.5.6 Existing Public Transport Capacity Assessment

As part of the preparation of the Traffic and Transport Assessment for Bailey Gibson, an assessment has been undertaken to identify if the existing public transport capacity can accommodate the current and future PT trips that will be generated by the development. The assessment has been conducted along the main bus routes which will be used by future residents to access the City Centre. This includes an assessment of existing bus services operating along Cork Street (northbound) and along South Circular Road (eastbound).

Bus capacity information and boarding & alighting data has been extracted for these routes using the National Transport Authority's Eastern Regional Model (ERM). The ERM is the NTA's primary tool for assessing the multi-modal impact of transport schemes and policy measures in the Greater Dublin Area. In particular, the ERM has recently been used as part of the preparation of the BusConnects EIAR to forecast the future demand for public transport use. This has been compared against the number of buses that serve these routes in the morning peak period, to give an indication of the residual capacity for passengers along the two routes.

Figure 6.8 below illustrates the total bus capacity (orange line) along Cork Street in the AM peak period heading into the City Centre. This is based on the number of buses that serve this route and the carrying capacity of each service. The AM period has been chosen as it represents the busiest period of the day for public transport demand. The graph also indicates the cumulative passenger loading (Blue line) along the route heading into the City Centre based on passenger demand extracted from the ERM. The figure indicates that the total capacity for passengers on the bus services along Cork Street heading into the city is approximately 1,400 at the point of the proposed development site, and the passenger loading is approximately 1,000. Therefore, the data indicates that there is spare capacity for an additional 400 passengers along this route. The total combined (arrivals and departures) public transport peak hour demand for the proposed development (as set out in Table 7.8 of the TTA Report) is 43 public transport trips. This demonstrates that the existing bus services operating along Cork Street have more than sufficient capacity to accommodate the future PT trips generated by the development.

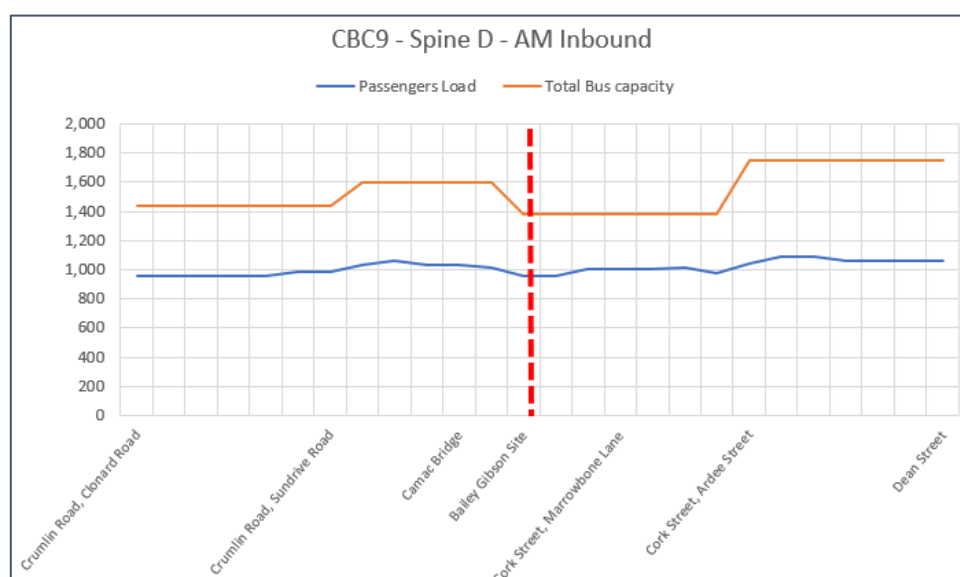


Figure 6.8 Bus Capacity vs Passenger Load – Cork Street Services northbound AM peak

A similar exercise has been performed for bus services operating in an eastbound direction along the South Circular Road in the AM peak period. This is illustrated in **Figure 6.9** below. Again, The AM period has been chosen as it represents the busiest period of the day for public transport demand. The figure indicates that the total capacity for passengers on bus services operating along the South Circular Road heading eastwards towards the city is approximately 800 at the point of the proposed development site, and the passenger loading is approximately 200. Therefore, the data indicates that there is spare capacity for an additional 600 passengers along this route. As noted previously, the total combined (arrivals and departures) public transport AM peak hour demand for the proposed development is 43 public transport trips. This demonstrates that the existing bus services operating along the South Circular Road have more than sufficient capacity to accommodate the future PT trips generated by the development.

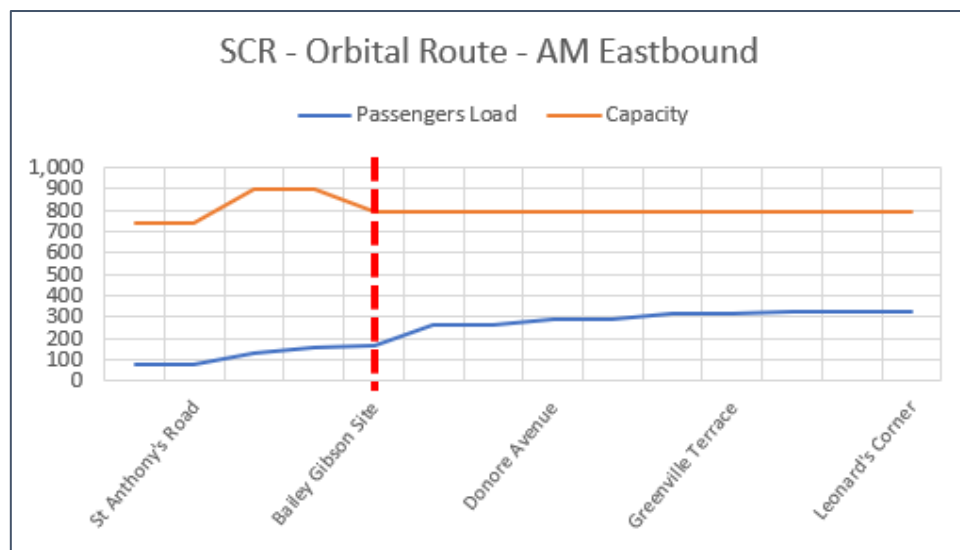


Figure 6.9 Bus Capacity vs Passenger Load – South circular Road Services Eastbound AM peak

For both bus corridors, there is considered ample residual capacity to accommodate new bus passenger trips generated by the proposed development. The above exercise has been based on the capacity of the existing bus service operating in the vicinity of the proposed development. The delivery of BusConnects will see a step change in both the capacity and quality of the public transport system in the Greater Dublin Area. In particular, Cork Street forms part of the Core Bus Corridor network which will support the delivery of high frequency and reliable bus services along this route. This will further enhance public transport provision in the local area and will encourage sustainable travel from the proposed site.

6.5.7 Road Network Infrastructure & Traffic Conditions

The surrounding road network is a mix of quieter residential streets and more heavily trafficked regional, urban roads such as the R811 South Circular Road, the R110 Dolphin's Barn Street/Cork Street, the R111 Parnell Road (Canal Road). Many of the residential streets are narrow in nature due to restricted carriageway widths and/or on-street parking. There are several busy signalised junctions, such as the Dolphin's Barn Cross, along the South Circular Road as well as along the Canal.

6.5.7.1 Traffic Surveys

As part of the baseline assessment extensive traffic surveys were undertaken in the local area. These survey locations were presented and agreed with DCC during consultation. These included Junction Turning Counts (JTCs) and queue lengths surveys at a number of key junctions. The surveys were undertaken for 12 hours on a neutral weekday within the school term, 2nd May 2019. **Figure 6.10** illustrates the location of these surveys. The full survey results can be found in the Transport Assessment submitted under separate cover as part of the planning application.

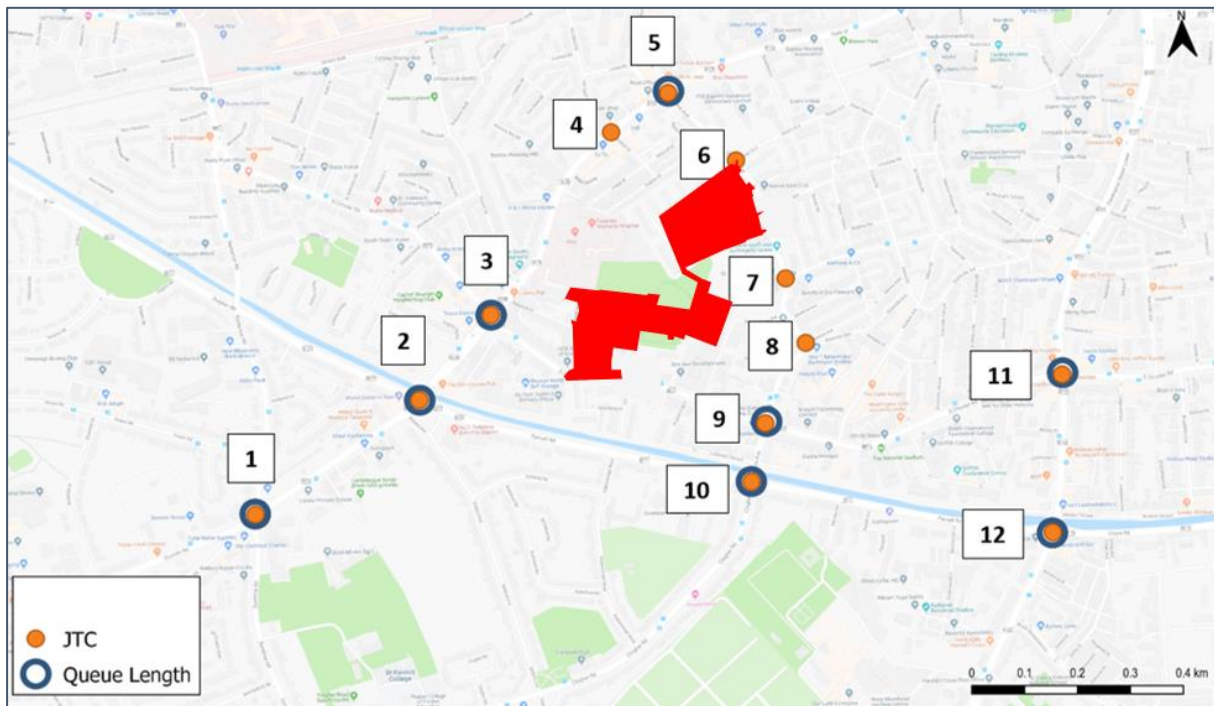


Figure 6.10 Traffic Survey Locations

The traffic surveys utilised to assess the impact of the Bailey Gibson development were collated in 2019 before the advent of the Covid Pandemic. Since the start of the pandemic in 2020, the demand for all transport modes has fluctuated, but has not returned to pre-pandemic levels (tii.ie/roads-tolling/operations-and-maintenance/traffic-count-data/covid-traffic-patterns/), with a cohort of society continuing to work from home.

Both the NTA (through their publication [Alternative Futures Travel Demand](#) Nov 2020) and TII (through their publication [PAG Unit 5.3 Travel Demand Projections](#) [PE-PAG-02017](#) (tiipublications.ie) Oct 2021), have sought to forecast the future demand for travel in a medium to long term horizon. The application of both of these forecasting methodologies results in an overall reduction in transport demand and traffic flows compared to pre-pandemic levels to reflect changes in technology and working behaviors. Where feasible, it is advised by TII to use pre-pandemic traffic flows to reflect stable and conservative traffic flow conditions. Therefore, the use of 2019 traffic flows in the appraisal of the Bailey Gibson scheme represents a conservative and robust case scenario, appropriate for the assessment of the capacity of the network across all modes. The recently published EIAR prepared by the NTA for the BusConnects Core Bus Corridor Infrastructure works has also utilised traffic surveys collated in 2019. In this regard, the BusConnects EIAR notes that:

“the Do Minimum and Do Something scenarios are based on the assumption that travel behaviour will remain broadly consistent over time and that car demand, used for this assessment, represents a likely worst-case scenario. It is possible that societal trends in the medium to long term may reduce car demand further due to the ongoing changes to travel behaviours and further shifts towards sustainable travel, flexibility in working arrangements brought on following COVID-19, and delayed car ownership trends that are emerging.”

6.5.7.2 Link Flows

The hourly total two-way flow along the South Circular Road between Dolphin's Barn & Donore Avenue was calculated from JTC 3 & 9 in order to find the peak hours for traffic. There is notable peak in morning traffic between 8:00-9:00. The PM peak is less well defined with traffic more evenly spread, however there is slightly more traffic observed between 17:00-18:00.

The peak hour traffic flows along each of the main links close to the development is outlined for the AM and PM peaks in **Figure 6.11** & **Figure 6.12** respectively. As shown, the busiest road locally during the AM & PM peaks is Dolphin's Barn Street/Cork Street north and southbound with large volumes of car traffic crossing the canal daily (912 vehicles northbound in the AM peak hour & 999 vehicles southbound in the PM Peak hour). There are also high volumes of traffic along the South Circular Road east of Donore Avenue.

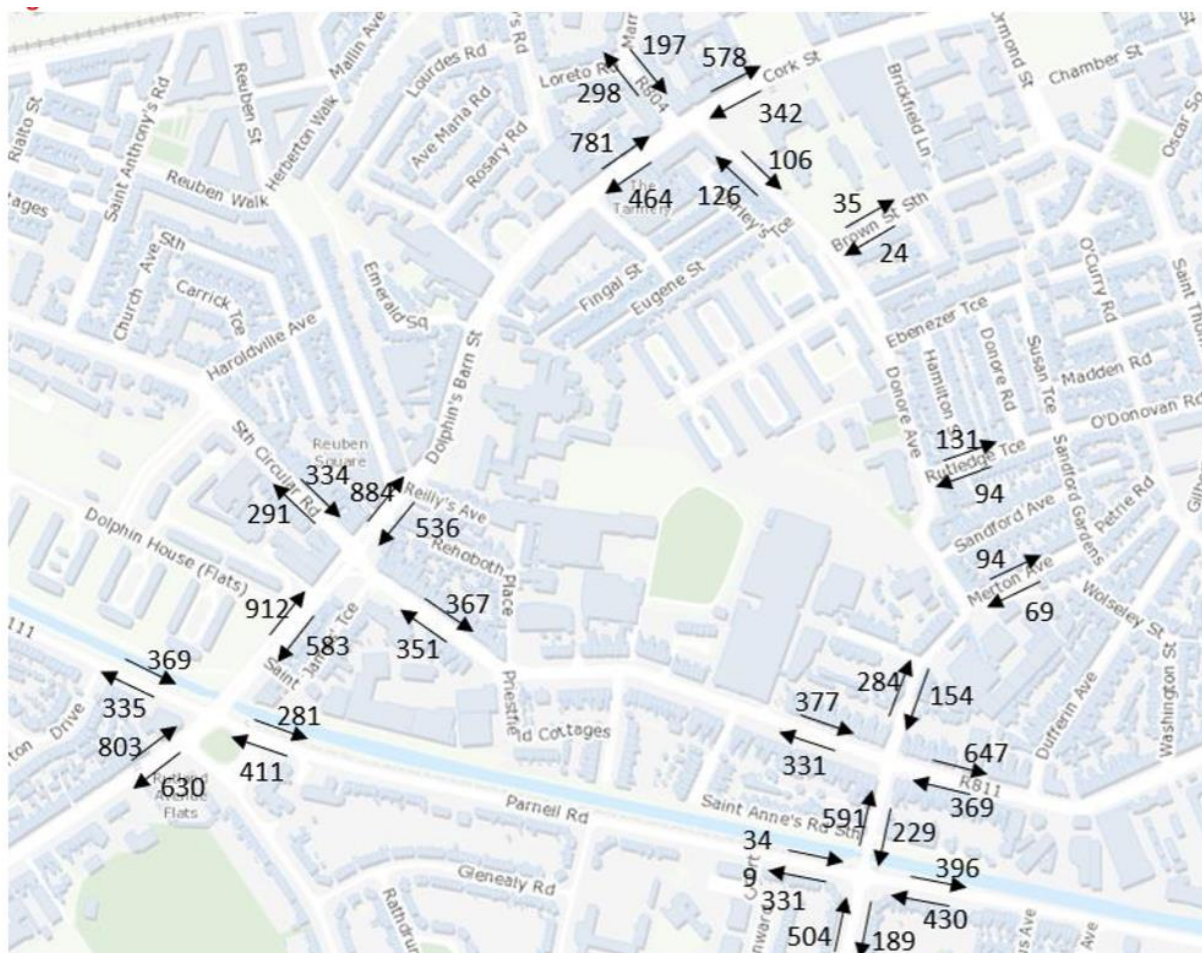


Figure 6.11 AM Peak Traffic Volumes

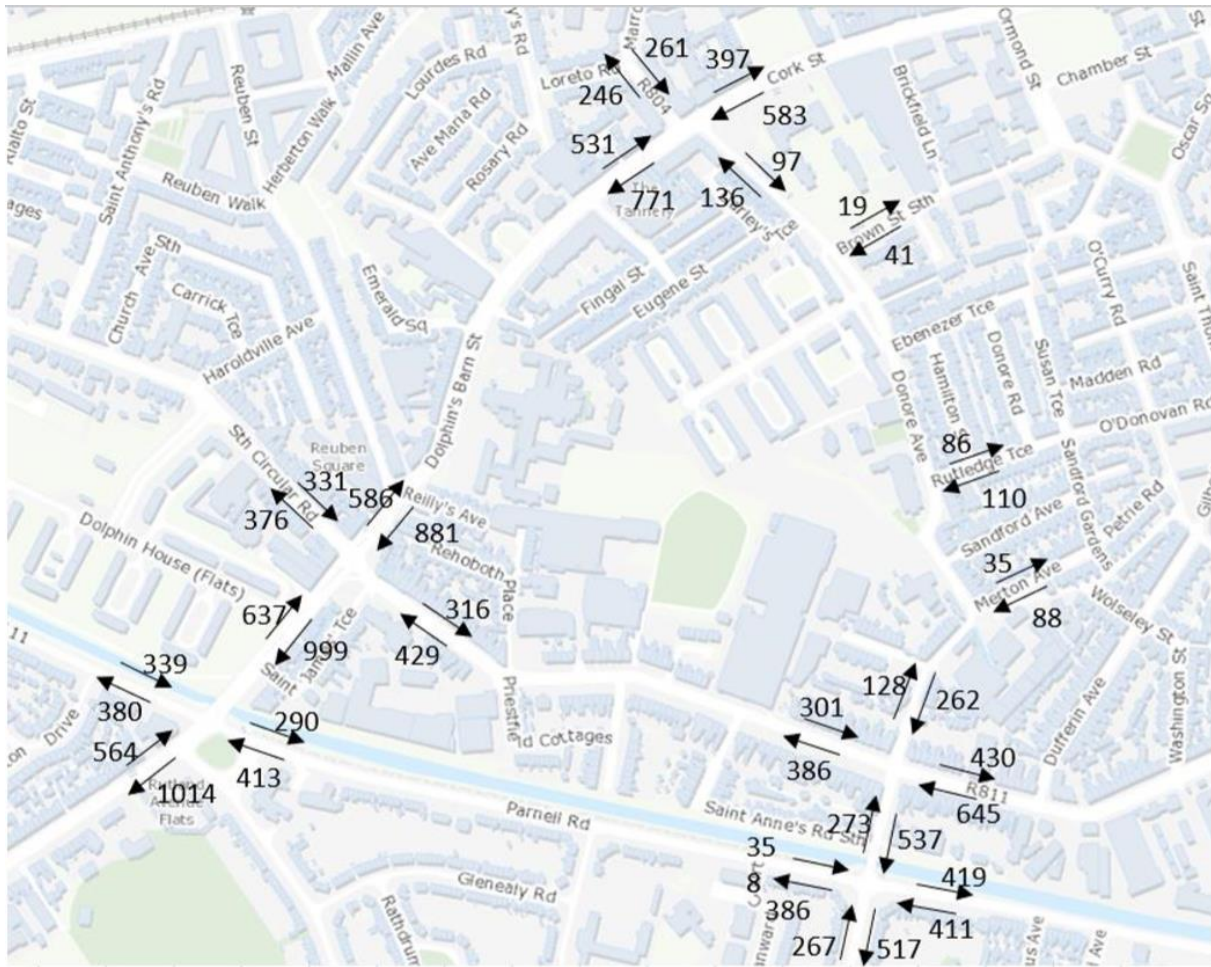


Figure 6.12 PM Peak Traffic Volumes

6.5.7.3 Queue Length Results

The queue length surveys undertaken record the maximum queue observed within 15-minute intervals through the peak hour. The average of the 4 max queues observed across the hour and the highest individual queue in the peak hour are shown for each arm in **Figure 6.13** & **Figure 6.14** for the AM and PM peak hour respectively.

As shown in **Figure 6.13**, the highest levels of queuing are observed at Dolphin's Barn Cross travelling northbound across the bridge and eastbound along the South Circular Road in the morning peak. There are also higher levels of queueing observed travelling eastbound along the canal at Donore Avenue.



Figure 6.13 AM Peak (8-9) Queue Lengths

In the PM peak hour, the longer queues are predominantly observed travelling south and westbound as traffic travels outbound from the city. The longest queue is observed along Cork Street southbound travelling towards Dolphin's Barn Cross. There is also some queuing to the east of the proposed development site along Donore Avenue southbound and South Circular Road westbound.

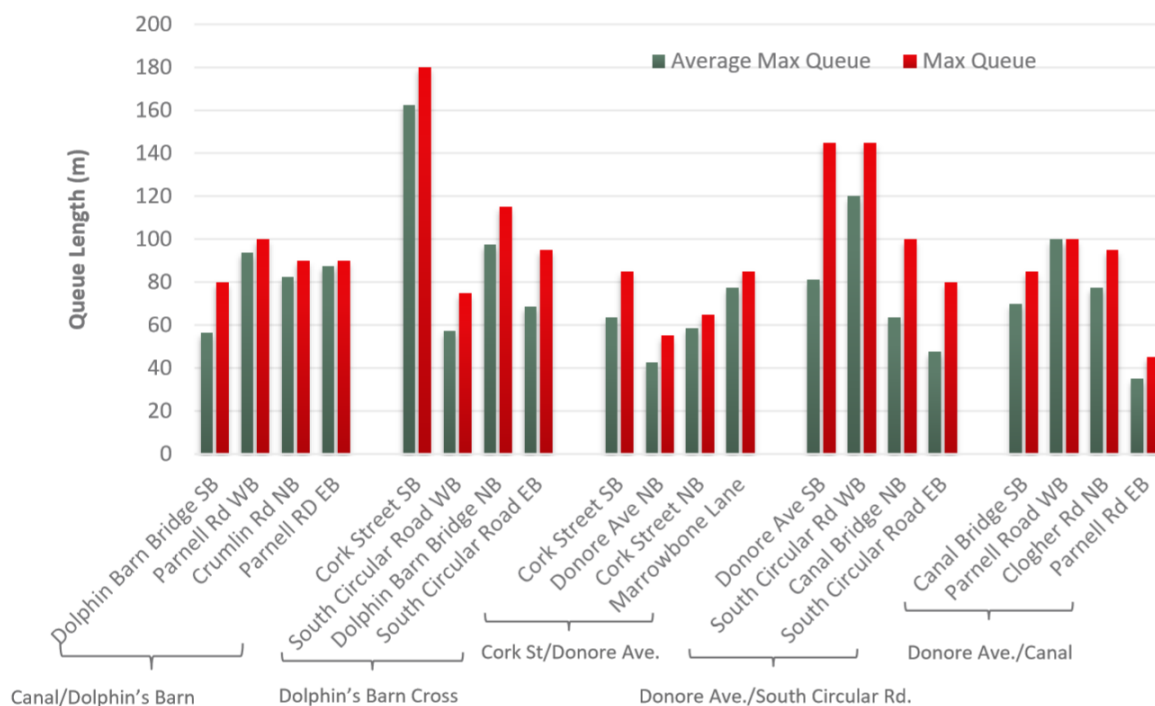


Figure 6.14 PM Peak (17-18) Queue Lengths

6.5.8 Projected Increases in Traffic without the Current Proposed Development

The proposed development site is currently vacant and therefore generates no traffic. In the absence of the project and if no development is undertaken at the site, the baseline conditions are anticipated to evolve in accordance with regional forecasts for the Dublin Metropolitan Area alone. These forecasts are produced by TII and have been developed in line with the National Planning Framework (NPF) Population and Employment Projections. These assume significant development across the entire Greater Dublin Area with a 25% increase in population within the City by 2040. The growth rates are set out in 'Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections'. The predicted growth in background traffic for each year is detailed in Section 6.8.4.2: Traffic Forecasting.

Given that the proposed development site is zoned for development, it is very unlikely that the site will remain vacant in future. Current National Policy outlines a critical need for new homes to be built in the existing city footprint, therefore, in all probability a similar development will be built. The projected increases in traffic are therefore likely to be similar with or without the current proposals.

6.5.9 Heavy Goods Vehicles

In February 2007, Dublin City Council introduced a ban on 5+ axle vehicles entering a city centre cordon boundary between 07:00 - 19:00. To ensure that essential deliveries to commercial premises and construction sites could continue to operate as before, a permit scheme was introduced for HGVs that need to load/unload within the city. As part of the application, the applicant must give their entry and exit points to the cordon along with their destination. HGVs are confined to designated routes between the cordon and destination, these routes with the permitted cordon entry and exit points are outlined in **Figure 6.15**.

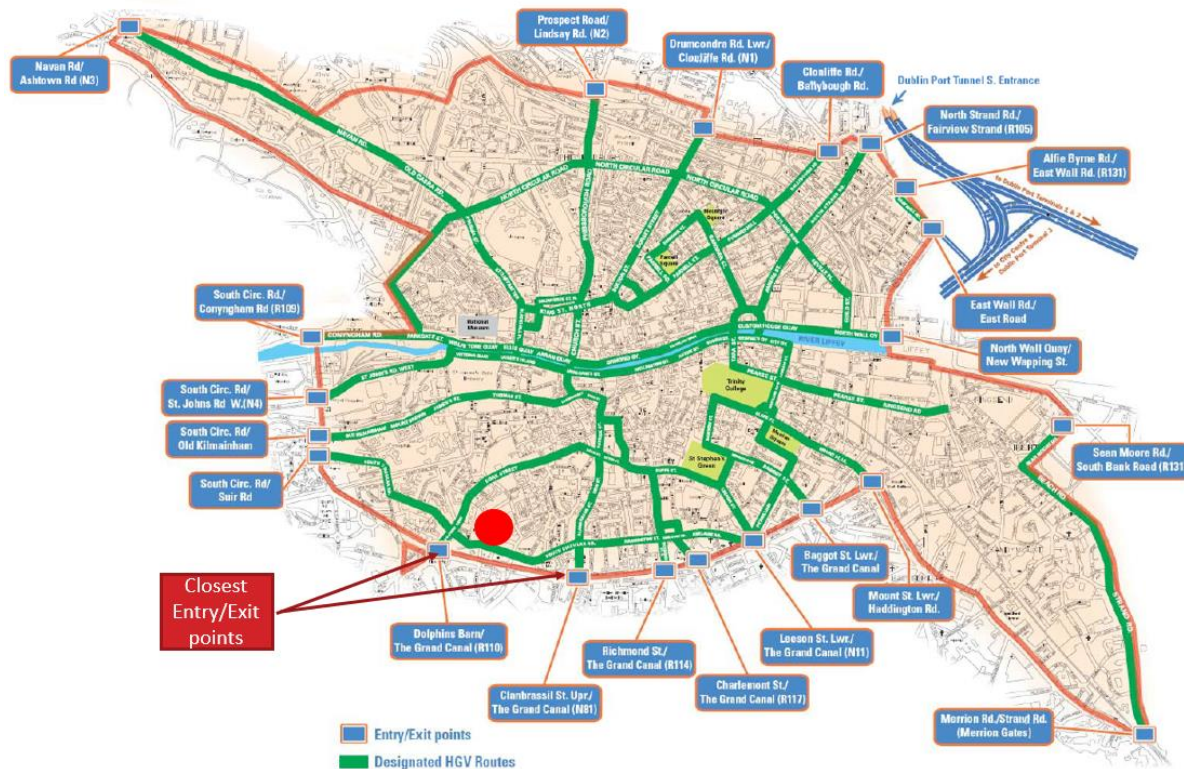


Figure 6.15 Permitted HGV Routing

As the proposed development falls within the restricted HGV cordon, the number of these vehicles in the vicinity is low, however, as the South Circular Road to the south of the site is designated as an orbital HGV route, HGVs are permitted to use this road providing they have a permit and it is between their pre-planned origin and destination. The closest entry/exit points to the cordon and the development site are located at Dolphins Barn and Clanbrassil Street Upper.

6.5.10 Road Safety

The Road Safety Authority's (RSA's) online collision map was reviewed to assess any local accidents and safety trends which may impact the proposed development. The collision map includes all fatal, serious, and minor accidents officially recorded between 2005 and 2016. The data for subsequent years is not yet available on the RSA's website though the available data covers a wide enough timeframe to ensure a robust analysis. The recorded accidents near the proposed development site are shown in **Figure 6.16**.

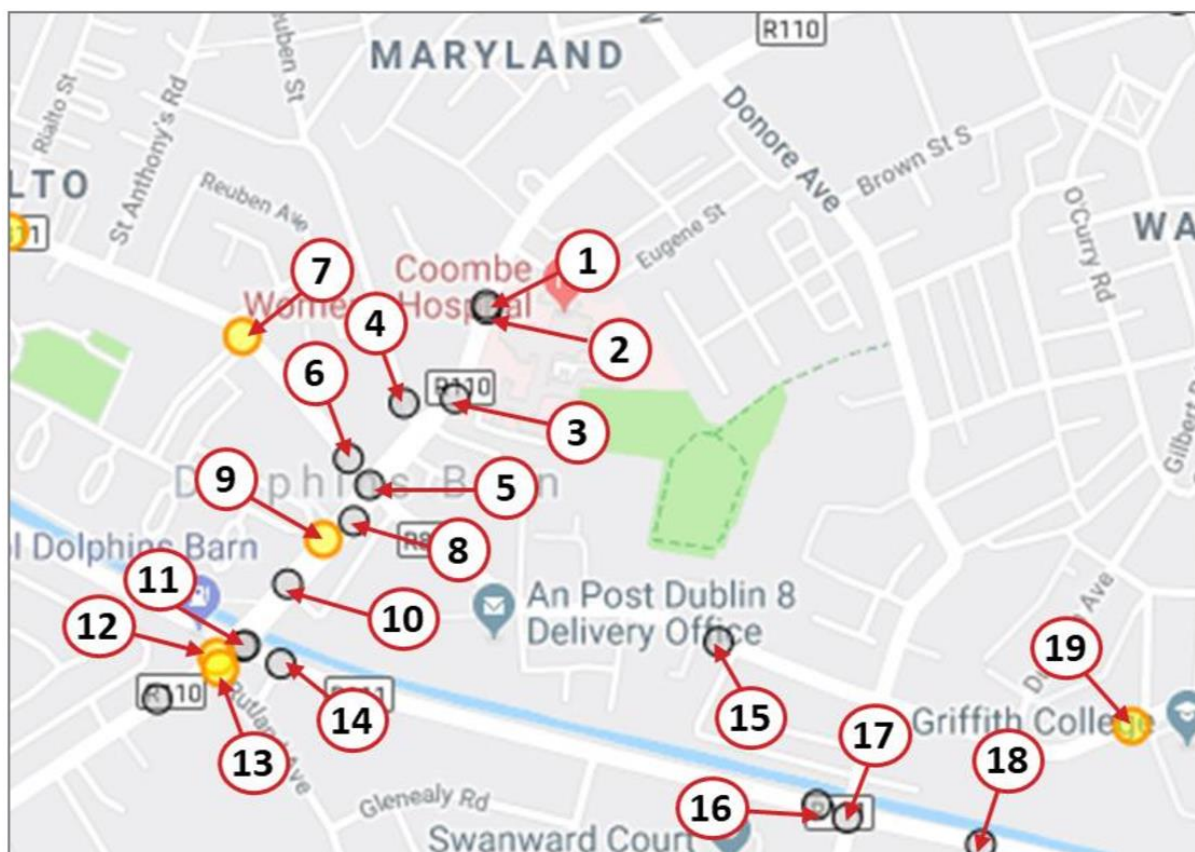


Figure 6.16 RSA Collision Map

(Map Data © Google & Road Safety Authority)

As shown, there is only one minor accident in the immediate vicinity of the site along the South Circular Road. There were more accidents reported further from the site along Dolphin's Barn Street including a number of serious accidents but no fatalities. Details of the accidents shown in **Figure 6.15** are given below in **Table 6.2**.

| No. | Severity | Vehicle | Circumstances | Day | Time | No. Casualties |
|-----|----------|---------------|---------------------|------|-----------|----------------|
| 1 | Minor | Car | Rear end, left turn | Mon. | 0700-1000 | 1 |
| 2 | Minor | Goods Vehicle | Rear end, straight | Wed. | 1000-1600 | 1 |
| 3 | Minor | Car | Other | Wed. | 1000-1600 | 2 |
| 4 | Minor | Car | Single Vehicle only | Sat. | 1900-2300 | 1 |
| 5 | Minor | Bus | Head-on conflict | Sat. | 0300-0700 | 4 |
| 6 | Minor | Car | Head-on conflict | Fri. | 1900-2300 | 2 |
| 7 | Serious | Car | Pedestrian | Fri. | 1000-1600 | 1 |
| 8 | Minor | Undefined | Pedestrian | Thu. | 1600-1900 | 1 |
| 9 | Serious | Bicycle | Other | Wed. | 1000-1600 | 1 |
| 10 | Minor | Bus | Pedestrian | Sun. | 2300-0300 | 1 |
| 11 | Minor | Bus | Other | Sat. | 0300-0700 | 1 |
| 12 | Serious | Bicycle | Other | Fri. | 1600-1900 | 1 |
| 13 | Serious | Undefined | Pedestrian | Mon. | 1600-1900 | 1 |
| 14 | Minor | Bicycle | Other | Wed. | 1000-1900 | 1 |
| 15 | Minor | Car | Single Vehicle only | Fri. | 1900-2300 | 1 |
| 16 | Minor | Car | Rear end, straight | Tue. | 1000-1600 | 1 |
| 17 | Minor | Bicycle | Other | Mon. | 0700-1000 | 1 |
| 18 | Minor | Motorcycle | Other | Mon. | 1600-1900 | 1 |
| 19 | Serious | Bicycle | Other | Wed. | 1000-1600 | 1 |

Table 6.2 Local Accident Summary

6.5.11 Future Infrastructural Improvements

6.5.11.1 BusConnects

BusConnects is a major investment programme to improve and enhance the bus network of Dublin. It aims to overhaul the current system through a 10-year programme of integrated actions to deliver a more efficient, reliable, integrated, and improved bus system with increased capacity across the network. As part of this programme there are a number of initiatives planned, including:

- Delivery of a network that incorporates new or improved bus corridors that aim to reduce journey times and increase reliability
- New network of cycle lanes/tracks;
- Redesign of bus network with higher frequency spine routes, new orbital services and increased services;
- New bus stops and shelters with improved signage and information;
- Improvement to ticketing and fare structures.

-

Following three rounds of public consultation which began in 2017, the National Transport Authority published the new Dublin Area bus network in September 2020. This new bus network plan is the final version resulting from previous redesign proposals and with consideration given to issues raised by over 72,000 submissions. All information related to the New Dublin Area Bus Network can be viewed and downloaded <https://busconnects.ie/initiatives/new-dublin-area-bus-network/>, including a map of the overall network, local area maps, the 2019 consultation report and a summary document.

The Greenhills-City Centre corridor, running along D-Spine, is classified as a very high frequency spine with frequencies of less than 5minutes proposed along Dolphin's Barn Street/Cork Street. In addition, a new orbital route is planned along the South Circular Road which will pass directly in front of the proposed development. This route will operate at a frequency of 5-10 minutes. **Figure 6.17** shows the planned network redesign, Phase 2 of the BusConnects Network Redesign launched on 28th November 2021.

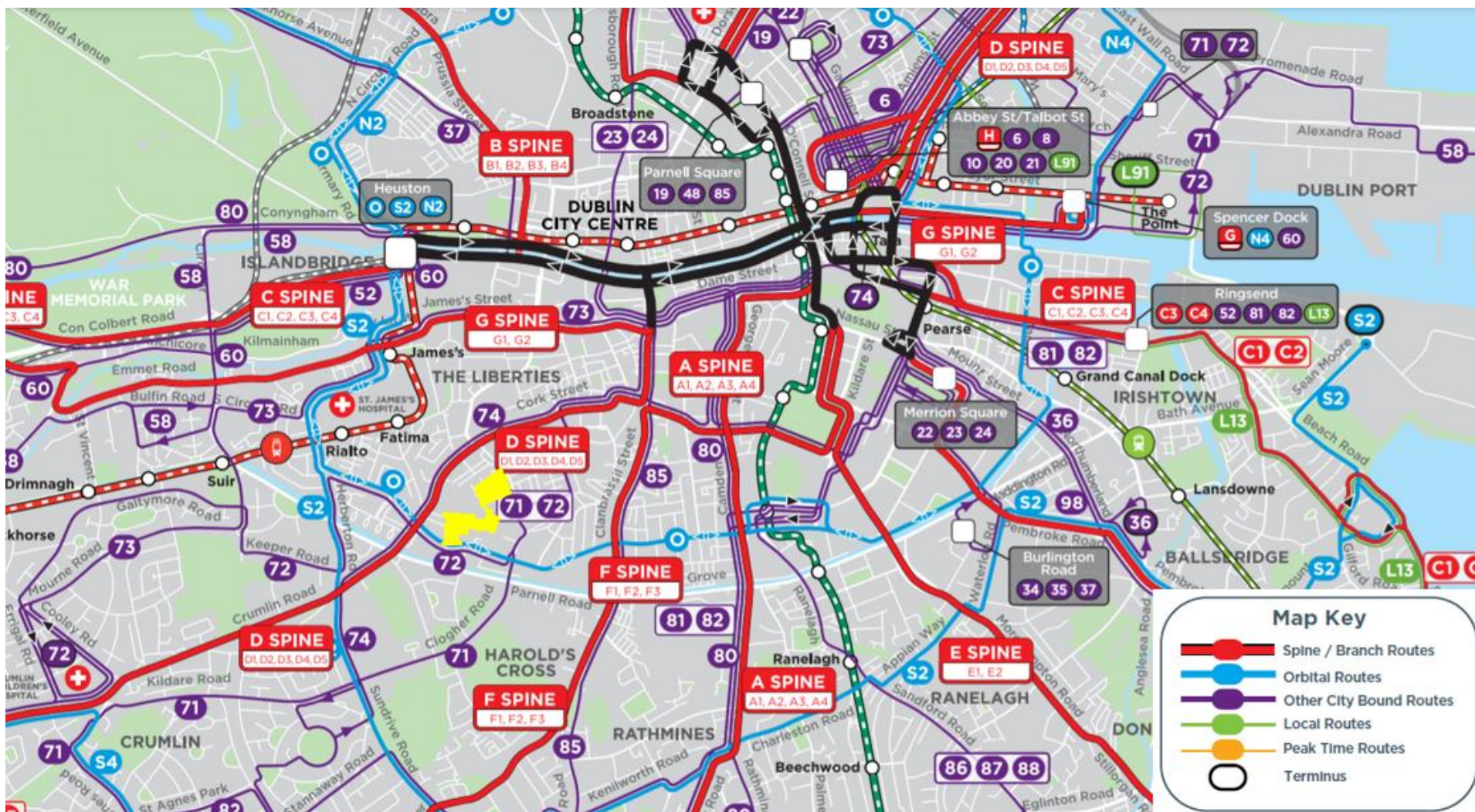


Figure 6.17 Bus Connects Network Resign – City Routes & Frequencies

6.5.11.2 Greater Dublin Area Cycle Network Plan, 2013

The Greater Dublin Area Cycle Network Plan sets out a 10-year strategy to expand the urban cycle network from 500km to 2,480km. The overarching ambition of the plan is to increase the national cycle mode share to 10% by 2020.

The network will consist of a series of primary, secondary and feeder routes as well as greenways routes. These routes will comprise of a mix of cycle tracks and lanes, cycleways, and infrastructure-free cycle routes in low traffic environments. The planned cycle network close to the proposed development site is shown below, with the Grand Canal Greenway, the Primary Route 8 and the Secondary Routes 8C, C7 and SO1 running in close proximity to the site as shown in **Figure 6.18**.

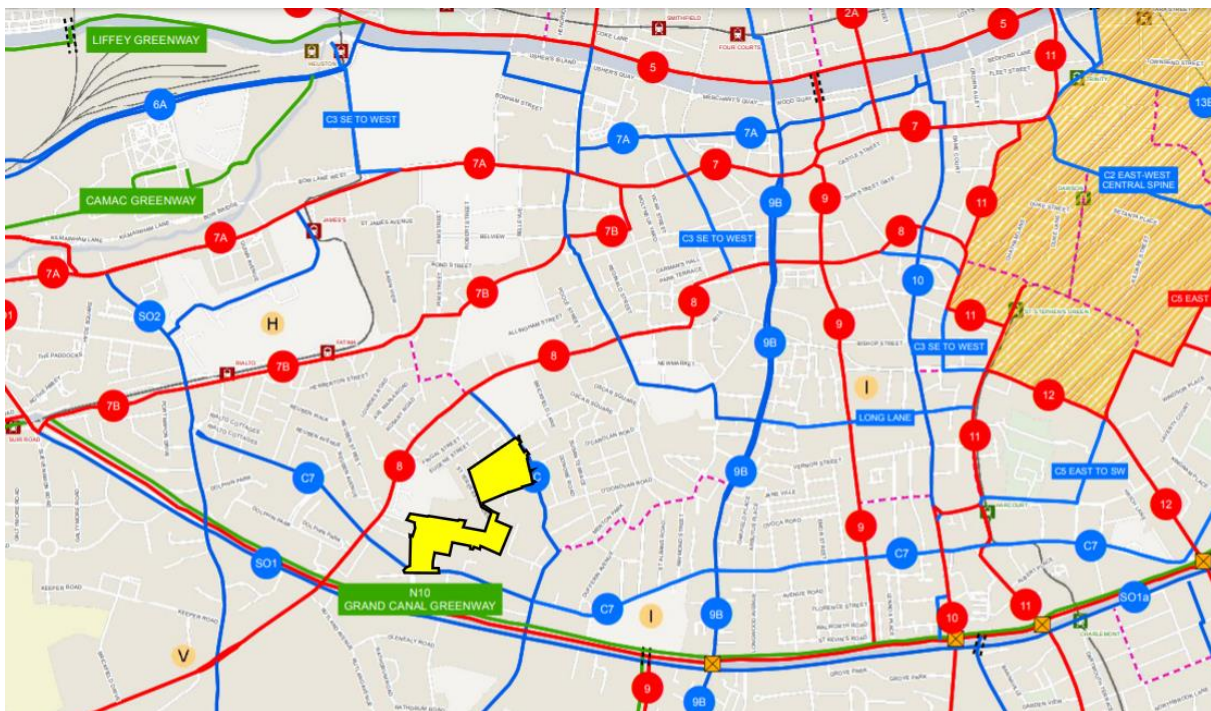


Figure 6.18 GDA Cycle Network Plan – City Centre

6.6 Do Nothing Scenario

6.6.1 No Project Scenario

The proposed development site is currently vacant and generates no traffic. If no development is undertaken at the site, the baseline conditions are anticipated to evolve in accordance with the projections outlined in the previous section.

However, the proposed development site is zoned for development and it is likely that in the absence of this proposal that a development of a similar nature would be proposed given current National Policy. The National Planning Framework Objective 3a & 3b state that 40% of new homes delivered nationally and 50% within Dublin should be constructed within the footprint of existing built-up settlements boundaries.

The site is included in Strategic Development and Regeneration Area 12 of the DCC Development Plan and its zoning objective is '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.” Which supports intensification of the proposed development site.

6.6.2 Extant Bailey Gibson Permission

In the short term, the extant permission for a Strategic Housing Development (Ref. ABP-307221-20) at the Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8 would be implemented. The effect would be as per the post mitigation effects outlined in the Traffic and Transport chapter included in the EIAR that accompanied that application which concluded as follows for the demolition and construction phase;

“With the mitigation measures in place, the impact of the proposed development on traffic and transport will be not significant, negative, local and long-term.”

For the operational phase it is stated as

“The proposed development site is ideally situated to have an extremely low car mode share and with the supporting measures identified in the MMP in place car traffic may be lower than that assumed in the modelling assessment. However, even with a higher car mode share modelled the impact will be slight. The delays for traffic on the local network are in general minor with no significant delays modelled as result of the additional development.”

The Board in their decision concluded the following;

“Traffic and Transportation impacts which will be mitigated by the management of construction traffic, urban realm improvement works and the modest provision of car parking within the scheme. The Board note the recommendation of Transport Infrastructure Ireland for zero car parking, but are satisfied that it is appropriate that the potential impact of car ownership of future residents of the development, should be mitigated by the provision of a quantum of on-site car parking rather than overspill into the surrounding streets.”

6.7 Risk of Major Accidents

As outlined in Section 6.4.7, there have been 19 road accidents on the road network surrounding the proposed development site over an 11-year period from 2005-2016. This equates to approximately 1.7 accidents per year on average. Section 6.8.2.6 outlines the increase in traffic flows as a result of the development. The maximum contribution of the proposed development during the operational phase to any link on the surrounding network is just 3.5% with most links experiencing less than a 1% increase in traffic volumes. Considering solely the effect of this additional traffic the development could result in an increase in accidents proportional to the increase in traffic which would equate to just 0.06 accidents per year. However, the increase outlined is very slight and the majority of accidents to date have been minor, 14 of the 19 reported, with no fatal accidents reported.

The above represents a simplified risk calculation; other factors aside from traffic volumes also influence the risk of collisions, and these are highly specific to traffic conditions. However, this is sufficiently robust to demonstrate that the proposed development will not significantly increase the risk of road traffic collisions on the surrounding road network given the low additional traffic volumes generated.

6.8 Potential Significant Effects Impact Assessment

6.8.1 Assessment Criteria

The Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022) outlines a number of factors that are used to describe potential significant effects. These include quality of effects, significance of effects, extent of effects, probability of effects, duration of effects and the type of effects. These factors are used to assess the potential traffic impacts for the proposed development.

There are currently no definitive criteria for assessing “significance of effects” for traffic impacts for EIA in Ireland. TII guidance does provide thresholds for determining when to carry out a traffic assessment for a planning application: if a proposed development is likely to increase traffic by 10% (or 5% in traffic sensitive or congested areas), the planning application should be accompanied by a traffic assessment¹. It should be noted that the TII guidance does not provide criteria for assessing significance of impacts for EIA purposes.

The UK’s Institute of Environmental Management and Assessment (IEMA) ‘Guidelines for the Environmental Assessment of Road Traffic’ (2003) recommends a range of indicators for determining the significance of the relief from severance advises that changes in traffic flow of 30%, 60% and 90% are regarded as producing ‘slight’, ‘moderate’ and ‘substantial’ changes respectively. Additionally, it is generally accepted that traffic flow increases of less than 10% on uncongested roads are generally considered to be ‘not significant’, given that daily variations in background traffic flow may vary by this amount.

Based on this methodology for determining the significance of changes, the prevailing traffic levels local to the proposed development and professional judgement, a significance effect rating of has been assigned to the different levels of potential traffic increases (shown on **Table 6.3**). To ensure the robustness of the assessment these ratings are more conservative than outlined in the IEMA guidelines. This is intended to guide the assessment of the likely effects of the proposed development.

| Significance of Effects | Traffic Increase |
|-------------------------|------------------|
| Imperceptible | 0-2.5% |
| Not Significant | 2.5-5% |
| Slight | 5-10% |
| Moderate | 10-20% |
| Significant | 20-30% |
| Very Significant | 30%-50% |
| Profound | 50%+ |

Table 6.3 Rating of Effects based in Traffic Contribution

The other factors set out in the EPA guidance for assessing effects - quality, extent, probability, duration, type – are also included in the assessment of potential effects in this chapter.

¹ TII, Traffic and Transport Assessment Guidelines, May 2014

6.8.2 Demolition & Construction Phase

The Demolition & Construction will be short-term in nature relative to the Operational Phase. In total, it will last approximately 24-30 months. The traffic generated on site both as a result of construction activity and staff required on site will vary during this time depending on the construction stage and activity though staff will generally be encouraged to travel to site by sustainable means.

6.8.2.1 Staff Trip Generation

During the peak of the construction phase for the proposed development, it is estimated that up to 200-150 personnel will be working on site. To limit the impact of construction traffic on the local network, staff will be instructed to arrive to site by public transport, walking or cycling where possible. However, to ensure that where driving is required that there is no overspill of traffic onto the surrounding road network a total of 120 on-site parking spaces will be provided for visitors and staff combined. This will result in 120-200 potential car trips to site over the course of the construction period (allowing for potentially multiple visitor trips per day). The staff and visitor parking will be located in the area shown in blue in **Figure 6.19** and will be accessed via South Circular Road.

Working hours are determined and conditioned by the Grant of Permission - envisaged working hours for all Blocks is 07:00 – 18:00 Monday to Friday and 08:00 – 14:00 on Saturday, meaning the majority of staff will be arrive before busiest morning peak and after evening peak.

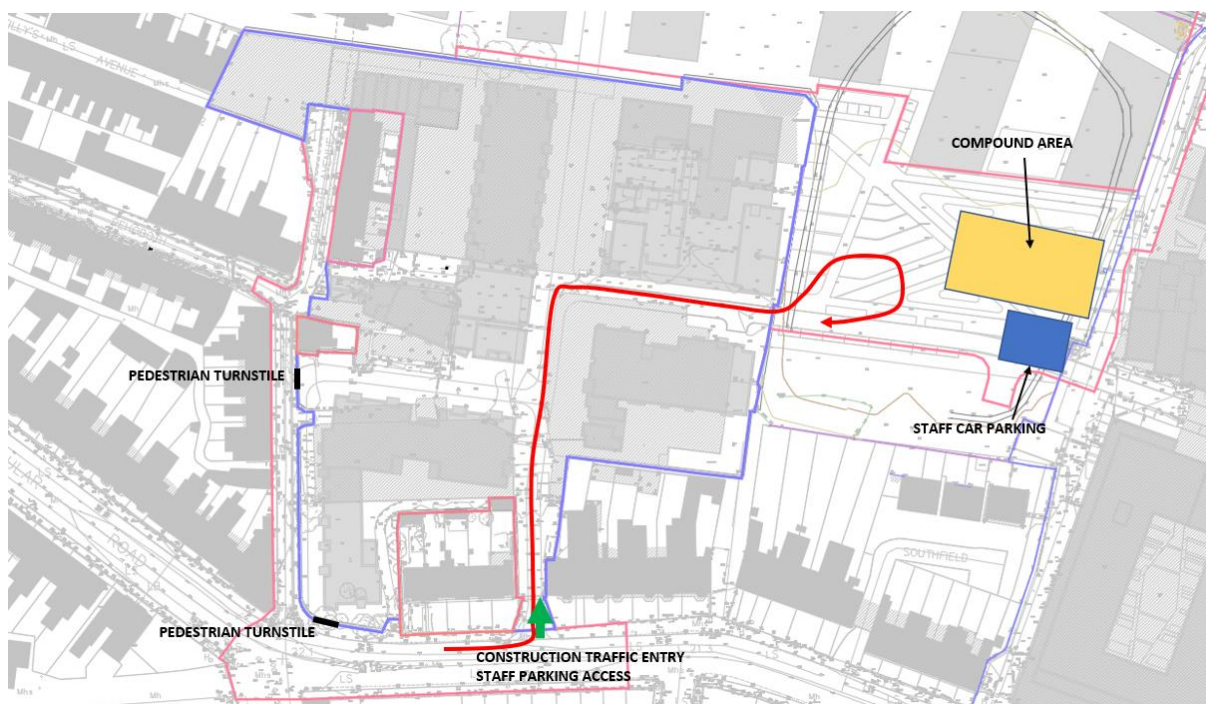


Figure 6.19 Site Layout During construction phase

It is assumed that the majority of these staff/visitor (200max one-way) trips will travel southbound along Donore Avenue towards the South Circular Road where the estimated AADT is 9,000 vehicles per day and they will represent an increase of 4.4% of daily traffic. Based on the criteria outlined in **Table 6.3** this is assessed to have a not significant effect on the immediate local road network.

6.8.2.2 HGV Trip Generation

Heavy Construction Vehicles will enter and exit Bailey Gibson Site from the South Circular Road, and from Donore Avenue to access the Playing Pitch Area, via designated routes for HGVs within the DCC HGV strategy. The number of heavy vehicles will be dependent on the construction activity taking place on site. The average number of HGVs as well as the number during the peak period of development has been estimated and is outlined in **Table 6.4** below. This 'peak' period will take place during the excavation of the development basement under blocks BG2 and BG3.

| Construction Stage | Duration (approximate) | Average HGV One-way Trips per day |
|--|------------------------|-----------------------------------|
| Average across total construction period | 24-30 months | 30-40 |
| Peak period (Basement Excavation) | 3 months | 70 |

Table 6.4 HGV Trips by Construction Stage

As shown, the maximum number of HGVs to the site will be during the basement excavation, including the export and import of materials to site, however this will be temporary lasting 3 months. The average number of HGVs to site over the entire construction phase will be closer to 40 one-way HGV trips (trips to and away from site). The proposed routing of HGVs from the site to the M50 where the majority will travel to/from is shown in **Figure 6.20**.

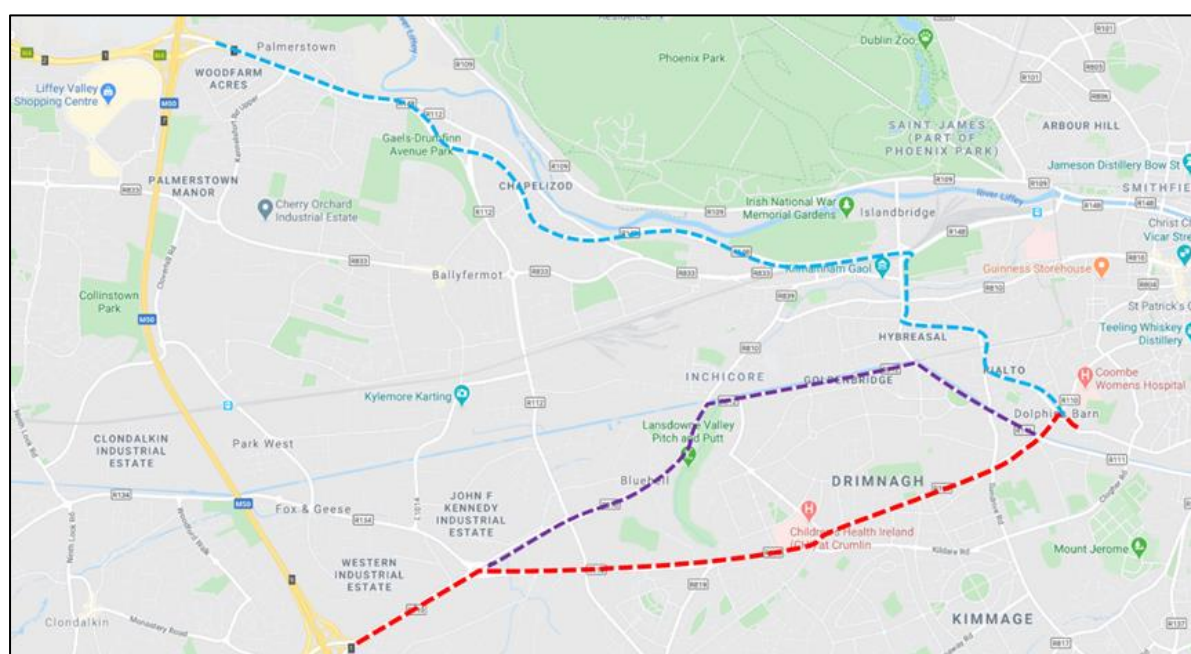


Figure 6.20 Construction HGV Potential Routes to Site

The majority of HGV traffic will be encouraged to use the Red or Purple route outlined to the M50/N7 Junction. On average, this will increase the absolute number of HGVs along the South Circular Road by 9.30% & on the Dolphin's Barn Cross Canal Bridge by 5.22% though the percentage HGV will increase by less than 0.5%. The increase in overall total traffic as result of the additional HGVs along these links will be less than 0.5%. This will have an imperceptible effect based on criteria outlined in **Table 6.3** though HGV have a more significant impact than general traffic and therefore the overall impact is considered slight. The HGV traffic will be

spread throughout the day with commuting peaks avoided where possible as discussed in Section 6.9 Mitigation Measures.

In summary, the combined additional light and heavy construction traffic is likely to have a negative but slight impact on the local network. It will be short-term in nature and the impacts outlined represent the 'worst case' effects.

6.8.2.3 Impact of Road Closures

Construction traffic will be limited to certain routes and times of day, with the aim of keeping disruption to existing traffic and residents to a minimum. It is likely that Rehoboth Place will be closed to through movements for vehicular traffic for a short period to allow upgrades to the existing road. Pedestrian access for residents will be maintained at all times, with vehicular access being provided from the Dolphin's Barn access to Rehoboth Place.

Other external works on the existing road network includes the upgrade of footpaths along the South Circular Road and Donore Avenue along the edge of the site and the provision of pedestrian crossings on the South Circular Road and Donore Avenue. In both cases, two-way traffic flow will be retained during the constructions works.

In summary, the foreseeable closure of Rehoboth Place will have a likely impact on the local network. It will be negative and temporary in nature.

6.8.2.4 Waste Streams

The Construction and Demolition Waste Management Plan (CDWMP) prepared by Barrett Mahony Consulting Engineers (BMCE) and submitted in this application under separate cover, includes information on the legal and policy framework for C&D waste management in Ireland, estimates of the type and quantity of C&D waste to be generated by the proposed development and makes recommendations for management of different waste streams. Please refer to this document for further details.

6.8.3 Operational Phase

6.8.4 Modelled Hours & Years

The impact of the proposed development on the local road network has been assessed by modelling the projected traffic flows with and without the proposed development in place. The development will likely open in phases however, for the purposes of this assessment an opening year of 2024 has been assumed.

Based on the traffic surveys presented previously in the baseline assessment peak hours of 8:00-9:00am and 17:00-18:00pm have been chosen for assessment as they represent the busiest case in terms of background traffic conditions and traffic from the proposed development. These peak hours have been assessed for the following forecast years in line with TII TIA guidelines:

- Opening Year (assumed 2024)
- Opening Year +5 Years
- Opening Year +15 Years

6.8.4.1 Model Development

A combination of models and data sources have been used to determine the trip generation arising from the proposed development, and the assignment and distribution of this demand. The development was first modelled using the NTA's Eastern Regional Model (ERM). The

ERM is multi-modal, strategic, variable demand model. This means it covers all standard forms of land transportation (driving, walking, cycling, and public transportation) and will make decisions on the most suited transport mode in response to different transport networks, land use, and population scenarios. Any change to transport conditions can cause a change in demand for a travel mode. The purpose of strategic variable demand modelling is to predict these changes and quantify the results. This allows the response to different land use and population scenarios and transport networks to be tested and compared. The ERM provides data on modal split, trip generation and distribution across the network. Outputs from the ERM were used to inform a local microsimulation VISSIM model.

VISSIM allows the impact of individual driver behaviour characteristics on network operation and junction performance to be captured and explicitly models the effects of queuing and blocking back. It also allows the impact of upstream and downstream traffic to be captured at nearby junctions and provides greater analysis options and more realistic results than traditional junction models such as LinSig or Arcady/Picady. The extent of the VISSIM model developed for the assessment is shown in **Figure 6.21**. The VISSIM model was calibrated and validated in accordance with TII Project Appraisal Guidelines (PAGs) 'Unit 5.1: Construction of Traffic Models'. The model was calibrated against the traffic survey data presented in the baseline assessment.

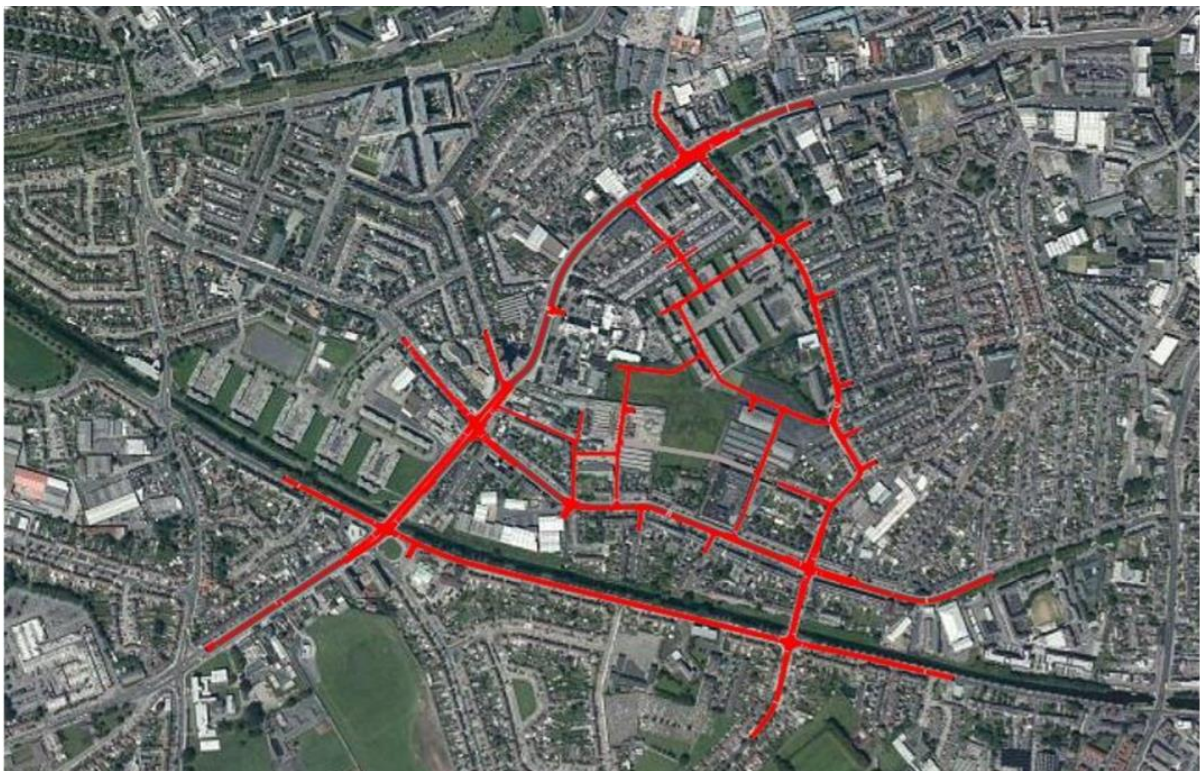


Figure 6.21: VISSIM Model Extent

6.8.4.2 Traffic Forecasting

In accordance with TII TIA guidelines the Development Opening Year, Opening Year +5 and Opening Year +15 have all been modelled. To forecast the growth in background traffic for each of the future years outlined link based regional forecasts for the Dublin Metropolitan Area from TII 'PAG Unit 5.3: Travel Demand Projections' have been applied. This results in the following growth in background traffic for each year:

- 2020 – 2024: 4.9%
- 2020 – 2029: 13.7%
- 2020 – 2039: 22.9%

These forecasts are likely high considering the city location and proposed improvement to the public transport network within the city as part of Bus Connects & the GDA Transport Strategy. Car demand is predicted to increase by just 6.3% within the GDA by 2035 with the full strategy in place (National Transport Authority, 2016)². However, for the purposes of this assessment the above forecast rates have been used as ‘worst case’ scenario to ensure a robust assessment of the development impact. No network changes have been made in the forecast models however, some adjustments have been made to the minimum green times of the traffic signals in response to the changing traffic flows.

As TII’s regional forecasts for the Dublin Metropolitan Area are aligned with the NPF’s population and employment forecasts, it addresses the estimated growth in transport demand which may arise from the relevant planning applications in the area provided by ABP as part of the pre-planning application information, in addition to the wider growth estimated across the GDA over the next 20 years.

² National Transport Authority (2016). Greater Dublin Area Transport Strategy 2016-2035. Available at: https://www.nationaltransport.ie/wp-content/uploads/2016/08/Transport_Strategy_for_the_Greater_Dublin_Area_2016-2035.pdf

6.8.4.3 Trip Generation

6.8.4.3.1 Residential Development

The NTA's RMS was used for trip generation for the residential element of the development. The RMS has a National Trip End Model (NTEM) which predicts travel demand based on population and demographics. To use the NTEM the estimated resident population of the proposed development was required. This was estimated using the 2016 Census data for Dublin City. The census classifies households based on the number of occupied rooms (kitchen, living room and bedrooms) and provides the number of households within each class and the total persons living in this households. This allows the approximate average household size for different unit sizes to be estimated. **Table 6.5** outlines this data and the resultant household sizes.

| Household Type (no. of rooms) | No. Households | No. of Person | Estimated Household Size |
|-------------------------------|----------------|---------------|--------------------------|
| All households | 211591 | 524687 | 2.48 |
| 1 room | 11337 | 17353 | 1.53 |
| 2 rooms | 26105 | 51726 | 1.98 |
| 3 rooms | 31446 | 72930 | 2.32 |
| 4 rooms | 31796 | 73817 | 2.32 |
| 5 rooms | 39358 | 107892 | 2.74 |
| 6 rooms | 28889 | 80990 | 2.80 |
| 7 rooms | 13698 | 42238 | 3.08 |
| 8 rooms | 7867 | 26153 | 3.32 |
| 9 rooms | 2046 | 7072 | 3.46 |
| 10 or more rooms | 1457 | 5395 | 3.70 |
| Not stated | 17592 | 39121 | 2.22 |

Table 6.5 DCC Household Size by no. of occupied rooms (2016 Census–Statbank Table E1035)

To estimate the development population the household sizes were applied to the proposed unit. For units with 2 bedrooms or more it was assumed that though most have a shared open plan kitchen and living area these would count as two rooms. This was to ensure the trip generation was robust and the potential travel demand was not underestimated. **Table 6.6** outlines the estimated development population based on the proposed unit mix.

| Unit Type | No. Units | Estimated Household Size | Estimated Population |
|-----------------------------------|------------|--------------------------|----------------------|
| Studio (1 room) | 33 | 1.53 | 51 |
| 1 bed (2 rooms) | 197 | 1.98 | 390 |
| 2 bed (4 rooms) | 104 | 2.32 | 241 |
| Duplex (4 rooms) | 2 | 2.32 | 5 |
| Triplex (5 rooms) | 5 | 2.74 | 14 |
| Town House (6 rooms) | 4 | 2.80 | 11 |
| All Household Type (no. of rooms) | 345 | 2.06 | 712 |

Table 6.6 Estimated Development Population by Unit Type

Based on the above the average household size for the development is 2.06 with a total population of 712.

The estimated population was then input into the NTEM which in turn produced 24-hour trips ends which were inputted into the Eastern Regional Model (ERM). The ERM then calculated the demand by time period. Each 3-hour time period was converted to a 1-hour peak based on calibrated factors within the model. This provided departure and arrival person trips for the AM & PM peak hour, as outlined in **Table 6.7**.

| | 08:00-09:00 | | 17:00-18:00 | |
|--------------|-------------|----------|-------------|----------|
| | Departures | Arrivals | Departures | Arrivals |
| Total | 206 | 34 | 49 | 130 |

Table 6.7 Estimated Peak Hour Residential Person Trips Generated by the Development

As a validation of the trip generation from the ERM, the demand for each peak was also estimated using data from the Trip Rate Information Computer System (TRICS). Using TRICS the trip generation was 213 departures and 45 arrivals in the AM peak and 169 arrivals and 73 departures in the PM peak all in person trips based on the proposed number of units. Based on this validation exercise the trips generated from the ERM are considered accurate and appropriate for this assessment.

6.8.4.3.2 Retail Development

The retail/food and beverage element of the development, consisting of a Commercial Unit and a Bar/Restaurant/Café Unit are expected to be predominantly used by residents and those within walking catchment of the site. There is no extra traffic expected to be generated by these elements of the development particularly during weekday peak hours. However, to ensure a robust assessment of the impact of the development some vehicular trips have been estimated for these units to allow for deliveries and service vehicles. The total vehicle trips assumed is detailed below in **Table 6.8**.

| | 08:00-09:00 | | 17:00-18:00 | |
|------------------------|-------------|----------|-------------|----------|
| | Departures | Arrivals | Departures | Arrivals |
| Vehicular Trips | 2 | 2 | 2 | 2 |

Table 6.8 Assumed Peak Hour Retail Vehicular Trips Generated by the Development

6.8.4.3.3 Childcare Facility

TRICS, the trip rate database, was used again to estimate the likely trip generation for the proposed childcare facility. The number of person trips was estimated for the 2 peak hours based on developments of a similar scale and type, as outlined below in **Table 6.9**. The TRICS data along with the site selection criteria applied is available in Appendix B of the Transport Assessment Report.

| | 08:00-09:00 | | 17:00-18:00 | |
|---------------------------|-------------|----------|-------------|----------|
| | Departures | Arrivals | Departures | Arrivals |
| Total Person Trips | 5 | 12 | 10 | 5 |

Table 6.9 Estimated Peak Hour Creche Vehicular Trips Generated by the Development

6.8.4.3.4 Deliveries and Taxis

A TRICS assessment was undertaken of low parking developments within cities to determine the typical number of deliveries. All sites were filtered to include apartments with more than 100 units, in 'town centre' and 'edge of town centre' locations only. The site selection was manually adjusted to include sites within large cities only.

All movements associated with Taxis, HGVs, LGVs and motorcycles have been assumed to be associated with delivery.

| | 08:00-09:00 | | 17:00-18:00 | |
|------------------------|-------------|----------|-------------|----------|
| | Departures | Arrivals | Departures | Arrivals |
| Vehicular Trips | 4 | 4 | 4 | 6 |

Table 6.10 Delivery Trip Generation Multi-purpose Playing Pitch

The trip generated by the multi-purpose playing pitch activities is expected to occur off peak hour, i.e. evenings and weekends, therefore it hasn't been included on the quantum of combined peak hour trips presented on **Table 6.13**.

6.8.4.3.5 Modal Split

Based on proposed long-term parking provision for the development and multi-modal trip generation (trips by different modes e.g. driving, walking, cycling, public transportation) from the ERM, peak hour mode shares for demand to and from the development were estimated and are outlined in the graph shown in **Figure 6.22**.

It should be noted that the ERM cannot account for additional mobility measures provided on site such as increased cycling parking, car and bike sharing and personalised travel planning which will be introduced as part of the mobility management plan. These measures will result in a lower car and higher sustainable mode share than those outlined in the ERM, particularly into the future as more public transport and cycle infrastructure are provided.

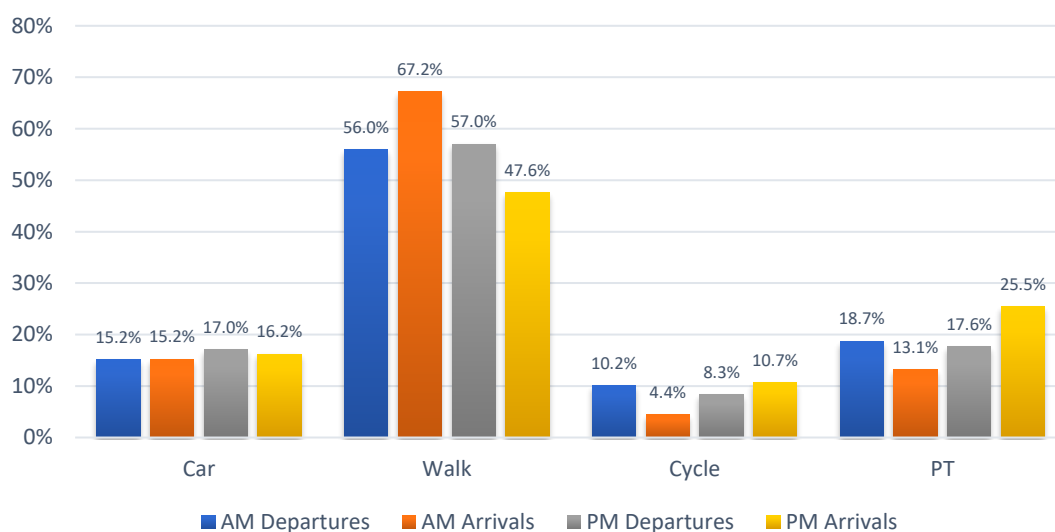


Figure 6.22: Peak Hour Model Split (Person Trips)

The above was applied to the person trips estimates in **Table 6.7** to obtain the person trips by mode generated by the residential units as outlined below.

| Mode | 08:00-09:00 | | 17:00-18:00 | |
|--------------|-------------|-----------|-------------|------------|
| | Departures | Arrivals | Departures | Arrivals |
| Car | 31 | 5 | 8 | 21 |
| Walk | 115 | 23 | 28 | 62 |
| Cycle | 21 | 1 | 4 | 14 |
| PT | 39 | 4 | 9 | 33 |
| Total | 206 | 34 | 49 | 130 |

Table 6.11 Estimated Peak Hour Residential Person Trips by Mode Generated by the Development

The car person trips above were converted to vehicle trips using a vehicle occupancy factor of 1.23 from Transport Infrastructure Ireland's Project Appraisal Guidelines (PAGs) Unit 6.11 'National Parameter Sheet'. The final vehicles trips generated by the residential component of the development are outlined below in **Table 6.12**.

| Mode | 08:00-09:00 | | 17:00-18:00 | |
|------|-------------|----------|-------------|----------|
| | Departures | Arrivals | Departures | Arrivals |
| Car | 25 | 4 | 7 | 17 |

Table 6.12 Estimated Peak Hour Residential Vehicular Trips Generated by the Development

The same mode shares and vehicle trip rates were applied to the person trips generated by the on-site creche facility. The combined trips generated by each element of the development, including the retail, delivery, and servicing vehicular trips is outlined in **Table 6.13 Combined Peak Hour Vehicular Trips Generated by the Development**.

. In total, there will be just one vehicle leaving the site every 90 seconds on average during the AM peak and one returning every 90 seconds during the PM peak.

| Mode | 08:00-09:00 | | 17:00-18:00 | |
|------------------------|-------------|-----------|-------------|-----------|
| | Departures | Arrivals | Departures | Arrivals |
| Residential | 25 | 4 | 7 | 17 |
| Retail/Food & Beverage | 2 | 2 | 2 | 2 |
| Creche | 1 | 2 | 1 | 1 |
| Deliveries | 4 | 4 | 4 | 6 |
| Total | 32 | 12 | 14 | 26 |

Table 6.13 Combined Peak Hour Vehicular Trips Generated by the Development

6.8.4.4 Trip Distribution

The distribution of vehicular traffic from the development has been taken from the ERM. The distribution of car trips to and from the ERM zone in which the proposed development site is located was extracted for the AM & PM peak periods and applied to the vehicular numbers in **Table 6.12**. **Figure 6-23** and **Figure 6-24** show the distribution of traffic travelling to and from the development in the AM & PM peaks respectively.



Figure 6.23: AM Peak Development Traffic Distribution



Figure 6.24: PM Peak Development Traffic Distribution

6.8.4.5 Development Contribution

The contribution of the development to traffic flows along each link and through each junction has been estimated for the locations indicated on the map shown in **Figure 6.25**.

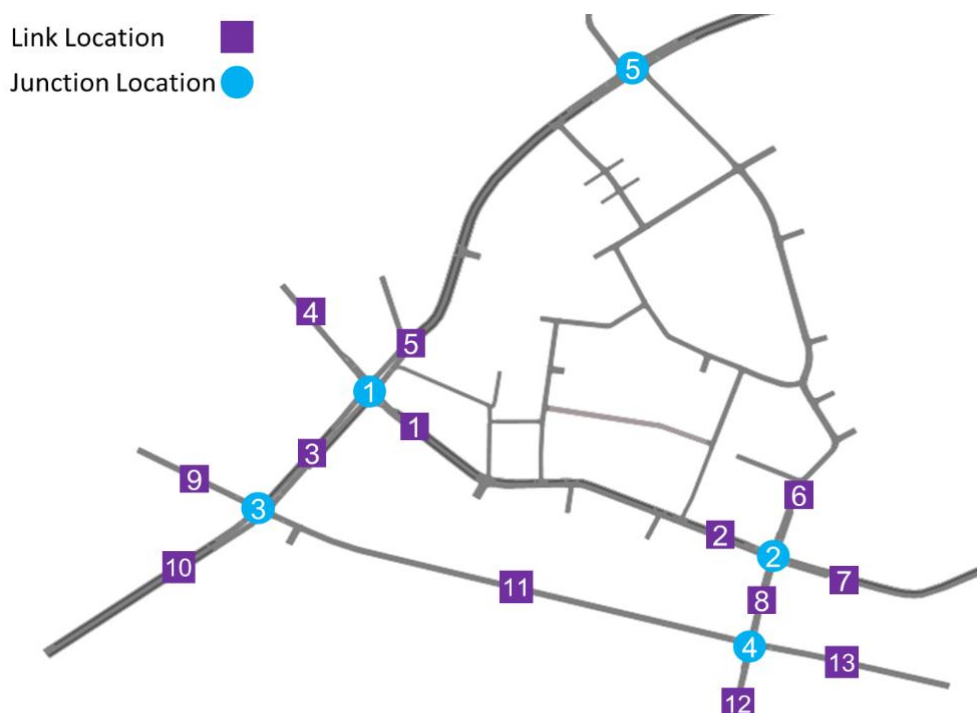


Figure 6.25: Development Contribution Locations

The development contribution to the future year link flows for the AM & PM Peak periods are provided below in **Table 6.14** & **Table 6.15** for the locations outlined. As shown, the contribution of development to overall traffic is low in both peaks with the highest contribution 3.3% along the South Circular Road in the morning peak. Based on the criteria outlined in **Table 6.3** the majority of links will experience an imperceptible or not significant impact.

| Location | AM Do-Minimum Flows | | | | Dev. Flows | Development Contribution | | |
|----------|---------------------|------|------|------|------------|--------------------------|------|------|
| | 2020 | 2024 | 2029 | 2039 | | 2024 | 2029 | 2039 |
| 1 | 718 | 753 | 816 | 883 | 26 | 3.3% | 3.1% | 2.9% |
| 2 | 708 | 743 | 805 | 871 | 18 | 2.4% | 2.2% | 2.0% |
| 3 | 1495 | 1568 | 1700 | 1839 | 13 | 0.8% | 0.8% | 0.7% |
| 4 | 625 | 656 | 711 | 769 | 8 | 1.2% | 1.1% | 1.0% |
| 5 | 1420 | 1490 | 1615 | 1747 | 6 | 0.4% | 0.4% | 0.3% |
| 6 | 438 | 459 | 498 | 539 | 1 | 0.2% | 0.2% | 0.2% |
| 7 | 1016 | 1066 | 1155 | 1250 | 8 | 0.7% | 0.7% | 0.6% |
| 8 | 820 | 860 | 932 | 1009 | 7 | 0.8% | 0.7% | 0.7% |
| 9 | 704 | 738 | 800 | 866 | 0 | 0.0% | 0.0% | 0.0% |
| 10 | 1433 | 1503 | 1629 | 1763 | 13 | 0.9% | 0.8% | 0.7% |
| 11 | 686 | 720 | 780 | 844 | 0 | 0.0% | 0.0% | 0.0% |
| 12 | 693 | 727 | 788 | 852 | 3 | 0.4% | 0.4% | 0.4% |
| 13 | 826 | 866 | 939 | 1016 | 4 | 0.5% | 0.4% | 0.4% |

Table 6.14 AM Peak Link Flows Development Contribution

| Location | PM Do-Minimum Flows | | | | Dev. Flows | Development Contribution | | |
|----------|---------------------|------|------|------|------------|--------------------------|------|------|
| | 2020 | 2024 | 2029 | 2039 | | 2024 | 2029 | 2039 |
| 1 | 745 | 782 | 847 | 916 | 20 | 2.5% | 2.3% | 2.1% |
| 2 | 687 | 721 | 781 | 845 | 14 | 1.9% | 1.8% | 1.6% |
| 3 | 1636 | 1716 | 1860 | 2012 | 8 | 0.5% | 0.4% | 0.4% |
| 4 | 707 | 742 | 804 | 870 | 8 | 1.1% | 1.0% | 0.9% |
| 5 | 1467 | 1539 | 1668 | 1804 | 6 | 0.4% | 0.4% | 0.3% |
| 6 | 390 | 409 | 443 | 480 | 1 | 0.2% | 0.2% | 0.2% |
| 7 | 1075 | 1128 | 1222 | 1322 | 6 | 0.5% | 0.5% | 0.5% |
| 8 | 810 | 850 | 921 | 996 | 8 | 0.9% | 0.9% | 0.8% |
| 9 | 719 | 754 | 818 | 884 | 0 | 0.0% | 0.0% | 0.0% |
| 10 | 1578 | 1655 | 1794 | 1941 | 8 | 0.5% | 0.4% | 0.4% |
| 11 | 724 | 759 | 823 | 891 | 0 | 0.0% | 0.0% | 0.0% |
| 12 | 784 | 822 | 891 | 964 | 3 | 0.4% | 0.3% | 0.3% |
| 13 | 830 | 871 | 944 | 1021 | 4 | 0.5% | 0.4% | 0.4% |

Table 6.15 PM Peak Link Flows Development Contribution

The contribution to each main junction close to the development for the AM & PM peaks is provided in **Table 6.16**. As outlined in the tables the contribution of development traffic is less than 1.5% for any of the main junctions local to the site and is considered to have an imperceptible effect on the local network.

| Location | AM Dev. Contribution | | | PM Dev. Contribution | | |
|----------|----------------------|------|------|----------------------|------|------|
| | 2024 | 2029 | 2039 | 2024 | 2029 | 2039 |
| 1 | 1.4% | 1.3% | 1.2% | 1.0% | 1.0% | 0.9% |
| 2 | 1.3% | 1.2% | 1.1% | 1.1% | 1.0% | 0.9% |
| 3 | 0.7% | 0.6% | 0.6% | 0.4% | 0.3% | 0.3% |
| 4 | 0.6% | 0.6% | 0.5% | 0.5% | 0.5% | 0.5% |
| 5 | 0.2% | 0.2% | 0.2% | 0.4% | 0.4% | 0.4% |

Table 6.16 Peak Junction Flow Development Contribution

As detailed in Section “Potential Significant Effects Impact Assessment” the TII transport assessment guidelines state that transport impact assessments are not required where traffic to and from the development does not exceed 5% of the traffic flow on the adjoining road where congestion exists. The proposed development does not contribute more than 3.3% to any section of the adjoining South Circular Road. However, the guidelines also state that impact assessments are recommended where the number of residential units exceed 200 dwelling. Nonetheless a full assessment of the local road network and junctions has been undertaken for each forecast year using the VISSIM model developed.

6.8.4.6 Modelling Results

The performance of the local road network for each year has been assessed based on a number of outputs from the model including:

- Network Delay per vehicle (seconds);
- Average speed across the network (kph);
- Latent Demand (vehicles);
- Average Queue Length (m); and
- Journey Times (secs).

The Latent Demand represent vehicles which cannot enter the network during the modelled period due to congestion and blocking back. High levels of latent demand are indicative of a network reaching capacity.

6.8.4.7 Network Statistics

Table 6.17 outlines the AM peak network statistics for the Do-Minimum and Do-Something Scenario 1 which includes the proposed development. As shown, there are modest increases of 2.5-4.3% in the average delay experienced in the network with corresponding reductions in speed. In absolute terms, this represents a marginal increase in delay of 2.2-4.7 seconds per vehicle. There is no notable change in latent demand compared to the Do-Minimum.

| Network Stats | 2024 | | | 2029 | | | 2039 | | |
|----------------------|------|------|-------|------|------|-------|-------|-------|-------|
| | DM | DS1 | Diff | DM | DS1 | Diff | DM | DS1 | Diff |
| Average Delay (s) | 86.2 | 88.4 | 2.5% | 95.0 | 98.9 | 4.1% | 111.4 | 116.1 | 4.3% |
| Average Speed (kph) | 25.6 | 25.3 | -1.3% | 24.7 | 24.1 | -2.4% | 22.3 | 21.7 | -2.6% |
| Latent Demand (vehs) | 0.0 | 0.0 | 0.00 | 0.0 | 0.4 | 0.40 | 19.2 | 18.5 | -0.70 |

Table 6.17 Development Impact on AM Peak Network Statistics

In the evening peak the impact of the development is marginal with increases in average of delay 0.3%-1.1% between the Do-Minimum and Do-Something Scenario 1. This is just 0.2-1.2 seconds per vehicle. Again, there is no notable increases in latent demand.

| Network Stats | 2024 | | | 2029 | | | 2039 | | |
|----------------------|------|------|-------|------|------|-------|-------|-------|-------|
| | DM | DS1 | Diff | DM | DS1 | Diff | DM | DS1 | Diff |
| Average Delay (s) | 91.4 | 91.6 | 0.3% | 98.6 | 99.3 | 0.8% | 111.9 | 113.1 | 1.1% |
| Average Speed (kph) | 24.5 | 24.5 | -0.2% | 23.5 | 23.4 | -0.5% | 21.9 | 21.7 | -0.9% |
| Latent Demand (vehs) | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 6.6 | 9.4 | 2.8 |

Table 6.18 Development Impact on PM Peak Network Statistics

Based on the change in network statistics outlined it is considered the impact of the development will be negative and long term but local in nature and not significant given the greatest increase in delay will be 4.3% or 5 seconds. There is no significant increase in latent demand indicating the network is operating within capacity.

6.8.4.8 Queue Lengths

The change in queue lengths are presented in **Table 6.19** for each arm of the main junctions assessed with and without the development for the AM Peak period. As shown, there are generally very minor increases in queue lengths with the majority less than 1m. In 2039, the main increases are along the Crumlin Road & Dolphin's Barn Bridge northbound & South Circular Road eastbound at Donore Avenue. These increases, however, are small and represent approximately 2 vehicles.

| Junction/Arm | | Do-Minimum without Development | | | | Do-Something with Development | | |
|--------------|-----------------|--------------------------------|------|------|------|-------------------------------|------|------|
| | | 2020 | 2024 | 2029 | 2039 | 2024 | 2029 | 2039 |
| 1 | Cork St SB | 16 | 17 | 20 | 24 | 19 | 21 | 26 |
| | SCR WB | 17 | 18 | 21 | 27 | 18 | 25 | 28 |
| | Bridge | 48 | 50 | 83 | 109 | 54 | 86 | 116 |
| | SCR EB | 32 | 34 | 46 | 77 | 35 | 48 | 78 |
| 2 | Donore Ave SB | 7 | 8 | 9 | 10 | 8 | 8 | 9 |
| | SCR WB | 4 | 5 | 7 | 32 | 5 | 11 | 15 |
| | Donore Ave NB | 60 | 62 | 65 | 54 | 59 | 64 | 52 |
| | SCR EB | 10 | 11 | 12 | 20 | 10 | 13 | 22 |
| 3 | Bridge | 4 | 4 | 4 | 4 | 5 | 4 | 4 |
| | Canal WB | 14 | 18 | 31 | 44 | 15 | 19 | 23 |
| | Crumlin Rd | 10 | 11 | 18 | 60 | 11 | 15 | 71 |
| | Canal EB | 27 | 30 | 40 | 56 | 31 | 40 | 58 |
| 4 | Donore Ave | 9 | 10 | 11 | 13 | 12 | 12 | 14 |
| | Canal WB | 11 | 11 | 14 | 12 | 9 | 14 | 14 |
| | Clogher Rd | 28 | 33 | 40 | 40 | 34 | 41 | 40 |
| | Canal EB | 24 | 44 | 63 | 52 | 47 | 73 | 37 |
| 5 | Cork St SB | 8 | 8 | 9 | 10 | 8 | 9 | 10 |
| | Donore Ave | 7 | 8 | 10 | 11 | 9 | 11 | 12 |
| | Cork St NB | 19 | 20 | 30 | 44 | 20 | 27 | 49 |
| | Marrowbone Lane | 25 | 29 | 36 | 47 | 29 | 37 | 48 |

Table 6.19 Development Impact on AM Peak Average Queue Lengths (m)

The queue lengths with and without the development for the PM Peak hour are presented in **Table 6.20** for each modelled forecast year. As shown, the differences are largely imperceptible with the vast majority of queue increase less than 1m. The most notable impact is along Cork Street Southbound on approach to junction 1 with increases of 11.6m in 2024 & 7.9m by 2039 a rise of approximately 2 vehicles.

| Junction/Arm | | Do-Minimum without Development | | | | Do-Something with Development | | |
|--------------|-----------------|--------------------------------|------|------|------|-------------------------------|------|------|
| | | 2020 | 2024 | 2029 | 2039 | 2024 | 2029 | 2039 |
| 1 | Cork St SB | 58 | 69 | 97 | 194 | 80 | 105 | 195 |
| | SCR WB | 12 | 13 | 19 | 45 | 13 | 20 | 34 |
| | Bridge | 24 | 27 | 29 | 25 | 26 | 28 | 24 |
| | SCR EB | 19 | 20 | 22 | 29 | 19 | 23 | 29 |
| 2 | Donore Ave SB | 22 | 23 | 40 | 43 | 22 | 38 | 38 |
| | SCR WB | 28 | 30 | 35 | 45 | 30 | 36 | 47 |
| | Donore Ave NB | 23 | 27 | 32 | 33 | 27 | 32 | 31 |
| | SCR EB | 15 | 16 | 18 | 20 | 16 | 17 | 20 |
| 3 | Bridge | 13 | 14 | 16 | 20 | 14 | 16 | 20 |
| | Canal WB | 35 | 38 | 43 | 51 | 37 | 41 | 50 |
| | Crumlin Rd | 21 | 23 | 28 | 35 | 23 | 28 | 36 |
| | Canal EB | 20 | 22 | 26 | 29 | 22 | 26 | 29 |
| 4 | Donore Ave | 10 | 11 | 26 | 20 | 13 | 25 | 22 |
| | Canal WB | 26 | 29 | 35 | 47 | 29 | 36 | 47 |
| | Clogher Rd | 9 | 10 | 11 | 11 | 10 | 10 | 11 |
| | Canal EB | 22 | 25 | 30 | 44 | 25 | 30 | 45 |
| 5 | Cork St SB | 13 | 14 | 17 | 23 | 15 | 18 | 23 |
| | Donore Ave | 10 | 10 | 14 | 17 | 9 | 12 | 15 |
| | Cork St NB | 14 | 15 | 17 | 18 | 14 | 16 | 19 |
| | Marrowbone Lane | 31 | 39 | 29 | 31 | 38 | 32 | 38 |

Table 6.20 Development Impact on PM Peak Average Queue Lengths (m)

The impact on queue lengths will be negative, long-term but local and are considered overall to be insignificant with the majority of arms experiencing an imperceptible increase with a slight increase along a minority of junction approaches. The results are pre-mitigation and represent the 'worst case' effects.

6.8.4.9 Journey Times

Journey times have been extracted from the model for the routes outlined in **Figure 6.26**.



Figure 6.26: Modelled Journey Time Routes

The difference between journey times along the routes shown with the development in place during the morning peak are outlined in **Table 6.21**. In all modelled years there is a similar impact with the development in place as journey times increase by 6-11 seconds travelling northbound along Cork Street/Dolphin's Barn Street. There are also some increased delays along the South Circular Road by 2039. However, changes along the remaining routes are marginal.

| Route | 2024 | | | 2029 | | | 2039 | | |
|----------------|------|-----|--------|------|-----|-------|------|-----|--------|
| | DM | DS1 | Diff | DM | DS1 | Diff | DM | DS1 | Diff |
| SCR EB | 134 | 134 | -0.40% | 140 | 145 | 3.5% | 176 | 177 | 0.7% |
| SCR WB | 122 | 123 | 0.40% | 127 | 136 | 7.2% | 163 | 146 | -10.7% |
| Canal WB | 115 | 110 | -4.20% | 118 | 115 | -2.7% | 137 | 118 | -13.3% |
| Canal EB | 164 | 165 | 0.90% | 172 | 191 | 11.5% | 182 | 168 | -7.7% |
| Cork Street NB | 190 | 196 | 2.90% | 198 | 204 | 3.0% | 232 | 243 | 4.7% |
| Cork Street SB | 126 | 125 | -0.5 % | 129 | 131 | 1.8% | 137 | 138 | 0.6% |
| Donore Ave. NB | 183 | 178 | -2.90% | 182 | 182 | 0.0% | 171 | 171 | 0.5% |
| Donore Ave. SB | 125 | 123 | -1.10% | 129 | 126 | -2.5% | 128 | 128 | 0.6% |

Table 6.21 AM Peak Journey Times – Do-Minimum vs Do-Something (sec)

In the evening peak, the changes in modelled journey times are slight with no significant changes in 2024 or 2029. In 2039, there is a more notable increase in journey times along Cork Street southbound however in absolute terms this increase is less than 7 seconds.

| Route | 2024 | | | 2029 | | | 2039 | | |
|----------------|------|-----|-------|------|-----|-------|------|-----|-------|
| | DM | DS1 | Diff | DM | DS1 | Diff | DM | DS1 | Diff |
| SCR EB | 138 | 136 | -1.7% | 138 | 140 | 1.0% | 145 | 146 | 0.4% |
| SCR WB | 122 | 121 | -0.4% | 125 | 128 | 2.3% | 151 | 153 | 1.0% |
| Canal WB | 169 | 170 | 0.6% | 172 | 172 | 0.2% | 181 | 182 | 0.5% |
| Canal EB | 148 | 150 | 1.3% | 154 | 154 | 0.0% | 173 | 176 | 1.4% |
| Cork Street NB | 219 | 221 | 1.2% | 225 | 232 | 2.9% | 230 | 228 | -0.8% |
| Cork Street SB | 134 | 138 | 3.0% | 143 | 148 | 3.7% | 161 | 167 | 3.7% |
| Donore Ave. NB | 175 | 173 | -0.9% | 185 | 182 | -1.6% | 189 | 190 | 0.5% |
| Donore Ave. SB | 129 | 131 | 1.9% | 160 | 153 | -4.5% | 160 | 153 | -4.8% |

Table 6.22 PM Peak Journey Times – Do-Minimum vs Do-Something (sec)

In summary, the development traffic will have some impact on the surrounding local road network during the operational stage. On balance, the impact is generally not significant or slight with overall maximum increase in network delays less than 5%. Along some junction arms and routes this impact will be slight. The impact will be negative and long-term in nature and represents the 'worst case' effects.

6.8.5 Cumulative

The application area forms part of a wider SDRA 12, including the proposed development site, permitted Player Wills SHD 1, LDA/DCC Donore Project and Player Wills Phase 2. Proposed development details:

- **Permitted St. Teresa's Gardens Part VIII** – includes the demolition of the 2 blocks required to facilitate those aspects (namely amenities – multi sports play pitch, boulevard and playground) of this proposed development that will take place on the St. Teresa's Garden site will be undertaken by Dublin City Council under permission 2475/18 and in line with the conditions attached to that permission.
- **Permitted Player Wills 1 development** – construction of 492 no. Build to Rent (BTR) apartments, 240 no. Build to Rent shared accommodation along, creche and associated site works. Including 280 car parking spaces (249 on basement, 31 on-street parking and creche/taxi set down and loading bays), 903 long stay cycle parking spaces and 110 short-stay bicycle spaces.
- **LDA/DCC Donore Project** - an application for permission on this site has not been lodged at the time of making this application. It is acknowledged that the project is in design development phase. The information used is derived from the available published information <https://donoreproject.ie/> - It is envisaged circa 550 new homes will be provided over four separate buildings. The current proposal shows that car parking will be provided at ground floor level, with approximately 79 parking spaces.
- **Player Wills Phase 2** - an application for permission on this site has not been lodged at the time of making this application. It relates to the balance of land not in the permitted PW1 together with land associated with the adjacent St. Teresa's Church site. The applicant is progressing the design development phase and it will likely be a large scale residential development application to DCC. Proposed number of units 403 BTR, proposed car parking spaces approx. 81.

The traffic generated by the Player Wills (also under the control of the Applicant) site during both construction and operational phases has been considered in combination with the proposed development. In addition, the operation impact of the LDA/DCC Donore Project and the Player Wills Phase 2 has been considered for the forecast years of 2029 & 2039. The construction impacts of the LDA/DCC Donore Project and operational impacts in 2024 have not been considered as these lands are unlikely to be constructed within the same timeframe as the Bailey Gibson & Player Wills sites and therefore are unlikely to be operational within the opening year. Currently Player Wills is estimated to begin construction approximately 3-4 months after Bailey Gibson.

| | 2024 | 2029 | 2039 |
|---|------|------|------|
| DS1: Scenario 1 - Bailey Gibson SHD | ☑ | ☑ | ☑ |
| DS2: Scenario 2 - Bailey Gibson SHD & Player Wills Phase 1 | ☑ | ☑ | ☑ |
| DS3: Scenario 3 - Bailey Gibson, Player Wills Phase 1, LDA/DCC Donore Project and Player Wills Phase 2 | | ☑ | ☑ |

Table 6.23 SDRA 12 lands and operational timeline

The operational phase trip generation for other sites has been undertaken in the same manner as the proposed development, as described above. The LDA/DCC Donore Project however are expected to have a lower level of parking provision, approximately 79 spaces site wide, and thus a lower car mode share. This assumption is based on latest proposals presented by the Council.

As part of the cumulative assessment the TII National Planning Framework (NPF) traffic growth rates have been adopted. As noted earlier, these have been developed in line with the NPF Population and Employment Projections which assume for significant development across the entire Greater Dublin Area accommodating a 25% increase in population within the City by 2040. As part of the development of these traffic growth rates consideration was given to all zoned lands within each Local Authority. It is considered the use of these growth rates is significantly robust and accounts for any additional cumulative impacts. Including the list of relevant planning applications in the area provided by ABP as part of the pre-planning application information.

It should also be noted that the assessment does not account for reduction or improvements to traffic flows as a result of planned improvements to the public transport, walking and cycling network. With the full delivery of the GDA Transport Strategy along with targets set out in national policy such as the National Planning Framework, Climate Action and Mitigation Plan, and DCC's own Development Plan, it is expected that traffic growth will be far lower than what has been assumed, as discussed in Section "Traffic Forecasting".

This section of the report outlines the cumulative impacts of the developments outlined.

6.8.5.1 Cumulative Construction Phase Impacts

Based on the preliminary construction programme for both Bailey Gibson and Player Wills the cumulative HGV trips for the construction stages presented previously in **Table 6.4** is presented below in **Table 6.24**.

| Construction Stage | Duration (approximate) | Average HGV One-way Trips (Proposed Dev. Only) | Average HGV One-way Trips (Cumulative) |
|--|------------------------|---|---|
| Average across total construction period | 50 months | 40 | 85 |
| Peak period | 8 months | 70 | 184 |

Table 6.24 HGV Trips by Construction Stage

As shown the maximum number of HGVs to the site will increase from 70 to 184 HGVs per work day with both sides included. On average, the cumulative number of HGVs will be 85 HGVs over the entire construction period compared to 40 HGVs for the proposed development alone. The number of car spaces across both sites will remain the same and therefore the volume of light vehicles is unlikely to increase with more staff having to travel by public transport, walking and cycling should both developments be constructed concurrently.

On average this will increase the absolute number of HGVs along the South Circular Road by 17% and on the Dolphin's Barn Cross Canal Bridge by 7.2%. The increase in overall traffic as result of the additional HGVs along these links will be less than 0.7% and 0.3% respectively. This will have an imperceptible effect based on criteria outlined in **Table 6.3**. However, as the increase will be heavy vehicles the effect will likely be slight.

In summary, the combined additional light and heavy construction traffic is likely to have a negative but slight effect on the local network. It will be short-term in nature and the impacts outlined represent the 'worst case' effects.

6.8.5.2 Cumulative Operational Phase Impacts

The modelling results for the cumulative impacts are presented in the following sections. As discussed, it has been assumed LDA/DCC Donore Project will not commence construction or be operational by 2024 and the results for the opening year presented include just the additional traffic generated by Player Wills. As previously noted, the assessment has been conducted in the peak hours of 8:00-9:00am and 17:00-18:00pm as this represents the busiest case in terms of background traffic conditions and traffic from the proposed development, and is therefore considered a worst-case scenario.

6.8.5.3 Network Statistics

Table 6.25 outlines the AM peak network statistics for the Do-Minimum and Do-Something (DS3 Cumulative) Scenario, which includes the proposed development and wider SRDA 12. As shown, there are moderate increases of 1.8% - 6.4% in the average delay experienced in the network with corresponding reductions in speed. In absolute terms, this represents an increase in delay of 6 seconds per vehicle in 2029 and 4.7 seconds in 2039. There is no notable change in latent demand compared to the Do-Minimum.

| Network Stats | 2024 | | | 2029 | | | 2039 | | |
|----------------------|------|------|-------|------|-------|-------|-------|-------|-------|
| | DM | DS2 | Diff | DM | DS3 | Diff | DM | DS3 | Diff |
| Average Delay (s) | 86.2 | 87.8 | 1.8% | 95.0 | 101.0 | 6.4% | 111.4 | 116.1 | 4.3% |
| Average Speed (kph) | 25.6 | 25.3 | -1.1% | 24.7 | 23.4 | -5.1% | 22.3 | 21.5 | -3.3% |
| Latent Demand (vehs) | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 19.2 | 28.6 | 9.4 |

Table 6.25 Development Impact on AM Peak Network Statistics

In the evening peak the impact of the development is less with increases in average of delay 1.3% - 3.6% between the Do-Minimum and Do-Something (DS3 Cumulative). This is just 1.1-6.9 seconds per vehicle. Again, there is no notable increases in latent demand.

| Network Stats | 2024 | | | 2029 | | | 2039 | | |
|----------------------|------|------|-------|------|-------|-------|-------|-------|-------|
| | DM | DS2 | Diff | DM | DS3 | Diff | DM | DS3 | Diff |
| Average Delay (s) | 91.4 | 92.6 | 1.3% | 98.6 | 102.1 | 3.6% | 110.8 | 114.7 | 3.5% |
| Average Speed (kph) | 24.5 | 24.3 | -1.0% | 23.5 | 23.0 | -2.2% | 22.0 | 21.5 | -2.5% |
| Latent Demand (vehs) | 0.6 | 0.4 | -0.2 | 0.0 | 2.0 | 2.0 | 8.0 | 14.0 | 6.0 |

Table 6.26 Development Impact on PM Peak Network Statistics

Compared to the network statistics presented previously, the cumulative impacts are greater and considered moderate, negative impacts. These again are considered long-term but local in nature. The impacts are not considered significant as the latent demand does not increase significantly indicating the network is still operating within capacity.

6.8.5.4 Queue Lengths

The change in queue lengths are presented in **Table 6.27** for each arm of the main junctions assessed with and without the cumulative development impacts for the AM Peak period. As shown, there are generally minor increases in queue lengths with the majority less than 4m, less than 1 vehicle. However, these are greater than the impacts presented previously of the proposed development alone. The most moderate increases are as follows:

- Queuing South Circular Road westbound at Junction 1 increases by approximately 11m in 2029, and 39m in 2039 approximately 6-7 vehicles;
- Queuing South Circular Road Eastbound on approach to Junction 2 increases by 43.7m or 7 vehicles by 2039;
- Queuing Crumlin Road on approach to Junction 3 increases by 20.3m in 2039;
- Queuing Canal Eastbound on approach to Junction 4 increases by 14m or 2 cars.

| Junction/Arm | | Do-Minimum without Development | | | | Do-Something with Development | | |
|--------------|-----------------|--------------------------------|------|------|------|-------------------------------|------|------|
| | | 2020 | 2024 | 2029 | 2039 | 2024 | 2029 | 2039 |
| 1 | Cork St SB | 16 | 17 | 20 | 24 | 18 | 21 | 27 |
| | SCR WB | 17 | 18 | 21 | 27 | 21 | 32 | 66 |
| | Bridge | 48 | 50 | 83 | 109 | 59 | 91 | 114 |
| | SCR EB | 32 | 34 | 46 | 77 | 35 | 48 | 78 |
| 2 | Donore Ave SB | 7 | 8 | 9 | 10 | 8 | 8 | 9 |
| | SCR WB | 4 | 5 | 7 | 32 | 5 | 9 | 25 |
| | Donore Ave NB | 60 | 62 | 65 | 54 | 60 | 66 | 54 |
| | SCR EB | 10 | 11 | 12 | 20 | 12 | 15 | 64 |
| 3 | Bridge | 4 | 4 | 4 | 4 | 5 | 5 | 5 |
| | Canal WB | 14 | 18 | 31 | 44 | 15 | 21 | 20 |
| | Crumlin Rd | 10 | 11 | 18 | 60 | 11 | 31 | 81 |
| | Canal EB | 27 | 30 | 40 | 56 | 31 | 44 | 54 |
| 4 | Donore Ave | 9 | 10 | 11 | 13 | 11 | 12 | 14 |
| | Canal WB | 11 | 11 | 14 | 12 | 10 | 15 | 16 |
| | Clogher Rd | 28 | 33 | 40 | 40 | 34 | 41 | 43 |
| | Canal EB | 24 | 44 | 63 | 52 | 53 | 82 | 66 |
| 5 | Cork St SB | 8 | 8 | 9 | 10 | 8 | 9 | 10 |
| | Donore Ave | 7 | 8 | 10 | 11 | 11 | 14 | 16 |
| | Cork St NB | 19 | 20 | 30 | 44 | 21 | 27 | 55 |
| | Marrowbone Lane | 25 | 29 | 36 | 47 | 29 | 37 | 51 |

Table 6.27 Cumulative Development Impacts on AM Peak Average Queue Lengths(m)

The queue lengths with and without the development for the PM Peak hour are presented in **Table 6.28** for each modelled forecast year. As shown, the differences are largely imperceptible with the vast majority of queue increase less than 2m. The most moderate increases are as follows:

- Queuing Cork Street southbound at Junction 1 increases by approximately 48m in 2039, approximately 8 vehicles;
- Queuing South Circular Road westbound on approach to Junction 1 increases by 40.2m or 7 vehicles by 2039.

| Junction/Arm | | Do-Minimum without Development | | | | Do-Something with Development | | |
|--------------|-----------------|--------------------------------|------|------|------|-------------------------------|------|------|
| | | 2020 | 2024 | 2029 | 2039 | 2024 | 2029 | 2039 |
| 1 | Cork St SB | 58 | 69 | 97 | 194 | 77 | 105 | 242 |
| | SCR WB | 12 | 13 | 19 | 45 | 15 | 28 | 85 |
| | Bridge | 24 | 27 | 29 | 25 | 27 | 30 | 26 |
| | SCR EB | 19 | 20 | 22 | 29 | 21 | 25 | 32 |
| 2 | Donore Ave SB | 22 | 23 | 40 | 43 | 22 | 38 | 42 |
| | SCR WB | 28 | 30 | 35 | 45 | 30 | 38 | 51 |
| | Donore Ave NB | 23 | 27 | 32 | 33 | 30 | 36 | 35 |
| | SCR EB | 15 | 16 | 18 | 20 | 18 | 21 | 22 |
| 3 | Bridge | 13 | 14 | 16 | 20 | 13 | 16 | 22 |
| | Canal WB | 35 | 38 | 43 | 51 | 37 | 41 | 50 |
| | Crumlin Rd | 21 | 23 | 28 | 35 | 24 | 31 | 38 |
| | Canal EB | 20 | 22 | 26 | 29 | 22 | 26 | 29 |
| 4 | Donore Ave | 10 | 11 | 26 | 20 | 15 | 26 | 27 |
| | Canal WB | 26 | 29 | 35 | 47 | 30 | 41 | 52 |
| | Clogher Rd | 9 | 10 | 11 | 11 | 10 | 11 | 12 |
| | Canal EB | 22 | 25 | 30 | 44 | 25 | 30 | 45 |
| 5 | Cork St SB | 13 | 14 | 17 | 23 | 15 | 18 | 24 |
| | Donore Ave | 10 | 10 | 14 | 17 | 9 | 12 | 16 |
| | Cork St NB | 14 | 15 | 17 | 18 | 14 | 17 | 20 |
| | Marrowbone Lane | 31 | 39 | 29 | 31 | 39 | 31 | 39 |

Table 6.28 Cumulative Development Impacts on PM Peak Average Queue Lengths(m)

The cumulative impact on queue lengths will be negative, long-term, and local in nature. Though the increases are still isolated to a small minority of junction approaches, it is considered the cumulative impact will be moderate as they will alter the characteristics of these approaches as does the baseline, background growth in traffic.

6.8.5.5 Journey Times

Journey times have been extracted from the model for the routes outlined previously in **Figure 6.26**. The difference between journey times along the routes shown with the cumulative developments in place during the morning peak are outlined in **Table 6.29**.

In 2029 and 2039 there is a moderate impact with the developments in place as journey times increase by 10.7% along Cork Street northbound (2029) and by 16.9% along South Circular Road westbound (2039). There are also slight delays along Cork Street Northbound, Donore Avenue and South Circular Road eastbound, increases between 5-7%.

| Route | 2024 | | | 2029 | | | 2039 | | |
|----------------|------|-----|-------|------|-----|-------|------|-----|--------|
| | DM | DS2 | Diff | DM | DS3 | Diff | DM | DS3 | Diff |
| SCR EB | 134 | 134 | -0.3% | 140 | 145 | 3.5% | 176 | 188 | 7.2% |
| SCR WB | 122 | 125 | 2.1% | 127 | 138 | 9.1% | 163 | 191 | 16.9% |
| Canal WB | 115 | 111 | -2.8% | 118 | 119 | 0.9% | 137 | 116 | -15.4% |
| Canal EB | 164 | 174 | 5.9% | 172 | 182 | 6.0% | 182 | 169 | -6.8% |
| Cork Street NB | 190 | 197 | 3.7% | 198 | 219 | 10.7% | 232 | 247 | 6.4% |
| Cork Street SB | 126 | 126 | -0.3% | 129 | 130 | 0.7% | 137 | 139 | 1.5% |
| Donore Ave. NB | 183 | 181 | -1.0% | 182 | 185 | 1.5% | 171 | 180 | 5.5% |
| Donore Ave. SB | 125 | 124 | -0.8% | 129 | 125 | -3.5% | 128 | 135 | 6.1% |

Table 6.29 AM Peak Journey Times – Do-Minimum vs Do-Something (Cumulative)(sec)

In the evening peak, the changes in modelled journey times are less significant overall though there is still a moderate increase in journey times along the South Circular Road westbound in 2039 and along Cork Street southbound.

| Route | 2024 | | | 2029 | | | 2039 | | |
|----------------|------|-----|-------|------|-----|-------|------|-----|-------|
| | DM | DS2 | Diff | DM | DS3 | Diff | DM | DS3 | Diff |
| SCR EB | 138 | 138 | -0.4% | 138 | 140 | 1.1% | 145 | 147 | 0.8% |
| SCR WB | 122 | 122 | 0.0% | 125 | 137 | 9.2% | 151 | 168 | 10.7% |
| Canal WB | 169 | 170 | 0.7% | 172 | 175 | 2.0% | 181 | 185 | 2.3% |
| Canal EB | 148 | 150 | 1.2% | 154 | 154 | 0.0% | 173 | 175 | 1.2% |
| Cork Street NB | 219 | 223 | 1.8% | 225 | 233 | 3.6% | 230 | 234 | 2.0% |
| Cork Street SB | 134 | 135 | 0.8% | 143 | 152 | 6.5% | 161 | 178 | 10.6% |
| Donore Ave. NB | 175 | 177 | 1.3% | 185 | 182 | -1.6% | 189 | 194 | 3.0% |
| Donore Ave. SB | 129 | 132 | 2.6% | 160 | 153 | -4.5% | 160 | 159 | -1.1% |

Table 6.30 PM Peak Journey Times – Do-Minimum vs Do-Something (Cumulative)(sec)

In summary, the cumulative development traffic will as expected have a greater impact than the proposed development alone. On balance the impact is moderate as the overall maximum network delay is 16.9% in 2039. The impact will be negative and long-term in nature and represent the 'worst case' effects.

As part of the delivery of SDRA 12, there will be benefits to the connectivity and priority for pedestrians and cyclists between Donore Avenue & Dolphin's Barn Street and Cork Street & South Circular Road with dedicated walking and cycling routes through the centre of the development. This impact is likely, it will not be significant, but it will be a local, positive and long-term impact.

6.8.6 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development prior to the implementation of mitigation effects.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|-----------------|--------|-------------|------------|------------|
| Additional Construction Traffic from Bailey Gibson | Negative | Not Significant | Local | Likely | Short-Term | Direct |
| Road Closure during construction | Negative | Slight Effects | Local | Likely | Temporary | Direct |
| Combined Construction Traffic from SRDA 12 | Negative | Not significant | Local | Likely | Short-Term | Cumulative |

Table 6.31 Summary of Demolition & Construction Phase Likely Significant Effects

The Table below summarises the identified likely significant effects during the operational phase of the proposed development prior to the implementation of mitigation measures.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|----------|-----------------|--------|-------------|-----------|------------|
| Additional Traffic Volumes from Bailey Gibson | Negative | Not Significant | Local | Likely | Long-Term | Direct |
| Improved footpaths along Rehoboth Place, Donore Avenue, South Circular Road and Playing Pitch | Positive | Not Significant | Local | Likely | Long-Term | Direct |
| Combined Traffic Volumes from SRDA 12 | Negative | Slight | Local | Likely | Long-Term | Cumulative |
| Improved pedestrian and cycling connectivity | Positive | Slight | Local | Likely | Long-Term | Cumulative |

Table 6.32 Summary of Operational Phase Likely Significant Effects

6.9 Mitigation

6.9.1 Incorporated Design Mitigation

There are a number of measures which have been included from the outset in the design of the development to reduce any potential negative impacts on the local transport network arising from additional traffic generated by the development. The most significant measure is the proposed parking ratio, with 0.26 car parking spaces being provided per residential unit (apartments) and 1 bike space provided per bedroom. This has been included in the results presented, resulting in a significantly lower number of car trips generated.

Based on the site location, availability of alternative modes, proposed on-site mobility services, baseline levels of existing car ownership, national and international guidance, a parking ratio of 0.26 car spaces per apartment unit is proposed for the development. This figure aligns with the current commuting car mode share in the local area, as presented in **Figure 6.27** of this report, which is 25.9%. This ratio is aligned with the DHLGH Apartment Guidelines and will encourage walking, cycling and public transport, whilst also providing for a sustainable level of car storage. Furthermore, for small areas with higher proportions of apartments or rented accommodation within the local area, which are more representative of the subject site, the car mode share is significantly lower, approximately 18-20%.

The current City Development Plan (2016-2022) bike parking standards are 1 per unit, therefore the proposed bike parking provision of 1 per bedroom represents a considerable improvement on the existing standards. The additional bike spaces provided should allow more residents to travel sustainably by bicycle. In addition, there are a number of on-site facilities intended to negate the need for external travel these include gym, entertainment areas, retail units, creche, communal kitchen and living area, co-working spaces and parcel collection services.

The public realm and road network have also been designed to limit the impact of traffic on the local road network. A safe pedestrian environment and a one-way vehicular system is proposed for vehicular traffic entering the site. Traffic will enter via Rehoboth Place and exit via the exiting Site exit on South Circular Road, which has sufficient visibility for safe egress from the site. The road will still be widened along Rehoboth Place to facilitate a wider, safer carriageway and higher-quality footpaths.

The internal network has been designed to limit car speeds and promote the priority of walking and cycling. Facilitating walking and cycling forms a key part of the Mobility Management Plan for the site which is achieved by the revised access strategy, including the increased number of pedestrian and cycle only entrances and improvements to Rehoboth Place. The anticipated effect is likely to be significantly positive for the local area with long-term/permanent duration.

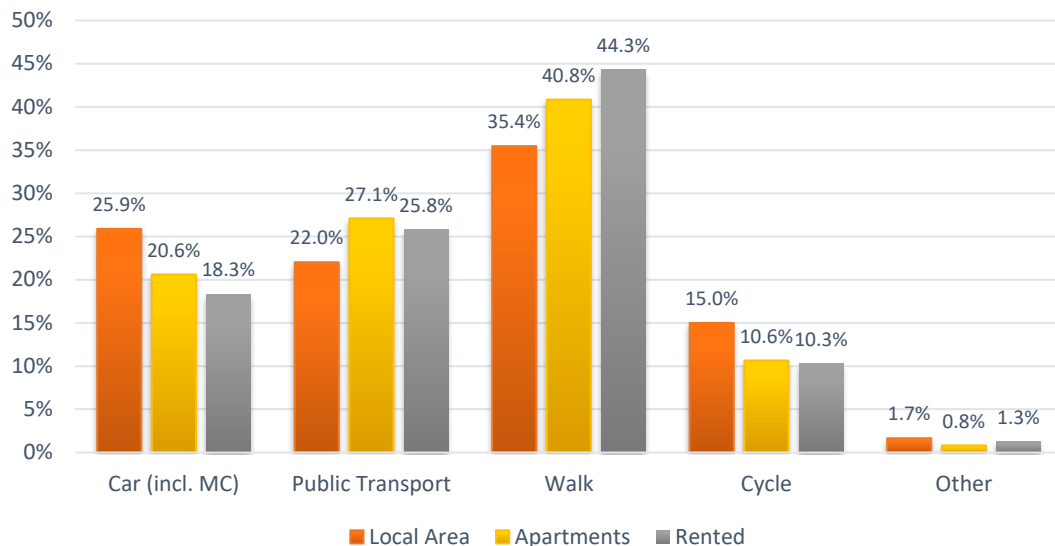


Figure 6.27: Local Commuting Mode Shares by Housing Type

6.9.2 Construction Phase Mitigation

A preliminary Construction Traffic Management Plan (CTMP) and Construction Environmental Management Plan (CEMP) submitted under separate cover have been developed as part of the planning process. As part of this, a number of mitigation measures have been identified for the construction stage to limit the potential significant impacts. The CTMP measures include the following:

- Construction Staff encouraged to arrive before 7:30am and leave after 18:00pm and outside of school drop off hours;
- Limited parking on site for staff with majority required to arrive by sustainable means;
- Parking provided to prevent overspill onto surrounding network;
- Appointment of Construction Manager/Community Liaison Officer;
- Construction Travel Plan to be developed by appointed Contractor;
- Bike parking, storage and drying areas provided on site;
- Agreed haulage routes along designated HGV routes;
- Wheel wash facilities;
- Road cleaning and sweeping along section of South Circular Road adjacent to the site;
- Construction signage at all entrances and exits;
- HGVs carrying soil to be fully sheeted;
- HGVs inspected for dirt and mud before exiting onto public road network;
- Control and timing of deliveries where possible;
- Entrances and exits manned by flag men during deliveries.

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

6.9.3 Operational Phase Mitigation

The main mitigation measure during the operational phase will be the implemented Mobility Management Plan (MMP) submitted under separate cover which is intended to reduce the need for car travel. The measures included in the MMP are as follows:

- Appointment of Mobility Manager;
- Reducing the need to travel;
- Welcome Travel Pack with details of local transport network, maps of local amenities, detail of on-site facilities, incentivises for sustainable travel (taster tickets) and initial subsidised use of Car Club;
- Marketing and Travel information and Personalised Travel Planning to be provided by Mobility Manager;
- Walking and Cycling Challenges and promotion events;
- 10 on-site GoCars exclusively for the use of residents.

It should be noted that as part of the development the public realm along Rehoboth Place will be significantly improved for the use of existing and future residents. This will result in a wider and safer carriageway and wider, higher quality footpaths and potentially encourage more sustainable trip making to the site.

6.10 Monitoring

6.10.1 Demolition & Construction Phase

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

6.10.2 Operational Phase

A mobility manager will be appointed from within the management company to ensure the implementation of the Mobility Management Plan. They will also be responsible for the undertaking of post occupation travel surveys and act as a point of contact for residents for all mobility and access related issues.

6.11 Residual Impact Assessment

6.11.1 Demolition & Construction Phase

The impact of the construction phase in terms of traffic and transport will be negative, not significant, local, and short-term. The measures outlined in the CTMP, as set out previously in this chapter, will help alleviate the impact of the additional traffic and limit the impact to outside the busier peak hours. The measures, including wheel washing and dust mitigation, will also ensure the standard of the public road network is maintained in terms of dust and dirt from construction traffic.

6.11.2 Operational Phase

With the mitigation measures in place, the impact of the proposed development on traffic and transport will be not significant, negative, local and long-term. The proposed development site is ideally situated to have an extremely low car mode share and with the supporting measures identified in the MMP in place car traffic may be lower than that assumed in the modelling

assessment. However, even with a higher car mode share modelled the impact will be slight. The delays for traffic on the local network are in general minor with no significant delays modelled as result of the additional development.

6.11.3 Cumulative

With the CTMP and CEMP implemented on all sites the impact of the construction traffic should be reduced to slight and local and broadly limited to the South Circular Road. The impact will be short-term. With the MMP in place the car mode share should be reduced further, and the operational impact of the combined SRDA 12 lands will be negative, slight, and long-term but confined to the local network.

6.11.4 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development following the application of mitigation measures.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|----------|-----------------|--------|-------------|------------|------------|
| Additional Construction Traffic from Bailey Gibson | Negative | Not Significant | Local | Likely | Short-Term | Direct |
| Road Closure during construction | Negative | Slight Effects | Local | Likely | Temporary | Direct |
| Combined Construction Traffic from SRDA 12 | Negative | Not significant | Local | Likely | Short-Term | Cumulative |

Table 6.33 Summary of Demolition & Construction Phase Effects Post Mitigation

The Table below summarises the identified likely significant effects during the operational phase of the proposed development post mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|----------|-----------------|--------|-------------|-----------|------------|
| Additional Traffic Volumes from Bailey Gibson | Negative | Not Significant | Local | Likely | Long-Term | Direct |
| Improved footpaths along Rehoboth Places, Donore Avenue, South Circular Road and Playing Pitch | Positive | Not Significant | Local | Likely | Long-Term | Direct |
| Combined Traffic Volumes from SRDA 12 | Negative | Slight | Local | Likely | Long-Term | Cumulative |
| Improved pedestrian and cycling connectivity | Positive | Slight | Local | Likely | Long-Term | Cumulative |

Table 6.34 Summary of Operational Phase Effects Post Mitigation

6.12 Interactions

Please see **Chapter 15** of this EIAR for details on interactions.

6.13 Summary of Mitigation & Monitoring

The Table below summarises the Demolition & Construction Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|--|--|---|
| Additional Construction Traffic | <p>Implementation of the CTMP including:</p> <ul style="list-style-type: none"> • Construction Staff encouraged to arrive before 7:30am and leave after 18:00pm; • Limited parking on site for staff with majority required to arrive by sustainable means; • Parking provided to prevent overspill onto surrounding network; • Appointment of Construction Manager/Community Liaison Officer; • Construction Travel Plan to be developed by appointed Contractor; • Bike parking, storage and drying areas provided on site; • Agreed haulage routes along designated HGV routes; • Wheel wash facilities; • Road cleaning and sweeping along section of South Circular Road adjacent to the site; • Construction signage at all entrances and exits; • HGVs carrying soil to be fully sheeted; • HGVs inspected for dirt and mud before exiting onto public road network; • Control and timing of deliveries where possible; • Entrances and exits manned by flag men during deliveries. | <p>CTMP will be reviewed and monitored by the Construction Manager as part of the contractor's appointment.</p> |
| Road Closure | <p>Implementation of the CTMP including:</p> <ul style="list-style-type: none"> • Banksman / traffic marshal will be present at site entrances and exits to minimise the likelihood of conflict with pedestrians; • Warning signage will be provided locally to the site to indicate safe pedestrian routes and vehicle diversions | <p>CTMP will be reviewed and monitored by the Construction Manager as part of the contractor's appointment.</p> |

Table 6.35 Summary of Demolition & Construction Phase Mitigation and Monitoring

The Table below summarises the Operational Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|---------------------------------------|--|---|
| Additional Development Traffic | <p>Implementation of the MMP to further reduce car demand. Measures include:</p> <ul style="list-style-type: none"> • Appointment of Mobility Manger; • Welcome Travel Pack with details of local transport network, maps of local amenities, detail of on-site facilities, incentivises for sustainable travel (taster tickets) and initial subsidised use of Car Club; • Marketing and Travel information and Personalised Travel Planning to be provided by Mobility Manager; • Walking and Cycling Challenges and promotion events; • 10 on-site GoCars exclusively for the use of residents. | <p>Will be monitored by the Mobility Manager appointed by the Management Company. Annual Travel Surveys to be undertaken to track progress and success of MMP.</p> |

Table 6.36 Summary of Operational Phase Mitigation and Monitoring

6.14 Conclusion

This chapter of the EIAR has been prepared to assess the potential impacts of the proposed development in terms of traffic and transport. A number of Pre-Application meetings were held with Dublin City Council, as well as Dublin City Council's Transportation Department, relating specifically these potential impacts. The issues that were raised in these meetings have been addressed in the final submission and are reflected in this chapter's assessment. The chapter has detailed the local receiving environment, including its accessibility by various modes. It has conducted a detailed and robust assessment of the potential impact of the proposed development on the operation of the local road network. This assessment covers both the short-term construction phase and long-term operational phase, including cumulative impacts, along with details of the mitigation measures to ensure any significant effects are minimised or avoided. A summary of the effects are provided in **Table 6.31** to **Table 6.34**. All impacts have been shown to be slight. The associated mitigation and monitoring measures to minimise these impacts are detailed in **Table 6.35** and **Table 6.36**.

6.15 References and Sources

- Design Manual for Urban Roads and Streets (DMURS), March 2013, Department of Housing, Planning and Local Government & Department of Transport.
- Traffic and Transport Assessment Guidelines, May 2014, Transport Infrastructure Ireland (TII).
- Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections, October 2016, TII.
- Project Appraisal Guidelines for National Roads Unit 5.1- Construction of Transport Models, October 2016, TII.
- Dublin City Development Plan 2016-2022, 2016, Dublin City Council.
- Guidelines on the information to be contained in Environmental Impact Assessment Reports, Environmental Protection Agency, 2022
- Guidelines for the Environmental Assessment of Road Traffic, 2003, Institute of Environmental Management & Assessment (UK Based).

CHAPTER 7

MATERIAL ASSETS: BUILT SERVICES

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|------------|--|-------------|
| 7 | Material Assets: Built Services | 7-4 |
| 7.1 | Introduction..... | 7-4 |
| 7.2 | Expertise and Qualifications | 7-4 |
| 7.3 | Proposed Development..... | 7-5 |
| 7.3.1 | Aspects Relevant to this Chapter | 7-7 |
| 7.3.2 | Electrical Supply | 7-14 |
| 7.3.3 | Gas Supply..... | 7-15 |
| 7.3.4 | Telecommunications..... | 7-16 |
| 7.4 | Methodology | 7-17 |
| 7.4.1 | Information Sources..... | 7-17 |
| 7.4.2 | Consultation | 7-18 |
| 7.5 | Baseline Environment..... | 7-22 |
| 7.5.1 | Water Supply..... | 7-23 |
| 7.5.2 | Wastewater Drainage | 7-23 |
| 7.5.3 | Gas Supply..... | 7-26 |
| 7.5.4 | Telecommunications..... | 7-26 |
| 7.5.5 | Electricity Supply | 7-26 |
| 7.5.6 | Surface Water Drainage | 7-26 |
| 7.6 | Do Nothing Scenario..... | 7-27 |
| 7.6.1 | Do Nothing – No Project | 7-27 |
| 7.6.2 | Do Nothing – Extant Bailey Gibson Permission | 7-27 |
| 7.7 | Difficulties Encountered | 7-29 |
| 7.7.1 | Water Supply..... | 7-29 |
| 7.7.2 | Wastewater Drainage | 7-29 |
| 7.7.3 | Surface Water Drainage | 7-29 |
| 7.7.4 | Electricity..... | 7-29 |
| 7.7.5 | Gas..... | 7-29 |
| 7.7.6 | Telecommunications..... | 7-29 |
| 7.8 | Potential Significant Effects | 7-30 |
| 7.8.1 | Demolition and Construction Phase | 7-30 |

| | | |
|-------------|---|-------------|
| 7.8.2 | Operational Phase..... | 7-31 |
| 7.8.3 | Cumulative | 7-36 |
| 7.8.4 | Summary | 7-39 |
| 7.9 | Mitigation..... | 7-41 |
| 7.9.1 | Incorporated Design Mitigation..... | 7-41 |
| 7.9.2 | Construction Phase Mitigation | 7-41 |
| 7.9.3 | Operational Phase Mitigation | 7-44 |
| 7.10 | Residual Impact Assessment..... | 7-45 |
| 7.10.1 | Demolition and Construction Phase | 7-45 |
| 7.10.2 | Operational Phase..... | 7-46 |
| 7.10.3 | Cumulative | 7-47 |
| 7.10.4 | Summary | 7-48 |
| 7.11 | Monitoring..... | 7-49 |
| 7.11.1 | Water Supply..... | 7-49 |
| 7.11.2 | Wastewater Drainage | 7-49 |
| 7.11.3 | Surface Water Drainage | 7-49 |
| 7.11.4 | Electrical Supply | 7-49 |
| 7.11.5 | Gas..... | 7-49 |
| 7.11.6 | Telecommunication | 7-50 |
| 7.12 | Summary of Mitigation & Monitoring | 7-50 |
| 7.13 | Conclusion | 7-51 |
| 7.14 | References and Sources..... | 7-52 |

Table of Figures

| | |
|---|------|
| Figure 7.1 Proposed Site Layout | 7-6 |
| Figure 7.2 Proposed Potable Water Supply Connection Point (Extract from Engineering Drawing Set)... | 7-8 |
| Figure 7.3 Proposed Waste Water Drainage Connection Point (Extract from Engineering Drawing Set) .. | 7-9 |
| Figure 7.4 Typical Green Roof Interception Storage Details..... | 7-11 |
| Figure 7.5 Typical Attenuation Storage Tank Detail | 7-12 |
| Figure 7.6 Proposed Surface Water Drainage (Extract from Engineering Drawing Set)..... | 7-12 |
| Figure 7.7 Proposed Combined Sites Drainage Strategy Plan (Extract from Engineering Drawing Set)... | 7-13 |
| Figure 7.8 Proposed ESB Infrastructure | 7-14 |
| Figure 7.9 Proposed Gas Infrastructure..... | 7-15 |
| Figure 7.10 Proposed Telecoms Infrastructure | 7-16 |
| Figure 7.11 Existing ESB Infrastructure..... | 7-19 |
| Figure 7.12 Existing Gas Networks Infrastructure | 7-20 |
| Figure 7.13 Existing eir Telecoms Infrastructure | 7-21 |
| Figure 7.14 Site Outline (Red Boundary) | 7-22 |
| Figure 7.15 Existing Water Supply | 7-23 |
| Figure 7.16 Existing Drainage Connections..... | 7-24 |
| Figure 7.17 Existing Sewer Layout Surrounding the Site (Extract from GDSDS) | 7-25 |

Table of Tables

| | |
|--|------|
| Table 7.1 BG1 Water Demand Calculation | 7-31 |
| Table 7.2 BG2 Water Demand Calculation | 7-31 |
| Table 7.3 BG3 Water Demand Calculation | 7-31 |
| Table 7.4 BG4 Water Demand Calculation | 7-32 |
| Table 7.5 BG5 Water Demand Calculation | 7-32 |
| Table 7.6 Total Water Demand..... | 7-32 |
| Table 7.7 BG1 Foul Flow Calculation..... | 7-33 |
| Table 7.8 BG2 Foul Flow Calculation..... | 7-33 |
| Table 7.9 BG3 Foul Flow Calculation..... | 7-33 |
| Table 7.10 BG4 Foul Flow Calculation..... | 7-33 |
| Table 7.11 BG5 Foul Flow Calculation..... | 7-33 |
| Table 7.12 Total Foul Flow | 7-34 |
| Table 7.13 Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation..... | 7-40 |
| Table 7.14 Summary of Operational Phase Likely Significant Effects in the absence of mitigation | 7-41 |
| Table 7.15 Summary of Demolition & Construction Phase Effects Post Mitigation..... | 7-48 |
| Table 7.16 Summary of Operational Phase Effects Post Mitigation | 7-48 |
| Table 7.17 Summary of Demolition & Construction Phase Mitigation and Monitoring..... | 7-50 |
| Table 7.18 Summary of Operational Phase Mitigation and Monitoring..... | 7-50 |

7 Material Assets: Built Services

7.1 Introduction

This section presents the likely and significant effects associated with the material asset (built services) environment associated with the proposed Strategic Housing Development at the former Bailey Gibson Site and on adjacent Dublin City Council (DCC) lands to the East and North-East of the Bailey Gibson site, South Circular Road, Dublin 8 (the **Proposed Development**). Relevant mitigation and monitoring measures are also presented in this section.

The EPA's 'Guidelines on the information to be contained in an Environmental Impact Assessment Reports' (2022) describes material assets to be taken to mean 'built services' (i.e., utilities networks including electricity, telecommunications, gas, water supply and sewerage), 'waste management' and 'infrastructure' (i.e., roads and traffic).

This chapter will assess the potential effects associated with the Proposed Development, if any, with regards to the following built services:

1. Potable Water Supply Infrastructure;
2. Surface Water Drainage Infrastructure;
3. Waste Water Drainage Infrastructure;
4. Electricity;
5. Gas; and,
6. Telecommunications.

It is noted that impacts on traffic and transport are assessed separately in Chapter 6. Additionally, separate standalone reports for waste management are included with this application, an Operational Waste Management Plan prepared by Byrne Environmental, and a Construction and Demolition Waste Management Plan prepared by Barrett Mahony Consulting Engineers.

7.2 Expertise and Qualifications

The assessment of the proposed built services environment (potable water supply, surface water drainage and waste water drainage) has been prepared by Ciarán O'Rafferty (BA, BAI, MIEI, MIStructE), Chartered Civil and Structural Engineer at Barrett Mahony Civil and Structural Consulting Engineers, with over 16-years' experience in consulting roles for similar type and scale developments including the preparation of EIARs. Relevant projects include;

- i. the adjacent permitted (Ref. TA29S.308917) Player Wills SHD for the demolition of all buildings excluding the original fabric of the former Player Wills Factory, construction of 492 no. Build to Rent apartments, 240 no. Build to Rent shared accommodation along, creche and associated site works for which Ciarán contributed to the EIAR that accompanied that application, specifically addressing the impacts of the proposal on the potable water supply, surface water drainage and waste water drainage.
- ii. Concorde Industrial Estate SHD (Ref. TA29S.3083506) consisting of 492 residential units and 3,347m² of mixed commercial space with a single level basement car park.

- iii. Ciarán has also worked on the following international projects, The Istana (Melbourne, Australia) consisting of 320 residential units over 25 levels including 4 levels of car parking, Vanguard (Melbourne, Australia) consisting of 320 apartments over 18 levels and 3 levels of basement car parking.

Mark Hopkins (B.Eng, MIEI, C.Eng.), Chartered Building Services engineer at O'Connor Sutton and Cronin with over 10 year experience prepared the assessment addressing impacts of the proposed development on electrical, telecommunications and gas infrastructure. Mark's relevant experience includes;

- i. Player Wills SHD ((Ref. TA29S.308917) for the demolition of all buildings excluding the original fabric of the former Player Wills Factory, construction of 492 no. Build to Rent apartments, 240 no. Build to Rent shared accommodation along with, creche and associated site works for which Ciarán contributed to the EIAR that accompanied that application, specifically addressing the impacts of the proposal on the potable water supply, surface water drainage and waste water drainage.
- ii. Cherrywood TC2 with 384 apartment units over a shared basement carpark (Dublin).
- iii. CheerywoodTC1 Residential development with 366 apartments over a shared basement.
- iv. Woodward Square, Glencairn Gate, Dublin 18 with 160 apartments including amenity space over a shared basement car park.

7.3 Proposed Development

This application relates to a proposed mixed-use strategic housing development (SHD) on a site of approx. 5.5 hectares in Dublin 8. It includes all of the former Bailey Gibson site and a small portion of the former Player Wills site, both of which are owned by the Applicant, CWTC Multi Family ICAV acting solely in respect of its sub fun DTBR SCR1 Fund. The balance of the proposed development site relates to land owned by Dublin City Council (DCC) known locally as the 'Boys Brigade pitch' and part of the St. Teresa's Gardens site, together with DCC controlled public roads.

The application area is predominately within Strategic Development Regeneration Area (SDRA) 12, St. Teresa's Gardens & Environs as identified in the Dublin City Development Plan 2016-2022. The part of the proposed development site not within SDRA 12 relate to works proposed in the public roads surrounding the site, South Circular Road, Donore Avenue and Rehoboth Place.

A comprehensive description of the proposed development is set out in the Planning Statement. The Statutory Notices should also be referenced. The Proposed Site Layout is illustrated on Drawing No. A0005 contained within the architectural suite of drawings reproduced below.

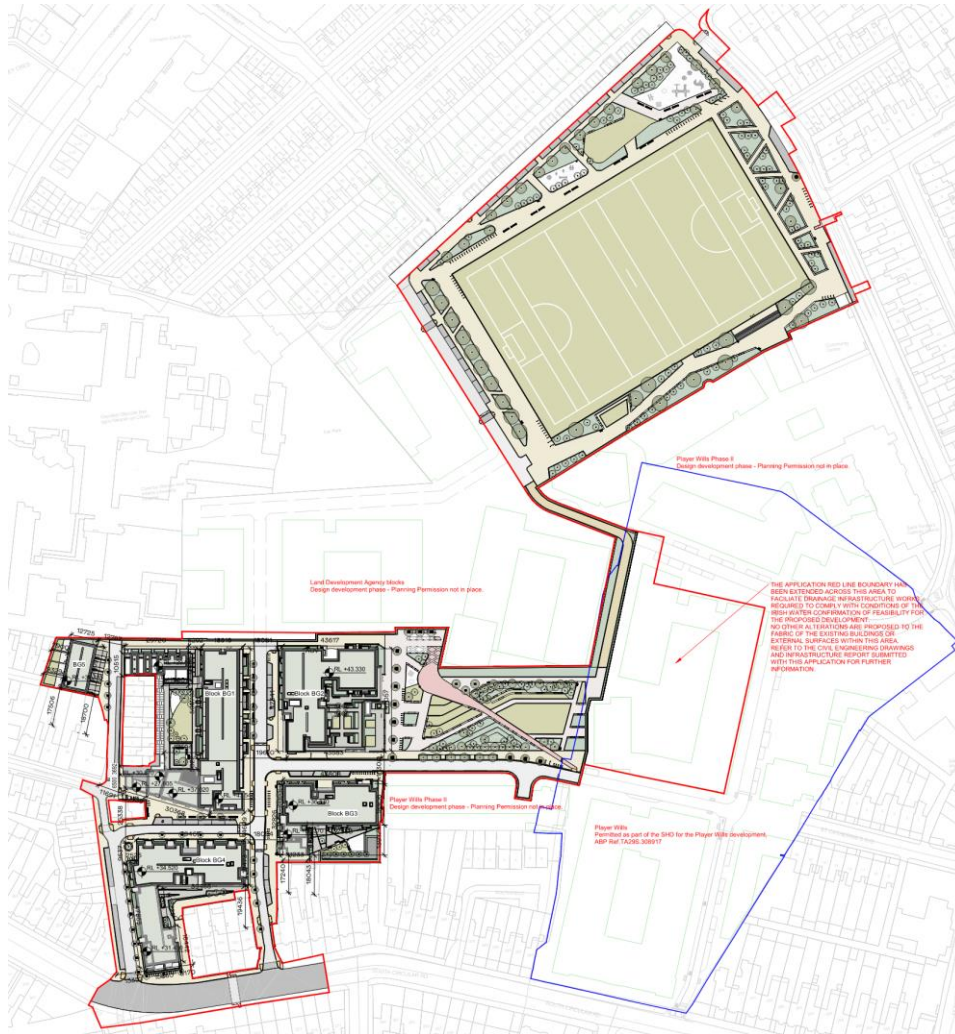


Figure 7.1 Proposed Site Layout

Briefly, it is proposed to demolish the existing vacant buildings and structures on the Bailey Gibson site to make way for development of 345 new homes across 5 blocks, BG 1 - BG 5, ranging in height from 2-7 storeys. The residential blocks will be contained within the Bailey Gibson site. The typology is predominantly apartments with 4 townhouses proposed in block BG5.

This is a mixed tenure scheme, with 292 units proposed as Build to Rent (BtR) across blocks BG1-BG3 and 53 units proposed as Build to Sell (BtS) in blocks BG4 and BG5. It is proposed to deliver 34 social and affordable homes as part of the overall total.

All apartments have private amenity space. At ground floor this is in the form of terraces and on upper levels, balconies. Each of BG1-BG4 have communal amenity areas either as a courtyard or podium area.

Tenant amenities and facilities are proposed in the BtR blocks and include a gym, co-working space, kitchen/lounge areas, concierge, and waste facilities.

Over 2 hectares of public open space including a multi-sport play pitch, a playground, 'St. Teresa's Playground', a boulevard, 'St. Teresa's Boulevard', a park, 'Players Park', a plaza, 'Rehoboth Plaza'.

The proposed non-residential uses include in blocks BG1 and BG2 commercial units that have the capacity to support daily living needs e.g., a shop, pharmacy and professional services. A creche with capacity for approx. 60 children. In block BG2 the design includes floorspace for a café/restaurant/bar.

In total there are 89 car parking spaces allocated to the proposed apartments and all are contained within the Bailey Gibson site. Apart from 1 space at podium level, the parking is contained within a basement. Additionally, 10 'Go Car' spaces are proposed at podium level for residents use only. Each of the 4 townhouses has 1 on-curtilage car parking space.

Visitor parking is at street level and the proposed sport pitch will be serviced separately by new spaces on the public roads. The scheme includes set down parking for the creche, a loading bay for deliveries and coach parking area.

Provision is made for disabled parking, electric vehicle charging, a car sharing scheme and motorcycle parking.

784 spaces are proposed for cycle parking including secure residents parking, visitor parking and spaces for cargo bicycles.

Other works include the development of a network of streets across the proposed development site that will link with other sites within SDRA 12 and into the wider street network of Dublin 8. Improvement works within existing local streets to facilitate access and safe movement.

Ancillary development works includes the construction of electricity substations, meter rooms, plant rooms at basement level, waste storage areas, solar photovoltaics, drainage, landscaping, and lighting.

7.3.1 Aspects Relevant to this Chapter

7.3.1.1 Water Supply

A new 250mm diameter watermain is proposed to service the proposed development with a connection to the 18-inch cast iron watermain in the South Circular Road. A new 100mm diameter watermain connection will be provided to the existing 100mm diameter watermain to the west of the site on Rehoboth Avenue and a new 150mm diameter watermain connection will also be provided to the existing 6 Inch watermain in Donore Avenue, to the northeast of the site. These connections have been designed to service the proposed development as well as integrate with future development of the other parts of St. Teresa's Gardens SDRA. Water demand for the proposed development is as follows; Average – 2.119 l/s. Peak –10.574 l/s.

The watermain which crosses the multisport playing pitch will be diverted to the south of the pitch and extended to provide fire hydrant coverage for potential future development of the wider SDRA12 landbank. The Coombe hospital water supply will be maintained by connection to the diverted watermain.

Hydrants will be provided in accordance with Part B of the Building Regulations and the Fire Safety Certificate's Requirements. Sluice valves will be provided at appropriate locations to facilitate isolation and purging of the system. Twenty-four-hour storage will be provided to cater for possible shutdowns in the system.



Figure 7.2 Proposed Potable Water Supply Connection Point (Extract from Engineering Drawing Set)

7.3.1.2 Wastewater Drainage

The local area gradually falls from southwest to northeast. Hence, the Bailey Gibson site is located at a lower elevation than the South Circular Road, making a gravity connection for foul sewerage to the brick culvert in the South Circular Road unworkable. To facilitate a gravity connection to the public sewerage network, the new foul drainage system for the development will be constructed across the SDRA 12 lands, connecting to the existing combined sewer culvert in Donore Avenue, to the east of the multi-sport playing pitch. There is an existing 225mm diameter concrete combined sewer which extends from the Coombe hospital site, through the proposed multi-sport playing pitch site and discharges to the combined sewer culvert in Donore Avenue. This sewer will be diverted to the north of the multi-sport playing pitch and increased in size to cater for the proposed Bailey Gibson development flows as well as future development flows that may arise from the development of the adjacent DCC owned land to the west and southwest of the proposed pitch.

The foul sewer design has been carried out in accordance with the Irish Water Code of Practice for Wastewater. Foul wastewater discharge from the proposed development will be as follows; Average – 1.859 l/s. Peak – 8.363 l/s.

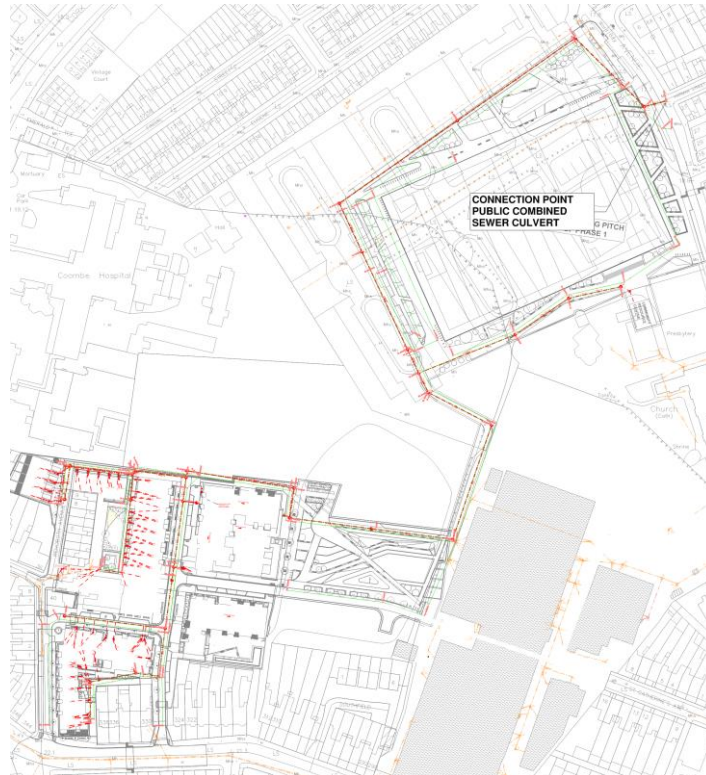


Figure 7.3 Proposed Waste Water Drainage Connection Point (Extract from Engineering Drawing Set)

7.3.1.3 Surface Water Drainage

DCC Drainage Planning Department required that consideration be given to stormwater management across the proposed development site, the adjacent Player Wills site and adjoining DDC owned lands, all contained within SDRA 12. A drainage strategy for these lands has been developed and presented to DCC drainage planning department representatives and this strategy plan is provided as part of the submitted civil engineering drawings. The three individual sites within SDRA 12 will be developed in different stages and as a result, the stormwater management and drainage strategy include provision to account for this staging. Refer to **Figure 7.6** and **Figure 7.7**.

7.3.1.4 Surface Water Drainage System

The stormwater management for the site is as follows:

The Bailey Gibson site is located in the south-west corner of SDRA 12. The natural fall across the site is from south-west to north-east. There are no public stormwater drains in the streets directly adjacent to the site.

To facilitate a gravity connection to the public stormwater network and ensure no stormwater flows from any part of the proposed development site are directed to the combined sewer network, the new stormwater drainage system for the proposed development will flow generally northeast, through Players Park to the east of the Bailey Gibson site and the multi-sport playing pitch and its surrounds, before finally discharging to the existing stormwater

culvert in Donore Avenue, close to Ebenezer Terrace. This stormwater drainage system has also been designed to cater for runoff from the DCC/LDA owned land in the northwest section of SDRA 12.

The multi-sport playing pitch surface which forms part of this application, shall be a fast draining synthetic or similar type surface. Runoff from the pitch shall be attenuated by means of a hydrobrake located in the final manhole prior to discharge to the main surface water network upstream of the pitch side attenuation tank. Attenuation storage for the surface area of the pitch only shall be provided by a minimum 250mm deep crushed rock layer (minimum 20% void ratio) beneath the pitch surface. The existing 375mm diameter stormwater pipe, which is currently located under the multi-sport playing pitch site, will be diverted to the north side of the pitch and will not receive any additional stormwater flow from the proposed development.

The proposed Players Park to the east of the Bailey Gibson site, which also forms part of this application, will have a significant area of soft landscaping throughout. Hard paved surfaces forming footpaths through the park will all drain to filter strips located along the verge/kerb line of each footpath or to tree-pits. From here, the stormwater will filter into the permeable hardcore build-up beneath the full area of the paved surface above. Essentially, this shall ensure that all stormwater in the park shall be capable of discharging to ground over the full surface area of the park. Due to the poor permeability of the boulder clays which are present at this site, and to ensure the ongoing functionality of the park during and after high intensity storm events, the filter strips will incorporate a land drain which will have an overflow connection to the main surface water network.

Part of the stormwater management strategy includes the construction of a stormwater attenuation tank to the north side of the proposed multi-sport playing pitch. This attenuation tank has been sized to cater for stormwater runoff from the Bailey Gibson site, the adjacent DCC owned land and any runoff from Players Park to the east of the Bailey Gibson site and the multi-sport playing pitch and surrounding landscaped areas.

7.3.1.5 Sustainable Drainage Systems

7.3.1.5.1 Interception Storage

Green Roofs:

Intensive – All roof terraces and podium terraces over basements shall be provided with a proprietary cellular drainage mat under the hard and soft landscaping to give a minimum interception storage volume of 10 l/m² as well as contributing to filtration and attenuation of surface water.

Extensive – All roofs accessed only for maintenance and repair will be provided with a sedum blanket over a proprietary cellular drainage mat to give a minimum interception storage volume of 10l/m², as well as contributing to filtration and attenuation of surface water.

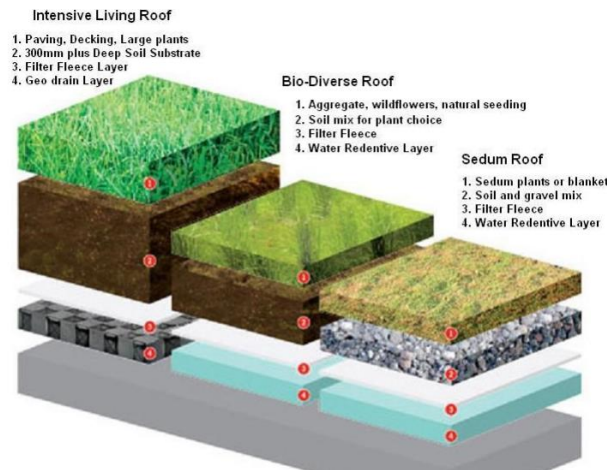


Figure 7.4 Typical Green Roof Interception Storage Details

Paved Areas:

The road and paved surfaces will be finished in impermeable surfacing, either flexible bituminous pavement, rigid bound paving, impermeable concrete paver, or stone pavers. Typically, all streets are provided with trees and soft landscaping zones, with car parking on at least one side. The roads and footpaths will be drained by gullies that connect to tree pits which are interlinked with perforated distribution pipes to create infiltration trenches. The perforated pipes will allow discharge directly to the ground through the surrounding gravel bed. Due to the limited permeability which can be achieved through the sub-surface boulder clays, these pipes will also be connected to the surface water network via silt trap manholes. Notwithstanding the poor sub soil permeability, the gravel bed beneath the tree pits and surrounding the perforated pipes will provide good interception storage, which will retain, filter and attenuate run-off.

7.3.1.5.2 Direct Infiltration to Ground

Ground Levels Courtyards and Landscaped Areas (outside basement footprints):

Ground level courtyards shall discharge surface water directly to ground. Hard landscaping zones within paved areas shall be drained to adjacent infiltration trenches within soft landscaped areas.

7.3.1.5.3 Basement Fuel and Oil Interceptors

The basement shall be constructed as a waterproof structure to prevent direct discharges to ground water. Incidental run-off from the basement entry ramp and cars etc. shall be directed to a suitably sized fuel and oil interceptor prior to discharge via a pumped system to the foul drainage network.

7.3.1.5.4 Attenuation Storage

The stormwater discharge from the development site shall be attenuated prior to discharge to the public stormwater drainage network. All stormwater runoff from the proposed development site shall pass through the buried attenuation tank which will be located to the north of the

Multi-Sport Playing Pitch. To facilitate future development of the DCC land within the SDRA, the tank and pipe network has been sized to cater for all stormwater runoff from that site.

Design Head = Top Water Level - Invert of Outlet Pipe

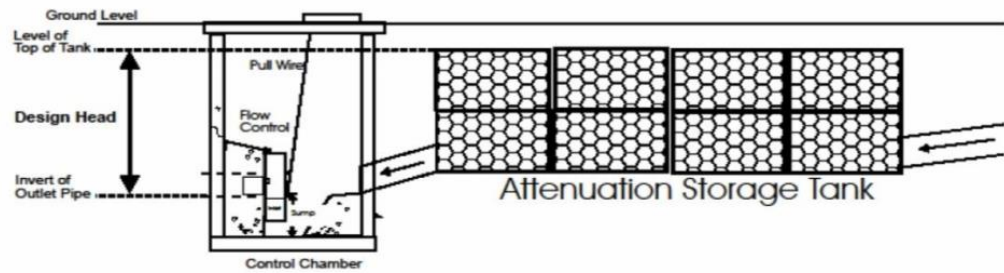


Figure 7.5 Typical Attenuation Storage Tank Detail

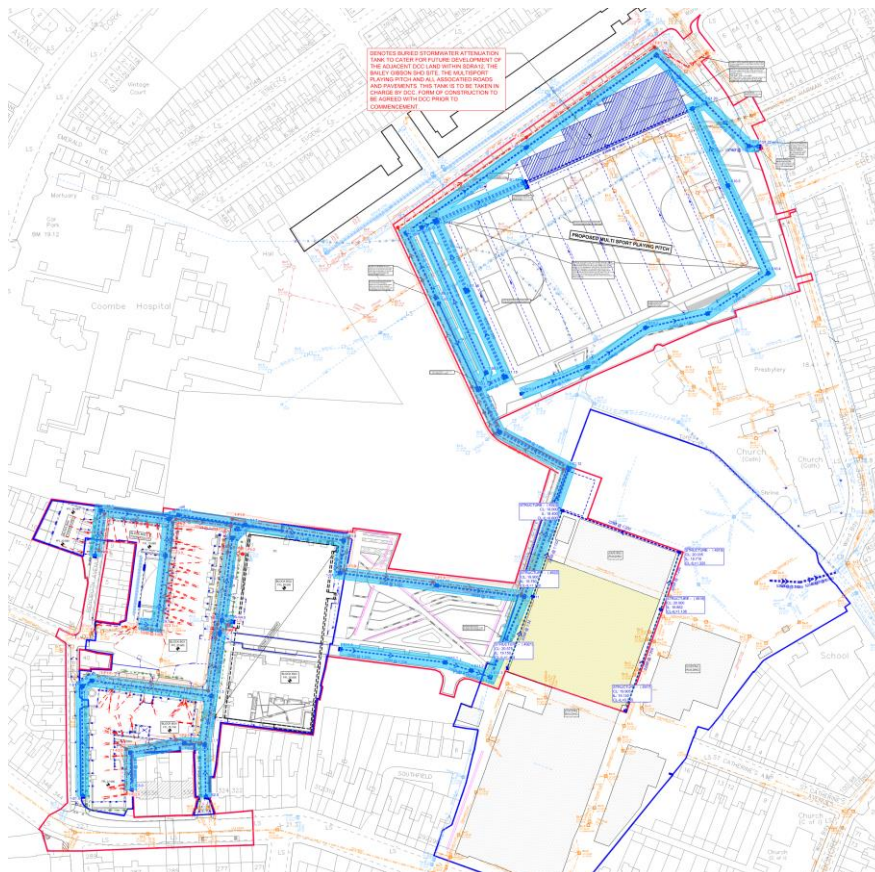


Figure 7.6 Proposed Surface Water Drainage (Extract from Engineering Drawing Set)



Figure 7.7 Proposed Combined Sites Drainage Strategy Plan (Extract from Engineering Drawing Set)

7.3.2 Electrical Supply

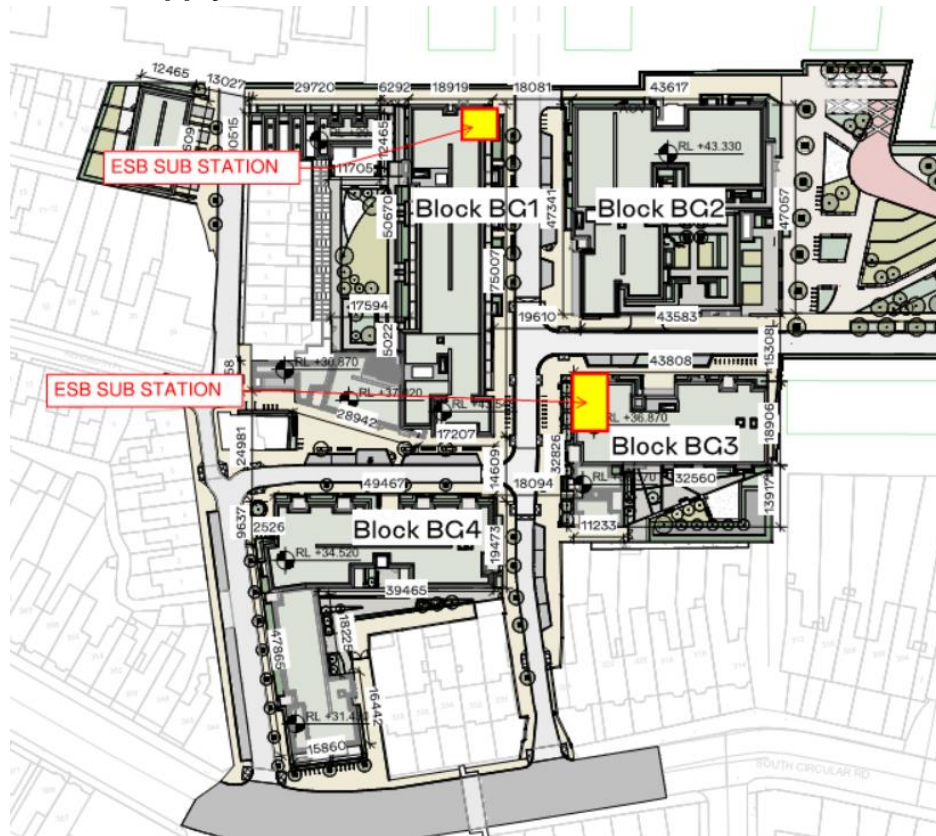


Figure 7.8 Proposed ESB Infrastructure

Figure 7.8 – shows the proposed electrical infrastructure for the Proposed Development. A new underground cable shall connect into the existing network and route through our development to serve 2 new Sub-stations with the final location to be agreed with ESB Networks. The existing sub-station is to be decommissioned.

7.3.3 Gas Supply

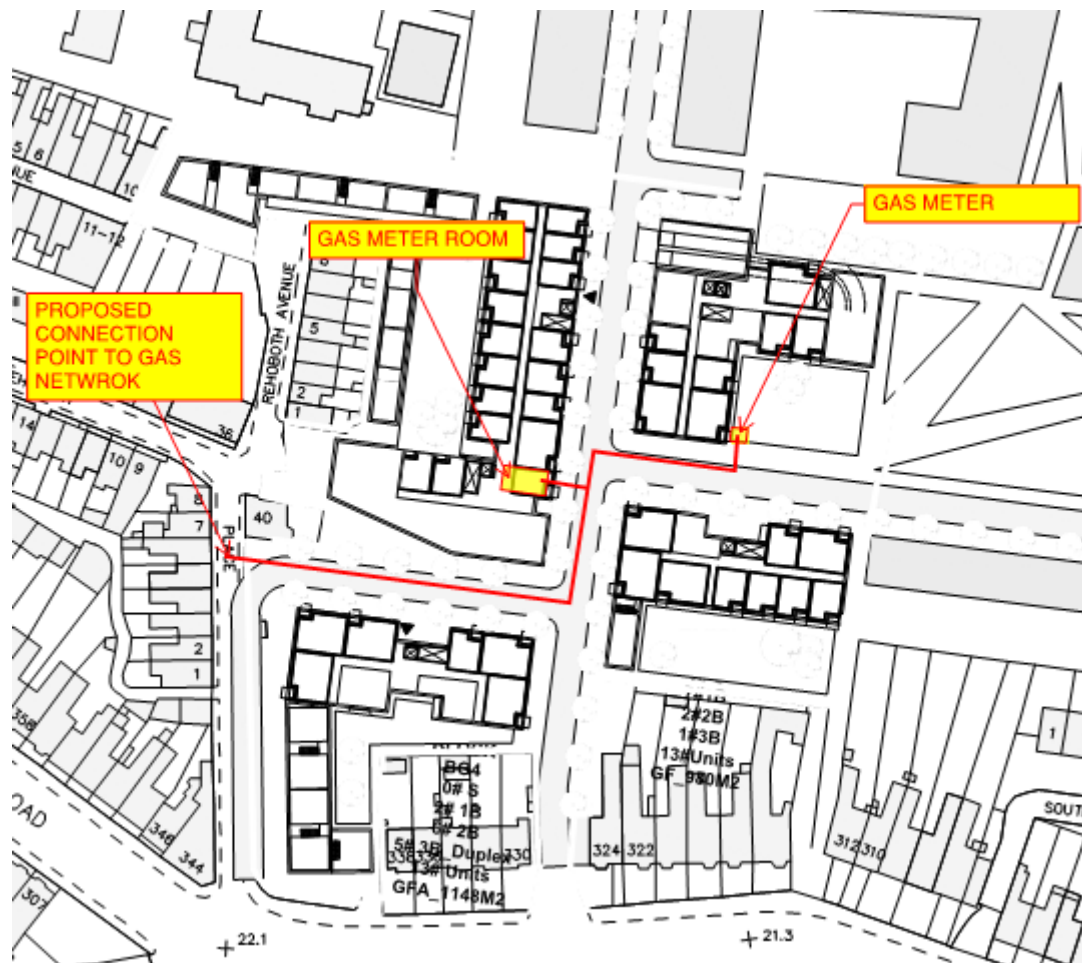


Figure 7.9 Proposed Gas Infrastructure

Figure 7.9 shows the proposed gas infrastructure for the Proposed Development. The supply of gas to the Proposed Development site will be provided by way of a metered connection to the main plant room(s) from the existing Gas Networks Irelands national gas supply network, the red line shows the proposed connection point to the existing network.

7.3.4 Telecommunications

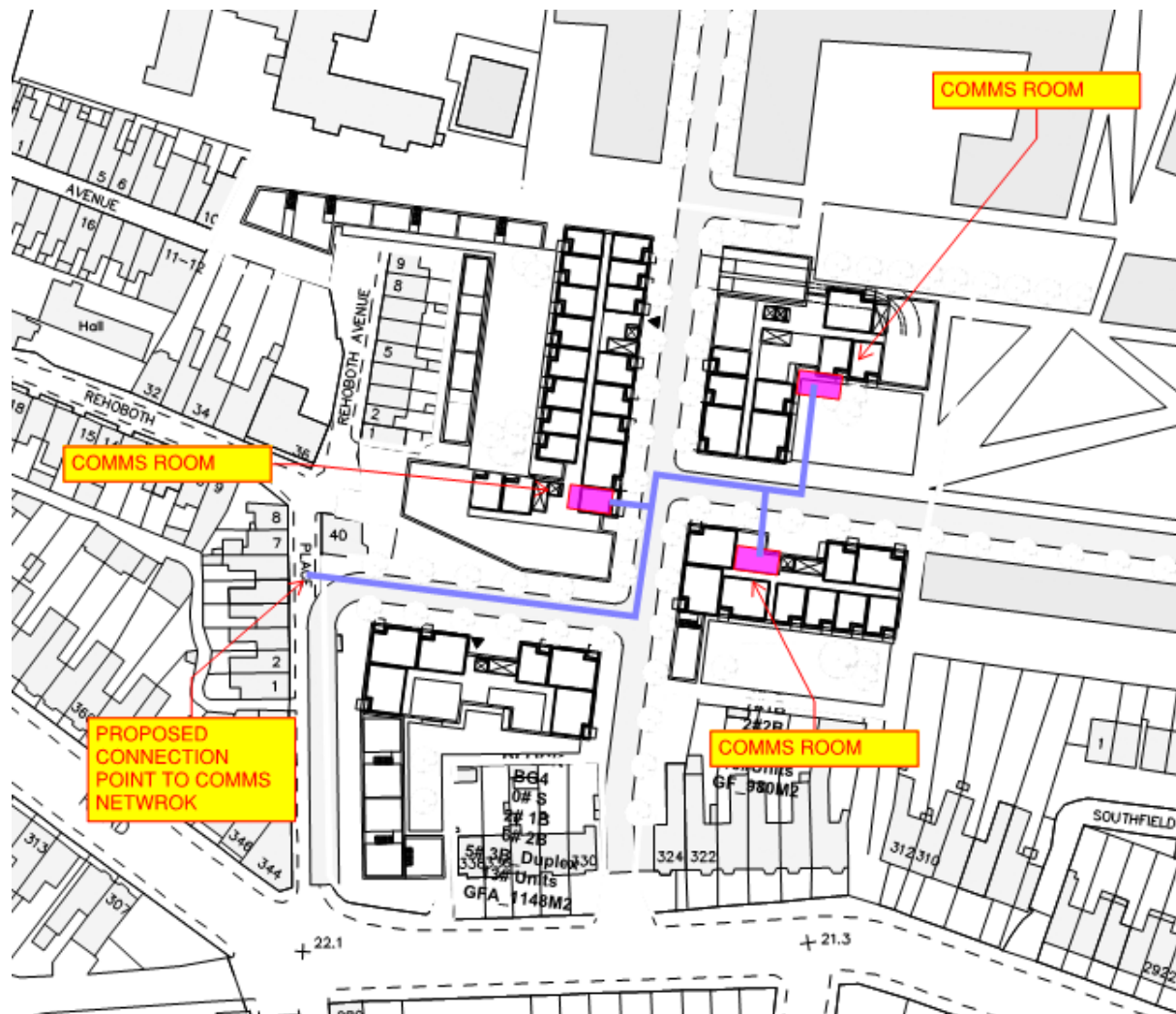


Figure 7.10 Proposed Telecoms Infrastructure

Figure 7.10 shows the proposed telecoms infrastructure for the Proposed Development. The supply of telecoms infrastructure to the Proposed Development site will be provided by way of a connection to a telecoms control room from the existing telecommunication networks.

7.4 Methodology

This chapter has been prepared having regard to the methodologies set out in the following guidelines;

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022);

7.4.1 Information Sources

The following sources of information were in used in the completion of this assessment;

- Dublin City Development Plan 2016-2022
- Greater Dublin Area Regional Code of Practice for Drainage Works
- Greater Dublin Strategic Drainage Study (GDSDS)
- Environmental Protection Agency (EPA)
- Site Investigation Reports (Ground Investigations Ireland)
- Geological Survey of Ireland (GSI) online maps and databases
- Irish Water Code of Practice for Wastewater Infrastructure
- Irish Water Code of Practice for Water Infrastructure
- Utility Network Maps as follows:
 - Public Water Mains (Irish Water)
 - Public Stormwater Drainage (Dublin City Council)
 - Public Foul Drainage (Irish Water)
 - Electricity Supply Networks (ESB Networks)
 - Gas Supply (Gas Networks Ireland)
 - Telecommunications (Eir)

The above information was reviewed to determine how the development site is currently serviced and in conjunction with the advice of the relevant utility providers and authorities, assess its adequacy in terms of the proposed overall mixed-use development.

The potential impacts on the built services for the Proposed Development were assessed through a desktop study of the information provided in consultation with the relevant utility providers and authorities, including representatives of Dublin City Council. The details of that consultation are set out below.

The rating of impacts within this chapter is in line with Table 3.4 of EPA Guidelines (2022). The rating of impacts is reproduced in **Chapter 1** of this EIAR.

7.4.2 Consultation

7.4.2.1 Drainage and Water Supply

Dublin City Council Drainage Planning Department provided comments on the civil engineering documentation submitted as part of the Pre-Application process for this application in their report to An Bord Pleanála, dated 07.12.21 which was issued by DCC, via email on 13.12.21. They did not have any objection to the proposed development, nor the proposals for surface water management.

A tri-partite meeting was held with An Bord Pleanála on 11.03.22 and the subsequent Bord Opinion – Case Reference: ABP-311959-21 provided comments in relation to the development infrastructure proposals.

There are two extant permissions which are relevant to this application (The Bailey Gibson SHD - An Bord Pleanála Ref: 307221-20 and The Player Wills SHD – An Bord Pleanála Ref:308917-20). Extensive pre-planning consultation occurred with Dublin City Council Drainage Planning Department in relation to stormwater management for both of those planning applications. The dedicated stormwater infrastructure pre-planning meetings were held in the office of Dublin City Council on the following dates and with DCC Drainage Planning Department representatives.

- 10.06.2019
- 12.07.2019
- 26.07.2019
- 11.12.2019

Pre-planning consultation specific to this application was held with DCC drainage planning department engineers via email on 01.11.2021. The main issues discussed with the drainage department for both the proposed development and extant permissions, together with the conditions attached to the extant permissions informed this proposed drainage strategy.

Liaison with Irish Water took place through the Pre-Connection Enquiry, Diversion Application and Design Vetting Processes. A Pre-connection Enquiry was submitted to Irish Water on 29.04.2022 with details of the development proposals and foul flow and water demand calculations. A response to the Pre-Connection Enquiry was received on 11.05.2022 and confirms feasibility of a connection to the Irish Water networks at the proposed locations. The design was subsequently submitted to Irish Water for Design Vetting and a Letter of Design Acceptance was issued. A Diversion Application was submitted to Irish Water for the proposed diversion of the existing foul sewer and watermain traversing the proposed multi-sport playing pitch on 21.12.2021 and a Confirmation of Feasibility for the proposed diversion was issued by Irish Water on 11.03.2022.

Contained in **Appendix 7.1** (see Volume III) is a) Irish Water Pre-connection Enquiry Confirmation of Feasibility, b) Irish Water Statement of Design Acceptance for the proposed development site and c) Irish Water Confirmation of Feasibility for the proposed foul sewer and watermain diversions around the multi-sport playing pitch.

7.4.2.2 Electricity

Based on information received from ESB Networks, the existing site is serviced by one existing sub-station located on Rehonoth Place. Consultation has taken place with the ESB Networks with regard to the availability of electrical power and no concerns have been raised by ESB Networks. 2 no. new Sub-Stations are proposed to service the development with the existing Sub-Station being retired (See Error! Reference source not found. **Figure 7.8**). A site meeting was held with the ESB in October 2019.

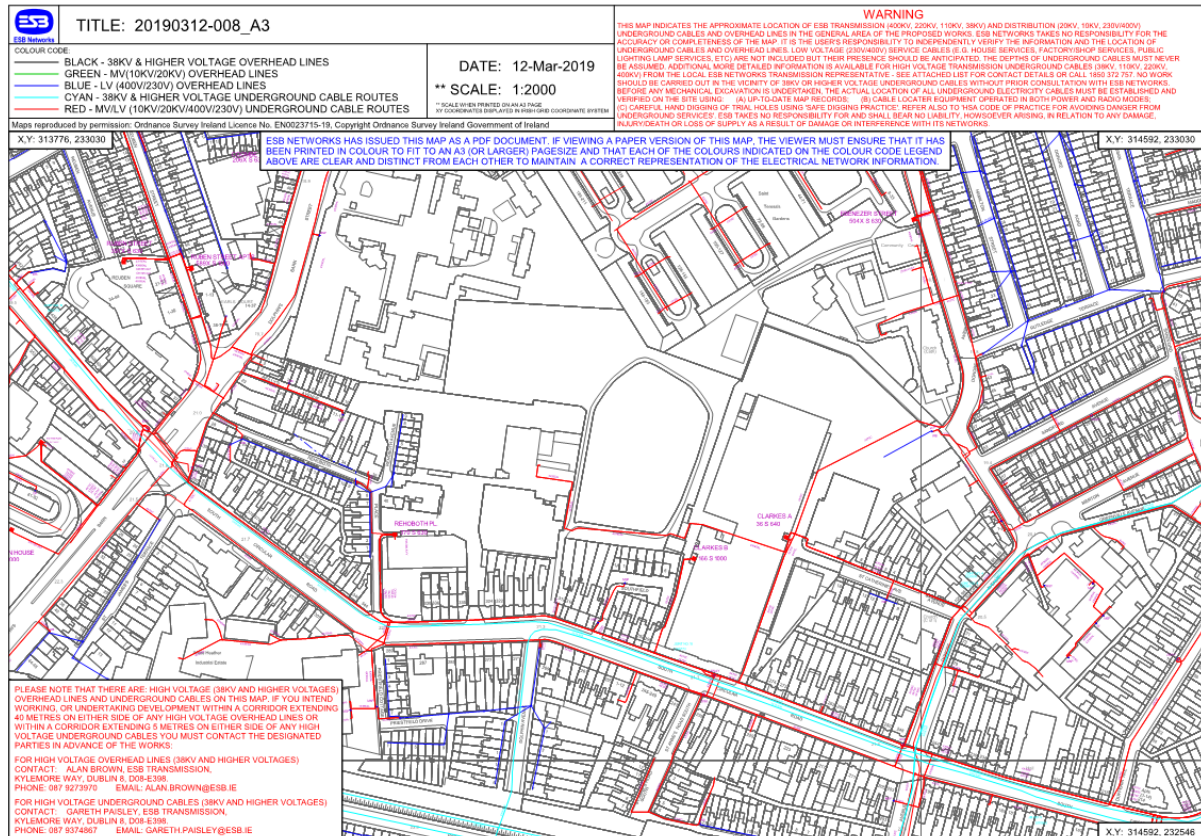


Figure 7.11 Existing ESB Infrastructure

7.4.2.3 Gas

Based on information received from Gas Networks Ireland (GNI), there is a 180mm medium pressure supply network running adjacent to the development site. Consultation has taken place with GNI with regard to the availability of gas supplies and no concerns have been raised by GNI (See **Figure 7.12**).

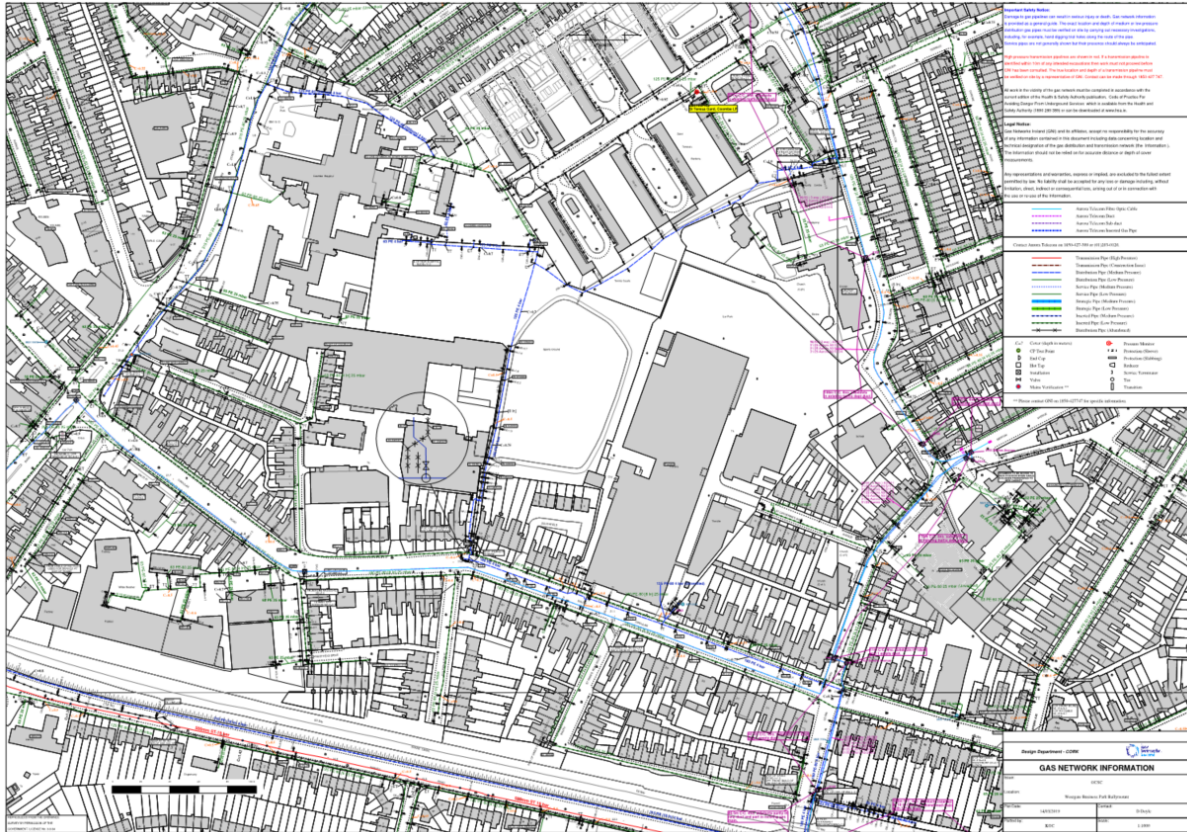


Figure 7.12 Existing Gas Networks Infrastructure

7.4.2.4 Telecommunications

Telecom records have been requested from Eir, Sky and Virgin. Existing records have been received from Eir and Virgin for the area adjacent the site.

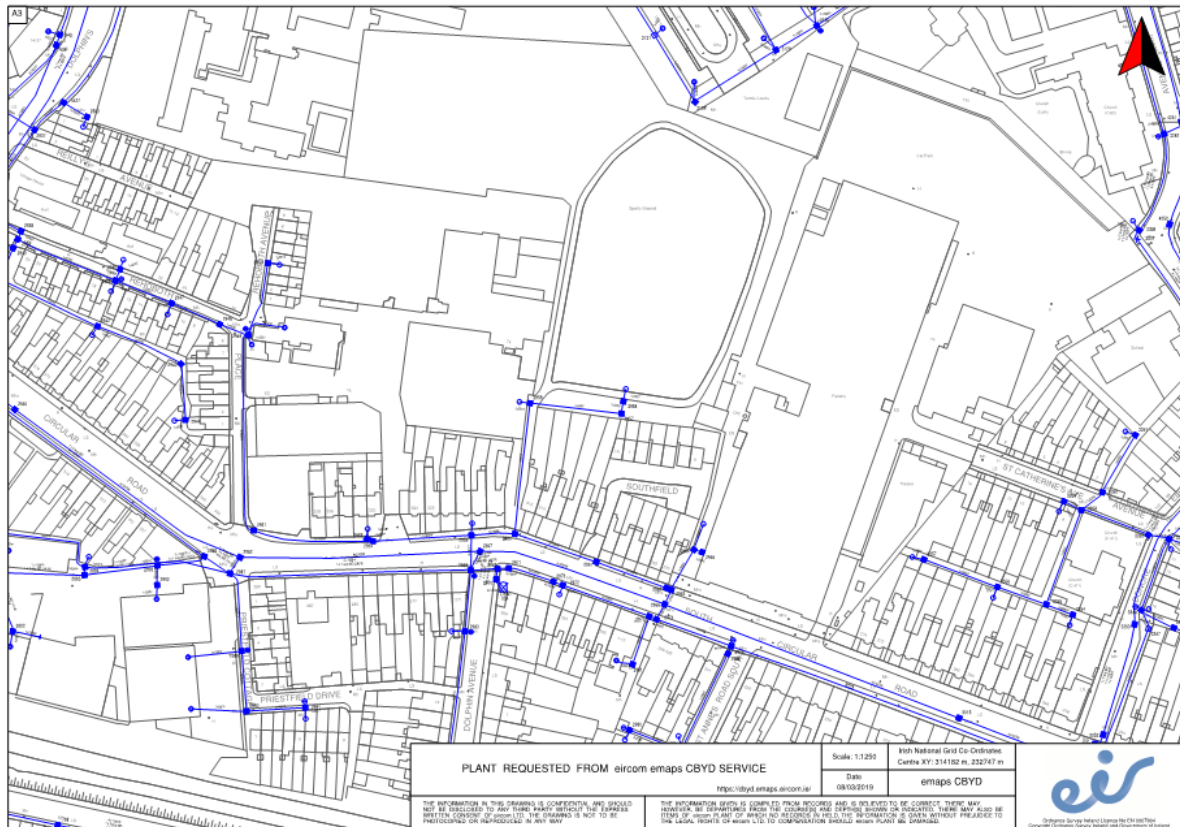


Figure 7.13 Existing eir Telecoms Infrastructure

7.5 Baseline Environment

The proposed development site, which includes lands owned by DCC is bounded by DCC lands, St. Lawrence O'Toole Diocesan lands and the Player Wills site to the east, private residences to the west, The Coombe hospital and DCC lands to the north, the South Circular Road to the south. The site contains several industrial type warehouse buildings, in which a salvage business was located until late 2019. The Bailey Gibson area of the development site is developed almost entirely in hardstand surfaces comprising a combination of roof sheeting and concrete paving at grade. The proposed Player's Park site, located between the Bailey Gibson and Player Wills sites, is currently a natural soft landscaped area. The multi-sport playing pitch area of the site is partially covered by the remaining 2 blocks of the St. Teresa's Gardens flat. Planning permission is in place for demolition of these blocks of flats. The remainder of the multi-sport pitch is greenfield, having previously been the site of the now demolished St. Teresa's Gardens flats.

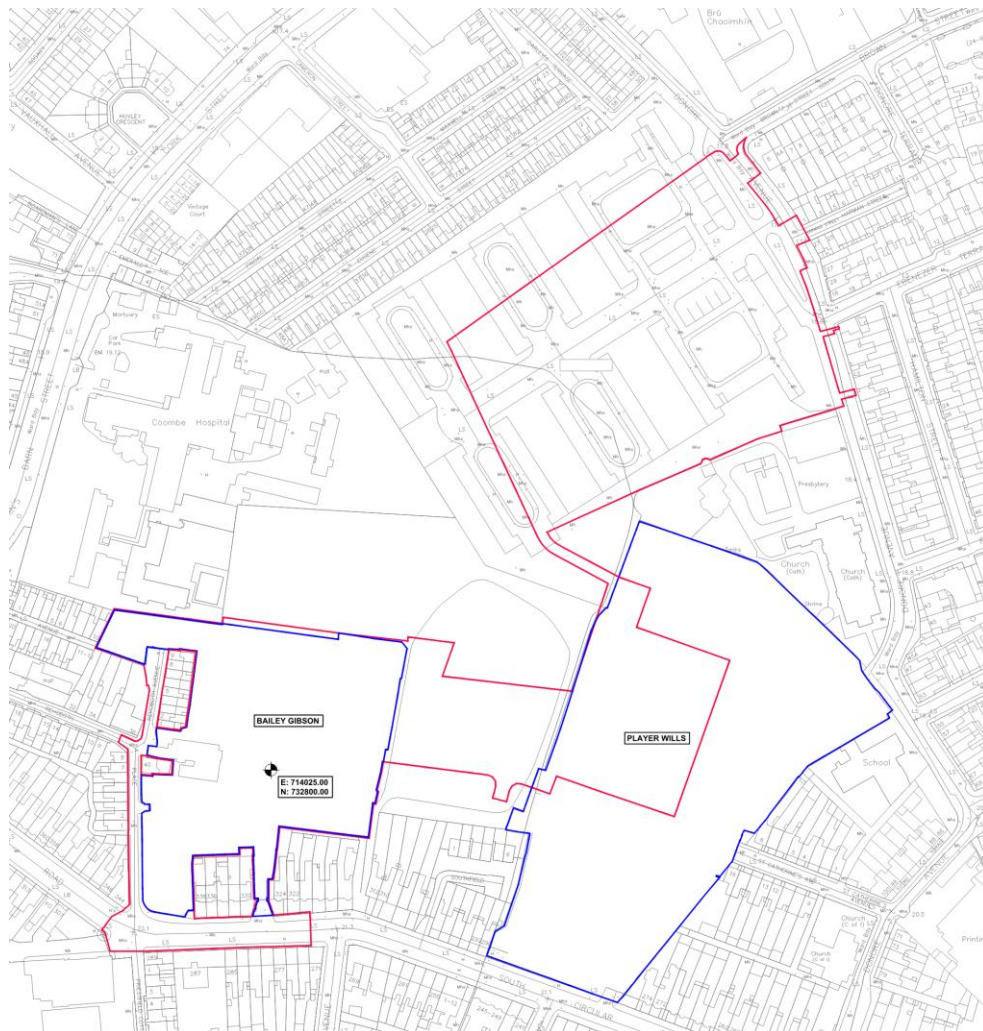


Figure 7.14 Site Outline (Red Boundary)

7.5.1 Water Supply

There is an existing 110MOPVC watermain within Rehoboth Place to the west of the site. There are two number 6inch cast iron watermains located in the South Circular Road to the south of the site. There is also an 18inch cast iron watermain located in the South Circular Road. There is a 6inch cast iron watermain located in Donore Avenue to the east of the development site. There is a 110mm MOPVC watermain in Rehoboth Avenue/Rehoboth Place to the west of the development site. There is an existing watermain which extends through the proposed multi-sport playing pitch site and has a service connection to the Coombe Hospital. This watermain also serves the remaining blocks of St. Teresa's Gardens flats which have planning permission to be demolished. There are four existing water supply connections from the development site to the public water supply infrastructure.

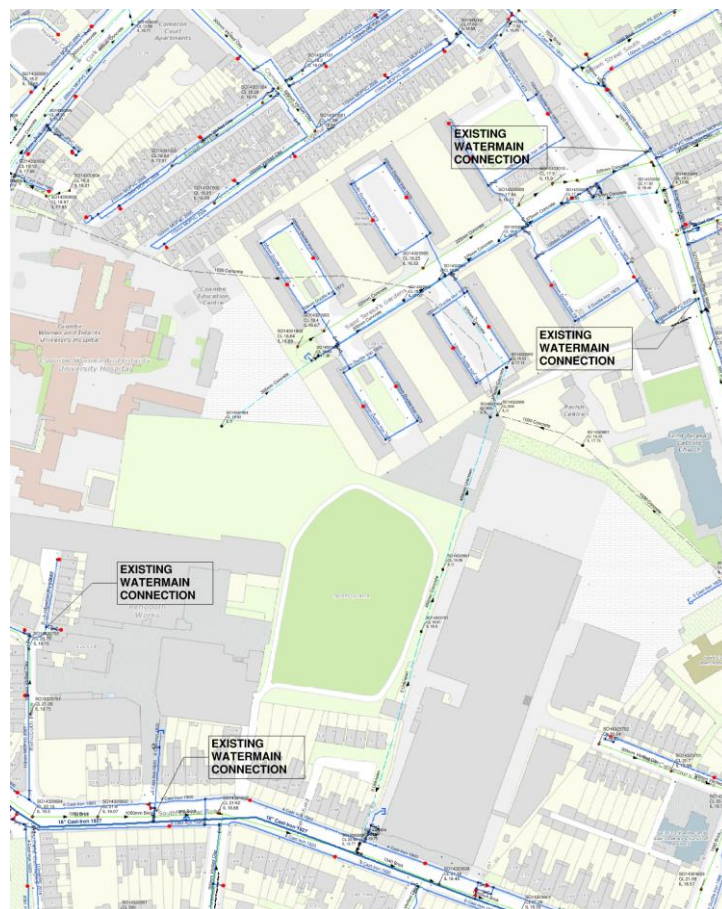


Figure 7.15 Existing Water Supply

7.5.2 Wastewater Drainage

A 1060mm brick combined sewer is located within the South Circular Road with a flow direction of west to east, parallel to the southern boundary of the site. A 150mm diameter combined sewer is located in Rehoboth Place to the west of the site. The southwest corner of the proposed development site which is the site of the former Bailey Gibson salvage yard, includes a combined sewer connection to each of these public sewers. There is a combined sewer located within Donore Avenue, to the east of the Player Wills site and the proposed

multi-sport playing pitch. This sewer is a 300mm diameter vitrified clay sewer up to the southeast corner of St. Teresa's church. Here, it increases in size to a 990 Brick sewer culvert. It increases again to a 1020 culvert further north along Donore Avenue as it flows towards Cork St. There is an existing 225mm diameter concrete combined sewer which extends from the Coombe hospital site, through the proposed multi-sport playing pitch site and connects to the combined sewer culvert in Donore Avenue.

There are three existing connections from the proposed development site to the public combined sewers to the south and west of the site.

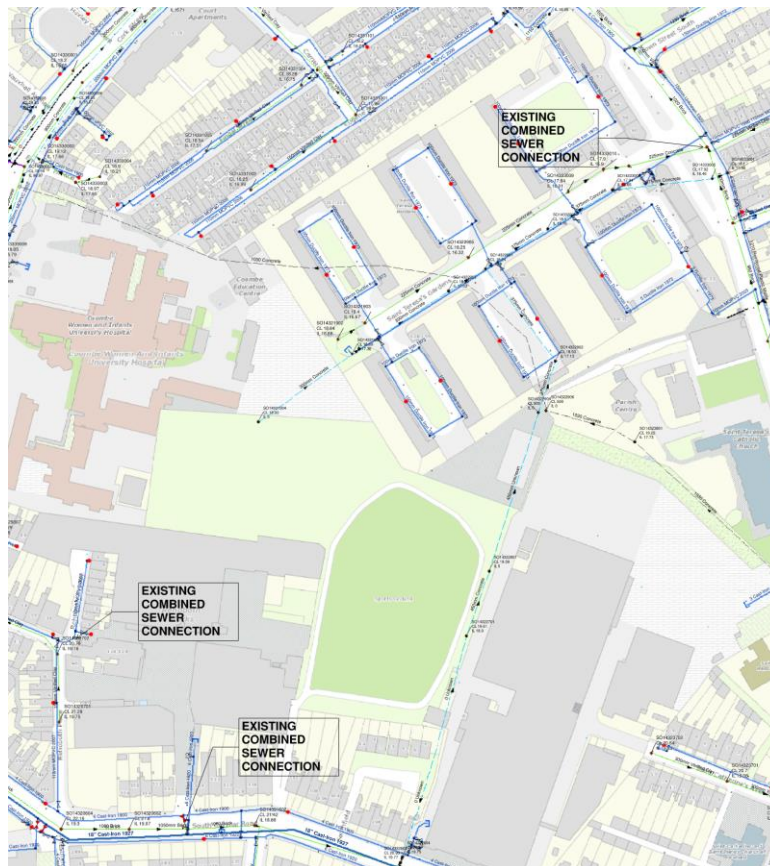


Figure 7.16 Existing Drainage Connections

The existing 300mm diameter combined sewer in Rehoboth Ave flows west to Cork St., where it then flows north eastwards. It connects with the 300mm combined sewer coming from in Donore Avenue, which originates to the east of the Player Wills site, and continues eastwards along Cork St. The 1050mm brick combined sewer to the south of the site flows eastwards beneath the South Circular Road. It turns northwards between Raymond St and Clanbrassil St Lower. The three sewers which service the proposed development site all join at the junction of The Coombe Road and New St. South. From here, the flow is generally northwards to the River Liffey, then eastwards to Ringsend Wastewater Treatment plant, where the sewage is treated before being discharged to the Irish Sea.

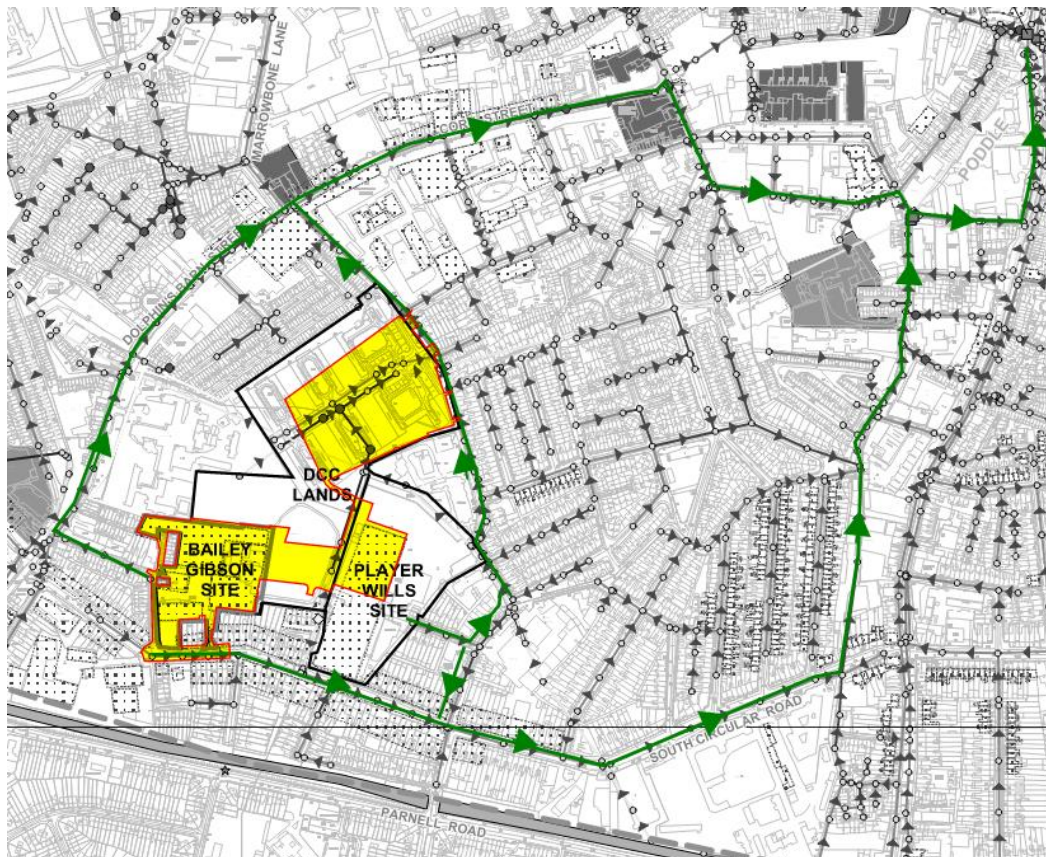


Figure 7.17 Existing Sewer Layout Surrounding the Site (Extract from GDSDS)

Existing dry weather design foul flows from the site are not significant. However, in storm events, unattenuated and untreated surface water discharge to the foul/combined sewer system can contribute to inundation of this system and untreated discharge to open water bodies through combined sewer overflows as well as increased flows being sent to the Ringsend WwTP.

7.5.3 Gas Supply

There is an existing 90mm 25mbar gas main within Rehoboth Place to the west of the site. There is also a 180mm gas pipe located in the South Circular Road to the south of the site. Refer to **Figure 7.9** for the existing infrastructure utility map. This infrastructure is sufficient to meet the requirements of the proposed development.

7.5.4 Telecommunications

Eir and Virgin have both confirmed that they have existing infrastructure routing around site in both Rehoboth Place and south Circular round. There are two connections from the Eir network that serve the existing site. Refer to **Figure 7.13** for the existing infrastructure utility map. This infrastructure is sufficient to meet the requirements of the proposed development.

7.5.5 Electricity Supply

There is one existing ESB substation serving the site and local housing it is located on Rehoboth place. Refer to **Figure 7.11** for the existing infrastructure utility map. The development will require new infrastructure to meet the load. The existing substation is not proposed to serve the future development.

7.5.6 Surface Water Drainage

The natural surface level falls across the site from south-west to north-east. There is a 1050mm brick combined sewer is located within the South Circular Road to the south of the site and a 150mm diameter combined sewer is located within Rehoboth Place to the west of the site. There is also an existing 1050mm public surface water culvert located in Donore Avenue to the east of the site. This culvert enters Donore Avenue from the south at the junction with Merton Avenue and continues running northwards along Donore Avenue to the east of St. Catherine's Church where it changes to a 910mm culvert. It flows north along Donore Avenue before turning east to the rear of the properties on Ebenezer Terrace. This culvert is historically known as the Abbey Stream, a tributary from the original river Poddle. It once traversed the St. Teresa's Gardens SDRA, entering at the south corner of St. Teresa's church, but was diverted to continue beneath Donore Avenue to the east of the church many years ago. Due to many drainage works which have occurred upstream, this culvert now carries the main river Poddle flow. There is a 375mm diameter stormwater pipe which traverses the multi-sport playing pitch site, entering from the Coombe hospital in the south west and travelling north east before discharging to the stormwater culvert in Donore Avenue.

Currently, all positively drained surface water from the former Bailey Gibson salvage yard discharges to the combined sewers located in Rehoboth Place and the South Circular Road. There are no sustainable drainage systems or flow control devices in place at the site. As noted earlier, in storm events, unattenuated and untreated surface water discharge can contribute significant flows to the combined sewers. The foul and combined sewer flows in this area discharge to the Wastewater Treatment Plant in Ringsend. Surface water discharge to the combined sewer system contributes to inundation of this system in storm events and recurring untreated discharge of combined sewer flows to open water bodies through combined sewer overflows as well as increased flows being sent to the Ringsend WwTP. The remaining St. Teresa's Flats have surface water drainage connections to the culvert in Donore Avenue but there are no flow control or surface water treatment systems in place. The

proposed Players Park and remaining area of the multi-sport playing pitch are undeveloped fields with no positive drainage to the public surface water network.

7.6 Do Nothing Scenario

7.6.1 Do Nothing – No Project

7.6.1.1 Water Supply

If the proposed development was not to proceed, there would be no increase in the demand on the existing water supply network and the effect would be neutral.

If the site remained undeveloped, any existing leaks would remain undiscovered and as a result any current loss from the public system would remain undetected and the effect would be negative.

The site is zoned for development, and it is likely that in the absence of this subject proposal that a development of a similar nature, with similar water demand requirements, would be progressed on the site that accords with national policy for compact growth on brownfield sites.

7.6.1.2 Wastewater Drainage

If the proposed development was not to proceed, there would be no increase in the design foul flows to the combined sewer network and the effect would thus be neutral.

However, unattenuated and untreated surface water discharge to the combined sewer in all rainfall events would also continue and this has a negative effect.

The site is zoned for development, and it is likely that in the absence of this subject proposal that a development of a similar nature, with a similar wastewater discharge, would be progressed on the site that accords with national policy for compact growth on brownfield sites.

7.6.1.3 Surface Water Drainage

If the proposed development was not to proceed, unattenuated and untreated surface water discharge to the combined sewers in all rainfall events would continue, contributing to recurring untreated discharge of combined sewer flows to open water bodies through combined sewer overflows as well as ongoing surface water flows being sent to the Ringsend Waste Water Treatment Plant (WwTP). The effect of this is significantly negative.

7.6.1.4 Electricity / Gas & Telecommunications

If the proposed development was not to proceed, there would be no increase in the demand on the existing networks. However, the site is zoned for development and it is likely that in the absence of this subject proposal that a development of a similar nature, with similar demand requirements, would be progressed on the site that accords with National policy for compact growth on brownfield sites.

7.6.2 Do Nothing – Extant Bailey Gibson Permission

In the short term (1-7 years), the extant permission for a Strategic Housing Development (Ref. ABP-307221-20) at the Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8 would be implemented. The effect would be as per the post mitigation effects outlined in the

Material Assets Built Services chapter included in the EIAR that accompanied that application which concluded as follows for the demolition and construction phase;

“Taking into account the above-mentioned mitigation measures which are designed to avoid and prevent any adverse issues arising during construction, any residual effects on the built services during the construction phase is considered to be brief in nature and imperceptible, where supply is unavoidably disrupted to facilitate the construction phase.”

For the operational phase, the following effects were concluded

Based on the advice of Irish Water that the existing water supply network has capacity to cater for the development water demand without network upgrades and the above-mentioned mitigation measures, the residual effect to the water supply infrastructure from the operational phase will be neutral, imperceptible and long term.

Based on the advice of Irish Water that the existing combined sewer network has capacity to cater for the development foul water flows without network upgrades, the fact that surface water discharge from the site will be removed from the combined sewer network, along with the above-mentioned mitigation measures, the effect on the combined sewer network will be long term, imperceptible and neutral.

Based on the advice of Dublin City Council Drainage Department that the existing surface water network has capacity to cater for the development surface water flows without network upgrades and the above-mentioned mitigation measures, the residual effect to the surface water drainage infrastructure from the operational phase will be neutral, imperceptible and long term.

All excavations will be fully reinstated to the requirements of ESB and GNI Networks ensuring there are no residual impacts to the infrastructure.

The Board in their decision concluded;

“Material Assets-Services impacts which will be mitigated by consultation with relevant service providers...”

7.7 Difficulties Encountered

7.7.1 Water Supply

None.

7.7.2 Wastewater Drainage

None.

7.7.3 Surface Water Drainage

Due to the local authority records not being entirely accurate, an extensive amount of surveying was required to establish the exact, size, location, condition, and flow paths of the existing Dublin City Council drainage assets. The poor condition of some of these assets further inhibited some of the survey works. However, detailed inspections of the existing surface water infrastructure in the area were carried out by Murphy Surveys and Dyno-rod across 2019 and 2020. Each of these surveys were attended by the author of this section, Mr. Ciarán O'Rafferty. This provided an informed basis for the assessment of existing assets and design for the proposed new surface water drainage system.

7.7.4 Electricity

None.

7.7.5 Gas

The gas utility map identified a medium pressure gas main which routes adjacent to the development and appears to be an additional supply to the Combe hospital. Gas networks Ireland were unable to confirm if this was a live main. An application has been made to Gas Networks Ireland and they are investigating. This was identified and raised as a risk item which will be monitored during the project.

7.7.6 Telecommunications

Though the consultation process with the telecommunications providers positive responses were received from Eir and Virgin. However, despite multiple attempts no response has been received from Sky. This is identified as a potential risk and will be monitored during the project.

7.8 Potential Significant Effects

7.8.1 Demolition and Construction Phase

7.8.1.1 Water Supply – Direct/Indirect

Accidental spills of harmful substances such as petrol/diesel or oil during the delivery and storage of harmful substances or by leakages from construction machinery may be washed into the water supply system, causing contamination/pollution. Even in the absence of the mitigation measures, the likely effects are local, not significant, and temporary in duration.

The water demand during construction will be significantly less than that required for the development in operational phase. Irish Water have carried out an assessment of the operational phase water demand through the Pre-Connection Enquiry process and confirmed the feasibility of a connection without any upgrade requirements to the public water supply system to facilitate that connection. The letter of Confirmation of Feasibility is contained in **Appendix 7.1** (Volume III of the EIAR). Therefore, the effect of increased water demand during the operational phase when compared to the demand during construction, while likely, will be neutral, imperceptible, and short term.

In making the new watermain connections to the existing public water supply system and indeed the diverted connection from the Coombe hospital to the replacement watermain, there is the potential for a disruption to water supply in the area. This disruption would be brief, localised between adjacent sluice valves and not significant.

7.8.1.2 Foul Drainage – Direct/Indirect

During the construction phase, the foul flows generated on site will be discharged into the public sewer through one of the existing connections at the development site. The wastewater discharge during the construction phase will be significantly less than the wastewater volumes calculated for the development in the operational phase. Irish Water have carried out an assessment of the operational phase foul discharge rates through the Pre-Connection Enquiry process and confirmed a feasibility of a connection without any upgrade requirements to the public sewage system to facilitate that connection. The letter of Confirmation of Feasibility is contained in **Appendix 7.1** (Volume III of the EIAR). Thus, the likely effect on the local public combined sewer network would be imperceptible, short term and neutral effect.

There is a risk of the following occurring during the construction stage:

- Mobilisation of sediments and harmful substances during the construction phase, due to exposed soil and earth movement, which may be flushed into the foul drainage system during rainfall events.
- Accidental spills of harmful substances such as petrol or oil during the delivery and storage of harmful substances or by leakages from construction machinery.
- Discharge of untreated ground water to public foul network due to failure of treatment plant.

7.8.1.3 Surface Water Drainage – Direct/Indirect

Demolition of the existing buildings and hardstand will result in an immediate reduction in surface water discharge to the combined sewer network. This will have a positive, imperceptible, likely, and temporary in duration effect.

There is a risk of the following occurring during the construction stage:

- Mobilisation of sediments and harmful substances during the construction phase, due to exposed soil and earth movement, which may be flushed into the surface water drainage system during rainfall events.
- Accidental spills of harmful substances such as petrol or oil during the delivery and storage of harmful substances or by leakages from construction machinery.
- Discharge of untreated ground water to public surface water network due to failure of treatment plant.

7.8.2 Operational Phase

7.8.2.1 Water Supply – Direct/Indirect

The water consumption is a function of the usage of the development. The volume has been calculated based on the Irish Water Code of Practice for Water Infrastructure.

The proposed potable water demand is calculated as follows:

7.8.2.1.1 BG1 Watermain Demand Summary

| <u>Development Mix</u> | <u>Units</u> | <u>Daily Flow</u> <u>(l/day)</u> | <u>Average Flow</u> <u>(l/s)</u> | <u>Peak Flow</u> <u>(l/s)</u> |
|-------------------------|-------------------|-------------------------------------|-------------------------------------|----------------------------------|
| Residential & Ancillary | 151 Units | 76500 | 0.889 | 4.427 |
| Childcare | 74 Persons | 4625 | 0.054 | 0.270 |
| Commercial | 322m ² | 1913 | 0.022 | 0.110 |

Table 7.1 BG1 Water Demand Calculation

7.8.2.1.2 BG2 Watermain Demand Summary

| <u>Development Mix</u> | <u>Units</u> | <u>Daily Flow</u> <u>(l/day)</u> | <u>Average Flow</u> <u>(l/s)</u> | <u>Peak Flow</u> <u>(l/s)</u> |
|-------------------------|-------------------|-------------------------------------|-------------------------------------|----------------------------------|
| Residential & Ancillary | 89 Units | 45188 | 0.523 | 2.615 |
| Commercial | 163m ² | 1013 | 0.012 | 0.060 |

Table 7.2 BG2 Water Demand Calculation

7.8.2.1.3 BG3 Watermain Demand Summary

| <u>Development Mix</u> | <u>Units</u> | <u>Daily Flow</u> <u>(l/day)</u> | <u>Average Flow</u> <u>(l/s)</u> | <u>Peak Flow</u> <u>(l/s)</u> |
|-------------------------|--------------|-------------------------------------|-------------------------------------|----------------------------------|
| Residential & Ancillary | 52 Units | 26438 | 0.306 | 1.530 |

Table 7.3 BG3 Water Demand Calculation

7.8.2.1.4 BG4 Watermain Demand Summary

| <u>Development Mix</u> | <u>Units</u> | <u>Daily Flow</u> (l/day) | <u>Average Flow</u> (l/s) | <u>Peak Flow</u> (l/s) |
|-------------------------|--------------|------------------------------|------------------------------|---------------------------|
| Residential & Ancillary | 49 Units | 24938 | 0.289 | 1.443 |

Table 7.4 BG4 Water Demand Calculation

7.8.2.1.5 BG5 Water Demand Summary

| <u>Development Mix</u> | <u>Units</u> | <u>Daily Flow</u> (l/day) | <u>Average Flow</u> (l/s) | <u>Peak Flow</u> (l/s) |
|-------------------------|--------------|------------------------------|------------------------------|---------------------------|
| Residential & Ancillary | 4 Units | 2063 | 0.024 | 0.119 |

Table 7.5 BG5 Water Demand Calculation

7.8.2.1.6 Total Water Demand

| <u>Development Mix</u> | <u>Units</u> | <u>Daily Flow</u> (l/day) | <u>Average Flow</u> (l/s) | <u>Peak Flow</u> (l/s) |
|-------------------------|-------------------|------------------------------|------------------------------|---------------------------|
| Residential & Ancillary | 345 Units | 174750 | 2.031 | 10.134 |
| Childcare | 74 Persons | 4625 | 0.054 | 0.270 |
| Commercial | 485m ² | 2925 | 0.034 | 0.170 |
| Total | - | 182300 | 2.119 | 10.574 |

Table 7.6 Total Water Demand

A Pre-Connection Enquiry Application was submitted to Irish Water for the proposed development with a proposed connection location to the public watermain in the vicinity of the site. Irish Water issued a letter, confirming the feasibility of a connection based on a water demand slightly larger than the final water demand outlined above, without a requirement for network upgrades. Irish Water subsequently reviewed the design documents for the proposed new watermain within the development and issued a Statement of Design Acceptance. Both letters are contained in **Appendix 7.1** (Volume III of the EIAR). On the basis of Irish Water's review of the design and confirmation of feasibility of supply for same, the operational effect of the proposed development on the water supply network is considered to be neutral, imperceptible, and long-term.

7.8.2.2 Foul Water Drainage – Direct/Indirect

The foul water discharge is a function of the usage of the development. The volume has been calculated based on the Irish Water Code of Practice for Wastewater Infrastructure.

The proposed foul water flows are calculated as follows:

7.8.2.2.1 BG1 Foul Network Summary

| Development Mix | Units | Daily Flow (l/day) | Average Flow (l/s) | Peak Flow (l/s) |
|--------------------------|-------------------|--------------------|--------------------|-----------------|
| Residential Ancillary | &151 Units | 67320 | 0.779 | 3.506 |
| Childcare | 74 Persons | 4070 | 0.047 | 0.212 |
| Commercial | 322m ² | 1683 | 0.019 | 0.086 |

Table 7.7 BG1 Foul Flow Calculation

7.8.2.2.2 BG2 Foul Network Summary

| Development Mix | Units | Daily Flow (l/day) | Average Flow (l/s) | Peak Flow (l/s) |
|--------------------------|-------------------|--------------------|--------------------|-----------------|
| Residential Ancillary | &89 Units | 39765 | 0.460 | 2.071 |
| Commercial | 163m ² | 891 | 0.010 | 0.045 |

Table 7.8 BG2 Foul Flow Calculation

7.8.2.2.3 BG3 Foul Network Summary

| Development Mix | Units | Daily Flow (l/day) | Average Flow (l/s) | Peak Flow (l/s) |
|--------------------------|-----------|--------------------|--------------------|-----------------|
| Residential Ancillary | &52 Units | 23265 | 0.269 | 1.212 |

Table 7.9 BG3 Foul Flow Calculation

7.8.2.2.4 BG4 Foul Network Summary

| Development Mix | Units | Daily Flow (l/day) | Average Flow (l/s) | Peak Flow (l/s) |
|--------------------------|-----------|--------------------|--------------------|-----------------|
| Residential Ancillary | &49 Units | 21945 | 0.254 | 1.143 |

Table 7.10 BG4 Foul Flow Calculation

7.8.2.2.5 BG5 Foul Network Summary

| Development Mix | Units | Daily Flow (l/day) | Average Flow (l/s) | Peak Flow (l/s) |
|--------------------------|----------|--------------------|--------------------|-----------------|
| Residential Ancillary | &4 Units | 1815 | 0.021 | 0.095 |

Table 7.11 BG5 Foul Flow Calculation

7.8.2.2.6 Total Foul Discharge

| Development Mix | Units | Daily Flow (l/day) | Average Flow (l/s) | Peak Flow (l/s) |
|-----------------------|-------------------|--------------------|--------------------|-----------------|
| Residential Ancillary | 345 Units | 153780 | 1.783 | 8.027 |
| Childcare | 74 Persons | 4070 | 0.047 | 0.212 |
| Commercial | 485m ² | 2574 | 0.029 | 0.131 |
| Total | | 160424 | 1.859 | 8.363 |

Table 7.12 Total Foul Flow

A Pre-Connection Enquiry Application was submitted to Irish Water for the proposed development with a proposed connection to the public combined sewer in the Donore Avenue. Irish Water issued a letter confirming the feasibility of a connection based on wastewater flows slightly larger than the final design flows outlined above, without a requirement for network upgrades. Irish Water subsequently reviewed the design documents for the proposed new foul sewers within the development and issued a Statement of Design Acceptance. Refer to **Appendix 7.1** (Volume III of the EIAR).

On the basis of Irish Water's review of the design and confirmation of feasibility of capacity for same, the operational effects of the proposed development on the foul sewer network are considered to be neutral, imperceptible, and long-term.

The removal of all surface water discharge from the combined sewer system will contribute to reduction of peak flows in the combined sewers and Ringsend WwTP during rainwater events. This will have a positive, moderate, and permanent effect.

7.8.2.3 Surface Water Drainage

Due to the presence of low permeability boulder clay soils on this site (see **Chapter 8, Land & Soils**), all areas outside of soft landscape zones will be positively drained, with all stormwater discharge directed to the stormwater culvert in Donore Avenue.

As noted in the Baseline Environment section, the existing Bailey Gibson area of the site is predominantly hardstand with approximately 95% of all surface water discharging to the combined sewers in the surrounding streets.

Removal of stormwater discharge from the combined sewer network will have positive, moderate, and long-term effects on the foul sewer network. Without mitigation measures to treat and attenuate surface water discharge to the surface water system, this would result in accumulation of silts and other debris within the surface water sewer network as well as high flows in high intensity rainfall events. The total drained area is circa 6.22 hectares which accounts for the Bailey Gibson site, Players Park and the multi-sport playing pitch along with future allowance for the DCC development site to the north west of the SDRA. Whilst the DCC site is not part of this application, the stormwater drainage network within that site will in any future development proposal connect with the stormwater sewers to be constructed between the Bailey Gibson site and the multi-sport playing pitch. Considering a 50mm/hr rainfall intensity, approximately equivalent to a 2Year ARI peak intensity event, with a runoff

coefficient of 0.9, over a drained area of 6.22 hectares, this equates to a discharge rate of 777l/s. New development discharge rates are limited to 2l/s/ha or QBar, whichever is greater. For this site, this equates to 28.3l/s. Hence, in the absence of mitigation measures to treat and limit the rate of discharge of stormwater, the effect on the public surface water drainage network will be negative, moderate, and long-term.

7.8.2.4 Electricity

The Proposed Development will require electricity supplies during the operational phase of the scheme and these will be provided by the installation of new sub-stations within the development and the decommissioning of the existing sub-station based on its current location all in agreement with ESB Networks. As the new cable services will be located underground, this will result in a permanent but imperceptible effect.

The likely impact from the operational phase on the electricity supply network is likely, of long term and positive effect as key infrastructure is provided to the neighbourhood.

The indirect impact will allow ESB Networks to provide additional resilience in their network through the provision of new Sub-Stations (Assuming agreement with ESB Networks) which in turn should have a slight permanent impact of positive effect on the wider area's electrical infrastructure.

7.8.2.5 Gas

The Proposed Development will require gas supplies during the operational phase of the scheme and these will be provided by the installation of new connections to the development site. As the new services will be located underground this will result in a permanent but imperceptible effect. The operational impact of the proposed development is considered to be neutral, imperceptible, and long-term.

7.8.2.6 Telecommunications

The Proposed Development will require telecommunication connections during the operational phase of the scheme and given the number of telecommunication providers with infrastructure available within the area, this will provide the building users with a greater choice of service and will result in a positive effect for the end users. As the new services will be located underground this will result in an imperceptible impact of long term and positive effect.

The additional demand on the telecoms network is not deemed to have any material impact on the surrounding area as there is sufficient capacity in the telecoms network system to manage the additional demand created by the development. The likely impact from the operational phase on the telecoms network is likely to be imperceptible impact of long term and neutral effect.

7.8.3 Cumulative

7.8.3.1 Water Supply

The proposed development water demand on the Irish Water supply network has been assessed by Irish Waters' Developer Services and Capital Needs Assessment teams as part of the Pre-Connection Enquiry process. The assessment uses a model of the Dublin area water supply network. Through the pre-connection enquiry process, Irish Water assess the feasibility of a connection for all proposed developments prior to granting a connection to their system or deciding on whether network upgrades are required to facilitate same. Where high demand is placed on the Irish Water network from individual or an accumulation of developments which cannot be catered for by the network, Irish Water will advise this in their pre-connection enquiry response, citing that either network upgrades are necessary to facilitate the water demand of the proposed development, or potentially, that the scale of development cannot be catered for without large scale upgrades to the network. Irish Water have provided confirmation of feasibility through the Pre-Connection Enquiry process (**Appendix 7.1** (Volume III of the EIAR)) that the proposed development can be catered for within the capacity of the current water supply network. However, Irish Water have advised through two subsequent Pre-Connection Enquiries for future proposed developments directly adjacent to the development site, that watermain extensions and upgrades will be required within both Donore Avenue and the South Circular Road. These watermain upgrade will be designed by Irish Water and constructed by Irish Water's regional contractor. During the construction works for the new watermain, there will be some disruption of traffic flows on Donore Avenue and the South Circular Road. Hence, it can be concluded that the cumulative effects are negative, not significant, local and short term.

7.8.3.2 Foul Water Drainage

This section assesses the potential cumulative effects with Ringsend Wastewater Treatment Plant arising from the Proposed Development and other developments, including future developments.

7.8.3.2.1 The Ringsend Wastewater Treatment Plant

The 2012 Ringsend Wastewater Treatment Plant application for planning permission (Ref. PL.29N.YA0010) was for a population equivalent of 2.04 million and was predicated on the findings of the 2005 Greater Dublin Strategic Drainage Study (GDSDS). The GDSDS set out the drainage requirements for the Greater Dublin Area (GDA) up to 2031. The GDSDS relied on the Regional Planning Guidelines (RPGs) and the National Spatial Strategy (NSS) in order to estimate the future projected population increases for the GDA. The studies indicated a predicted growth in population from 1.2 million in 2002 to just over 2 million in 2031 for the GDA region. The permitted 2019 revised upgrade planning permission (Ref. ABP-301798-18) for Ringsend Wastewater Treatment Plant was for a population equivalent of 2.4 million. The upgrade works are underway, with, according to the latest available information, the first phase which includes a 460,000 PE extension for the plant, to be complete in the second half of 2023. The full upgrade works to cater for a population equivalent of 2.4 million are planned to be completed in 2025.

Both applications were subject to EIA and therefore accompanied by an EIAR. Additionally, both applications were accompanied by an AA screening report and a NIS (though it appears that only parts of the 2012 application were screened out for AA).

Under the heading of "Potential impact – Discharge of treated effluent, impacts on water quality, effects on qualifying interests", the NIS for the Ringsend Wastewater Treatment Plant 2019 revised upgrade provides as follows:

"In the operational phase, the proposed upgrade of the Ringsend WwTP Component will result in an increase in the plant capacity and also an improvement in the final effluent quality. This will result in a reduction in the licensed parameters discharged into the receiving water, with significantly reduced quantities in respect of ammonia and phosphorous."

This NIS goes on to state as follows:

"Overall, no significant adverse effects on are foreseen and indeed, a slight positive effect is possible. Effects of discharge during the operational phase of the project from the upgrade project will therefore have imperceptible impact on habitats listed within these European sites."

In respect of this issue, the NIS concludes as follows:

"Thus, there is no potential for in-combination impacts of any other plan and project with the Ringsend WwTP Component of the proposed Upgrade Project."

In effect, the impact of the Proposed Development and predicted future development has already been assessed as part of the application process for the existing planning permissions pertaining to Ringsend Wastewater Treatment Plant.

7.8.3.2.2 The contribution from the Proposed Development

Notwithstanding the above, on an individual basis, the Proposed Development, contributing less than 0.1% of the population equivalent of the total catchment of the Ringsend WwTP, will have an imperceptible impact of neutral effect on the wastewater capacity, in terms of flows, relative to the total amount of wastewater currently being received at Ringsend Wastewater Treatment Plant.

In support of this view, Irish Water has provided a Confirmation of Feasibility Letter and Statement of Design Acceptance for the foul sewer design of the Proposed Development. Copies of both are provided within **Appendix 7.1** (Volume III of the EIAR). Irish Water is in control of this infrastructure and the purpose of the Confirmation of Feasibility Letter and Statement of Design Acceptance is to confirm the viability of the Proposed Development with respect to its potential effect on the capacity of Ringsend Wastewater Treatment Plant as the receiving infrastructure.

By providing a Confirmation of Feasibility Letter and Statement of Design Acceptance, Irish Water has confirmed that, based on current projected infrastructure, the Proposed Development can be accommodated within the drainage network.

7.8.3.2.3 Adjacent Development Sites within SDRA 12

The development site forms part of SDRA 12. There is a possibility that adjacent development sites, in combination with the proposed development, could impact the capacity of the local foul water drainage network. However, Irish Water have already reviewed the proposed foul flow calculations for the proposed development, the permitted Player Wills development and the proposed development of the adjacent DCC owned land within the SDRA and confirmed that all developments can be catered for without network upgrades in the area. Therefore, it is considered that the cumulative impact of the proposed development on wastewater infrastructure will not be significant, with neutral long-term effects.

The policies of Irish Water and Dublin City Council for the provision of separate foul and surface water drainage systems, as well as the provision of sustainable drainage systems to treat and attenuate surface water discharge in new developments, shall result in a cumulative significant reduction in stormwater discharge to the wastewater infrastructure in rainfall events, resulting in a moderate, positive, long-term effect, particularly in this brown field area.

7.8.3.3 Surface Water Drainage

The policies of Irish Water and Dublin City Council for the provision of separate foul and surface water drainage systems for all proposed developments, will result in a cumulative increase in flows within the surface water network due to the gradual removal of those flows from the combined sewerage network. The provision of sustainable drainage systems to treat and attenuate surface water discharge in new developments to replicate pre-development flows, shall ensure that the cumulative effect on the surface water infrastructure is neutral, imperceptible and long term. In the absence of mitigation measures to treat and limit the rate of discharge of stormwater, the effect on the public surface water drainage network would be negative, moderate, and long-term.

7.8.3.4 Electricity

The development site forms part of SDRA 12. There is a possibility that the proposed developments as well as other nearby development sites, could impact the availability of electricity supply. The ESB have already reviewed the proposed demand requirements of both the Bailey Gibson and Player Wills sites. Subsequently, the ESB have confirmed that this development, as well as the proposed Player Wills development can be catered for without network upgrades in the area. The ESB review the electrical demand requirements for all proposed developments and confirm if the public network has capacity to cater for same, with or without network upgrades, prior to connection to the public network. Therefore, it is considered that the cumulative impact of the proposed development on electricity supply infrastructure will not be significant, with neutral long-term effects.

7.8.3.5 Gas

The development site forms part of SDRA 12. There is a possibility that the proposed developments as well as other nearby development sites, could impact the availability of gas supply. Player Wills site is a similar scheme to ours with a low gas demand and Gas Networks have confirmed there is sufficient gas available in the area. Therefore, it is considered that the cumulative impact of the proposed development on gas supply infrastructure will not be significant, with neutral long-term effects.

7.8.3.6 Telecommunications

The development site forms part of SDRA 12. Both Eir and Virgin have been contacted and utility maps received along with dialog with the communications companies show that there is adequate telecoms provision in in street for the proposed development. Therefore, it is considered that the cumulative impact of the proposed development on the telecom's infrastructure will not be significant, with neutral long-term effects.

7.8.4 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|-----------------|--------|-------------|------------|--------|
| Contamination of local water supply from new construction stage connections | Negative | Not Significant | Local | Unlikely | Brief | Direct |
| Contamination of local water supply from spills of harmful substances | Negative | Not Significant | Local | Unlikely | Temporary | Direct |
| Silts in water supply system | Negative | Not Significant | Local | Likely | Temporary | Direct |
| Increased water demand over existing | Neutral | Imperceptible | Local | Likely | Short term | Direct |
| Increased Foul flows | Neutral | Imperceptible | Local | Likely | Short term | Direct |
| Contamination of local foul drainage system from spills of harmful substances | Negative | Not Significant | Local | Unlikely | Temporary | Direct |
| Silts in foul water system | Negative | Not Significant | Local | Likely | Temporary | Direct |
| Untreated ground water discharge to foul drainage system | Negative | Not Significant | Local | Likely | Brief | Direct |
| Removal of stormwater discharge to combined sewers | Positive | Moderate | Local | Likely | Temporary | Direct |
| Contamination of local surface water drainage system from spills of harmful substances | Negative | Not Significant | Local | Unlikely | Temporary | Direct |
| Silts in surface water system | Negative | Not Significant | Local | Likely | Temporary | Direct |
| Untreated ground water discharge to surface water drainage system | Negative | Not Significant | Local | Likely | Brief | Direct |
| Increased electrical demand over existing | Neutral | Imperceptible | Local | Likely | Short term | Direct |
| Increased telecommunication demand over existing | Neutral | Imperceptible | Local | Unlikely | Short term | Direct |

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|-----------------|--------|-------------|------------|--------|
| Temporary Disruption to water supplies during connection and upgrade works | Negative | Not Significant | Local | Likely | Short Term | Direct |

Table 7.13 Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation

The Table below summarises the identified likely significant effects during the operational phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|----------|-----------------|--------|-------------|-----------|------------|
| Increased Water Demand | Neutral | Imperceptible | Local | Likely | Long-term | Direct |
| Increased Foul Flows | Neutral | Imperceptible | Local | Likely | Long-term | Direct |
| Removal of surface water flows from the combined sewer system | Positive | Moderate | Local | Likely | Long-term | Direct |
| Availability of Sky telecommunication provider in the area | Neutral | Not significant | Local | Un-Likely | Long-term | Direct |
| Cumulative increase in water demand from the development site and other nearby developments | Neutral | Not significant | Local | Likely | Long-term | Cumulative |
| Cumulative increase in foul flows from the development site and other nearby developments | Neutral | Not significant | Local | Likely | Long-term | Cumulative |
| Cumulative removal of stormwater discharge to combined sewers from the development site and other nearby developments | Positive | Moderate | Local | Likely | Long-term | Cumulative |
| Cumulative increase in surface water flows to surface water drains | Neutral | Slight | Local | Likely | Long-term | Cumulative |
| Increased Electrical Demand | Neutral | Imperceptible | Local | Likely | Long-term | Direct |
| Increased Gas Demand | Neutral | Imperceptible | Local | Likely | Long-term | Direct |
| Increased telecommunication demand | Neutral | Imperceptible | Local | Likely | Long-term | Direct |
| Cumulative increase in Electrical demand from the SDRA and other nearby developments | Neutral | Not significant | Local | Likely | Long-term | Cumulative |

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|---------|-----------------|--------|-------------|-----------|------------|
| Cumulative increase in Gas Demand from the SDRA and other nearby developments | Neutral | Not significant | Local | Likely | Long-term | Cumulative |
| Cumulative increase in telecommunication demand from the SDRA and other nearby developments | Neutral | Not significant | Local | Likely | Long-term | Cumulative |

Table 7.14 Summary of Operational Phase Likely Significant Effects in the absence of mitigation

7.9 Mitigation

Remedial and mitigation measures describe any corrective measures that are either practicable or reasonable, having regard to the potential effects discussed above. This includes avoidance, reduction, and remedy measures to reduce or eliminate any significant adverse effects identified.

7.9.1 Incorporated Design Mitigation

The design has been prepared based on relevant codes of practice, design guidance and in consultation with relevant local and statutory authorities to ensure best practice design, considering the effect on local and wider network for water supply, foul and surface water drainage, gas supply, electrical network, and telecommunication network.

The development will be constructed to the Part L Near Zero Energy Building (NZEB)¹ standard which will result in an improved thermal performance along with the incorporation of renewable technology, the demand on infrastructure (gas and electricity) will thus be reduced.

7.9.2 Construction Phase Mitigation

The Construction Environmental Management Plan (CEMP) submitted under separate cover incorporates a range of integrated control measures and associated management activities with the objective of mitigating the effect of the proposed developments on-site construction activities. The mitigation measures set out below are deemed adopted for the purpose of the CEMP and the appointed contractor will be contractually required to adhere to them.

7.9.2.1 Water Supply

Appropriate construction methodology as outlined in Irish Water – Code of Practice for Water Infrastructure, relating most specifically to quality control in material handling, laying, system testing, making new connections and record keeping will be employed to ensure against contamination risk of the local water supply and all watermain connection works shall be carried out by the Irish Water accredited regional contractor.

Where new water supply connections will temporarily cause supply interruptions, to minimise the number of affected properties, the interruptions will be limited to the nearest sluice valve on the existing main either side of the new connection. Affected properties shall be notified in advance of the interruption to allow for stockpiling as required. To minimise the length of the

¹ Building Regulations 1997 to 2020

any disruption, the final connection will be last piece of infrastructure to be put in place such that the main may be put into service again as quickly as possible.

To avoid contamination of the local water supply and leaks in the system, all watermains will be tested in accordance with Irish Water Code of Practice for Water Infrastructure.

7.9.2.2 Wastewater Drainage

To prevent the ingress of ground water, all new sewers shall be tested and surveyed and, where necessary, repaired or replaced in accordance with Irish Water Code of Practice for Wastewater prior to connection to the public system.

Any leakage from foul sewers will be cordoned off and contaminated effluent and soil collected and disposed of by a licenced contractor.

The connection of the new foul sewer to the public combined sewer network will be carried out by the Irish Water Regional Contractor.

To prevent untreated ground water discharge to the combined sewer system during construction of the basement, the Contractor will employ an on-site treatment system to treat ground water as necessary to meet Irish Water or Dublin City Council temporary discharge licence requirements. The treatment will incorporate ongoing testing in accordance with the conditions of the licence agreement and will be fitted with alarm and text alert systems to warn of system failures.

7.9.2.3 Surface Water Drainage

To prevent the ingress of ground water, all new sewers will be tested and surveyed and, where necessary, repaired in accordance with the Greater Dublin Area Regional Code of Practice for Drainage Works prior to connection to the public surface water system. To prevent untreated ground water discharge to the combined sewer system, the Contractor will employ an on-site treatment system to treat ground water as necessary to meet Irish Water or Dublin City Council temporary discharge licence requirements. The treatment will incorporate ongoing testing in accordance with the conditions of the licence agreement. Dewatering measures should only be employed where necessary. A method statement for all works to be carried out will be prepared by the Contractor and agreed with Dublin City Council prior to commencement of works to outline what measures are to be taken to ensure there is no loss of service during the works. Road sweeping and/or wheel wash facilities will be provided, as required. All oils/diesel stored on site for construction equipment are to be located in appropriately bunded areas. Filters and silt traps will be used to prevent rain washing silts and other materials into the surface water network and creating blockages.

7.9.2.4 Gas Supply

The locations of the gas network infrastructure relative to the proposed works will be confirmed as part of the Detailed Design Phase to mitigate the risk of a gas main hit before construction starts. Prior to excavation the Contractor will carry out additional site investigation, including slit trenches, as a mitigation, in order to determine the exact location of the gas network in close proximity to the works area. This will ensure that the underground gas network will not be damaged during the construction phase.

The Contractor will be obliged to put measures in place to ensure that there are no interruptions to existing services and all services and utilities are maintained unless this has been agreed in advance with Gas Networks Ireland (GNI).

All works in the vicinity of GNI infrastructure will be carried out in ongoing consultation with GNI and will be in compliance with any requirements or guidelines they may have including procedures to ensure safe working practices are implemented when working near live gas mains.

7.9.2.5 Telecommunication

The locations of the telecommunications network infrastructure relative to the proposed works will be confirmed as part of the Detailed Design Phase to mitigate the risk of damage to the telecoms infrastructure before construction starts. Prior to excavation the Contractor will carry out additional site investigation, including slit trenches, in order to determine the exact location of the telecommunications network in close proximity to the works area. This will ensure that the underground telecommunications network will not be damaged during the construction phase.

The Contractor will be obliged to put measures in place to ensure that there are no interruptions to existing services and all services and utilities are maintained unless this has been agreed in advance with the relevant telecommunication provider.

All works in the vicinity of the telecommunications providers infrastructure will be carried out in ongoing consultation with the relevant provider and will be in compliance with any requirements or guidelines they may have.

Where new services are required, the Contractor will apply to the relevant provider for a connection permit where appropriate and will adhere to their requirements to ensure safety of installation.

7.9.2.6 Electricity

The locations of the electricity network infrastructure relative to the proposed works will be confirmed as part of the Detailed Design Phase to mitigate the risk of damage to the electricity infrastructure before construction starts. Prior to excavation the Contractor will carry out additional site investigation, including slit trenches, in order to determine the exact location of the electricity network in close proximity to the works area. This will ensure that the underground electricity network will not be damaged during the construction phase

The Contractor will be obliged to put measures in place to ensure that there are no interruptions to existing services and all services and utilities are maintained unless this has been agreed in advance with ESB Networks.

All works in the vicinity of ESB Networks infrastructure will be carried out in ongoing consultation with ESB Networks and will be in compliance with any requirements or guidelines they may have including procedures to ensure safe working practices are implemented when working near live overhead/underground electrical lines.

7.9.3 Operational Phase Mitigation

7.9.3.1 Water Supply

Prior to completion of the defect liability period, a water audit will be carried out by Irish Water to ensure the construction is fully in compliance with Irish Water Code of Practice and standard details prior to taking in charge.

The site watermain system will be metered as directed by Irish Water to facilitate detection of leakage and prevent ongoing water loss.

7.9.3.2 Wastewater Drainage

Prior to completion of the defect liability period, a wastewater audit will be carried out by Irish Water to ensure the construction is fully in compliance with Irish Water Code of Practice and standard details prior to taking in charge.

Areas to be taken in charge as indicated on the submitted taking in charge drawing will be maintained by Irish Water. Areas to remain in the charge of the applicant (private side drainage) will be maintained on a scheduled basis as part of the building management plan.

7.9.3.3 Surface Water Drainage

The development has been designed in accordance with Dublin City Council Drainage Department's guidelines for planning applications, the recommendations of the Greater Dublin Regional Drainage Study (GDSDS) and Ciria Guide C753 – The SuDS Manual, to incorporate best practice Sustainable Drainage Systems. Sustainable Drainage Systems are a collection of water management practices that aim to align modern drainage systems with natural water processes. Integration of SuDS make urban drainage systems more compatible with components of the natural water cycle such as storm surge overflows, soil percolation, and bio-filtration, mitigating the effect human development may have on the natural water cycle, particularly surface runoff, and water pollution trends. In the context of this predominantly brownfield SDRA, the provision of the sustainable drainage systems including, green roofs to intercept, filter and attenuate surface water at roof level, tree pits to intercept, filter and attenuate surface water at grade and attenuation storage devices to limit peak discharge rates to the public surface water sewer to pre-development flows, as well as eliminate surface water discharge to the combined sewer network, will result in a significant improvement on the public drainage system, from existing conditions. This will constitute a positive, imperceptible, and permanent impact.

All sustainable drainage systems will be either maintained by the applicant or, where taken in charge, by the local authority. Regular maintenance of the SuDS systems will maintain their function of treating surface water prior to discharge. This will prevent silt build-up and other contaminant discharge to the surface water network. Regular maintenance of the attenuation storage and flow control device will maintain controlled discharge of stormwater in rainfall events and prevent inundation of the surface water system.

7.9.3.4 Gas Supply

The gas demands during the operational phase on the existing gas network are considered to be low due to the NZEB energy efficient design, thermal performance of the buildings and the use of renewable technology to reduce the heating demand. The apartment heating system is

proposed to be exhaust air heat pump which does not require gas. The gas demand will be in the form of the ground floor retail units and it is predicted that this gas demand will be small.

7.9.3.5 Telecommunication

The design and construction of the required Telecommunication services infrastructure in accordance with the relevant guidelines and codes of practice is likely to mitigate any potential service outage impacts during the operational phase of the development, with the exception of any routine maintenance of the site services.

7.9.3.6 Electricity

The power demands during the operational phase on the existing electricity network are considered to be imperceptible due to the energy efficient design including LED lighting, high performance heating equipment.

The design and construction of the required electrical services infrastructure in accordance with the relevant guidelines and codes of practice is likely to mitigate any potential impacts during the operational phase of the development, with the exception of any routine maintenance of the site services.

7.10 Residual Impact Assessment

7.10.1 Demolition and Construction Phase

7.10.1.1 Water Supply

Taking into account the above-mentioned mitigation measures, which are designed to avoid and prevent any adverse issues arising during construction, any residual effects on the built services during the construction phase are considered to be brief in nature and imperceptible, where supply is unavoidably disrupted to facilitate the construction phase.

7.10.1.2 Wastewater Drainage

Taking into account the above-mentioned mitigation measures, which are designed to avoid and prevent any adverse issues arising during construction, any residual effects on the built services during the construction phase are considered to be brief in nature and imperceptible, where foul drainage services are unavoidably disrupted to facilitate the construction phase.

7.10.1.3 Surface Water Drainage

Taking into account the above-mentioned mitigation measures which are designed to avoid and prevent any adverse issues arising during construction, any residual effects on the built services during the construction phase is considered to be brief in nature and imperceptible, where surface water drainage service is unavoidably disrupted to facilitate the construction phase.

7.10.1.4 Electricity

Taking into account the above-mentioned mitigation measures which are designed to avoid and prevent any adverse issues arising during construction. Any residual impacts on the built services during the construction phase is considered to be temporary in nature and imperceptible, where service is unavoidably disrupted to facilitate the construction phase.

7.10.1.5 Gas Supply

Neutral Impact - Taking into account the above mentioned mitigation measures, there will be no residual impact to the gas mains following the construction phase. Any residual impacts on the built services during the construction phase is considered to be temporary in nature and imperceptible, where service is unavoidably disrupted to facilitate the construction phase

7.10.1.6 Telecommunications

Neutral Impact - Taking into account the above mentioned mitigation measures there will be no residual impact to the telecommunications infrastructure following the construction phase. Any residual impacts on the built services during the construction phase is considered to be temporary in nature and imperceptible, where service is unavoidably disrupted to facilitate the construction phase.

7.10.2 Operational Phase

7.10.2.1 Water Supply

Based on the advice of Irish Water that the existing water supply network has capacity to cater for the development water demand without network upgrades and the above-mentioned mitigation measures, the residual effect to the water supply infrastructure from the operational phase will be neutral, imperceptible, and long term.

7.10.2.2 Wastewater Drainage

Based on the advice of Irish Water that the existing combined sewer network has capacity to cater for the development foul water flows without network upgrades, the fact that surface water discharge from the site will be removed from the combined sewer network, along with the above-mentioned mitigation measures, the effect on the combined sewer network will be long term, imperceptible and neutral.

7.10.2.3 Surface Water Drainage

Based on the advice of Dublin City Council Drainage Department that the existing surface water network has capacity to cater for the development surface water flows without network upgrades and the above-mentioned mitigation measures, the residual effect to the surface water drainage infrastructure from the operational phase will be neutral, imperceptible, and long term.

7.10.2.4 Electricity

All excavations will be fully reinstated to the requirements of ESB Networks ensuring there are no residual impacts to the electrical infrastructure remaining on the site.

7.10.2.5 Gas Supply

All excavations will be fully reinstated to the requirements of GNI ensuring there are no residual impacts to the gas infrastructure remaining on the site.

7.10.2.6 Telecommunications

All excavations will be fully reinstated to the requirements of the relevant telecommunications provider ensuring there are no residual impacts to the telecoms infrastructure remaining on the site.

7.10.3 Cumulative

7.10.3.1 Water Supply

Based on the confirmation received from Irish Water that the existing water supply network in Donore Avenue and the South Circular Road will require a watermain upgrade/extension to facilitate future development within the SDRA, but that the design and construction of those upgrades in the public realm will be carried out by Irish Water or their regional contractor, the residual cumulative effect to the will be negative, not significant, and short term.

7.10.3.2 Wastewater Drainage

Irish Water have confirmed that the existing combined sewer network has capacity to cater for the proposed development foul flows without network upgrades, which is based on their assessment of the effect of the proposed development, existing combined sewers flows and all other known proposed development foul flows in combination. Additionally, surface water discharge to the combined sewer network from this and future developments will serve to reduce peak flow rates in the combined sewers in storm events. Overall, it is considered there is a cumulative, imperceptible, long-term effect.

7.10.3.3 Surface Water Drainage

Dublin City Council Drainage Department have confirmed that the existing surface water network has capacity to cater for the development surface water flows without network upgrades. All future developments are required to incorporate SuDS measure to treat and attenuate surface water discharge rates to 2l/s/ha or QBar. Along with the above-mentioned mitigation measures, the cumulative effect is considered to be positive, imperceptible, and long term.

7.10.3.4 Gas Supply

Based on the advice of GNI that the existing gas supply network has capacity to cater for the development gas demand without network upgrades and the above-mentioned mitigation measures, there should be no residual cumulative impact to the gas supply infrastructure. It has been identified that there is a medium pressure gas pipe that routes through the Dublin City Council lands which will need to be assessed. Gas networks Ireland have advised that this pipe could be diverted but is subject to a detailed review once the proposal for the DCC lands is known.

7.10.3.5 Electrical Supply

Based on the advice of ESB that the existing ESB network has capacity to cater for the developments electrical demand without network upgrades and the above-mentioned mitigation measures, there should be no residual cumulative impact to the electrical supply network.

7.10.3.6 Telecommunication

Based on the advice of the telecommunications providers that the existing networks have capacity to cater for the developments telecommunication demand without network upgrades and the above-mentioned mitigation measures, there should be no residual cumulative impact to the telecommunication supply infrastructure.

7.10.4 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development following the application of mitigation measures.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|----------|---------------|--------|-------------|----------|--------|
| Short-term disruption to water supply | Negative | Imperceptible | Local | Likely | Brief | Direct |
| Short-term disruption to wastewater or surface water drainage | Neutral | Imperceptible | Local | Unlikely | Brief | Direct |
| Short-term disruption to ESB supply to Rehoboth place | Neutral | Imperceptible | Local | Likely | Brief | Direct |

Table 7.15 Summary of Demolition & Construction Phase Effects Post Mitigation

The Table below summarises the identified likely significant effects during the operational phase of the proposed development post mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|---------------|--------|-------------|-----------|--------|
| Increase in water demand | Neutral | Imperceptible | Local | Likely | Long Term | Direct |
| Increase in foul water discharge flows | Neutral | Imperceptible | Local | Likely | Long Term | Direct |
| Reduction in stormwater discharge to combined sewers | Positive | Moderate | Local | Likely | Long Term | Direct |
| Attenuation of surface water discharge to surface water sewers | Positive | Imperceptible | Local | Likely | Long Term | Direct |
| Increase in electrical demand | Neutral | Imperceptible | Local | Likely | Long Term | Direct |
| Increase in gas demand | Neutral | Imperceptible | Local | Likely | Long Term | Direct |

Table 7.16 Summary of Operational Phase Effects Post Mitigation

7.11 Monitoring

7.11.1 Water Supply

All works shall be carried out in accordance with Irish Water Code of Practice for Water Infrastructure. Laying of watermains and testing of same will be in accordance with Irish Water standard details. The works shall be inspected on an ongoing basis during construction by both the applicant's engineers and Irish Waters' Area Engineer. Applicable testing shall be carried out prior to connection to the public watermains.

7.11.2 Wastewater Drainage

All works shall be carried out in accordance with Irish Water Code of Practice for Wastewater Infrastructure. Laying of foul sewers and testing of same will be in accordance with Irish Water standard details. The works shall be inspected on an ongoing basis during construction by both the applicant's engineers and Irish Waters' Area Engineer. Applicable testing shall be carried out prior to connection to the public combined sewer.

For the duration of ground water discharge to the public combined sewer or surface water system, a treatment regime with sample testing shall be employed to treat ground water to achieve acceptable discharge limits as set out in the discharge licence.

7.11.3 Surface Water Drainage

All works shall be carried out in accordance with The Greater Dublin Area Regional Code of Practice for Drainage Works. Laying of surface water sewers and testing of same will be in accordance with the standard details laid out in the same document. The works shall be inspected on an ongoing basis during construction by both the applicant's engineers and Dublin City council's Area Engineer. Applicable testing shall be carried out prior to connection to the public surface water sewer.

For the duration of ground water discharge to the public combined sewer or surface water system, a treatment regime with sample testing shall be employed to treat ground water to achieve acceptable discharge limits as set out in the discharge licence.

7.11.4 Electrical Supply

All works shall be carried out in accordance with ESB code of Practice for electrical Infrastructure. Laying of cables and testing of same will be in accordance with ESB standard details. The works shall be inspected on an ongoing basis during construction by both the applicant's engineers and ESB site Engineer. Applicable testing shall be carried out prior to connection to the electrical Grid.

7.11.5 Gas

All works shall be carried out in accordance with GNI code of Practice for gas Infrastructure. Laying of gas main and testing of same will be in accordance with GNI's standard details. The works shall be inspected on an ongoing basis during construction by both the applicant's engineers and the GNI's Area Engineer. Applicable testing shall be carried out prior to connection to the public network.

7.11.6 Telecommunication

All works shall be carried out in accordance with the relevant telecoms providers code of Practice. Laying of ducts and cables and testing of same will be in accordance with their standard details. The works shall be inspected on an ongoing basis during construction by both the applicant's engineers and relevant telecommunication provider. Applicable testing shall be carried out prior to connection to the network.

Interactions

Interactions are dealt with in Chapter 15 of this EIAR.

7.12 Summary of Mitigation & Monitoring

The Table below summarises the Demolition & Construction Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|--|---|--|
| Contamination of local water supply from new connections | Testing Prior to Connection to public network | Ongoing Inspections by IW and Applicants Engineers |
| Untreated Ground Water Discharge to Sewers | On site treatment system to meet discharge licence requirements. | Ongoing sampling, alarm systems in place for system failures |
| Silting of sewers | Filters and Silt traps, ground water treatment | Periodic Inspections during construction |
| Harmful substance discharge to sewers from temporary construction connections | Oils/diesels etc stored in bunded areas clear of wash down facilities | Periodic Inspections during construction |
| Impacting existing utility infrastructure during construction (gas / electrical / water) | Site survey prior to construction to identify below ground services. | Periodic Inspections during construction |
| Proximity of the medium pressure gas main to Bailey Gibson site | Site survey prior to construction to identify below ground services. | Periodic Inspections during construction |

Table 7.17 Summary of Demolition & Construction Phase Mitigation and Monitoring

The Table below summarises the Operational Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|--|--|--|
| Leakage and water loss from water supply system | Construction in accordance with IW COP. Metering of supply | Review and assessment of water meter readings. Water Audit by IW |
| Ground water ingress to combined sewers | Construction in accordance with IW COP. | Wastewater Audit by IW. Periodic inspections of system. |
| Silting/blocking of SuDS | Regular maintenance regime | Periodic inspections by responsible person/team. |
| Failure of SW flow control device | Regular maintenance regime | Periodic inspections by responsible person/team. |
| Failure of gas supply to building on flow control device | Regular maintenance regime | Periodic inspections by responsible person/team. |
| Future activity impacting the services routes around the development | Detailed as built drawings to be provided on hand over by the contractor | The landlord to review all works that might impact infrastructure in the future and to ensure safe procedures are followed |

Table 7.18 Summary of Operational Phase Mitigation and Monitoring

7.13 Conclusion

In relation to surface water drainage, foul drainage, and water supply, it has been demonstrated that the proposed development, which is designed in accordance with Irish Water Codes of Practice and the recommendations of the Greater Dublin Strategic Drainage Study, primarily in the provision of separate foul and surface water drainage systems and sustainable design principals to treat and attenuate surface water run-off, will not have significant negative environmental impacts. The proposed new development will eliminate stormwater discharge from the site to the public foul drainage system, resulting in a long-term positive impact on this system, particularly in high intensity rainfall events.

For ESB, gas and communications, it has been demonstrated that the proposed development will not require infrastructure upgrades to the services. These works will be carried out in accordance with the relevant standards and good practice codes and together with the mitigation measures above these works will have an overall positive effect to the area.

CHAPTER 8

LAND & SOILS

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|------------|--|-------------|
| 8 | Land & Soils..... | 8-3 |
| 8.1 | Introduction..... | 8-3 |
| 8.1.1 | Experience and Qualifications..... | 8-3 |
| 8.2 | Proposed Development..... | 8-3 |
| 8.2.1 | Aspects Relevant to this Chapter..... | 8-5 |
| 8.3 | Methodology | 8-5 |
| 8.3.1 | Relevant Legislation & Guidance | 8-5 |
| 8.3.2 | Site Investigations..... | 8-6 |
| 8.3.3 | Impact Rating | 8-6 |
| 8.3.4 | Consultation | 8-6 |
| 8.4 | Baseline Environment..... | 8-6 |
| 8.4.1 | Site Location and Layout..... | 8-6 |
| 8.4.2 | Soils and Sub Soils | 8-7 |
| 8.4.3 | Bedrock Geology | 8-15 |
| 8.5 | Do Nothing | 8-18 |
| 8.5.1 | No Project Scenario..... | 8-18 |
| 8.5.2 | Extant Bailey Gibson Permission..... | 8-18 |
| 8.6 | Difficulties Encountered | 8-18 |
| 8.7 | Potential Significant Effects | 8-18 |
| 8.7.1 | Demolition Phase | 8-18 |
| 8.7.2 | Construction Phase | 8-19 |
| 8.7.3 | Risk of Accidents or Major Disasters..... | 8-19 |
| 8.7.4 | Operational Phase..... | 8-20 |
| 8.7.5 | Cumulative | 8-20 |
| 8.7.6 | Summary | 8-22 |
| 8.8 | Mitigation..... | 8-23 |
| 8.8.1 | Incorporated Design Mitigation..... | 8-23 |
| 8.8.2 | Construction Phase Mitigation | 8-23 |
| 8.8.3 | Operational Phase Mitigation | 8-24 |
| 8.9 | Monitoring..... | 8-24 |

| | | |
|-------------|---|-------------|
| 8.10 | Residual Impact Assessment..... | 8-25 |
| 8.10.1 | Demolition Phase | 8-25 |
| 8.10.2 | Construction Phase | 8-25 |
| 8.10.3 | Operational Phase..... | 8-25 |
| 8.10.4 | Cumulative | 8-25 |
| 8.10.5 | Summary | 8-27 |
| 8.11 | Interactions..... | 8-28 |
| 8.12 | Summary of Mitigation & Monitoring | 8-29 |
| 8.13 | Conclusions..... | 8-30 |
| 8.14 | References and Sources..... | 8-31 |

Table of Figures

| | | |
|------------|--------------------------------------|------|
| Figure 8.1 | Site Location | 8-13 |
| Figure 8.2 | Existing site Layout | 8-14 |
| Figure 8.3 | Subsoils | 8-15 |
| Figure 8.4 | Bedrock Geology | 8-16 |
| Figure 8.5 | 2019 and 2020 Sample Locations | 8-17 |

Table of Tables

| | | |
|------------|--|------|
| Table 8.1 | Aliphatic and Aromatic Hydrocarbons exceeding S4UL limits at Bailey Gibson Site..... | 8-9 |
| Table 8.2 | Polycyclic Aromatic Hydrocarbons exceeding S4UL limits at Bailey Gibson Site | 8-10 |
| Table 8.3 | Metals exceeding S4UL limits in former Flats Complex Area..... | 8-12 |
| Table 8.4 | PAH exceeding S4UL limits in former Flats Complex Area | 8-12 |
| Table 8.5 | Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation | 8-22 |
| Table 8.6 | Summary of Operational Phase Likely Significant Effects in the absence of mitigation | 8-23 |
| Table 8.7 | Summary of Demolition & Construction Phase Effects Post Mitigation | 8-27 |
| Table 8.8 | Summary of Operational Phase Effects Post Mitigation | 8-28 |
| Table 8.9 | Summary of Demolition & Construction Phase Mitigation and Monitoring..... | 8-29 |
| Table 8.10 | Summary of Operational Phase Mitigation and Monitoring..... | 8-30 |

8 Land & Soils

8.1 Introduction

This chapter of the EIAR has been compiled using a combination of desk study and site investigations to establish the site conditions with respect to Land and Soils. It includes a description of the baseline site conditions, assesses the potential effects of the proposed development during the construction and operational phases on land and soils and outlines, where required, appropriate measures to mitigate and monitor such impacts.

8.1.1 Experience and Qualifications

The Soils and Geology Chapter has been prepared by Sean Moran of O'Callaghan Moran & Associates (OCM). Mr. Moran holds a Bachelor Degree in Geology and a Master's Degree in Hydrogeology and is a member of the Institute of Geologists of Ireland (P.Geol.) and the European Federation of Geologists (Eur. Geol.). Mr. Moran has over 32 years of experience in the field of Environmental Science including the preparation of Environmental Impact Assessments. He has been involved in the preparation of the Soils and geology sections of EIARs for large scale infrastructure projects including residential and commercial developments sites, railway and road infrastructure, windfarms and landfills throughout Ireland. He has also been involved in the assessment of EIAR Soils and Geology Sections on behalf of local authorities. Mr Moran prepared the EIS for the Waste License Applications for the Kinsale Road Landfill in 1995 and the Kyletalesha Landfill in 1999. Between 2007 - 2018 he has prepared soils and geology sections for EIS applications for quarry developments for Quirk's Quarry in Killorglin Co. Kerry, for Lacken Quarry in Belmullet Co Mayo, the Corbet Quarry in Galway and the DOK Quarry in Tipperary. In 2017 he prepared the EIAR for the extension of the Shannovale Quarry in Fourcuil Co. Cork. He prepared the soils and geology sections for the Ballylongford Windfarm in Co. Kerry in 2015, In 2016 Mr Moran prepared the soils, hydrology and hydrogeology assessments of ten peat bogs supplying the Edenderry Power plant as part of the EIA process for the development. Between 2007 and 2020 Mr. Moran has reviewed the soils and geology sections of over thirty applications for Windfarms on behalf of Cork County Council. Mr. Moran compiled the Soils and Geology and Water and Hydrology sections of the EIAR for the adjacent Player Wills site in 2020.

8.2 Proposed Development

This application relates to a proposed mixed-use strategic housing development (SHD) on a site of approx. 5.5 hectares in Dublin 8. It includes all of the former Bailey Gibson site and a small portion of the former Player Wills site, both of which are owned by the Applicant, CWTC Multi Family ICAV acting solely in respect of its sub fund DTBR SCR1 Fund. The balance of the proposed development site relates to land owned by Dublin City Council (DCC) known locally as the 'Boys Brigade pitch' and part of the St. Teresa's Gardens site, together with DCC controlled public roads.

The application area is predominately within Strategic Development Regeneration Area (SDRA) 12, St. Teresa's Gardens & Environs as identified in the Dublin City Development Plan 2016-2022. The part of the proposed development site not within SDRA 12 relate to

works proposed in the public roads surrounding the site, South Circular Road, Donore Avenue and Rehoboth Place.

A comprehensive description of the proposed development is set out in the Planning Statement. The Statutory Notices should also be referenced.

Briefly, it is proposed to demolish the existing vacant buildings and structures on the Bailey Gibson site to make way for development of 345 new homes across 5 blocks, BG 1 - BG 5, ranging in height from 2-7 storeys. The residential blocks will be contained within the Bailey Gibson site. The typology is predominantly apartments with 4 townhouses proposed in block BG5.

This is a mixed tenure scheme, with 292 units proposed as Build to Rent (BtR) across blocks BG1-BG3 and 53 units proposed as Build to Sell (BtS) in blocks BG4 and BG5. It is proposed to deliver 34 social and affordable homes as part of the overall total.

All apartments have private amenity space. At ground floor this is in the form of terraces and on upper levels, balconies. Each of BG1-BG4 have communal amenity areas either as a courtyard or podium area.

Tenant amenities and facilities are proposed in the BtR blocks and include a gym, co-working space, kitchen/lounge areas, concierge, and waste facilities.

Over 2 hectares of public open space including a multi-sport play pitch, a playground, 'St. Teresa's Playground', a boulevard, 'St. Teresa's Boulevard', a park, 'Players Park', a plaza, 'Rehoboth Plaza'.

The proposed non-residential uses include in blocks BG1 and BG2 commercial units that have the capacity to support daily living needs e.g., a shop, pharmacy and professional services. A creche with capacity for approx. 60 children. In block BG2 the design includes floorspace for a café/restaurant/bar.

In total there are 89 car parking spaces allocated to the proposed apartments and all are contained within the Bailey Gibson site. Apart from 1 space at podium level, the parking is contained within a basement. Additionally, 10 'Go Car' spaces are proposed at podium level for residents use only. Each of the 4 townhouses has 1 on-curtilage car parking space.

Visitor parking is at street level and the proposed sport pitch will be serviced separately by new spaces on the public roads. The scheme includes set down parking for the creche, a loading bay for deliveries and coach parking area.

Provision is made for disabled parking, electric vehicle charging, a car sharing scheme and motorcycle parking.

784 spaces are proposed for cycle parking including secure residents parking, visitor parking and spaces for cargo bicycles.

Other works include the development of a network of streets across the proposed development site that will link with other sites within SDRA 12 and into the wider street network of Dublin 8. Improvement works within existing local streets to facilitate access and safe movement.

Ancillary development works includes the construction of electricity substations, meter rooms, plant rooms at basement level, waste storage areas, solar photovoltaics, drainage, landscaping, and lighting.

8.2.1 Aspects Relevant to this Chapter

The development will result in the removal of made ground, natural subsoil and bedrock to establish services, foundations and form basement levels on the site. The basement layouts are shown on Drawings PL1100 (PW1 basement) and PL1198 and 1199 (PW2 basements) contained in the architectural suite of drawings that accompany this application.

8.3 Methodology

8.3.1 Relevant Legislation & Guidance

This chapter has been prepared having regard to the following guidelines;

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports – (EPA, 2022);
- Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements, Institute of Geologists of Ireland 2013.
- BIA Basement Development Policy Document - Version 1.1 and BIA Basement Development Guidance Document - Version 1.1, Dublin City Council 2020.

The assessment included detailed site inspections and investigations. Background information sources were used to establish the site history and baseline conditions. These sources included:

- Ordnance Survey of Ireland (OSI),
- The Environmental Protection Agency (EPA),
- Teagasc
- The Geological Survey of Ireland (GSI),
- The National Parks and Wildlife Service (NWPS),
- The Office of Public Works (OPW).

Detailed site investigations including the opening of trial pits, installation of boreholes, field and laboratory analysis of soils were completed. The investigation information was subsequently used to establish site specific baseline conditions of the land and soils. This was followed by an assessment of the potential significant effects of the proposed development during the construction and operational phases of the proposed development. An assessment of the potential cumulative impacts on land and soils of the proposed development and other proposed developments in the area was also undertaken.

8.3.2 Site Investigations

Site investigations designed and supervised by O'Callaghan Moran & Associates were in several phases between 2019 and 2020. The initial investigations of the Bailey Gibson site were completed in May and June 2019 and included the installation of twenty eight (28 no.) window sample boreholes, seven (7 no.) trial pits in May 2019 and two slit trenches (ST-EW A and ST-EWB).

Investigations were also completed in 2020 in the Players Park lands and in the Dublin City Council (DCC) lands to be converted into a multi-purpose playing pitch and public park in the northeast of the current proposed development area. These investigations included the opening of twelve (12 no.) trial pits, two (2 no.) window samples and four boreholes.

The findings of the site investigations are outlined in two O'Callaghan Moran Environmental Risk Assessment and Waste Characterisation Report completed in July 2019 and November 2020 which are included in Appendix 8.1 in Volume III of the EIAR.

8.3.3 Impact Rating

The description of effects on the environment is in line with Table 3.3 of the EPA Guidelines on the Information to be contained in Environmental Impact Assessment Reports, 2022 and reproduced in full in Chapter 1 of the EIAR.

8.3.4 Consultation

Consultation on the proposed development was completed between the Barrett Mahony Consulting Engineers (BMCE) and Dublin City Council. BMCE are the Civil and Structural Engineering Consultants with responsibility for the assessment of the existing drainage and proposed development drainage design. Details of the discussions are set out in Chapter 7.

8.4 Baseline Environment

8.4.1 Site Location and Layout

The site is located approximately 2.4 km southwest of Dublin city centre (**Figure 8.1**). It covers c. 4.74 hectares (ha) and comprises the former Bailey Gibson site which includes 10 buildings including warehousing and offices, a small portion of open green area that is part of the Player Wills site owned by the Applicant which is to be included in the 'Players Park' (0.048ha) and DCC lands to the east and northeast of the Bailey Gibson site which are currently open space but will be developed for a multi-purpose play pitch, a public park and internal street network.

The site is bounded to the north-west and north by the Coombe Hospital, to the north-east and east by open ground formerly playing fields (owned by DCC) and further east by the Player Wills site, to the west by residential dwellings, to the south by South Circular Road and further south residential dwellings. The development includes a corridor through the Dublin City Council lands to the east of the site through which surface water drainage from the site will run. The drainage will run through the Player Wills site to the east of the site and connect to the Irish Water Sewer on Donore Avenue (confirm). The lands in the northeast are currently open ground but were formerly occupied St Theresa's Gardens residential flats complex.

The site rises up slightly from South Circular Road but is generally flat with a slight gradient from west to east. The DCC lands are also flat and are currently unused. They were previously used as football pitches.

The existing site layout is shown on **Figure 8.2**. The Bailey Gibson site is accessed from the South Circular Road. The site was until 2019 used as a salvage.

There is a warehouse in the south-west of the site, which housed salvaged bar furniture. North of the warehouse is a single storey office building, with a visitors parking area to the east. North of the office building are a number of interconnected warehouses that occupy most of the northern section of the site.

There is a 10,000 litre steel oil storage tank in the open yard in the north-east of the site. The area around the tank is concrete paved, but it is in poor repair. The remainder of the north-eastern section of the site comprises an open yard where masonry stone, gravel, concrete rubble and empty 200 litre steel chemical storage drums are stored.

The more interconnected warehouses in the south-east of the site, were used primarily to store antiques and furniture. There was a spray painting operation and a paint store in the eastern end of the southernmost unit.

The lands immediately east of the Bailey Gibson site that will form the Player Park is currently open green area formerly part of the playing pitches, while the lands in the northeast of the site is open brownfield lands, formerly part of the St Theresa's Gardens Flats complex.

8.4.2 Soils and Sub Soils

The Teagasc subsoils map (**Figure 8.3**) indicates the site is covered by Made Ground underlain by Limestone till (TLs). The 2019 site investigations established that the open paved areas at the Bailey Gibson site are underlain by Made Ground comprising dark brown gravelly clay with occasional red brick fragments, ranging in thickness from c. 0.9 -1.2m.

The underlying Natural Ground comprises greyish brown silty gravelly CLAY with black angular limestone gravel, which is consistent with the Teagasc soils descriptions for glacial tills. The subsoils range in thickness from 3.5-4.5m below ground level (bgl) and is thicker in the east of the site.

While the soils and subsoils are generally uncontaminated across most of the site, the investigations established the presence of hydrocarbon contamination, which the laboratory analysis has identified as kerosene, between c0-2m below ground level across an area of c800m² around the above ground oil storage tank in the north-east of the site. It extends c 15m to the east and 25m to the north and south of the oil tank.

The 2020 site investigations in the proposed Players Park area east of Bailey Gibson and north east in the former flats complex established that these areas were also underlain by Made Ground comprising dark brown gravelly clay with occasional red brick fragments, ranging in thickness from c. 0.9 -1.8m.

The underlying Natural Ground comprises greyish brown silty gravelly CLAY with black angular limestone gravel, which is consistent with the Teagasc soil descriptions for glacial tills.

The subsoils in this area range in thickness from 5-6.5m below ground level (bgl) and is thicker in the east of the former Flats complex site.

8.4.2.1 Baseline Soil Quality

A site investigation comprising the installation of twenty eight (28 no.) window sample boreholes and seven (7 no.) trial pits was completed at the Bailey Gibson site by OCM in May 2019. The locations of the boreholes and trial pits are shown on **Figure 8.5**.

Ninety five soil samples were collected and analysed for a suite of parameters designed to facilitate an assessment of the environmental and human health risk and potentially hazardous properties of the soils, and also allow a determination of appropriate off-site management options based on the landfill Waste Acceptance Criteria (WAC) applied by landfill operators.

The testing suite included metals (arsenic, barium, cadmium, chromium, copper, mercury, molybdenum, nickel, lead, antimony, selenium and zinc), total organic carbon (TOC), BTEX (benzene, toluene, ethylbenzene and xylene) aliphatic and aromatic hydrocarbons, polychlorinated biphenyls (PCB), polyaromatic hydrocarbons (PAH) and asbestos. Leachate generated from the samples was tested for metals, chloride, fluoride, soluble sulphate, phenols, dissolved organic carbon (DOC), total dissolved solids (TDS).

The full laboratory reports are in the OCM report in **Appendix 8.1** (see Volume III) along with summary tables which include for comparative purposes the Land Quality Management/Chartered Institute of Environmental Health (LQM/CIEH) S4ULs Human Health Risk Assessment-Risk Levels (S4ULs). The S4ULs for residential end use with home grown produce were used to assess human health risk and **Tables 8.1** and **8.2** show the samples where the S4ULs were exceeded. Where limits are exceeded remedial measures are required to mitigate the risk posed.

The S4UL limits were only exceeded in three of the ninety five samples and were confined to the area where hydrocarbon contamination was identified in the upper 2m. Hydrocarbon odours were detected at boring WS-7 in the Made and Natural Ground between 0-2m below ground level (bgl) and in the Made Ground (0-1m bgl) in WS-9. These borings were in open areas close to the 10,000 litre above ground kerosene oil storage tank.

A further investigation comprising excavation of slit trenches, field screening using a Photo Ionisation Detector (PID) and the collection of eight additional soil samples was completed in June 2019 to delineate the extent of hydrocarbon contamination.

The samples from WS-7 1-2m and an adjacent slit trench sample ST-EWB 0.5-1.5m) exceeded the S4UL for aliphatic and aromatic hydrocarbons. The samples from TP-11 and WS-28 (0.1m) exceeded the S4UL for the PAH Dibenzo(ah)anthracene.

| Parameter | Units | ST-EWB | WS-7 | Residential with homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW] | | |
|-------------------------------------|-------|----------|---------|--|----------|---------|
| | | 0.5-1.5m | 1.0-2.0 | 1 % SOM | 2.5% SOM | 6 % SOM |
| Aliphatics | | | | | | |
| EC 5-6 | mg/kg | | < 1.0 | 42 | 78 | 160 |
| EC >6-8 | mg/kg | | 15 | 100 | 230 | 530 |
| EC >8-10 | mg/kg | | 880 | 27 | 65 | 150 |
| EC >10-12 | mg/kg | | 1,900 | 130 | 330 | 770 |
| EC >12-16 | mg/kg | | 2,100 | 1,100 | 2,400 | 4,300 |
| EC >16-35 | mg/kg | | 190 | 65,000 | 92,000 | 110,000 |
| EC >35-44 | mg/kg | | 540 | 65,000 | 92,000 | 110,000 |
| Total aliphatics C5-40 | mg/kg | | 7900 | NE | NE | NE |
| Aromatics | | | | | | |
| EC 5-7 | mg/kg | | < 1.0 | 70 | 140 | 300 |
| EC >7-8 | mg/kg | | < 1.0 | 130 | 290 | 660 |
| EC >8-10 | mg/kg | | 92 | 34 | 83 | 190 |
| EC >10-12 | mg/kg | | 45 | 74 | 180 | 380 |
| EC >12-16 | mg/kg | | 180 | 140 | 330 | 660 |
| EC >16-21 | mg/kg | | 53 | 260 | 540 | 930 |
| EC >21-35 | mg/kg | | 510 | 1,100 | 1,500 | 1,700 |
| EC >35-44 | mg/kg | | 300 | 1,100 | 1,500 | 1,700 |
| Total aromatics C5-40 | mg/kg | | 1,200 | NE | NE | NE |
| Aliphatics + Aromatics EC >44-70 | mg/kg | 2,400 | 9,100 | 1,600 | 1,800 | 1,900 |
| VOCs | | | | | | |
| MTBE | mg/kg | 0.012 | 0.012 | NE | NE | NE |
| Benzene | mg/kg | < 0.001 | < 0.001 | 0.087 | 0.17 | 0.37 |
| Toluene | mg/kg | < 0.001 | < 0.001 | 130 | 290 | 660 |
| Ethylbenzene | mg/kg | < 0.001 | < 0.001 | 47 | 110 | 260 |
| p-Xylene | mg/kg | < 0.001 | < 0.001 | 56 | 130 | 310 |
| m-Xylene | mg/kg | < 0.001 | < 0.001 | 59 | 140 | 320 |
| o-Xylene | mg/kg | < 0.001 | < 0.001 | 60 | 140 | 330 |

NE denotes Not Established

Table 8.1 Aliphatic and Aromatic Hydrocarbons exceeding S4UL limits at Bailey Gibson Site

| Parameter | Units | TP11 | WS-28 | Residential with homegrown produce LQM/CIEH Suitable 4 Use Levels (S4ULs) [mg/kg DW] | | |
|-----------------------|-------|---------|---------|--|----------|---------|
| | | 0.0-1.0 | 0.0-1.0 | 1 % SOM | 2.5% SOM | 6 % SOM |
| PAH MS | | | | | | |
| Naphthalene | mg/kg | 0.46 | 0.69 | 2.3* | 5.6* | 13* |
| Acenaphthylene | mg/kg | 1.1 | 0.30 | 170 | 420 | 920 |
| Acenaphthene | mg/kg | < 0.10 | 0.17 | 210 | 510 | 1,100 |
| Fluorene | mg/kg | 0.22 | 0.21 | 170 | 400 | 860 |
| Phenanthrene | mg/kg | 8.4 | 3.7 | 95 | 220 | 440 |
| Anthracene | mg/kg | 1.7 | 0.63 | 2,400 | 5,400 | 11,000 |
| Fluoranthene | mg/kg | 14 | 7.2 | 280 | 560 | 890 |
| Pyrene | mg/kg | 11 | 6.9 | 620 | 1,200 | 2,000 |
| Benzo(a)anthracene | mg/kg | 3.9 | 3.9 | 7.2 | 11 | 13 |
| Chrysene | mg/kg | 4.2 | 4.9 | 15 | 22 | 27 |
| Benzo(bk)fluoranthene | mg/kg | 4.4 | 5.0 | NE | NE | NE |
| Benzo(a)pyrene (only) | mg/kg | 0.86 | 1.9 | 2.2 | 2.7 | 3.0 |
| Indeno(123cd)pyrene | mg/kg | 1.9 | 2.9 | 27 | 36 | 41 |
| Dibenzo(ah)anthracene | mg/kg | 0.76 | 1.60 | 0.24 | 0.28 | 0.3 |
| Benzo(ghi)perylene | mg/kg | < 0.10 | 0.19 | 320 | 340 | 350 |
| Coronene | mg/kg | 1.2 | 2.1 | NE | NE | NE |
| PAH 6 Total | mg/kg | < 0.10 | < 0.10 | NE | NE | NE |
| PAH 17 Total | mg/kg | 54 | 42 | NE | NE | NE |
| Mineral Oil (C10-C40) | mg/kg | 48 | 33 | NE | NE | NE |

NE denotes Not Established

Table 8.2 Polycyclic Aromatic Hydrocarbons exceeding S4UL limits at Bailey Gibson Site

The 2020 OCM site investigations in the former Flats complex area and proposed Players Park and comprised the excavation of eighteen trial pits (TP-1 to TP-18) and two window samples (WS-1 and WS-2) at the locations shown on **Figure 8.5**. It was carried out in two phases. The majority of the trial pits were opened in the first phases in July 2020, while TP-

13, TP-14, TP-17, TP-18, WS-1 and WS-2 were completed in October 2020. TP-9 and TP-10 were in the proposed Players Park Area.

The full laboratory reports are in the reports in Appendix 8.1 (see Volume III) along with summary tables which include for comparative purposes the Land Quality Management/Chartered Institute of Environmental Health (LQM/CIEH) S4ULs Human Health Risk Assessment-Risk Levels (S4ULs). The S4ULs for residential end use with home grown produce were used to assess human health risk.

The results are shown in **Tables 8.3** and **Table 8.4** and the laboratory reports are in the OCM Environmental Risk Assessment Report in Appendix 8.1. For comparative purposes the tables include QM/CIEH Human Health Risk Assessment-Risk Levels (S4ULs) for residential end use with home grown produce, which are the most sensitive risk assessment criteria and the Teagasc background Irish Soil Quality ranges for metals.

Arsenic exceeded the S4UL in seven samples; TP-14 (0-1) and TP-18 (0-1); however the levels were well within the Teagasc range for naturally occurring arsenic in clean Irish Soils (0.5 -122mg/kg).

The S4UL limits are based on the risk of human ingestion, inhalation and dermal exposure. In the case of arsenic the risk is ingestion. TP-14 and 18 are in the footprint of the proposed playing pitch over which additional soils will be placed, which eliminates the ingestion risk.

PAHS exceeded the S4UL in seven samples (TP-1 0-1, and 1-2m) and TP-11. In the case of PAH the human health risk is primarily linked to ingestion. TP-1 and TP-11 will be beneath the playing pitch over which additional soils will be placed, which will eliminate ingestion risk.

Samples from the Player Park area did not exceed the S4ULs.

| Parameter | Units | TP-14 | TP-18 | Residential <u>with</u> home-grown produce LQM/CIEH Sutable 4 Use Levels (S4ULs) [mg/kg DW] | | | Teagasc Irish Soils Ranges |
|-----------|--------------|---------|---------|---|----------|---------|----------------------------------|
| | Depth (m) | 0.0-1.0 | 0.0-1.0 | 1 % SOM | 2.5% SOM | 6 % SOM | |
| Arsenic | mg/kg | 40 | 42 | NE | NE | 37 | 0.2-122.70 |

NE denotes Not Established

Table 8.3 Metals exceeding S4UL limits in former Flats Complex Area

| Parameter | Units | TP-1 | TP-1 | TP-11 | TP-16 | Residential <u>with</u> home-grown produce LQM/CIEH Sutable 4 Use Levels (S4ULs) [mg/kg DW] | | |
|-----------------------|--------------|---------|---------|---------|---------|---|----------|------------|
| | Depth (m) | 0.0-1.0 | 1.0-2.0 | 0.0-1.0 | 0.0-1.0 | 1 % SOM | 2.5% SOM | 6 % SOM |
| PAH MS | | | | | | | | |
| Benzo(a)anthracene | mg/kg | 4.5 | 7.7 | 11 | | 7.2 | 11 | 13 |
| Chrysene | mg/kg | 4.6 | 8.0 | < 0.10 | | 15 | 22 | 27 |
| Benzo(a)pyrene (only) | mg/kg | 4.3 | 7.3 | 11 | | 2.2 | 2.7 | 3.0 |
| Dibenzo(ah)anthracene | mg/kg | 0.61 | 0.97 | 1.2 | | 0.24 | 0.28 | 0.3 |

NE denotes Not Established

Table 8.4 PAH exceeding S4UL limits in former Flats Complex Area

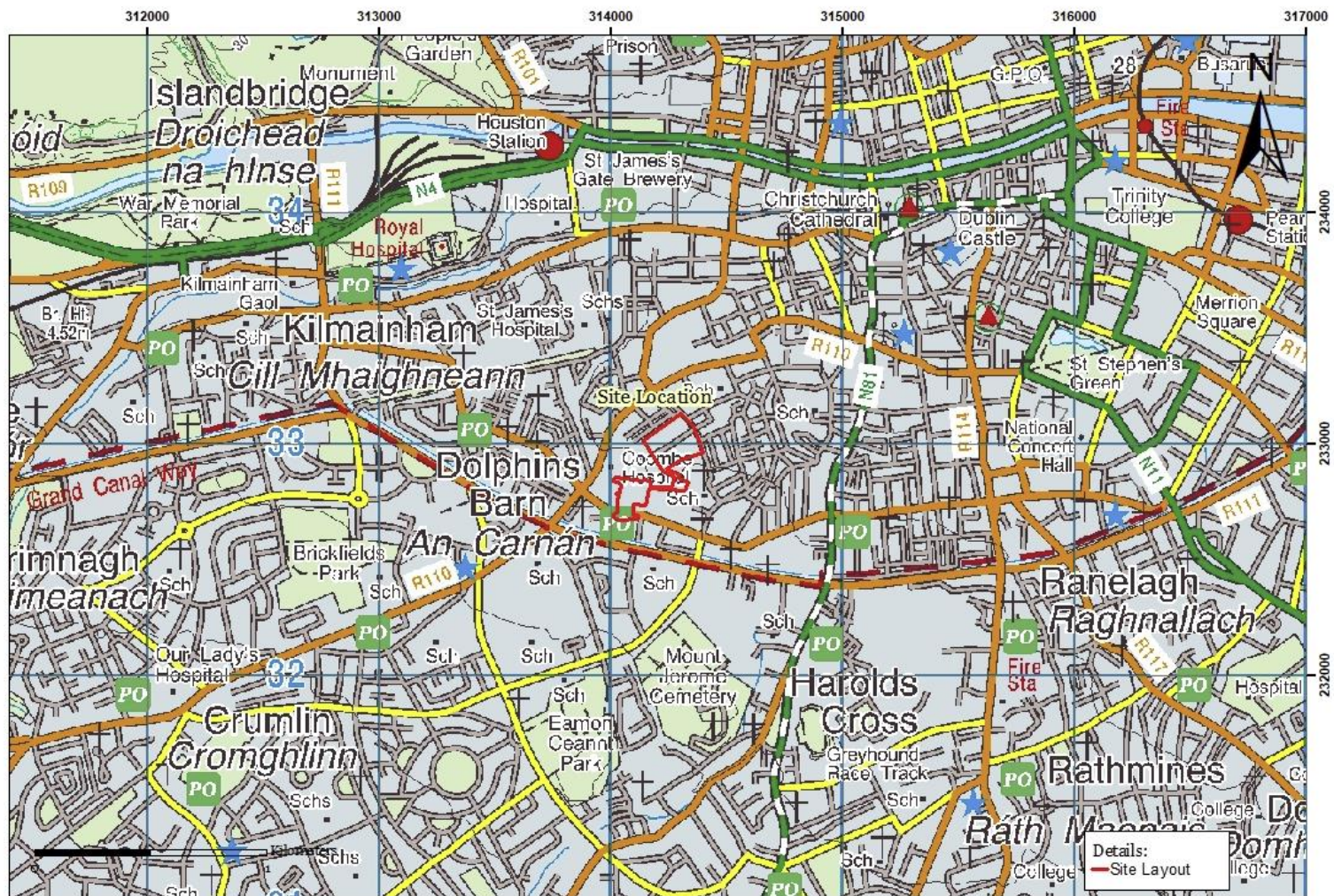


Figure 8.1 Site Location



Figure 8.2 Existing site Layout

8.4.3 Bedrock Geology

The site is underlain by the Lucan Limestone Formation, known as “The Calp”, which comprises dark-grey to black, fine-grained, occasionally cherty, micritic limestone and shale. (Figure 8.4). The site investigations have confirmed the GSI description of the bedrock. The site investigation also identified the presence of thin beds of mudstone at the top of the bedrock beneath the site.

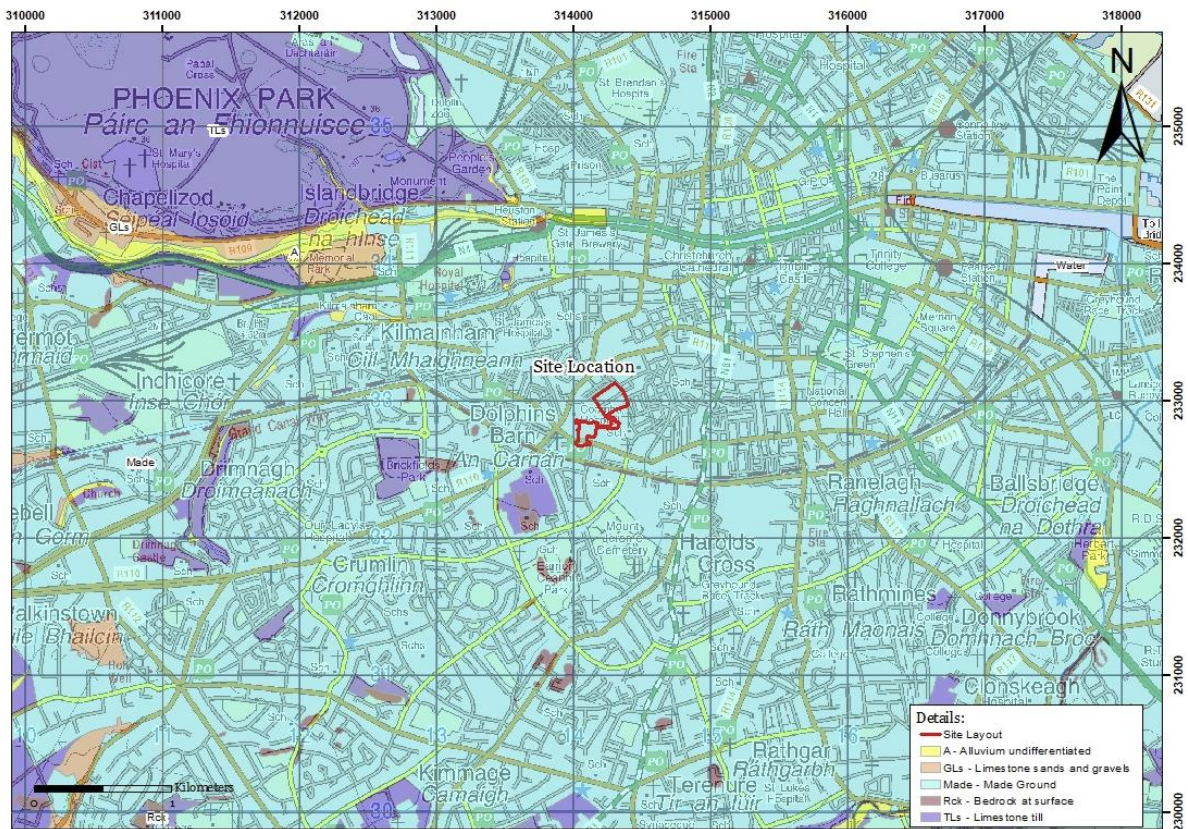


Figure 8.3 Subsoils

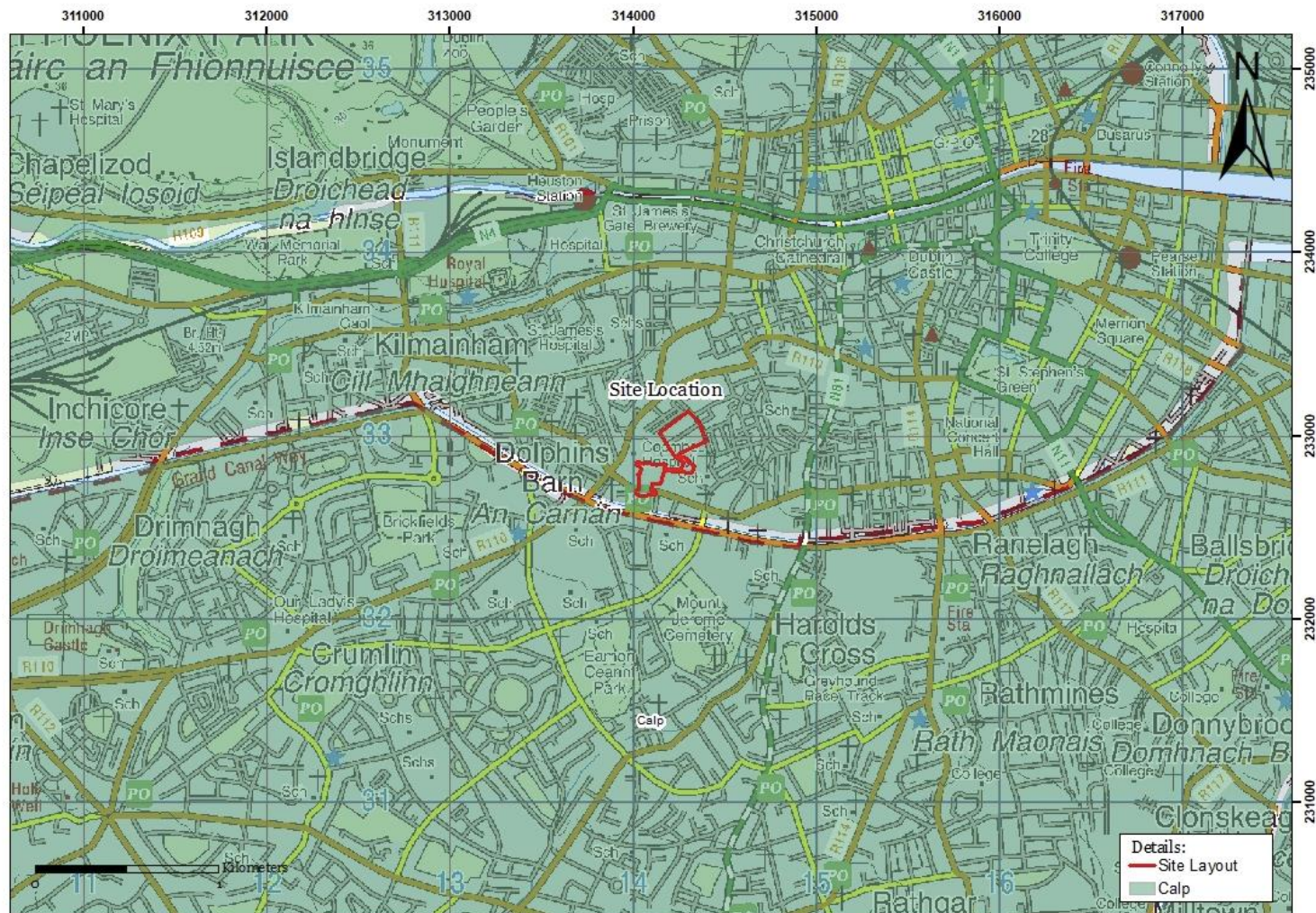


Figure 8.4 Bedrock Geology

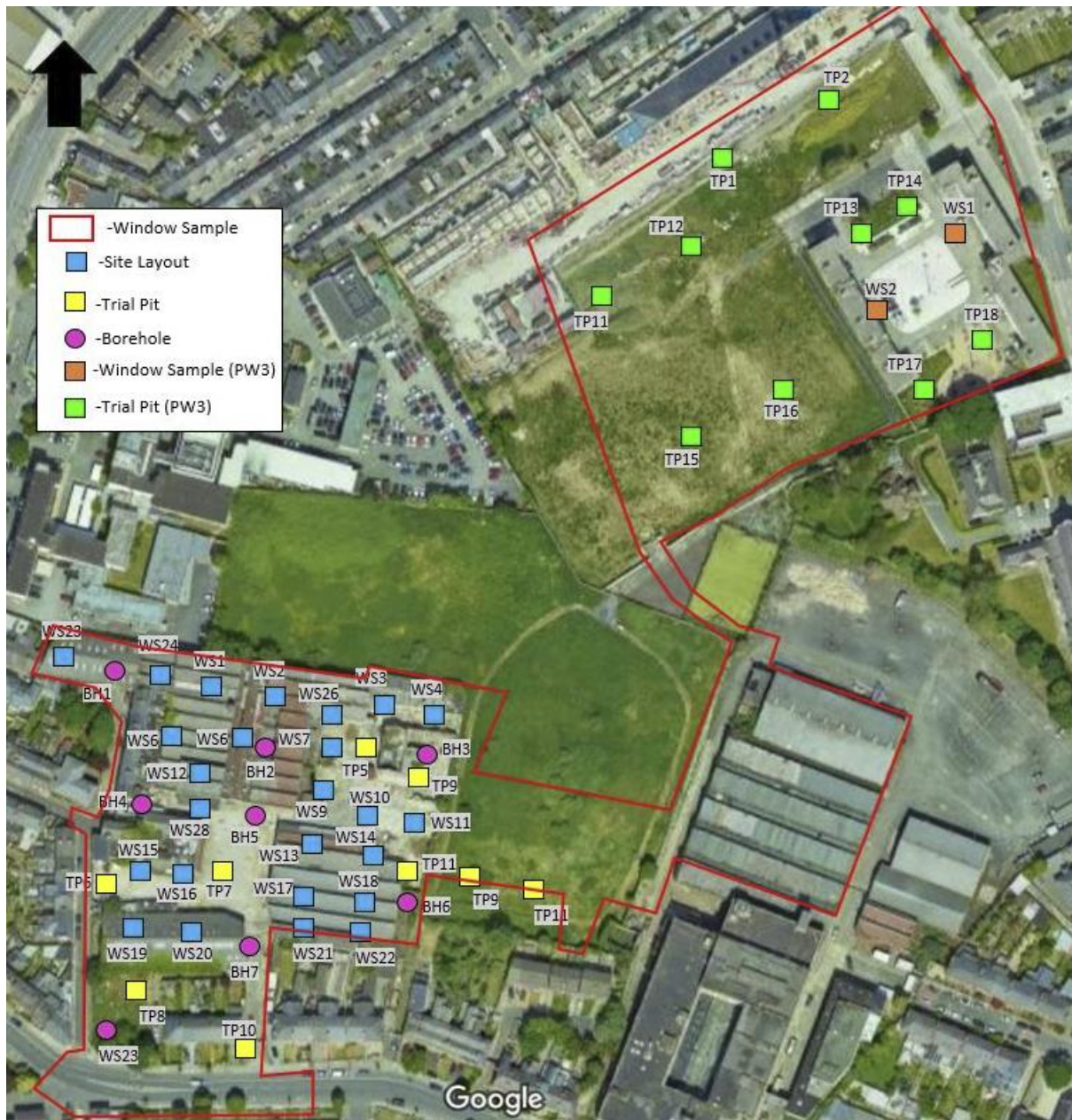


Figure 8.5 2019 and 2020 Sample Locations

8.5 Do Nothing

8.5.1 No Project Scenario

The site is zoned for development and it is likely that in the absence of this subject proposal that a development of a similar nature would be progressed on the site that accords with national policy for compact growth on brownfield sites and the site's zoning designation.

In the event that the site is not developed the hydrocarbon contaminated soils identified during the site investigation would remain on site with the potential to impact on the soil and groundwater environment beneath and down hydraulic gradient of the site. If it is not addressed the contamination will have a significant impact on the soils beneath this part of the site. The duration of the impact cannot be determined but is likely to be for decades.

8.5.2 Extant Bailey Gibson Permission

In the short term (1-7 years), the extant permission for a Strategic Housing Development (Ref. ABP-307221-20) at the Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8 would be implemented. The effect would be as per the post mitigation effects outlined in the Land & Soils chapter included in the EIAR that accompanied that application which concluded as follows for the demolition and construction phase;

“The impacts of the demolition phase on soils and geology post mitigation will be neutral, imperceptible, temporary and at the site scale. The impacts of the construction phase on soils and geology post mitigation will be slight negative, insignificant, permanent and at the site scale. The impacts of the Operational Phase on soils and geology post mitigation will be positive, significant, permanent and at the site scale.”

The Board in their decision concluded that the proposed development would not be likely to have a significant effect on land and soils.

8.6 Difficulties Encountered

The site investigations at the Bailey Gibson site were undertaken prior to the demolition of the onsite buildings which limited the extent of site investigations in some locations beneath the building footprints. The investigations were however undertaken in close proximity to those areas to ensure that the information obtained was as comprehensive as possible.

8.7 Potential Significant Effects

8.7.1 Demolition Phase

The demolition works for the site is described in the Construction Environmental Management Plan (CEMP) prepared by DCON Safety Consultants and submitted under separate cover.

The ten existing buildings (Buildings A to K) covering approximately 11,232m² on site will be removed as outlined in the CEMP.

During the demolition phase Made Ground and surface paving will be excavated as part of the site clearance works and removal of existing underground services (foul and storm sewer pipe work, and electrical ducting). The bulk of the made ground excavation and the underlying

natural ground and bedrock excavation will be undertaken as part of the construction phase of the development.

Demolition works are likely to proceed as follows:

- Environmental clean of all known environmental hazards and deleterious materials.
- Demolition of existing services and removal from site.
- Demolition of buildings, crushing to commence and spoil to begin to be removed from site; material to be re-used, recycled and stockpiled on site and covered.
- Demolition of existing hard-standings; crushing to commence and spoil to begin to be removed from site.

The demolition works will have a neutral, insignificant, temporary effect at the local/site scale on the soils and geology beneath the site.

8.7.2 Construction Phase

A construction compound will be located on the lands to the east of the Bailey Gibson site on lands that will form part of the Players Park. The location of the compounds are shown in the Construction Environmental Management Plan submitted under separate cover with this application. During the construction phase, Made Ground and natural soils will be excavated to allow the installation of new services (storm foul and water and electrical ducting) and to achieve formation level for building foundations in the west of the site. In the east of the site, deeper excavations will take place up to c. 3.4-4.15m bgl to form basement car parking, storage, plant rooms and cycle parking beneath Block BG2 and BG3. The development will result in the excavation and removal of c. 2,641m³ of soils, 30,137m³ of surface paving and below paving granular fill, 10,405m³ of made ground and 14,209m³ of subsoils. Given the proposed excavation depth there will be negligible volumes of bedrock excavated. The excavated materials removed from the site will be recovered or disposed in accordance with the waste classification assessment completed by OCM and which is included in **Appendix 8.1**. Details are also included in Section 2.3.1 of the EIAR in relation to the types of facilities such material can be sent for re-use, recovery or disposal.

Concrete will be used to form foundations, basement levels, and buildings and hard paved areas.

The removal of contaminated soils as part of the construction phase works will have a positive, significant and permanent effect on the soils and geology.

The removal of the natural soils and rock will have a slight negative, permanent effect on the soils and geology at the site/local scale.

The remaining construction works will have a negative, slight, temporary effect on the soils and geology beneath the site.

8.7.3 Risk of Accidents or Major Disasters

There is the potential for accidental release of fuel oils or chemicals to the ground during the demolition or construction phases. Should that occur, it could have significant negative effect of a temporary nature at the site scale on the soils and geology as a result of contamination

of the soils and or underlying bedrock. Measures to mitigate this risk are addressed in Section 8.8.

8.7.4 Operational Phase

During the operational phase the development will have a positive, moderate, permanent effect on the soil and geology at the site and local area scale. This will be as a result of the construction of buildings and hard paved surfaces over a large portion of the Bailey Gibson site where the hard paving will protect the soils from infiltration of potentially contaminated surface water, for example caused by oil leaks from cars or delivery vehicles. The soils will also be protected by the formation of the Player Park and the Playing Pitches in the northeast of the site.

Sustainable Drainage Systems (SuDS) measures are incorporated into the surface water management system which include both intensive and extensive green roofs, blue roofs, interconnected tree pits, attenuation storage and petrol interceptors. Clean soils will be imported to site as part of the design in landscaped areas which will enhance the soil environment.

Clean top soils will be imported to site as part of the development of the Players Park and the playing pitches in the Northeast of the site which will also enhance the soil environment in these area.

8.7.5 Cumulative

A number of developments have been granted planning permission in the local area by Dublin City Council or by An Bord Pleanála under Strategic Housing Development provisions. Developments which include the excavation of soils and formation of basement levels are identified below.

1. SHD 0013/19 The redevelopment of the Rialto Cinema on South Circular Road which is located c. 300m west of the site with a development footprint of c. 3000m². Basement car park and plant rooms.
2. SHD 0002/19 Redevelopment of former Dulux Factory site, Davitt Road, 8266m² development footprint with 119 basement level car parking spaces.
3. 3756/15, Redevelopment Parnell Road 40 space basement car park.
4. 3853/1743-50 Dolphin Barn Street, redevelopment of former factory to include 67 basement car parking spaces on development footprint of 3253m².
5. 3086/17, 75-78 Cork Street, redevelopment of factory, development footprint of 1815m² with basement level car parking
6. 3974/17, 44 Parnell Road, Development of apartment building on 1000m² footprint with basement car park 9 spaces and waste storage area.
7. 3513/19, Parnell Road, Former ESB Depot, Development of 55 unit residential over 57 no. car space basement.
8. 20207/17, Como Lake Ltd 69D Donore Av, Development with 26 car parking spaces at basement Level.
9. 3321/17; No. 8, Newmarket and No. 18 Mill Street , Dublin 8 (bounded by Mill Street to the south, Mill Lane to the east and Newmarket to the north) basement for 17 car parking spaces and ancillary storage.

10. 3323/17; IDA Ireland Small Business Centre, Newmarket Industrial Estate, Newmarket, Dublin 8, Double Basement in to provide 112 car parking spaces together with 195 No. bicycle parking spaces plus ancillary shower and changing facilities together with ancillary plant and storage facilities.
11. 3426/18, The Donnelly Centre Phase 2 Building, Cork Street/Brickfield Lane, Dublin 8. Construction of a development comprising 166 student accommodation bed spaces with associated ancillary areas and a retail/enterprise unit (119 sq.m), in a five to seven storey high building over basement with frontage onto Cork Street and Brickfield Lane. Development Footprint 5,231m². Basement for storage and plant room not for car parking.
12. 2182/16 Junction of Mill Street and Blackpitts, Dublin 8 (Permission is sought to construct a student accommodation facility (including ancillary services and 2 no. business incubation hubs) and convert an existing vacant stone structure into a two storey office (total gfa c.9,634 sq.m). small basement area for plant rooms in southeast corner of site.
13. 4337/16 at 118-128, The Coombe, Dublin 8. Proposed development of Hotel consisting of: the demolition of existing ancillary derelict structures (220 sq.m), the provision of a new hotel building with a basement (2,012 sq.m) .
14. The Old Glass Factory, rear 113-115 Cork Street, 118 Cork Street and lands at rear; 119-122 Cork Street and lands to the rear; 56 John Street South and adj. laneway, Dublin 8. Construction of 4 No. to part 7 No. storey over basement Build-to-Rent Shared Living Residential Development comprising 397 No. bedspaces providing a Gross Floor Space of 14,047 sq m. The Gross Floor Area of the scheme above ground is 13,224 sqm over a basement of 1,336 sq m.
15. SHD0031/20 (ABP-308917-20) Former Player Wills site and Undeveloped Land in Ownership of Dublin City Council, South Circular Road, Dublin. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant; Double basement at PW-2 to accommodate car parking, cycle parking, waste storage, general storage and plant.
16. 3752/19 ;Applicant: c. 0.152 ha site at New Street off New Street South, Dublin 8, the provision of 16 no. car parking spaces at basement level; 2 no. lift cores; 3 no. stair cores; ancillary facilities (including bicycle storage (57 no. spaces) and shower block).
17. 4743/19; Newmarket, Brabazon Place, Brabazon Row and St. Luke's Avenue, Dublin 8, 151 bed hotel with a basement/lower ground floor level accessed from the new internal street.
18. 2654/20: 25-26, Blackpitts, Dublin 8; 27 apartments and will include cycle parking, plant rooms and storage areas for apartment and mosque at basement level,
19. SHD0003/19 (ABP-303436) Mill Street, Sweeney's Terrace and Clarence Mangan Road, Dublin 8, section with 37 no. residential (Build to Rent) apartments residential support and amenity facilities at ground and basement level.

The lands to the north of the site are being developed by The Land Development Agency for residential purposes. This includes for the construction of residential apartments in four blocks. There are no plans for basement level construction on this site and therefore the potential impacts on soils and geology are insignificant.

Similarly, the Part VIII permission (2475/18) under which the demolition of the 2 blocks required to facilitate those aspects (namely amenities – multi sports play pitch, boulevard and playground) of this proposed development that will take place on the St. Teresa's Garden site by Dublin City Council would not have a significant impact on land and soils. .

Using the various development footprints as a conservative estimate for basement void space the combined developments will result in the loss of approximately 2-3% of the subsoil and 0.4% loss of bedrock in this local area. Therefore, the potential effect on soils and bedrock will be negative, insignificant, and permanent at the local area scale. The effect on the bedrock geology will be negative, imperceptible, and permanent on the local scale.

The redevelopment of these areas will involve removal of soils to achieve formation levels. Where soils are removed this will result in a slight, permanent impact on the soils at this local scale. Where soils are imported to improve the ground conditions at the Player Park and playing pitches the placement of soils will have slight, permanent and positive impact on the soils by improving the soil condition and drainage in the development area and geology at the local area scale during their construction.

The proposed development will have a positive, moderate, permanent effect on the soils and geology on the SDRA 12 area.

8.7.6 Summary

Table 8.5 summarises the identified likely significant effects during the demolition and construction phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|---------------|--------|-------------|-----------|----------------|
| Removal of paving and fill and existing underground services | Neutral | Insignificant | Site | Likely | Temporary | Indeterminable |
| Removal of topsoil, subsoil and bedrock | Negative | Slight | Site | Likely | Permanent | Direct |
| Construction of basement, foundations, buildings and roads | Negative | Slight | Site | Likely | Permanent | Residual |

Table 8.5 Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation

Table 8.6 summarises the identified likely significant effects during the operational phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|----------|--------------|--------|-------------|-----------|--------|
| Constructed hard paving and SUDS systems, landscaping | Positive | Moderate | Local | Likely | Permanent | Direct |

Table 8.6 Summary of Operational Phase Likely Significant Effects in the absence of mitigation

8.8 Mitigation

8.8.1 Incorporated Design Mitigation

The proposed design involves the removal of soils and small amounts of bedrock in the eastern portion of the site. The remainder of the development will be constructed at or close to ground level, which minimises the impacts on the soil and geology.

8.8.2 Construction Phase Mitigation

Best practice measures will be applied in the demolition and construction stage to minimise impacts on soils and geology. Any potentially contaminating liquids in the existing site buildings including boilers, chemicals and cleaning agents, will be removed from the site and disposed in accordance with the waste hierarchy and with the requirements of the Construction Environmental Management Plan (CEMP) prepared by DCON which is included with this application under separate cover. All materials exported from the site will be sent to the appropriate waste management facility or where feasible re-used as by-product materials in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011.

All construction and demolition plant will be regularly checked to ensure there are no leaks or drips of oils to ground. Plant maintenance will not be undertaken on site. All fuel oils for plant will be stored in bunded storage areas.

All construction materials with the potential to impact on soils will be stored in secure bunded areas within the site compound. Drip trays provided for drum storage shall be capable of holding at least 25% of the drum capacity. Where more than one drum is stored, the drip tray will be capable of holding 25% of the aggregate capacity of the drums stored. All waste containers (including all ancillary equipment such as vent pipes and refuelling hoses) will be stored within a secondary containment system.

Other than Made Ground and soils, waste generated on-site will be stored in designated waste storage areas in covered skips to prevent materials being blown or washed away. Hazardous wastes such as waste oil, chemicals and preservatives, shall be stored in sealed containers and kept in the designated waste storage area, separate from other waste materials, while awaiting collection and treatment or disposal at a licensed hazardous waste facility in accordance with the requirements of the waste hierarchy and the Construction & Demolition Waste Management Plan prepared by Barrett Mahony Consulting Engineers and included under separate cover.

Excavation and the stripping of soil/made ground will not be undertaken until absolutely necessary to prevent sediment run off and leaching of nutrients from soils into drains.

Excavated soils will be temporarily stockpiled to minimise the effects of weathering. Care will be taken when re-working this material to minimise dust generation, groundwater infiltration and generation of runoff.

The following mitigation measures will be used to control the interaction of wash down water from concrete and cementitious material with soils:

- All batching and mixing activities will be located in contained areas;
- Pouring of cementitious materials will be carried out where possible in the dry;
- Pumped concrete will be monitored to ensure no accidental discharge;
- Excess concrete will not be discharged to ground;
- There will be no hosing into the ground surface of spills of concrete, cement, grout or similar materials;
- Washout from mixing plant or concrete trucks will not be permitted on the site.

8.8.3 Operational Phase Mitigation

Sustainable Drainage Systems (SuDS) measures are incorporated into the developed surface water management system. The SUDS Strategy Plan was prepared by Barret Mahony Consulting Engineers (BMCE) and the details are shown on BMCE Drawings No C-1021 and C-1022. These include both intensive and extensive green roofs, blue roofs, interconnected tree pits, attenuation storage beneath each of the building blocks and oil interceptors in basement parking areas, to prevent the discharge of oily run-off to ground or surface water courses.

Much of the site will be hard paved with buildings, walkways and parking areas which will minimise the risk of oil spills or leaks from cars or trucks discharging to ground beneath the site.

Soft landscaping will incorporate clean top soils and planting which will enhance the quality of the soil environment. The details are presented in the Landscape suite of drawings that accompany this application under separate cover.

The Player Park to the east of the Bailey Gibson site and the development of the Sports pitches in the northeast of the site will also enhance the quality of the operational site.

8.9 Monitoring

The Works Contractor will appoint an appropriately qualified and experienced person to monitor the demolition and construction works to ensure that the measures described in the CEMP are being implemented. Monitoring will be undertaken to assess noise and vibration, and dust during the demolition and construction phases of the project. Details of the monitoring for Noise and Vibration are addressed specifically in Chapter 11 while Dust monitoring is addressed in Chapter 12. Monitoring points will be set up at locations to be determined by specialist sub-contractors at the site boundaries adjacent to the most sensitive

receptors i.e. dwellings close to the development site. Monitoring frequencies will be in accordance with best practice guidelines. In addition an Environmental Monitoring Officer (EMO) will be appointed by the Applicant. The EMO will ensure that the requirements of the CEMP are being implemented. The EMO will also review monitoring reports to be prepared by the Contractor based on the requirements specified in the CEMP to ensure that the construction does not impact on the environment and surrounding residential occupants and the general public.

During the works to form basement levels it will be necessary to dewater the excavations and this will require the pumping of water under the conditions of a Trade Effluent Discharge License issued to the construction contractor by Irish Water. The relevant monitoring requirements are presented in detail in Chapter 9.

8.10 Residual Impact Assessment

8.10.1 Demolition Phase

The impacts of the demolition phase on soils and geology post mitigation will be neutral, imperceptible, temporary and at the site scale.

8.10.2 Construction Phase

The impacts of the construction phase on soils and geology post mitigation will be slight, negative, insignificant, permanent and at the site scale. The removal of hydrocarbon contaminated soils from the site will have slight, positive effect and permanent effect at the site scale.

8.10.3 Operational Phase

The impacts of the Operational Phase on soils and geology post mitigation will be positive, significant, permanent and at the site scale.

8.10.4 Cumulative

A number of developments have been granted planning permission in the local area by Dublin City Council or by An Bord Pleanála under Strategic Housing Development provisions. Developments which include for the excavation of soils and formation of basement levels are identified below.

1. SHD 0013/19 The redevelopment of the Rialto Cinema on South Circular Road.
2. SHD 0002/19 Redevelopment of former Dulux Factory site, Davitt Road.
3. 3756/15, Redevelopment Parnell Road 40 space basement car park.
4. 3853/1743-50 Dolphin Barn Street, redevelopment of former factory to include 67 basement car parking spaces.
5. 3086/17, 75-78 Cork Street, redevelopment of factory, development footprint of 1815m² with basement level car parking

6. 3974/17, 44 Parnell Road, Development of apartment building on 1000m2 footprint with basement car park 9 spaces and waste storage area.
7. 3513/19, Parnell Road, Former ESB Depot, Development of 55 unit residential over 57 no. car space basement.
8. 20207/17, Como Lake Ltd 69D Donore Av, Development with 26 car parking spaces at basement Level.
9. 3321/17; No. 8, Newmarket and No. 18 Mill Street , Dublin 8 (bounded by Mill Street to the south, Mill Lane to the east and Newmarket to the north) basement for 17 car parking spaces and ancillary storage.
10. 3323/17; IDA Ireland Small Business Centre, Newmarket Industrial Estate, Newmarket, Dublin 8, Double Basement in to provide 112 car parking spaces together with 195 No. bicycle parking spaces plus ancillary shower and changing facilities together with ancillary plant and storage facilities.
11. 3426/18, The Donnelly Centre Phase 2 Building, Cork Street/Brickfield Lane, Dublin 8.. Basement for storage and plant room not for car parking.
12. 2182/16 Junction of Mill Street and Blackpitts, Dublin 8 (Permission is sought to construct a student accommodation with small basement area for plant rooms in southeast corner of site.
13. 4337/16 at 118-128, The Coombe, Dublin 8. Proposed development of Hotel with a basement (2,012 sq.m) .
14. The Old Glass Factory, rear 113-115 Cork Street, 118 Cork Street and lands at rear; 119-122 Cork Street and lands to the rear; 56 John Street South and adj. laneway, Dublin 8. Construction of 4 No. to part 7 No. storey over basement.
15. SHD0031/20 (ABP-308917-20) Former Player Wills site and Undeveloped Land in Ownership of Dublin City Council, South Circular Road, Dublin 8, Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
16. 3752/19 ;Applicant: c. 0.152 ha site at New Street off New Street South, Dublin 8, the provision of 16 no. car parking spaces at basement level; 2 no. lift cores; 3 no. stair cores; ancillary facilities (including bicycle storage (57 no. spaces) and shower block).
17. 4743/19; Newmarket, Brabazon Place, Brabazon Row and St. Luke's Avenue, Dublin 8, 151 bed hotel with a basement/lower ground floor.
18. 2654/20: 25-26, Blackpitts, Dublin 8; 27 apartments and will include cycle parking, plant rooms and storage areas for apartment and mosque at basement level,
19. SHD0003/19 (ABP-303436) Mill Street, Sweeney's Terrace and Clarence Mangan Road, Dublin 8, section with 37 no. residential (Build to Rent) apartments residential support and amenity facilities at ground and basement level.

The Strategic Development and Regeneration Area 12 (SDRA 12) development plan includes for the redevelopment of lands in the immediate environs of the site at the former Player Wills site and redevelopment of lands at the Coombe Hospital to the north of the site by the Land Development Agency (LDA). The development at Player Wills is similar to these sites and includes similar measures to mitigate potential environmental impacts. The specific mitigation measures required at other development sites are not known but would be expected to comply with best practice guidelines as a requirement of planning.

Mitigation measures incorporated in this development combined with those in the above referenced developments will have neutral, temporary impacts on the soils and geology at the local area scale at demolition and construction stage and a positive, moderate, permanent effect on the soils and geology on the SDRA 12 area at the operational stage.

8.10.5 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development following the application of mitigation measures.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|---------------|--------|-------------|-----------|----------|
| Removal of paving and fill and existing underground services | Neutral | Insignificant | Site | Likely | Temporary | Residual |
| Removal of subsoil and bedrock | Negative | Slight | Site | Likely | Permanent | Direct |
| Construction of basement, foundations, buildings and roads | Negative | Slight | Site | Likely | Permanent | Residual |
| Removal of paving and fill and existing underground services | Neutral | Insignificant | Site | Likely | Temporary | Residual |
| Removal of subsoil and bedrock | Negative | Slight | Site | Likely | Permanent | Direct |
| Construction of basement, foundations, buildings and roads | Negative | Slight | Site | Likely | Permanent | Residual |
| Removal of contaminated soils | Positive | Slight | Site | Likely | Permanent | Direct |
| Re-use and recovery of soils and other materials removed from the site | Positive | Slight | Site | Likely | Permanent | Direct |

Table 8.7 Summary of Demolition & Construction Phase Effects Post Mitigation

The Table below summarises the identified likely significant effects during the operational phase of the proposed development post mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|----------|--------------|--------|-------------|-----------|--------|
| Constructed hard paving and SUDS systems, landscaping | Positive | Moderate | Local | Likely | Permanent | Direct |

Table 8.8 Summary of Operational Phase Effects Post Mitigation

8.11 Interactions

Interactions are dealt with in Chapter 15 of this EIAR.

Briefly, the demolition and construction phase works have the potential to impact on air quality through the generation of dusts, on noise levels and surface and groundwater quality. Monitoring points will be established at the site boundaries nearest the closest sensitive receptors for example residential dwellings to assess potential impacts of the noise levels and vibration levels from removal of soils and bedrock when forming basement levels and dust accumulation levels when excavating and removing the soils and bedrock as part of the construction works. These impacts and the relevant proposed mitigation/monitoring measures are assessed and addressed under the appropriate sections on air quality/dust (Chapter 12), noise and vibration (Chapter 11) and waters (Chapter 9).

8.12 Summary of Mitigation & Monitoring

Table 8.9 below summarises the Demolition & Construction Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|--|---|--|
| Removal of paving and fill and existing underground services | <p>All potentially contaminating liquids in the existing site buildings, including oil storage tanks, boilers, chemicals and cleaning agents have been removed from the site and disposed in accordance with the requirements of the Construction Environmental Management Plan (CEMP)</p> <p>All construction and demolition plant will be regularly checked to ensure there are no leaks or drips of oils to ground. Plant maintenance will not be undertaken on site. All fuel oils for plant will be stored in bunded storage areas.</p> <p>All construction materials with the potential to impact on soils will be stored in secure bunded areas within the site compound. Drip trays provided for drum storage</p> <p>All waste containers (including all ancillary equipment such as vent pipes and refuelling hoses) will be stored within a secondary containment system.</p> | Monitoring of CMP measures by EMO and contractor appointed personnel |
| Removal of subsoil and bedrock | <p>Implementation of relevant CMP measures including;</p> <p>Excavation and the stripping soil/made ground will not be undertaken until absolutely necessary to prevent sediment run off and leaching of nutrients from soils into drains.</p> <p>Excavated soils will be temporarily stockpiled to minimise the effects of weathering. Care will be taken when re-working this material to minimise dust generation, groundwater infiltration and generation of runoff.</p> | Monitoring of CMP measures by EMO and contractor appointed personnel |
| Construction of basement, foundations, buildings and roads | <p>All batching and mixing activities will be located in contained areas;</p> <p>Pouring of cementitious materials will be carried out where possible in the dry;</p> <p>Pumped concrete will be monitored to ensure no accidental discharge;</p> <p>Excess concrete will not be discharged to ground;</p> <p>There will be no hosing into the ground surface of spills of concrete, cement, grout or similar materials;</p> <p>Washout from mixing plant or concrete trucks will not be permitted on the site.</p> | Monitoring of CMP measures by EMO and contractor appointed personnel |

Table 8.9 Summary of Demolition & Construction Phase Mitigation and Monitoring

Table 8.10 summarises the Operational Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|--|---|---|
| Constructed hard paving and sustainable drainage systems (SUDS), landscaping | Diversion of water from soils and geology | Maintenance of site infrastructure i.e. surface water drainage and interceptor systems. |

Table 8.10 Summary of Operational Phase Mitigation and Monitoring

8.13 Conclusions

Detailed site investigations including the opening of trial pits, installation of boreholes, field and laboratory analysis of soils were completed to establish baseline soil and geology conditions. The investigations identified a small area of localised hydrocarbon contamination on the Bailey Gibson site. Over the remaining portion of the Bailey Gibson site and on the lands where the Players Park and the Sports Pitch will be developed the soils and bedrock are uncontaminated.

The proposed development will involve the removal of buildings from the site, the removal of soils to install water, foul sewers electrical services and the removal of soils and small amounts of bedrock to form basement levels and plant rooms.

The demolition works will have neutral, Insignificant temporary effect on the soil and geology on the site and the construction works will have a negative slight and permanent effect on the soils and geology on the site.

When constructed the operational phase of the development will result in a positive moderate and permanent impact on the local environment.

Measures have been developed to ensure that the impacts on the soils and geology are mitigated. These measures include a Construction and Demolitions Waste Management Plan and a Construction Environmental Management Plan which includes for a monitoring programme to ensure the development does not impact negatively on environmental receptors.

The implementation of the mitigation measures will result in insignificant impacts on the environment.

8.14 References and Sources

- Environmental Risk Assessment and Waste Characterisation Report, Bailey Gibson, 2019, O'Callaghan Moran & Associates
- Environmental Risk Assessment and Waste Characterisation Reports, 2019 Player Wills Phase 3 Area, 2020, O'Callaghan Moran & Associates
- Construction Environmental Management Plan, 2020, DCON Safety Consultants
- Construction and Demolition Waste Management Plan, 2020, Barret Mahony Consulting Engineers,
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports –(EPA, 2022);
- Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements, Institute of Geologists of Ireland 2013.

CHAPTER 9

WATER & HYDROLOGY

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|-------|---|------|
| 9 | Water & Hydrology | 9-3 |
| 9.1 | Introduction | 9-3 |
| 9.2 | Expertise and Qualifications | 9-3 |
| 9.3 | Proposed Development | 9-4 |
| 9.3.1 | Aspects Relevant to this Chapter | 9-5 |
| 9.4 | Methodology | 9-6 |
| 9.4.1 | Relevant Legislation & Guidance | 9-6 |
| 9.4.2 | Site Investigations | 9-7 |
| 9.4.3 | Impact Rating | 9-7 |
| 9.4.4 | Consultation | 9-7 |
| 9.5 | Baseline Environment..... | 9-8 |
| 9.5.1 | Site Location and Layout | 9-8 |
| 9.5.2 | Hydrology | 9-11 |
| 9.5.3 | Hydrogeology | 9-12 |
| 9.5.4 | Baseline Groundwater Quality | 9-12 |
| 9.6 | Do Nothing Scenario..... | 9-21 |
| 9.6.1 | No Project Scenario..... | 9-21 |
| 9.6.2 | Extant Bailey Gibson Permission..... | 9-21 |
| 9.7 | Difficulties Encountered | 9-21 |
| 9.8 | Potential Significant Effects | 9-22 |
| 9.8.1 | Demolition Phase | 9-22 |
| 9.8.2 | Construction Phase | 9-22 |
| 9.8.3 | Risk of Accidents/Major Disasters | 9-23 |
| 9.8.4 | Operational Phase..... | 9-23 |
| 9.8.5 | Cumulative Effect..... | 9-24 |
| 9.8.6 | Summary | 9-26 |
| 9.9 | Mitigation | 9-27 |
| 9.9.1 | Incorporated Design Mitigation | 9-27 |
| 9.9.2 | Construction Phase Mitigation | 9-27 |
| 9.9.3 | Operational Phase Mitigation | 9-29 |

| | | |
|-------------|---|-------------|
| 9.10 | Residual Impact Assessment..... | 9-29 |
| 9.10.1 | Demolition Phase | 9-29 |
| 9.10.2 | Construction Phase | 9-29 |
| 9.10.3 | Operational Phase Mitigation | 9-29 |
| 9.11 | Monitoring..... | 9-29 |
| 9.12 | Residual Impact Assessment..... | 9-30 |
| 9.12.1 | Demolition Phase | 9-30 |
| 9.12.2 | Construction Phase | 9-30 |
| 9.12.3 | Operational Phase..... | 9-30 |
| 9.12.4 | Cumulative | 9-30 |
| 9.12.5 | Summary | 9-32 |
| 9.13 | Interactions..... | 9-33 |
| 9.14 | Summary of Mitigation & Monitoring | 9-33 |
| 9.15 | Conclusions..... | 9-36 |
| 9.16 | References and Sources..... | 9-37 |

Table of Figures

| | | |
|------------|----------------------------------|------|
| Figure 9.1 | Site Location | 9-9 |
| Figure 9.2 | Site Layout | 9-10 |
| Figure 9.3 | Hydrology..... | 9-14 |
| Figure 9.4 | Aquifer Classification | 9-15 |
| Figure 9.5 | Aquifer Vulnerability..... | 9-16 |
| Figure 9.6 | Well Location | 9-17 |
| Figure 9.7 | Groundwater Flow Direction | 9-18 |

Table of Tables

| | | |
|-----------|--|------|
| Table 9.1 | Groundwater Field Hydrochemistry | 9-19 |
| Table 9.2 | Groundwater Sampling Results..... | 9-19 |
| Table 9.3 | Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation | 9-26 |
| Table 9.4 | Summary of Operational Phase Likely Significant Effects in the absence of mitigation | 9-26 |
| Table 9.5 | Proposed Surface Water Monitoring Programme during Construction Dewatering..... | 9-28 |
| Table 9.6 | Summary of Demolition & Construction Phase Effects Post Mitigation | 9-32 |
| Table 9.7 | Summary of Operational Phase Effects Post Mitigation | 9-32 |
| Table 9.8 | Summary of Demolition & Construction Phase Mitigation and Monitoring..... | 9-34 |
| Table 9.9 | Summary of Operational Phase Mitigation and Monitoring..... | 9-35 |

9 Water & Hydrology

9.1 Introduction

This Section has been compiled using a combination of desk study and site investigations to establish the site conditions with respect to Water and Hydrology. It includes a description of the baseline site conditions based on site investigations completed at the site, assesses the potential effects of the proposed development during the construction and operational phases on Water and Hydrology and outlines, where required, appropriate measures to mitigate such impacts and monitoring where applicable.

9.2 Expertise and Qualifications

The Water and Hydrology Chapter has been prepared by Sean Moran of O'Callaghan Moran & Associates (OCM). Mr. Moran holds a Master's Degree in Hydrogeology and is a member of the Institute of Geologists of Ireland (P.Geol.) and the European Federation of Geologists (Eur. Geol.) and Chartered Institute of Water and Environmental Management. Mr. Moran has over 30 years of experience in the field of Environmental Science including the preparation of Environmental Impact Assessments. . He has been involved in the preparation of the Soils and geology sections of EIARs for large scale infrastructure projects including residential and commercial developments sites, railway and road infrastructure, windfarms and landfills throughout Ireland. He has also been involved in the assessment of EIAR Soils and Geology Sections on behalf of local authorities. Mr Moran prepared the EIS for the Waste License Applications for the Kinsale Road Landfill in 1995 and the Kyletalesha Landfill in 1999. Between 2007 -2018 he has prepared water and hydrology sections for EIS applications for quarry developments for Quirk's Quarry in Killorglin Co. Kerry, for Lacken Quarry in Belmullet Co Mayo, the Corbet Quarry in Galway and the DOK Quarry in Tipperary. In 2017 he prepared the EIAR for the extension of the Shannovale Quarry in Fourcuil Co. Cork. He prepared the Water and hydrology sections for the Ballylongford Windfarm in Co. Kerry in 2015, In 2016 Mr Moran prepared the soils, hydrology and hydrogeology assessments of ten peat bogs supplying the Edenderry Power plant as part of the EIA process for the development. Between 2007 and 2020 Mr. Moran has also reviewed the water and hydrology sections of over thirty applications for Windfarms on behalf of Cork County Council. Mr. Moran compiled the Soils and Geology and Water and Hydrology sections of the EIAR for the adjacent Player Wills site in 2020.

9.3 Proposed Development

This application relates to a proposed mixed-use strategic housing development (SHD) on a site of approx. 5.5 hectares in Dublin 8. It includes all of the former Bailey Gibson site and a small portion of the former Player Wills site, both of which are owned by the Applicant, CWTC Multi Family ICAV acting solely in respect of its sub fund DTBR SCR1 Fund. The balance of the proposed development site relates to land owned by Dublin City Council (DCC) known locally as the 'Boys Brigade pitch' and part of the St. Teresa's Gardens site, together with DCC controlled public roads.

The application area is predominately within Strategic Development Regeneration Area (SDRA) 12, St. Teresa's Gardens & Environs as identified in the Dublin City Development Plan 2016-2022. The part of the proposed development site not within SDRA 12 relate to works proposed in the public roads surrounding the site, South Circular Road, Donore Avenue and Rehoboth Place.

A comprehensive description of the proposed development is set out in the Planning Statement. The Statutory Notices should also be referenced.

Briefly, it is proposed to demolish the existing vacant buildings and structures on the Bailey Gibson site to make way for development of 345 new homes across 5 blocks, BG 1 - BG 5, ranging in height from 2-7 storeys. The residential blocks will be contained within the Bailey Gibson site. The typology is predominantly apartments with 4 townhouses proposed in block BG5.

This is a mixed tenure scheme, with 292 units proposed as Build to Rent (BtR) across blocks BG1-BG3 and 53 units proposed as Build to Sell (BtS) in blocks BG4 and BG5. It is proposed to deliver 34 social and affordable homes as part of the overall total.

All apartments have private amenity space. At ground floor this is in the form of terraces and on upper levels, balconies. Each of BG1-BG4 have communal amenity areas either as a courtyard or podium area.

Tenant amenities and facilities are proposed in the BtR blocks and include a gym, co-working space, kitchen/lounge areas, concierge, and waste facilities.

Over 2 hectares of public open space including a multi-sport play pitch, a playground, 'St. Teresa's Playground', a boulevard, 'St. Teresa's Boulevard', a park, 'Players Park', a plaza, 'Rehoboth Plaza'.

The proposed non-residential uses include in blocks BG1 and BG2 commercial units that have the capacity to support daily living needs e.g., a shop, pharmacy and professional services. A creche with capacity for approx. 60 children. In block BG2 the design includes floorspace for a café/restaurant/bar.

In total there are 89 car parking spaces allocated to the proposed apartments and all are contained within the Bailey Gibson site. Apart from 1 space at podium level, the parking is contained within a basement. Additionally, 10 'Go Car' spaces are proposed at podium level for residents use only. Each of the 4 townhouses has 1 on-curtilage car parking space.

Visitor parking is at street level and the proposed sport pitch will be serviced separately by new spaces on the public roads. The scheme includes set down parking for the creche, a loading bay for deliveries and coach parking area.

Provision is made for disabled parking, electric vehicle charging, a car sharing scheme and motorcycle parking.

784 spaces are proposed for cycle parking including secure residents parking, visitor parking and spaces for cargo bicycles.

Other works include the development of a network of streets across the proposed development site that will link with other sites within SDRA 12 and into the wider street network of Dublin 8. Improvement works within existing local streets to facilitate access and safe movement.

Ancillary development works includes the construction of electricity substations, meter rooms, plant rooms at basement level, waste storage areas, solar photovoltaics, drainage, landscaping, and lighting.

9.3.1 Aspects Relevant to this Chapter

The development will result in the removal of made ground, natural subsoil and bedrock to establish services, foundations and form basement levels on the site. The basement layouts are shown on Drawings PL1100 (PW1 basement) and PL1198 and 1199 (PW2 basements) contained in the architectural suite of drawings that accompany this application.

9.4 Methodology

9.4.1 Relevant Legislation & Guidance

This chapter has been prepared having regard to the following legislation and guidance;

- Environmental Impact Assessment Directive 2011/92/EU, as amended by Directive 2014/52/EU
- Water Framework Directive 2000/60/EC - enacted into Irish legislation through S.I. No. 722 of 2003 European Communities (Water Policy) Regulations 2003 as amended
- European Communities Environmental Objectives (Groundwater) Regulations (S.I. 9 of 2010) as amended.
- EU Floods Directive 2007/60/EC European Communities (Assessment) and Management of Flood Risks) Regulations, 2010 (S.I. No. 122 of 2010)
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports – (EPA, 2022);
- Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements, Institute of Geologists of Ireland 2013.
- BIA Basement Development Policy Document - Version 1.1 and BIA Basement Development Guidance Document - Version 1.1, Dublin City Council 2020.

The assessment included detailed site inspections in April and May 2019, and a review of background information sources including;

- Ordnance Survey of Ireland (OSI),
- The Environmental Protection Agency (EPA),
- Teagasc
- The Geological Survey of Ireland (GSI),
- The National Parks and Wildlife Service (NWPS)
- The Office of Public Works (OPW)
- Eastern River Basin Management Plan.

Detailed site investigations including the opening of trial pits, installation of boreholes, field and laboratory analysis of soils and groundwater were completed. The investigation information was subsequently used to establish site specific baseline conditions of the land and soils. This was followed by an assessment of the potential significant effects of the proposed development during the construction and operational phases of the proposed development. An assessment of the potential cumulative impacts on land and soils of the proposed development and other proposed developments in the area was also undertaken.

9.4.2 Site Investigations

Site investigations designed and supervised by O'Callaghan Moran & Associates were in several phases between 2019 and 2020. The initial investigations of the Bailey Gibson site were completed in May and June 2019 and included the installation of twenty eight (28 no.) window sample boreholes, seven (7 no.) trial pits in May 2019 and two slit trenches (ST-EW A and ST-EWB). The groundwater assessment comprised the installation of four (4 No.) groundwater monitoring wells (BH-2, BH3, BH-4 and BH-8) and the collection and laboratory analysis of four (4 No.) groundwater samples. The objective was to establish baseline groundwater quality and whether historical or current activities including hydrocarbon contamination detected in the subsoils were impacting on groundwater quality beneath the site.

Investigations were also completed in 2020 in the Players Park lands and in the Dublin City Council (DCC) lands to be converted into a multipurpose playing pitch and public park in the northeast of the current proposed development area. These investigations included the opening of twelve (12 no.) trial pits, two (2 no.) window samples and four boreholes.

The groundwater assessment included the installation of two groundwater monitoring wells on the DCC lands (CH-1 and CH-2). Because of the size of the Players Park, its historical use as green space and the proposed amenity end use installation of wells was considered unnecessary in that area. BH-3 on the Bailey Gibson site is 4m to the west of these lands and has been used to establish baseline quality locally in the park area.

The findings of the site investigations are outlined in two O'Callaghan Moran Environmental Risk Assessment and Waste Characterisation Report completed in July 2019 and November 2020 which are included in Appendix 8.1 in Volume III of the EIAR.

9.4.3 Impact Rating

The description of effects on the environment is in line with **Table 3.3** of the EPA Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports, 2022 and reproduced in full in Chapter 1 of the EIAR.

9.4.4 Consultation

Consultation in relation to surface water drainage has been undertaken between the Barrett Mahony Consulting Engineers (BMCE) and Dublin City Council. BMCE are the Civil and Structural Engineering Consultants with responsibility for the assessment of the existing drainage and proposed development drainage design. Details of the discussions are set out in Chapter 7.

9.5 Baseline Environment

9.5.1 Site Location and Layout

The site is located approximately 2.4 km southwest of Dublin city centre (**Figure 9.1**). It covers c. 4.74 hectares (ha) and comprises the former Bailey Gibson site which includes 10 buildings including warehousing and offices, a small portion of open green area that is part of the Player Wills site owned by the Applicant which is to be included in the 'Players Park' (0.048ha) and DCC lands to the east and northeast of the Bailey Gibson site which are currently open space but will be developed for a multi-purpose play pitch, a public park and internal street network.

The site is bounded to the north-west and north by the Coombe Hospital, to the north-east and east by open ground formerly playing fields (owned by DCC) and further east by the Player Wills site, to the west by residential dwellings, to the south by South Circular Road and further south residential dwellings. The development includes a corridor through the Dublin City Council lands to the east of the site through which surface water drainage from the site will run. The drainage will connect to the Irish Water Sewer on Donore Avenue. The lands in the northeast are currently open ground but were formerly occupied by St Theresa's Gardens residential flats complex.

The site rises up slightly from South Circular Road but is generally flat with a slight gradient from west to east. The DCC lands are also flat and are currently unused. They were previously used as football pitches.

The existing site layout is shown on **Figure 9.2**. The Bailey Gibson site is accessed from the South Circular Road. The site was until 2019 used as a salvage.

There is a warehouse in the south-west of the site, which housed salvaged bar furniture. North of the warehouse is a single storey office building, with a visitors parking area to the east. North of the office building are a number of interconnected warehouses that occupy most of the northern section of the site.

There is a 10,000 litre steel oil storage tank in the open yard in the north-east of the site. The area around the tank is concrete paved, but it is in poor repair. The remainder of the north-eastern section of the site comprises an open yard where masonry stone, gravel, concrete rubble and empty 200 litre steel chemical storage drums are stored.

The more interconnected warehouses in the south-east of the site, were used primarily to store antiques and furniture. There was a spray painting operation and a paint store in the eastern end of the southernmost unit.

The lands immediately east of the Bailey Gibson site that will form the Player Park is currently open green area formerly part of the playing pitches, while the lands in the northeast of the site is open brownfield lands, formerly part of the St Theresa's Gardens Flats complex.

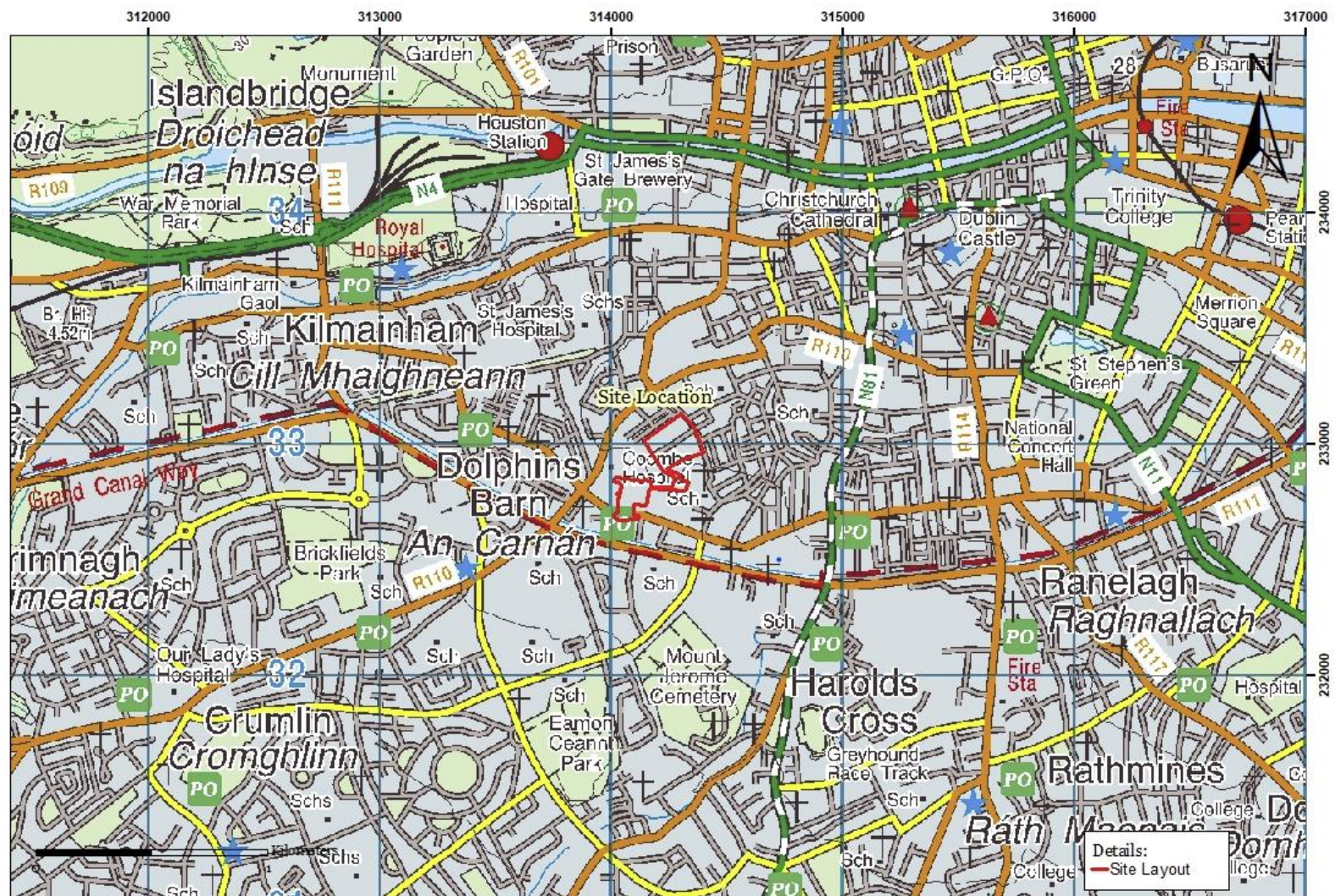


Figure 9.1 Site Location



Figure 9.2 Site Layout

9.5.2 Hydrology

Currently run-off in unpaved areas of the site percolates to ground. There are no public surface water drains located in either the South Circular Road or Rehoboth Place, which abut the Bailey Gibson site to the south and west. A 1060mm brick combined sewer is located within the South Circular Road. A 150mm diameter combined sewer is located within Rehoboth Place. There, is a 910-1210mm stormwater culvert in Donore Avenue. The culvert extends under Donore Avenue from near the junction with Merton Avenue, flowing northwards along Donore Avenue until it turns east and leaves Donore Avenue, flowing eastwards between Ebenezer Terrace and Harman St. This culvert is historically known as the Abbey Stream, a distributary from the original river Poddle. It once traversed the St. Teresa's Gardens SDRA, entering at the south corner of St. Teresa's church, but was diverted to continue beneath Donore Avenue to the east of the church many years ago. Due to many drainage works which have occurred upstream, this culvert now carries the main river Poddle flow.

In the northeast of the site there is a 300/375mm diameter stormwater pipe which extends from the boundary with the rear of the Coombe hospital, through the old St. Teresa's Gardens flats. It flows in a north-east direction and connects to the stormwater culvert in Donore Avenue.

There are no streams or rivers on or adjacent to the site. The Grand Canal is approximately 130 m to the south and the River Poddle is 710 m east (**Figure 9.3**). The river is culverted and flows north to join the River Liffey approximately 1.4 km north of the site. Because of its relatively small catchment and the fact that it is extensively culverted, the Water Body status of the Poddle was not assessed in the Eastern River Basin District (ERBD) Management Plan.

9.5.2.1 Flood Risk

A review of the OPW Flood Risk database indicates that there is no record of flood events on or adjacent to the proposed development site.

A Strategic Flood Risk Assessment was undertaken as part of the preparation of the Dublin City Development Plan 2016-2022 (DCDP), in which flood zones were identified. There are three types or levels of flood zones defined;

- Flood Zone A – where the probability of flooding from rivers and the sea is highest (greater than 1% or 1 in 100 for river flooding or 0.5% or 1 in 200 for coastal flooding);
- Flood Zone B – where the probability of flooding from rivers and the sea is moderate (between 0.1% or 1 in 1000 and 1% or 1 in 100 for river flooding and between 0.1% or 1 in 1000 year and 0.5% or 1 in 200 for coastal flooding); and
- Flood Zone C – where the probability of flooding from rivers and the sea is low (less than 0.1% or 1 in 1000 for both river and coastal flooding). Flood Zone C covers all other areas that are not in zones A or B.
- Defended Area; where defences are in place for future floods

The site is not located in or near a flood risk area.

A site specific flood risk assessment was prepared by Barret Mahony Consulting Engineers (BMCE) and this is included in the **Civil Engineering Infrastructure Report** that accompanies this application under separate cover. It concludes that there is no risk of flooding affecting the Bailey Gibson and Players Park site, so it is possible to develop the site within Flood Zone C. The multi-sport playing pitch is in Flood Zone A, but is classified as a Water Compatible Development. In ensuring that the development of this site does not increase flood risk elsewhere by maintaining existing surface levels, development in this zone is 'Appropriate'. Based on the assessment any flood events do not cause flooding of the proposed development, and the development does not affect the flood storage volume or increase flood risk elsewhere. This is consistent with the findings of the Dublin City Development Plan flood risk assessment for this area.

9.5.3 Hydrogeology

9.5.3.1 Aquifer Classification

The GSI has developed a classification system for aquifers based on the value of the resource and their hydrogeological characteristics. The bedrock aquifer beneath the site is characterised by the GSI as a Locally Important aquifer which is moderately productive only in Local Zones (LI), as shown on **Figure 9.4**.

The Eastern River Basin District (ERBD) Management Plan shows the site is part of the IE_EA_G_005 Dublin Urban Groundwater Body. The overall status of this waterbody is 'Good'. There are no known groundwater abstractions within 500m of the site.

9.5.3.2 Aquifer Vulnerability

Vulnerability is defined by the GSI as the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities. Vulnerability categories range from Extreme (**E**) to High (**H**) to Moderate (**M**) to Low (**L**) and are dependent on the nature and thickness of subsoils above the water table. The GSI Vulnerability Map (**Figure 9.5**) indicates that the vulnerability is Extreme (**E**) over most of the proposed development site and High (**H**) in the eastern section of the proposed development site.

9.5.4 Baseline Groundwater Quality

The groundwater assessment of the Bailey Gibson site comprised the collection and laboratory analysis of four (4 No.) groundwater samples in July 2019. The objective was to establish baseline groundwater quality and determine if historical or current activities, including hydrocarbon contamination detected in the subsoils in the vicinity of the above ground oil tank, had impacted groundwater quality.

Baseline groundwater quality was also established from samples collected from two monitoring wells installed in the DCC Lands in the northeast of the site in 2020.

The well locations are shown on **Figure 9.6**. They are in the bedrock aquifer and the construction details are in the OCM Reports in Appendix 8.1. On the Bailey Gibson site BH-2 is in the north central part of the site close to the above ground oil storage tank, BH-3 is in the north-east of the site and is 4m west of the proposed Players Park, BH-4 is in the west of the site and BH-8 is in the south-west of the site in an allotment used by local residents.

Monitoring wells CH-1 is along the southwest and CH-2 is in the northcentral section of the DCC lands.

Water levels were recorded in the wells and the data used to calculate the direction of groundwater flow. The flow is to the east, as shown on **Figure 9.7**. The water table is shallow, ranging in depth from 1-2m bgl across the site.

When collecting the samples OCM, in addition to the water levels, measured pH, temperature and electrical conductivity and the results are in **Table 9.1**.

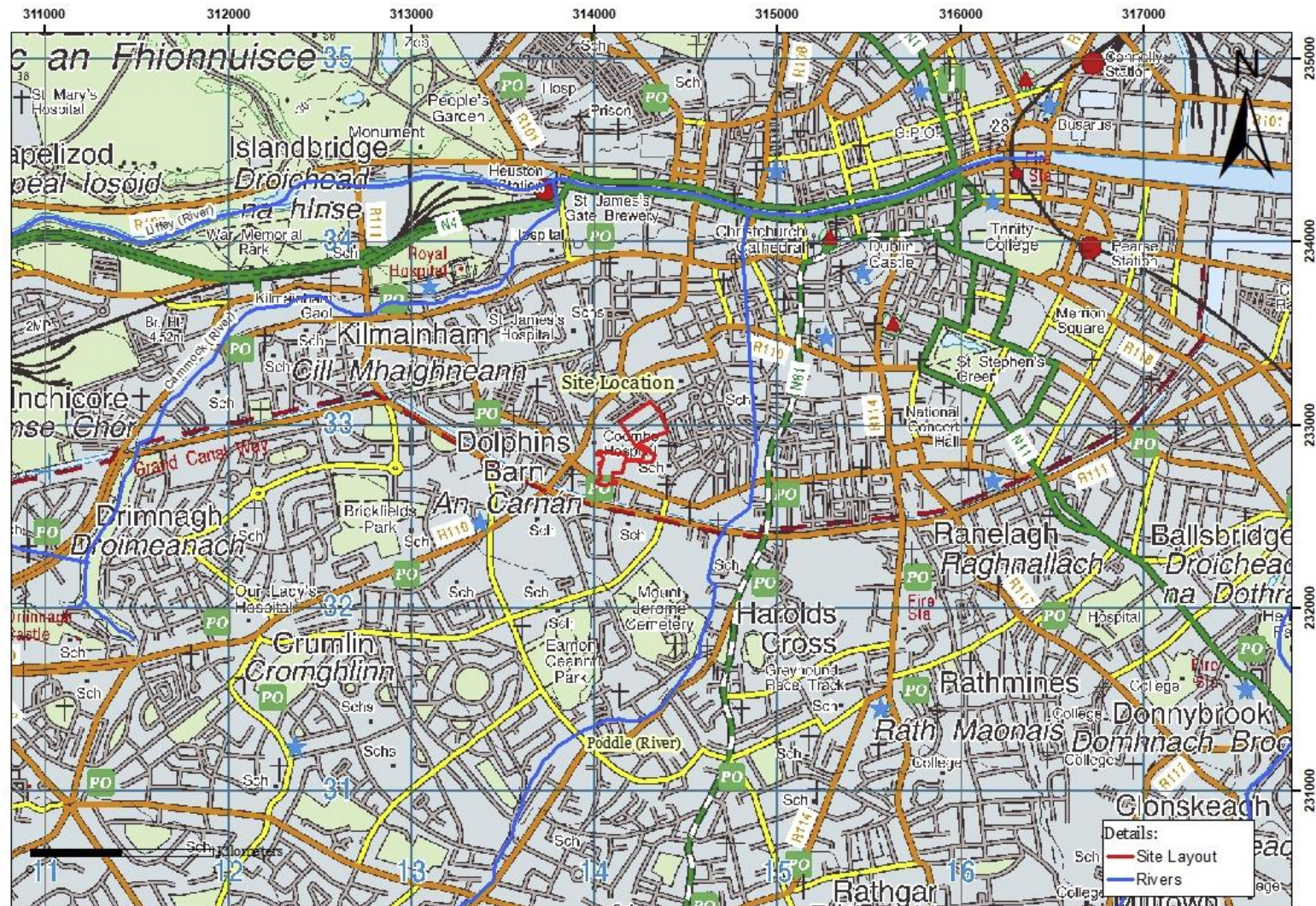


Figure 9.3 Hydrology

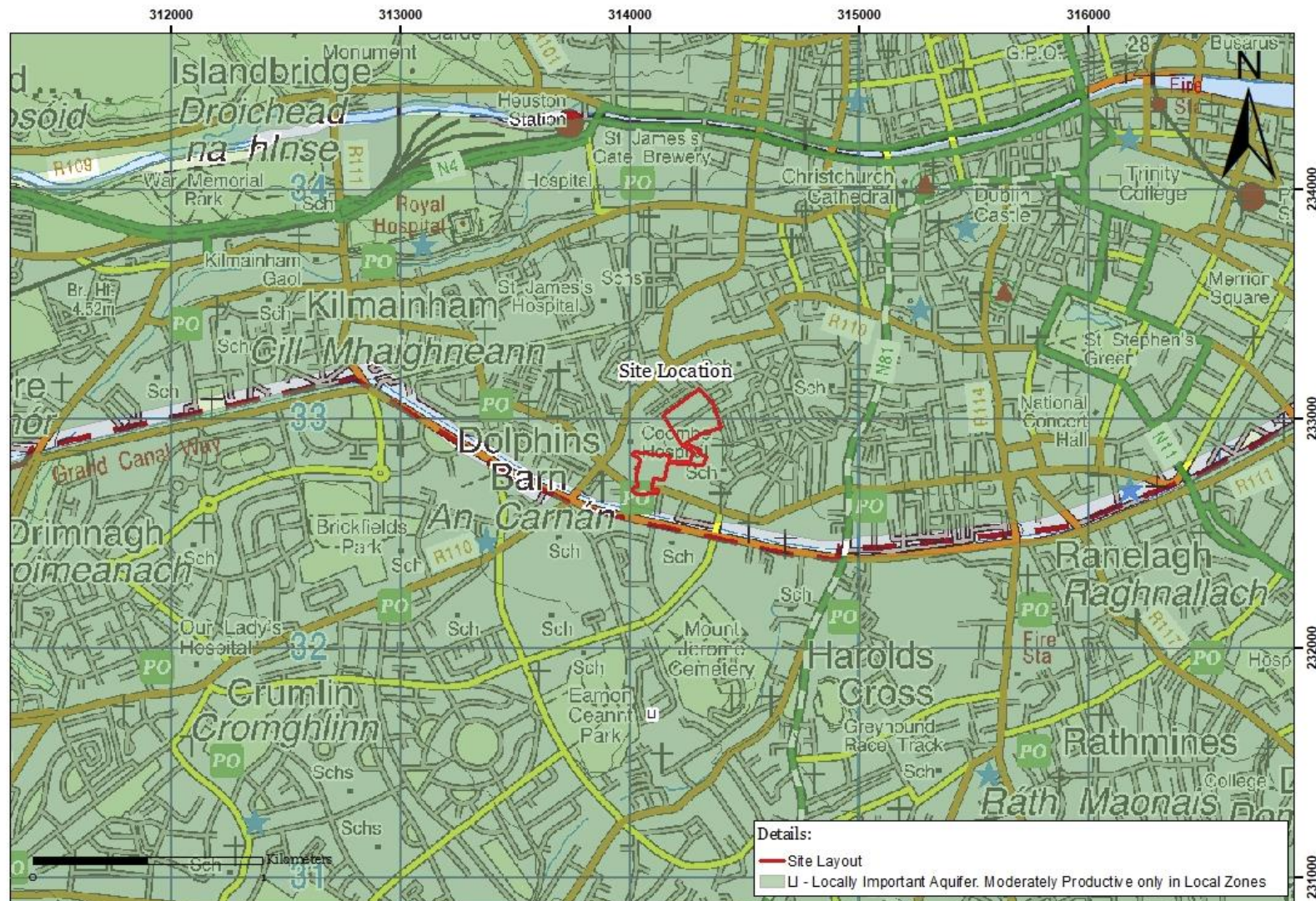


Figure 9.4 Aquifer Classification

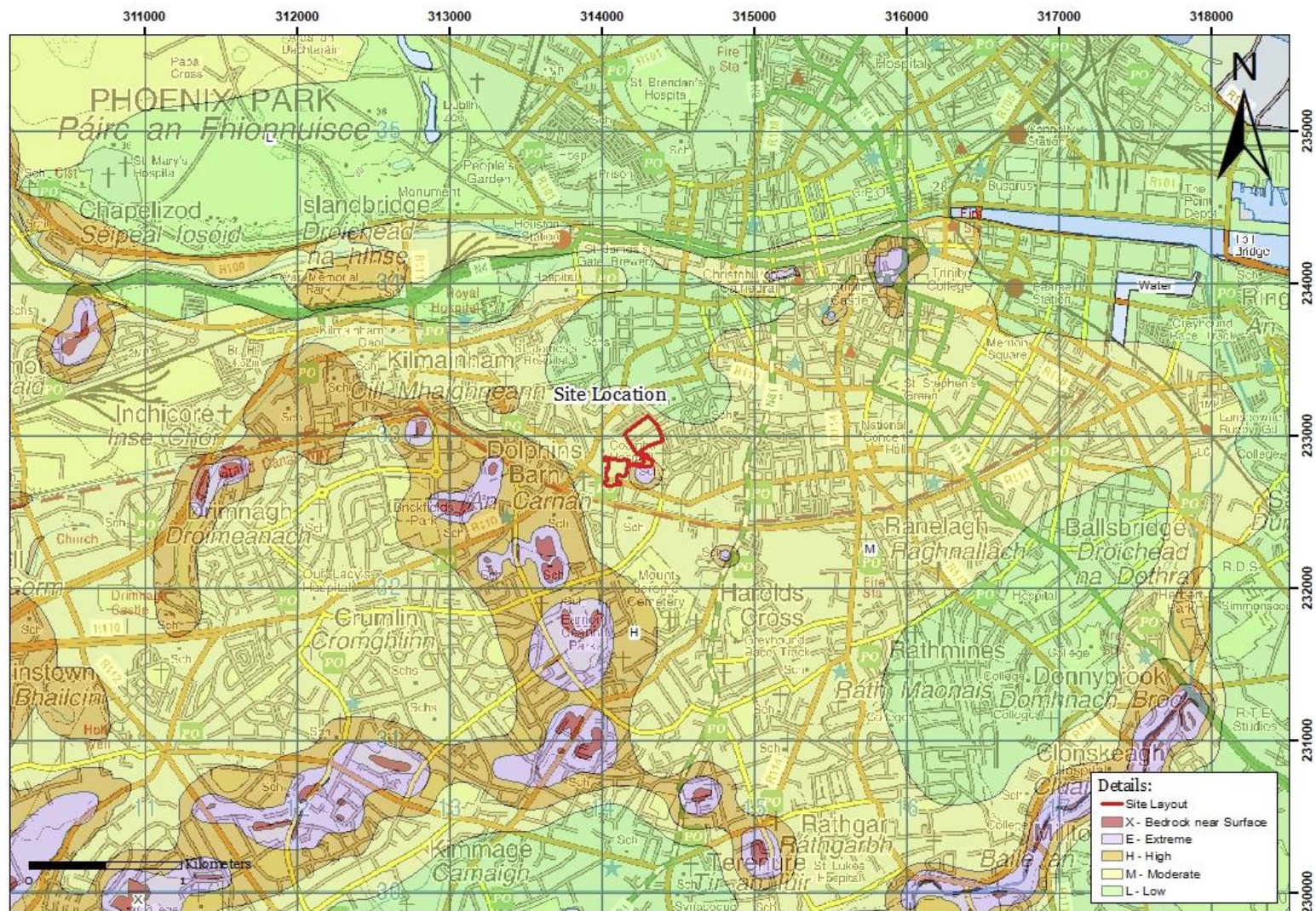


Figure 9.5 Aquifer Vulnerability

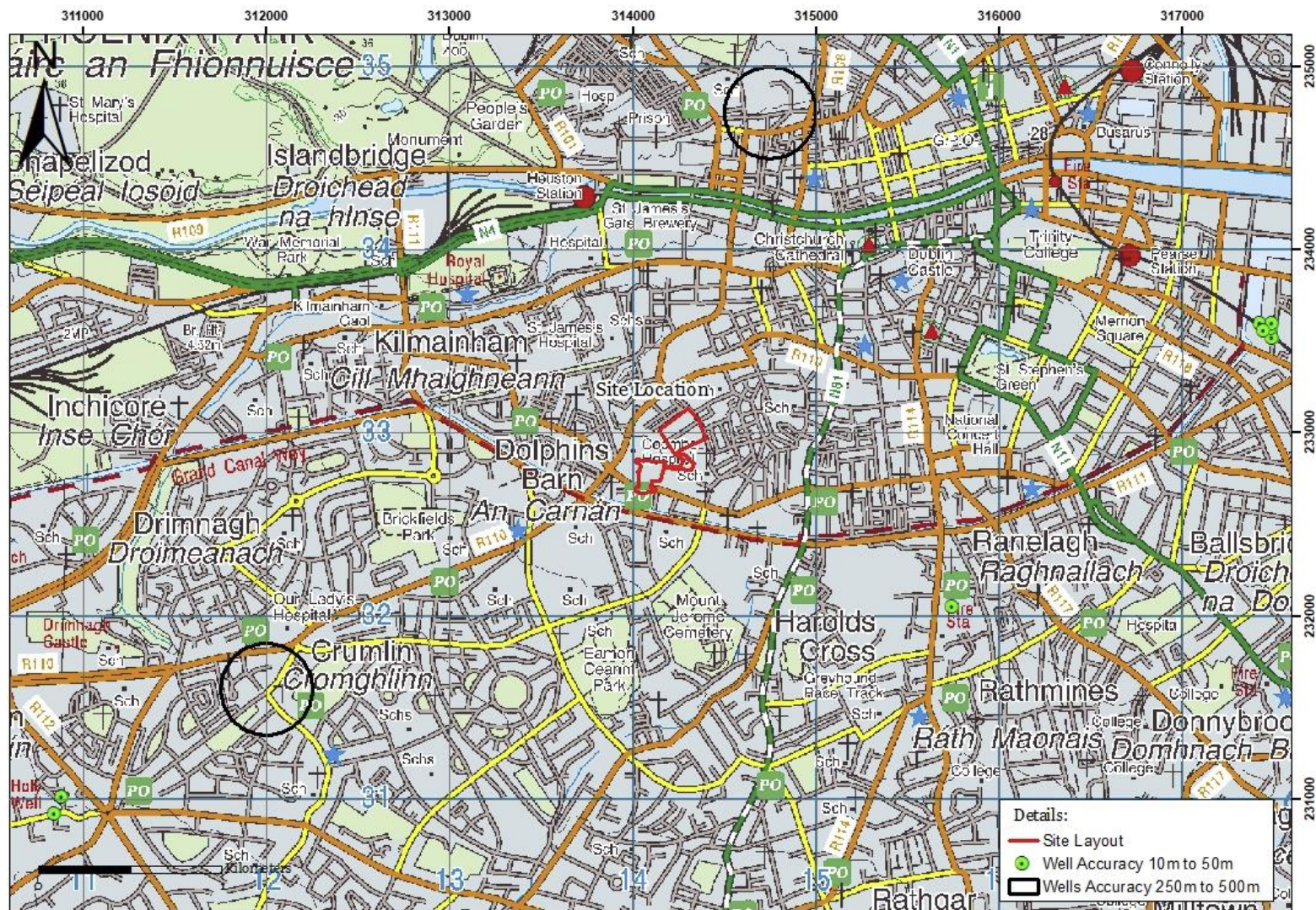


Figure 9.6 Well Location



Figure 9.7 Groundwater Flow Direction

| Parameter | Units | BH-2 | BH-3 | BH-4 | BH-8 | CH-1 | CH-4 |
|-------------------------|------------|------|------|------|------|------|-------|
| Electrical Conductivity | µS/cm | 1230 | 508 | 370 | 770 | 219 | 239 |
| Temperature | °C | 12.1 | 12.6 | 12.7 | 12.7 | 12.4 | 12.60 |
| pH | (pH units) | 8.3 | 9 | 8.5 | 8.4 | 8.51 | 8.42 |
| Water Level | *mbtoc | 0.89 | 0.91 | 1.14 | 2.48 | 0.94 | 1.1 |

* meters below top of casing

Table 9.1 Groundwater Field Hydrochemistry

| Parameter | Units | BH-2 2019 | BH-3 2019 | BH-4 2019 | BH-8 2019 | CH-1 2020 | CH-4 2020 | GTV 2010 | IGV |
|--------------------------------|----------|--------------|--------------|--------------|--------------|--------------|--------------|----------|---------------|
| Physiochemical | | | | | | | | | |
| Electrical Conductivity | µS/cm | 1230 | 508 | 370 | 770 | 219 | 239 | 1875 | 1,000 |
| Temperature | °C | 12.1 | 12.6 | 12.7 | 12.7 | 12.4 | 12.6 | NE | 25 |
| pH | pH units | 8.3 | 9 | 8.5 | 8.4 | 8.51 | 8.42 | NE | ≥6.5 and 9.5≤ |
| Inorganic & Metals | | | | | | | | | |
| Ammonium | mg/l | 0.11 | 0.052 | 0.087 | 1.4 | < 0.050 | < 0.050 | 0.175 | 150 |
| Nitrate | mg/l | 15 | 2.3 | 2.5 | 7.4 | 1.5 | 1.5 | 37.5 | 25 |
| Chloride | mg/l | 40 | 22 | 30 | 28 | 14 | 14 | 187.5 | 30 |
| Sulphate | mg/l | 200 | 120 | 43 | 59 | 31 | 32 | 187.5 | 200 |
| Sulphide | mg/l | < 0.050 | < 0.050 | < 0.050 | < 0.050 | < 0.050 | < 0.050 | NE | NE |
| Sodium | mg/l | 32 | 67 | 11 | 14 | 11 | 13 | 150 | 150 |
| Boron | µg/l | 170 | 82 | 29 | 52 | < 20 | < 20 | 750 | 1000 |
| Chromium | µg/l | 1 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 37.5 | 30 |
| Arsenic | µg/l | 1.2 | 3.5 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 7.5 | 10 |
| Lead | µg/l | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 7.5 | 10 |
| Nickel | µg/l | 2.1 | 2.2 | 1.5 | 5 | < 1.0 | < 1.0 | 15 | 20 |
| Mercury | µg/l | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | 0.75 | 1 |
| Cadmium | µg/l | < 0.080 | < 0.080 | < 0.080 | < 0.080 | < 0.080 | < 0.080 | 3.75 | 5 |
| Copper | µg/l | 1.6 | < 1.0 | < 1.0 | < 1.0 | 1.4 | 1.5 | 1,500 | 30 |
| Zinc | µg/l | 3.7 | < 1.0 | < 1.0 | < 1.0 | 8.9 | 9.5 | 75 | 100 |
| Potassium | mg/l | 2.3 | 9.1 | 6.1 | 12 | 1.3 | 1.8 | NE | 5 |
| Hydrocarbons & VOCs | | | | | | | | | |
| Phenols | µg/l | < 0.030 | < 0.030 | < 0.030 | < 0.030 | < 0.030 | < 0.030 | NE | 0.5 |
| Vinyl Chloride | µg/l | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 0.375 | NE |
| Methyl Tertiary Butyl Ether | µg/l | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 10 | 30 |
| Benzene | µg/l | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 0.75 | 1.0 |
| Toluene | µg/l | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | 525 | 10 |
| Ethylbenzene | µg/l | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | NE | 10 |
| Xylenes | µg/l | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | NE | 10 |
| VOC Suite | µg/l | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | various | 10 |
| PAH Suite | µg/l | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | 0.075 | 0.1 |
| Total Petroleum Hydrocarbons | µg/l | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | 7.5 | NE |

Table 9.2 Groundwater Sampling Results

Electrical conductivity, and chloride exceeded the IGV in BH-2, while the sulphate exceeded the GTV. Potassium exceeded the IGV in BH3 and 4. Ammonium exceeded the GTV in BH-8. All the remaining parameters were below the GTV or IGV where established.

The elevated parameters in BH-2 may be associated with the presence of concrete paving at the surface, which had to be cored through to allow the well to be installed. While the potassium levels are slightly above the IGV in BH3 and BH-4, the levels are not indicative of significant contamination. The ammonium in BH-8 may be associated with the allotment use of the lands in the vicinity of this well.

Hydrocarbons were not detected in any of the samples indicating that the oil contamination detected in the soil on the Bailey Gibson site has not extended to the water table. This is most likely because of the nature of the natural subsoils where comprise glacial tills which can inhibit the recharge of water or potential contaminants to the underlying water table.

Groundwater quality beneath the DCC lands is good.

9.6 Do Nothing Scenario

9.6.1 No Project Scenario

The site would remain a partially brown field and partially greenfield site and the existing surface water drainage regime would continue. All collected surface water from the site drains to combined sewers located in Rehoboth Place and the South Circular Road. There are no sustainable drainage systems or flow control devices in place at the site. In storm events, un-attenuated and untreated surface water discharge can contribute significant flows to the combined sewers. The foul and combined sewer flows in this area discharge to the Wastewater Treatment Plant (WwTP) in Ringsend. Surface water discharge to the combined sewer system contributes to inundation of this system in storm events and recurring untreated discharge of combined sewer flows to open water bodies in Dublin Bay through combined sewer overflows. The inundation during storm events would most likely continue if the site is not developed unless/until measures are put in place to separate the storm and foul sewer system downstream of the site. Details on the assessment and management of wastewater effluent are presented in Chapter 7, Material Assets Built Services.

However, the site is zoned for development and it is likely that in the absence of this subject proposal that a development of a similar nature would be progressed on the site that accords with national policy for compact growth on brownfield sites and the site's zoning objectives.

9.6.2 Extant Bailey Gibson Permission

In the short term (1-7 years), the extant permission for a Strategic Housing Development (Ref. ABP-307221-20) at the Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8 would be implemented. The effect would be as per the post mitigation effects outlined in the Water & Hydrology chapter included in the EIAR that accompanied that application which concluded as follows for the demolition and construction phase;

“The effect of the impacts of the demolition phase on hydrology and groundwater post mitigation will be neutral, imperceptible, temporary and at the site scale. The effect of the impacts of the construction phase on hydrology and groundwater post mitigation will be slight, insignificant, temporary and at the site scale. The effect of the impacts of the Operational Phase on hydrology and groundwater post mitigation will be positive, significant, permanent and at the site scale.”

9.7 Difficulties Encountered

There were no difficulties encountered during the groundwater quality assessment of the site. Wells were not installed in the greenfield area to the west of the Player Park area. Monitoring well BH-3 is located immediately to the west of these lands on the Bailey Gibson site and is considered to be representative of baseline water quality beneath the green area based on the groundwater flow direction.

9.8 Potential Significant Effects

9.8.1 Demolition Phase

The demolition works for the site is described in the Construction Environmental Management Plan (CEMP) prepared by DCON Safety Consultants and submitted under separate cover .

The ten existing buildings (Buildings A to K) covering approximately 11,232m² on site will be removed as outlined in the CEMP.

During the demolition phase Made Ground and surface paving will be excavated as part of the site clearance works and removal of existing underground services (foul and storm sewer pipe work, and electrical ducting). The bulk of the made ground excavation and the underlying natural ground and bedrock excavation will be undertaken as part of the construction phase of the development.

Demolition works are likely to proceed as follows:

- Environmental clean of all known environmental hazards and deleterious materials.
- Demolition of existing services and removal from site.
- Demolition of buildings, crushing to commence and spoil to begin to be removed from site; material to be recycled and stockpiled on site and covered.
- Demolition of existing hard-standings; crushing to commence and spoil to begin to be removed from site.

There is the potential for accidental release of fuel oils or chemicals to the ground during the demolition or construction phases if the CEMP procedures are not followed. In the unlikely event that this occurs, a fuel oil or liquid chemical spill could potentially migrate into the ground and reach the groundwater table. Such an incident could have significant negative effect of temporary nature at the site scale on the groundwater quality beneath and down hydraulic gradient of the site.

9.8.2 Construction Phase

A construction compound will be located on the lands to the east of the Bailey Gibson site on lands that will form part of the Players Park. The location of the compounds are shown in the Construction Environmental Management Plan submitted under separate cover with this application. During the construction phase, Made Ground and natural soils will be excavated to allow the installation of new services (storm foul and water and electrical ducting) and for building foundations in the west of the site. In the east of the site, deeper excavations will take place up to c. 3.4-4.15m bgl to form basement car parking, storage, plant rooms and cycle parking beneath Block BG2 and BG3. The development will result in the excavation and removal of c. 2,641m³ of soils, 30,137m³ of surface paving and below paving granular fill, 10,405m³ of made ground and 14,209m³ of subsoils. Given the proposed excavation depth there will be negligible volumes of bedrock excavated. The excavated materials removed from the site will be recovered or disposed in accordance with the waste classification assessment completed by OCM and which is included in **Appendix 8.1**. Details are also included in Section 2.3.1 of the EIAR in relation to the types of facilities such material can be sent for re-

use, recovery or disposal. Where feasible wastes generated on site including soils will be recovered and reused off site. In particular where feasible soils will be re-used as by-product materials in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011.

The excavations will encounter the water table and dewatering will be required. This will result in a local lowering (c.2m) of the water table in the immediate vicinity of the basement excavation footprint. Even during the dewatering process the water table will rebound a short distance from the excavation due to the relatively low permeability of the subsoil and the nature of the underlying bedrock (mudstone). The dewatering will therefore result in a slight, negative, temporary effect on the water table around the excavation footprint.

The monitoring programme undertaken by OCM as part of the environmental site assessment established that the groundwater beneath the site was uncontaminated. The water from the excavation dewatering programme is therefore expected to be clean. It is likely however that this water will contain suspended soil particles associated with the excavation works. The water will be discharged to the Irish Water storm sewer that will be regulated by a trade effluent discharge licence. The licence will specify the emission limit values (ELVs) that must be complied with to ensure the discharge does not adversely affect the water quality at the final discharge point of the storm sewer.

Concrete will be used to form foundations, basement levels, and buildings and hard paved areas on the site. This has the potential to have a negative, slight, temporary effect on the groundwater quality immediately beneath the site.

9.8.3 Risk of Accidents/Major Disasters

There is the potential for accidental release to ground of fuel oils from oil storage tanks or from vehicles or plant, or chemicals used in the demolition or construction phases. While such an event is unlikely to occur because of prevention procedures outlined in the CEMP?, should that occur, this could have significant negative effect of temporary nature at the site scale on the groundwater beneath and down hydraulic gradient of the site as a result of oil or chemical contamination reaching the water table.

9.8.4 Operational Phase

The basement footprint is c. 4,505m² (confirm volume) of an overall development footprint of c47,400m². When constructed, shallow groundwater flow will be diverted around the basement and this may result in slight but insignificant mounding of the water table on the western side and slight, insignificant lowering of the water table on the eastern side of the basement.

There are no other basement structures on-site or proposed. Given the relatively poor permeability of the subsoil (glacial till boulder clays), the effects on the water table will not be significant. It is considered therefore that the basement will have a slight negative, permanent effect on the groundwater table at the excavation footprint, but will have a neutral, imperceptible effect on the water table beyond the site boundary to the east.

During the operational phase the development will have a positive, moderate, permanent effect on the groundwater at the site and local area scale. This will be as a result of the construction of buildings and hard paved surfaces over a large portion of the site. The groundwater will be protected against infiltration by contaminated surface water, for example caused by oil leaks from cars or delivery vehicles.

9.8.5 Cumulative Effect

A number of developments for which EIARs were submitted in many cases, have been granted planning permission in the local area by Dublin City Council and/or by An Bord Pleanála under Strategic Housing Development provisions. Developments which include for the excavation of soils and formation of basement levels are identified below.

1. SHD 0013/19 The redevelopment of the Rialto Cinema on South Circular Road which is located c. 300m west of the site with a development footprint of c. 3000m². Basement car park and plant rooms.
2. SHD 0002/19 Redevelopment of former Dulux Factory site, Davitt Road, 8266m² development footprint with 119 basement level car parking spaces.
3. 3756/15, Redevelopment Parnell Road 40 space basement car park.
4. 3853/1743-50 Dolphin Barn Street, redevelopment of former factory to include 67 basement car parking spaces on development footprint of 3253m².
5. 3086/17, 75-78 Cork Street, redevelopment of factory, development footprint of 1815m² with basement level car parking
6. 3974/17, 44 Parnell Road, Development of apartment building on 1000m² footprint with basement car park 9 spaces and waste storage area.
7. 3513/19, Parnell Road, Former ESB Depot, Development of 55 unit residential over 57 no. car space basement.
8. 20207/17, Como Lake Ltd 69D Donore Av, Development with 26 car parking spaces at basement Level.
9. 3321/17; No. 8, Newmarket and No. 18 Mill Street , Dublin 8 (bounded by Mill Street to the south, Mill Lane to the east and Newmarket to the north) basement for 17 car parking spaces and ancillary storage.
10. 3323/17; IDA Ireland Small Business Centre, Newmarket Industrial Estate, Newmarket, Dublin 8, Double Basement in to provide 112 car parking spaces together with 195 No. bicycle parking spaces plus ancillary shower and changing facilities together with ancillary plant and storage facilities.
11. 3426/18, The Donnelly Centre Phase 2 Building, Cork Street/Brickfield Lane, Dublin 8. Construction of a development comprising 166 student accommodation bed spaces with associated ancillary areas and a retail/enterprise unit (119 sq.m), in a five to seven storey high building over basement with frontage onto Cork Street and Brickfield Lane. Development Footprint 5,231m². Basement for storage and plant room not for car parking.
12. 2182/16 Junction of Mill Street and Blackpitts, Dublin 8 (Permission is sought to construct a student accommodation facility (including ancillary services and 2 no. business incubation hubs) and convert an existing vacant stone structure into a two

storey office (total gfa c.9,634 sq.m). small basement area for plant rooms in southeast corner of site.

13. 4337/16 at 118-128, The Coombe, Dublin 8. Proposed development of Hotel consisting of: the demolition of existing ancillary derelict structures (220 sq.m), the provision of a new hotel building with a basement (2,012 sq.m) .
14. The Old Glass Factory, rear 113-115 Cork Street, 118 Cork Street and lands at rear; 119-122 Cork Street and lands to the rear; 56 John Street South and adj. laneway, Dublin 8. Construction of 4 No. to part 7 No. storey over basement Build-to-Rent Shared Living Residential Development comprising 397 No. bedspaces providing a Gross Floor Space of 14,047 sq m. The Gross Floor Area of the scheme above ground is 13,224 sqm over a basement of 1,336 sq m.
15. ABP-308917-20 : Former Player Wills site and Undeveloped Land in Ownership of Dublin City Council, South Circular Road, Dublin 8, Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
16. 3752/19 ;Applicant: c. 0.152 ha site at New Street off New Street South, Dublin 8, the provision of 16 no. car parking spaces at basement level; 2 no. lift cores; 3 no. stair cores; ancillary facilities (including bicycle storage (57 no. spaces) and shower block).
17. 4743/19; Newmarket, Brabazon Place, Brabazon Row and St. Luke's Avenue, Dublin 8, 151 bed hotel with a basement/lower ground floor level accessed from the new internal street.
18. 2654/20: 25-26, Blackpitts, Dublin 8; 27 apartments and will include cycle parking, plant rooms and storage areas for apartment and mosque at basement level,
19. SHD0003/19 (ABP-303436) Mill Street, Sweeney's Terrace and Clarence Mangan Road, Dublin 8, section with 235 student bed spaces and 37 no. residential (Build to Rent) apartments residential support and amenity facilities at ground and basement level.

The lands to the north of the site are being developed by The Land Development Agency for residential purposes. This includes for the construction of residential apartments in four blocks. There are no plans for basement level construction on this site and therefore the potential impacts on soils and geology are insignificant.

Using the various development footprints as a conservative estimate for basement void space the combined developments will result in the loss of approximately 2-3% of the subsoil and 0.4% of the bedrock in this local area. As most of these sites were previously developed the percentage of recharge to the subsoil lost by redevelopment is likely to be negligible i.e. rainfall was not infiltrating to ground in these areas and that will remain the case. A small amount of groundwater storage will be lost as a result of the basement construction. It is considered therefore that the potential effect on surface water hydrology will be neutral, imperceptible, permanent at the local area scale and positive by preventing inundation of the sewers, and the potential effect on groundwater will be negative, insignificant and permanent at the local area scale.

The Strategic Development and Regeneration Area 12 (SDRA 12) and the non-statutory Master Plan for Player Wills, Dublin City Council and Bailey Gibson lands includes for the

redevelopment of the local area. These include proposed developments at the Player Wills site to the east of the site.

The redevelopment of these areas may also have slight, temporary impacts on the groundwater at the local area scale as a result of basement development and the associated loss of subsoil and groundwater storage. It is envisaged that the regeneration project will have a positive, moderate, permanent effect on surface and groundwater on the SDRA 12 area.

9.8.6 Summary

Table 9.3 summarises the identified likely significant effects during the demolition and construction phase of the proposed development before mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|---------------|--------|-------------|-----------|----------------|
| Removal of paving and fill and existing underground services | Neutral | Insignificant | Site | Likely | Temporary | Indeterminable |
| Removal of soils, subsoil and bedrock | Negative | Slight | Site | Likely | Permanent | Cumulative |
| Dewatering of Excavations | Negative | Insignificant | Site | Likely | Temporary | Cumulative |
| Construction of basement, foundations, buildings and roads | Negative | Slight | Site | Likely | Temporary | Indirect |

Table 9.3 Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation

Table 9.4 summarises the identified likely significant effects during the operational phase of the proposed development.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|----------|--------------|--------|-------------|-----------|------------|
| Constructed hard paving and surface water drainage, landscaping | Positive | Moderate | Local | Likely | Permanent | Cumulative |

Table 9.4 Summary of Operational Phase Likely Significant Effects in the absence of mitigation

9.9 Mitigation

9.9.1 Incorporated Design Mitigation

The proposed design involves the removal of soils and bedrock which will require a small amount of dewatering on the east of the site where the basements are being developed and for attenuation basins beneath each of the building blocks. The remainder of the site will be constructed at or close to ground level without the need for dewatering of the subsoil or bedrock which minimises the potential impact on groundwater. There are no watercourses on or adjacent to the site. There will therefore be no direct run-off to surface water courses during the demolition and construction phase.

9.9.2 Construction Phase Mitigation

Standard best practice measures including CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) will be applied to minimise potential impacts on surface water hydrology and groundwater. These include the following; potentially contaminating liquids in the on-site buildings including oil storage tanks, boilers, chemicals and cleaning agents will be removed from the site and disposed in accordance with the requirements of the Construction Environmental Management Plan (CEMP), which is included under separate cover with this application.

All construction and demolition plant will be regularly checked to ensure there are no leaks or drips of oils to ground. Plant maintenance will not be undertaken on site. All fuel oils for plant will be stored in bunded storage areas in the site compound.

All construction materials with the potential to impact on water will be stored in secure bunded areas in the construction compound or at designated storage areas on the construction site footprint. Drip trays will be provided for drum storage.

All waste containers (including all ancillary equipment such as vent pipes and refuelling hoses) will be stored within a secondary containment system.

Excavation and the stripping of soils will not be undertaken until absolutely necessary to prevent sediment run off and leaching of nutrients from soils into drains or to groundwater.

All potentially contaminating liquids in the existing site buildings, including oil storage tanks, boilers, chemicals and cleaning agents will be removed from the site and disposed in accordance with the requirements of the Construction Environmental Management Plan submitted under separate cover.

Excavated soils will be stockpiled to minimise the effects of weathering. Care will be taken in re-working this material to minimise dust generation, groundwater infiltration and generation of runoff.

The following mitigation measures will be used to control the interaction of wash down water from concrete and cementitious material with water:

- All batching and mixing activities will be located in contained areas;

- Pouring of cementitious materials will be carried out where possible in dry weather conditions;
- Pumped concrete will be monitored to ensure no accidental discharge;
- Excess concrete will not be discharged to ground;
- There will be no hosing into the ground surface of spills of concrete, cement, grout or similar materials;
- Washout from mixing plant or concrete trucks will not be permitted on the site.

The groundwater removed from the excavations will be treated on site to allow for settlement, pH adjustment and removal of contaminants such as hydrocarbons if detected, prior to discharge to the Irish Water storm sewer. Prior to commencement of the discharge a trade effluent discharge licence will be obtained from Irish Water to discharge to the sewer. Monitoring of the discharge water quality will be undertaken in accordance with the licence requirements. While the actual parameters and testing frequency will be determined by Irish Water, **Table 9.5** sets out an indicative range.

| Parameter | Guide limit | Mandatory limit | Frequency and Manner of Sampling |
|-------------------------|--|-----------------|---|
| Temperature | | 1.5 °C | Weekly, and at appropriate intervals where the works activities associated with the scheme have the potential to alter the temperature of the waters. |
| Dissolved oxygen | 50% of samples \geq 9 (mg/l O ₂) 100% of samples \geq 7(mg/l O ₂) | | Weekly, minimum one sample representative of low oxygen conditions of the day of sampling. |
| pH | | 6-9 | Weekly |
| Suspended Solids | \leq 25(mg/l) | | Monthly |
| BOD5 | \leq 3(mg/l) | | Monthly |
| Petroleum Hydrocarbons | 5(mg/l) | | Monthly (visual) |
| Total Ammonium | \leq 0.004 (mg/l NH ₄) | | Monthly |
| Electrical Conductivity | | | Weekly |

Table 9.5 Proposed Surface Water Monitoring Programme during Construction Dewatering

9.9.3 Operational Phase Mitigation

Sustainable Drainage Systems (SuDS) measures are incorporated into the developed surface water management system. These include attenuation for stormwater beneath each building block, both intensive and extensive green roofs, blue roofs, interconnected tree pits, attenuation storage and oil interceptors in basement parking areas to prevent the discharge of oily run-off to ground or surface water courses. These measures are outlined in detail in the BMCE Drainage Design report included under separate cover with this application.

The bulk of the site will be hard paved with buildings walkways and parking areas which will minimise the risk of spills or leaks from cars or trucks discharging to groundwater beneath the site.

9.10 Residual Impact Assessment

Residual impacts are potential impacts after mitigation measures have been applied. As expected by definition residual impacts are therefore generally not quantifiable in terms of significance in terms of potential effects on the environment.

9.10.1 Demolition Phase

The impacts of the demolition phase on hydrology and groundwater post mitigation will be neutral, imperceptible, temporary and at the site scale.

9.10.2 Construction Phase

The impacts of the construction phase on hydrology and groundwater post mitigation will be slight, insignificant, temporary and at the site scale.

9.10.3 Operational Phase Mitigation

The use of SUDS mitigation measures in the Operational Phase will result in improved quality of surface water run-off to the off-site drainage network and in the quality the water percolating to the groundwater beneath the site. The impacts of the Operational Phase on hydrology and groundwater post mitigation will consequently be positive, significant, permanent and at the site scale.

9.11 Monitoring

The Works Contractor will appoint an appropriately qualified and experienced person to monitor the demolition and construction works to ensure that the measures described in the CEMP are being implemented. Monitoring will be undertaken to assess noise and vibration, and dust during the demolition and construction phases of the project. Details of the monitoring for Noise and Vibration are addressed specifically in Chapter 11 while Dust monitoring is addressed in Chapter 12. Monitoring points will be set up at locations to be determined by specialist sub-contractors at the site boundaries adjacent to the most sensitive receptors i.e. dwellings close to the development site. Monitoring frequencies will be in accordance with best practice guidelines. In addition an Environmental Monitoring Officer (EMO) will be appointed by the Applicant. The EMO will ensure that the requirements of the

CEMP are being implemented. The EMO will also review monitoring reports to be prepared by the Contractor based on the requirements specified in the CEMP to ensure that the construction does not impact on the environment and surrounding residential occupants and the general public. Monitoring will be carried out as required in the discharge licence to the sewer.

During the works to form basement levels it may be necessary to dewater the excavations and if required this would require the pumping of water under the conditions of a Trade Effluent Discharge License issued to the construction contractor by Irish Water. The relevant monitoring requirements are presented in detail in Chapter 9.

9.12 Residual Impact Assessment

9.12.1 Demolition Phase

The impacts of the demolition phase on hydrology and groundwater post mitigation will be neutral, imperceptible, temporary and at the site scale.

9.12.2 Construction Phase

The impacts of the construction phase on hydrology and groundwater post mitigation will be slight, insignificant, temporary and at the site scale.

9.12.3 Operational Phase

The impacts of the Operational Phase on hydrology and groundwater post mitigation will be positive, significant, permanent and at the site scale.

9.12.4 Cumulative

A number of development projects have been granted planning permission in the local area by Dublin City Council or by An Bord Pleanála under Strategic Housing Development provisions. Developments which include for the excavation of soils and formation of basement levels are identified below.

1. SHD 0013/19 The redevelopment of the Rialto Cinema on South Circular Road.
2. SHD 0002/19 Redevelopment of former Dulux Factory site, Davitt Road.
3. 3756/15, Redevelopment Parnell Road 40 space basement car park.
4. 3853/1743-50 Dolphin Barn Street, redevelopment of former factory to include 67 basement car parking spaces.
5. 3086/17, 75-78 Cork Street, redevelopment of factory, development footprint of 1815m² with basement level car parking
6. 3974/17, 44 Parnell Road, Development of apartment building on 1000m² footprint with basement car park 9 spaces and waste storage area.
7. 3513/19, Parnell Road, Former ESB Depot, Development of 55 unit residential over 57 no. car space basement.

8. 20207/17, Como Lake Ltd 69D Donore Av, Development with 26 car parking spaces at basement Level.
9. 3321/17; No. 8, Newmarket and No. 18 Mill Street , Dublin 8 (bounded by Mill Street to the south, Mill Lane to the east and Newmarket to the north) basement for 17 car parking spaces and ancillary storage.
10. 3323/17; IDA Ireland Small Business Centre, Newmarket Industrial Estate, Newmarket, Dublin 8, Double Basement in to provide 112 car parking spaces together with 195 No. bicycle parking spaces plus ancillary shower and changing facilities together with ancillary plant and storage facilities.
11. 3426/18, The Donnelly Centre Phase 2 Building, Cork Street/Brickfield Lane, Dublin 8.. Basement for storage and plant room not for car parking.
12. 2182/16 Junction of Mill Street and Blackpitts, Dublin 8 (Permission is sought to construct a student accommodation with small basement area for plant rooms in southeast corner of site.
13. 4337/16 at 118-128, The Coombe, Dublin 8. Proposed development of Hotel with a basement (2,012 sq.m) .
14. The Old Glass Factory, rear 113-115 Cork Street, 118 Cork Street and lands at rear; 119-122 Cork Street and lands to the rear; 56 John Street South and adj. laneway, Dublin 8. Construction of 4 No. to part 7 No. storey over basement.
15. SHD0031/20 (ABP-308917-20) Former Player Wills site and Undeveloped Land in Ownership of Dublin City Council, South Circular Road, Dublin 8, Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
16. 3752/19 ;Applicant: c. 0.152 ha site at New Street off New Street South, Dublin 8, the provision of 16 no. car parking spaces at basement level; 2 no. lift cores; 3 no. stair cores; ancillary facilities (including bicycle storage (57 no. spaces) and shower block).
17. 4743/19; Newmarket, Brabazon Place, Brabazon Row and St. Luke's Avenue, Dublin 8, 151 bed hotel with a basement/lower ground floor.
18. 2654/20: 25-26, Blackpitts, Dublin 8; 27 apartments and will include cycle parking, plant rooms and storage areas for apartment and mosque at basement level,
19. SHD0003/19 (ABP-303436) Mill Street, Sweeney's Terrace and Clarence Mangan Road, Dublin 8, section with 37 no. residential (Build to Rent) apartments residential support and amenity facilities at ground and basement level.

The Strategic Development and Regeneration Area 12 (SDRA 12) development plan includes for the redevelopment of lands in the immediate environs of the subject site including the Player Wills site to the east. It is reasonable to assume that mitigation measures similar to those being implemented at this development will apply to other developments in the area.

Post mitigation, it is considered therefore that the cumulative residual effect on surface water hydrology will be neutral, imperceptible, permanent at the local area scale, and the potential effect on groundwater will be negative, insignificant and permanent at the local area scale.

9.12.5 Summary

The Table below summarises the effects of the proposed development during the demolition and construction following the application of mitigation measures.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|---------------|--------|-------------|-----------|----------------|
| Removal of paving and fill and existing underground services | Neutral | Insignificant | Site | Likely | Temporary | Indeterminable |
| Removal of subsoil and bedrock | Negative | Slight | Site | Likely | Permanent | Cumulative |
| Dewatering of Excavations | Negative | Insignificant | Site | Likely | Temporary | Cumulative |
| Construction of basement, foundations, buildings and roads | Negative | Slight | Site | Likely | Temporary | Indirect |

Table 9.6 Summary of Demolition & Construction Phase Effects Post Mitigation

Table 9.7 summarises the effects during the operational phase of the proposed development post mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|----------|--------------|--------|-------------|-----------|------------|
| Constructed hard paving and surface water drainage, landscaping | Positive | Moderate | Local | Likely | Permanent | Cumulative |

Table 9.7 Summary of Operational Phase Effects Post Mitigation

9.13 Interactions

Interactions are dealt with in Chapter 15 of this EIAR.

Briefly, the demolition and construction phase works have the potential to impact on surface and groundwater quality. As part of the Trade Effluent Discharge Licence which will be required to discharge water from the site the quality of the water will be monitored to ensure it does not impact on surface water off site.

9.14 Summary of Mitigation & Monitoring

Table 9.8 summarises the Demolition & Construction Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|---|---|---|
| Removal of paving and fill and existing underground services | <p>All potentially contaminating liquids in the existing site buildings, including oil storage tanks, boilers, chemicals and cleaning agents have been removed from the site and disposed in accordance with the requirements of the Construction Environmental Management Plan (CEMP)</p> <p>All construction and demolition plant will be regularly checked to ensure there are no leaks or drips of oils to ground. Plant maintenance will not be undertaken on site. All fuel oils for plant will be stored in bunded storage areas.</p> <p>All construction materials with the potential to impact on soils will be stored in secure bunded areas within the site compound. Drip trays provided for drum storage</p> <p>All waste containers (including all ancillary equipment such as vent pipes and refuelling hoses) will be stored within a secondary containment system.</p> | Monitoring of CEMP measures by EMO appointed by client and contractor appointed personnel |
| Likely Significant Effect | Mitigation | Monitoring |
| Removal of subsoil and bedrock | <p>Implementation of relevant CEMP measures including;</p> <p>Excavation and the stripping soil/made ground will not be undertaken until absolutely necessary to prevent sediment run off and leaching of nutrients from soils into drains.</p> <p>Excavated soils will be temporarily stockpiled to minimise the effects of weathering. Care will be taken when re-working this material to minimise dust generation, groundwater infiltration and generation of runoff.</p> | Monitoring of CEMP measures by EMO and by contractor appointed personnel |
| Dewatering of Excavations | Treatment of the discharge water | Monitoring in accordance with Trade Effluent Discharge License |
| Construction of basement, foundations, buildings and roads | <p>All batching and mixing activities will be located in contained areas;</p> <p>Pouring of cementitious materials will be carried out where possible in the dry;</p> <p>Pumped concrete will be monitored to ensure no accidental discharge;</p> <p>Excess concrete will not be discharged to ground;</p> <p>There will be no hosing into the ground surface of spills of concrete, cement, grout or similar materials;</p> <p>Washout from mixing plant or concrete trucks will not be permitted on the site.</p> | Monitoring of CEMP measures by EMO and by contractor appointed personnel |

Table 9.8 Summary of Demolition & Construction Phase Mitigation and Monitoring

Table 9.9 below summarises the Operational Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|--|--|---|
| Constructed hard paving and SUDS drainage, landscaping | Diversion of rainfall run-off from parking areas and roads to oil interceptors | Maintenance of site infrastructure i.e. surface water drainage and interceptor systems. |

Table 9.9 Summary of Operational Phase Mitigation and Monitoring

Measures have been implemented to mitigate impacts on the environment at all phases of the proposed development i.e. demolition, construction and operation. The implementation of these measures will mitigate potential impacts on Water and Hydrology which could occur as a result of the proposed development.

9.15 Conclusions

Detailed site investigations including the installation of groundwater monitoring wells, field and laboratory analysis of groundwater quality were completed to establish baseline hydrogeological conditions of the site. The investigations established that the groundwater is generally of good quality.

The proposed development will involve the removal of buildings from the Bailey Gibson site, the removal of soils to install for water, foul sewers electrical services and the removal of soils and small amounts of bedrock to form basement levels and plant rooms.

The demolition works will have neutral, Insignificant temporary effect on the groundwater beneath the site and the construction works will have a negative slight and temporary effect on the groundwater.

When constructed the operational phase of the development will result in a positive moderate and permanent impact on the local environment.

Measures have been developed to ensure that the impacts on groundwater beneath the site and surface water off site are mitigated. These measures include the preparation of a Construction Management Plan and the preparation of a Construction Environmental Management Plan. The measures also include for supervision on behalf of the developer by an Environmental Monitoring Officer of the CEMP measures to be implemented by the appointed contractor to ensure the development does not impact negatively on environmental receptors.

The implementation of the mitigation measures will result in insignificant impacts on the environment.

In conclusion, the proposed development will not cause any deterioration of the status of the surface or groundwater bodies concerned, nor will it jeopardise the attainment of any better status for surface water or groundwater. It will result in an improvement in surface waters locally due to less inundation of sewers during flood events.

9.16 References and Sources

- Environmental Risk Assessment and Waste Characterisation Reports, 2019 Bailey Gibson Site, O'Callaghan Moran & Associates
- Environmental Risk Assessment and Waste Characterisation Reports, 2019 Player Wills Phase 3 Area, 2020, O'Callaghan Moran & Associates
- Construction Environmental Management Plan, 2021, DCON Safety Consultants
- Construction and Demolition Waste Management Plan, 2020, Barret Mahony Consulting Engineers,
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Guidelines on the Information to be contained in Environmental Impact Assessment Reports – (EPA, 2022);
- Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements, Institute of Geologists of Ireland 2013.
- Environmental Impact Assessment Directive 2011/92/EU, as amended by Directive 2014/52/EU
- Water Framework Directive 2000/60/EC - enacted into Irish legislation through S.I. No. 722 of 2003 European Communities (Water Policy) Regulations 2003 as amended.
- European Communities Environmental Objectives (Groundwater) Regulations (S.I. 9 of 2010) as amended
- EU Floods Directive 2007/60/EC European Communities (Assessment) and Management of Flood Risks) Regulations, 2010 (S.I. No. 122 of 2010) as amended.

CHAPTER 10

BIODIVERSITY (FLORA & FAUNA)

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|-----------|---|-------------|
| 10 | Biodiversity (Flora & Fauna) | 10-3 |
| 10.1 | Introduction | 10-3 |
| 10.2 | Expertise and Qualifications | 10-3 |
| 10.3 | Proposed Development | 10-3 |
| 10.4 | Methodology | 10-5 |
| 10.4.1 | Desk study | 10-5 |
| 10.4.2 | Field Surveys | 10-6 |
| 10.4.3 | Consultation | 10-8 |
| 10.4.4 | Evaluation of Ecological Features | 10-8 |
| 10.5 | Baseline Environment | 10-9 |
| 10.5.1 | General Description of the Existing Environment | 10-9 |
| 10.5.2 | Designated Conservation Areas | 10-12 |
| 10.5.3 | Rare and Protected Species | 10-14 |
| 10.5.4 | Habitats | 10-15 |
| 10.5.5 | Fauna | 10-15 |
| 10.5.6 | Overall Evaluation of the Proposed Development Site | 10-16 |
| 10.6 | Difficulties Encountered | 10-22 |
| 10.7 | Do Nothing Scenario | 10-22 |
| 10.7.1 | No Project Scenario | 10-22 |
| 10.7.2 | Extant Bailey Gibson Permission | 10-22 |
| 10.8 | Likely Significant Effects Impact Assessment | 10-23 |
| 10.8.1 | Demolition and Construction Phase | 10-23 |
| 10.8.2 | Operational Phase | 10-24 |
| 10.8.3 | Cumulative | 10-26 |
| 10.8.4 | Summary | 10-28 |
| 10.9 | Mitigation | 10-28 |
| 10.9.1 | Incorporated Design Mitigation | 10-28 |
| 10.9.2 | Demolition and Construction Phase Mitigation | 10-29 |
| 10.9.3 | Operational Phase Mitigation | 10-30 |
| 10.10 | Monitoring | 10-31 |

| | | |
|--------------|--|--------------|
| 10.11 | Residual Impact Assessment | 10-31 |
| 10.12 | Interactions..... | 10-32 |
| 10.13 | Summary of Mitigation & Monitoring..... | 10-33 |
| 10.14 | Conclusion..... | 10-34 |
| 10.15 | References and Sources | 10-35 |

Table of Figures

| | |
|---|-------|
| Figure 10.1 Location of Proposed Bailey Gibson development site | 10-11 |
| Figure 10.2 Location of the Proposed Bailey Gibson Development Site with the Dublin City Council lands and the Player Wills lands within the application boundary also shown(Red line is indicative, refer to accompanying documentation for full details)..... | 10-12 |
| Figure 10.3 Study site showing European sites (Circle denotes a 15km radius from the centre of the study city) (Source: <i>OpenStreetMap</i>)..... | 10-13 |
| Figure 10.4 Study site showing designated conservation areas (non-European sites) (Circle denotes a 5km radius from the centre of the study site) (Source: <i>OpenStreetMap</i>) | 10-14 |
| Figure 10.5 Habitat map (Source: <i>OpenStreetMap</i> .) (Site boundary red line is indicative only, for full details refer to the accompanying documentation.) | 10-18 |

Table of Tables

| | |
|---|-------|
| Table 10-1 Summary of Demolition & Construction Phase Likely Significant Effects..... | 10-28 |
| Table 10-2 Summary of Operational Phase Likely Significant Effects..... | 10-28 |
| Table 10-3 Summary of Demolition & Construction Phase Effects Post Mitigation..... | 10-32 |
| Table 10-4 Summary of Operational Phase Effects Post Mitigation..... | 10-32 |
| Table 10-5 Summary of Demolition & Construction Phase Mitigation and Monitoring | 10-33 |
| Table 10-6 Summary of Operational Phase Mitigation and Monitoring | 10-33 |

10 Biodiversity (Flora & Fauna)

10.1 Introduction

This Chapter of the EIAR comprises an assessment of the likely effects on Biodiversity of the proposed strategic housing development at the 'Bailey Gibson' site, South Circular Road, Dublin 8.

It provides a description of the baseline site ecological conditions based on several surveys over a number of years, assesses the potential effects of the proposed development during the construction and operational phases on biodiversity and includes appropriate measures to mitigate such impacts.

The proposed development is described in Chapter 2 of the EIAR.

The potential for any impacts on sites designated as European (Natura 2000) sites, under the EU Habitats and Birds Directives was also appraised, and the results of that study are presented in a separate report (Appropriate Assessment (AA) Screening Report) that accompanies this application under separate cover.

10.2 Expertise and Qualifications

Brady Shipman Martin was commissioned to prepare this report on behalf of the applicant. The work was carried out by Ecologist Matthew Hague BSc MSc Adv. Dip. Plan. & Env. Law CEnv MCIEEM. Matthew is an Associate with Brady Shipman Martin and is a highly experienced and qualified ecologist, with a master's degree in Ecosystem Conservation and Landscape Management. He has 20 years of experience in ecological and environmental consultancy, across a wide range of sectors. He has prepared the biodiversity chapters/Ecological Impact Assessments and Appropriate Assessments for numerous successful strategic housing developments (SHD), including those at Bailey Gibson, Player Wills, Holy Cross College (Clonliffe Road), Castleforbes Road and East Road in Dublin City Centre; Portmarnock, Glencairn, Clay Farm, Brennanstown, Hollystown and Woodbrook in the wider county, and several more throughout the country. Matthew is currently working on at least half a dozen additional large residential schemes in the greater Dublin area and also regularly acts as a peer reviewer, advising on and contributing to the biodiversity chapters of other EIARs for SHD projects.

Matthew is a Chartered Environmentalist (CEnv) and a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM). Matthew has also completed an Advanced Diploma in Planning and Environmental Law, at King's Inns and is a member of the Irish Environmental Law Association (IELA).

10.3 Proposed Development

This application relates to a proposed mixed-use strategic housing development (SHD) on a site of approx. 5.5 hectares in Dublin 8. It includes all of the former Bailey Gibson site and a small portion of the former Player Wills site, both of which are owned by the Applicant, CWTC

Multi Family ICAV acting solely in respect of its sub fund DTBR SCR1 Fund. The balance of the proposed development site relates to land owned by Dublin City Council (DCC) known locally as the 'Boys Brigade pitch' and part of the St. Teresa's Gardens site, together with DCC controlled public roads.

The application area is predominately within Strategic Development Regeneration Area (SDRA) 12, St. Teresa's Gardens & Environs as identified in the Dublin City Development Plan 2016-2022. The part of the proposed development site not within SDRA 12 relate to works proposed in the public roads surrounding the site, South Circular Road, Donore Avenue and Rehoboth Place.

A comprehensive description of the proposed development is set out in the Planning Statement. The Statutory Notices should also be referenced.

Briefly, it is proposed to demolish the existing vacant buildings and structures on the Bailey Gibson site to make way for development of 345 new homes across 5 blocks, BG 1 - BG 5, ranging in height from 2-7 storeys. The residential blocks will be contained within the Bailey Gibson site. The typology is predominantly apartments with 4 townhouses proposed in block BG5.

This is a mixed tenure scheme, with 292 units proposed as Build to Rent (BtR) across blocks BG1-BG3 and 53 units proposed as Build to Sell (BtS) in blocks BG4 and BG5. It is proposed to deliver 34 social and affordable homes as part of the overall total.

All apartments have private amenity space. At ground floor this is in the form of terraces and on upper levels, balconies. Each of BG1-BG4 have communal amenity areas either as a courtyard or podium area.

Tenant amenities and facilities are proposed in the BtR blocks and include a gym, co-working space, kitchen/lounge areas, concierge, and waste facilities.

Over 2 hectares of public open space including a multi-sport play pitch, a playground, 'St. Teresa's Playground', a boulevard, 'St. Teresa's Boulevard', a park, 'Players Park', a plaza, 'Rehoboth Plaza'.

The proposed non-residential uses include in blocks BG1 and BG2 commercial units that have the capacity to support daily living needs e.g., a shop, pharmacy and professional services. A creche with capacity for approx. 60 children. In block BG2 the design includes floorspace for a café/restaurant/bar.

In total there are 89 car parking spaces allocated to the proposed apartments and all are contained within the Bailey Gibson site. Apart from 1 space at podium level, the parking is contained within a basement. Additionally, 10 'Go Car' spaces are proposed at podium level for residents use only. Each of the 4 townhouses has 1 on-curtilage car parking space.

Visitor parking is at street level and the proposed sport pitch will be serviced separately by new spaces on the public roads. The scheme includes set down parking for the creche, a loading bay for deliveries and coach parking area.

Provision is made for disabled parking, electric vehicle charging, a car sharing scheme and motorcycle parking.

784 spaces are proposed for cycle parking including secure residents parking, visitor parking and spaces for cargo bicycles.

Other works include the development of a network of streets across the proposed development site that will link with other sites within SDRA 12 and into the wider street network of Dublin 8. Improvement works within existing local streets to facilitate access and safe movement.

Ancillary development works includes the construction of electricity substations, meter rooms, plant rooms at basement level, waste storage areas, solar photovoltaics, drainage, landscaping, and lighting.

10.4 Methodology

A comprehensive desk-based assessment has been undertaken, and numerous site visits have been carried out, between May 2019 and May 2022 (see Section 10.4.2).

10.4.1 Desk study

This EIAR chapter has been prepared in accordance with the following **publications**:

- EPA *Guidelines on the Information to be Contained in Environmental Impact Statements* (EPA, 2002);
- EPA *Guidelines on the Information to be Contained in Environmental Impact Assessment reports* (EPA, 2022);
- *Environmental Impact Assessment of Projects – Guidance on Screening* (European Commission, 2017).
- *OPR Practice Note PN02: Environmental Impact Assessment Screening* (Office of the Planning Regulator (OPR) (2021);
- EPA *Advice Notes on Current Practice (in the Preparation of Environmental Impact Statements)* (EPA, 2003);
- *Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment* (European Commission, 2013);
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Housing, Planning and Local Government, August 2018);
- *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (Transport Infrastructure Ireland (formerly the National Roads Authority), 2009);
- *Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland: Terrestrial, Freshwater, Coastal and Marine* ('the CIEEM Guidelines') published by the Chartered Institute of Ecology and Environmental Management (CIEEM), September 2018, updated in September 2019 (V1.1).

The proposed development complies with the following **legislative instruments**:

- The Planning and Development Act, 2000 as amended (the "Planning Acts");
- The Wildlife Act 1976 and the Wildlife (Amendment) Act 2000;
- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the "Habitats Directive");

- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (the “Birds Directive”);
- European Communities (Birds and Natural Habitats) Regulations 2011-2015;
- Flora (Protection) Order 2015;
- Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment, as amended
- By Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment;
- European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

The EIAR chapter has regard to the following **Policies and Plans**:

- Third National Biodiversity Plan 2017-2021 (Department of Culture, Heritage and the Gaeltacht, 2017);
- Dublin City Development Plan 2016-2022, including the accompanying Appropriate Assessment documentation (Natura Impact Report);

Information was collated from the **sources** listed below:

- Data on rare and protected plant and animal species contained in the following databases:
 - The National Parks and Wildlife Service (NPWS) of the Department of Culture, Heritage and the Gaeltacht: www.npws.ie;
 - The National Biodiversity Data Centre (NBDC) www.biodiversityireland.ie;
 - Birdwatch Ireland www.birdwatchireland.ie;
 - Bat Conservation Ireland www.batconservationireland.org;
- Recent aerial photography and photographs taken at the site;
- Recent and historic ordnance survey mapping www.geohive.ie;
- Information on protected areas, as well as watercourses, catchments and water quality in the area available from <https://gis.epa.ie/EPAMaps/>;
- Information on soils, geology and hydrogeology in the area available from www.gsi.ie;
- Information on the Status of EU Protected Habitats and Species in Ireland (Article 17 report) (NPWS, August 2019);
- Information on land-use zoning from the online mapping of the Department of the Environment, Community and Local Government <http://www.myplan.ie/en/index.html>.

10.4.2 Field Surveys

In order to provide a comprehensive baseline on the local ecological environment, comprehensive biodiversity surveys were undertaken at the site. Ecological surveys were first undertaken at the site by the author on 1 May 2019. These were followed up by further ecological surveys by the author on the following dates:

- 21 May 2019;
- 23 May 2019;
- 18 December 2019;
- 4 March 2020;
- 5 April 2020;
- 29 September 2020;
- 6 October 2020;
- 31 May 2021;
- 23 June 2021;
- 28 June 2021
- 13 December 2021.

The surveys undertaken by the author comprised habitat, invasive species, mammal, bird and day-time bat surveys.

A final site visit (habitat survey) was undertaken by the author on 16 February 2022.

In addition to the ecological surveys undertaken by the author, a suitably qualified and experienced ecologist, dedicated dusk and dawn bat surveys were also undertaken at the site. These were carried out by specialist bat ecologist Mr Brian Keeley.

Mr Keeley first surveyed the site on 19/20 August 2019. This study comprised a day-time inspection of the structures at the site as well as dusk and dawn surveys (using bat detecting equipment). These bat detector surveys were repeated on 21/22 September 2021. In addition to this, a winter assessment of the buildings was undertaken on 13 December 2021 and a final, daytime survey took place on 16 February 2022. All of the bat surveys were undertaken by Mr Keeley. The bat surveys undertaken are consistent with the level of survey recommended in the NPWS document *Bat Mitigation Guidelines for Ireland – Wildlife Manuals No. 134 and No. 25*.

Overall the level of survey undertaken, between 2019 and 2022, provides a very comprehensive biodiversity baseline for the site.

10.4.2.1 Habitats and flora

During the course of the site visits the habitats were identified, described and mapped. Habitats were surveyed using the *Best Practice Guidance for Habitat Survey and Mapping*¹ and were classified using *A Guide to Habitats in Ireland*². Vascular plant nomenclature follows that of the *New Flora of the British Isles 3rd Edition*³.

10.4.2.2 Fauna

The proposed development site is entirely urban in nature, regardless it was searched for any evidence of large mammals such as badger or otter. The proposed development site was also searched for evidence of breeding birds (including swifts, swallows and house martins) as well as for the presence of any habitat suitable for use by overwintering birds. Daytime

¹ Smith G. F., O'Donoghue P., O'Hora K. and Delaney E. 2010

² Fossitt J. 2000

³ Stace, 2010

assessments (internal and external) were undertaken of all buildings and other structures in order to assess the likely presence of any features suitable for use by roosting bats. Comprehensive dawn and dusk bat surveys (using bat detectors) were also undertaken and a bat survey report is included as Appendix 10.1).

10.4.2.3 Watercourses

A review of the proposed site drainage and potential links to off-site watercourses was undertaken in conjunction with the project engineers⁴ and the authors of Chapter 9 (Water and Hydrology) of this EIAR.

10.4.3 Consultation

Given the nature of the site it was not necessary to undertake a consultation exercise with prescribed bodies (such as the EPA, Inland Fisheries Ireland, National Parks and Wildlife Service or Dublin City Council) specifically in connection with biodiversity.

Dublin City Council Parks, Biodiversity & Landscape Services, in its submission as part of the Dublin City Council Opinion issued to An Bord Pleanála⁵ stated the following in relation to biodiversity enhancement:

The proposed architecture and landscape architecture shall incorporate measures to enhance biodiversity in an urban setting, such as with built-in bat boxes and swift boxes. An annotated plan of the scheme presenting these should be included in the submission.

The landscaping for the proposed development has been designed with biodiversity as a priority, refer to the Landscape Design Statement (prepared by Niall Montgomery & Partners and submitted separately) and Chapter 5 of this EIAR. The annotated plan of the scheme is presented in the Landscape Design Statement (at Section 04 (Landscape Diagrams) – Biodiversity Enhancements.

10.4.4 Evaluation of Ecological Features

The methodologies used to determine the value of ecological resources, to characterise impacts of proposed development and to assess the significance of impacts and any residual effects are consistent with the Draft EPA Guidelines as reproduced in Chapter 1 of the EIAR and are in accordance with the NRA *Guidelines for Assessment of Ecological Impacts of National Road Schemes*^{6,7}. This methodology is in turn consistent with the *Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland – Terrestrial, Freshwater, Coastal and Marine*⁸. The methodologies used ensure a sequential appraisal of potential impacts, by considering firstly the existing baseline, followed by the potential impacts of development, cumulative impacts, mitigation measures and finally, the residual impacts of development.

⁴ Refer to the Civil Engineering Infrastructure Report prepared by Barrett Mahony Consulting Engineers

⁵ Comments dated 2 December 2021, in the DCC Opinion issued to An Bord Pleanála (ABPSHDPAC0020/21)

⁶ NRA, 2009. Guidelines for Assessment of Ecological Impacts of National Road Schemes. National Roads Authority

⁷ Although the proposed development is not a roads project, the NRA Guidelines are universally accepted in Ireland as the appropriate standard for use in ecological assessment. The use of the NRA Guidelines combined with the CIEEM Guidelines ensures a very robust appraisal

⁸ The CIEEM Guidelines', CIEEM, September 2019

In accordance with the NRA Guidelines, impact assessment is undertaken of sensitive ecological receptors (Key Ecological Receptors) within the Zone of Influence of the proposed development. According to the NRA (TII) Guidelines, the Zone of Influence is the ‘*effect area*’ over which change resulting from the proposed development is likely to occur and the Key Ecological Receptors are defined as features of sufficient value as to be material in the decision-making process for which potential impacts are likely. In the context of the proposed development, a Key Ecological Receptor is defined as any feature valued as follows:

- International Importance;
- National Importance;
- County Importance; and
- Local Importance (Higher Value).

Features of local importance (Lower Value) and features of no ecological value are not considered to be Key Ecological Receptors, in accordance with the guidance.

10.5 Baseline Environment

10.5.1 General Description of the Existing Environment

The proposed development site at Bailey Gibson is (see **Figures 10.1** and **10.2**) bounded to the south by South Circular Road and to the west and north by existing residential development. It is bounded to the east by Donore Avenue.

With the exception of the south western corner of the site, which abuts South Circular Road (a former community garden known locally as the South Circular Road Garden), the Bailey Gibson site almost entirely comprises buildings and artificial surfaces. It is completely built up, with a mix of buildings, mainly warehouses and storage sheds. Apart from small patches of ruderal plants and some isolated pockets of scrub and small trees there are no vegetated habitats of any description on the site. Within the former community garden there are a number of trees and shrubs, including sycamore and cherry. Although there are numerous buildings on the site, the bat surveys undertaken recorded no evidence of any use of the site by roosting bats, and it concluded that there are virtually no features suitable for use by roosting bats within the proposed development site. Similarly, there is no evidence of nesting birds with the exception of small numbers of feral pigeons on the site. There is no evidence of nesting gulls on the roofs of any of the buildings on the site, and other species such as swallow and swift are not nesting on the site.

The proposed development site includes an area of land to the north east of Bailey Gibson (in the ownership of Dublin City Council). These lands comprise the St Teresa’s Gardens estate which includes buildings near Donore Avenue and recolonising bare ground where buildings have been demolished.

Located between the Bailey Gibson site and the Dublin City Council lands is an area of open, undeveloped land, containing rank grassland and bramble/buddleia dominated encroaching scrub known as the Boys Brigade lands. Part of this land is within the area of the proposed

development boundary. To the east of this undeveloped land, which is also in the ownership of Dublin City Council, is an area known as 'Player Wills'. The boundary of the proposed development includes a section of the Player Wills factory building roof.

With the exception of the community garden, parts of which may be of some very limited value to common nesting birds, and the recolonising ground within the Dublin City Council lands, the proposed development site contains no features of any ecological significance.

There are no surface watercourses present on or in the immediate vicinity of the site⁹. The nearest such feature, the Grand Canal, is approximately 130m to the south at its closest point. According to the Civil Engineering Infrastructure Report for Planning prepared by Barrett Mahony Consulting Engineers and submitted with the planning application there are several culverts within the local street network and crossing the SDRA 12 lands. This includes the main culverted watercourse of the Abbey Stream (a historical man-made distributary of the River Poddle), which was in turn diverted to a stormwater culvert in Donore Avenue. The River Poddle itself is marked on the EPA database as being approximately 710m to the east, however the Poddle is culverted for much of its length in the city centre and there is no connection between the proposed development site and this watercourse other than, potentially, via the stormwater drainage culverts in the local area. The proposed development site is located within the River Liffey and Dublin Bay catchment (in the Dodder sub-catchment and the Poddle sub-basin). As noted in Chapter 9, the Poddle is culverted and flows north to join the River Liffey approximately 1.4 km north of the site. Because of its relatively small catchment and the fact that it is extensively culverted, the Water Body status of the Poddle was not assessed in the Eastern River Basin District (ERBD) Management Plan.

As noted in Chapter 8, the site is underlain by the Lucan Limestone Formation, known as "The Calp", which comprises dark-grey to black, fine-grained, occasionally cherty, micritic limestone and shale. The site investigations have confirmed the GSI description of the bedrock. The site investigation also identified the presence of thin beds of mudstone at the top of the bedrock beneath the site.

⁹ <https://gis.epa.ie/EPAMaps/>

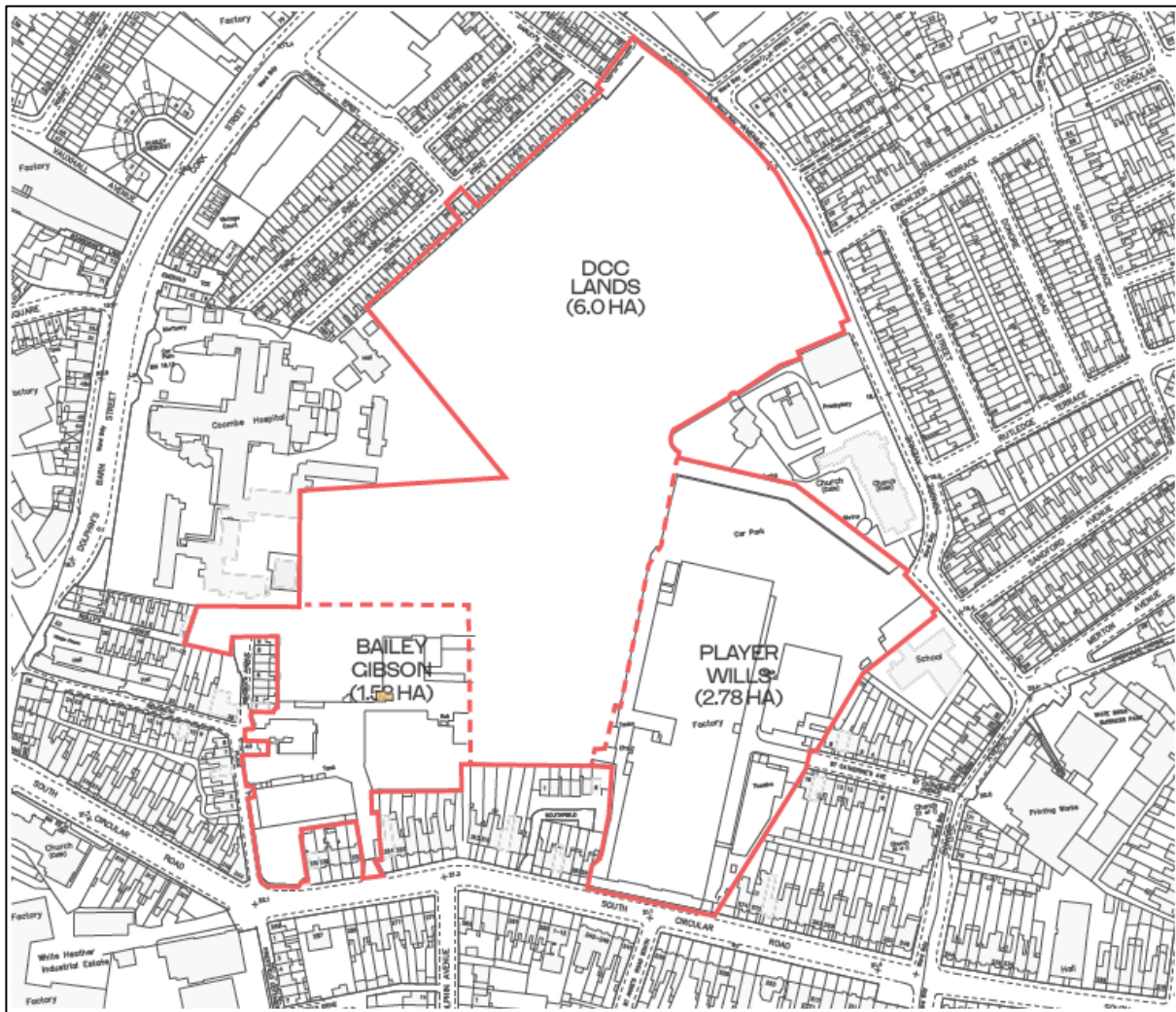


Figure 10.1 Location of Proposed Bailey Gibson development site

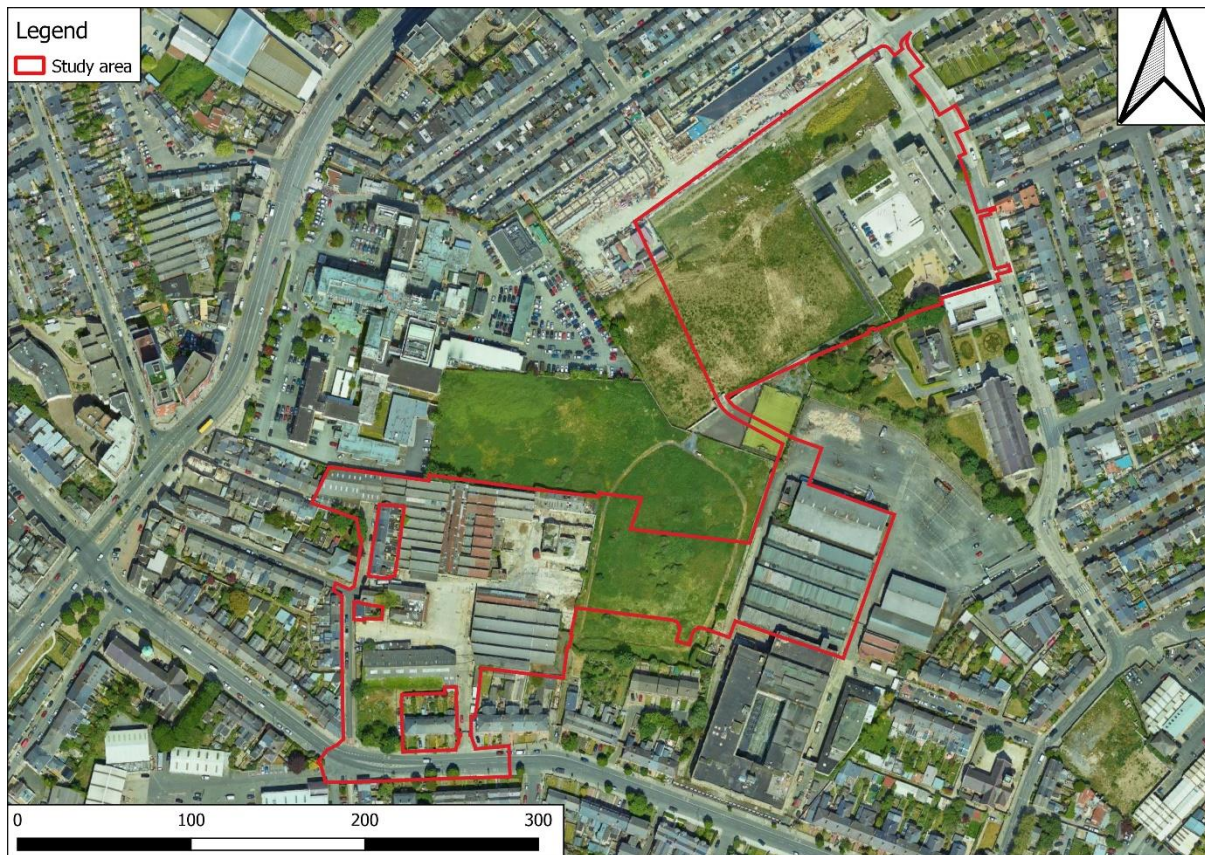


Figure 10.2 Location of the Proposed Bailey Gibson Development Site with the Dublin City Council lands and the Player Wills lands within the application boundary also shown (Red line is indicative, refer to accompanying documentation for full details)

10.5.2 Designated Conservation Areas

For the risk of a significant effect to occur there must be a 'source', such as a construction site; a 'receptor', such as a designated site for nature conservation; and a pathway between the source and the receptor, such as a watercourse that links the construction site to the designated site. A construction site or completed development may also create a barrier to movement, for example by preventing the migration of fauna along a river corridor, or by obstructing the migration of birds.

Although there may be a risk of an impact it may not necessarily occur, and if it does occur, it may not be significant.

The potential for any impacts on European sites from the proposed development site was considered. Full details of that study are presented in a separate report (*Appropriate Assessment Screening Report*).

No designated conservation areas occur within the area of the proposed development, nor in the immediate vicinity of the Bailey Gibson site. The AA Screening report concludes that in view of best scientific knowledge this report concludes that the proposed development at the

Bailey Gibson site, individually or in combination with another plan or project, will not have a significant effect on any European sites. This assessment was reached without considering or taking into account mitigation measures or measures intended to avoid or reduce any impact on European sites.

10.5.2.1 Relevant European Sites

The nearest European sites are the Special Areas of Conservation (SAC) and Special Protection Areas (SPA) associated with Dublin Bay (South Dublin Bay SAC (site code 000210), c.5km to the east; North Dublin Bay SAC (site code 000206), c.7.7m to the north east; South Dublin Bay and River Tolka Estuary SPA (site code 004024), c.4.9km to the east; and North Bull Island SPA (site code 004006), c.7.7km to the north east. Full details of these and all other European sites with potential links to the proposed development site are contained in the AA Screening report.

The European sites are shown in **Figure 10.3**.

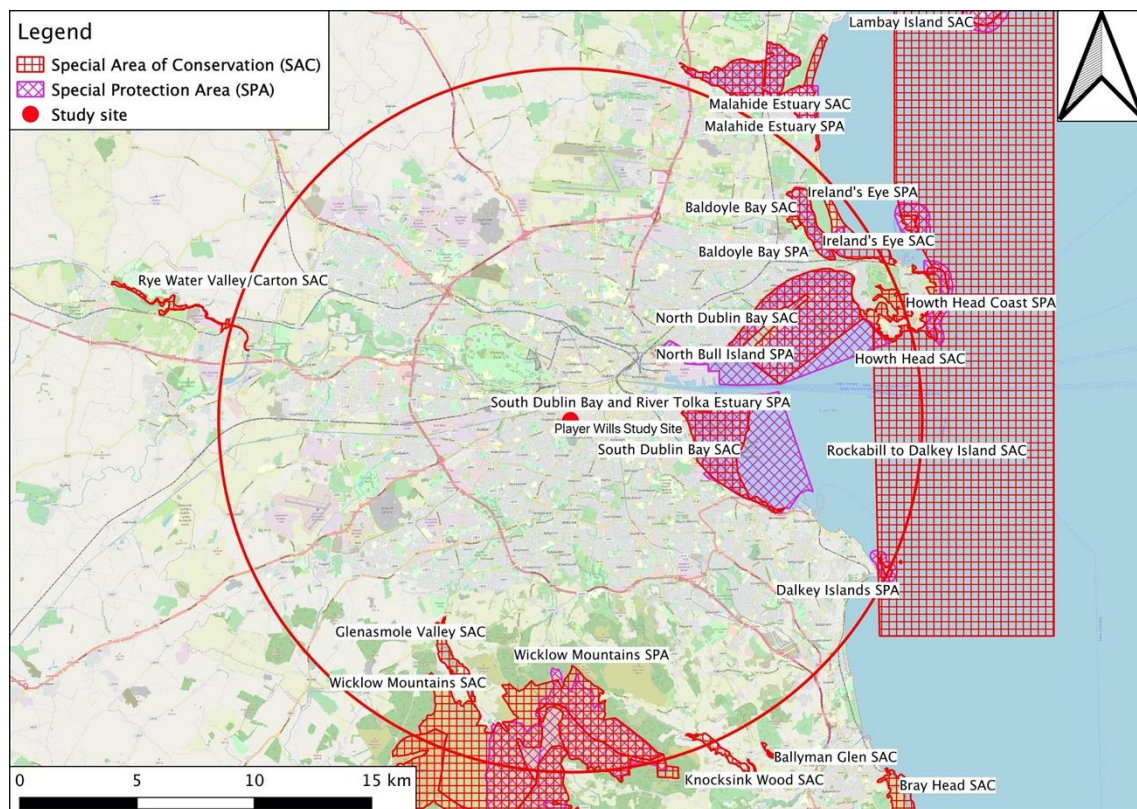


Figure 10.3 Study site showing European sites (Circle denotes a 15km radius from the centre of the study city) (Source: *OpenStreetMap*)

10.5.2.2 Other Designated Conservation Areas (other than European Sites)

The nearest site designated for nature conservation, not otherwise designated as a European site, is the Grand Canal proposed Natural Heritage Area (pNHA site code 002104). At its closest point the pNHA is c.25m from the Bailey Gibson site, although this section of the pNHA

is in fact located on developed land in the White Heather Industrial Estate. The Grand Canal itself is approximately 125m to the south.

These sites are shown in **Figure 10.4**.

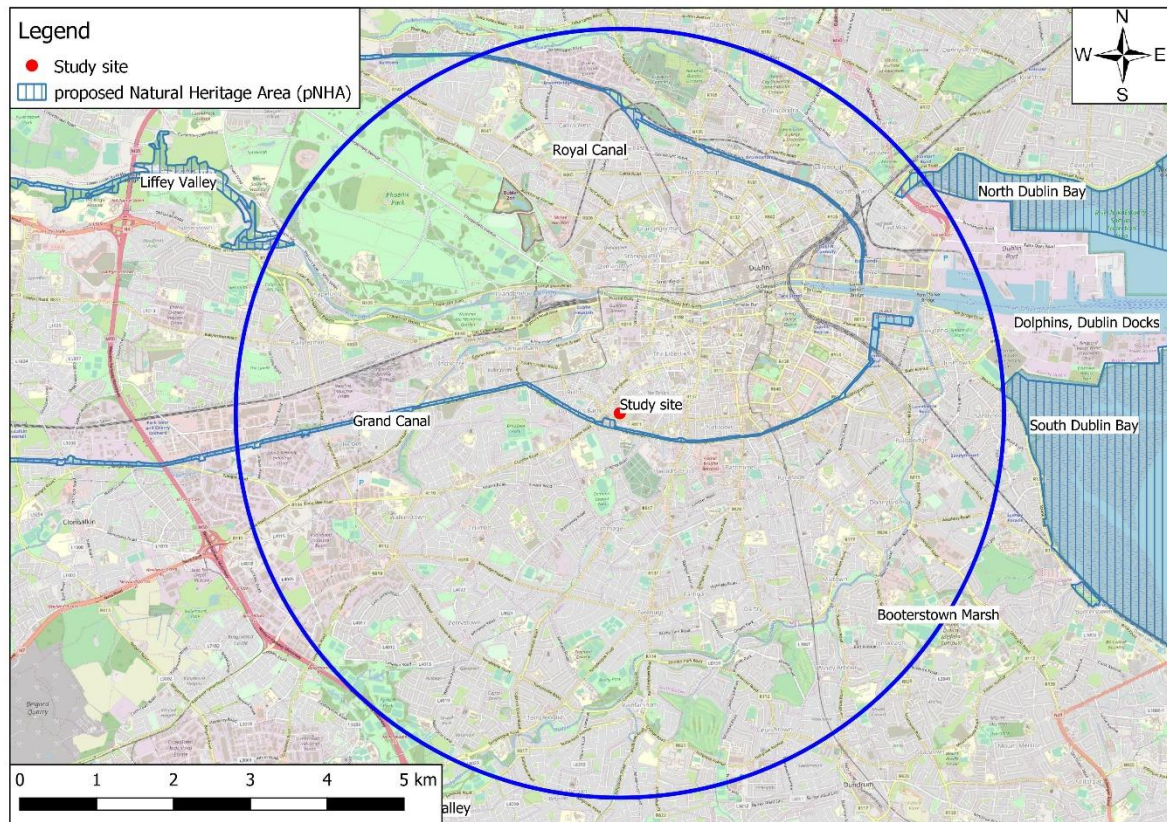


Figure 10.4 Study site showing designated conservation areas (non-European sites) (Circle denotes a 5km radius from the centre of the study site) (Source: *OpenStreetMap*)

10.5.3 Rare and Protected Species

The NPWS and NBDC databases were consulted with regard to rare species¹⁰ and species protected under the *Flora Protection Order* (2015). There are no known records of rare or protected plant species within the immediate vicinity of the proposed development site and none were recorded during any of the site visits undertaken.

No invasive plant species (i.e. those species listed on Schedule 3 of the *Birds and Habitats Regulations, 2011-2015*, such as Japanese knotweed (*Fallopia japonica*) or giant hogweed (*Heracleum mantegazzianum*) were identified on site, however several, including Japanese knotweed and giant hogweed, as well as rhododendron (*Rhododendron ponticum*), giant rhubarb (*Gunnera tinctoria*), Canadian waterweed (*Elodea Canadensis*), Nuttall's waterweed (*E. nutallii*) and Indian balsam (*Impatiens glandulifera*), have been recorded within 10km. Of note is Japanese knotweed, which is present at various locations along the Grand Canal within

¹⁰ Curtis & McGough 1988

500m of the site. It has also been recorded in pockets in the wider Dublin 8 and South Circular Road area. It is not however known to be present within the proposed development site, and none has been recorded to date.

10.5.4 Habitats

The habitats present on the proposed development site are shown in **Figure 10.5**

With the exception of minor pockets of (mainly buddleia (*Buddleja davidii*)) scrub (Fossitt code **WS1**) and some trees (sycamore (*Acer pseudoplatanus*) and alder (*Alnus glutinosa*)) located in the now defunct community garden the **Bailey Gibson** site is entirely dominated by buildings and hard surfaces (**BL3**). A single cherry (*Prunus* sp.) tree and an elder (*Sambucus nigra*) are also present in the community garden area. Occasional ruderal plants are present throughout the Bailey Gibson site, including buddleia, with occasional sycamore seedlings, as well as small patches of cleavers (*Galium aparine*), ragwort (*Senecio vulgaris*), dandelion (*Taraxacum officinale*), beaked hawk's-beard (*Crepis vesicaria*), nettle (*Urtica dioica*), ox-eye daisy (*Leucanthemum vulgare*) and herb-Robert (*Geranium robertianum*). Small amounts of ivy (*Hedera helix*) are present in places (in particular on walls in the community garden).

The area within the DCC-owned lands (the **Boys Brigade** lands), comprises abandoned and unmanaged grassland (**GS1/GA2**), with encroaching scrub (**WS1**, dominated by buddleia, bramble and sycamore seedlings). Other species present include rosebay willowherb (*Chamaenerion angustifolium*), nettle, and various grasses.

The **St. Teresa's Gardens** part of the study site (also within the Dublin City-Council-owned lands) comprises the remaining buildings of the St. Teresa's Gardens flat complex (buildings, hard standing and minor landscaping/mown grass) on the eastern side. The remainder of this section of the site is made up of cleared (and now recolonising) land (**ED3**) and spoil heaps/bare ground (**ED2**). Species in this area include buddleia, sycamore seedlings, as well as small patches of cleavers, garlic mustard (*Alliaria petiolata*), various docks (*Rumex* spp.), ragwort, dandelion, beaked hawk's-beard, nettle, ox-eye daisy, gorse (*Ulex europaeus*) and herb-Robert. Garden escapes, including pampas grass (*Cortaderia* sp.) and New Zealand cabbage tree (*Cordyline australis*) are also found in this area. There is a small number of street trees (mainly flowering cherry) in the eastern part of the site, near to Donore Avenue.

The section of the proposed development located within the **Player Wills land** is virtually entirely in hardstanding or occupied by buildings, with the exception of very minor areas of buddleia and bramble scrub (and occasional sycamore saplings).

10.5.5 Fauna

All Irish bat species are fully protected under the Wildlife Act (1976) and subsequent amendments, and under the *EU Habitats Directive*, transposed inter alia by the *European Communities (Birds and Natural Habitats) Regulations, 2011-2021*.

As confirmed in the accompanying bat survey report (refer to **Appendix 10.I, Volume III** of the EIAR), no bats were noted within the site.

Bat activity was very low in both bat detector assessments (September 2021 and August 2019). The period August/September is a time of year when bat activity is very high in good foraging areas or close to bat roosts. Bat activity was low throughout the night in August 2019 with most bat activity occurring in the green area (the Dublin City Council-owned lands). The principal bat activity was common pipistrelle. Lighting from existing buildings illuminated areas of the site.

There was no bat activity within the site prior to sunrise in August 2019. Bat activity during the night was occasional and ceased at 03.29 hours (2 hours 44 minutes prior to sunrise).

Bat activity was even lower in September 2021 with a total of 6 bat passes of 2 species from all combined sources (EM3, Touch 2 Pro and Songmeter Mini). This was possibly partially due to the positioning of the monitor away from the green area where it had been placed in 2021.

Bats did not swarm at the site and were not seen to either emerge from a building after sunset or return to a building prior to sunrise either in 2019 or 2021.

A survey undertaken in 2021 in the Dublin City Council-owned land (between the Bailey Gibson site and Player Wills and outside the proposed development site that forms the current planning application area) recorded a single bat (likely a pipistrelle), entering ivy growing on a wall. Extensive follow up surveys, including as part of the winter assessment of buildings undertaken by the bat specialist on 13 December 2021 and on 16 February 2022 found no further evidence of bat activity either in this location or in the wider area.

Similarly no evidence of badgers or other species protected under the *Wildlife Acts* including otter (itself further protected under Article 12 of the Habitats Directive) was recorded and it is not considered remotely likely that these or other protected species utilise the site, even on an occasional basis. This is due to the fact that the habitats present are entirely unsuitable for these protected species. Foxes, afforded limited protection under the *Wildlife Acts*, are occasionally seen on the site.

With very limited exceptions, birds, as well as their nests and eggs, are fully protected under the Wildlife Act (1976) and subsequent amendments. The bird fauna of the site is notably poor, and other than small numbers of rooks, magpies and some feral pigeons, no birds were recorded. Although swifts are regularly seen in the wider area of South Circular Road, none have been recorded nesting in the site itself.

No evidence of any other protected species (such as reptiles, amphibians, butterflies or moths) was recorded on the proposed development site.

10.5.6 Overall Evaluation of the Proposed Development Site

No rare habitats or habitats of any ecological value (i.e. International, National or County Importance, or Local Importance) are present, and there are no Key Ecological Receptors at the proposed development site.

Small numbers of bats have been recorded flying during the course of bat surveys undertaken, however no evidence of roosting bats has been found within the site. There are no habitats of any importance for commuting/foraging bat species on the site.

In addition no evidence of any protected species such as badger, otter, amphibians or reptiles, or rare or protected plants was recorded during the surveys carried out, and the habitats present are not suitable for such species.

Overall the site is entirely unsuited to use by any protected fauna, other than, potentially, small numbers of nesting birds in the former South Circular Road Garden. The bird fauna recorded on the site was very limited, and there is no habitat on the site suitable for use, even on a very occasional basis, by any overwintering birds, such as pale-bellied Brent goose, or any other protected bird species listed as a Special Conservation Interest (SCI) in any European site.

The proposed development site (including Bailey Gibson, the Dublin City Council-owned lands and the area located within the Player Wills site) is of no ecological importance, in accordance with the ecological resource valuations presented in the *Guidelines for Assessment of Ecological Impacts of National Road Schemes*¹¹.

¹¹ (NRA, 2009 (Rev. 2) <https://www.tii.ie/technical-services/environment/planning/Guidelines-for-Assessment-of-Ecological-Impacts-of-National-Road-Schemes.pdf>

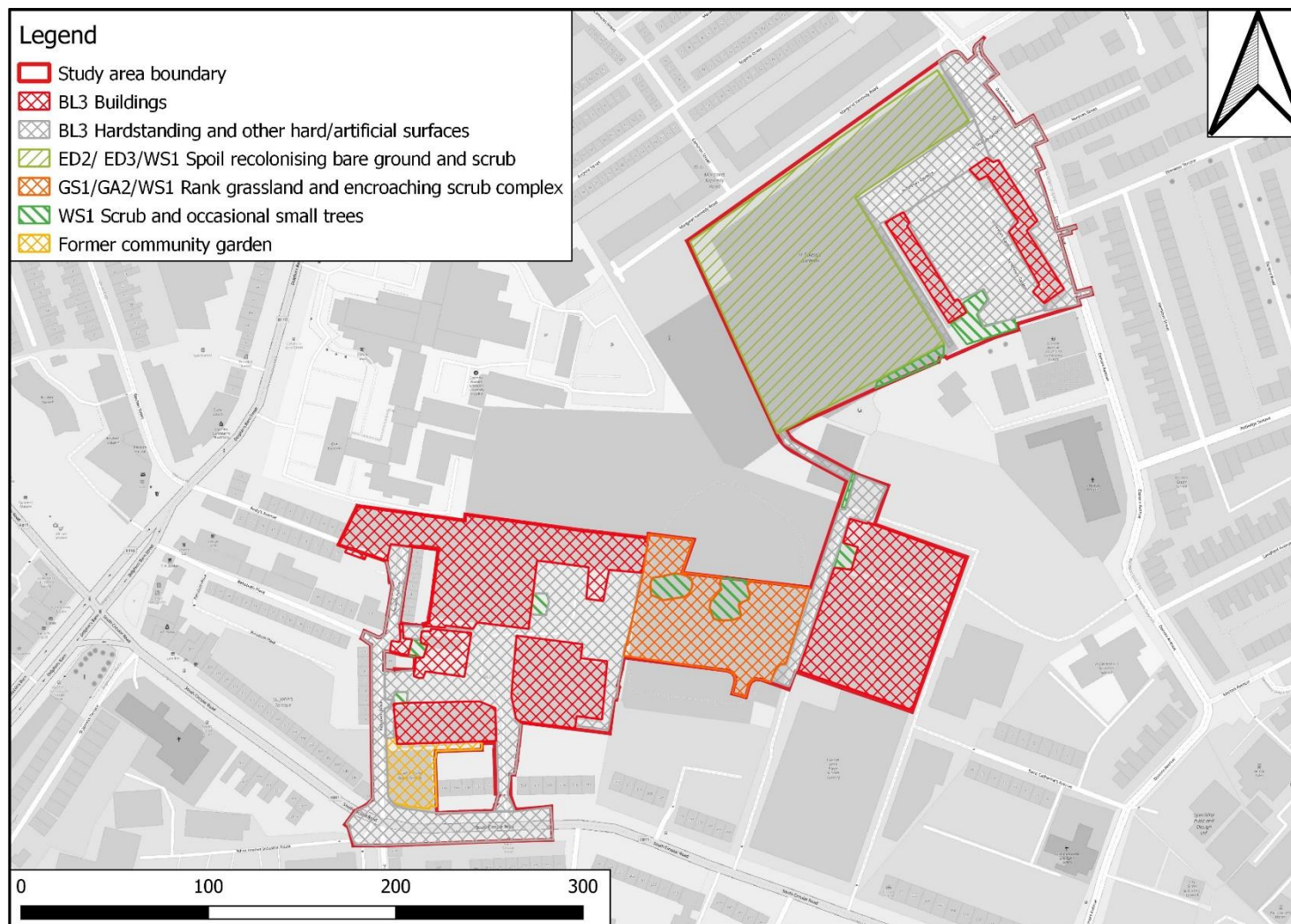


Figure 10.5 Habitat map (Source: *OpenStreetMap*.) (Site boundary red line is indicative only, for full details refer to the accompanying documentation.)



Plate 10.1: Bailey Gibson – hardstanding and buildings.



Plate 10.2: Internal view of buildings at Bailey Gibson.



Plate 10.3: Abandoned buildings at Bailey Gibson.



Plate 10.4: Buildings and hardstanding at Bailey Gibson.



Plate 10.5: The Dublin City Council-owned lands (former St Teresa's Gardens buildings).



Plate 10.6: View of the Player Wills site (including the part of the site located within the proposed development boundary) from the Boys Brigade lands.

10.6 Difficulties Encountered

No difficulties were encountered in compiling the Biodiversity Chapter of this EIAR. All surveys were undertaken to an appropriate level given the nature of the site and the proposed development.

10.7 Do Nothing Scenario

10.7.1 No Project Scenario

As noted in Section 10.5.6 the proposed development site (including Bailey Gibson, the Dublin City Council-owned lands and part of Player Wills) is of no ecological importance, and with the exception of the community garden and the Boys Brigade lands, the site is virtually entirely hardstanding, buildings or heavily disturbed. Should the site remain undeveloped and the current uses continue, no significant improvement in the biodiversity value of the proposed development site can be expected. If left unmanaged the Dublin City Council-owned lands would develop more scrub vegetation which could in turn provide additional nesting bird habitat.

The site is zoned for development and it is likely that in the absence of this subject proposal a development of a similar nature would be progressed on the site that accords with National policy for compact growth on brownfield sites. Should the site be redeveloped at a later stage, or in accordance with the existing grant of planning permission (ABP Reg. Ref.: 307221) it is reasonable to expect that any potential impacts would be similar to those predicted to arise as a result of the proposed development.

10.7.2 Extant Bailey Gibson Permission

In the short term (1-7 years), the extant permission for a Strategic Housing Development (Ref. ABP-307221-20) at the Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8 would be implemented. The effect would be as per the post mitigation effects outlined in the Biodiversity chapter included in the EIAR that accompanied that application which concluded as follows;

“The application of mitigation measures as set out in this EIAR will result in no residual demolition, construction, or operational residual impact on any ecological receptors, either within or in the vicinity of the proposed development site, or associated with any site designated for nature conservation. Furthermore, given the lack of any habitats of any significant ecological value at the proposed development site, no reinstatement is required. As set out in this Chapter and within Chapter 5 (Landscape & Visual), ecologically sensitive planting will be undertaken, leading to an overall increase in ecological diversity at the proposed development site.”

The Board in their decision identified that the proposed development was unlikely to have significant effects on biodiversity.

10.8 Likely Significant Effects Impact Assessment

10.8.1 Demolition and Construction Phase

10.8.1.1 Designated Conservation Areas

The potential for any impacts on European designated sites (sites designated for nature conservation under the EU Habitats and Birds Directives) has been assessed separately, and a stand-alone report (Appropriate Assessment Screening Report), compiled in consultation with the wider design team including the project engineers, has been prepared for submission as part of the overall planning application.

Based on the studies undertaken and the features of the proposed development, the AA Screening process concluded that none of the habitats and species listed as qualifying interests or special conservation interests in any European site designation will be affected by the proposed development and full AA, including the preparation of a Natura Impact Statement (NIS), is not required. The following paragraphs are extracted from the AA Screening report conclusions:

In view of best scientific knowledge this report concludes that the proposed development at the Bailey Gibson site, individually or in combination with another plan or project, will not have a significant effect on any European sites. This assessment was reached without considering or taking into account mitigation measures or measures intended to avoid or reduce any impact on European sites.

It is considered that this report provides sufficient relevant information to allow the Competent Authority (An Bord Pleanála) to carry out an AA Screening, and reach a determination that the proposed development will not have any likely significant effects on European sites under Article 6 of the Habitats Directive in light of their conservation objectives.

Similarly, there is no direct or indirect pathway between the proposed development site and the Grand Canal pNHA, and therefore no impacts on this or any other pNHA will occur.

10.8.1.2 Habitat Loss and Disturbance

The proposed development will require the removal or significant alteration of the existing hard-standing areas / buildings as well small areas of scrub and the former community garden and their replacement with the mixed-use development and significant landscaping.

These areas are of no ecological value and there will be *no significant effects* as a result of this loss.

The landscaping and open space proposed include a new park (Players Park) as well as St. Teresa's Verdant Boulevard and St. Teresa's Playground. These two areas, to be provided on either side of the new multi-sport playing pitch, include biodiverse landscape planting.

10.8.1.3 Disturbance to or Loss of Habitat for Fauna

No bat roosts were recorded on the proposed development site. Similarly there are no trees on the proposed development site remotely likely to be used by roosting bats, even occasionally.

There will be no disturbance to or loss of habitat for other mammals, such as otters or badgers, as none were recorded on the site and there is no suitable habitat.

There will be *no significant effects* as a result of disturbance to or loss of habitat for mammals.

There will be a minor reduction in vegetation cover for nesting birds as a result of the proposed development.

In the absence of mitigation (i.e. landscape planting) this would be a potential likely *permanent, site-specific not significant negative effect on biodiversity* as there will be a loss of some established vegetation. However, the landscaping proposed (refer to Chapter 5 and the Landscape Design Statement) will lead to an increase in habitat (feeding and nesting) for birds.

There will be no impacts on amphibians, reptiles, lepidoptera or any other species groups as a result of the proposed development as none were recorded on the site and there is no suitable habitat.

10.8.1.4 Discharges to Surface and/or Groundwater

The construction phase of the proposed development could potentially have short term impacts on water quality, via contaminated run-off and sedimentation, in the absence of mitigation. There are however no streams or rivers on or adjacent to the site.

Although there is a potential surface water pathway, via the local drainage network, between the proposed development site and coastal European sites associated with Dublin Bay, the risk of contamination of any watercourses or groundwater is extremely low, and even in the event of a pollution incident on the proposed development site there is no possibility of there being any biodiversity-related effects downstream in the River Liffey or in Dublin Bay. Indeed, as confirmed in the *Hydrological and Hydrogeological Qualitative Risk Assessment* for the proposed development, prepared by AWN Consulting and submitted separately, there is no perceptible risk to water requirements for the European sites in Dublin Bay.

There will not be any impacts on water related to biodiversity. Regardless, all construction works will proceed in line with the recommendations and guidance provided in the Construction, Environmental Management Plan (CEMP) for the proposed development¹². See Chapter 9 (Water and Hydrology) for further information.

10.8.2 Operational Phase

Surface water flows from the proposed development site will be restricted in accordance with the requirements of the Greater Dublin Strategic Drainage Strategy (GDSDS). The GDSDS

¹² DCON Safety Consultants

addresses the issue of sustainability by requiring designs to comply with a set of drainage criteria which aim to replicate the run-off characteristics of the greenfield site. The criteria provide a consistent approach to addressing the increase in both rate and volume of run-off. The calculations set out in the Engineering Infrastructure Report prepared by Barrett Mahony Consulting Engineers and submitted separately incorporate a 20% increase in storage volume to allow for climate change.

- Operational impacts related to surface water or ground water management, in the context of biodiversity, as a result of the proposed development, will not be significant.

A **flood risk** assessment has been carried out by Barrett Mahony Consulting Engineers (it is included in the Engineering Infrastructure Report), in accordance with the OPW publication “*The Planning System and Flood Risk Assessment Guidelines for Planning Authorities*”. The report concluded that there is no risk of flooding affecting the site from fluvial sources, so it is possible to develop the site within Flood Zone C. Further, the development does not affect the flood storage volume or increase flood risk elsewhere.

- Operational impacts related to flooding, in the context of biodiversity, as a result of the proposed development, will not be significant.

The new **foul drainage system** for the development will be constructed across the SDRA 12 Lands, connecting to the combined sewer culvert in Donore Avenue, to the east of the multi-sport playing pitch. Due to the topography of the site, a pump station with 24-hour storage capacity will be located at the northern end of the development. Foul flows will be pumped to a final manhole for gravity discharge to the public combined sewer – this is confirmed as acceptable by Irish Water, which issued a Confirmation of Feasibility (29 October 2019). Further, Irish Water issued a Statement of Design Acceptance on 22 March 2022. These letters are contained as appendix II(c) and II(d) of the Civil Engineering Infrastructure Report for Planning prepared by BMCE.

Foul wastewater discharge from the proposed development will be treated at the Irish Water Wastewater Treatment Plant (WwTP) at Ringsend prior to discharge to Dublin Bay. The peak wastewater discharge is calculated at 8.518 l/s (BMCE, 2022). The Ringsend WwTP operates under licence from the EPA (Licence no. D0034-01) and received planning permission (ABP Reg. Ref.: 301798) in 2019 for upgrade works, which commenced in 2018 and are expected to be fully completed by 2025. The upgrade works will result in treatment of sewage to a higher quality than current, thereby ensuring effluent discharge to Dublin Bay will comply with the Urban Wastewater Treatment Directive by Q4 2023.

As stated in AWN’s *Hydrological and Hydrogeological Qualitative Risk Assessment*, even without treatment at the Ringsend WWTP, the peak effluent discharge, calculated for the proposed development as 8.518 l/s (which would equate to 0.077% of the licensed discharge at Ringsend WWTP [peak hydraulic capacity]), would not have a measurable impact on the overall water quality within Dublin Bay and therefore would not have an impact on the current Water Body Status (as defined within the Water Framework Directive). This assessment is supported by hydrodynamic and chemical modelling within Dublin Bay which has shown that

there is significant dilution for contaminants of concern (DIN and MRP) available quite close to the outfall for the treatment plant (Ringsend WWTP 2012 EIS, Ringsend WWTP 2018 EIAR; refer to Section 12.4.22, ABP-301798-18 Inspector's report). The most recent water quality assessment of Dublin Bay WFD Waterbody undertaken by the EPA (Water Quality in 2020: An Indicator Report, 2021) also shows that Dublin Bay on the whole, currently has an 'Unpolluted' water quality status (refer to www.catchments.ie).

- Operational impacts related to foul water management, in the context of biodiversity, as a result of the proposed development, will not be significant.

10.8.3 Cumulative

Applications were made for Strategic Housing Development at the Bailey Gibson site (ABP Reg. Ref.: 307221) and the Player Wills site (ABP Reg. Ref.: 308917). Both of these developments were subject to Screening for Appropriate Assessment. In each case the AA Screening report concluded that there would be no likelihood of significant effects on any European sites as a result of the proposed development. An Bord Pleanála concluded in each case that stage 2 AA was not required and planning permission was subsequently granted.

A number of developments have been granted planning permission in the local area, by Dublin City Council or by An Bord Pleanála. Developments with the potential for significant effects on biodiversity within the Zone of Influence of the proposed development include the following (based on a planning search conducted in May 2022):

- 3323/17 (PL29S.300431): IDA Ireland, Newmarket, Dublin 8: Mixed use residential, commercial and cultural development;
- 2812/17: The Brewery Block, Dublin 8: mixed use student accommodation and co-working space;
- 3853/17 (PL29S.302149): 43—50 Dolphin's Barn Street, Dublin 8: Mixed use residential and retail;
- 3426/18: The Donnelly Centre Phase 2 Building, Cork Street/Brickfield Lane, Dublin 8: Mixed use, student accommodation and commercial;
- ABP 305061: 355 South Circular Road, Dublin 8 (The Rialto Cinema): Student accommodation;
- 3752/19: Applicant: c. 0.152 ha site at New Street off New Street South, Dublin 8, the provision of 16 no. car parking spaces at basement level; 2 no. lift cores; 3 no. stair cores; ancillary facilities (including bicycle storage (57 no. spaces) and shower block);
- 4743/19: Newmarket, Brabazon Place, Brabazon Row and St. Luke's Avenue, Dublin 8, 151 bed hotel with a basement/lower ground floor;
- 2654/20: 25-26, Blackpitts, Dublin 8; 27 apartments and will include cycle parking, plant rooms and storage areas for apartment and mosque at basement level;
- SHD0003/19 (ABP-303436) Mill Street, Sweeney's Terrace and Clarence Mangan Road, Dublin 8, section with 37 no. residential (Build to Rent) apartments residential support and amenity facilities at ground and basement level;

- 3675/21 Planning permission for the development on the site will consist of a new access gate to the boundary of the Coombe with Margaret Kennedy Road with all associated site works. This application site is in S.D.R.A. no. 12 St Teresa's Gardens and Environs Strategic Development and Regeneration Area. (currently subject of an Additional Information request from Dublin City Council);
- ABP-305324: Site known as a portion of the Brewery Block, bounded by Newmarket, St. Luke's Avenue, Brabazon Place/Brabazon Row and Ardee Street (The site includes Nos. 13/14 Ardee Street and No. 29 Newmarket), Dublin 8.);
- 3944/22: amendments to ABP-305324.

None of these developments will give rise to any significant effects on biodiversity and there are no predicted cumulative impacts in relation to biodiversity, for example in terms of habitat loss or disturbance to protected species, as a result of the proposed development in combination with existing / proposed plans or projects.

The Strategic Development and Regeneration Area 12 (SDRA 12) development plan includes for the redevelopment of lands in the immediate environs of the site as well as redevelopment of lands at the Coombe Hospital to the north of the site by the Land Development Agency (LDA).

Mitigation measures incorporated in this development combined with those in the above referenced developments will have no significant effects on biodiversity in the SDRA 12 area at the operational stage.

The Dublin City Development Plan 2016-2022 contains a number of objectives intended to protect and enhance the natural environment, while encouraging development in appropriate areas. The Development Plan was itself subject to Appropriate Assessment, and a Natura Impact Report (NIR) was prepared. In its conclusions the NIR noted that *"the council's commitments to the Habitats Directive and Appropriate Assessment that are presented in the plan will be sufficient to prevent inappropriate development that could result in adverse impacts on the conservation objectives of European sites"*.

The Plan took into account significant potential development in Dublin City, and included specific objectives for the Bailey Gibson, Player Wills and Dublin City Council and Lands – these lands were designated as a Strategic Development and Regeneration Area (SDRA 12 – St. Teresa's Gardens). It is noted that no impacts are expected on any European sites as a result of the proposed development at Bailey Gibson, which is in full compliance with all of the relevant Plan Objectives in relation to biodiversity.

The Strategic Development and Regeneration Area 12 (SDRA 12) development plan includes for the redevelopment of lands in the immediate environs of the Bailey Gibson site.

None of these developments will give rise to any impacts on biodiversity and there will be, similarly, no predicted cumulative impacts in relation to biodiversity, for example in terms of habitat loss or disturbance to, protected species as a result of the proposed development.

10.8.4 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|-----------------|----------------|----------------|----------------|----------------|
| Impacts on sites designated for nature conservation | Neutral | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Habitat loss and disturbance | Negative | Not significant | Site specific | Likely | Permanent | Direct |
| Disturbance to, and loss of habitat for, fauna: birds | Negative | Not significant | Site specific | Likely | Permanent | Direct |
| Disturbance to, and loss of habitat for, fauna: mammals and other species groups | Negative | Not significant | Site specific | Likely | Permanent | Direct |
| Discharges to surface and groundwater | Negative | Not significant | Site specific | Likely | Short-term | Indirect |

Table 10-1 Summary of Demolition & Construction Phase Likely Significant Effects

The Table below summarises the identified likely significant effects during the operational phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---------------------------|----------|-----------------|--------|-------------|-----------|------------|
| Surface water discharge | Positive | Moderate | Local | Likely | Permanent | Cumulative |
| Foul water discharge | Neutral | Not significant | Local | Likely | Permanent | Cumulative |

Table 10-2 Summary of Operational Phase Likely Significant Effects

10.9 Mitigation

10.9.1 Incorporated Design Mitigation

The proposed development incorporates a comprehensive landscape design¹³, with biodiversity-focussed planting (refer to Chapter 5 and the Landscape Design Statement that accompanies the application). The planting proposed in the Landscape Design Statement will greatly enhance the biodiversity resource on the proposed development site by creating new, pollinator-friendly habitats, both in the proposed parks and within the development in general.

¹³ By Niall Montgomery & Partners (NMP)

10.9.2 Demolition and Construction Phase Mitigation

10.9.2.1 Designated Conservation Areas

No designated conservation areas will be impacted in any way by the proposed development and no mitigation measures are required in this regard. Refer to the AA Screening Report that accompanies the planning application for full details in relation to European designated sites.

10.9.2.2 Habitats

There will be no significant habitat loss as a result of the proposed development – there will be no loss of Key Ecological Receptors. Regardless, a significant amount of new planting has been incorporated into the landscape design, and the planting has been designed with a view to maximising the new biodiversity resource at the proposed development site. The proposed planting/landscaping strategy (see Chapter 5 (Landscape & Visual) and the accompanying Landscape Design Statement) includes a mix of appropriate species, incorporating species that will attract feeding invertebrates, including moths, butterflies and bees. It takes full account of the All-Ireland Pollinator Plan 2021 – 2025.

The proposed planting schedule as set out in the Landscape Design Statement contains no invasive species and none will be introduced, either deliberately or inadvertently, to the proposed development site. Further, over 70% of the roof area within the proposed Bailey Gibson development will be green roofs, and the SuDS features will be similarly biodiverse.

10.9.2.3 Fauna

Where feasible and practicable, the clearance of any areas of scrub and any other vegetation that may be suitable for use by small numbers of nesting birds will be undertaken outside the bird nesting season (avoiding the period 1 March to 31 August). This includes the South Circular Road Community Garden as well as any other small areas of vegetation. Should the construction programme require vegetation clearance between March and August bird nesting surveys will be undertaken by suitably qualified ecologists. If no active nests are recorded, vegetation clearance will take place within 24 hours. In the event that active nests are observed, an appropriately sized buffer zone (up to 5m radius around the nest) will be maintained around the nest until such time as all the eggs have hatched and the birds have fledged – a period that may be three weeks from the date of the survey. Once it is confirmed that the birds have fledged and no further nests have been built or occupied, vegetation clearance may take place immediately.

No bat roosts have been recorded at the proposed development site and it will not be necessary to apply for a derogation licence under Regulation 54 or 55 of the *European Communities (Birds and Natural Habitats) Regulations 2011-2021*. The lighting design for the proposed development includes the following measures:

- All luminaires shall lack UV elements when manufactured and shall be LED;
- A warm white spectrum shall be adopted to reduce blue light component;
- Luminaires shall feature peak wavelengths higher than 550nm.

Bats are sensitive to light at night and although there is no more than limited bat activity at the proposed development site (refer to Section 10.5.5), the lighting design will ensure that the proposed development will not result in impacts on bats that do commute/forage in or near the proposed development site.

There are no roosting bats on the site, however, as required by Dublin City Council (Parks, Biodiversity & Landscape Services) and in order to enhance the overall biodiversity value of the proposed development site, a total of six bat boxes (such as Schwegler 2F or Schwegler 2FE or equivalent)) will be installed on the walls of buildings. In addition, three triple cavity swift boxes (such as Schwegler 17A or equivalent) will also be installed. The installation of these nesting and roosting features will take place under the supervision of a suitably experienced ecologist. The indicative locations of these features are shown on the Landscape Design Statement (Niall Montgomery & Partners) that accompanies the planning application. While this is not necessary in order to mitigate habitat loss or disturbance to swifts, the installation of boxes will increase the available nesting potential of the proposed development site for this species, which has undergone significant declines in recent years¹⁴.

No other mitigation measures are considered necessary for the protection of fauna.

10.9.2.4 Surface Water

As noted in Section 10.7.1.4 there will be no surface water related impacts on biodiversity as a result of the proposed development. Nevertheless, the surface water mitigation measures proposed in Chapter 9 will ensure that no sediment contamination, contaminated runoff or untreated wastewater will enter any onsite surface water drains during the construction of the proposed development.

10.9.3 Operational Phase Mitigation

10.9.3.1 Foul Water

As noted in Section 10.6.2 there will be no impacts related to foul water as a result of the proposed development and therefore no mitigation measures are required.

Full details of the foul sewer design can be found in the Civil Engineering Infrastructure Report prepared by Barrett Mahony Consulting Engineers.

10.9.3.2 Surface Water

As noted in Section 10.8.2 there will be no impacts related to surface water as a result of the proposed development.

The development is designed in accordance with the principles of Sustainable Drainage Systems (SuDS) as embodied in the recommendations of the Greater Dublin Strategic Drainage Study (GDSDS). The GDSDS addresses the issue of sustainability by requiring designs to comply with a set of drainage criteria which aim to minimize the impact of

¹⁴ <http://www.swiftconservation.ie/>

urbanization, by replicating the run-off characteristics of the greenfield site. The criteria provide a consistent approach to addressing the increase in both rate and volume of run-off, as well as ensuring the environment is protected from any pollution from roads and buildings. However, as confirmed in the *Hydrological and Hydrogeological Qualitative Risk Assessment prepared by AWN Consulting* and submitted separately, *even if the operation of the proposed SuDS and interceptor systems are excluded from consideration, there is no likely impact above water quality objectives as outlined in S.I. No. 272 of 2009, S.I. No. 386 of 2015 and S.I. No. 77 of 2019) in the worst case scenarios described above at section 3.2 and there will be no significant effect on any European site. The volume of contaminant release is low and combined with the significant attenuation within the stormwater drainage network, hydrocarbons will dilute to background levels with no likely impact above water quality objectives as outlined in S.I. No. 272 of 2009, S.I. No. 386 of 2015 and S.I. No. 77 of 2019 at any Natura 2000 sites.*

10.10 Monitoring

As noted in Section 10.8.1.3, should scrub clearance be required during the bird nesting season a Project Ecologist will be retained for the duration, to ensure that all construction works take place in accordance with the Construction, Demolition & Environmental Management Plan and the mitigation measures set out in the EIAR. This primarily relates to the area located within the South Circular Road Community Garden, but equally applies to any vegetated areas. No long-term ecological monitoring is required, other than post-construction monitoring of the bat and bird boxes installed, to ensure they continue to be functional.

10.11 Residual Impact Assessment

The proposed development will result in the removal of buildings, hard surfaces and habitats of very limited ecological value and their replacement with new development and associated communal open space and landscaped areas. The application of mitigation measures as set out in this EIAR will result in no residual demolition, construction, or operational residual impact on any ecological receptors, either within or in the vicinity of the proposed development site, or associated with any site designated for nature conservation.

Furthermore, given the lack of any habitats of any significant ecological value at the proposed development site, no reinstatement is required. As set out in this Chapter and within Chapter 5 (Landscape & Visual), ecologically sensitive planting will be undertaken, leading to an overall increase in ecological diversity at the proposed development site.

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development following the application of mitigation measures.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|----------|-----------------|----------------|----------------|----------------|----------------|
| Impacts on sites designated for nature conservation | Neutral | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Habitat loss and disturbance | Positive | Slight | Site specific | Likely | Permanent | Direct |
| Disturbance to, and loss of habitat for, fauna: birds | Positive | Slight | Site specific | Likely | Permanent | Direct |
| Disturbance to, and loss of habitat for, fauna: mammals (bats) and other species groups | Neutral | Not significant | Site specific | Likely | Permanent | Direct |
| Discharges to surface and groundwater | Neutral | Not significant | Site specific | Likely | Short-term | Indirect |

Table 10-3 Summary of Demolition & Construction Phase Effects Post Mitigation

The Table below summarises the identified likely significant effects during the operational phase of the proposed development post mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---------------------------|----------|-----------------|--------|-------------|-----------|------------|
| Surface water discharge | Positive | Moderate | Local | Likely | Permanent | Cumulative |
| Foul water discharge | Neutral | Not significant | Local | Likely | Permanent | Cumulative |

Table 10-4 Summary of Operational Phase Effects Post Mitigation

10.12 Interactions

At the proposed development site the main interactions of importance to biodiversity relate to **Landscape & Visual, Water & Hydrology** and **Land & Soils**. The mitigation measures for the proposed development have been designed to minimise the potential impact that the construction, demolition and operational phases may have on the receiving environment.

The landscape design for the proposed development takes into account the requirements to maximise the benefits to biodiversity, both locally and within the wider landscape. The landscape scheme (Chapter 5 and the Landscape Design Statement) proposes significant ecologically sensitive planting to provide for potentially diverse habitats.

As noted in Chapter 15 (Interactions) the potential significant impacts of biodiversity have been considered within the relevant discipline and mitigation measures outlined where required. With mitigation measures in place, no significant permanent residual negative impacts are predicted.

10.13 Summary of Mitigation & Monitoring

The Table below summarises the Demolition & Construction Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|---|---|--|
| Sites designated for nature conservation | None required | None required |
| Habitats (e.g.) habitat loss. It is noted that there are no habitats of ecological value on the site at present | New planting as part of the overall landscape design of the proposed development | None required other than that required as part of normal landscaping management requirements |
| Fauna (e.g. loss of features that could be used by breeding birds or roosting bats) | There will be no such loss, however the erection of bat and bird (swift) boxes will enhance the biodiversity of the proposed development site | Post construction monitoring of bat and bird boxes annually for a period of five years |
| Fauna (potential disturbance to commuting and foraging bats) | The lighting design for the proposed development ensures there will be no impacts on commuting or foraging bats | None required |
| Surface water | None required for biodiversity | None required for biodiversity |

Table 10-5 Summary of Demolition & Construction Phase Mitigation and Monitoring

The Table below summarises the Operational Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|--|--------------------------------|--------------------------------|
| Impacts on surface water receptors (water quality) | None required for biodiversity | None required for biodiversity |
| Impacts on foul water treatment capacity | None required for biodiversity | None required for biodiversity |

Table 10-6 Summary of Operational Phase Mitigation and Monitoring

10.14 Conclusion

The proposed development will require the removal of habitats of no ecological value from the site. These will be replaced by new buildings and related infrastructure, and a high quality landscape design will introduce new ecological resources to the site. Comprehensive measures have been developed to ensure that potential impacts on the existing ecological environment are fully mitigated.

The implementation of the mitigation measures will ensure that there will be no significant impacts on the ecological environment as a result of the proposed development, either during construction or once it is operational.

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CHAPTER 11

NOISE & VIBRATION

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|-------------|---|--------------|
| 11 | Noise & Vibration | 11-4 |
| 11.1 | Introduction..... | 11-4 |
| 11.2 | Proposed Development..... | 11-4 |
| 11.3 | Methodology | 11-6 |
| 11.3.1 | Construction Phase Assessment Criteria | 11-7 |
| 11.3.2 | Operational Phase Assessment Criteria | 11-9 |
| 11.3.3 | Inward Noise Impact Criteria | 11-11 |
| 11.4 | Baseline Environment..... | 11-15 |
| 11.4.1 | Site Location..... | 11-15 |
| 11.4.2 | Baseline Noise Survey Locations | 11-16 |
| 11.4.3 | Survey Periods..... | 11-18 |
| 11.4.4 | Personnel and Instrumentation | 11-19 |
| 11.4.5 | Measurement Parameters | 11-20 |
| 11.4.6 | Attended Survey Results | 11-20 |
| 11.4.7 | Unattended Survey Results..... | 11-21 |
| 11.4.8 | Comparison with Dublin City Noise Maps..... | 11-26 |
| 11.4.9 | Do Nothing Scenario | 11-27 |
| 11.4.10 | Assumed Façade Noise Levels for Assessment Purposes | 11-28 |
| 11.4.11 | Noise Risk Assessment Conclusion | 11-29 |
| 11.5 | Difficulties Encountered | 11-30 |
| 11.6 | Risk of Major Accidents and / or Disasters | 11-30 |
| 11.7 | Potential Significant Effects | 11-30 |
| 11.7.1 | Demolition and Construction Phase | 11-30 |
| 11.7.2 | Operational Phase..... | 11-36 |
| 11.7.3 | Cumulative | 11-39 |
| 11.7.4 | Inward Impact | 11-43 |
| 11.7.5 | Summary | 11-45 |
| 11.8 | Mitigation..... | 11-46 |
| 11.8.1 | Demolition & Construction Phase Mitigation | 11-46 |
| 11.8.2 | Operational Phase Mitigation | 11-48 |

| | | |
|--------------|--|--------------|
| 11.9 | Monitoring..... | 11-50 |
| 11.10 | Residual Impact Assessment | 11-51 |
| 11.10.1 | Demolition and Construction Phase | 11-51 |
| 11.10.2 | Operational Phase..... | 11-51 |
| 11.10.3 | Cumulative | 11-51 |
| 11.10.4 | Summary | 11-51 |
| 11.11 | Interactions..... | 11-53 |
| 11.12 | Summary of Mitigation & Monitoring..... | 11-53 |
| 11.13 | Conclusion..... | 11-54 |
| 11.14 | References and Sources | 11-55 |

Table of Figures

| | | |
|---------------|---|-------|
| Figure 11.1 | ProPG Approach | 11-13 |
| Figure 11.2 | Initial Noise Risk Assessments | 11-14 |
| Figure 11.3 | Site Layout | 11-16 |
| Figure 11.4 | Noise Monitoring Locations..... | 11-18 |
| Figure 11.5 | Number of $L_{A_{fmax}}$, 15 min events at each decibel level measured during the night period at location UN1 (free-field)..... | 11-23 |
| Figure 11.6 | Number of $L_{A_{fmax}}$, 15 min events at each decibel level measured during the night period at location UN2 (free-field)..... | 11-25 |
| Figure 11.7: | EPA Round 3 Noise Map for daytime..... | 11-26 |
| Figure 11.8: | EPA Round 3 Noise Map for night-time | 11-27 |
| Figure 11.9: | Noise-sensitive Locations | 11-32 |
| Figure 11.10: | 40m Zone around Bailey Gibson Site | 11-34 |
| Figure 11.11: | Combined 40m Zone around Bailey Gibson and Neighbouring Sites | 11-41 |
| Figure 11.12 | Extent of Glazing required with Performances as in Table 11.27 | 11-44 |
| Figure 11.13 | Construction and Demolition Noise Monitoring Locations | 11-50 |

Table of Tables

| | |
|--|-------|
| Table 11.1 Example Threshold of Significant Effect at Dwellings | 11-8 |
| Table 11.2 Recommended Vibration Criteria During Construction Phase | 11-8 |
| Table 11.3 Significance in Change of Noise Level – Construction Phase Traffic | 11-9 |
| Table 11.4 Recommended Internal Residential Noise Levels | 11-10 |
| Table 11.5 Significance in Change of Noise Level – Operational Phase Traffic | 11-11 |
| Table 11.6 Instrumentation Details | 11-19 |
| Table 11.7 Summary of Measurement Results for Location AN1..... | 11-20 |
| Table 11.8 Summary of Measurement Results for Location AN2..... | 11-21 |
| Table 11.9 Summary of Daytime Unattended Noise Measurements at UN1 (free-field)..... | 11-21 |
| Table 11.10 Summary of Night-time Unattended Noise Measurements at UN1 (free-field)..... | 11-22 |
| Table 11.11 Summary of Daytime Unattended Noise Measurements at UN2 (free-field) | 11-24 |
| Table 11.12 Summary of Night-time Unattended Noise Measurements at UN2 (free-field)..... | 11-24 |
| Table 11.13 Assumed Equivalent Continuous and Maximum Noise Levels Incident on Façade at South Circular Road..... | 11-28 |
| Table 11.14 Typical predicted noise levels during different construction phases..... | 11-33 |
| Table 11.15 Description of impacts for Construction Noise at distances < 40m..... | 11-34 |
| Table 11.16 Description of impacts for Construction Noise at distances > 40m..... | 11-35 |
| Table 11.17 Description of impacts for Demolition and Construction Vibration | 11-35 |
| Table 11.18 Predicted Change In Noise Level associated with Vehicular Traffic – Construction Phase..... | 11-36 |
| Table 11.19 Description of impacts for Construction Traffic | 11-36 |
| Table 11.20 Description of impacts for Building Services Plant Noise | 11-37 |
| Table 11.21 Description of impacts for Delivery Activity..... | 11-37 |
| Table 11.22 Predicted Change In Noise Level associated with Vehicular Traffic..... | 11-38 |
| Table 11.23 Description of impacts for Additional Vehicular Traffic | 11-38 |
| Table 11.24 Predicted Change In Cumulative Noise Level associated with Vehicular Traffic – Construction Phase | 11-41 |
| Table 11.25 Predicted Change In Noise Level associated with Vehicular Traffic..... | 11-42 |
| Table 11.26 Description of Impacts for Additional Vehicular Traffic on Surrounding Roads - Operational Phase | 11-43 |
| Table 11.27 Minimum Sound Reduction Indices for External Glazing (R, dB) | 11-43 |
| Table 11.28 Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation | 11-45 |
| Table 11.29 Summary of Operational Phase Likely Significant Effects in the absence of mitigation | 11-45 |
| Table 11.30 Summary of Demolition & Construction Phase Effects Post Mitigation | 11-52 |
| Table 11.31 Summary of Operational Phase Effects Post Mitigation | 11-52 |
| Table 11.32 Summary of Demolition & Construction Phase Mitigation and Monitoring..... | 11-53 |
| Table 11.33 Summary of Operational Phase Mitigation and Monitoring..... | 11-53 |

11 Noise & Vibration

11.1 Introduction

This EIAR Chapter has been prepared by AWN Consulting Ltd. (AWN) to assess the potential noise and vibration effects of the proposed development in the context of current relevant standards and guidance as detailed in relevant sections below.

This chapter includes a description of the receiving ambient noise climate in the vicinity of the subject site and an assessment of the potential noise and vibration impact associated with the proposed development, during both the short-term construction phase and the permanent operational phase, on its surrounding environment. The assessment of direct, indirect and cumulative noise and vibration effects on the surrounding environment have been considered in this chapter.

Mitigation measures are included, where relevant, to ensure the proposed development is constructed and operated in an environmentally sustainable manner in order to ensure minimal impact on the receiving environment.

This assessment has been prepared by Mike Simms BE MEngSc MIOA MIET, Senior Acoustic Consultant at AWN, who has worked in the field of acoustics for over 15 years and has been a consultant since 1998. He has extensive experience in all aspects of environmental surveying, noise modelling and impact assessment for various sectors including, energy, industrial, commercial and residential. Recent experience of residential developments where noise is an important element of the environmental assessment include:

- St Marnock's Bay Phase 1C and 1D, Portmarnock, Co Dublin;
- Kettle's Lane housing development, Kinsealy, Co Dublin;
- Carr's Lane housing development, Malahide Road, Co Dublin;
- Havelock House mixed-use development, Ormeau Road, Belfast.

11.2 Proposed Development

This application relates to a proposed mixed-use strategic housing development (SHD) on a site of approx. 5.5 hectares in Dublin 8. It includes all of the former Bailey Gibson site and a small portion of the former Player Wills site, both of which are owned by the Applicant, CWTC Multi Family ICAV acting solely in respect of its sub fund DTBR SCR1 Fund. The balance of the proposed development site relates to land owned by Dublin City Council (DCC) known locally as the 'Boys Brigade pitch' and part of the St. Teresa's Gardens site, together with DCC controlled public roads.

The application area is predominately within Strategic Development Regeneration Area (SDRA) 12, St. Teresa's Gardens & Environs as identified in the Dublin City Development Plan 2016-2022. The part of the proposed development site not within SDRA 12 relate to works proposed in the public roads surrounding the site, South Circular Road, Donore Avenue and Rehoboth Place.

A comprehensive description of the proposed development is set out in the Planning Statement. The Statutory Notices should also be referenced.

Briefly, it is proposed to demolish the existing vacant buildings and structures on the Bailey Gibson site to make way for development of 345 new homes across 5 blocks, BG 1 - BG 5, ranging in height from 2-7 storeys. The residential blocks will be contained within the Bailey Gibson site. The typology is predominantly apartments with 4 townhouses proposed in block BG5.

This is a mixed tenure scheme, with 292 units proposed as Build to Rent (BtR) across blocks BG1-BG3 and 53 units proposed as Build to Sell (BtS) in blocks BG4 and BG5. It is proposed to deliver 34 social and affordable homes as part of the overall total.

All apartments have private amenity space. At ground floor this is in the form of terraces and on upper levels, balconies. Each of BG1-BG4 have communal amenity areas either as a courtyard or podium area.

Tenant amenities and facilities are proposed in the BtR blocks and include a gym, co-working space, kitchen/lounge areas, concierge, and waste facilities.

Over 2 hectares of public open space including a multi-sport play pitch, a playground, 'St. Teresa's Playground', a boulevard, 'St. Teresa's Boulevard', a park, 'Players Park', a plaza, 'Rehoboth Plaza'.

The proposed non-residential uses include in blocks BG1 and BG2 commercial units that have the capacity to support daily living needs e.g., a shop, pharmacy and professional services. A creche with capacity for approx. 60 children. In block BG2 the design includes floorspace for a café/restaurant/bar.

In total there are 89 car parking spaces allocated to the proposed apartments and all are contained within the Bailey Gibson site. Apart from 1 space at podium level, the parking is contained within a basement. Additionally, 10 'Go Car' spaces are proposed at podium level for residents use only. Each of the 4 townhouses has 1 on-curtilage car parking space.

Visitor parking is at street level and the proposed sport pitch will be serviced separately by new spaces on the public roads. The scheme includes set down parking for the creche, a loading bay for deliveries and coach parking area.

Provision is made for disabled parking, electric vehicle charging, a car sharing scheme and motorcycle parking.

784 spaces are proposed for cycle parking including secure residents parking, visitor parking and spaces for cargo bicycles.

Other works include the development of a network of streets across the proposed development site that will link with other sites within SDRA 12 and into the wider street network of Dublin 8. Improvement works within existing local streets to facilitate access and safe movement.

Ancillary development works includes the construction of electricity substations, meter rooms, plant rooms at basement level, waste storage areas, solar photovoltaics, drainage, landscaping, and lighting.

Pertinent to environmental noise is the construction activity itself, including the construction of basements and piling of foundations. Some pneumatic breaking will be required towards the bottom of the excavation. In the operational phase, the inward impact of noise from South Circular Road requires enhanced glazing to provide a suitable acoustic environment within the various space uses.

11.3 Methodology

The assessment of effects has been undertaken with reference to guidance documents relating to environmental noise and vibration, which are set out within the relevant sections of this report. In addition to specific guidance documents for the assessment of noise and vibration effects, which are discussed further in the relevant sections, the following guidelines were considered and consulted for the purposes of this report:

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018);
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017); and
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports – Draft (EPA, 2017).
- EPA Guidelines on the Information to be contained in Environmental Impact Statements, (EPA, 2002);
- EPA Advice Notes on Current Practice (in the preparation of Environmental Impact Statements), (EPA, 2003);
- EPA Guidelines on the Information to be contained in Environmental Impact Assessment Reports, (EPA, 19 May 2022)
- EPA Advice Notes for Preparing Environmental Impact Statements, (Draft, September 2015);
- Environmental Noise Regulations 2006 (S.I. No. 140 of 2006);
- Dublin Agglomeration Action Plan Relating to The Assessment and Management of Environmental Noise December 2018–July 2023;
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise.
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2 – Vibration.
- BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from groundborne vibration;
- British Standard BS 4142: 2014+A1:2019: Methods for Rating and Assessing Industrial and Commercial Sound.
- Design Manual for Roads and Bridges, 2011;

- ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.
- World Health Organisation Environmental Noise Guidelines for the European Region, 2018
- World Health Organisation publication *Community Noise*, 1999.

The study has been undertaken using the following methodology:

- An environmental noise survey has been undertaken in the vicinity of the subject site in order to characterise the existing baseline noise environment;
- A review of the most applicable standards and guidelines has been conducted in order to set a range of acceptable noise and vibration criteria for the construction and operational phases of the proposed development;
- Predictive calculations have been performed during the construction phase of the project at the nearest sensitive locations to the development site;
- Predictive calculations have been performed to assess the potential effects associated with the operation of the development at the most sensitive locations surrounding the development site; and
- A schedule of mitigation measures has been proposed to reduce, where necessary, the identified potential outward effects relating to noise and vibration from the proposed development.

11.3.1 Construction Phase Assessment Criteria

11.3.1.1 Noise

There is no published statutory Irish guidance relating to the maximum permissible noise level that may be generated during the construction phase of a project. Local Authorities typically control construction activities by imposing limits on the hours of operation and consider noise limits at their discretion.

In order to set appropriate construction noise limits for the development site, reference has been made to *BS 5228 2009+A1 2014 Code of practice for noise and vibration control on construction and open sites*. Part 1 of this document Noise provides guidance on selecting appropriate noise criteria relating construction works.

The approach adopted here calls for the designation of a noise sensitive location into a specific category (A, B or C) based on existing ambient noise levels in the absence of construction noise. This then sets a threshold noise value that, if exceeded at this location, indicates a significant noise impact is associated with the construction activities.

British Standard BS 5228-1:2009+A1:2014 sets out guidance on permissible noise levels relative to the existing noise environment. Error! Reference source not found. sets out the values which, when exceeded, signify a significant effect at the facades of residential receptors.

| Assessment category and threshold value period (L _{Aeq}) | Threshold value, in decibels (dB) | | |
|--|-----------------------------------|-------------------------|-------------------------|
| | Category A ^A | Category B ^B | Category C ^C |
| Daytime (08:00 – 19:00) and Saturdays (08:00 – 14:00) | 65 | 70 | 75 |
| Evenings and weekends ^D | 55 | 60 | 65 |
| Night-time (23:00 to 07:00hrs) | 45 | 50 | 55 |

Table 11.1 Example Threshold of Significant Effect at Dwellings

- A. Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are less than these values.
- B. Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are the same as category A values.
- C. Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are higher than category A values.
- D. 19:00 – 23:00 weekdays, 13:00 – 23:00 Saturdays and 07:00 – 23:00 Sundays.

For the appropriate assessment period (i.e. daytime in this instance) the ambient noise level is determined and rounded to the nearest 5dB. If the construction noise exceeds the appropriate category value, then a significant effect is deemed to occur.

11.3.1.2 Vibration

In terms of vibration, British Standard *BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Vibration*, recommends that, for soundly constructed residential property and similar structures that are generally in good repair, a threshold for minor or cosmetic (i.e. non-structural) damage should be taken as a peak component particle velocity (in frequency range of predominant pulse) of 15mm/s at 4Hz increasing to 20mm/s at 15Hz and 50mm/s at 40Hz and above. The standard also notes that below 12.5 mm/s PPV the risk of damage tends to zero. It is therefore common, on a cautious basis, to use this lower value. Taking the above into consideration the vibration criteria in **Table 11.2** are recommended.

| Allowable vibration (in terms of peak particle velocity) at the closest part of sensitive property to the source of vibration, at a frequency of: | | |
|---|------------|----------------|
| Less than 15Hz | 15 to 40Hz | 40Hz and above |
| 12 mm/s | 20 mm/s | 50 mm/s |

Table 11.2 Recommended Vibration Criteria During Construction Phase

Expected vibration levels from the construction works will be discussed further in **Section 11.7.1.2**.

11.3.1.3 Construction Traffic

For the assessment of potential noise effects from construction related traffic it is proposed to adopt guidance from Design Manual for Roads and Bridges (DMRB), Highways England,

Transport Scotland, The Welsh Government and The Department of Infrastructure 2019. Although not an Irish document, it has been generally considered as a best practice guidance and has been widely adopted in Ireland in the absence of equivalent Irish guidance.

Table 11.3 taken from Section 13.7 of UK DMRB, which presents guidance as to the likely impact associated with any change in the background noise level ($L_{Aeq,T}$) at a noise sensitive receiver as a result of construction traffic.

Section 3.19 of DMRB states that construction noise and construction traffic noise shall constitute a significant effect where it is determined that a major or moderate magnitude of impact will occur for a duration exceeding:

- 10 or more days or nights in any 15 consecutive days or nights;
- A total number of days exceeding 40 in any 6 consecutive months.

| Change in Sound Level (dB) | DMRB Magnitude of Impact | EPA Significance of Effect |
|----------------------------|--------------------------|----------------------------|
| <1.0 | No impact | Imperceptible |
| 1.0 – 2.9 | Minor | Slight, Moderate |
| 3.0 – 4.9 | Moderate | Significant |
| ≥5 | Major | Very significant |

Table 11.3 Significance in Change of Noise Level – Construction Phase Traffic

The DMRB guidance outlined will be used to assess the predicted increases in traffic levels on public roads associated with the proposed development and comment on the likely effects during the construction phase.

11.3.2 Operational Phase Assessment Criteria

11.3.2.1 Building Services Plant Noise

The most appropriate standard used to assess the impact of a new continuous source (i.e. plant items) to a residential environment is BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound*. This standard describes a method for assessing the impact of a specific noise source at a specific location with respect to the increase in “background” noise level that the specific noise source generates. The standard provides the following definitions that are pertinent to this application:

- “*Specific sound level, L_{Aeq, T_r}* ” is equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment location over a given reference time interval, T_r . This level has been determined with reference to manufacturers information for specific plant items.
- “*Rating level*” $L_{Ar, Tr}$ is the specific noise level plus adjustments for the character features of the sound (if any), and;
- “*Background noise level*” is the sound A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given

time interval, T . This level is expressed using the L_{A90} parameter. These levels were measured as part of the baseline survey.

The assessment procedure in BS4142 is outlined as follows:

1. determine the specific noise level;
2. determine the rating level as appropriate;
3. determine the background noise level, and;
4. subtract the background noise level from the specific noise level in order to calculate the assessment level.

The lower the rating level is relative to the measured background sound level, the less likely it is that the specific source will have an adverse impact or a significant adverse impact. A difference of +10dB or more is likely to be an indication of a significant adverse impact. A difference of around +5dB is likely to be an indication of an adverse impact, dependent on the context. Where the rated plant noise level is equivalent to the background noise level, noise effects are typically considered to be neutral.

11.3.2.2 Delivery Activity

In order to set appropriate operational noise criteria for delivery activity, guidance has been taken from BS 8233:2014 *Guidance on Sound Insulation and Noise Reduction for Buildings*. The recommended internal noise levels for dwellings are set out in **Table 11.4**.

| Activity | Rooms | Design Range, $L_{Aeq,T}$ dB | |
|-------------------------------|------------------|---|---|
| | | Daytime $L_{Aeq,16hr}$ (07:00 to 23:00hrs) | Night-time $L_{Aeq,8hr}$ (23:00 to 07:00hrs) |
| Resting | Living room | 35 dB $L_{Aeq,16hr}$ | - |
| Dining | Dining room/area | 40 dB $L_{Aeq,16hr}$ | - |
| Sleeping (daytime resting) | Bedroom | 35 dB $L_{Aeq,16hr}$ | 30 dB $L_{Aeq,8hr}$ |

Table 11.4 Recommended Internal Residential Noise Levels

*Note The document comments that the internal $L_{AFmax,T}$ noise level may be exceeded no more than 10 times per night without a significant impact occurring.

To set an external noise level limit based on the internal criteria noted above, the degree of noise reduction afforded by a partially open window has been considered, which is suggested in BS 8233 as a 15dB reduction. Using this value, external noise levels of 50 and 45dB $L_{Aeq,T}$ are considered appropriate for day and night-time periods respectively. The time period for day-time noise levels has been set over a 1-hour period to provide a robust criterion. Given the higher sensitivity of people to noise at night, the time period for night-time levels is set as 15 minutes. In this instance, the following criteria relate to noise from building service plant at the nearest noise sensitive properties external to the site.

- Daytime (07:00 to 23:00hrs) 50dB $L_{Aeq,1hr}$
- Night-time (23:00 to 07:00hrs) 45dB $L_{Aeq,15min}$

These criteria are also in compliance with the following guidance taken from the World Health Organisation publication *Community Noise*.

“To protect the majority of people from being seriously annoyed during the daytime, the sound pressure level should not exceed 55dB L_{Aeq} .

At night-time outdoors, sound pressure levels should not exceed 45dB L_{Aeq} , so that people may sleep with bedroom windows open.”

As there is the potential for short periods of noise to cause a greater disturbance at night-time, a shorter assessment time period (T) is adopted. Appropriate periods are 1hour for day / evening time (07:00 to 23:00 hours) and 15 minutes for night-time (23:00 to 07:00 hours).

11.3.2.3 Additional Vehicular Traffic on Surrounding Roads

There are no specific guidelines or limits relating to traffic related sources along the local or surrounding roads. Given that traffic from the development will make use of existing roads already carrying traffic volumes, it is appropriate to assess the calculated increase in traffic noise levels that will arise because of vehicular movements associated with the development. In order to assist with the interpretation of the noise associated with additional vehicular traffic on public roads, **Table 11.5**, is taken from DMRB with the appropriate EPA Significance of Effect also noted.

| Change in Sound Level (dB) | Subjective Reaction | DMRB Magnitude of Impact | EPA Significance of Effect |
|----------------------------|--------------------------------|--------------------------|----------------------------|
| 0 | Inaudible | No impact | Imperceptible |
| 0.1 – 2.9 | Barely Perceptible | Negligible | Not significant |
| 3 – 4.9 | Perceptible | Minor | Slight, Moderate |
| 5 – 9.9 | Up to a doubling of loudness | Moderate | Significant |
| 10+ | Doubling of loudness and above | Major | Very significant |

Table 11.5 Significance in Change of Noise Level – Operational Phase Traffic

The guidance outlined in **Table 11.5** will be used to assess the predicted increases in traffic levels on public roads associated with the proposed development and comment on the likely long-term effects during the operational phase.

11.3.2.4 Vibration

The development is residential in nature, therefore it is not anticipated that there will be any operational impact associated with vibration.

11.3.3 Inward Noise Impact Criteria

The Professional Practice Guidance on Planning & Noise (ProPG) document was published in May 2017. The document was prepared by a working group comprising members of the Association of Noise Consultants (ANC), the Institute of Acoustics (IOA) and the Chartered Institute of Environmental Health (CIEH). Although not a Irish government or UK government

document, since its publication it has been generally considered as a best practice guidance and has been widely adopted in the absence of equivalent Irish guidance.

The ProPG outlines a systematic risk based 2-stage approach for evaluating noise exposure on prospective sites for residential development. The two primary stages of the approach can be summarised as follows:

- Stage 1 - Comprises a high-level initial noise risk assessment of the proposed site considering either measured and or predicted noise levels; and,
- Stage 2 – Involves a full detailed appraisal of the proposed development covering four “key elements” that include:
 - Element 1 - Good Acoustic Design Process;
 - Element 2 - Noise Level Guidelines;
 - Element 3 - External Amenity Area Noise Assessment, and;
 - Element 4 - Other Relevant Issues.

A summary of the ProPG approach is illustrated in **Figure 11.1**.

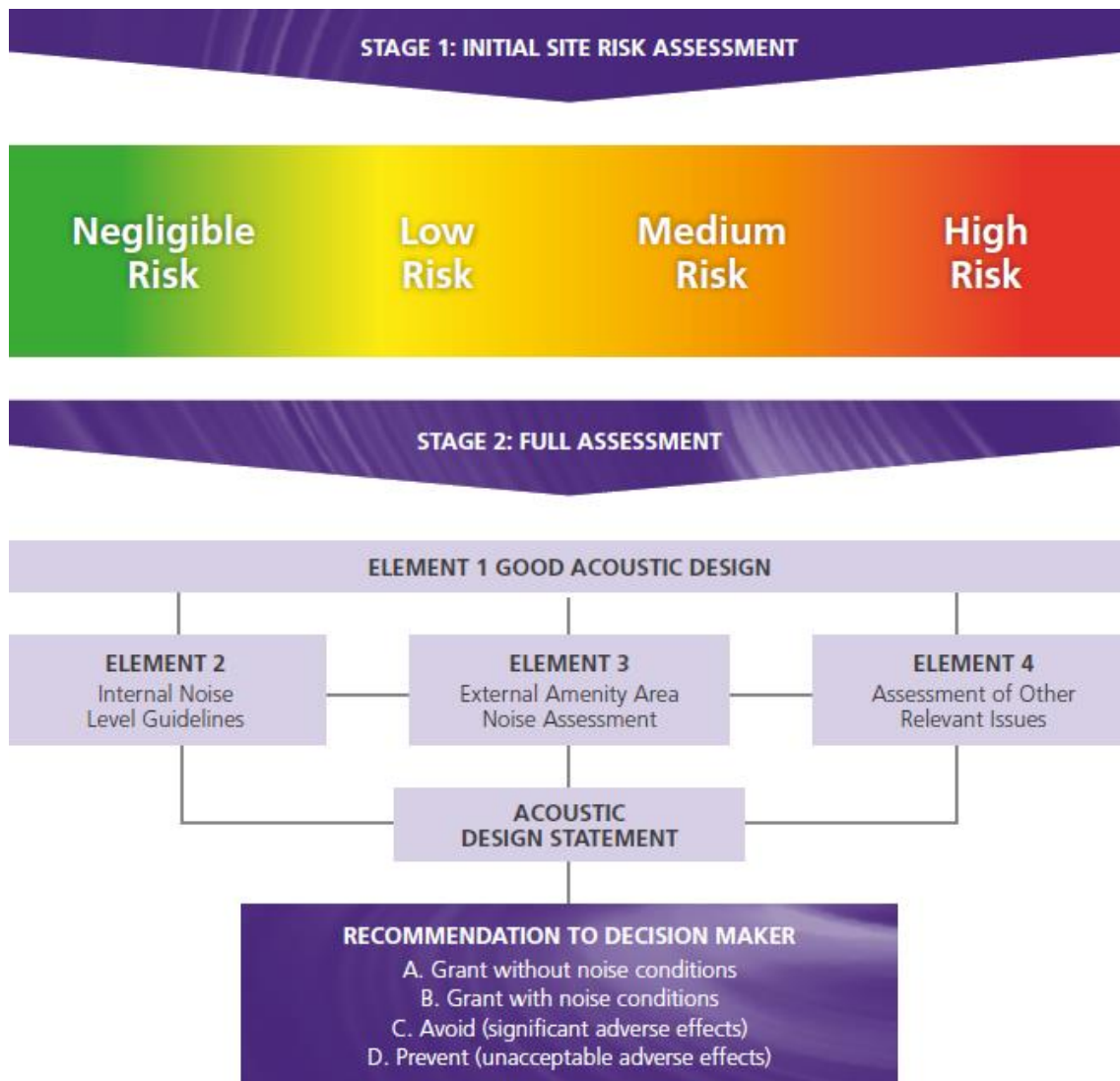


Figure 11.1 ProPG Approach

The initial noise risk assessment is intended to provide an early indication of any acoustic issues that may be encountered. It calls for the categorisation of the site as a negligible, low, medium or high risk based on the pre-existing noise environment. **Figure 11.2** presents the basis of the initial noise risk assessment, it provides appropriate risk categories for a range of continuous noise levels either measured and/or predicted on site.

It should be noted that a site should not be considered a negligible risk if more than 10 L_{AFmax} events exceed 60 dB during the night period and the site should be considered a high risk if the L_{AFmax} events exceed 80 dB more than 20 times a night.

Paragraph 2.9 of ProPG states that,

“The noise risk assessment may be based on measurements or prediction (or a combination of both) as appropriate and should aim to describe noise levels over a “typical worst case” 24-hour day either now or in the foreseeable future.”

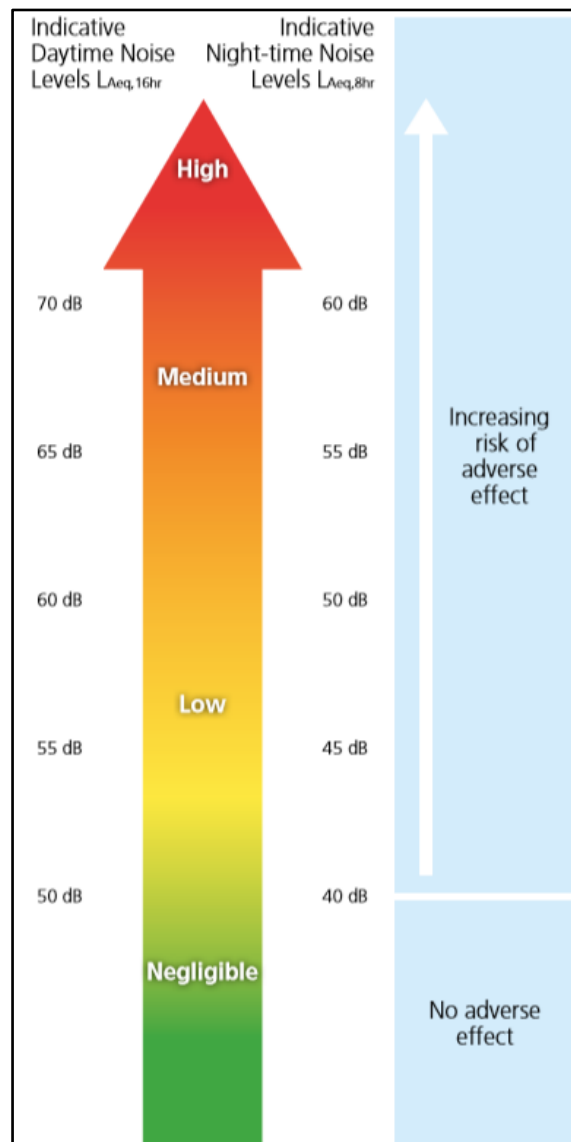


Figure 11.2 Initial Noise Risk Assessments

The ProPG document also sets out recommended internal noise targets derived from BS 8233 (2014). The recommended indoor ambient noise levels are those set out above in **Table 11.4** and are based on annual average data, that is to say they omit occasional events where higher intermittent noisy events may occur, such as New Year’s Eve.

In addition to these absolute internal noise levels ProPG provides guidance on flexibility of these internal noise level targets. For instance, in cases where the development is considered necessary or desirable, and noise levels exceed the external noise guidelines, then a

relaxation of the internal L_{Aeq} values by up to 5 dB can still provide reasonable internal conditions.

11.4 Baseline Environment

11.4.1 Site Location

The subject site is located within the Dublin 8 area, bound to the south by South Circular Road, to the east by existing buildings on Dolphin's Barn Street and Cork Street and to west Donore Avenue. Dublin City Council lands lie to the north of the site. The surrounding environment in the vicinity of the development site is mixed in nature with apartment buildings, retail units and warehousing making up the majority of the surrounding building uses. Coombe Women's and Infant's University Hospital shares a boundary with the northern area of the site.

The site currently experiences noise at moderate to high noise levels along South Circular Road, though the centre of the site is protected from traffic noise by the distance from the roads and by acoustic screening afforded by the existing buildings. This noise environment is considered typical of locations in the greater Dublin area near major routes. The acoustic environment is quantified in terms of measured noise levels in the sections below.

Figure 11-3 presents the extent of the application area, outlined in red.

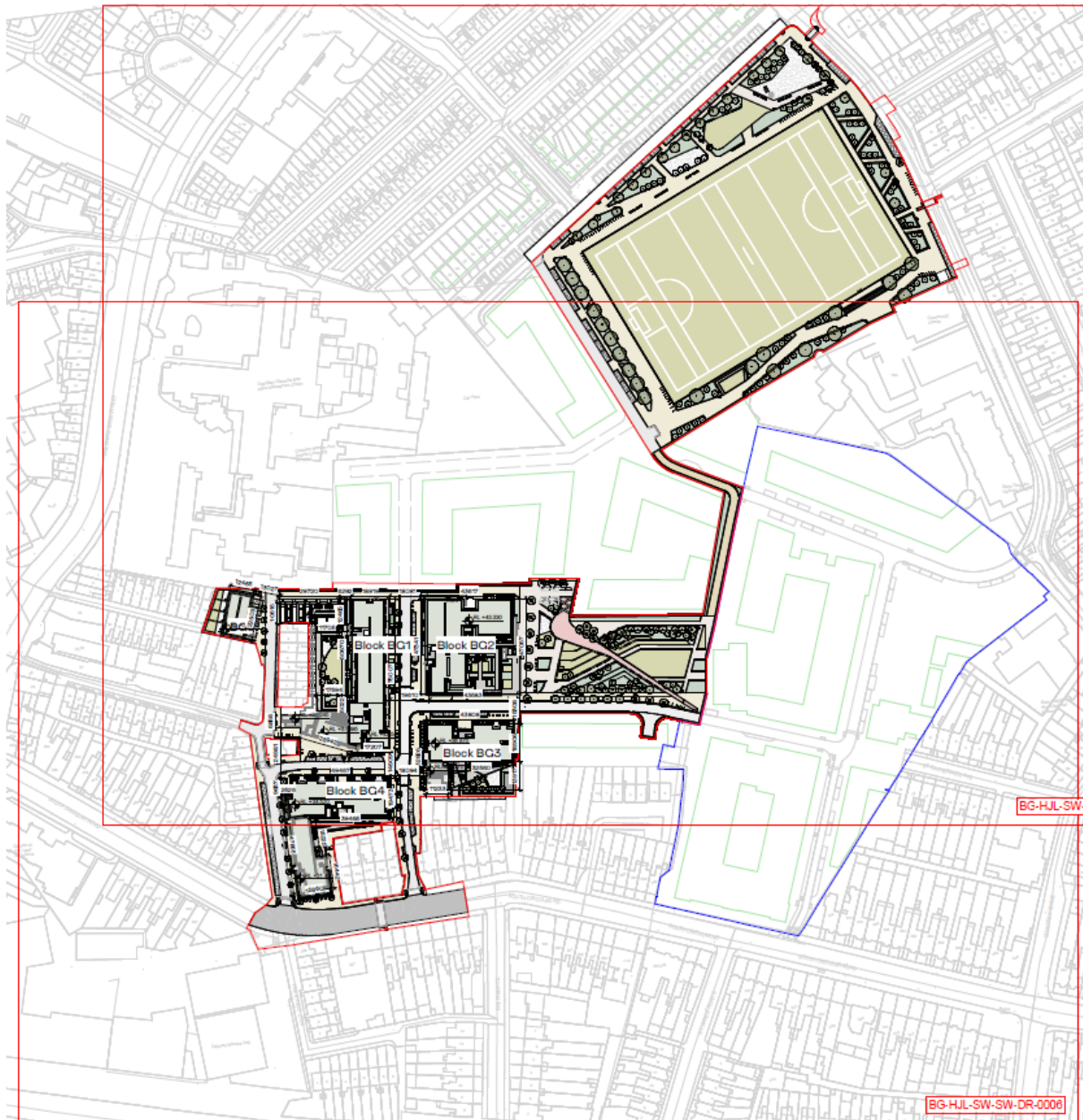


Figure 11.3 Site Layout

11.4.2 Baseline Noise Survey Locations

An environmental noise survey has been conducted at the site in order to quantify the existing noise environment. The survey was conducted in general accordance with ISO 1996: 2017: *Acoustics – Description, measurement and assessment of environmental noise*.

The noise measurement locations were selected to represent the noise environment at noise sensitive location surrounding the proposed development. The locations were chosen to capture how noise levels in the area around the site vary, from the relatively high noise levels along South Circular Road to the relatively quiet locations on St Catherine's Avenue. The selected locations are shown in **Figure 11.4 below**. Two unattended locations were chosen

to capture how the noise levels vary from day to night and to inform the inward noise impact assessment, and one unattended location was chosen to measure daytime noise levels and observe the different contributors to noise in the existing environment. The monitoring locations are described below.

- AN1 – Attended location to capture a snapshot of the daytime noise environment at Rehoboth Avenue, to evaluate potential outward impact from the development site;
- AN2 – Attended location to capture a snapshot of the daytime noise environment at the rear of houses along South Circular Road, to evaluate potential outward impact from the development site; and
- UN1 – Unattended location on the Player Wills site, chosen to capture noise levels at South Circular Road over a longer period including night-times. The meter was located in a yard at the south-east corner of the Player Wills building, in line with the façade.
- UN2 – Unattended measurement location representing the existing noise climate along Donore Avenue. Measurements at this location are also considered representative of the noise environment at the northern end of the site, near St Teresa's Gardens.

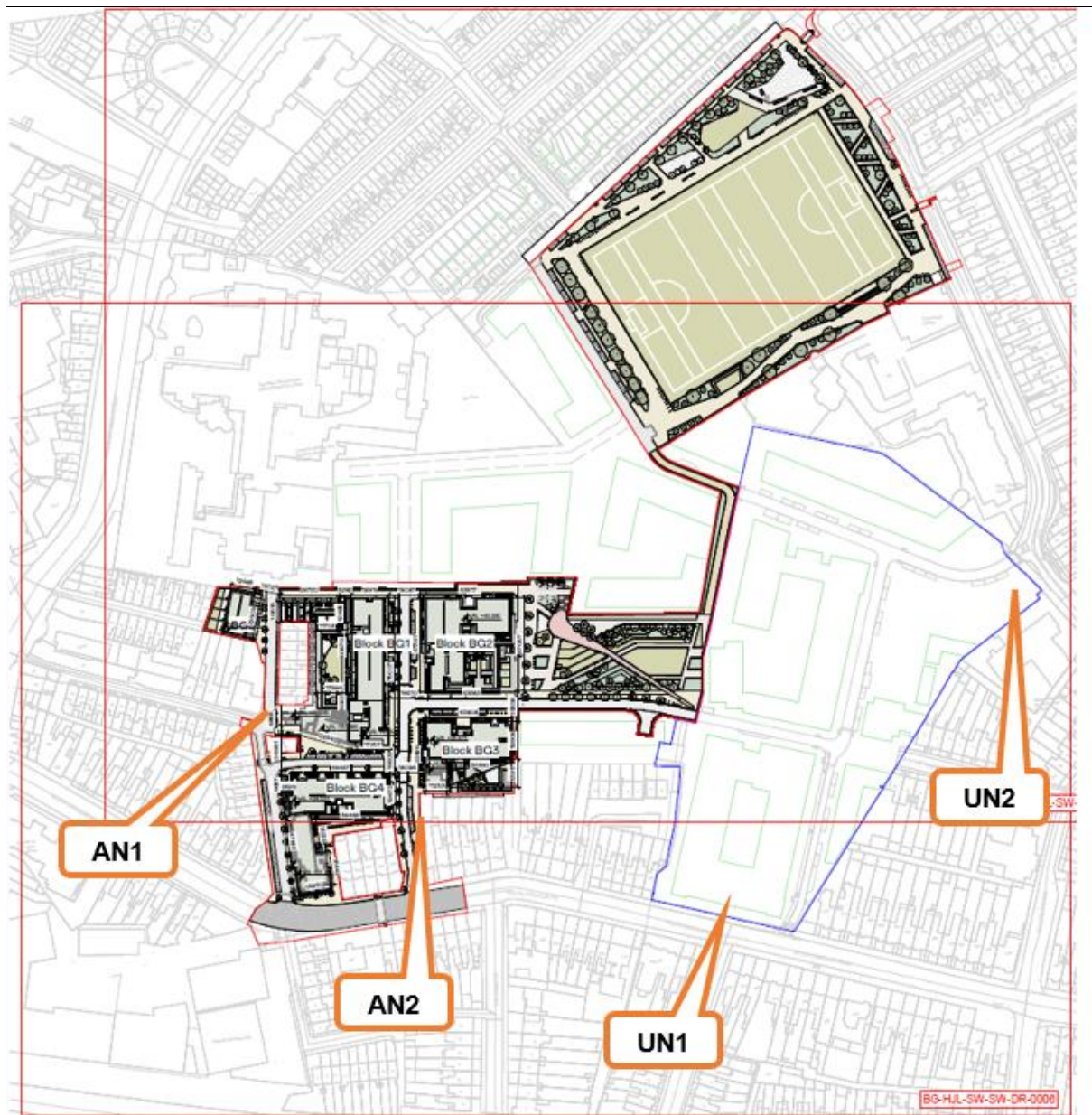


Figure 11.4 Noise Monitoring Locations

11.4.3 Survey Periods

The attended noise survey was carried out on Tuesday 18 June 2019. Noise levels were measured over 15-minute periods on a cyclic basis at each measurement location.

Unattended noise measurements were conducted between 10:00hrs on Thursday 20 June and 07:00 hrs on Monday 24 June 2019.

The weather during the survey period was dry with varying cloud cover. Wind speeds were moderate; however they were not considered to have had a detrimental effect on the noise measurements.

It is noted that the survey was carried out in 2019; however as the survey periods precede any movement restrictions due to the COVID-19 pandemic, the measured noise levels are considered representative of the normal noise environment in the area surrounding the site.

Moreover, the main noise source in the existing environment is traffic on surrounding roads; considering that in order to increase traffic noise levels by 1dB, traffic volumes would need to increase by the order of 25% it is considered that the measured noise level continue to be representative of the noise environment.

In terms of the influence of the baseline noise survey results on the assessment, the following comments are offered:

Construction Noise: based the measured noise levels, the appropriate category of construction noise criteria as discussed in Section 11.3.1 is the lowest category, Category A, which results in the lowest construction noise criterion, 65 dB $L_{Aeq,1hr}$, which is used for the assessment in Section 11.7.1.1. Thus, the construction noise is assessed against the lowest construction noise limit in accordance with guidance in BS 5228.

Building Services Plant Noise: as presented in Section 11.3.2, building services plant noise is assessed at detailed design stage using the methodology in BS4142. At that stage, an additional baseline noise survey will be carried out to inform the detailed design and selection of building services plant.

Inward Impact: The baseline noise levels inform the acoustic requirements of the building façades, in particular, the glazing. Similarly, at detailed design stage, an additional baseline noise survey will be carried out to confirm that acoustic requirements and inform the final selection of the glazing provider. Following this, as discussed in Section 11.7.4, and acoustic compliance statement will be prepared and forwarded to the planning authority. This is normal practice for developments requiring assessment of noise impact.

In conclusion, the noise data gathered in the 2019 baseline noise survey will be updated for the specific purposes outlined above, however, it is maintained that the data presented here permits a complete environmental noise assessment in support of a planning application.

11.4.4 Personnel and Instrumentation

AWN installed and collected the noise monitoring equipment. The following instrumentation was used in conducting the noise and surveys:

| Equipment | Type | Serial Number | Calibration Date |
|-------------------|--------------------------|---------------|------------------|
| Sound Level Meter | Bruel & Kjaer 2250 Light | 3008402 | May 2019 |
| Sound Level Meter | Rion NL-52 | 186671 | April 2018 |
| Sound Calibrator | Larson Davis CAL200 | 13533 | November 2018 |

Table 11.6 Instrumentation Details

11.4.5 Measurement Parameters

The noise survey results are presented in terms of the following parameters.

| | |
|-------------|--|
| L_{Aeq} | is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period. |
| L_{AFmax} | is the instantaneous maximum sound level measured during the sample period using the 'F' time weighting. |
| L_{A10} | is the sound level that is exceeded for 10% of the sample period. It is typically used as a descriptor for traffic noise. |
| L_{A90} | is the sound level that is exceeded for 90% of the sample period. It is typically used as a descriptor for background noise. |

The "A" suffix denotes the fact that the sound levels have been "A-weighted" in order to account for the non-linear nature of human hearing. All sound levels in this report are expressed in terms of decibels (dB) relative to 2×10^{-5} Pa.

11.4.6 Attended Survey Results

Noise level measurements of 15 minutes duration were taken at locations AN1 and AN2. The results are presented in **Table 11.7** and **Table 11.8**.

| Time | Subjective Impression of Noise Environment | Measured Noise Levels (dB re. 2×10^{-5} Pa) | | | |
|-------|---|--|------------|-----------|-----------|
| | | L_{Aeq} | L_{Amax} | L_{A10} | L_{A90} |
| 11:54 | <ul style="list-style-type: none">Distant Traffic Noise from R811BirdsongChurch Bells | 50 | 75 | 52 | 43 |
| 13:09 | <ul style="list-style-type: none">BirdsongDistant traffic noise in R811 | 45 | 75 | 48 | 42 |
| 15:01 | <ul style="list-style-type: none">Distant traffic on R811BirdsongDistant construction noise | 49 | 68 | 48 | 42 |

Table 11.7 Summary of Measurement Results for Location AN1

Noise levels were in the range 45 to 50 dB $L_{Aeq,15min}$ and 42 to 43 dB $L_{A90,15min}$. The main contributors to noise build-up were road traffic in the distance and birdsong.

| Time | Subjective Impression of Noise Environment | Measured Noise Levels (dB re. 2x10 ⁻⁵ Pa) | | | |
|-------|--|--|-------------------|------------------|------------------|
| | | L _{Aeq} | L _{Amax} | L _{A10} | L _{A90} |
| 11:30 | <ul style="list-style-type: none"> Distant road traffic on R811 Birdsong Distant construction noise | 54 | 78 | 58 | 44 |
| 12:46 | <ul style="list-style-type: none"> Distant road traffic on R811 Birdsong Wood chopper | 56 | 76 | 59 | 41 |
| 14:34 | <ul style="list-style-type: none"> Distant road traffic on R811 Birdsong | 54 | 69 | 58 | 43 |

Table 11.8 Summary of Measurement Results for Location AN2

Noise levels were in the range 54 to 56 dB L_{Aeq,15min} and 41 to 44 dB L_{A90,15min}. The main contributors to noise build-up were road traffic and birdsong.

11.4.7 Unattended Survey Results

The results of the unattended monitoring survey at Location UN1 are summarised for daytime periods in **Table 11.9** and for night-time periods in **Table 11.10**.

| Monitoring Period/ Range | | Measured Noise Levels (dB re. 2x10 ⁻⁵ Pa) | | | |
|--------------------------|----------------|--|--------------------|------------------|------------------|
| | | L _{Aeq} | L _{AFmax} | L _{A10} | L _{A90} |
| Thursday 20 June | Highest | 68 | 93 | 71 | 57 |
| | Lowest | 58 | 70 | 62 | 43 |
| | Average | 62 | 76 | 66 | 47 |
| Friday 21 June | Highest | 69 | 98 | 68 | 52 |
| | Lowest | 58 | 70 | 61 | 42 |
| | Average | 61 | 76 | 65 | 47 |
| Saturday 22 June | Highest | 63 | 82 | 67 | 50 |
| | Lowest | 58 | 70 | 62 | 41 |
| | Average | 60 | 74 | 64 | 46 |
| Sunday 23 June | Highest | 67 | 85 | 70 | 55 |
| | Lowest | 55 | 70 | 59 | 40 |
| | Average | 61 | 74 | 66 | 47 |

Table 11.9 Summary of Daytime Unattended Noise Measurements at UN1 (free-field)

| Monitoring Period/ Range | | Measured Noise Levels (dB re. 2x10 ⁻⁵ Pa) | | | |
|------------------------------------|----------------|--|--------------------|------------------|------------------|
| | | L _{Aeq} | L _{AFmax} | L _{A10} | L _{A90} |
| Thursday 20 June to Friday 21 June | Highest | 65 | 82 | 69 | 47 |
| | Lowest | 54 | 70 | 55 | 33 |
| | Average | 58 | 74 | 62 | 39 |
| Friday 21 June to Saturday 22 June | Highest | 60 | 77 | 66 | 42 |
| | Lowest | 54 | 70 | 57 | 37 |
| | Average | 59 | 73 | 63 | 39 |
| Saturday 22 June to Sunday 23 June | Highest | 59 | 76 | 65 | 46 |
| | Lowest | 53 | 70 | 54 | 39 |
| | Average | 57 | 72 | 62 | 41 |
| Sunday 23 June to Monday 24 June | Highest | 64 | 80 | 69 | 52 |
| | Lowest | 50 | 70 | 45 | 34 |
| | Average | 57 | 74 | 60 | 40 |

Table 11.10 Summary of Night-time Unattended Noise Measurements at UN1 (free-field)

During daytime periods, average noise levels were in the range 60 to 62dB L_{Aeq,15min} and 46 to 47 dB L_{A90,15min}. During night-time periods, average noise levels were in the range 57 to 59dB L_{Aeq,15min} and 39 to 41 dB L_{A90,15min}. These noise levels are considered representative of an urban area near a major route.

The L_{AFmax} values were measured over 15-minute intervals over the duration of the unattended monitoring survey. **Figure 11.5** presents the number of measured L_{AFmax} events for each decibel level during the night period measured at location UN1.

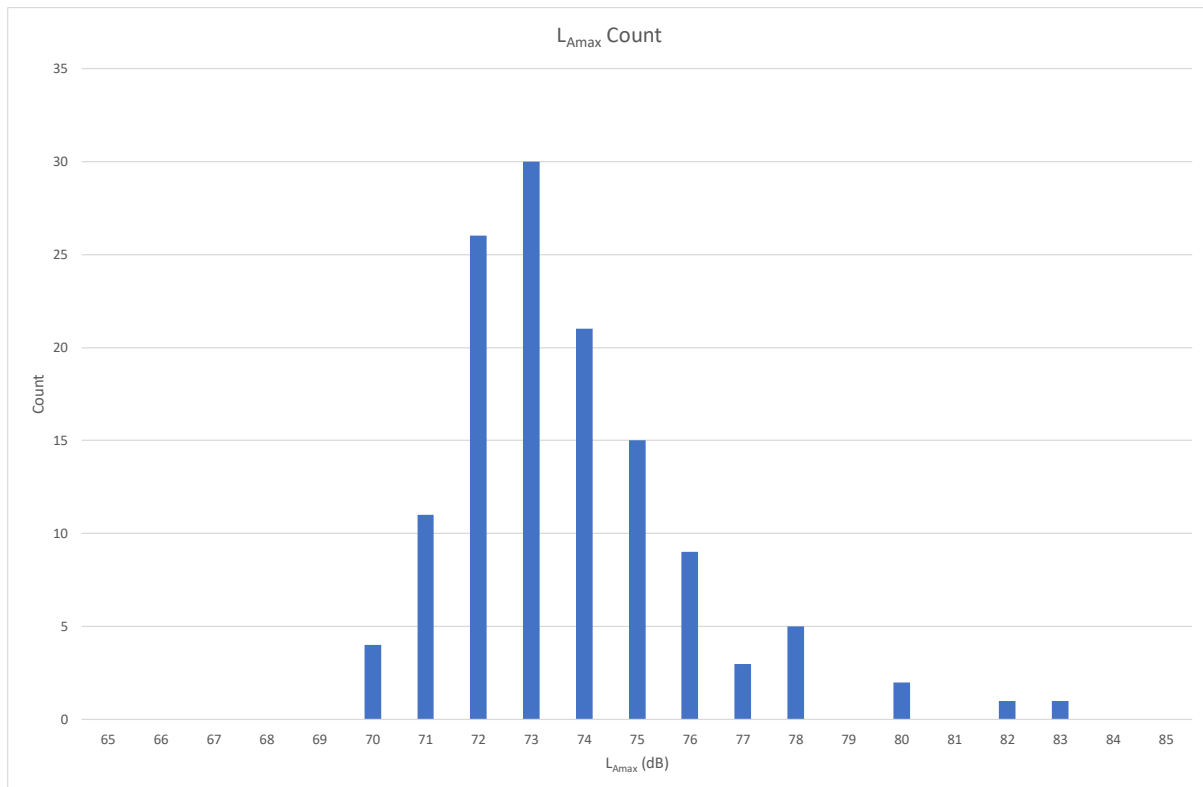


Figure 11.5 Number of L_{Amax} , 15 min events at each decibel level measured during the night period at location UN1 (free-field)

The data shows that a value of 74 dB L_{AFmax} , 15 min is not typically exceeded at this location. **Table 11.13** presents the L_{AFmax} noise level assumed for the purpose of this assessment.

The results of the unattended monitoring survey at Location UN2 are summarised for daytime periods in **Table 11.11** and for night-time periods in **Table 11.12**.

| Monitoring Period/ Range | | Measured Noise Levels (dB re. 2x10 ⁻⁵ Pa) | | | |
|--------------------------|----------------|--|--------------------|------------------|------------------|
| | | L _{Aeq} | L _{AFmax} | L _{A10} | L _{A90} |
| Thursday 20 June | Highest | 70 | 91 | 72 | 59 |
| | Lowest | 50 | 64 | 54 | 40 |
| | Average | 57 | 75 | 61 | 47 |
| Friday 21 June | Highest | 66 | 87 | 71 | 51 |
| | Lowest | 45 | 64 | 48 | 31 |
| | Average | 55 | 72 | 58 | 44 |
| Saturday 22 June | Highest | 58 | 86 | 60 | 46 |
| | Lowest | 48 | 62 | 52 | 34 |
| | Average | 52 | 68 | 56 | 41 |
| Sunday 23 June | Highest | 62 | 83 | 64 | 55 |
| | Lowest | 49 | 63 | 52 | 39 |
| | Average | 54 | 69 | 57 | 45 |

Table 11.11 Summary of Daytime Unattended Noise Measurements at UN2 (free-field)

| Monitoring Period/ Range | | Measured Noise Levels (dB re. 2x10 ⁻⁵ Pa) | | | |
|------------------------------------|----------------|--|--------------------|------------------|------------------|
| | | L _{Aeq} | L _{AFmax} | L _{A10} | L _{A90} |
| Thursday 20 June to Friday 21 June | Highest | 55 | 79 | 59 | 47 |
| | Lowest | 39 | 49 | 40 | 37 |
| | Average | 47 | 64 | 48 | 41 |
| Friday 21 June to Saturday 22 June | Highest | 52 | 78 | 56 | 40 |
| | Lowest | 37 | 49 | 39 | 32 |
| | Average | 46 | 65 | 47 | 36 |
| Saturday 22 June to Sunday 23 June | Highest | 52 | 69 | 56 | 40 |
| | Lowest | 39 | 58 | 39 | 35 |
| | Average | 45 | 63 | 47 | 37 |
| Sunday 23 June to Monday 24 June | Highest | 59 | 92 | 61 | 49 |
| | Lowest | 34 | 46 | 35 | 30 |
| | Average | 46 | 64 | 48 | 36 |

Table 11.12 Summary of Night-time Unattended Noise Measurements at UN2 (free-field)

During daytime periods, average noise levels were in the range 52 to 57dB L_{Aeq,15min} and 45 to 47dB L_{A90,15min}. During night-time periods, average noise levels were in the range 45 to 47dB L_{Aeq,15min} and 36 to 41dB L_{A90,15min}. These noise levels are considered representative of an urban area.

The L_{AFmax} values were measured over 15-minute intervals over the duration of the unattended monitoring survey. **Figure 11.6** presents the number of measured L_{AFmax} events for each decibel level during the night period measured at location UN2. The data shows that a value

of 70 dB $L_{AFmax, 15 \text{ min}}$ is not typically exceeded at this location. **Table 11.13** presents the L_{AFmax} noise level assumed for the purpose of this assessment.

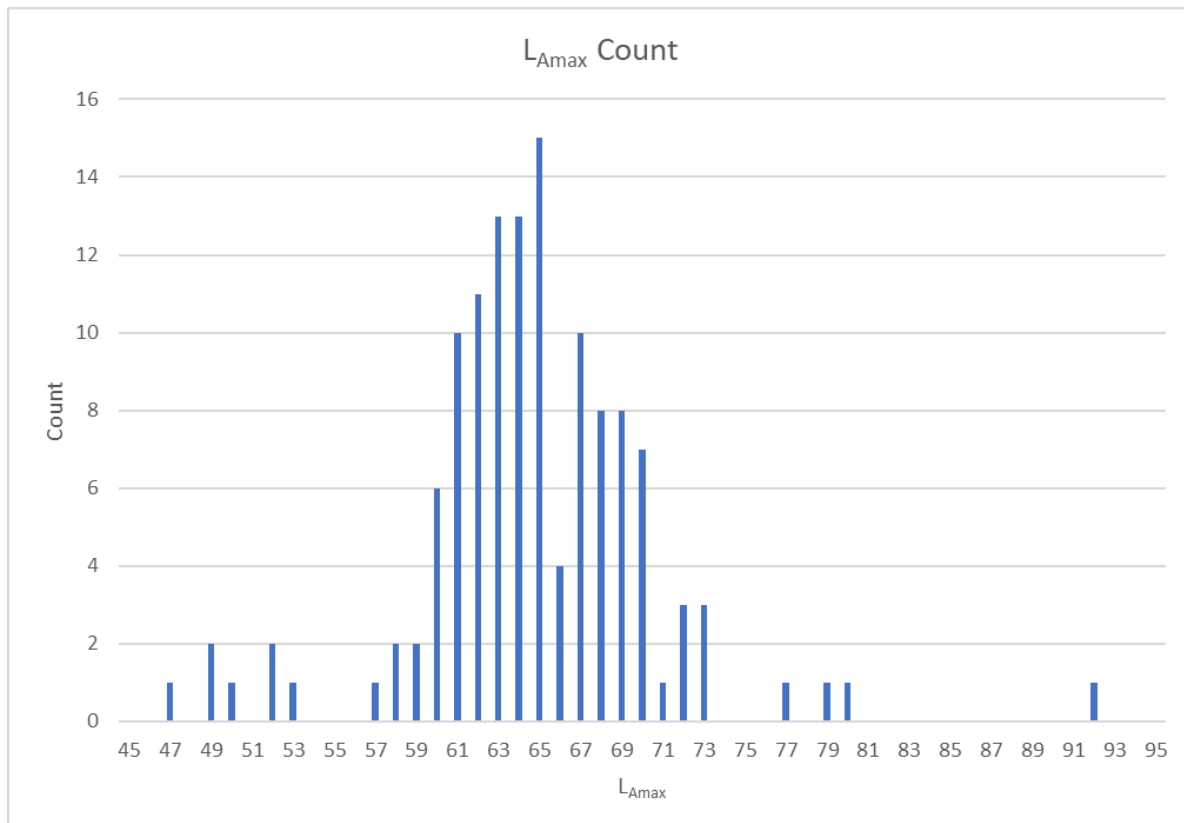


Figure 11.6 Number of $L_{Amax, 15 \text{ min}}$ events at each decibel level measured during the night period at location UN2 (free-field)

The data shows that a value of 70 dB $L_{AFmax, 15 \text{ min}}$ is not typically exceeded at this location. **Table 11.13** presents the L_{AFmax} noise level assumed for the purpose of this assessment.

11.4.8 Comparison with Dublin City Noise Maps

For comparison, the EPA Round 3 Road noise maps for the area near the site are presented for daytime and night-time in **Figure 11.7** and **Figure 11.8**. The noise maps clearly show that the areas with the highest noise levels are the surrounding streets, and that the inner part of the site is levels of below 55 dB L_{den} and below 45 dB L_{night} .

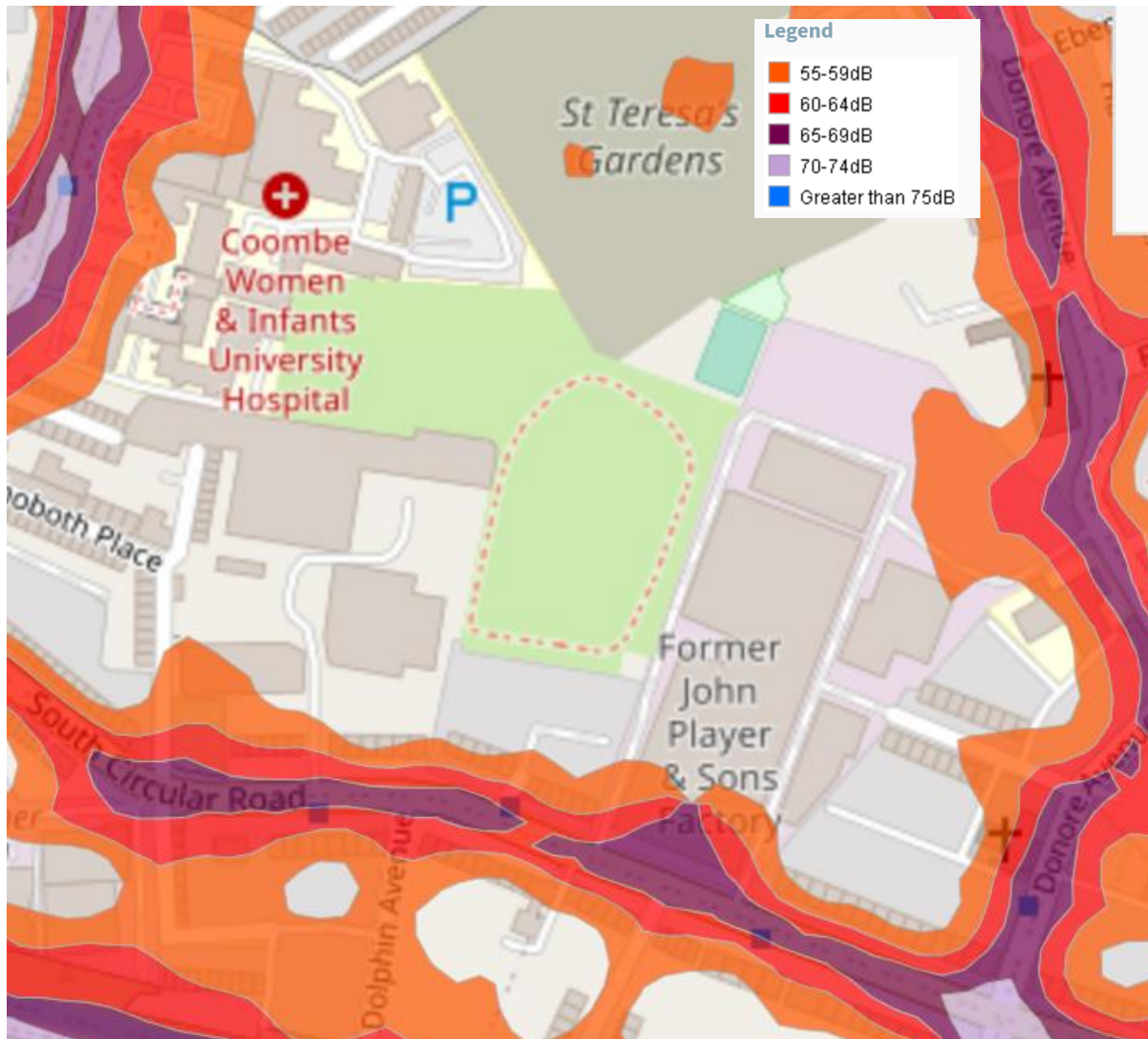


Figure 11.7: EPA Round 3 Noise Map for daytime



Figure 11.8: EPA Round 3 Noise Map for night-time

11.4.9 Do Nothing Scenario

In the absence of the proposed development being constructed, the noise environment at the nearest noise sensitive locations and within the development site will remain largely unchanged resulting in a neutral and local impact in the long-term.

Moreover, if the current proposal were not developed, then it is likely that one similar in nature would be proposed, in line with the national policy of promoting compact growth on brownfield sites and the sites zoning designations that support development of the site for residential and mixed uses.

In the short term (1-7 years), the extant permission for a Strategic Housing Development (Ref. ABP-307221-20) at the Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8

would be implemented. The effect would be as per the post mitigation effects outlined in the Noise & Vibration chapter included in the EIAR that accompanied that application which concluded as follows for the demolition and construction phase;

“For the duration of the demolition and construction period, construction noise effects will be short-term, negative, slight to significant, depending on the proximity of the works to the site boundary.

During the operational phase, noise sources such as plant, deliveries and increased traffic movements would have a neutral and imperceptible effect.

The Board in their decision concluded;

“Noise and vibration impacts which will be mitigated by adherence to requirements of relevant codes of practice, proactive community relations, and noise control techniques.”

11.4.10 Assumed Façade Noise Levels for Assessment Purposes

Based on a review of the survey data, the following noise levels are assigned to be incident on the south façade of the development, which face on to South Circular Road:

| Façades facing South Circular Road | Octave Band Centre Frequency (Hz) | | | | | | L _{Aeq, T} dB |
|------------------------------------|-----------------------------------|-----|-----|----|----|----|------------------------|
| | 125 | 250 | 500 | 1k | 2k | 4k | |
| Daytime L _{Aeq} | 61 | 57 | 55 | 59 | 57 | 49 | 62 |
| Night-time L _{Aeq} | 59 | 57 | 54 | 55 | 51 | 45 | 59 |
| Night-time L _{Amax} | 76 | 74 | 70 | 69 | 66 | 66 | 74 |

Table 11.13 Assumed Equivalent Continuous and Maximum Noise Levels Incident on Façade at South Circular Road.

This information will be used later for the inward impact assessment.

11.4.11 Noise Risk Assessment Conclusion

Giving consideration to the noise levels presented in the previous sections, the initial site noise risk assessment has concluded that the level of risk across the site is of low risk for the majority of the site and medium risk for the façades near South Circular Road

ProPG states the following with respect to medium and high risks:

| | |
|--------------------|--|
| <i>Low Risk</i> | <i>At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.</i> |
| <i>Medium Risk</i> | <i>As noise levels increase, the site is likely to be less suitable from a noise perspective and any subsequent application may be refused unless a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised, and which clearly demonstrate that a significant adverse noise impact will be avoided in the finished development.</i> |
| <i>High Risk</i> | <i>High noise levels indicate that there is an increased risk that development may be refused on noise grounds. This risk may be reduced by following a good acoustic design process that is demonstrated in a detailed ADS. Applicants are strongly advised to seek expert advice.</i> |

Given the above it can be concluded that the development site may be categorised as *Low to Medium Risk* and as such an Acoustic Design Strategy is required to demonstrate that suitable care and attention has been applied in mitigating and minimising noise impact to such an extent that an adverse noise impact will be avoided in the final development.

It should be noted that ProPG states the following with regard to how the initial site noise risk is to be used,

*“2.12 It is important that **the assessment of noise risk at a proposed residential development site is not the basis for the eventual recommendation to the decision maker.** The recommended approach is intended to give the developer, the noise practitioner, and the decision maker an early indication of the likely initial suitability of the site for new residential development from a noise perspective and the extent of the acoustic issues that would be faced. Thus, a site considered to be high risk will be recognised as presenting more acoustic challenges than a site considered as low risk. A site considered as negligible risk is likely to be acceptable from a noise perspective and need not normally be delayed on noise grounds. A potentially problematical site will be flagged at the earliest possible stage, with an increasing risk indicating the increasing importance of good acoustic design.”*

Following the guidance contained in ProPG, therefore, it does not preclude residential development on sites that are identified as having medium or high-risk noise levels. It merely

identifies the fact that a more considered approach will be required to ensure the developments on the higher risk sites are suitably designed to mitigate the noise levels. The primary goal of the approach outlined in ProPG is to ensure that the best possible acoustic outcome is achieved for a particular site.

11.5 Difficulties Encountered

No difficulty was encountered in the preparation of this EIAR chapter.

11.6 Risk of Major Accidents and / or Disasters

The likelihood of a significant adverse noise or vibration impact on the environment as a result of a major accident or natural disaster is extremely unlikely and would have minor consequences for both human health and environmental effects.

11.7 Potential Significant Effects

The potential effects of the proposed development are considered for the short-term construction phase (effects lasting between 1 and 7 years) and permanent operational phase (effects lasting 60+ years). These are set out in the following sections.

11.7.1 Demolition and Construction Phase

11.7.1.1 Demolition and Construction Noise

Noise levels generated by the site operations and experienced at local receptors will depend upon a number of variables, the most significant of which are:

- the amount of noise generated by plant and equipment being used at the development site, generally expressed as a sound power level;
- the periods of operation of the plant at the development site, known as the “on-time”;
- the distance between the noise source and the receptor, known as the “stand-off”;
- the attenuation due to ground absorption or barrier screening effects; and
- reflections of noise due to the presence of hard vertical faces such as walls.

The Construction Environmental Management Plan sets out the general phasing for the construction of the proposed Bailey Gibson development. However, as with any developments of this nature, works during the various construction phases will be transient in nature and will involve the use of several different plant items at any one time. As such, it is difficult at this stage of the assessment to state accurately what items of plant will be in use and what levels of noise will be experienced during construction works. The appropriate approach in this instance is to prepare indicative noise prediction calculations in relation to construction activities. The calculations have been undertaken in line with guidance set out in British Standard BS 5228 (2009 +A1 2014): *Code of practice for noise and vibration control on construction and open sites – Part 1: Noise*.

A variety of items of plant will be in use for the purposes of demolition, site clearance, excavations and construction. There will be vehicular movements to and from the site that will make use of existing roads. Due to the nature of these activities, there is potential for generation of high levels of noise. The primary site compound is located in the Bailey Gibson site on the Donore Avenue side. Secondary compounds may be required at the north end of the Bailey Gibson site on DCCs land between the Bailey Gibson site and the Bailey Gibson site.

For the purposes of the calculation, the closest noise sensitive locations to construction works are the residential buildings on South Circular Road, Donore Avenue, Southfield and St Catherine's Avenue as shown in **Figure 11.9**. Based on the noise levels measured during the noise survey, a criterion of 65dB L_{Aeq} is adopted for construction noise.

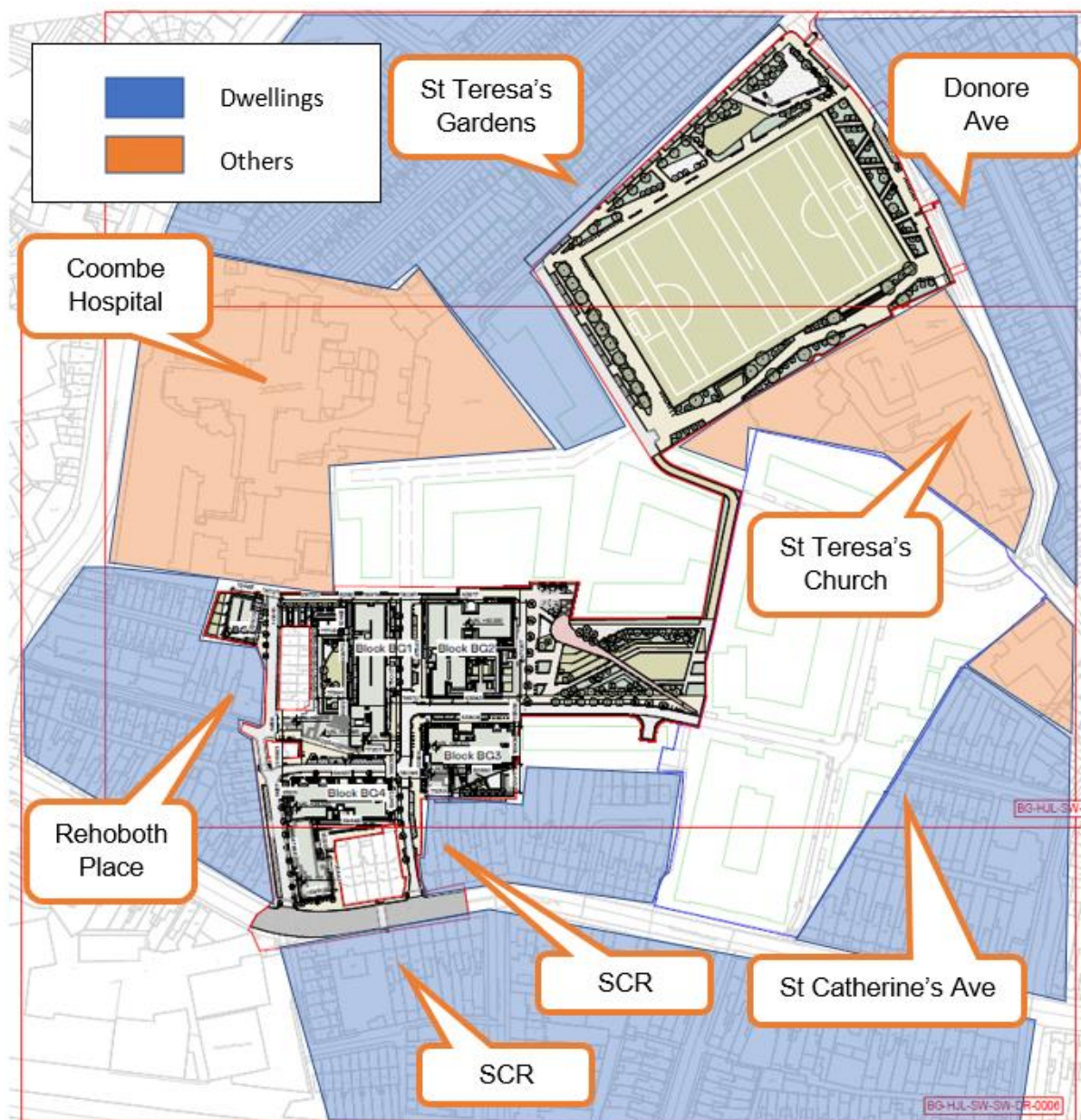


Figure 11.9: Noise-sensitive Locations

Activities likely to generate highest noise levels are those associated with initial demolition works where breakers and / percussive tools are used. Whilst these have the potential to generate high levels of noise, this phase will be relatively short term in nature and can be controlled through permissible hours of work and liaison with the most sensitive adjacent building occupants. This phase of the demolition works are estimated to last 16 weeks, according to the Construction Environmental Management Plan.

Once the existing structures have been removed, activities such as piling works and excavation have the potential to generate high noise levels for short periods of time when operating in close proximity to the immediate boundaries of the adjacent buildings. Excavation

activity is estimated to take ca. 3 weeks to complete and the duration of piling activity is 8 weeks.

Table 11.14 sets out a range of construction noise levels relating to different construction activity at a distance of 40m from construction activity, in the absence of mitigation.

On review of the proximity of the closest noise sensitive buildings, construction activities have the potential to exceed the recommended noise criterion of 65dB L_{Aeq} when construction activity is 40m or less from the noise-sensitive location. At a distance of 40m or greater, the noise levels are within the adopted criterion of 65dB L_{Aeq} .

During the main building phase, depending on the level of activity, construction noise levels have the potential to exceed the relevant noise criterion at the closest facades to the works. Further discussion on potential mitigation measures are discussed in **Section 11.8.1**.

| Construction Phase | Item of Plant (<i>BS 5228-1</i> Ref) | Predicted Construction Noise Level at Reference 10m Distance L_{Aeq} (dB) | Predicted Construction Noise Level at 40m L_{Aeq} (dB) |
|-----------------------------------|--|---|--|
| Site Clearance/ Demolition | Hand-held pneumatic breaker (C1.6) | 83 | 64 |
| | Tracked excavator (C2.21) | 71 | 52 |
| | Dump Truck (C2.30) | 79 | 60 |
| | Tracked Mobile Crane (C4.50) | 71 | 52 |
| | Angle Grinder (C4.93) | 80 | 61 |
| | Tracked Crusher (C4.14) | 82 | 63 |
| Basement Excavation | Dozer (C2.10) | 80 | 61 |
| | Tracked excavator (C2.15) | 76 | 57 |
| | Crushing concrete/rubble tracked crusher (C1.14) | 82 | 63 |
| Piling and foundations | Continuous flight auger piling – crawler-mounted rig (C3.21) | 79 | 60 |
| | Tracked mobile crane (C3.28) | 67 | 48 |
| | Concrete pump (C3.25) | 78 | 59 |
| | Concrete mixer truck (C4.20) | 80 | 61 |
| | Tower crane (C4.48) | 76 | 57 |
| General Construction | Compressor (D7.08) | 70 | 51 |
| | Telescopic Handler (C4.54) | 79 | 60 |
| | Hand Held Circular Saw (C4.72) | 79 | 60 |
| | Diesel Generator (C4.76) | 61 | 42 |
| | Internal Fit out | 70 | 51 |

Table 11.14 Typical predicted noise levels during different construction phases



Figure 11.10: 40m Zone around Bailey Gibson Site

At distances of 40m or less from the construction activity, the effects during the construction phase are therefore described as negative, significant, local and short-term.

| | |
|---------------------|-------------|
| Quality | Negative |
| Significance | Significant |
| Extent | Local |
| Probability | Likely |
| Duration | Short-term |

Table 11.15 Description of impacts for Construction Noise at distances < 40m

At distances greater than 40m from the construction activity, the effects during the construction phase are therefore described as negative, moderate, local and short-term.

| | |
|--------------|------------|
| Quality | Negative |
| Significance | Moderate |
| Extent | Local |
| Probability | Likely |
| Duration | Short-term |

Table 11.16 Description of impacts for Construction Noise at distances > 40m

11.7.1.2 Demolition and Construction Vibration

The main potential source of vibration during the construction programme is associated with piling, demolition and ground-breaking activities. In terms of piling, low vibration methods involving bored or augured piles will be used where possible in order to minimise vibration levels from this activity. Reference to BS 5228 (2009 +A1 2014) – Part 2: Vibration, includes measured vibration levels during rotary bored piling for different ground conditions and varying pile diameter. The data indicates that at distances of 10m, measured PPV values are typically below 1mm/s with individual events during driving casing or auger hitting rock at or below 3mm/s.

Considering the low vibration levels at close distances to the piling rigs, vibration levels are not expected to pose any significance in terms of cosmetic or structural damage to buildings in proximity to the development works. In addition, the range of vibration levels is typically below a level which would cause any disturbance to occupants of adjacent buildings.

Where rock breaking is required or during certain demolition activities, there is also potential for vibration to be generated through the ground. Pneumatic rock breaking is necessary only towards the bottom of the excavation. Empirical data for these activities is not provided in the BS 5228-2 standard, however the likely levels of vibration are expected to be significantly below the lower adopted criteria for building damage based on experience from other similar sites. It is possible that vibration levels will be detectable within adjacent buildings for short periods of time, depending on the level of breaking activity used. Notwithstanding the above, any construction activities undertaken on the site will be required to operate below the recommended vibration criteria set out in **Table 11.2**.

| | |
|--------------|------------|
| Quality | Negative |
| Significance | Moderate |
| Extent | Local |
| Probability | Likely |
| Duration | Short-term |

Table 11.17 Description of impacts for Demolition and Construction Vibration

11.7.1.3 Construction Traffic

During the construction phase of the proposed development, there will be a small increase in vehicular traffic on surrounding roads associated with the delivery of materials to the site. HGVs travelling to the site will make use of local roads. Full details of the construction traffic assessment are included in Chapter 6 of this EIAR and in the Construction Traffic Management Plan submitted under separate cover.

For the purposes of assessing potential noise impact, it is appropriate to consider the relative increase in noise level associated with construction traffic movements on existing roads surrounding the subject site. Using the information on daily flows in terms for annual average daily trips (AADT) for the Peak Construction Traffic period presented in Chapter 6, the impact from the increase in traffic from the construction of the relative to the Do nothing scenario along the sections of road detailed in **Table 11.18**.

| Road Link | Change in Noise Level |
|----------------------------------|-----------------------|
| R110 south of SCR | +0.9 |
| R110 from SCR to Reuben St | +0.3 |
| R110 Reuben St to Donore Ave | +0.3 |
| Donore Ave from R110 to Brown St | +1.3 |
| SCR west of R110 | +1.3 |
| SCR past Site | +0.0 |

Table 11.18 Predicted Change In Noise Level associated with Vehicular Traffic – Construction Phase

The highest increases in noise level are of the order of +0.2dB; with reference to **Table 11.3**, the impact is considered negative, imperceptible and short-term.

| | |
|--------------|---------------|
| Quality | Negative |
| Significance | Imperceptible |
| Extent | Local |
| Probability | Likely |
| Duration | Short-term |

Table 11.19 Description of impacts for Construction Traffic

11.7.2 Operational Phase

11.7.2.1 Building Services Plant Noise

The selection of building services plant will ensure that noise levels comply with the criteria described in **Section 11.3.2.1**. It is acknowledged that the selection of the specific plant items is subject to change during the detailed design stage and this is normal industry practice. However, noise from any new plant items will be designed and/or controlled so as not to give rise to any adverse effects at the nearest noise sensitive locations.

Furthermore, it is confirmed that no plant item will emit significant tonal or impulsive characteristics which may increase the potential for annoyance at the nearby noise sensitive locations.

| | |
|--------------|---------------|
| Quality | Neutral |
| Significance | Imperceptible |
| Extent | Local |
| Probability | Likely |
| Duration | Permanent |

Table 11.20 Description of impacts for Building Services Plant Noise

11.7.2.2 Delivery Activity

Principal noise sources during delivery activity are the movement of vehicles, opening and closing of doors and movement of goods on pallets, trolleys or similar. There is a loading bay at street level serving retail and café units on the west side of Block BG2. This location is well screened from off-site noise sensitive locations by the development buildings themselves. Best practice measures in relation to minimising delivery noise to the noise-sensitive locations within the site will be discussed in the Mitigation section.

| | |
|--------------|-----------|
| Quality | Negative |
| Significance | Slight |
| Extent | Local |
| Probability | Likely |
| Duration | Permanent |

Table 11.21 Description of impacts for Delivery Activity

11.7.2.3 Additional Vehicular Traffic on Surrounding Roads

During the operational phase of the proposed development, there will be a small increase in vehicular traffic on surrounding roads associated with the site and other planned developments. Details of the traffic assessment are included in Chapter 6 of this EIAR.

For the purposes of assessing potential noise impact, it is appropriate to consider the relative increase in noise level associated with traffic movements on existing roads surrounding the subject site with and without development. Using the information on traffic flows (AADT values) presented in Chapter 6, the impact from the increase in traffic from the proposed development has been assessed for the year of 2024 and the year of 2039 relative to the Do nothing scenario along the sections of road detailed in **Table 11.22**.

In terms of the overall traffic data as described by peak hour vehicle flows, in order to increase traffic noise levels by 1dB, traffic volumes would need to increase by the order of 25% approximately. A review of the potential traffic flows increases attributable to the proposed development indicates that the development will not give rise to increases of this magnitude on the surrounding road network.

| Road Link | 2024 | | | 2039 | | |
|--|------------|----------------------|-----------------------------|--------------------------|----------------------|-----------------------------|
| | Do Nothing | Do Something BG only | Increase in noise level, dB | Increase in traffic flow | Do Something BG only | Increase in noise level, dB |
| A - SCR east of R110 | 18437 | 21701 | 0.7 | 21637 | 21701 | 0.0 |
| B - R110 south of SCR | 36984 | 43533 | 0.7 | 43451 | 43533 | 0.0 |
| C - R110 from SCR to Reuben St | 34344 | 40383 | 0.7 | 40343 | 40383 | 0.0 |
| D – R110 Reuben St to Donore Ave | 32053 | 37711 | 0.7 | 37678 | 37711 | 0.0 |
| E - Donore Ave from R110 to Brown St | 5898 | 6917 | 0.7 | 6917 | 6917 | 0.0 |
| F - Donore Ave from Brown St to St Teresa's Church | 5868 | 6883 | 0.7 | 6883 | 6883 | 0.0 |
| G - Donore Ave St Teresa's Church to Merton Ave | 7731 | 9090 | 0.7 | 9081 | 9090 | 0.0 |
| H - Donore Ave north of SCR | 9655 | 11334 | 0.7 | 11325 | 11334 | 0.0 |
| I - Donore Ave south of SCR | 18973 | 22268 | 0.7 | 22210 | 22268 | 0.0 |
| J - SCR west of R110 | 17688 | 20948 | 0.7 | 20761 | 20948 | 0.0 |
| K - SCR past Site | 17930 | 21163 | 0.7 | 21044 | 21163 | 0.0 |
| L – SCR west of Donore Ave | 18173 | 21446 | 0.7 | 21327 | 21446 | 0.0 |
| M – SCR east of Donore Ave | 24808 | 29126 | 0.7 | 29073 | 29126 | 0.0 |

Table 11.22 Predicted Change In Noise Level associated with Vehicular Traffic

The predicted increase in traffic flows associated with the development in the years of 2023 and 2038 will result in an increase less than 1dB along all roads receiving traffic from the proposed development. The effect is therefore neutral, imperceptible and permanent.

| | |
|---------------------|---------------|
| Quality | Neutral |
| Significance | Imperceptible |
| Extent | Local |
| Probability | Likely |
| Duration | Permanent |

Table 11.23 Description of impacts for Additional Vehicular Traffic

11.7.3 Cumulative

There are a number of planning applications of potential relevance to the cumulative assessment including the Player Wills site, also under the control of the Applicant, and lands within SDRA 12.

In so far as is practical this assessment considers the likely significant noise and vibration effects that may arise from development in combination with other developments.

11.7.3.1 Cumulative Construction Noise

In respect of construction noise, it has been established in **Section 11.7.1.1** that within 40m of construction activity, there is likely to be a significant noise impact. Outside the 40m zone of influence, the impact of construction noise is not significant.

Should the construction phase of the proposed development coincide with the construction of any other permitted developments within 40m of the site then there is the potential for cumulative noise impacts to nearby noise-sensitive receptors, such as is the case with planning ref ABP-308917-20, Player Wills.

The demolition of the 2 blocks required to facilitate those aspects (namely amenities – multi sports play pitch, boulevard and playground) of this proposed development that will take place on the St. Teresa's Garden site will be undertaken by Dublin City Council under permission 2475/18 and in line with the conditions attached to that permission.

There is also the potential for the construction of the proposed development to coincide with elements of the Land Development Agency (LDA) and Dublin City Council proposal for the area which is directly adjacent to the north of the Bailey Gibson site. This will involve the construction of a number of residential apartment blocks.

There are a number of relevant granted planning permissions for sites at distances greater from the proposed development: planning refs. 3618/15, 3756/15, 2027/17, 3086/17, 3853/17, 3426/18, 4334/18, 3705/19 and 2724/19) which are not likely to give rise to cumulative construction or operational noise impacts are described briefly below for completeness and their locations detailed in **Figure 11.11**.

ABP-308917-20 The proposed development involves demolition of all structures, construction of residential units and public park and associated site works at the Former Player Wills site and Undeveloped Land in Ownership of Dublin City Council, South Circular Road, Dublin 8.

3618/15 The proposed development involves demolition of the existing buildings on site and construction of a mixed use development on a 0.0663 ha site at the corner of South Circular Road 33-37, Dolphins Barn Street, Dublin 8

3756/15 and 3705/19 The proposed development comprises demolition of the existing single and 3 storey structure and construction of a 4 storey over basement Nursing Home at the site of the former Menni House, Parnell Road, Harold's Cross, Dublin 12.

2027/17 The proposed development will consist of the demolition of the existing buildings on site which have a total gross floor area of 1,815sqm and the construction of a part three, part

four storey office building, over one level of basement. The total site area is c. 0.285 hectares and is located on Donore Avenue.

3086/17 The proposed mixed-use development will consist of the demolition of the existing building (former factory building - two storeys to Cork Street) on site and the construction of a six storey building to Cork Street. The application site comprises of c.0.16 hectares and is bound by Cork Street to the south east, No. 79 Cork Street to the east, No.74 Cork Street to the south west and Our Lady's Road and Rosary Road to the north west.

3853/17 The proposed development will consist of the demolition of the existing former factory building to the rear of the site and buildings which front onto Dolphin's Barn Street (Nos. 43-50) and the construction of a part four to part seven storey residential and retail building to Dolphin's Barn Street. The application site is bound by Dolphin's Barn Street to the east, No. 51 Dolphin's Barn Street to the north east, No. 7 Poole Terrace to the south and boundaries of rear gardens of the residential properties located on Reuben Street and Emerald Square to the west and north of the application site.

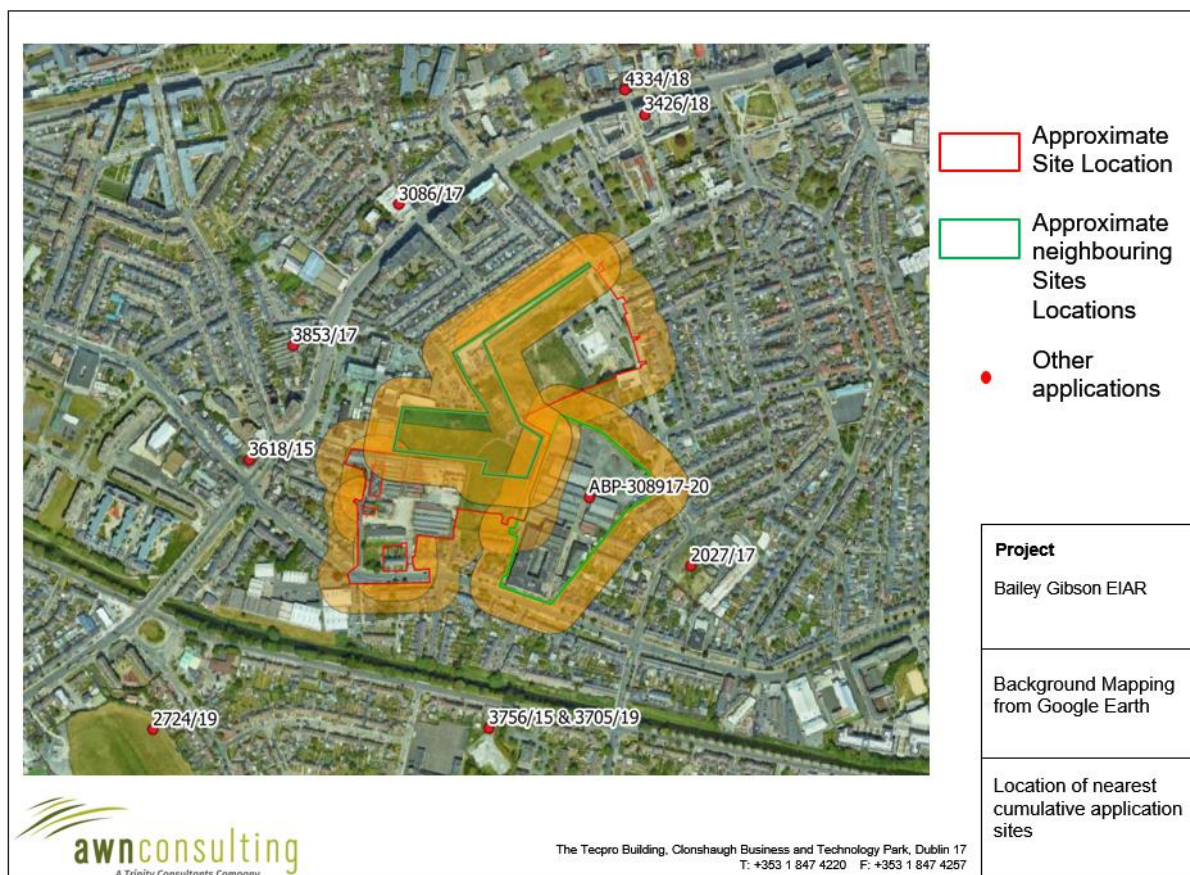
3426/18 The proposed student accommodation development will consist of demolition of buildings on site and construction of 166 student accommodation bed spaces with associated ancillary areas and a retail/enterprise unit. The proposed development is a c.0.15 hectare site located at The Donnelly Centre Phase 2 Building, Cork Street and Brickfield Lane, Dublin 8, D08 P772.

4334/18 The development at 110 - 111, Cork Street, Dublin 8 will consist of the demolition of the existing buildings on site and the construction of a building incorporating 2 No. ground floor retail units, 19 No. apartments, on a site of 0.0653 hectares.

2724/19 Permission for development at a site of c. 5.53 Ha, located at Dolphin Park (Templeogue Synge Street GAA Club), Crumlin Road, Dublin 12, including a plot of land located between 56 and 58 Rutland Avenue, Dublin 12. The development comprises demolition of existing single storey clubhouse building and construction of a 2-storey clubhouse associated car and bicycle parking spaces, including new ancillary boundaries, reconfiguration and enhancements to 2 no. existing GAA playing pitches and provision of a purpose built all-weather training area. The proposal also includes a residential development of 161 no. dwellings.

Due to the highly built-up nature of the surrounding area with numerous residential properties as well as schools and the Coombe Hospital in close proximity to the site, there is potential for cumulative noise impacts should the construction phases of the proposed development and other nearby developments overlap. Any construction being completed at other sites within the study area, whilst potentially significant in their own right, as a matter of good practice, would be expected to control impacts on nearest noise sensitive locations to these sites within appropriate limits as presented in **Table 11.1**.

Figure 11.11 shows the combined 40m zones around Bailey Gibson and neighbouring developments.



Similarly, as the construction periods of the Bailey Gibson and Player Wills sites are planned to overlap, there would be a cumulative effect on the number of HGVs using the surrounding roads. The calculations of changes in noise level during the construction phase have been repeated using cumulative traffic flows. The results are presented in **Table 11.24**.

| Road Link | Change in Noise Level |
|----------------------------------|-----------------------|
| R110 south of SCR | +1.2 |
| R110 from SCR to Reuben St | +0.3 |
| R110 Reuben St to Donore Ave | +0.3 |
| Donore Ave from R110 to Brown St | +1.3 |
| SCR west of R110 | +2.2 |
| SCR past Site | +2.2 |

Table 11.24 Predicted Change In Cumulative Noise Level associated with Vehicular Traffic – Construction Phase

Comparison of the changes in noise level with the criteria in **Table 11.3** shows that the impact is locally, negative, imperceptible, and short-term.

11.7.3.2 Additional Vehicular Traffic on Surrounding Roads – Operational Phase

It is noted that the operational traffic information used for this assessment has taken consideration of the abovementioned developments.

In respect of traffic noise, the predicted operational traffic flow increases detailed in Chapter 6 of this EIAR include for the opening and design years assessed:

- 2024: the combined effect of the Bailey Gibson and Player Wills developments; and
- 2039: the combined effect of the Bailey Gibson and Player Wills developments and development of Dublin City Council lands.

| Road Link | 2024 | | | 2039 | | |
|--|------------|--------------|-----------------------------|--------------------------|--------------|-----------------------------|
| | Do Nothing | Do Something | Increase in noise level, dB | Increase in traffic flow | Do Something | Increase in noise level, dB |
| A - SCR east of R110 | 18437 | 18601 | 0.0 | 21637 | 21800 | 0.0 |
| B - R110 south of SCR | 36984 | 37205 | 0.0 | 43451 | 43671 | 0.0 |
| C - R110 from SCR to Reuben St | 34344 | 34390 | 0.0 | 40343 | 40389 | 0.0 |
| D – R110 Reuben St to Donore Ave | 32053 | 32086 | 0.0 | 37678 | 37711 | 0.0 |
| E - Donore Ave from R110 to Brown St | 5898 | 5971 | +0.1 | 6917 | 6991 | 0.0 |
| F - Donore Ave from Brown St to St Teresa's Church | 5868 | 5942 | +0.1 | 6883 | 6956 | 0.0 |
| G - Donore Ave St Teresa's Church to Merton Ave | 7731 | 7841 | +0.1 | 9081 | 9192 | +0.1 |
| H - Donore Ave north of SCR | 9655 | 9883 | +0.1 | 11325 | 11553 | +0.1 |
| I - Donore Ave south of SCR | 18973 | 19153 | 0.0 | 22210 | 22391 | +0.0 |
| J - SCR west of R110 | 17688 | 18117 | +0.1 | 20761 | 21190 | +0.1 |
| K - SCR past Site | 17930 | 18292 | +0.1 | 21044 | 21406 | +0.1 |
| L – SCR west of Donore Ave | 18173 | 18474 | +0.1 | 21327 | 21628 | +0.1 |
| M – SCR east of Donore Ave | 24808 | 24944 | 0.0 | 29073 | 29209 | 0.0 |

Table 11.25 Predicted Change In Noise Level associated with Vehicular Traffic

The identified cumulative traffic noise effects for the operational phase presented in this chapter are as follows:

| | |
|--------------|------------|
| Quality | Negative |
| Significance | Slight |
| Extent | Local |
| Probability | Likely |
| Duration | Short-term |

Table 11.26 Description of Impacts for Additional Vehicular Traffic on Surrounding Roads - Operational Phase

11.7.4 Inward Impact

In respect of the space uses fronting South Circular Road, the layout of rooms and windows in the architects' drawings have been used in the calculation of internal noise levels.

In order to meet the internal noise level design goals, the proposed external glazing systems for the façade of the building are required to meet the specifications presented in **Table 11.26**.

| Octave Band Centre Frequency (Hz) | | | | | | R _w |
|-----------------------------------|-----|-----|----|----|----|----------------|
| 125 | 250 | 500 | 1k | 2k | 4k | |
| 27 | 29 | 36 | 41 | 42 | 52 | 40 |

Table 11.27 Minimum Sound Reduction Indices for External Glazing (R, dB)

The glazing performance in **Table 11.27** will be applied to the façade extent outlined in red in **Figure 11.12**.

Non-glazed external walls should be constructed to meet a value at least 10 dB higher than the respective values for glazing in **Table 11.27**. Fresh air inlets in the facades will be acoustically rated to limit noise ingress into the internal spaces.

11.7.5 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|-------------------------------------|----------|---|--------|-------------|------------|------------|
| Demolition and Construction | Negative | Significant at distances less than 40m from construction activity | Local | Likely | Short-term | Direct |
| Demolition and Construction | Negative | Moderate at distances greater than 40m from construction activity | Local | Likely | Short-term | Direct |
| Demolition and Construction Traffic | Negative | Imperceptible | Local | Likely | Short-term | Cumulative |

Table 11.28 Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation

The Table below summarises the identified likely significant effects during the operational phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---------------------------|---------|---------------|--------|-------------|-----------|------------|
| Building Services | Neutral | Imperceptible | Local | Likely | Permanent | Cumulative |
| Deliveries | Neutral | Imperceptible | Local | Likely | Permanent | Cumulative |
| Traffic | Neutral | Imperceptible | Local | Likely | Permanent | Cumulative |

Table 11.29 Summary of Operational Phase Likely Significant Effects in the absence of mitigation

11.8 Mitigation

11.8.1 Demolition & Construction Phase Mitigation

With regard to demolition and construction activities, best practice operational and control measures for noise and vibration from construction sites are found within BS 5228 (2009 +A1 2014) *Code of Practice for Noise and Vibration Control on Construction and Open Sites Parts 1 and 2*.

BS5228 includes guidance on several aspects of construction site practices, including, but not limited to:

- selection of quiet plant;
- control of noise sources;
- screening (boundary, and or localised plant screening);
- hours of work;
- liaison with the public, and;
- monitoring.

Detailed comment is offered on these items in the following paragraphs. Noise control measures that will be considered include the selection of quiet plant, enclosures and screens around noise sources, limiting the hours of work and noise monitoring.

A Construction Noise and Vibration Management Plan, such as the example document included with this EIAR in Appendix 11.1, will be prepared by the appointed contractor in advance of construction.

11.8.1.1 Selection of Quiet Plant

This practice will be implemented in relation to sites with static plant such as compressors and generators. These units will be supplied with manufacturers' proprietary acoustic enclosures where possible. The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the site. To facilitate this, each item of plant equipment will be required to comply with the EC Directive on Outdoor Noise Emissions 2000/14/EC. The least noisy item will be selected wherever possible.

11.8.1.2 Noise Control at Source

If replacing a noisy item of plant is not a viable or practical option, consideration will be given to noise control "at source". This refers to the modification of an item of plant or the application of improved sound reduction methods in consultation with the supplier. For example, resonance effects in panel work or cover plates can be reduced through stiffening or application of damping compounds; rattling and grinding noises can often be controlled by fixing resilient materials in between the surfaces in contact.

BS5228 states that "as far as reasonably practicable sources of significant noise should be enclosed". In applying this guidance, constraints such as mobility, ventilation, access and safety must be taken into account. Items suitable for enclosure include pumps and generators.

BS5228 makes a number of recommendations in relation to “use and siting of equipment”. These are all directly relevant and hence are reproduced below. These recommendations will be adopted on site.

“Plant should always be used in accordance with manufacturers’ instructions. Care should be taken to site equipment away from noise-sensitive areas. Where possible, loading and unloading should also be carried out away from such areas.

Machines such as cranes that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. Machines should not be left running unnecessarily, as this can be noisy and waste energy.

Plant known to emit noise strongly in one direction should, when possible, be orientated so that the noise is directed away from noise-sensitive areas. Attendant operators of the plant can also benefit from this acoustical phenomenon by sheltering, when possible, in the area with reduced noise levels.

Acoustic covers to engines should be kept closed when the engines are in use and idling. The use of compressors that have effective acoustic enclosures and are designed to operate when their access panels are closed is recommended.

Materials should be lowered whenever practicable and should not be dropped. The surfaces on to which the materials are being moved could be covered by resilient material.”

Other forms of noise control at source relevant to the development works are set out below:

- For mobile plant items such as cranes, dump trucks, excavators and loaders, the installation of an acoustic exhaust and or maintaining enclosure panels closed during operation can reduce noise levels by up to 10dB. Mobile plant will be switched off when not in use and not left idling.
- For percussive tools such as pneumatic concrete breakers and tools a number of noise control measures include fitting muffler or sound reducing equipment to the breaker ‘tool’ and ensure any leaks in the air lines are sealed. Erect localised screens around breaker or drill bit when in operation in close proximity to noise sensitive boundaries.
- For concrete mixers, control measures will be employed during cleaning to ensure no impulsive hammering is undertaken at the mixer drum.
- For all materials handling ensure that materials are not dropped from excessive heights, lining drops chutes and dump trucks with resilient materials.
- Demountable enclosures can also be used to screen operatives using hand tools/ breakers and will be moved around site as necessary.
- All items of plant will be subject to regular maintenance. Such maintenance can prevent unnecessary increases in plant noise and can serve to prolong the effectiveness of noise control measures.

11.8.1.3 Screening

Typically screening is an effective method of reducing the noise level at a receiver location and can be used successfully as an additional measure to all other forms of noise control. The effectiveness of a noise screen will depend on the height and length of the screen and its position relative to both the source and receiver. Screening may be a useful form of noise control when works are taking place at basement and ground level to screen noise levels at ground floor adjacent buildings.

In addition, careful planning of the site layout will also be considered. The use of localised mobile (mobile hoarding screens and / or acoustic quilts) to items of plant with the potential to generate high levels of noise are an effective noise control measure. These options will be considered when percussive works are taking place in close proximity to the nearest sensitive perimeter buildings.

11.8.1.4 Liaison with the Public

A designated noise liaison will be appointed to site during construction works. All noise complaints will be logged and followed up in a prompt fashion by the liaison officer. In addition, prior to particularly noisy construction activity, e.g. demolition, breaking, piling, etc., the liaison officer will inform residents at the nearest noise sensitive locations of the time and expected duration of the noisy works.

11.8.1.5 Hours of Work

Construction works will be undertaken within the times below, taken from the Construction Environmental Management Plan:

- Monday to Friday 08:00 to 19:00hrs
- Saturday 08:00 to 13:00hrs
- Sunday and Public Holidays No noisy work on site.

However, it may be necessary for some construction operations to be undertaken outside these times, for example; connections to public service systems or utilities. Such works will be agreed in advance with Dublin City Council.

11.8.2 Operational Phase Mitigation

In order to ensure that acceptable operational noise levels at the nearest noise sensitive locations are achieved, the following mitigation measures will be implemented where appropriate during the detailed design stage.

11.8.2.1 Building Services Plant

Noise emissions from the basement plant room and outdoor plant areas will be designed to ensure that noise levels at the façade of the noise-sensitive locations both within the development and in the surrounding area do not exceed the criteria discussed at **Section 11.3.2.1**.

During the detailed design of the development, the selection and location of mechanical and electrical plant will be undertaken in order to ensure the noise emission limits set out above

are not exceeded. In addition to selecting plant with suitable noise levels, the following best practice measures are recommended for all plant items in order to minimise potential noise disturbance for adjacent buildings:

- where ventilation is required for plant rooms, consideration will be given to acoustic louvers or attenuated acoustic vents, where required to reduce noise breakout;
- ventilation plant serving plant rooms and car parks will be fitted with effective acoustic attenuators to reduce noise emissions to the external environment;
- the use of perimeter plant screens will be used, where required, for roof top plant areas to screen noise sources;
- the use of attenuators or silencers will be installed on external air handling plant;
- all mechanical plant items e.g. fans, pumps etc. shall be regularly maintained to ensure that excessive noise generated by any worn or rattling components is minimised;
- any new or replacement mechanical plant items, including plant located inside new or existing buildings, shall be designed so that all noise emissions from site do not exceed the noise limits outlined in this document, and;
- Installed plant will have no tonal or impulsive characteristics when in operation.

11.8.2.2 Deliveries

As discussed in **Section 11.7.2.2**, it is recommended that deliveries be restricted to daytime periods to avoid disturbance to noise-sensitive locations both within the development and at the neighbouring noise-sensitive locations. No further mitigation measures are required.

11.8.2.3 Additional Vehicular Traffic on Surrounding Roads

During the operational phase of the development, noise mitigation measures with respect to the outward impact of traffic from the development are not deemed necessary.

11.9 Monitoring

During the demolition and construction phase, noise and vibration monitoring shall be carried out by the contractor to ensure that the recommended threshold levels set out in **Table 11.1** or any conditioned noise and vibration limits are not exceeded. Suggested construction noise monitoring locations are presented in **Figure 11.13**.

Noise monitoring will be conducted in accordance with the International Standard ISO 1996: 2017: *Acoustics – Description, measurement and assessment of environmental noise* and be located a distance of greater than 3.5m away from any reflective surfaces, e.g. walls, in order to ensure a free-field measurement without any influence from reflected noise sources.

Vibration monitoring will be conducted in accordance with BS 7385-1 (1990) *Evaluation and measurement for vibration in buildings — Part 1: Guide for measurement of vibrations and evaluation of their effects on buildings* or BS 6841 (1987) *Guide to Measurement and Evaluation of Human Exposure to Whole-Body Mechanical Vibration and Repeated Shock*.

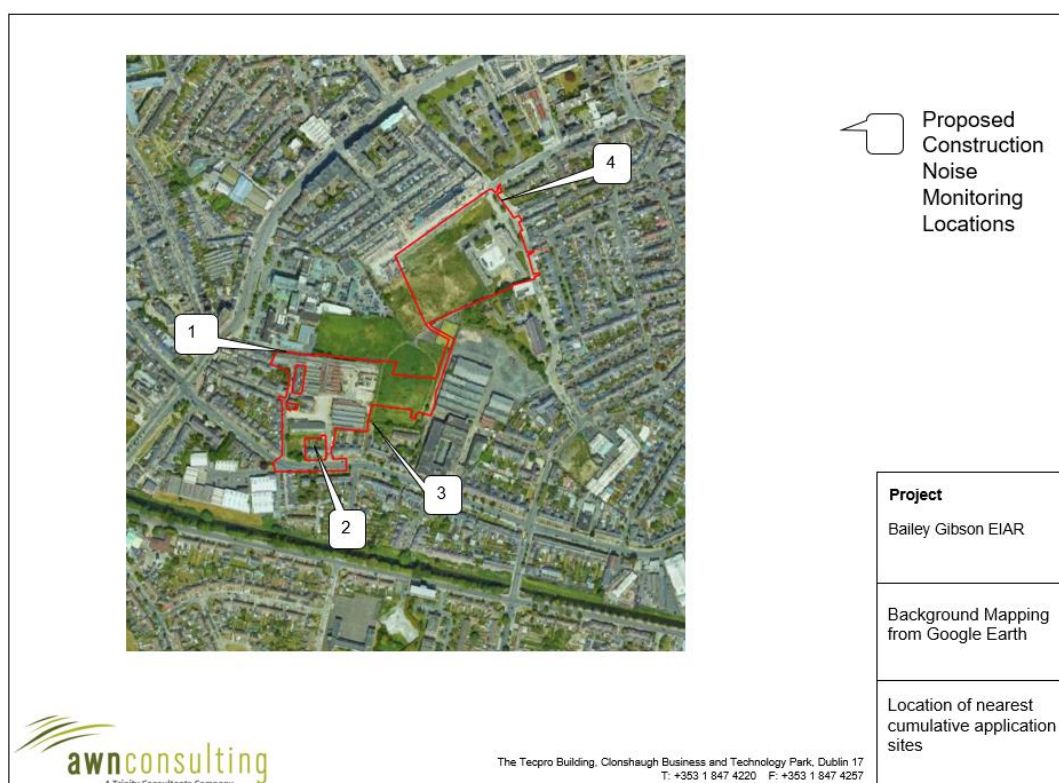


Figure 11.13 Construction and Demolition Noise Monitoring Locations

11.10 Residual Impact Assessment

This section describes the degree of environmental change that will occur after the proposed mitigation measures have taken effect.

11.10.1 Demolition and Construction Phase

During the demolition and construction phase of the project there is the potential for temporary noise effects on nearby noise sensitive properties due to noise emissions from site activities. The application of binding noise limits and hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact is kept to a minimum as far as practicable.

For the duration of the demolition and construction period, construction noise effects will be short-term, negative, slight to significant, depending on the proximity of the works to the site boundary.

Likely noise and vibration effects during the construction phase will be local, negative, short-term and moderate.

11.10.2 Operational Phase

11.10.2.1 Building Services Plant

Noise levels associated with operational plant are expected to be well within the adopted day and night-time noise limits at the nearest noise sensitive properties once the design criteria in **Section 11.3.2.1** are adopted. Assuming the operational noise levels do not exceed the adopted design goals, the resultant residual noise effects from this source will be of neutral, not significant, permanent impact.

11.10.2.2 Deliveries

The location of the delivery area and the mitigation measures outlined in **Section 11.7.2.2** will ensure that residual noise effects from this source will be of **negative, not significant, permanent** impact.

11.10.2.3 Additional Vehicular Traffic on Surrounding Roads

The predicted change noise levels associated with additional traffic is predicted to be of imperceptible impact along the existing road network. In the context of the existing noise environment, the overall effects from noise contribution of increased traffic is considered to be of **neutral, imperceptible and permanent** effect to nearby noise sensitive locations.

11.10.3 Cumulative

As noted in **Section 11.7.3.2**, the predicted traffic flow increases include the effect of the Bailey Gibson development, the Player Wills development and development of the Dublin City Council lands. The effect is therefore neutral, imperceptible and permanent.

11.10.4 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development following the application of mitigation measures.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|-------------------------------------|----------|---|--------|-------------|------------|------------|
| Demolition and Construction | Negative | Significant at distances less than 40m from construction activity | Local | Likely | Short-term | Direct |
| Demolition and Construction | Negative | Moderate at distances greater than 40m from construction activity | Local | Likely | Short-term | Direct |
| Demolition and Construction Traffic | Negative | Imperceptible | Local | Likely | Short-term | Cumulative |

Table 11.30 Summary of Demolition & Construction Phase Effects Post Mitigation

The Table below summarises the identified likely significant effects during the operational phase of the proposed development post mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---------------------------|---------|---------------|--------|-------------|-----------|------------|
| Building Services | Neutral | Imperceptible | Local | Likely | Permanent | Cumulative |
| Deliveries | Neutral | Imperceptible | Local | Likely | Permanent | Cumulative |
| Traffic | Neutral | Imperceptible | Local | Likely | Permanent | Cumulative |

Table 11.31 Summary of Operational Phase Effects Post Mitigation

11.11 Interactions

Interactions are dealt with in Chapter 15 of this EIAR.

Briefly, there are interactions between the noise and vibration assessment and traffic assessment. With increased traffic movements, the noise levels in the surrounding area increase. The impacts of the proposed development on the noise environment are assessed by reviewing the change in traffic flows on roads close to the site. In this assessment, the impact of the interactions between traffic and noise are considered to be imperceptible due to the low level changes in traffic flows associated with the proposed development.

11.12 Summary of Mitigation & Monitoring

The Table below summarises the Demolition & Construction Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|---|---|--|
| Significant noise levels when construction activity is being carried out close to boundary with noise-sensitive locations | Selection of quiet plant; control of noise sources; screening, controlling; hours of work; liaison with the public. | Monitoring of noise levels at boundaries with noise-sensitive locations during construction period |

Table 11.32 Summary of Demolition & Construction Phase Mitigation and Monitoring

The Table below summarises the Operational Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|------------------------------------|--|--|
| Noise from building services plant | Detailed design will ensure compliance with criteria set out in Section 11.3.2.1 | Commissioning measurements to ensure compliance. |

Table 11.33 Summary of Operational Phase Mitigation and Monitoring

11.13 Conclusion

When considering a development of this nature, the potential noise and vibration effects on the surroundings must be considered for two stages: the short-term construction phase and the permanent operational phase.

The assessment of construction noise and vibration and has been conducted in accordance best practice guidance contained in BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise and BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Vibration. Subject to good working practice as recommended in the EIAR Chapter, noise associated with the construction phase is not expected to exceed the recommended limit values for noise-sensitive locations beyond 40m from the site boundary and therefore no significant effects are expected. At distances less than 40m from the boundary, construction noise has the potential to exceed the recommended limit values depending. A variety of standard proven best practice noise mitigation is proposed together with noise monitoring to ensure that limit values are adhered to.

This chapter demonstrates that the predicted noise levels associated with the operational phase of the proposed development will be within best practice noise limits recommended in Irish guidance, therefore it is not considered that a significant effect is associated with the development.

No significant vibration effects are associated with the operation of the site.

In summary, the noise and vibration impact of the proposed development is not significant in the context of current national guidance.

11.14 References and Sources

- EPA Guidelines on the Information to be contained in Environmental Impact Statements, (EPA, 2002);
- EPA Advice Notes on Current Practice (in the preparation of Environmental Impact Statements), (EPA, 2003);
- EPA Guidelines on the Information to be contained in Environmental Impact Assessment Reports, (EPA 19 May 2022));
- EPA Advice Notes for Preparing Environmental Impact Statements, (Draft, September 2015);
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise.
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2 – Vibration.
- BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from groundborne vibration;
- British Standard BS 4142: 2014+A1:2019: Methods for Rating and Assessing Industrial and Commercial Sound.
- Design Manual for Roads and Bridges, 2011;
- ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.
- World Health Organisation Environmental Noise Guidelines for the European Region, 2018

CHAPTER 12

AIR QUALITY & CLIMATE

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|-----------|--|-------------|
| 12 | Air Quality & Climate | 12-3 |
| 12.1 | Introduction..... | 12-3 |
| 12.2 | Expertise and Qualifications | 12-3 |
| 12.3 | Proposed Development..... | 12-3 |
| 12.3.1 | Aspects Relevant to this Assessment..... | 12-5 |
| 12.4 | Methodology | 12-5 |
| 12.4.1 | Relevant Legislation & Guidance | 12-6 |
| 12.4.2 | Construction Phase Methodology | 12-10 |
| 12.4.3 | Operational Phase Methodology | 12-11 |
| 12.5 | Baseline Environment..... | 12-13 |
| 12.5.1 | Meteorological Data | 12-13 |
| 12.5.2 | Baseline Air Quality | 12-14 |
| 12.5.3 | Climate Baseline..... | 12-17 |
| 12.5.4 | Sensitivity of the Receiving Environment | 12-17 |
| 12.6 | Do Nothing Scenario..... | 12-20 |
| 12.6.1 | No Project Scenario..... | 12-20 |
| 12.6.2 | Extant Bailey Gibson Permission..... | 12-20 |
| 12.7 | Potential Significant Effects | 12-21 |
| 12.7.1 | Demolition and Construction Phase | 12-21 |
| 12.7.2 | Operational Phase..... | 12-26 |
| 12.7.3 | Cumulative | 12-27 |
| 12.7.4 | Summary | 12-31 |
| 12.8 | Worst Case Scenario..... | 12-32 |
| 12.9 | Risk of Major Accidents and Disasters..... | 12-32 |
| 12.10 | Mitigation | 12-33 |
| 12.10.1 | Construction Phase Mitigation | 12-33 |
| 12.10.2 | Operational Phase Mitigation | 12-35 |
| 12.10.3 | Incorporated Design Mitigation..... | 12-35 |
| 12.11 | Monitoring | 12-36 |
| 12.12 | Residual Impact Assessment | 12-36 |
| 12.12.1 | Demolition and Construction Phase | 12-36 |

| | | |
|--------------|--|--------------|
| 12.12.2 | Operational Phase..... | 12-37 |
| 12.12.3 | Cumulative | 12-37 |
| 12.12.4 | Summary | 12-38 |
| 12.13 | Interactions | 12-39 |
| 12.14 | Summary of Mitigation & Monitoring..... | 12-39 |
| 12.15 | Conclusion..... | 12-40 |
| 12.16 | References and Sources | 12-41 |

Table of Figures

| | | |
|-------------|---|-------|
| Figure 12.1 | Dublin Airport Windroses 2017 – 2021 | 12-14 |
| Figure 12.2 | Location of Dust Sensitive Receptors Within 20m of Site | 12-19 |
| Figure 12.3 | Location of Cumulative Sites within 350m of Site Boundary | 12-30 |

Table of Tables

| | | |
|-------------|--|-------|
| Table 12.1 | Ambient Air Quality Standards | 12-7 |
| Table 12.2 | Trends In Zone A Air Quality - Nitrogen Dioxide (NO ₂) | 12-15 |
| Table 12.3 | Trends In Zone A Air Quality - PM ₁₀ | 12-16 |
| Table 12.4 | Sensitivity of the Area to Dust Soiling Effects on People and Property | 12-18 |
| Table 12.5 | Sensitivity of the Area to Human Health Impacts | 12-18 |
| Table 12.6 | Sensitivity of the Area to Dust Related Ecological Impacts | 12-19 |
| Table 12.7 | Risk of Dust Impacts - Demolition | 12-22 |
| Table 12.8 | Risk of Dust Impacts - Earthworks | 12-23 |
| Table 12.9 | Risk of Dust Impacts – Construction | 12-23 |
| Table 12.10 | Risk of Dust Impacts – Trackout | 12-24 |
| Table 12.11 | Summary of Dust Impact Risk used to Define Site-Specific Mitigation..... | 12-24 |
| Table 12.12 | Summary of Cumulative Demolition & Construction Dust Impacts..... | 12-30 |
| Table 12.13 | Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation | 12-31 |
| Table 12.14 | Summary of Operational Phase Likely Significant Effects in the absence of mitigation | 12-31 |
| Table 12.15 | Summary of Demolition & Construction Phase Likely Significant Effects | 12-38 |
| Table 12.16 | Summary of Operational Phase Likely Significant Effects | 12-38 |
| Table 12.17 | Summary of Demolition & Construction Phase Mitigation and Monitoring..... | 12-39 |

12 Air Quality & Climate

12.1 Introduction

This chapter assesses the likely air quality and climate impacts associated with the development of a mixed use strategic housing development at a site of 4.74 hectares, South Circular Road, Dublin 8.

This Chapter of the EIAR includes a comprehensive description of the existing air quality and climate at and in the vicinity of the subject site, a description of how the construction and operational phases of the development may impact existing air quality and climate and outlines where necessary the mitigation measures that shall be implemented to control and minimise the impact that the development may have on local ambient air quality and reduce the impact on climate.

12.2 Expertise and Qualifications

This chapter was completed by Ciara Nolan, an environmental consultant in the air quality section of AWN Consulting Ltd. She holds an MSc. (First Class) in Environmental Science from University College Dublin and has also completed a BSc. in Energy Systems Engineering. She is an Associate Member of both the Institute of Air Quality Management (AMIAQM) and the Institution of Environmental Science (AMIEEnvSc). She has been active in the field of air quality for 5 years, with a primary focus on consultancy. She has experience with preparing air quality and climate impact assessments for EIARs for various residential, mixed-use, commercial and industrial developments, some examples of which are included below:

- Strategic housing development at the former Bailey Gibson site, South Circular Road, Dublin 8 (Client: DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV)
- Frascati Centre redevelopment, Blackrock, Co. Dublin (Client: IMRF II Frascati Limited Partnership) (Planning Ref: D21A/0706, D21A/0996)
- Trinity Wharf mixed-use development, Co. Wexford (Client: Roughan & O'Donovan) (Planning Ref: W2006025)
- Residential & mixed-use development, Woodbrook, Shankill, Co. Dublin (Client: Aeval Unlimited Company) (Planning Ref: ABP30584419)
- Mixed-use development, at Naas Road, Walkinstown, Co. Dublin (Client: O'Flynn Construction Co.) (Planning Ref: 3228/20)
- Mixed-use development, Mountpark, Baldonnell Industrial Estate, Co. Dublin (Client: MLEU Dublin Ltd.) (Planning Ref: SD19A/0370, SD20A/0319, SD20A/0215, SD21A/0320, SD21A/0230)

12.3 Proposed Development

This application relates to a proposed mixed-use strategic housing development (SHD) on a site of approx. 5.5 hectares in Dublin 8. It includes all of the former Bailey Gibson site and a small portion of the former Player Wills site, both of which are owned by the Applicant, CWTC Multi Family ICAV acting solely in respect of its sub fund DTBR SCR1 Fund. The balance of

the proposed development site relates to land owned by Dublin City Council (DCC) known locally as the 'Boys Brigade pitch' and part of the St. Teresa's Gardens site, together with DCC controlled public roads.

The application area is predominately within Strategic Development Regeneration Area (SDRA) 12, St. Teresa's Gardens & Environs as identified in the Dublin City Development Plan 2016-2022. The part of the proposed development site not within SDRA 12 relate to works proposed in the public roads surrounding the site, South Circular Road, Donore Avenue and Rehoboth Place.

A comprehensive description of the proposed development is set out in the Planning Statement. The Statutory Notices should also be referenced.

Briefly, it is proposed to demolish the existing vacant buildings and structures on the Bailey Gibson site to make way for development of 345 new homes across 5 blocks, BG 1 - BG 5, ranging in height from 2-7 storeys. The residential blocks will be contained within the Bailey Gibson site. The typology is predominantly apartments with 4 townhouses proposed in block BG5.

This is a mixed tenure scheme, with 292 units proposed as Build to Rent (BtR) across blocks BG1-BG3 and 53 units proposed as Build to Sell (BtS) in blocks BG4 and BG5. It is proposed to deliver 34 social and affordable homes as part of the overall total.

All apartments have private amenity space. At ground floor this is in the form of terraces and on upper levels, balconies. Each of BG1-BG4 have communal amenity areas either as a courtyard or podium area.

Tenant amenities and facilities are proposed in the BtR blocks and include a gym, co-working space, kitchen/lounge areas, concierge, and waste facilities.

Over 2 hectares of public open space including a multi-sport play pitch, a playground, 'St. Teresa's Playground', a boulevard, 'St. Teresa's Boulevard', a park, 'Players Park', a plaza, 'Rehoboth Plaza'.

The proposed non-residential uses include in blocks BG1 and BG2 commercial units that have the capacity to support daily living needs e.g., a shop, pharmacy and professional services. A creche with capacity for approx. 60 children. In block BG2 the design includes floorspace for a café/restaurant/bar.

In total there are 89 car parking spaces allocated to the proposed apartments and all are contained within the Bailey Gibson site. Apart from 1 space at podium level, the parking is contained within a basement. Additionally, 10 'Go Car' spaces are proposed at podium level for residents use only. Each of the 4 townhouses has 1 on-curtilage car parking space.

Visitor parking is at street level and the proposed sport pitch will be serviced separately by new spaces on the public roads. The scheme includes set down parking for the creche, a loading bay for deliveries and coach parking area.

Provision is made for disabled parking, electric vehicle charging, a car sharing scheme and motorcycle parking.

784 spaces are proposed for cycle parking including secure residents parking, visitor parking and spaces for cargo bicycles.

Other works include the development of a network of streets across the proposed development site that will link with other sites within SDRA 12 and into the wider street network of Dublin 8. Improvement works within existing local streets to facilitate access and safe movement.

Ancillary development works includes the construction of electricity substations, meter rooms, plant rooms at basement level, waste storage areas, solar photovoltaics, drainage, landscaping, and lighting.

12.3.1 Aspects Relevant to this Assessment

Impacts to air quality and climate will occur during both the construction and operational phases of the proposed development. The aspects of the proposed development that are relevant to the air quality assessment during the construction phase include elements likely to cause dust emissions such as; the buildings and structures involved in the demolition phase, earthworks activities, movement of vehicles and construction of buildings. Traffic associated with both the construction and operational phase have the potential to impact both air quality and climate through emissions of NO₂, PM₁₀, PM_{2.5} and CO₂.

12.4 Methodology

This chapter has been prepared having regard to the following guidelines;

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022);
- Advice Note on Preparing Environmental Impact Statements – Draft (EPA, 2015)
- Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (European Commission, 2013)
- Guidance on the Assessment of Dust from Demolition and Construction Version 1.1 (Institute of Air Quality Management (IAQM), 2014)
- UK Design Manual for Roads and Bridges (DMRB), Volume 11, Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 1 LA 105 Air quality (UK Highways Agency, 2019a)
- UK Design Manual for Roads and Bridges (DMRB) Volume 11 Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 14 LA 114 Climate (UK Highways Agency, 2019b)

12.4.1 Relevant Legislation & Guidance

12.4.1.1 Development Plans

The Dublin City Development Plan 2016 – 2022 (Dublin City Council 2016) policy in relation to air quality is:

*“To monitor and improve air quality in accordance with national and EU policy directives on air quality and, where appropriate, promote compliance with established targets”.*¹

The Plan states that adverse effects to air quality associated with developments, particularly the construction phase of major projects, should be mitigated through the planning process and the implementation of planning conditions where appropriate.

Climate change adaptation is a prominent feature in the Dublin City Development Plan 2016 – 2022 (Dublin City Council, 2016). Chapter 3 of Volume 1: *Addressing Climate Change* sets out the policies and measures to tackle climate change within Dublin City. One of the key policies (CC1) is *“To prioritise measures to address climate change by way of both effective mitigation and adaptation responses in accordance with available guidance and best practice”*. Climate change mitigation will be achieved through policy CC2: *“To mitigate the impacts of climate change through the implementation of policies that reduce energy consumption, reduce energy loss/wastage, and support the supply of energy from renewable sources”*.

These policies will be achieved through a number of climate change objectives (CCO1 – CCO15). Some of the key measures include promotion of renewable energy technologies, supporting sustainable energy use in the areas of commercial, residential and transport, and ensuring a high level of energy efficiency in existing and new developments.

These objectives have been taken into account when carrying out the air quality and climate assessments for the proposed development and where necessary measures were included to ensure adverse effects to air quality or climate were mitigated.

12.4.1.2 Ambient Air Quality Standards

In order to reduce the risk to health from poor air quality, national and European statutory bodies have set limit values in ambient air for a range of air pollutants. These limit values or “Air Quality Standards” are health or environmental-based levels for which additional factors may be considered. For example, natural background levels, environmental conditions and socio-economic factors may all play a part in the limit value which is set (see **Table 12.1** and **Appendix 12.1** (Volume III)).

Air quality significance criteria are assessed on the basis of compliance with the appropriate standards or limit values. The applicable standards in Ireland include the Air Quality Standards Regulations 2011 (S.I. No. 180/2011), which incorporate EU Directive 2008/50/EC, which has set limit values for a number of pollutants. The limit values for NO₂, PM₁₀ and PM_{2.5} are of relevance to this assessment (see **Table 12.1**). Although the EU Air Quality Limit Values are the basis of legislation, other thresholds outlined by the EU Directive are used which are triggers for particular actions (see **Appendix 12.1**, Volume III).

¹ Policy S124

| Pollutant | Regulation Note 1 | Limit Type | Value |
|---|----------------------|---|---|
| Nitrogen Dioxide | 2008/50/EC | Hourly limit for protection of human health - not to be exceeded more than 18 times/year | 200 µg/m ³ |
| | | Annual limit for protection of human health | 40 µg/m ³ |
| | | Critical level for protection of vegetation | 30 µg/m ³ NO + NO ₂ |
| Particulate Matter (as PM ₁₀) | 2008/50/EC | 24-hour limit for protection of human health - not to be exceeded more than 35 times/year | 50 µg/m ³ |
| | | Annual limit for protection of human health | 40 µg/m ³ |
| Particulate Matter (as PM _{2.5}) | 2008/50/EC | Annual limit for protection of human health | 25 µg/m ³ |

Table 12.1 Ambient Air Quality Standards

Note 1 EU 2008/50/EC – Clean Air For Europe (CAFE) Directive replaces the previous Air Framework Directive (1996/30/EC) and daughter directives 1999/30/EC and 2000/69/EC

12.4.1.3 Dust Deposition Guidelines

The concern from a health perspective is focussed on particles of dust which are less than 10 microns (PM₁₀) and less than 2.5 microns (PM_{2.5}) and the EU ambient air quality standards outlined in **Table 12.1** have set ambient air quality limit values for PM₁₀ and PM_{2.5}.

With regard to larger dust particles that can give rise to nuisance dust, there are no statutory guidelines regarding the maximum dust deposition levels that may be generated during the construction phase of a development in Ireland. Furthermore, no specific criteria have been stipulated for nuisance dust in respect of this development.

With regard to dust deposition, the German TA-Luft standard for dust deposition (non-hazardous dust) (German VDI, 2002) sets a maximum permissible emission level for dust deposition of 350 mg/(m²*day) averaged over a one year period at any receptors outside the site boundary. Recommendations from the Department of the Environment, Heritage & Local Government (DOEHLG, 2004) apply the Bergerhoff limit value of 350 mg/(m²*day) to the site boundary of quarries. This limit value can also be implemented with regard to potential dust impacts from construction of the proposed development.

12.4.1.4 Climate Agreements

Ireland is party to both the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. The Paris Agreement, which entered into force in 2016, is an important milestone in terms of international climate change agreements and includes an aim of limiting global temperature increases to no more than 2°C above pre-industrial levels with efforts to limit this rise to 1.5°C. The aim is to limit global GHG emissions to 40 gigatonnes as soon as possible whilst acknowledging that peaking of GHG emissions will take longer for developing countries. Contributions to GHG emissions will be based on Intended Nationally Determined Contributions (INDCs) which will form the foundation for climate action post 2020.

Significant progress was also made in the Paris Agreement on elevating adaption onto the same level as action to cut and curb emissions.

In order to meet the commitments under the Paris Agreement, the EU enacted *Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No. 525/2013* (the Regulation). The Regulation aims to deliver, collectively by the EU in the most cost-effective manner possible, reductions in GHG emissions from the Emission Trading Scheme (ETS) and non-ETS sectors amounting to 43% and 30%, respectively, by 2030 compared to 2005. Ireland's obligation under the Regulation is a 30% reduction in non-ETS greenhouse gas emissions by 2030 relative to its 2005 levels.

In 2015, the Climate Action and Low Carbon Development Act 2015 was enacted (the "**Climate Action Act**"). The purpose of the Act was to enable Ireland '*to pursue, and achieve, the transition to a low carbon, climate resilient and environmentally sustainable economy by the end of the year 2050*' (3.(1) of No. 46 of 2015). This is referred to in the Climate Action Act as the '*national transition objective*'. The Act made provision for, *inter alia*, a national adaptation framework. In addition, the Act provided for the establishment of the Climate Change Advisory Council with the function to advise and make recommendations on the preparation of the national mitigation and adaptation plans and compliance with existing climate obligations.

The first Climate Action Plan ("**CAP**") was published in June 2019 (Government of Ireland, 2019). The CAP outlined the current status across key sectors including Electricity, Transport, Built Environment, Industry and Agriculture and outlined the various broadscale measures required for each sector to achieve ambitious decarbonisation targets. The CAP also detailed the required governance arrangements for implementation including carbon-proofing of policies, establishment of carbon budgets, a strengthened Climate Change Advisory Council and greater accountability to the Oireachtas.

The Government published the second Climate Action Plan in November 2021 (Government of Ireland, 2021). The plan contains similar elements as the 2019 CAP and aims to set out how Ireland can reduce our greenhouse gas emissions by 51% by 2030 (compared to 2018 levels) which is in line with the EU ambitions, and a longer-term goal of achieving net-zero emissions no later than 2050. The 2021 CAP outlines that emissions from the Built Environment sector must be reduced to 4 - 5 MtCO₂e by 2030 in order to meet our climate targets. This will require further measures in addition to those committed to in the 2019 CAP. This will include phasing out the use of fossil fuels for the space and water heating of buildings, improving the fabric and energy of our buildings, and promoting the use of lower carbon alternatives in construction.

Following on from Ireland declaring a climate and biodiversity emergency in May 2019 and the European Parliament approving a resolution declaring a climate and environment emergency in Europe in November 2019, the Government approved the publication of the General Scheme for the Climate Action (Amendment) Bill 2019 in December 2019 (Government of Ireland 2019), followed by the publication of the Climate Action and Low Carbon Development (Amendment) Act 2021 (hereafter referred to as the 2021 Climate

Action Act) in July 2021 (Government of Ireland, 2021). The 2021 Climate Action Act was prepared for the purposes of giving statutory effect to the core objectives stated within the CAP.

The purpose of the 2021 Climate Action Act is to provide for the approval of plans '*for the purpose of pursuing the transition to a climate resilient, biodiversity rich and climate neutral economy by no later than the end of the year 2050*'. It will also '*provide for carbon budgets and a decarbonisation target range for certain sectors of the economy*'. The 2021 Climate Action Act defines the carbon budget as '*the total amount of greenhouse gas emissions that are permitted during the budget period*'. It removes any reference to a national mitigation plan and instead refers to both the Climate Action Plan, as published in 2019, and a series of National Long Term Climate Action Strategies. In addition, the Environment Minister shall request each local authority to make a '*local authority climate action plan*' lasting five years and to specify the mitigation measures and the adaptation measures to be adopted by the local authority.

The Dublin City Council Climate Change Action Plan (Dublin City Council and Codema, 2019) outlines a number of goals and plans to prepare for and adapt to climate change. There are five key action areas within the plan: energy and buildings, transport, flood resilience, nature-based solutions and resource management. Some of the measures promoted within the Action Plan under the 5 key areas involve building retrofits, energy master-planning, development of segregated cycle routes, the promotion of bike share schemes, development of flood resilient designs, promotion of the use of green infrastructure and water conservation initiatives. The implementation of these measures will enable the Dublin City Council area to adapt to climate change and will assist in bringing Ireland closer to achieving its climate related targets in future years. New developments need to be cognisant of the Action Plan and incorporate climate friendly designs and measures where possible.

Under amendments to Part L of the Building Regulations from November 2019 all new buildings were required to comply with the Near Zero Energy Building (NZEB) regulations. This aims to make new residential buildings 70% more energy efficient than the 2005 levels. The Part L Technical Guidance Document was updated by the Minister for Housing, Local Government & Heritage in July 2021.

The amendments to Part L give effect to the European Union (Energy Performance of Buildings) Regulations 2019, published on 3 May 2019 (S.I. 183 of 2019). The regulations transpose Directive 2010/31/EU of the European Parliament and of the Council on the energy performance of buildings (recast), as amended by Directive (EU) 2018/844 of the European Parliament and of the Council of 30 May 2018. The Directive sets requirements for Member States to improve the energy performance of buildings and make an important contribution to the reduction of greenhouse gas emissions. The improved efficiency of buildings will help in reducing Ireland's GHG emissions and thus help to mitigate climate change. The regulations require that at least 20% of the total energy use of buildings is sourced from renewables. There is also a requirement to reduce the heat loss from buildings and avail of heat gain through the fabric of the building in addition to providing energy efficient space and water heating systems. The NZEB requirements will result in a typical Building Energy Rating (BER) of A2 which represents a 70% improvement in carbon emissions levels on the emissions levels of buildings from 2005.

12.4.2 Construction Phase Methodology

12.4.2.1 Air Quality

The Institute of Air Quality Management in the UK (IAQM) guidance document '*Guidance on the Assessment of Dust from Demolition and Construction*' (2014) outlines an assessment method for predicting the impact of dust emissions from construction activities based on the scale and nature of the works and the sensitivity of the area to dust impacts. The IAQM methodology has been applied to the construction phase of this development in order to predict the likely risk of dust impacts in the absence of mitigation measures and to determine the level of site specific mitigation required. The use of UK guidance is considered best practice in the absence of applicable Irish guidance.

The major dust generating activities are divided into four types within the IAQM guidance (2014) to reflect their different potential impacts. These are: -

- Demolition.
- Earthworks.
- Construction.
- Trackout (movement of heavy vehicles).

The magnitude of each of the four categories is divided into Large, Medium or Small scale depending on the nature of the activities involved. The magnitude of each activity is combined with the overall sensitivity of the area to determine the risk of dust impacts from site activities. This allows the level of site specific mitigation to be determined.

Demolition and construction phase traffic also has the potential to impact air quality and climate. The UK Highways Agency guidance *LA 150* (2019) states the following scoping criteria shall be used to determine whether the air quality impacts of a project can be scoped out or require an assessment based on the changes between the do something traffic (with the project) compared to the do minimum traffic (without the project):²

- Annual average daily traffic (AADT) changes by 1,000 or more;
- Heavy duty vehicle (HDV) AADT changes by 200 or more;
- A change in speed band;
- A change in carriageway alignment by 5m or greater.

In addition, the impact of construction activities on vehicle movements shall be assessed where construction activities are programmed to last for more than 2 years (UK Highways Agency, 2019). Traffic data for the proposed development was provided by Systra (the appointed traffic consultant) on 13/01/2022 to inform this assessment. The traffic data includes details of the construction phase traffic for the proposed development in addition to the cumulative traffic associated with the proposed development and Player Wills development,

² *Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes, 2011* was produced by Transport Infrastructure Ireland based on the previous version of the UK Design Manual for Roads and Bridges ("DMRB") guidance (UK Highways Agency, 2007). The 2011 TII Guidance note they should be updated to reflect updates to the DMRB (see Section 1.1 of TII, 2011). The UK Highways Agency guidance *LA 150* (2019) and the above scoping criteria are a useful update to the 2007 DMRB.

together with future planned developments as outlined in the SRDA 12 Development Framework. These latter proposals will be subject to separate development consents.

While the construction period for the proposed development is expected to last for over 2 years, 24 – 30 months, as outlined in Chapter 6 Material Assets: Traffic & Transport, none of the surrounding road links meet the scoping criteria. The proposed development in conjunction with the identified cumulative developments will increase the AADT on the local road network by at most 110 HDV AADT, this is equivalent to a 0.3% increase in the number of HGVs. Therefore, a detailed assessment of construction traffic is not required as there is no potential for likely significant impacts to air quality as a result of traffic emissions.

12.4.2.2 Climate

The impact of the construction phase of the development on climate was determined by a qualitative assessment of the nature and scale of greenhouse gas generating construction activities associated with the proposed development.

12.4.3 Operational Phase Methodology

12.4.3.1 Air Quality

The air quality assessment has been carried out following procedures described in the publications by the EPA (2015; 2022) and using the methodology outlined in the guidance documents published by the UK Highways Agency (2019a) and UK Department of Environment Food and Rural Affairs (DEFRA) (2016; 2018). Transport Infrastructure Ireland (TII) reference the use of the UK Highways Agency and DEFRA guidance and methodology in their document *Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes* (2011) (the “TII Guidance”). This approach is considered best practice in the absence of Irish guidance and can be applied to any development that causes a change in traffic.

Operational phase traffic has the potential to impact local air quality as a result of increased vehicle movements associated with the proposed development. Traffic data for the proposed development was provided by Systra on 13/01/2022. This included details of the traffic for the proposed development in addition to the cumulative traffic associated with the proposed development and Player Wills development, together with future planned developments as outlined in the SRDA 12 Development Framework. These latter proposals will be subject to separate development consents. The UK Highways Agency DMRB scoping criteria detailed in Section 12.4.2.1 was used to determine if any road links are affected by the proposed development and require inclusion in a detailed air dispersion modelling assessment. The proposed development will not increase traffic volume (AADT or HGVs), speeds or change the road alignment by an amount greater than the scoping criteria (Section 12.4.2), see Chapter 6 of this EIAR for full details. The proposed development in conjunction with the identified cumulative developments will increase the AADT on the local road network by at most 430 AADT. Therefore, no road links impacted by the proposed development satisfy the criteria and a quantitative assessment of the impact of traffic emissions on ambient air quality is not necessary as there is no potential for significant impacts to local air quality.

12.4.3.2 Air Quality Impact on Ecologically Sensitive Sites

For routes that pass within 2 km of a designated area of conservation (either Irish or European designation) the TII requires consultation with an ecologist (TII, 2011). However, the TII

guidance (2011) states that in practice the potential for impact to an ecological site is highest within 200 m of the proposed scheme and when significant changes in AADT (>5%) occur. Only sites that are sensitive to nitrogen deposition should be included in the assessment. In addition, the UK Highways Agency (2019a) states that a detailed assessment does not need to be conducted for areas that have been designated for geological features or watercourses.

Transport Infrastructure Ireland's *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (2009) and *Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities* (DEHLG, 2010) provide details regarding the legal protection of designated conservation areas.

If both of the following assessment criteria are met, an assessment of the potential for impact due to nitrogen deposition shall be conducted:

- A designated area of conservation is located within 200 m of the proposed development; and
- A significant change in AADT flows (>5%) will occur.

The Grand Canal Proposed Natural Heritage Area (pNHA) (site code 002104) is to the direct south of the proposed development site and adjoins the south-western boundary along at the South Circular Road. The traffic along the South Circular Road will not increase by over 5% as a result of the proposed development and therefore a detailed assessment of the potential for NO_x emissions to impact the pNHA have been screened out of this assessment as there is no potential for significant impacts to ecology from traffic emissions.

12.4.3.3 Climate

Ireland has annual GHG targets which are set at an EU level and need to be complied with in order to reduce the impact of climate change. Impacts to climate as a result of GHG emissions are assessed against the targets set out by the EU under *Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement and amending Regulation (EU) No. 525/2013*. Which has set a target of a 30% reduction in non-ETS sector emissions by 2030 relative to 2005 levels.

As per the EU guidance document *Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment* (European Commission, 2013) the climate baseline is first established by reference to EPA data on annual GHG emissions (see Section 12.5.3). Thereafter the impact of the proposed development on climate is determined. Emissions from road traffic associated with the proposed development have the potential to emit carbon dioxide (CO₂) which will impact climate.

The UK Highways Agency has published an updated DMRB guidance document in relation to climate impact assessments *LA 114 Climate* (UK Highways Agency, 2019b), this guidance can be applied to any development that causes a change in traffic. The following scoping criteria are used to determine whether a detailed climate assessment is required for a proposed project during the operational stage. During the operational phase, if any of the road links impacted by the proposed development meet the below criteria then further assessment is required.

- A change of more than 10% in AADT;
- A change of more than 10% to the number of heavy duty vehicles; and
- A change in daily average speed of more than 20 km/hr.

None of the road links impacted by the proposed development meet the above criteria and therefore a detailed assessment is not required as there is no potential for significant impacts to climate as a result of traffic emissions.

The EU guidance (2013) also states indirect GHG emissions as a result of a development must be considered, this includes emissions associated with energy usage. The Energy & Sustainability Report prepared by OCSC in relation to this development has been reviewed and used to inform the operational phase climate assessment. This report outlines a number of measures in relation to energy usage from the proposed development primarily in relation to heat and electricity. A number of measures have been incorporated into the overall design of the development to reduce the impact to climate where possible.

12.5 Baseline Environment

12.5.1 Meteorological Data

A key factor in assessing temporal and spatial variations in air quality is the prevailing meteorological conditions. Depending on wind speed and direction, individual receptors may experience very significant variations in pollutant levels under the same source strength (i.e. traffic levels). Wind is of key importance in dispersing air pollutants and for ground level sources, such as traffic emissions, pollutant concentrations are generally inversely related to wind speed. Thus, concentrations of pollutants derived from traffic sources will generally be greatest under very calm conditions and low wind speeds when the movement of air is restricted. In relation to PM₁₀, the situation is more complex due to the range of sources of this pollutant. Smaller particles (less than PM_{2.5}) from traffic sources will be dispersed more rapidly at higher wind speeds. However, fugitive emissions of coarse particles (PM_{2.5} - PM₁₀) will actually increase at higher wind speeds. Thus, measured levels of PM₁₀ will be a non-linear function of wind speed.

Representative meteorological data from nearby meteorological stations operated by Met Eireann are typically used to inform the prevailing meteorological conditions in an area in the absence of site specific data. This approach is considered best practice and provides a long-term data set for informing the assessment. The nearest representative weather station collating detailed weather records is Dublin Airport meteorological station which is located approximately 9.5 km north of the site. For data collated during five representative years (2017 – 2021), the predominant wind direction is westerly to south-westerly, with generally moderate wind speeds (see Error! Reference source not found.) (Met Eireann, 2022).

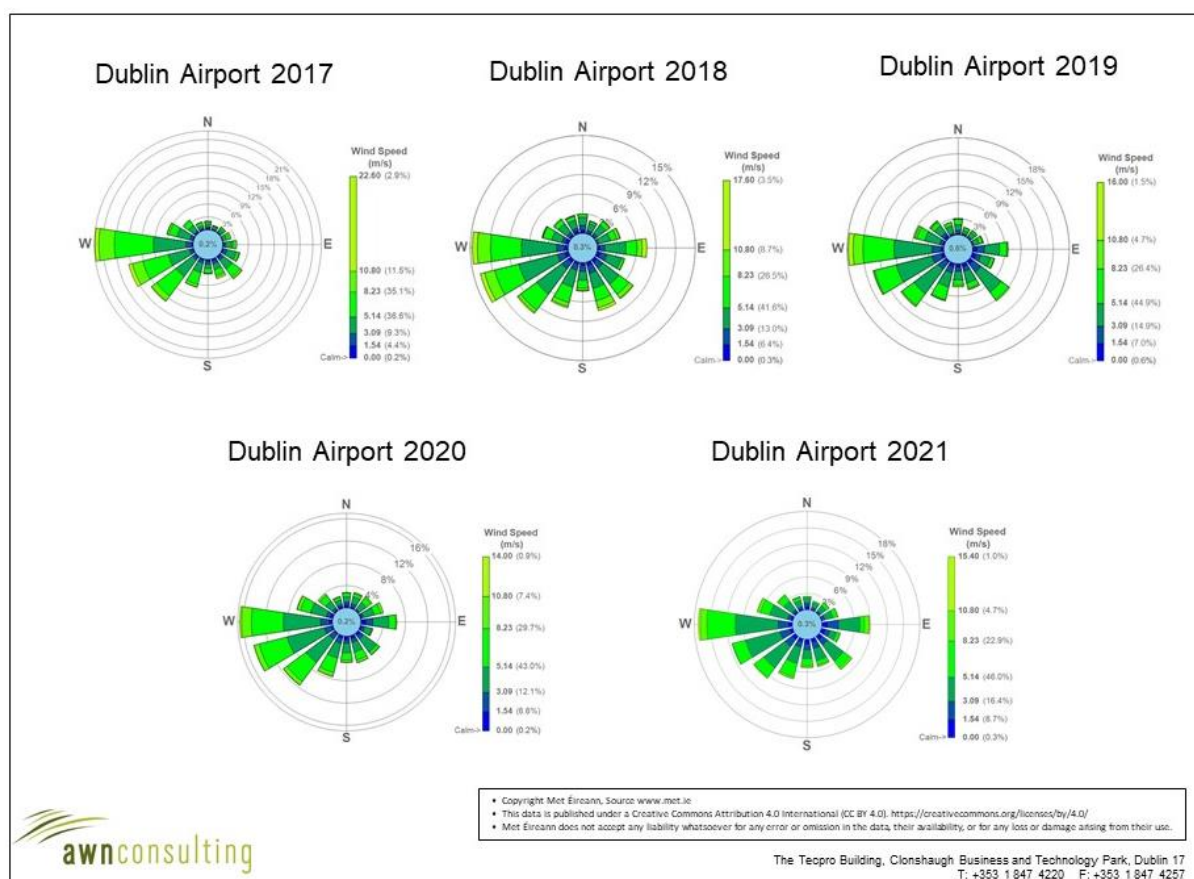


Figure 12.1 Dublin Airport Windroses 2017 – 2021

12.5.2 Baseline Air Quality

Air quality monitoring programs have been undertaken in recent years by the EPA and Local Authorities. The most recent annual report on air quality in Ireland is “*Air Quality In Ireland 2020*” (EPA, 2021a). The EPA website details the range and scope of monitoring undertaken throughout Ireland and provides both monitoring data and the results of previous air quality assessments (EPA, 2022). The EPA data provides a long-term data set for background air quality at a variety of locations throughout Ireland. The use of existing long-term data is considered best practice in air quality assessments (TII, 2011).

As part of the implementation of the EU Council Directive 96/62/EC (transposed into Irish Legislation as S.I. No. 33 of 1999), four air quality zones have been defined in Ireland for air quality management and assessment purposes (EPA, 2022). Dublin is defined as Zone A and Cork as Zone B. Zone C is composed of 23 towns with a population of greater than 15,000. The remainder of the country, which represents rural Ireland but also includes all towns with a population of less than 15,000, is defined as Zone D.

In terms of air monitoring and assessment, the proposed development is within Zone A (EPA, 2022). The long-term EPA monitoring data has been used to determine background concentrations for the key pollutants in the region of the proposed development. The background concentration accounts for all non-traffic derived emissions (e.g. natural sources, industry, home heating etc.).

In 2020 the EPA reported (EPA, 2021a) that Ireland was compliant with EU legal air quality limits at all locations, however this was largely due to the reduction in traffic due to Covid-19 restrictions. The EPA *Air Quality in Ireland 2020* report details the effect that the Covid-19 restrictions had on air monitoring stations, which included reductions of up to 50% at some monitoring stations which have traffic as a dominant source. The report also notes that CSO figures show that while traffic volumes are still slightly below 2019 levels, they have significantly increased since 2020 levels. 2020 concentrations are therefore predicted to be an exceptional year and not consistent with long-term trends. For this reason, they have not been included in the baseline section and previous long-term data has been used to determine baseline levels of pollutants in the vicinity of the proposed development.

With regard to NO₂, continuous monitoring data from the EPA (EPA, 2021a) at suburban Zone A locations in Ringsend, Dun Laoghaire, Swords and Ballyfermot show that current levels of NO₂ are below both the annual and 1-hour limit values, with annual average levels ranging from 15 – 24 µg/m³ in 2019 (see **Table 12.2**). Sufficient data is available for the stations in Ballyfermot, Dun Laoghaire and Swords to observe the long-term trend since 2015 (EPA, 2021a) (see **Table 12.2**), with results ranging from 13 – 20 µg/m³ and few exceedances of the one-hour limit value. In addition, continuous monitoring data from the EPA (EPA, 2021a) at urban Zone A locations in Winetavern Street and Rathmines show that annual concentrations of NO₂ were 28 µg/m³ and 22 µg/m³ at both locations respectively in 2019. Based on the results at suburban and urban Zone A locations, an estimate of the background NO₂ concentration in the region of the proposed development is 22 µg/m³.

| Station | Averaging Period ^{Notes 1, 2} | Year | | | | |
|-------------------|--|------|------|------|------|------|
| | | 2015 | 2016 | 2017 | 2018 | 2019 |
| Winetavern Street | Annual Mean NO ₂ (µg/m ³) | 31 | 37 | 27 | 29 | 28 |
| | Max 1-hr NO ₂ (µg/m ³) | 182 | 194 | 196 | 165 | 142 |
| Rathmines | Annual Mean NO ₂ (µg/m ³) | 18 | 20 | 17 | 20 | 22 |
| | Max 1-hr NO ₂ (µg/m ³) | 106 | 102 | 116 | 138 | 183 |
| Ringsend | Annual Mean NO ₂ (µg/m ³) | - | - | 22 | 27 | 24 |
| | Max 1-hr NO ₂ (µg/m ³) | - | - | 138 | 121 | 109 |
| Ballyfermot | Annual Mean NO ₂ (µg/m ³) | 16 | 17 | 17 | 17 | 20 |
| | Max 1-hr NO ₂ (µg/m ³) | 127 | 90 | 112 | 217 | 124 |
| Dún Laoghaire | Annual Mean NO ₂ (µg/m ³) | 16 | 19 | 17 | 19 | 15 |
| | Max 1-hr NO ₂ (µg/m ³) | 103 | 142 | 153 | 135 | 104 |
| Swords | Annual Mean NO ₂ (µg/m ³) | 13 | 16 | 14 | 16 | 15 |
| | Max 1-hr NO ₂ (µg/m ³) | 170 | 206 | 107 | 112 | 108 |

Table 12.2 Trends In Zone A Air Quality - Nitrogen Dioxide (NO₂)

Note 1 Annual average limit value - 40 µg/m³ (EU Council Directive 2008/50/EC & S.I. No. 180 of 2011).

Note 2 1-hour limit value - 200 µg/m³ as a 99.8thile, i.e. not to be exceeded >18 times per year (EU Council Directive 2008/50/EC & S.I. No. 180 of 2011).

Continuous PM₁₀ monitoring carried out at the Zone A locations of Winetavern Street, Rathmines, Phoenix Park and Dún Laoghaire showed 2015 – 2019 annual mean concentrations ranging from 9 - 15 µg/m³ (**Table 12.3**), with at most 9 exceedances (in Rathmines) of the 24-hour limit value of 50 µg/m³ (35 exceedances are permitted per year). The most representative location is Rathmines which had an average annual mean concentration of 14.6 µg/m³ over the five year period. Based on the EPA data (**Table 12.3**), a conservative estimate of the current background PM₁₀ concentration in the region of the proposed development is 15 µg/m³.

| Station | Averaging Period ^{Notes 1, 2} | Year | | | | |
|-------------------|---|------|------|------|------|------|
| | | 2015 | 2016 | 2017 | 2018 | 2019 |
| Winetavern Street | Annual Mean PM ₁₀ (µg/m ³) | 14 | 14 | 13 | 14 | 15 |
| | 24-hr Mean > 50 µg/m ³ (days) | 4 | 2 | 3 | 1 | 9 |
| Rathmines | Annual Mean PM ₁₀ (µg/m ³) | 15 | 15 | 13 | 15 | 15 |
| | 24-hr Mean > 50 µg/m ³ (days) | 5 | 3 | 5 | 2 | 9 |
| Phoenix Park | Annual Mean PM ₁₀ (µg/m ³) | 12 | 11 | 9 | 11 | 11 |
| | 24-hr Mean > 50 µg/m ³ (days) | 2 | 0 | 1 | 0 | 2 |
| Dún Laoghaire | Annual Mean PM ₁₀ (µg/m ³) | 13 | 13 | 12 | 13 | 12 |
| | 24-hr Mean > 50 µg/m ³ (days) | 3 | 0 | 2 | 0 | 2 |

Table 12.3 Trends In Zone A Air Quality - PM₁₀

Note 1 Annual average limit value - 40 µg/m³ (EU Council Directive 2008/50/EC & S.I. No. 180 of 2011).

Note 2 24-hour limit value - 50 µg/m³ as a 90.4th percentile, i.e. not to be exceeded >35 times per year (EU Council Directive 1999/30/EC & S.I. No. 180 of 2011).

Monitoring of both PM₁₀ and PM_{2.5} takes place at the station in Rathmines which allows for the PM_{2.5}/PM₁₀ ratio to be calculated. Average PM_{2.5} levels in Rathmines over the period 2015 – 2019 ranged from 8 - 10 µg/m³, with a PM_{2.5}/PM₁₀ ratio ranging from 0.53 – 0.68 (EPA, 2021a). Based on this information, a conservative ratio of 0.7 was used to generate an existing PM_{2.5} concentration in the region of the development of 11.2 µg/m³.

Based on the above information the air quality in the Dublin area is generally good, with concentrations of the key pollutants generally well below the relevant limit values. However, the EPA have indicated that road transport emissions are contributing to increased levels of NO₂ with the potential for breaches in the annual NO₂ limit value in future years at locations within urban centres and roadside locations. In addition, burning of solid fuels for home heating is contributing to increased levels of particulate matter (PM₁₀ and PM_{2.5}). The EPA predict that exceedances in the particulate matter limit values are likely in future years if burning of solid fuels for residential heating continues (EPA, 2021a).

12.5.3 Climate Baseline

Anthropogenic emissions of greenhouse gases in Ireland included in the EU 2020 strategy are outlined in the most recent review by the EPA which details provisional emissions up to 2020 (EPA, 2021b). The data published in 2021 states that Ireland will exceed its 2020 annual limit set under the EU's Effort Sharing Decision (ESD), 406/2009/EC1 by an estimated 6.73 Mt. For 2021, total national greenhouse gas emissions are estimated to be 57.70 million tonnes carbon dioxide equivalent (Mt CO₂eq) with 44.38 MtCO₂eq of emissions associated with the ESD sectors for which compliance with the EU targets must be met. Agriculture is the largest contributor in 2021 at 37.1% of the total, with the transport sector accounting for 17.9% of emissions of CO₂.

GHG emissions for 2020 are estimated to be 3.6% lower than those recorded in 2019. Emission reductions have been recorded in 6 of the last 10 years. However, compliance with the annual EU targets has not been met for five years in a row. Emissions from 2016 – 2020 exceeded the annual EU targets by 0.29 MtCO₂eq, 2.94 MtCO₂eq, 5.57 MtCO₂eq, 6.85 MtCO₂eq and 6.73 MtCO₂eq respectively. Agriculture is consistently the largest contributor to emissions with emissions from the transport and energy sectors being the second and third largest contributors respectively in recent years.

The EPA 2020 GHG Emissions Projections Report for 2020 – 2040 (EPA, 2021c) notes that there is a long-term projected decrease in greenhouse gas emissions as a result of inclusion of new climate mitigation policies and measures that formed part of the National Development Plan (NDP) which was published in 2018 and the Climate Action Plan published in 2019. Implementation of these are classed as a “*With Additional Measures scenario*” for future scenarios. A change from generating electricity using coal and peat to wind power and diesel vehicle engines to electric vehicle engines are envisaged under this scenario. While emissions are projected to decrease in these areas, emissions from agriculture are projected to grow steadily due to an increase in animal numbers. However, over the period 2013 to 2020 Ireland is projected to cumulatively exceed its compliance obligations with the EU's Effort Sharing Decision (Decision No. 406/2009/EC) 2020 targets by approximately 12.2MtCO₂eq under the “*With Existing Measures*” scenario and under the “*With Additional Measures*” scenario. The projections indicate that Ireland can meet its non-ETS EU targets over the period 2021 – 2030 assuming full implementation of the 2019 Climate Action Plan and the use of the flexibilities available (EPA, 2021c).

12.5.4 Sensitivity of the Receiving Environment

In line with the IAQM guidance document (2014) prior to assessing the impact of dust from a proposed development, the sensitivity of the area must first be assessed as outlined below. Both receptor sensitivity and proximity to proposed works areas are taken into consideration. For the purposes of this assessment, high sensitivity receptors are regarded as residential properties where people are likely to spend the majority of their time. Commercial properties and places of work are regarded as medium sensitivity while low sensitivity receptors are places where people are present for short periods or do not expect a high level of amenity.

In terms of receptor sensitivity to dust soiling, there are numerous residential properties bordering the site, there is also the Coombe Hospital to the north. There are over 100 high sensitivity receptors within 20 m of the site boundary. Based on the IAQM criteria outlined in **Table 12.4**, the worst case sensitivity of the area to dust soiling is considered high.

| Receptor Sensitivity | Number Of Receptors | Distance from source (m) | | | |
|----------------------|---------------------|--------------------------|--------|--------|------|
| | | <20 | <50 | <100 | <350 |
| High | >100 | High | High | Medium | Low |
| | 10-100 | High | Medium | Low | Low |
| | 1-10 | Medium | Low | Low | Low |
| Medium | >1 | Medium | Low | Low | Low |
| Low | >1 | Low | Low | Low | Low |

Table 12.4 Sensitivity of the Area to Dust Soiling Effects on People and Property

In addition to sensitivity to dust soiling, the IAQM guidelines also outline the assessment criteria for determining the sensitivity of the area to human health impacts. The criteria take into consideration the current annual mean PM₁₀ concentration, receptor sensitivity based on type and the number of receptors affected within various distance bands from the construction works. A conservative estimate of the current annual mean PM₁₀ concentration in the vicinity of the proposed development is 15 µg/m³ and there are over 100 high sensitivity receptors located within 20m of the proposed works. Based on the IAQM criteria outlined in **Table 12.5**, the worst case sensitivity of the area to human health impacts is considered medium.

| Receptor Sensitivity | Annual Mean PM ₁₀ Concentration | Number Of Receptors | Distance from source (m) | | | |
|----------------------|--|---------------------|--------------------------|-----|------|------|
| | | | <20 | <50 | <100 | <200 |
| High | < 24 µg/m ³ | >100 | Medium | Low | Low | Low |
| | | 10-100 | Low | Low | Low | Low |
| | | 1-10 | Low | Low | Low | Low |
| Medium | < 24 µg/m ³ | >10 | Low | Low | Low | Low |
| | | 1-10 | Low | Low | Low | Low |
| Low | < 24 µg/m ³ | >1 | Low | Low | Low | Low |

Table 12.5 Sensitivity of the Area to Human Health Impacts

The IAQM guidance also outlines the criteria for determining the sensitivity of an ecological receptor to dust impacts. The sensitivity is determined based on the distance to the source, the designation of the site, (European, National or local designation) and the potential dust sensitivity of the ecologically important species present (see **Table 12.6**). The Grand Canal pNHA is to the direct south of the site and adjoins the south-western site boundary along South Circular Road. However, the pNHA is approximately 25m from the main works area of the site at its closest location. The vegetation within the pNHA is potentially dust sensitive. However, the site synopsis portfolio for the Grand Canal pNHA notes that “*The ecological value of the canal lies more in the diversity of species it supports along its linear habitats than in the presence of rare species*”. The Grand Canal pNHA can be considered a low sensitivity receptor with regards to dust soiling as per the criteria in the IAQM guidance (2014) as it does not have official designation (national or European) and the vegetation may be affected by

dust deposition. Therefore, the overall sensitivity of the area to dust related ecological impacts is considered low as per **Table 12.6**.

| Receptor Sensitivity | Distance from the Source (m) | |
|----------------------|------------------------------|--------|
| | <20 | <50 |
| High | High | Medium |
| Medium | Medium | Low |
| Low | Low | Low |

Table 12.6 Sensitivity of the Area to Dust Related Ecological Impacts



Figure 12.2 Location of Dust Sensitive Receptors Within 20m of Site

12.6 Do Nothing Scenario

12.6.1 No Project Scenario

The Do Nothing scenario includes retention of the current site without the proposed development in place. In this scenario, ambient air quality at the site will remain as per the baseline and will change in accordance with trends within the wider area (including influences from potential new developments in the surrounding area, changes in road traffic, etc). The EPA predict that levels of air pollutants within the Dublin area are generally within acceptable levels. However, areas with high levels of road traffic are likely to experience elevated concentrations of NO₂ along with burning of solid fuels for home heating leading to increases in particulate matter concentrations in future years (see Section 12.5.2).

In relation to climate, the redevelopment of a brownfield site in a city centre location is considered more sustainable than development of a similar scheme on greenfield lands. As the site is zoned for development, in the absence of the proposed development it is likely that a development of a similar nature would be constructed in the future in line with national policy and the development plan objectives. Therefore, the construction and operational phase impacts outlined in this assessment are likely to occur in the future even in the absence of the proposed development.

12.6.2 Extant Bailey Gibson Permission

In the short term (1-7 years), the extant permission for a Strategic Housing Development (Ref. ABP-307221-20) at the Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8 would be implemented. The effect would be as per the post mitigation effects outlined in the Air Quality & Climate chapter included in the EIAR that accompanied that application which concluded as follows;

- Dust impacts from demolition and construction - localised, slight, negative and short-term but will not pose a nuisance at nearby receptors.
- Asbestos removal - temporary and insignificant.
- Impact to air quality and climate as a result of increased traffic volumes during the operational phase of the proposed development is localised, negative, imperceptible and long-term

12.7 Potential Significant Effects

12.7.1 Demolition and Construction Phase

12.7.1.1 Air Quality

The greatest potential impact on air quality during the demolition and construction phase of the proposed development is from construction dust emissions and the potential for nuisance dust. While construction dust tends to be deposited within 350 m of a construction site, the majority of the deposition occurs within the first 50 m. The extent of any dust generation depends on the nature of the dust (soils, peat, sands, gravels, silts etc.) and the nature of the construction activity. In addition, the potential for dust dispersion and deposition depends on local meteorological factors such as rainfall, wind speed and wind direction.

A review of Dublin Airport meteorological data (see Section 12.5.1) indicates that the prevailing wind direction is westerly to south-westerly and wind speeds are generally moderate in nature. In addition, dust generation is considered negligible on days where rainfall is greater than 0.2 mm. A review of historical 30 year average data for Dublin Airport indicates that on average 191 days per year have rainfall over 0.2 mm (Met Eireann, 2022) and therefore it can be determined that over 50% of the time dust generation will be reduced. It is important to note that the potential impacts associated with the construction phase of the proposed development are short-term in nature.

In order to determine the level of dust mitigation required during the proposed works, the potential dust emission magnitude for each dust generating activity needs to be taken into account, in conjunction with the previously established sensitivity of the area (see Section 12.5.4). The dust emission magnitude is described below for each of the four major dust generating activities: Demolition, Earthworks, Construction and Trackout. This is then combined with the sensitivity of the area (see Section 12.5.4) and the overall level of risk is determined.

Demolition

Demolition will primarily involve the removal of buildings or structures currently on the site in a potentially dusty manner. This may also involve dust generation at heights. Dust emission magnitude from demolition can be classified as small, medium and large and are described below.

- **Large:** Total building volume >50,000 m³, potentially dusty construction material (e.g. concrete), on-site crushing and screening, demolition activities >20 m above ground level;
- **Medium:** Total building volume 20,000 m³ – 50,000 m³, potentially dusty construction material, demolition activities 10-20 m above ground level; and
- **Small:** Total building volume less than 20,000 m³.

There is a large amount of demolition work required for the proposed development with a total area of 11,234 m² of buildings to be demolished (see Construction Environmental Management Plan). Estimating an average floor height of 2.5 m, as a worst-case, there is approximately 50,000 m³ of buildings to be demolished. In addition, there is likely to be an element of on-site crushing taking place. Therefore, the demolition works can be classified as large. As the overall sensitivity of the area to dust soiling impacts is high there is a high risk of dust soiling impacts from the proposed demolition activities prior to mitigation according to the IAQM guidance (see **Table 12.7**). There is an overall high risk of human health impacts as a result of the demolition activities prior to mitigation as the overall sensitivity of the area to human health impacts is medium (Section 12.5.4). There is a worst-case medium risk of dust related ecological impacts as a result of demolition activities as the overall sensitivity of the area to ecological impacts is low.

| Sensitivity of Area | Dust Emission Magnitude | | |
|---------------------|-------------------------|-------------|-------------|
| | Large | Medium | Small |
| High | High Risk | Medium Risk | Medium Risk |
| Medium | High Risk | Medium Risk | Low Risk |
| Low | Medium Risk | Low Risk | Negligible |

Table 12.7 Risk of Dust Impacts - Demolition

Earthworks

Earthworks typically involve excavating material, loading and unloading of materials, tipping and stockpiling activities. Activities such as levelling the site and landscaping works are also considered under this category. Following the IAQM guidance (2014), dust emission magnitude from earthworks can be classified as small, medium and large and are described below.

- **Large:** Total site area > 10,000 m², potentially dusty soil type (e.g. clay which will be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds > 8 m in height, total material moved >100,000 tonnes;
- **Medium:** Total site area 2,500 m² – 10,000 m², moderately dusty soil type (e.g. silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 4 – 8 m in height, total material moved 20,000 – 100,000 tonnes; and

- **Small:** Total site area < 2,500 m², soil type with large grain size (e.g. sand), < 5 heavy earth moving vehicles active at any one time, formation of bunds < 4 m in height, total material moved < 20,000 tonnes, earthworks during wetter months.

Under the IAQM guidance (2014) the proposed earthworks can be classified as large as worst-case as the total site area is 4.74 hectares. However, there is the requirement for approximately 30,120 m³ of material to be excavated which is less than 100,000 tonnes, the large category has been selected as a conservative approach. Combining the large dust emission magnitude with the sensitivity of the area (Section 12.5.4) results in an overall high risk of dust soiling impacts, a medium risk of human health impacts and a low risk of ecological impacts as a result of earthworks activities prior to mitigation (see **Table 12.8**).

| Sensitivity of Area | Dust Emission Magnitude | | |
|---------------------|-------------------------|-------------|------------|
| | Large | Medium | Small |
| High | High Risk | Medium Risk | Low Risk |
| Medium | Medium Risk | Medium Risk | Low Risk |
| Low | Low Risk | Low Risk | Negligible |

Table 12.8 Risk of Dust Impacts - Earthworks

Construction

Dust emission magnitude from construction can be classified as small, medium or large based on the definitions from the IAQM guidance as transcribed below:

- **Large:** Total building volume > 100,000 m³, on-site concrete batching, sandblasting;
- **Medium:** Total building volume 25,000 m³ – 100,000 m³, potentially dusty construction material (e.g. concrete), on-site concrete batching;
- **Small:** Total building volume < 25,000 m³, construction material with low potential for dust release (e.g. metal cladding or timber).

The dust emission magnitude from construction associated with the proposed development works can be classified as large due to the total building volume involved exceeding 100,000 m³. Therefore, there is an overall high risk of dust soiling impacts, a medium risk of human health impacts and a low risk of ecological impacts as a result of the proposed construction activities prior to mitigation (**Table 12.9**).

| Sensitivity of Area | Dust Emission Magnitude | | |
|---------------------|-------------------------|-------------|------------|
| | Large | Medium | Small |
| High | High Risk | Medium Risk | Low Risk |
| Medium | Medium Risk | Medium Risk | Low Risk |
| Low | Low Risk | Low Risk | Negligible |

Table 12.9 Risk of Dust Impacts – Construction

Trackout

Factors which determine the dust emission magnitude associated with trackout are vehicle size, vehicle speed, number of vehicles, road surface material and duration of movement. Dust emission magnitude from trackout can be classified as small, medium or large based on the definitions from the IAQM guidance as transcribed below:

- **Large:** > 50 HGV (> 3.5 t) outward movements in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length > 100 m;
- **Medium:** 10 - 50 HGV (> 3.5 t) outward movements in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50 - 100 m;
- **Small:** < 10 HGV (> 3.5 t) outward movements in any one day, surface material with low potential for dust release, unpaved road length < 50 m.

Dust emission magnitude from trackout can be classified as large under IAQM guidance as there are likely to be greater than 50 outward HGV movements per day during the peak construction period of the development with a worst-case peak figure of 70 one-way HGV movements during the excavation for the basement. On average there will be 30 - 40 HGV movements per day during construction. Taking the worst-case peak figure as a conservative approach this results in an overall high risk of dust soiling impacts, a medium risk of human health impacts and a low risk of ecological impacts as a result of the proposed trackout activities prior to mitigation (see **Table 12.10**).

| Sensitivity of Area | Dust Emission Magnitude | | |
|---------------------|-------------------------|-------------|------------|
| | Large | Medium | Small |
| High | High Risk | Medium Risk | Low Risk |
| Medium | Medium Risk | Medium Risk | Low Risk |
| Low | Low Risk | Low Risk | Negligible |

Table 12.10 Risk of Dust Impacts – Trackout

Summary of Dust Emission Risk

The risk of dust impacts as a result of the proposed development are summarised in **Table 12.11** for each activity. The magnitude of risk determined is used to prescribe the level of site specific mitigation required for each activity in order to prevent significant impacts occurring.

Overall, in order to ensure that no dust nuisance occurs during the demolition, earthworks, construction and trackout activities, a range of dust mitigation measures associated with a **high risk** of dust impacts will be implemented. In the absence of mitigation dust soiling impacts from demolition and construction works are predicted to be short-term, localised, negative and significant.

| Potential Impact | Dust Emission Risk | | | |
|------------------|--------------------|-------------|--------------|-------------|
| | Demolition | Earthworks | Construction | Trackout |
| Magnitude | Large | Large | Large | Large |
| Dust Soiling | High Risk | High Risk | High Risk | High Risk |
| Human Health | High Risk | Medium Risk | Medium Risk | Medium Risk |
| Ecology | Medium Risk | Low Risk | Low Risk | Low Risk |

Table 12.11 Summary of Dust Impact Risk used to Define Site-Specific Mitigation

There is also the potential for traffic emissions to impact air quality in the short-term over the construction phase. Particularly due to the increase in HGVs accessing the site. The construction stage traffic provided by Systra has been reviewed and a detailed air quality assessment has been scoped out as none of the road links impacted by the proposed development satisfy the DMRB assessment criteria in Section 12.4.2.1. It can therefore be

determined that the construction stage traffic will have a neutral, imperceptible, localised and short-term impact on air quality due to the minor increase in site related traffic as a result of the proposed development.

12.7.1.2 Climate

There is the potential for a number of greenhouse gas emissions to atmosphere during the construction of the development. Construction vehicles, generators etc., will give rise to CO₂ and N₂O emissions. The Institute of Air Quality Management document *Guidance on the Assessment of Dust from Demolition and Construction* (IAQM, 2014) states that site traffic and plant is unlikely to make a significant impact on climate.

A number of measures have been identified within the CEMP to reduce CO₂ emissions associated with the construction phase of the proposed development. These include sourcing materials locally where possible to reduce transport emissions, implementation of a Construction Traffic Management Plan, switching engines off when not in use and regular maintenance of equipment and machinery. Therefore, the impact on climate is assessed to be neutral, localised, imperceptible and short term .

12.7.1.3 Human Health

Dust emissions from demolition and construction activities have the potential to impact human health through PM₁₀ and PM_{2.5} emissions. The overall sensitivity of the area to human health impacts from dust emissions is considered medium as per Section 12.5.4. It has been established that there is a high to medium risk of human health impacts from demolition and construction dust emissions. Therefore, in the absence of mitigation human health impacts are considered short-term, localised, negative and significant.

In addition to construction dust impacts, there is also the potential for asbestos related human health impacts during the demolition phase of the proposed development through the release of asbestos fibres. Detail regarding the extent of asbestos present in the existing buildings is outlined in the CEMP submitted under separate cover with this planning application. Asbestos containing materials are to be removed as part of the structural demolition works. There is the potential for significant human health impacts as a result of asbestos removal, therefore mitigation measures are required.

There is also the potential for aspergillus spores to impact human health. Particularly in relation to the neighbouring Coombe Hospital buildings. Aspergillus is a fungus that is found in soil and therefore has the potential to be made airborne during demolition or excavation. Aspergillus is of particular concern near hospital wards where immune suppressed patients are accommodated. In the absence of mitigation there is the potential for temporary, significant, negative impacts to human health in relation to aspergillus spores.

Site investigations on the proposed development site established the presence of hydrocarbon contamination, specifically kerosene, within the soils on site across an area of c.800m² and c.0-2m below ground level. There is the potential for human health impacts to occur during the excavation of these soils. In general, the majority of dust deposition tends to occur within 50m of the source, the closest sensitive receptors to the area of contaminated soils are further than 50m. The closest receptors being the properties on Rehoboth Avenue approximately 55m from the identified area. A detailed analysis of emissions from contaminated soils on site was not applicable to this type of development due to the low volume of affected soils identified

and the increased distance to sensitive receptors. In the absence of mitigation there is the potential for temporary, neutral and imperceptible impacts to human health as a result of emissions from contaminated soils removal.

12.7.2 Operational Phase

12.7.2.1 Air Quality

There is the potential for a number of emissions to the atmosphere during the operational phase of the development. In particular, the traffic-related air emissions may generate quantities of air pollutants such as NO₂, PM₁₀ and PM_{2.5}. However, impacts from these emissions have been screened out using the UK DMRB guidance (UK Highways Agency, 2019), on which the TII guidance (2011) was based. None of the road links impacted by the proposed development satisfy the screening criteria (see Section 12.4.2.1) and an assessment of the impact of traffic emissions on ambient air quality is not necessary as there is no potential for significant impacts. The traffic data was supplied by Systra in order to inform this assessment. The traffic data includes details of the traffic for the proposed development in addition to the cumulative traffic associated with the proposed development and Player Wills development, together with future planned developments as outlined in the SRDA 12 Development Framework. These latter proposals will be subject to separate development consents. However, they have been included in the traffic analysis as a worst-case approach in order to determine the full extent of the impact of the proposed development. As the traffic data did not meet the DMRB scoping criteria outlined in Section 12.4.2.1, it can therefore be determined that the impact to air quality from traffic emissions during the operational stage is neutral, localised, long-term and imperceptible. No mitigation is required for the operational stage of the proposed development in terms of air quality.

12.7.2.2 Climate

Climate change has the potential to alter weather patterns and increase the frequency of rainfall in future years. As a result of this there is the potential for flooding related impacts on site in future years. However, the site is located within flood Zone C which details the probability of flooding occurring at less than 0.1% and there is no history of flooding on site (see Civil Engineering Infrastructure Report for full details). Adequate attenuation and drainage have been provided for to account for increased rainfall in future years as part of the design of this development (see Section 12.10.3). Therefore, the impact will be long-term, localised, neutral and imperceptible.

There is also the potential for increased traffic volumes to impact climate. The change in AADT values is not of the magnitude to require a detailed climate assessment as per the DMRB screening criteria outlined in Section 12.4.3.2 (UK Highways Agency, 2019b). It can therefore be determined that traffic related CO₂ emissions during the operational phase are long-term, localised, neutral and imperceptible. There is no mitigation required for the operational phase of the development in terms of climate.

12.7.2.3 Human Health

Traffic related air emissions have the potential to impact human health if they do not comply with the ambient Air Quality limit values detailed in **Table 12.1**. However, the traffic generated by the proposed development does not satisfy the assessment criteria to require an air modelling assessment as outlined in Section 12.4.3.1 and therefore there is no potential for

significant impacts. It can be determined that the impact to human health during the operational stage is neutral, local, long-term and imperceptible.

12.7.3 Cumulative

Should the construction phase of the proposed development coincide with the construction of any other permitted developments within 350m of the site then there is the potential for cumulative dust impacts to nearby sensitive receptors (IAQM, 2014). There are a number of relevant granted planning permissions for sites within 350m of the proposed development (planning refs. ABP-308917-20, 3618/15, 3756/15, 2027/17, 3086/17, 3853/17, 3426/18, 4334/18, 3705/19 and 2724/19) which are described briefly below and their locations detailed in **Figure 12.3**.

ABP-308917-20 The proposed development involves demolition of all structures, construction of residential units and public park and associated site works at the Former Player Wills site and Undeveloped Land in Ownership of Dublin City Council, South Circular Road, Dublin 8.

3618/15 The proposed development involves demolition of the existing buildings on site and construction of a mixed use development on a 0.0663 Ha site at the corner of South Circular Road 33-37, Dolphins Barn Street, Dublin 8

3756/15 and 3705/19 The proposed development comprises demolition of the existing single and 3 storey structure and construction of a 4 storey over basement Nursing Home at the site of the former Menni House, Parnell Road, Harold's Cross, Dublin 12.

2027/17 The proposed development will consist of the demolition of the existing buildings on site which have a total gross floor area of 1,815sqm and the construction of a part three, part four storey office building, over one level of basement. The total site area is c. 0.285 hectares and is located on Donore Avenue.

3086/17 The proposed mixed-use development will consist of the demolition of the existing building (former factory building - two storeys to Cork Street) on site and the construction of a six storey building to Cork Street. The application site comprises of c.0.16 hectares and is bound by Cork Street to the south east, No. 79 Cork Street to the east, No.74 Cork Street to the south west and Our Lady's Road and Rosary Road to the north west.

3853/17 The proposed development will consist of the demolition of the existing former factory building to the rear of the site and buildings which front onto Dolphin's Barn Street (Nos. 43-50) and the construction of a part four to part seven storey residential and retail building to Dolphin's Barn Street. The application site is bound by Dolphin's Barn Street to the east, No. 51 Dolphin's Barn Street to the north east, No. 7 Poole Terrace to the south and boundaries of rear gardens of the residential properties located on Reuben Street and Emerald Square to the west and north of the application site.

3426/18 The proposed student accommodation development will consist of demolition of buildings on site and construction of 166 student accommodation bed spaces with associated ancillary areas and a retail/enterprise unit. The proposed development is a c.0.15 hectare site located at The Donnelly Centre Phase 2 Building, Cork Street and Brickfield Lane, Dublin 8, D08 P772.

4334/18 The development at 110 - 111, Cork Street, Dublin 8 will consist of the demolition of the existing buildings on site and the construction of a building incorporating 2 No. ground floor retail units, 19 No. apartments, on a site of 0.0653 hectares.

2724/19 Permission for development at a site of c. 5.53 Ha, located at Dolphin Park (Templeogue Synge Street GAA Club), Crumlin Road, Dublin 12, including a plot of land located between 56 and 58 Rutland Avenue, Dublin 12. The development comprises demolition of existing single storey clubhouse building and construction of a 2-storey clubhouse associated car and bicycle parking spaces, including new ancillary boundaries, reconfiguration and enhancements to 2 no. existing GAA playing pitches and provision of a purpose built all-weather training area. The proposal also includes a residential development of 161 no. dwellings.

There is also the potential for the construction of the proposed development to coincide with elements of the Land Development Agency (LDA) and Dublin City Council proposal for the area which is directly adjacent to the north of the Bailey Gibson site. This will involve the construction of a number of residential apartment blocks, however a planning application for this has not yet been lodged at the time of making this application.

There is the potential for the construction stages of the above mentioned developments to coincide or overlap with the construction phase of the proposed development thereby causing cumulative dust related impacts to nearby sensitive receptors.

The adjoining Player Wills site is within the applicant's ownership and received planning permission from An Bord Pleanála (ABP -308917-20) as described above. It is envisaged that works on both the Player Wills site and the proposed development site will occur simultaneously. The demolition phase of the development is likely to produce the most significant dust emissions in addition to excavation works. There is the potential for the demolition works on both sites to overlap as a worst-case approach thereby leading to potentially significant dust impacts on nearby receptors in the absence of mitigation. In addition, construction of the Player Wills site and the proposed development are likely to run concurrently with excavation works occurring on both sites. There is therefore the potential for significant dust impacts to nearby sensitive receptors in the absence of mitigation.

The construction phases of the Player Wills and Bailey Gibson sites have the potential to coincide with other developments within the wider SDRA 12 area should these receive planning permission in the future. There is a Phase 2 development proposed for the remainder of the Player Wills site not included within the existing granted planning permission for the Player Wills Phase 1 site (as above) and also includes lands associated with the adjacent St. Teresa's Church. A planning application for the Player Wills Phase 2 development has not been lodged at the time of making this application however, potential cumulative impacts have been considered. It is likely that the most significant dust generating phases of the proposed development (demolition and excavation works) would be mostly completed once works commence on other areas of the Player Wills Phase 2 development (subject to planning permission). However, should the construction phases overlap there is the potential for cumulative dust related impacts.

The proposed development will be completed in phases over an approximate 24 - 30 months period as per the Construction Environmental Management Plan prepared for the proposed

development. Due to the highly built-up nature of the surrounding area with numerous residential properties as well as schools and the Coombe Hospital in close proximity to the site, there is likely a high risk of cumulative dust impacts should the construction phases of the proposed development and other nearby developments overlap.

In the absence of mitigation there is the potential for significant, short-term, localised, negative cumulative dust related impacts as a result of the proposed development and construction of other developments within 350m of the site.

Asbestos containing materials have also been identified on the neighbouring Player Wills site which is in the applicant's ownership. There is the potential for remedial works to occur on both sites simultaneously which has the potential to cause cumulative human health impacts. Remedial works will be conducted by a certified contractor and standard mitigation measures will be implemented for the duration of any remedial works to avoid any significant impacts to air quality or human health (see Section 12.10.1.1). In the absence of mitigation, cumulative impacts are predicted to be temporary and significant, negative and localised with regards to human health.

There is also the potential for aspergillus spores to impact human health as a result of the concurrent demolition and excavation works on the proposed development site and neighbouring Player Wills site. While the Player Wills site is located further from the Coombe Hospital there is still the potential for airborne spores to impact sensitive patients within the hospital. In the absence of mitigation there is the potential for cumulative, temporary, significant, negative impacts to human health in relation to aspergillus spores.

As outlined previously, cumulative impacts have been incorporated into the traffic data supplied for the operational stage air and climate modelling assessments where such information was available. The change in traffic flows on the local road network have been screened out of a detailed air quality and climate assessment as per the DMRB screening criteria (UK Highways Agency, 2019) (see Sections 12.4.2 & 12.4.3). Therefore, there is an imperceptible and neutral cumulative impact to air quality and climate during the operational stage.

| Site | Impact | Description of impact |
|--------------------|---|--|
| Bailey Gibson Site | Nuisance construction dust impacts impacting people and property. | Construction dust impacts are predicted to be negative, localised, short-term and significant in the absence of mitigation. |
| Player Wills Site | Nuisance construction dust impacts impacting people and property. | Construction dust impacts are predicted to be negative, localised, short-term and significant in the absence of mitigation. |
| Cumulative | Nuisance construction dust impacts impacting people and property. | Cumulative construction dust impacts associated with simultaneous construction of the Player Wills and Bailey Gibson sites and other sites within 350m are predicted to be negative, localised, short-term and significant in the absence of mitigation. |

Table 12.12 Summary of Cumulative Demolition & Construction Dust Impacts

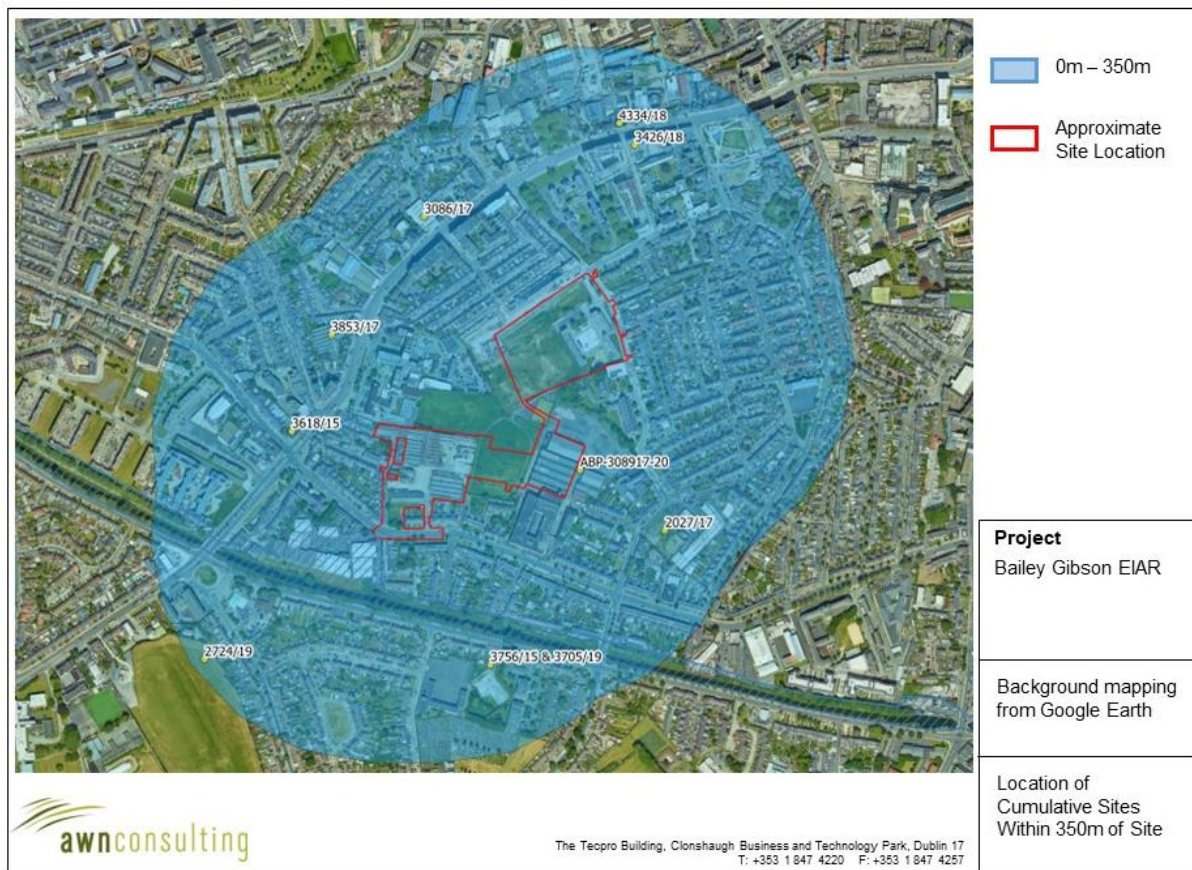


Figure 12.3 Location of Cumulative Sites within 350m of Site Boundary

12.7.4 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|---------------|--------|-------------|------------|--------|
| Nuisance construction dust emissions impacting people and property | Negative | Significant | Local | Likely | Short-term | Direct |
| Increase in traffic pollutants associated with vehicles accessing site impacting local air quality & climate | Neutral | Imperceptible | Local | Likely | Short-term | Direct |
| Cumulative nuisance construction dust emissions impacting people and property | Negative | Significant | Local | Likely | Short-term | Direct |
| Asbestos remedial works and removal offsite | Negative | Significant | Local | Likely | Temporary | Direct |
| Release of Aspergillus spores during demolition and excavation works impacting human health | Negative | Significant | Local | Likely | Temporary | Direct |

Table 12.13 Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation

The Table below summarises the identified likely significant effects during the operational phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|---------|---------------|--------|-------------|-----------|--------|
| Increase in traffic pollutants impacting local air quality & climate | Neutral | Imperceptible | Local | Likely | Long-term | Direct |

Table 12.14 Summary of Operational Phase Likely Significant Effects in the absence of mitigation

12.8 Worst Case Scenario

In terms of construction phase impacts, worst-case assumptions regarding volumes of excavation materials and number of vehicle movements have been used in order to determine the highest level of mitigation required in relation to potential dust impacts (see Section 12.7.1.1).

Worst-case traffic data was used in the assessment of construction and operational phase impacts. In addition, conservative background concentrations were used in order to ensure a robust assessment. Thus, the predicted results of the construction and operational stage assessment are worst-case and the significance of effects is most likely overestimated.

12.9 Risk of Major Accidents and Disasters

There are no likely risks of major accidents and disasters in relation to air quality associated with the proposed development due to the nature and scale of the development. The proposed development is primarily residential in nature and will not require large scale quantities of hazardous materials or fuels.

As detailed in Section 12.7.2.2 climate change has the potential to alter weather patterns and increase the frequency of rainfall in future years. However, as the site is located in Flood Zone C with a probability of flooding less than 0.1% and no history of flooding on site, it is unlikely that increased rainfall would result in flooding on site in future years. The potential for flooding on site has been reviewed and adequate attenuation and drainage have been provided for to account for increased rainfall in future years. Therefore, the impact will be neutral and imperceptible.

12.10 Mitigation

12.10.1 Construction Phase Mitigation

12.10.1.1 Air Quality

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. A dust management plan will be implemented onsite. The main contractor will be responsible for the coordination 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 **Appendix 12.2** (Volume III). These measures will be incorporated into the overall Construction Environmental Management Plan (CEMP) for the site.

In summary the measures which will be implemented will include:

- Prior to demolition blocks will be soft striped inside buildings (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).
- During the demolition process, water suppression will be used, preferably with a hand-held spray. Only the use of cutting, grinding or sawing equipment fitted or used in conjunction with a suitable dust suppression technique such as water sprays/local extraction will be used.
- Drop heights from conveyors, loading shovels, hoppers and other loading equipment will be minimised, if necessary fine water sprays will be employed.
- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads will be restricted to essential site traffic.
- Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions.
- Vehicles exiting the site will make use of a wheel wash facility prior to entering onto public roads.
- Vehicles using site roads will have their speed restricted through speed limit implementation, and this speed restriction will be enforced rigidly. On any site roads, this will be 20 kmph.
- Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary.
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods.
- During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions.

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

Regarding asbestos, remedial measures will be conducted prior to demolition works. All asbestos containing materials are to be remediated and removed during the bulk demolition phase. This will be carried out by a suitably qualified contractor with appropriate mitigations in place, to avoid significant human health impacts. A summary of applicable asbestos mitigations is detailed below:

- Seal off the work area;
- All materials removed from the site must be inside clearly marked, leak-tight containers;
- Materials are to be disposed of in an authorised, licenced facility;
- Personnel removing asbestos materials will wear a full face mask respirator and coveralls;
- At the end of a shift, all soiled clothing is to be bagged or contained.

In relation to aspergillus, survey and prevention works will take place before construction commences by a competent contractor in proximity to any sensitive buildings and in particular in proximity to the Coombe Hospital. The National Guidelines for the Prevention of Nosocomial Aspergillosis (HSE, 2018) provide a risk assessment for aspergillus and preventative dust mitigation measures and in Appendix B of the document pre-project planning and contractor advice. The Guidance also provides information that should be included as part of tender documents. The prevention works will involve sealing the windows to the facades that are in close proximity to the hospital; these measures will also prevent fugitive dust entering the hospital through windows. These works will form part of an Aspergillus Prevention Plan to be complete by a specialist and will ensure the prevention of Aspergillus spores spreading. The National Guidelines for the Prevention of Nosocomial Invasive Aspergillosis During Construction/Renovation Activities (National Disease Surveillance Centre, 2002) and National Guidelines for the Prevention of Nosocomial Aspergillosis (HSE, 2018) will be taken into consideration by the competent contractor as a source for the Aspergillus Prevention Plan.

12.10.1.2 Climate

Impacts to climate during the construction stage are predicted to be imperceptible. Construction vehicles, generators etc., will give rise to some CO₂ emissions. However, due to short-term nature of these works, the impact on climate will not be significant in terms of Ireland's national climate related targets. Ireland had national GHG emissions in 2020 of 57.7 million tonnes of CO₂eq, emissions from the proposed development will be a minor fraction of overall national emissions. However, good practice measures can be incorporated to ensure potential impacts are lessened. These include:

- Prevention of on-site or delivery vehicles from leaving engines idling, even over short periods.
- Ensure all plant and machinery are well maintained and inspected regularly.
- Minimising waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the site.
- Sourcing materials locally where possible to reduce transport related CO₂ emissions.

12.10.2 Operational Phase Mitigation

The impact of the proposed development on air quality and climate is predicted to be imperceptible with respect to the operational phase in the long term. Therefore, no additional site specific mitigation measures are required beyond the site specific incorporated design mitigation as described in Section 12.10.3.

12.10.3 Incorporated Design Mitigation

The proposed development has been designed so as to reduce the impact on climate as much as possible during operation. The Energy and Sustainability Report prepared O'Connor Sutton Cronin (OCSC) submitted under separate cover with this planning application details a number of design measures that have been considered in order to reduce the impact on climate wherever possible. The Mobility Management Plan prepared by Systra details integrated initiatives to promote and encourage sustainable travel methods by residents thereby reducing travel related impacts to climate. Such measures included in the proposed development to reduce the impact to climate are:

- Achieving as high as possible BER rating (A2/A3);
- The development will be in compliance with the requirements of the Near Zero Energy Building (NZEB) Standards;
- A renewable energy rating (RER) of 20% will be achieved to comply with Part L (2021) of the NZEB regulations;
- Minimising heat loss where possible;
- Use of natural ventilation where possible;
- Use of heat pumps;
- Use of PV solar panels;
- Use of energy efficient lighting and maximising natural daylight where possible;
- Provision of electric car charging points;
- Provision of increased bicycle parking;
- Reduction in maximum DCC car parking spaces to promote a modal shift in transport uses;
- Accessible public transport links to reduce dependence on private cars.

These measures will aid in reducing the impact to climate during the operational phase of the proposed development in line with the goals of the Dublin City Development Plan 2016-2022 and Climate Change Action Plan. In addition, WELL and BREEAM certification is being sought in relation to the proposed development with every effort made to achieve a BREEAM Excellent certification. BREEAM is a sustainability assessment for buildings which promotes climate resilience and more sustainable environments.

In addition, adequate attenuation and drainage have been incorporated into the design of the development to avoid potential flooding impacts as a result of increased rainfall events in future years.

12.11 Monitoring

Monitoring of construction dust deposition locations along the site boundary to nearby sensitive receptors during the construction phase of the proposed development is recommended to ensure mitigation measures are working satisfactorily. This can be carried out using the Bergerhoff method in accordance with the requirements of the German Standard VDI 2119. The Bergerhoff Gauge consists of a collecting vessel and a stand with a protecting gauge. The collecting vessel is secured to the stand with the opening of the collecting vessel located approximately 2m above ground level. The TA Luft limit value is 350 mg/(m²*day) during the monitoring period between 28 - 32 days. Proposed monitoring locations are detailed within the CEMP and will be finalised by the appointed contractor for the site in consultation with an air monitoring specialist.

It is recommended that air monitoring be conducted during any disturbance of the asbestos containing materials to ensure concentrations are within the acceptable thresholds. This will be carried out in line with best practice methods and by a suitably qualified air monitoring technician.

There is no monitoring recommended for the operational phase of the development as impacts to air quality and climate are predicted to be imperceptible.

12.12 Residual Impact Assessment

12.12.1 Demolition and Construction Phase

With the implementation of the dust mitigation measures, associated with a high level of dust control, outlined in Section 12.10.1.1 and **Appendix 12.2** (see Volume III) dust impacts from demolition and construction will be localised, imperceptible, negative and short-term but will not pose a nuisance at nearby receptors.

Best practice mitigation measures are proposed for the demolition and construction phase of the proposed development which will focus on the pro-active control of dust and other air pollutants to minimise generation of emissions at source. The mitigation measures that will be put in place during construction of the proposed development will ensure that the impact of the development complies with all EU ambient air quality legislative limit values (see **Table 12.1**) which are based on the protection of human health. Therefore, the impact of construction of the proposed development is likely to be negative, short-term and imperceptible with respect to human health.

Without mitigation and relevant precautions, there is the potential for significant human health impacts due to asbestos removal activities; therefore, mitigation is required as per Section 12.10.1.1. Any remedial works will be carried out by a certified contractor and air monitoring will be conducted during any disturbance of the asbestos containing materials to ensure concentrations are within the acceptable thresholds. Standard mitigation measures will be implemented for the duration of any remedial works to avoid any significant impacts to air quality or human health. As a result, impacts are predicted to be local, temporary and insignificant with regards to human health.

An Aspergillus Prevention Plan will be prepared by a competent specialist which will ensure the prevention of aspergillus spores spreading and will avoid impacts to the neighbouring hospital buildings within the Coombe Hospital. Provided full implementation of the prevention plan and relevant mitigation measures, impacts to human health as a result of aspergillus are predicted to be temporary, negative, local and imperceptible.

Emissions from contaminated soils on site have the potential to impact human health during excavation. A detailed analysis of emissions from contaminated soils was not applicable to this type of development due to the low volume of affected soils identified and the increased distance to sensitive receptors. Provided the high level of mitigation measures associated with land clearance and removal activities specified within Section 10.1.1 and **Appendix 12.2** are implemented throughout the construction phase impacts to human health will be temporary, neutral and imperceptible as a result of emissions from contaminated soils removal.

12.12.2 Operational Phase

The proposed development has been designed to reduce the impact on climate where possible. The proposed development will comply with the NZEB standards and will seek BREEAM Excellent certification. Electric vehicle car charging points have been incorporated into the development with a reduction in car parking spaces and increased bicycle parking to promote a modal shift and thus reduce GHG emissions this will have an overall positive impact on climate.

None of the road links impacted by the proposed development satisfied the assessment criteria outlined in section 12.4.3 for carrying out a detailed air modelling assessment. Therefore, there is no potential for significant impacts to air quality or climate as a result of traffic related to the proposed development. It can therefore be determined that the impact to air quality and climate as a result of increased traffic volumes during the operational phase of the proposed development is localised, neutral, imperceptible and long-term.

12.12.3 Cumulative

Cumulative construction phase impacts will result from dust emissions impacting people and property within 350m of the proposed development site and neighbouring sites. Impacts are predicted to be negative, short-term and imperceptible at nearby receptors once the best practice dust mitigation measures outlined in **Appendix 12.2** (see Volume III) are implemented.

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

12.12.4 Summary

The table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development with proposed mitigation in place.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|----------|---|--------|-------------|------------|--------|
| Nuisance construction dust emissions impacting people and property | Negative | Imperceptible once mitigation in place | Local | Likely | Short-term | Direct |
| Increase in traffic pollutants associated with vehicles accessing site impacting local air quality & climate | Neutral | Imperceptible | Local | Likely | Short-term | Direct |
| Asbestos remedial works and removal offsite | Negative | Imperceptible once mitigation and best practice measures in place | Local | Likely | Temporary | Direct |
| Release of Aspergillus spores during demolition and excavation works impacting human health | Negative | Imperceptible once mitigation and best practice measures in place | Local | Likely | Temporary | Direct |

Table 12.15 Summary of Demolition & Construction Phase Likely Significant Effects

The Table below summarises the identified likely significant effects during the operational phase of the proposed development with proposed mitigation in place.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|---------|---------------|--------|-------------|-----------|--------|
| Increase in traffic pollutants impacting local air quality & climate | Neutral | Imperceptible | Local | Likely | Long-term | Direct |

Table 12.16 Summary of Operational Phase Likely Significant Effects

12.13 Interactions

Interactions are dealt with in Chapter 15 of this EIAR.

Briefly, air quality does not have a significant number of interactions with other topics. The most significant interactions are between population and human health and air quality. An adverse impact due to air quality in either the construction or operational phase has the potential to cause health and dust nuisance issues. The mitigation measures that will be put in place at the proposed development will ensure that the impact of the proposed development complies with all ambient air quality legislative limits and therefore the predicted impact is short-term and imperceptible with respect to the construction phase and long term and imperceptible with respect to the operational phase.

Interactions between air quality and traffic can be significant. With increased traffic movements and reduced engine efficiency, i.e. due to congestion, the emissions of vehicles increase. The impacts of the proposed development on air quality are assessed by reviewing the change in annual average daily traffic on roads close to the site. In this assessment, the impact of the interactions between traffic and air quality are considered to be imperceptible due to the low level changes in traffic associated with the proposed development.

There is the potential for air quality to interact with ecology as a result of dust emissions impacting vegetation. Dust emissions from the demolition and construction phase have the potential to deposit onto plant surfaces affecting photosynthesis. The Grand Canal pNHA is to the direct south of the site. It has been determined that the sensitivity of this ecological area is low with respect to dust impacts. There is at most a medium risk of dust impacts affecting vegetation during the demolition works and a low risk during construction works. Provided the dust mitigation measures associated with a high level of dust control set out in **Chapter 12** and **Appendix 12.2** are implemented on site, impacts to ecology from dust emissions will be short-term, localised, negative and imperceptible.

With the appropriate mitigation measures to prevent fugitive dust emissions (see Section 12.10.1.1 and **Appendix 12.2**), it is predicted that there will be no significant interactions between air quality and land and soils. No other significant interactions with air quality have been identified.

12.14 Summary of Mitigation & Monitoring

The Table below summarises the Demolition & Construction Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|--|---|---|
| Nuisance construction dust emissions impacting people and property | Implement dust management plan with a high level of dust control (Section 12.10.1.1 and Appendix 12.2 (Volume III)) | Construction dust monitoring using Bergerhoff gauges along site boundary with sensitive receptors (see Section 12.11) |

Table 12.17 Summary of Demolition & Construction Phase Mitigation and Monitoring

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

12.15 Conclusion

Once the dust mitigation measures outlined in **Appendix 12.2** are implemented, demolition and construction dust emissions are predicted to be short-term, negative, localised and imperceptible and will not cause a nuisance at nearby sensitive receptors. The best practice dust mitigation measures that will be put in place during construction of the proposed development will ensure that the impact of the development complies with all EU ambient air quality legislative limit values which are based on the protection of human health. Therefore, the impact of construction of the proposed development is likely to be short-term, localised, negative and imperceptible with respect to human health.

Potential impacts to air quality and climate during the operational phase of the proposed development are as a result of increased traffic volumes on the local road network. As the changes in traffic did not meet the screening criteria no air quality or climate assessment was required, and it can be determined that the operational phase of the proposed development will have an imperceptible, neutral, localised and long-term impact on air quality and climate.

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

There are no significant impacts to air quality or climate predicted as a result of the proposed development once the mitigation measures outlined in this chapter are implemented.

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CHAPTER 13

ARCHAEOLOGICAL & CULTURAL HERITAGE

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|-------------|--|--------------|
| 13 | Archaeological & Cultural Heritage | 13-3 |
| 13.1 | Introduction..... | 13-3 |
| 13.1.1 | Definitions | 13-3 |
| 13.2 | Expertise and Qualifications | 13-3 |
| 13.3 | Proposed Development | 13-4 |
| 13.4 | Methodology | 13-5 |
| 13.4.1 | Desk Study methodology | 13-5 |
| 13.4.2 | Relevant Legislation & Guidance | 13-6 |
| 13.4.3 | Consultation | 13-6 |
| 13.4.4 | Baseline Methodology | 13-7 |
| 13.5 | Baseline Environment..... | 13-10 |
| 13.5.1 | Archaeological and historical background | 13-10 |
| 13.5.2 | Summary of Previous Archaeological Fieldwork..... | 13-14 |
| 13.5.3 | Cartographic Analysis..... | 13-17 |
| 13.5.4 | Dublin City Development Plan | 13-22 |
| 13.5.5 | Dublin City Industrial Heritage Record (DCIHR) | 13-24 |
| 13.5.6 | Aerial Photographic Analysis..... | 13-28 |
| 13.5.7 | Field Inspection | 13-28 |
| 13.5.8 | Conclusions | 13-31 |
| 13.5.9 | Results and Analysis – Cultural Heritage..... | 13-33 |
| 13.6 | Do Nothing Scenario..... | 13-34 |
| 13.6.1 | No Project Scenario..... | 13-34 |
| 13.6.2 | Extant Bailey Gibson Permission..... | 13-34 |
| 13.7 | Difficulties Encountered | 13-34 |
| 13.8 | Potential Significant Effects Impact Assessment | 13-35 |
| 13.8.1 | Demolition Phase | 13-35 |
| 13.8.2 | Construction Phase | 13-35 |
| 13.8.3 | Operational Phase..... | 13-35 |
| 13.8.4 | Cumulative | 13-35 |
| 13.8.5 | Summary | 13-38 |
| 13.9 | Mitigation..... | 13-39 |

| | | |
|--------------|---|--------------|
| 13.9.1 | Construction Phase Mitigation | 13-39 |
| 13.9.2 | Operational Phase Mitigation | 13-39 |
| 13.10 | Monitoring..... | 13-39 |
| 13.11 | Residual Impact Assessment..... | 13-39 |
| 13.11.1 | Demolition Phase | 13-39 |
| 13.11.2 | Construction Phase | 13-39 |
| 13.11.3 | Operational Phase..... | 13-39 |
| 13.11.4 | Cumulative | 13-39 |
| 13.11.5 | Summary | 13-40 |
| 13.12 | Interactions..... | 13-40 |
| 13.13 | Summary of Mitigation & Monitoring | 13-40 |
| 13.14 | Conclusions..... | 13-41 |
| 13.15 | References and Sources..... | 13-42 |
| 13.15.1 | Cartographic Sources | 13-43 |
| 13.15.2 | Electronic Sources | 13-43 |

Table of Figures

| | | |
|-------------|---|-------|
| Figure 13.1 | Location of proposed development and surrounding recorded monuments | 13-10 |
| Figure 13.2 | Location of watercourses within and surrounding the proposed development area .. | 13-13 |
| Figure 13.3 | Location of previous investigations within the development area | 13-15 |
| Figure 13.4 | Extract from Rocque's map (1757) and Faden's map (1797) of Dublin | 13-18 |
| Figure 13.5 | Extract from Campbell's map (1811) and Ordnance Survey map (1837) of Dublin | 13-20 |
| Figure 13.6 | Extract from Ordnance Survey maps (1906-9 and 1935-8) of Dublin..... | 13-22 |
| Figure 13.7 | Location of proposed development and surrounding industrial heritage sites | 13-28 |

Table of Tables

| | | |
|------------|--|-------|
| Table 13.1 | Recorded Archaeological Sites (RMPs)..... | 13-23 |
| Table 13.2 | Industrial Heritage Sites (IH) | 13-27 |
| Table 13.3 | Townlands, Parishes, and Baronies within the study area | 13-33 |
| Table 13.4 | Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation | 13-38 |
| Table 13.5 | Summary of Demolition & Construction Phase Effects Post Mitigation | 13-40 |
| Table 13.6 | Summary of Operational Phase Effects Post Mitigation | 13-40 |
| Table 13.7 | Summary of Demolition & Construction Phase Mitigation and Monitoring..... | 13-40 |
| Table 13.8 | Summary of Operational Phase Mitigation and Monitoring..... | 13-40 |

13 Archaeological & Cultural Heritage

13.1 Introduction

This study determines, as far as reasonably possible from existing records, the nature of the cultural heritage and archaeological resource within the vicinity of the proposed development site using appropriate methods of study. Architectural Heritage is assessed in Chapter 14 of this EIAR.

An impact assessment and a mitigation strategy have been prepared. The impact assessment is undertaken to outline potential significant effects that the proposed development may have on the cultural heritage resource, while the mitigation strategy is designed to avoid or reduce such adverse impacts.

13.1.1 Definitions

13.1.1.1 Heritage Definitions

In order to assess, distil and present the findings of this study, the following definitions apply:

‘Cultural Heritage’ where used generically, is an over-arching term applied to describe any combination of archaeological and cultural heritage features, where;

- the term ‘archaeological heritage’ is applied to objects, monuments, buildings or landscapes of an (assumed) age typically older than AD 1700 (and recorded as archaeological sites within the Record of Monuments and Places)
- the term ‘cultural heritage’, where used specifically, is applied to other (often less tangible) aspects of the landscape such as historical events, folklore memories and cultural associations. This designation can also accompany an archaeological or architectural designation.

13.2 Expertise and Qualifications

The assessment was carried out Faith Bailey. Faith is an Associate Director, Project Manager and Senior Archaeologist and Cultural Heritage Consultant with IAC Archaeology. She holds an MA in Cultural Landscape Management (archaeology and built heritage) and a BA in single honours archaeology from the University of Wales, Lampeter. She is a licence eligible archaeologist, a member of the Chartered Institute of for Archaeologists, a member of the Institute of Archaeologists of Ireland and has over 18 years’ experience working in the commercial archaeological and cultural heritage sector. Faith joined IAC in 2004 and in her capacity as Senior EIAR Archaeologist and cultural heritage consultant, she has been responsible for the production and delivery of a large number of archaeological and built heritage desk top assessments, EIAR, master plans, LAP/SEA and management plans associated with all sectors of development in the Republic and Northern Ireland.

13.3 Proposed Development

This application relates to a proposed mixed-use strategic housing development (SHD) on a site of approx. 5.5 hectares in Dublin 8. It includes all of the former Bailey Gibson site and a small portion of the former Player Wills site, both of which are owned by the Applicant, CWTC Multi Family ICAV acting solely in respect of its sub fund DTBR SCR1 Fund. The balance of the proposed development site relates to land owned by Dublin City Council (DCC) known locally as the 'Boys Brigade pitch' and part of the St. Teresa's Gardens site, together with DCC controlled public roads.

The application area is predominately within Strategic Development Regeneration Area (SDRA) 12, St. Teresa's Gardens & Environs as identified in the Dublin City Development Plan 2016-2022. The part of the proposed development site not within SDRA 12 relate to works proposed in the public roads surrounding the site, South Circular Road, Donore Avenue and Rehoboth Place.

A comprehensive description of the proposed development is set out in the Planning Statement. The Statutory Notices should also be referenced.

Briefly, it is proposed to demolish the existing vacant buildings and structures on the Bailey Gibson site to make way for development of 345 new homes across 5 blocks, BG 1 - BG 5, ranging in height from 2-7 storeys. The residential blocks will be contained within the Bailey Gibson site. The typology is predominantly apartments with 4 townhouses proposed in block BG5.

This is a mixed tenure scheme, with 292 units proposed as Build to Rent (BtR) across blocks BG1-BG3 and 53 units proposed as Build to Sell (BtS) in blocks BG4 and BG5. It is proposed to deliver 34 social and affordable homes as part of the overall total.

All apartments have private amenity space. At ground floor this is in the form of terraces and on upper levels, balconies. Each of BG1-BG4 have communal amenity areas either as a courtyard or podium area.

Tenant amenities and facilities are proposed in the BtR blocks and include a gym, co-working space, kitchen/lounge areas, concierge, and waste facilities.

Over 2 hectares of public open space including a multi-sport play pitch, a playground, 'St. Teresa's Playground', a boulevard, 'St. Teresa's Boulevard', a park, 'Players Park', a plaza, 'Rehoboth Plaza'.

The proposed non-residential uses include in blocks BG1 and BG2 commercial units that have the capacity to support daily living needs e.g., a shop, pharmacy and professional services. A creche with capacity for approx. 60 children. In block BG2 the design includes floorspace for a café/restaurant/bar.

In total there are 89 car parking spaces allocated to the proposed apartments and all are contained within the Bailey Gibson site. Apart from 1 space at podium level, the parking is contained within a basement. Additionally, 10 'Go Car' spaces are proposed at podium level for residents use only. Each of the 4 townhouses has 1 on-curtilage car parking space.

Visitor parking is at street level and the proposed sport pitch will be serviced separately by new spaces on the public roads. The scheme includes set down parking for the creche, a loading bay for deliveries and coach parking area.

Provision is made for disabled parking, electric vehicle charging, a car sharing scheme and motorcycle parking.

784 spaces are proposed for cycle parking including secure residents parking, visitor parking and spaces for cargo bicycles.

Other works include the development of a network of streets across the proposed development site that will link with other sites within SDRA 12 and into the wider street network of Dublin 8. Improvement works within existing local streets to facilitate access and safe movement.

Ancillary development works includes the construction of electricity substations, meter rooms, plant rooms at basement level, waste storage areas, solar photovoltaics, drainage, landscaping, and lighting.

13.4 Methodology

13.4.1 Desk Study methodology

To complete the assessment in this chapter, a comprehensive desk study was first undertaken. Desk-based assessment is defined as a programme of study of the historic environment within a specified area or site that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic, and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets (ClfA 2014). This leads to the following:

- Determining the presence of known archaeological sites that may be affected by the proposed development;
- Assessment of the likelihood of finding previously unrecorded archaeological remains during the construction programme;
- Determining the impact upon the setting of known cultural heritage sites in the surrounding area;
- Suggested mitigation measures based upon the results of the above research.

The study involved detailed interrogation of the archaeological and historical background of the development area. This included information from the Record of Monuments and Places of County Dublin, the City Development Plan, the topographical files of the National Museum of Ireland, and cartographic and documentary records. Inspection of the aerial photographic coverage of the proposed development site held by the Ordnance Survey and Google Earth has also been carried out. A field inspection was carried out on April 10th 2019 in an attempt to identify any known archaeological and cultural heritage sites and previously unrecorded features, structures and portable finds within the proposed development site. No changes to

the proposed development area have occurred since the inspections in 2019 and as such the accuracy of same can be wholly relied on.

The excavation of two geotechnical test pits at the site was monitored (full results of the trial pit excavations are constrained in Appendix 8.1 Volume III of this EIAR).

13.4.2 Relevant Legislation & Guidance

This chapter has been prepared having regard to the following guidelines;

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Advice Notes on Current Practice (in preparation of Environmental Impact Statements), 2003, EPA;
- Draft Advice Notes on Current Practice (in preparation of Environmental Impact Statements), 2015, EPA;
- Guidelines on the information to be contained in Environmental Impact Statements, Draft 2022, EPA;

The assessment methodology was based on the guidance and advice notes of the Environmental Protection Agency (EPA) as listed above.

The following legislation was consulted as part of the assessment:

- National Monuments Acts 1930 to 2014;
- The Planning and Development Act, 2000 as amended (the “Planning Acts”); and
- Heritage Act 1995, as amended.

The Dublin City Development Plan (2016–2022) recognises the statutory protection afforded to all Record of Monuments and Places (RMP) sites under the National Monuments Acts (1930–2014). The development plan lists a number of aims and objectives in relation to archaeological heritage (Appendix 13.3).

13.4.2.1 Impact Definitions

The effects of the proposed development have been rated according to Table 3.3 of the EPA guidelines (2022), full details are presented in Chapter 1.

13.4.3 Consultation

Following initial research, a number of statutory and voluntary bodies were consulted to gain further insight into the cultural background of the background environment, receiving environment and study area, as follows:

- Department of Housing, Local Government and Heritage – the Heritage Service, National Monuments and Historic Properties Section: Record of Monuments and Places; Sites and Monuments Record; Monuments in State Care Database; Preservation Orders; Register of Historic Monuments; and the database of Irish excavation reports;

- National Museum of Ireland, Irish Antiquities Division: topographical files of Ireland.

13.4.4 Baseline Methodology

Research has been undertaken in three phases. The first phase comprised a paper survey of all available archaeological, historical, and cartographic sources covering a study area of 500m from the proposed development area. This study area is considered sufficient to allow for an assessment of the archaeological and historical potential of the site to be carried out. The second phase involved a field inspection of the proposed development site carried out on April 10th, 2019. The third phase involved monitoring of the excavation of geotechnical test pits at the site in June 2019.

13.4.4.1 Paper Survey

The following sources were examined and a list of areas of archaeological, architectural and cultural heritage potential was compiled:

- Record of Monuments and Places for County Dublin;
- Sites and Monuments Record for County Dublin;
- Monuments in State Care Database;
- Preservation Orders;
- Register of Historic Monuments;
- Topographical files of the National Museum of Ireland;
- Cartographic and written sources relating to the study area;
- Dublin City Development Plan 2016-2022;
- Draft Dublin City Development Plan 2022-2028;
- Dublin City Industrial Heritage Record;
- Place name analysis;
- Aerial photographs; and
- Excavations Bulletin (1970-2019).

Record of Monuments and Places (RMP) is a list of archaeological sites known to the National Monuments Section, which are afforded legal protection under Section 12 of the 1994 National Monuments Act and are published as a record.

Sites and Monuments Record (SMR) holds documentary evidence and field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known e.g. only a site type and townland are recorded. These are known to the National Monuments Section as 'un-located sites' and cannot be afforded legal protection due to lack of locational information. As a result, these are omitted from the Record of Monuments and Places. SMR and RMP sites are also listed on a website maintained by the Department of Housing, Local Government and Heritage (DoHLGH) – www.archaeology.ie.

National Monuments in State Care Database is a list of all the National Monuments in State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of the remains of each Monument.

The Minister for the DoHLGH may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

Preservation Orders List contains information on Preservation Orders and/or Temporary Preservation Orders, which have been assigned to a site or sites. Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the National Monuments Act 1930. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the National Monuments Act 1954. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister.

Register of Historic Monuments was established under Section 5 of the National Monuments Act 1987, which requires the Minister to establish and maintain such a record. Historic monuments and archaeological areas present on the register are afforded statutory protection under the National Monuments Act 1987. The register also includes sites under Preservation Orders and Temporary Preservation Orders. All registered monuments are included in the Record of Monuments and Places.

The topographical files of the National Museum of Ireland are the national archive of all known finds recorded by the National Museum. This archive relates primarily to artefacts but also includes references to monuments and unique records of previous excavations. The find spots of artefacts are important sources of information on the discovery of sites of archaeological significance.

Cartographic sources are important in tracing land use development within the development area as well as providing important topographical information on areas of archaeological potential and the development of buildings. Cartographic analysis of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape:

- John Speed, Map of Dublin, 1610
- William Petty, Down Survey, Co. Dublin, Barony Map of Newcastle, 1655
- John Rocque, A Survey of the City, Harbour, Bay and Environs of Dublin on the same Scale as those of London, Paris & Rome, 1757
- William Faden, A plan of the City of Dublin, 1797
- William Wilson, Modern plan of the City and Environs of Dublin, 1798
- Thomas Campbell, City of Dublin, 1811
- John Taylor, Map of the environs of Dublin, extending 10 to 14 miles from the castle, 1816
- William Duncan, Map of the County of Dublin, 1821

- John Cooke, Royal map of Dublin, 1822
- Ordnance Survey maps of County Dublin 1837–1938

Documentary sources were consulted to gain background information on the archaeological and cultural heritage landscape of the proposed development site.

The Dublin City Industrial Heritage Record (DCIHR) compiled a survey of a full list of the industrial architectural heritage of Dublin City in order to highlight structures requiring statutory protection/ inclusion on the RPS, to make recommendations on conservation of streetscapes, and to raise awareness of the industrial heritage of the city.

Aerial photographic coverage is an important source of information regarding the precise location of sites and their extent. It also provides initial information on the terrain and its likely potential for archaeology. A number of sources were consulted including aerial photographs held by the Geological Survey of Ireland, the Ordnance Survey and Google Earth.

Place Names are an important part in understanding both the archaeology and history of an area. Place names can be used for generations and in some cases have been found to have their root deep in the historical past.

Development Plans contain a catalogue of all the Protected Structures and archaeological sites within the county. The Dublin City Development Plan (2016-2022) and Draft Dublin City Development Plan (2022-2028) were consulted to obtain information on cultural heritage sites in and within the immediate vicinity of the proposed development. An assessment of the built heritage of the site and surrounding area is provided in Chapter 14 of this EIAR.

Excavations Bulletin is a summary publication that has been produced every year since 1970. This summarises every archaeological excavation that has taken place in Ireland during that year up until 2010 and since 1987 has been edited by Isabel Bennett. This information is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files. This information is also available online (www.excavations.ie) from 1970-2021.

13.4.4.2 Field Inspection

Field inspection is necessary to determine the extent and nature of archaeological remains and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information.

The archaeological field inspection was carried out on 11 April 2019 and entailed:

- Walking the proposed development site and its immediate environs.
- Noting and recording the terrain type and land usage.
- Noting and recording the presence of features of archaeological or cultural heritage significance.
- Verifying the extent and condition of recorded sites.
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin.

13.4.4.3 Monitoring of geotechnical investigations

Archaeological monitoring of geotechnical investigations within the proposed development site was carried out in June 2019 in order to assess the below ground conditions at the site.

13.5 Baseline Environment

13.5.1 Archaeological and historical background

13.5.1.1 General

The proposed development area is located to the north of South Circular Road, Dublin 8, within the parish of St Catherine's and the Barony of Dublin. The site is surrounded by a mixture of residential and former industrial development with Saint Catherine's National School and the Church of Saint Catherine and James to the east. The northeast corner of the site extends slightly into the zone of archaeological potential for Dublin City (RMP DU018-020) and there are a further 21 recorded monuments within 500m of the proposed development.

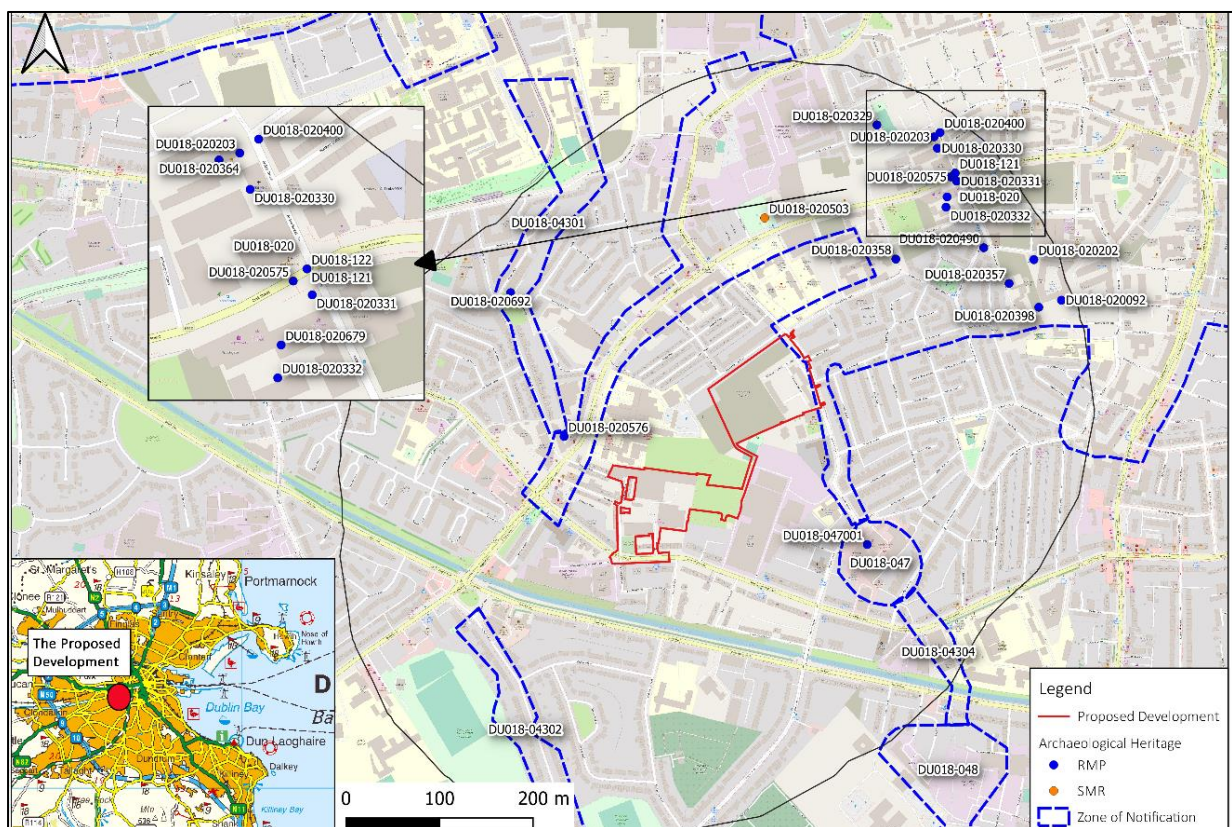


Figure 13.1 Location of proposed development and surrounding recorded monuments

13.5.1.2 Prehistoric Period

Although very recent discoveries may push back the date of human activity by a number of millennia (Dowd and Carden, 2016), the Mesolithic period is the earliest time for which there is clear evidence of prehistoric activity in Ireland. There is no recorded evidence of prehistoric activity within the area surrounding the site. However, the River Liffey would have made Dublin

an attractive location in which to utilise the riverine resource (Clarke 2002, 1). Mesolithic deposits have been identified within the former estuarine area associated with the River Liffey and Mesolithic fish traps were excavated at Spencer Dock c. 3.3km to the northeast.

There are no previously recorded archaeological sites dating to the Neolithic period within the vicinity of the proposed development. However, the river would have still remained as a major resource to be exploited during this period, proven by the Neolithic fish trap discovered at Spencer Dock (Bennet 2007:494).

The nearest evidence of Bronze Age remains is a burnt mound (RMP DU018-134) c. 1.4km to the north-northeast of the development area.

There is increasing evidence for Iron Age settlement and activity in recent years as a result of development-led excavations as well as projects such as LIARI (Late Iron Age and Roman Ireland). Yet, this period is distinguished from the rather rich remains of preceding Bronze Age and subsequent early medieval period by a relative paucity of evidence for material culture in Ireland. The Iron Age had traditionally been associated with the arrival of the Celts and the Celtic language in Ireland. There is no known evidence of Iron Age activity in the vicinity of the proposed development.

13.5.1.3 Early Medieval Period (AD500–1100)

The name Dublin (*Dubhlinn*), meaning black pool, is generally taken to refer to the pool or pond that was located directly southeast of the site of the present Dublin Castle located on the southern side of the River Liffey; c. 1.3km northeast of the proposed development site. However, this name has been suggested as referring to an early Christian monastic settlement south of the black pool and Clarke (1990, 58) believes that this interpretation of *Dubhlinn* would explain why the town has two names – *Dubhlinn* (for the enclosed ecclesiastical area) and *Baile Ath Cliath* – a secular settlement that was developed to guard over the ‘ford of the hurdles.’

It has been argued that this secular settlement (*Baile Ath Cliath*) formed the focus of pre-Viking Dublin (Stout & Stout 1997, 15). Geraldine and Matthew Stout go on to argue that early Christian Dublin had no particular significance as a population centre, border post or transport hub until the Vikings arrived and took advantage of its position. Ecclesiastical foundations were common across the county at this time and it is unlikely that any of the major route ways would have passed through a settlement where travel was limited to the north by a large tidal river. However, de Courcy (1996, xxviii) suggests that the *Slighe Midluachra* (one of the great roads of early medieval Ireland), crossed the Liffey at the location of the ‘ford of the hurdles.’ It has been postulated that the ‘ford of the hurdles’ (RMP DU018-020372) was located in the vicinity of Usher’s Island (Clarke 2002, 2); c. 1.25km north of the development area. The absence of corroborating archaeological evidence for the ford means that its location, and the nature of any crossing that may have existed here during the early medieval period, cannot be confirmed.

The first Viking settlement within Dublin consisted of a longphort, which was a semi-permanent Viking encampment, then developed over the next 60 years into a commercial centre that was an important marketplace for slaves and luxury goods. The precise location of this initial

settlement has remained somewhat elusive. It has been suggested that it was located next to the River Poddle and the Liffey, close to the current Dublin Castle. However, extensive archaeological investigations within these areas are yet to unearth any ninth century Viking material (Bradley 1992, 43). The only area to produce a large amount of ninth century artefacts is the Kilmainham area where a large number of artefacts were discovered during the construction of Heuston Station over 150 years ago; c. 1.3km north-northwest of the development area. However, this first phase of settlement only lasted until 902, when the Annals of Ulster record that the Vikings were driven away from Dublin.

The Vikings returned to Dublin in 917 and established themselves in a new location overlooking the confluence of the Liffey and the Poddle in an area that stretches today from Christchurch Cathedral to Dublin Castle. This settlement differed in form as it appears to have been founded as a trading town, with archaeological evidence suggesting the presence of individual property plots, a street layout, and earthen defences (Bradley 1992, 43). During the eleventh century the town expanded and developed until it comprised of c. 12 hectares on the southern side of the river.

There are no early medieval archaeological monuments or sites located within or in close proximity to the proposed application site, however given its proximity to the centre of Dublin, and the water courses in the general area, this part of Dublin would most likely have been occupied in some form during this time.

13.5.1.4 Medieval Period (AD1100–1600)

After the Anglo-Norman invasion of Ireland in 1169, the medieval town of Dublin enjoyed a period of prosperity and development, which continued until the beginning of the 14th century. The Anglo-Norman administration was responsible for reinforcing the town walls with defensive towers. Further improvements to the defences involved erecting a number of gates on the streets outside the walls and supplementing the defensive gates already in place along the town wall itself. The development area continued to be located outside of this settlement core during this period.

There are several recorded watercourses in the vicinity of the proposed development area which were rechannelled through lands to power various mills and industries in the area. Water was diverted from the Dodder sometime after 1244. At this point the Dodder was divided by a cutwater at Kimmage and channelled through Dolphin's Barn to a cistern close to the modern city basin, before being drawn along Thomas Street and James's Street by aqueduct into the city. It was first built in the 13th century through the excavation of a large embanked ditch.

The route of the Abbey Stream runs through the northern part of proposed development area (**Figure 13.1**) but is only recorded by the RMP, c. 330m to the southeast (DU018-043004), while that of the former Dublin City Watercourse (DU018-04301) runs 105m to the east. Although the zone of archaeological potential for that specific RMP ends there, the zone of potential for the city of Dublin (DU018-020) is located adjacent to the eastern side of the northern part of the proposed development area, and the watercourse continues in this area. The Abbey Stream (DU018-043004) was an artificial branch of the Poddle initially constructed in the medieval period to divert water through the Liberty of St Thomas' Abbey (Jackson 1959, 34; Ronan 1927, 40-44; Simpson 1997, 23). Though its exact date of construction has been

subject to some debate with Jackson (1959, 39) suggesting an early 13th century date, Ronan (1927, 42) later, and Simpson (1997, 24) suggesting a date of between 1178 and 1185. The former course of Hangman's Stream flows south from the Abbey Stream, also within the proposed development area, with the course of both streams forming the parish boundary in this area.

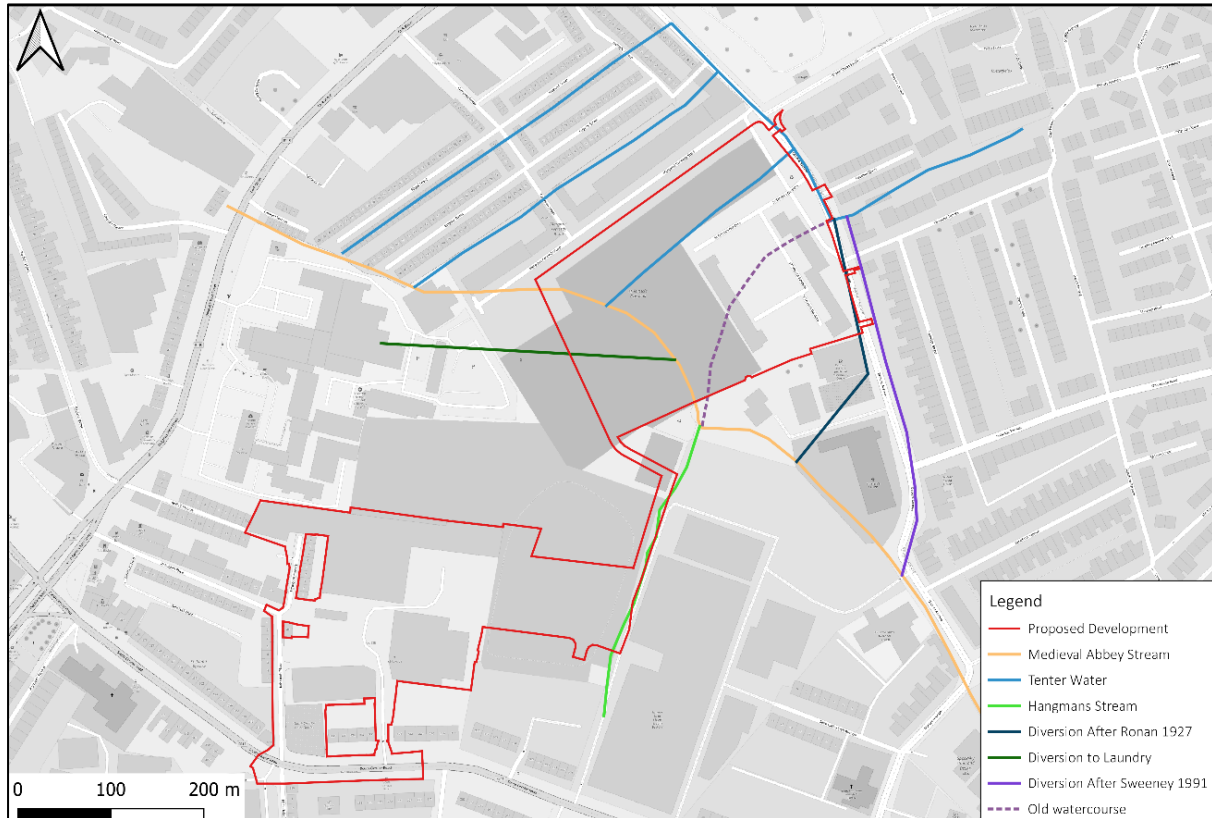


Figure 13.2 Location of watercourses within and surrounding the proposed development area

13.5.1.5 Post-Medieval Period (AD1600-1900)

The City Watercourse (DU018-043001) was eventually formalised through the construction of retaining stone walls. Although this was a lengthy process that began in 1605, according to the Calendar of Ancient Records of Dublin, but it was not until 1736 that its complete restructuring was commissioned. The walls collapsed in the Dolphin's Barn area of the watercourse and were rebuilt in 1754. Rocque's map of 1757 depicts St James' Walk as a trackway running parallel to it. Literary sources describe the formalised route alongside the watercourse as an elevated rampart accessed by series of steps in Dolphin's Barn. The Tenter Water was an 18th century branch of the Abbey Stream (DU018-043004), which was known as the Earl of Meath's Watercourse at this time, it helped the watercourse distribute water to the Liberty of Donore, formally known as the Liberty of St Thomas' Abbey. The remains of the City Watercourse (DU018-043001) were investigated c. 100m to the west of the site (Licence 04E0512, Bennett 2004:0583) The remains of the watercourse, which measured 2m in width externally by 1m internally, consisted of two parallel walls sloping from the north. The presence of mortar on the lower levels of the eastern wall indicates that upon completion of construction the external faces of the watercourse wall were mortared.

At some point another watercourse was constructed to the immediate east of the northern area of the proposed development on Donore Avenue. It is described by Ronan (1927) as diverting southwards from Donore Avenue to connect to the Abbey Stream to the west of St. Teresa's Church. While Sweeney (1991) depicts a watercourse extending along the route of Donore Avenue and connecting to the Abbey Stream to the south of the church (see **Figure 13.2**). The sequencing and date of these watercourses are unclear. The course of the Abbey Stream, as it passes through the northern part of the proposed development area, was also culverted at some point in the 20th century.

Construction of the Grand Canal was completed in 1797 providing a waterway connection between Dublin and the River Shannon. Its original terminus was the Grand Canal Harbour at Grand Canal Place, c. 650m to the north, which was infilled and built over in 1978. The canal passes west-northwest to east-southeast c. 90m to the south of the proposed development.

Within the proposed development site, the Protestant Reformatory School for Boys was opened in 1859 and in 1861 it was recorded that there were 17 inmates in residence who were employed on the land surrounding the school (childreshomes.org.uk). By 1870, it was recorded that the daily number of inmates rose to 37 and six acres of land were under cultivation. The institution was closed in 1890 (*ibid.*).

A Roman Catholic church is located to the south of the northern area of the proposed development. The Church of Saint Theresa of the Child Jesus, was built in 1924 and extended c. 1950. It was first depicted in the Third Edition Ordnance Survey Map, 1935-8 with small formal grounds to the west and northwest. Around the middle of the 20th century, two presbyteries were built within the church grounds.

13.5.2 Summary of Previous Archaeological Fieldwork

Archaeological monitoring of geotechnical investigations within the proposed development site was carried out in June 2019 (see **Figure 13.3**). A mid-brown grey sandy silt with redbrick and mortar inclusions was encountered to a depth of 0.25m, below which lay a dark brown gravelly clay with inclusions of red brick, lime mortar and angular stone, suggestive of demolition material, to a depth of 0.7m (Plate 13.1). A light brown yellow clay without the bluish grey to black streaking noted in Slit Trench 1, to a depth of 1m, below which lay natural subsoil, a light-yellow grey clay. Nothing of archaeological significance was identified during the monitoring of the geotechnical investigation trenches.

A full report on the geotechnical excavations is contained within Appendix 8.1 Volume III of this EIAR.

Monitoring of engineering test-pits was carried out within St Teresas's Gardens in 2014 (Licence 14E0245, Bennett 2014:147). This identified late medieval/early post-medieval deposits 0.6m below ground level in Test Pit 1, within the site, and Test Pit 2, c. 30m to the north (**Figure 13.3**). The deposits comprised thick layers of sterile water-deposited silts, which may be natural in origin, overlain by a thick cultural layer of soil containing shell. The layer of water-deposited silt in Test Pit 1 was thickest towards the medieval Abbey Stream and the subsoil sloped towards the watercourse suggesting the deposit represents a silted-up channel of the Abbey Stream. The deposit in Test Pit 2 was flat and of an even thickness and located

beside a diversion of the post-medieval Tenter Water mill. The similarity to the deposit in Test Pit 1 suggests this deposit represents an unknown medieval channel or an area of flooding associated with the Hangman's Stream.

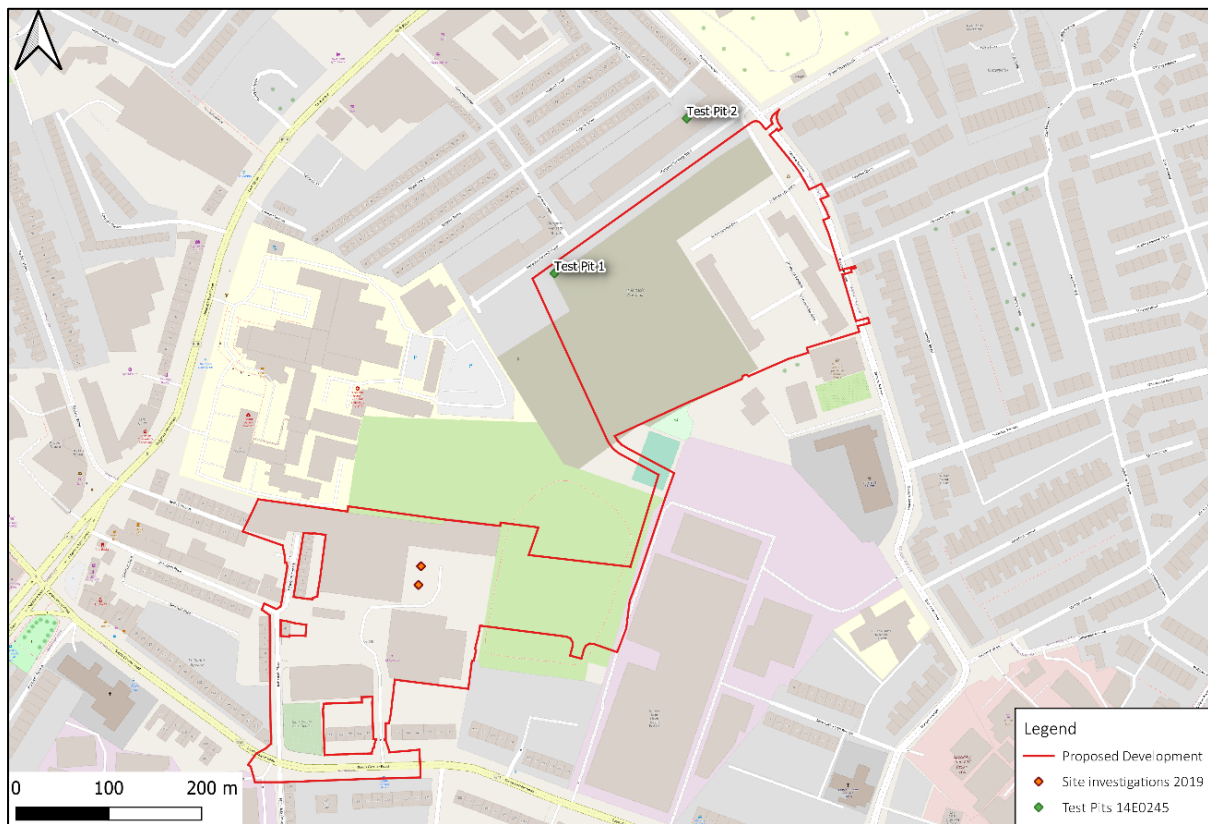


Figure 13.3 Location of previous investigations within the development area



Plate 13.1 geotechnical investigation trench 2, facing south

A review of the Excavations Bulletin (1970–2021) has revealed that there have been 60 previous archaeological investigations within the study area of the proposed development, 40 of which did not identify any archaeological deposits or features.

Archaeological test excavations were carried out in August 2021 directly adjacent to the proposed development area, at the southwest side of St. Teresa's Gardens (McIlreavy 2021; Licence No. 21E0455). Two areas of archaeological significance were recorded. Area 1 comprised the remains of several linear features of possible archaeological significance. Unfortunately, no artefactual evidence was recovered to confirm a date of construction. These features were identified from c.1.35 – 1.85m below existing ground level. Area 2 comprised another linear feature; however, this feature could not be investigated due to the depth of the test trench. This feature may correspond to a laundry diversion channel depicted on the first edition OS mapping of the area and shown on **Figure 13.2**. It was located at c. 1.85m below existing ground level.

The remains of a 13th century city watercourse (DU018-043001) were investigated c. 100m to the west of the site (Licence 04E0512, Bennett 2004:0583). The watercourse was formalised through the construction of retaining walls in the post-medieval period and truncated by a concrete sewer pipe. The remains of two 18th century houses were also exposed. Earlier investigations at that site had revealed an 18th century tannery (Licence 01E0614, Bennett 2001:372). It was enclosed by stone walls and the tanks were lined with stone and brick.

A medieval watercourse (DU018-020692) was discovered c. 100m to the west of the proposed development site (Licence 00E0876, Bennett 2002:0571). The watercourse was an unlined, 0.5m-deep branch of the diverted medieval River Poddle.

Testing at the site of Donore Castle (DU018-047001), c. 260m to the east of the proposed development site, did not encounter any evidence of the castle or any other medieval features (Licence 03E0776, Bennett 2003:523). However, the solid brick culvert arch of the Poddle and the foundations of post-medieval structures were exposed. Post-medieval pottery was also recovered within the zone of notification for Donore Castle during testing c. 310m to the east (Licence 03E1807, Bennett 2003:524).

Additional evidence of post-medieval activity comprising 19th century occupation was exposed c. 115m to the north (Licence 04E0996, Bennett 2004:0532) and monitoring, c. 500m to the north-northeast of the site, revealed six wood-lined pits containing 18th century pottery (Licence 00E0286, Bennett 2000:0256). A range of post-medieval activity including evidence for the tanning industry, timber water pipes, milling activity, and wool and leather manufacturing have been identified in the surrounding area (02E0724 ext. Bennett 2003:0598, 05E0666 Bennett 2005:457, 16E0625 Bennett 2017:084, 06E0882 Bennett 2007:501, 07E1026 Bennett 2007:502, 09E0422 Bennett 2009:325, 05E0120 Bennett 2005:453, 08E0493 Bennett 2008:483, 03E0315 Bennett 2003:494, 03E1710 Bennett 2003:493, 15E0440 Bennett 2015:078, 05E0666 Bennett 2005:457)

The following archaeological investigations did not identify anything of archaeological significance within the study area of the proposed development; 93E0019 (Bennett 1993:071),

97E0312 (Bennett 1997:167), 99E0501 (Bennett 1999:217), 00E0728 (Bennett 2000:0255), 00E0877 ext. (Bennett 2002:0558), 02E0912 (Bennett 2003:514), 03E0954 (Bennett 2003:515), 01E0537 (Bennett 2003:516), 03E1648 (Bennett 2003:517), 03E0135 (Bennett 2003:550), AE/03/91 (Bennett 2003:1840), 04E0020 (Lynch 2003), 04E1340 (Bennett 2004:0520), 03E1537 (Bennett 2004:0533), 03E1021 (Bennett 2004:0536), 05E0315 (Bennett 2005:418), 00E0728 ext. (Bennett 2005:428), 04E0270 (Bennett 2005:429), 04E0310 (Nelis 2005), 05E0448 (Bennett 2005:430), 04E0270 (Bennett 2005:431), 03E1667 ext. (Bennett 2005:456), 06E0404 (Bennett 2006:615), 06E0994 (Bennett 2006:644), 08E0503 (Bennett 2008:399), 11E0432 (Bennett 2011:190), 11E0432 (Bennett 2012:193), 16E0026 (Bennett 2016:479), 05E0542, 05E0156 (Bennett 2005:467), 05E0155 (Bennett 2005:466), 05E1008 (Bennett 2005:465), 06E0887 (Bennett 2006:627), 03E0665 (Bennett 2003:492), 99E0716 (Bennett 2001:374), 04E0370 (Bennett 2004:0531), 16E0321 (Bennett 2016:454), 04E1237 (Bennett 2004:0539), 03E1667 (Bennett 2004:0561), and 02E0893.

13.5.3 Cartographic Analysis

The following presents a review of evidence from cartographic sources, which cover the proposed development area. A selection of maps with relevant details are reproduced within this chapter.

John Speed's Map of Dublin, 1610

John Speed's map of Dublin is among the first depictions of the walled town of Dublin. The development area lies in an undeveloped area to the south of the city walls.

William Petty's Down Survey, Co. Dublin, Barony of Newcastle, 1655

Petty's Down survey represents the first systematic mapping of Ireland on a scale of 40 perches to one inch (the modern equivalent of 1:50,000). It used the previous Civil Survey as a guide and shows many details, such as fortifications, rivers, roads, and structures. The fortifications of the city are depicted along with a few prominent buildings, though in no greater detail than Speed's map.

The development area lies in an area named Dolphin's Barn, which is depicted with two houses and a mill. A castle (DU018-047001) is depicted to the east in an area annotated as 'Roper Rest'. Both these features are situated on separate branches of 'the river that supplyeth Dublin its water'.

John Rocque's Survey of the City, Harbour, Bay and Environs of Dublin on the same Scale as those of London, Paris & Rome, 1757 (Figure 13.4)

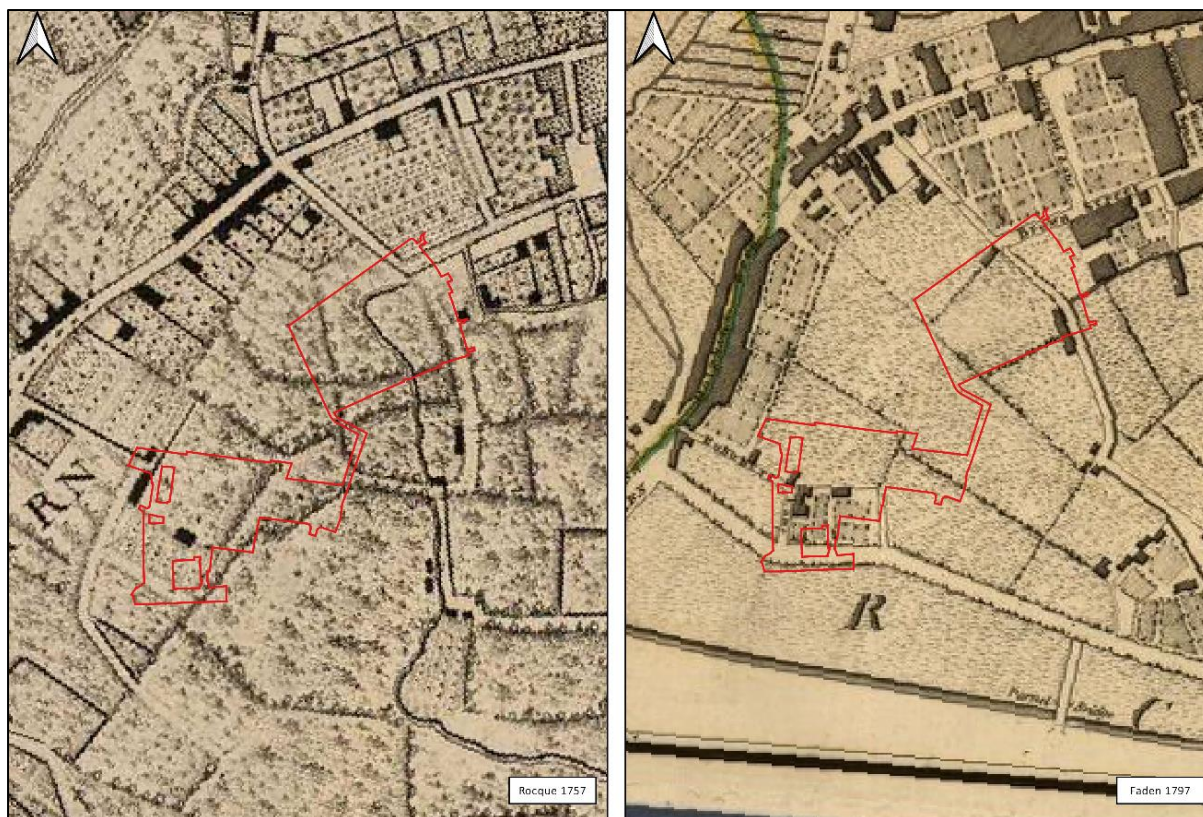


Figure 13.4 Extract from Rocque's map (1757) and Faden's map (1797) of Dublin

At this time the site is shown to be located within the hinterland of Dublin City. The southern part of the development area is an open field, containing two structures, and is bordered by a track to the west and south. A watercourse is depicted winding through the northern area leading north into Dublin City. There are houses depicted along the entire length of the road in Dolphin's Barn connecting it to Dublin. The city basin is depicted to the north-northwest and is connected to Dolphin's Barn by a watercourse (DU018-043001/2, DU018-020576/692) that travels to the south of the city. The castle (DU018-047001) is no longer depicted nor annotated as Roper Rest, though there is a square enclosure to the east that might represent the site.

William Faden's Plan of the City of Dublin, 1797 (Figure 13.4)

On Faden's 1797 map there are three structures and their associated garden within the southern half of the development area. The northern half remains within an open field containing two structures fronting onto the road to the east. The watercourse within the site is not depicted; however, a watercourse is seen running parallel to the road to the east. The road to the immediate south is now part of the South Circular Road. There is a structure annotated as Roper Rest, along with several other structures, to the east. The Grand Canal has been constructed, the main branch of which connects to the city basin and terminates at Grand Canal Harbour to the north, with a minor branch passing east-west to the south of the proposed development.

William Wilson's Modern Plan of the City and Environs of Dublin, 1798

A watercourse (Abbey Stream) is depicted traveling northwest-southeast through the southwest of the northern part of the development area. This watercourse supplies a mill (DU018-048001) to the southeast of the development area. A north-south watercourse (Hangman's Stream) is situated along the southern border of the northern area and eastern border of the southern area and joins to the Abbey Stream. The route of the Tenter Water to the east of the northern area and one of its diversions, within the development area, are also depicted. Only one of the structures from Faden's map, in the north corner, is still depicted. This irregular structure appears to straddle the watercourse along Donore Avenue and may represent a mill building. The designed garden within the southern area is no longer depicted; however, the house is.

Thomas Campbell's City of Dublin, 1811 (Figure 13.5)

Two of the structures within the southern end of the development area from Faden's map have been removed by this time, as has the chapel to the west. A square plot of land, containing the one remaining structure, occupies the southern half of the site. The watercourses from Wilson's map are also depicted on this map, with the Abbey Stream flowing through the development area annotated as the 'Liberty Water'. None of the structures within the northern area are depicted and two northeast-southwest linear features, likely watercourses, are marked in the south of the north parcel.

John Taylor's Map of the environs of Dublin, extending 10 to 14 miles from the castle, 1816

This map does not provide great detail of the southern part of the development area, which is depicted within an open field at this time. The route of the Liberty Water is shown roughly traversing the northern area. A structure is depicted within the northern corner of this area in a similar location of the building shown on Wilson's map. The two linear features from Campbell's map are no longer depicted.

William Duncan's Map of the Country of Dublin, 1821

This map provides more detail than Taylor's and there are two structures depicted within the southern part of the development area named Rehoboth. There are no other changes of note.

John Cooke's Royal Map of Dublin, 1822

Cooke's map depicts the southern part of the development area containing four structures within 'Rahobath Place', the central building from Duncan's map has been removed. The house on the south side of the Circular Road is named Priestfield and the chapel in Dolphin's Barn is depicted once more.

First Edition Ordnance Survey Map, 1837, scale 1:10560 (Figure 13.5)

A number of the watercourses within the northern part of the development area are marked on this map; the Liberty Water/Abbey Stream, Tenter Water and diversion, Hangman's Stream, and a diversion from the Liberty Water to a laundry in the west. There are structures depicted within the northern and eastern corners of the northern part of the development area

fronting onto Love Lane (modern day Donore Avenue). The Hangman's Stream travels south from the northern area to border the southern area.

The structures within the southern half of the development area are marked as a nunnery and female school. The northern half contains two structures and portions of several plots of land. Roper's Rest is no longer depicted to the east; however, the site of Donore Castle (DU018-047001) and Donore Mills are marked in the same location. A cotton factory and Green Ville House have been built atop them.

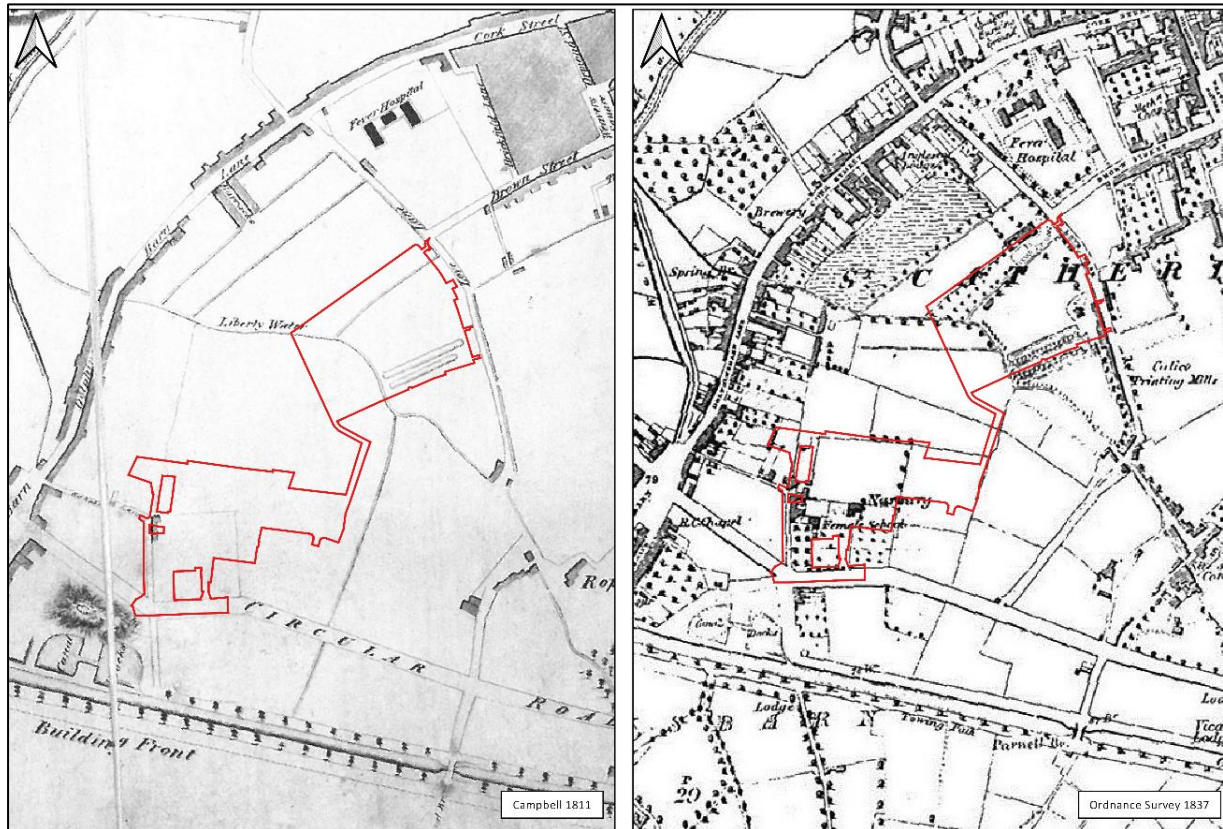


Figure 13.5 Extract from Campbell's map (1811) and Ordnance Survey map (1837) of Dublin

Ordnance Survey Map, 1847, scale 1:1056

This map shows in greater detail the development area and its surrounding landscape. The structures in the southern portion of the development area are collectively annotated as 'Rehoboth' and a gate lodge is marked off the Circular Road, which is annotated as the Parliamentary Boundary. The layout of the gardens is clearly depicted on this map.

The watercourses in the vicinity of the development area are still depicted, the Abbey Stream is annotated as 'Poddle River'. The watercourse along Love Lane to the east of the northern part of the development area is shown as an open watercourse. The building within the east corner of the northern area is annotated as Brook Lawn and the majority of the area comprises the gardens of the house. The remainder comprises the gardens of the house in the northern corner of the area, while the Tenter Water diversions within the site are also shown as open watercourses.

Ordnance Survey Map, 1864, scale 1:1056

The most significant change to the development area on this map is that the structures off Rehoboth Place are now annotated as a Protestant Reformatory School, which opened in 1859 (childrenshomes.org.uk). Spring Grove House and gardens are depicted to the immediate west of the southern end of the site.

The watercourses within the northern part of the development area are still depicted as open watercourses, although the watercourse which ran along Love Lane is no longer shown and may have been culverted by this point. The house in the north corner is annotated as Brookfield and four structures, Brookfield Cottages, have been constructed fronting onto Love Lane within the northern parcel.

Second Edition Ordnance Survey Map, 1871-5, scale 1:10560

The only changes of note on this mapping is the removal of Brookfield House and the construction of terrace housing in the northern limit of the north parcel.

Ordnance Survey Map, 1886-8, scale 1:1056

By the time of this map the Protestant Reformatory School has expanded and both Rehoboth House and Morton Villa are labelled in the southern portion of the development area. Breffni House is depicted to the immediate west at the junction of the South Circular Road and Rehoboth Place. The structure previously known as Priestfield Cottage has been renamed Dolphin Villa. The Greenmount Cotton Spinning Mill to the east has become the Greenville Tobacco Manufactory. The watercourses within the northern part of the development area are still depicted as open watercourses. Brookfield Cottages are still extant, as is Brook Lawn and associated outbuildings and sheds.

Ordnance Survey Map, 1906-9, scale 1: 2500 (Figure 13.6)

By the time of this edition the southern half of the development area contains the buildings of Rehoboth Factory (Tent & Marquees), with a rope walk located along the eastern boundary. The Protestant Reformatory School from previous mapping is no longer annotated, however the buildings remain. There has been significant residential development along the South Circular Road and at Rehoboth Place (formerly lane – outside of the site boundary). At the northern part of the development area Brookfield Cottages and Brook Lawn are still shown, as is a fireworks manufactory. An exercise track features in the centre of this area and the Abbey Stream is still shown as an open watercourse.

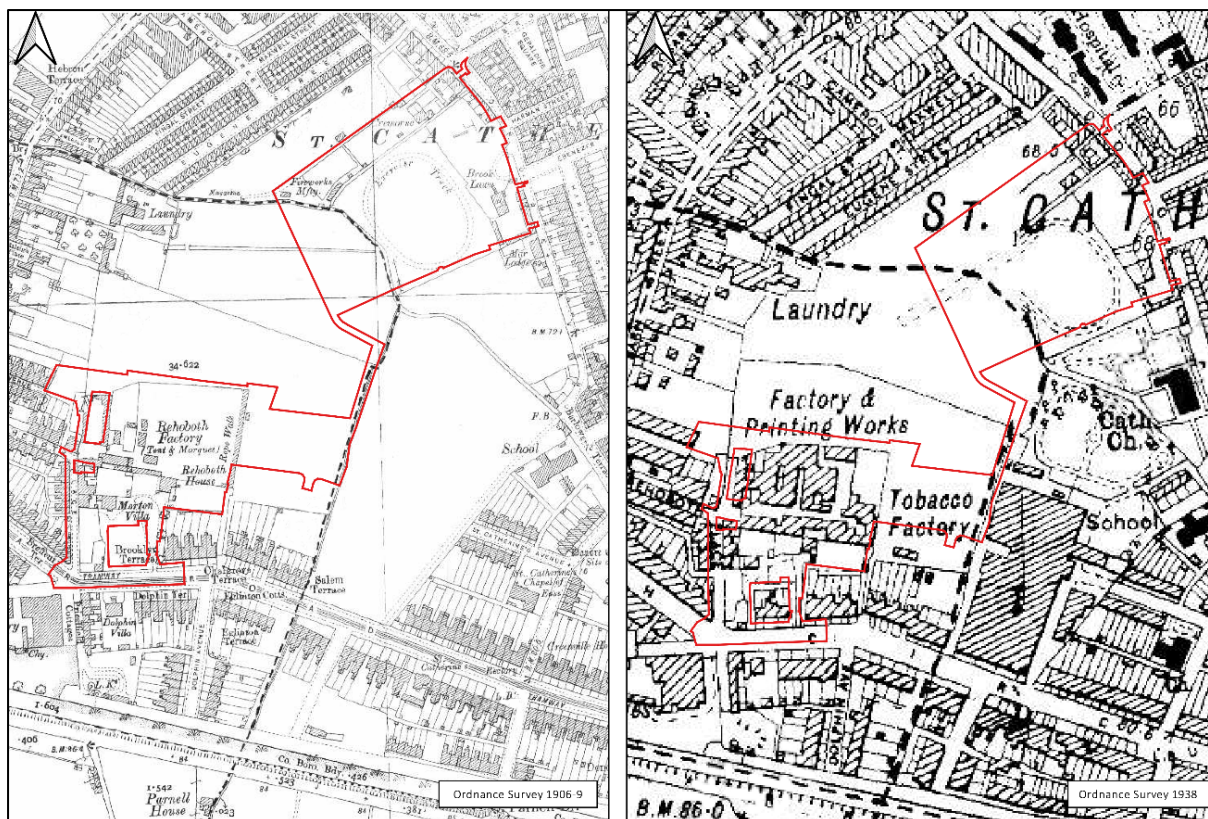


Figure 13.6 Extract from Ordnance Survey maps (1906-9 and 1935-8) of Dublin

Third Edition Ordnance Survey Map, 1935-8, scale 1:10560 (Figure 13.6)

On this edition the industrial buildings at the southern end of the development area have extended to occupy most of the land in this area. Rehobeth House, Morton Villa and the reformatory school building are still located at the centre of the site, while an additional building has been constructed at the southern end of the site, fronting on to South Circular Road. The land to the immediate north and northeast of the industrial buildings remains undeveloped. The northern part of the development area remains largely unchanged, though the water courses are no longer depicted and are likely culverted by this time.

13.5.4 Dublin City Development Plan

It is a policy of the Dublin City Development Plan (2016–2022) to promote the in-situ preservation of archaeology as the preferred option where development would have an impact on buried artefacts. Where preservation in-situ is not feasible, sites of archaeological interest shall be subject to archaeological investigations and recording according to best practice, in advance of redevelopment (Policy CHC9). This policy is also promoted in BHA26 of the Draft Development Plan (2022-2028).

The north-eastern end of the proposed development site boundary extends into the zone of archaeological potential for the historic town of Dublin (RMP DU018-020) and there are 26 recorded monuments within the study area of the proposed development. (see **Figure 13.1**; **Table 13.1**, **Appendix 13.1**).

| RMP No.: | Location: | Classification: | Distance from Development: |
|-----------------|------------------------------|--|-----------------------------------|
| DU018-020 | Various | Dublin City Zone of Archaeological Potential | Within northeast corner |
| DU018-020576 | Reuben Street | Watercourse | 105m W |
| DU018-04301 | Reuben Street | Watercourse | 105m W |
| DU018-047 | White Swan Business Park | Castle | 173m E |
| DU018-047001 | White Swan Business Park | Castle - unclassified | 173m E |
| DU018-020503 | Cork Street | Graveyard | 220m N |
| DU018-020358 | Ormond Street | House - 18th/19th century | 230m ENE |
| DU018-04302 | Rutland Avenue | Watercourse | 260m SW |
| DU018-020398 | Mill Street | Mill - unclassified | 335m E |
| DU018-020332 | Ardee Street | Hospital | 365m NE |
| DU018-020692 | Reuben Walk | Watercourse | 370m NW |
| DU018-020679 | Ardee Street | Hospital | 375m NE |
| DU018-020490 | Ardee Street | House - indeterminate date | 380m NE |
| DU018-020357 | Mill Street | House - 18th/19th century | 390m E |
| DU018-020331 | Ardee Street | Bridge | 410m NE |
| DU018-020575 | Cork Street | Watercourse | 410m NE |
| DU018-020329 | Poole Street | House - 18th/19th century | 410m NNE |
| DU018-121 | Cork Street | Mill - unclassified | 420m NE |
| DU018-122 | Cork Street | Tannery | 420m NE |
| DU018-04304 | South Circular Road | Watercourse | 423m SSE |
| DU018-020330 | Ardee Street | Mill - unclassified | 430m NE |
| DU018-020364 | John Street South | House - indeterminate date | 430m NE |
| DU018-020203 | Ardee Street | Bridge | 445m NE |
| DU018-020202 | Mill Street | House - 18th/19th century | 450m E |
| DU018-020400 | Ardee Street | Mill - unclassified | 455m NE |
| DU018-020092 | Mill Street | Water mill - unclassified | 475m E |
| DU018-048 | Greenmount Industrial Estate | Mill | 495m SE |

Table 13.1 Recorded Archaeological Sites (RMPs)

13.5.5 Dublin City Industrial Heritage Record (DCIHR)

Industrial heritage refers to sites and structures that are associated with past or ongoing industrial activities and their infrastructure. The Dublin City Industrial Heritage Record (DCIHR) survey compiles a full list of the industrial architectural heritage of Dublin City in order to highlight structures requiring statutory protection/ inclusion on the RPS, to make recommendations on conservation of streetscapes, and to raise awareness of the industrial heritage of the city.

There are three industrial heritage sites within the proposed development: The Bailey, Son and Gibson Factory (IH 27), a rope walk (IH 28) and a tramway (IH 40).

The DCIHR records that the original buildings of Bailey, Son and Gibson Factory (IH 27) have largely been demolished and replaced with an extensive 20th century industrial structure. However, a three-bay, two-storey, brick-built structure survives, with its west gable fronting onto the entrance gateway on Rehoboth Ave/Rehoboth Place - this perhaps dating to previous school and convent uses on the site - as well as a square-plan, brick-built chimney to the northeast corner of the site. These surviving architectural heritage elements of the development area are addressed in Chapter 14 Architectural Heritage.

The DCIHR records that the location of rope walk (IH 28) bordering the site to the west survives in property boundaries. A ropewalk was a long straight narrow lane, or a covered pathway, where long strands of material were laid before being twisted into rope. The ropewalk in question was a covered linear area and does not possess any upstanding remains.

The Dublin tramway system was in its day seen as the most efficient of its type in Europe, and was the seventh largest electric tramway network in the world. Although not visible, there is some possibility that the tramlines (IH 40) survive below the existing road surface.

The DCIHR survey lists a further 61 industrial heritage sites within the study area, these sites are tabulated below and have been issued IH numbers for the purpose of this chapter (**Table 13.2; Figure 13.7**).

| IH No.: | Name/ Type: | Status of Site: | Distance from Development: |
|----------------|--|------------------------|-----------------------------------|
| IH 1 | Scribona Cake Factory | Original replaced | 270m N |
| IH 2 | Delphinium Pottery {Distillery} | No remains | 327m N |
| IH 3 | Rope Walk | No remains | 288m N |
| IH 4 | Biscuit Factory {Foundry & Engineering Works} | Partial remains | 270m N |
| IH 5 | Biscuit Factory {Engineering Works} | Remains unknown | 275m N |
| IH 6 | Tan Yard | No remains | 230m N |
| IH 7 | Poplin Factory {Lace Factory} | Substantial remains | 260m NNE |
| IH 8 | Tan Yard | Original replaced | 220m NNE |
| IH 9 | Rob. Maguire Rope Manufactory | Remains unknown | 144m NNE |
| IH 10 | Printing Works | Partial remains | 200m NE |
| IH 11 | Dye Works | Original replaced | 264m NE |
| IH 12 | Paper Mill | Original replaced | 280m NE |
| IH 13 | Thos. Elliott & Sons Irish Poplin, Silks & Silk Handkerchief Manufacturers & Co | Original replaced | 190m NE |
| IH 14 | Phelan & Co. Ltd. Furniture, Wire Mattress, Curled Hair & Bedding Manufacturers, | Original replaced | 140m E |
| IH 15 | Tannery | Partial remains | 165m E |
| IH 16 | Chemical Works | Original replaced | 77m E |
| IH 17 | Tenter Fields, Textile Production | Original replaced | 260m E |
| IH 18 | Sweet Factory | Original replaced | 120m NE |
| IH 19 | Hosiery Factory | Original replaced | 160m NW |
| IH 20 | Chemical Works | Original replaced | 160m NW |
| IH 21 | Botany Weaving Mill {City Woollen Mills} | Original replaced | 220m W |
| IH 22 | Spring Bridge | Original replaced | 200m W |
| IH 23 | Clothing Factory {Tan Yards} | Remains unknown | 154m NW |
| IH 24 | Laundry | Original replaced | 116m W |
| IH 25 | Tan Yard | No remains | 145m W |

| IH No.: | Name/ Type: | Status of Site: | Distance from Development: |
|----------------|---|------------------------|-----------------------------------|
| IH 26 | Brick and Tile Factory | No remains | 245m W |
| IH 27 | Bailey, Son & Gibson Ltd {Rehoboth Factory & Printing Works, Tent Marquee & Flag makers}, Printing Works {Tent & Marquee Factory} | Partial remains | Within development area |
| IH 28 | Ropewalk | Remains unknown | Within development area |
| IH 29 | Glue Factory | Original replaced | 270m SE |
| IH 30 | Ropewalk | Original replaced | 500m ESE |
| IH 31 | White Swan Laundry {Cotton Dye Works} | Remains unknown | 285m SE |
| IH 32 | Boot Manufactory, White Swan Laundry {Greenville Tobacco & Snuff Manufactory; Greenmount Cotton Spinning Mill} | Partial remains | 247m SE |
| IH 33 | Players Wills Factory {Tobacco Factory} | Substantial remains | Adjacent to east |
| IH 34 | Tramway | Remains unknown | 130m SE |
| IH 35 | Dolphin's Barn Bridge {Camac Bridge} | Substantial remains | 260m SW |
| IH 36 | Harbour | Remains unknown | 207m SW |
| IH 37 | White Heather Industrial Estate, Laundry | Original replaced | 110m W |
| IH 38 | Canal Docks | Remains unknown | 75m SW |
| IH 39 | White Heather Laundry | Substantial remains | 25m S |
| IH 40 | Tramway | Partial remains | Within development area |
| IH 41 | Lime Kilns | Original replaced | 75m SW |
| IH 42 | Grand Canal | Substantial remains | 210m SE |
| IH 43 | Parnell Bridge | Substantial remains | 290m SE |
| IH 44 | Rope Walk | No remains | 495m SE |
| IH 45 | Warren Mount Chemical Works | No longer extant | 495m E |
| IH 46 | Laundry {Rutland Flour Mills} | No remains | 320m S |
| IH 47 | Footbridge | No longer extant | 475m NW |
| IH 48 | Portland Grain Stores | Substantial remains | 440m NNW |

| IH No.: | Name/ Type: | Status of Site: | Distance from Development: |
|----------------|---|---------------------------------------|-----------------------------------|
| IH 49 | Liberty Basin | No longer extant | 345m NNW |
| IH 50 | Portland Cement Works | No longer extant | 480m N |
| IH 51 | Corporation Scavenging Depot | No longer extant | 383m N |
| IH 52 | Corporation Depot {Scavenging Depot} | No longer extant | 388m N |
| IH 53 | Fall Mongery {Tannery and Glue Works; Tan Yard} | No longer extant | 400m N |
| IH 54 | Dye Works | Substantial remains | 225m N |
| IH 55 | Cotton Dye Works | No longer extant | 280m N |
| IH 56 | Maltings | Substantial remains | 300m N |
| IH 57 | Twine Factory | No longer extant | 300m N |
| IH 58 | Brewery | No longer extant | 350m NNE |
| IH 59 | Foundry | No longer extant | 470m NNE |
| IH 60 | Maltings {Malt House; Brewery} | Substantial remains | 425m NE |
| IH 61 | Foundry | Original replaced | 490m NE |
| IH 62 | Brewery {Clay pipe production} | Substantial remains | 480m NE |
| IH 63 | Fertilizer Works {Lime Kilns} | Appears to have been largely replaced | 460m NE |
| IH 64 | Waterproof Factory {Mission Hall} | Substantial remains | 480m E |
| IH 65 | Ice & Cold Storage {Flour & Oil Mills} | No longer extant | 480m E |

Table 13.2 Industrial Heritage Sites (IH)

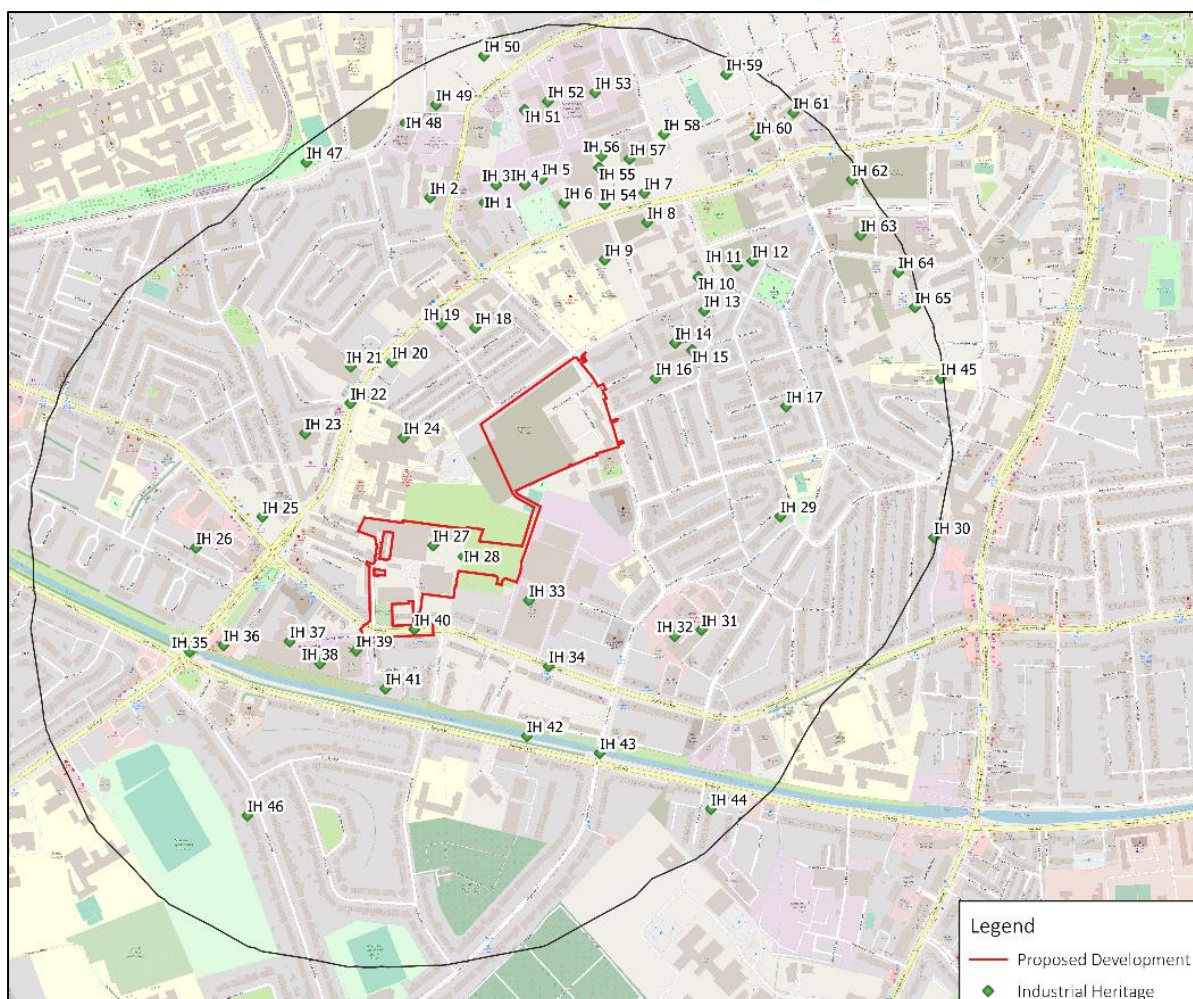


Figure 13.7 Location of proposed development and surrounding industrial heritage sites

13.5.6 Aerial Photographic Analysis

Inspection of the aerial photographic coverage of the proposed development site held by the Ordnance Survey (1995-2013), Google Earth (2003-2021) and Bing Maps did not reveal any previously unknown archaeological features. The southern end of the application site is occupied by extensive warehouse buildings and scrapyards. To the east of the warehouses is a greenfield area of scrubland, while the northern part of the application site is also occupied by an area of scrubland, with 20th century flats located at the eastern side of this area.

13.5.7 Field Inspection

The field inspection sought to assess the site, its previous and current land use, the topography whether any areas or sites of archaeological potential were present. During the course of the field investigation the proposed development site and its surrounding environs were inspected for known or previously unknown archaeological sites. The proposed development area was inspected in April 2019. Up until the present day, the site has not undergone any changes that affect the veracity of the results of that inspection.

The main development area is occupied by a number of recently vacated large warehouse structures which extend across a significant portion of the site (Plate 13.1). The open areas of the site, including the entrance way and central area, consist of concrete hardstanding (Plate 13.2–3), while an open area at the northeast corner of the site is largely occupied by debris, scrap metal and bricks (Plate 13.4). A small undeveloped area is located at the southwest corner of the site.



Plate 13.1 Satellite image of the development area (Google 2020)



Plate 13.2 Entrance to the site, facing north



Plate 13.3 Central part of site, facing south



Plate 13.4 Northeast of the site showing scrap piles, facing northeast

To the northeast of the main site is a greenfield area, which is covered in undergrowth made up largely of grasses, brambles and nettles. A large patch of relatively mature buddleia (c. 3m high) is present at the centre of the area (Plate 13.5).

The northern part of the development area is located across St. Teresa's Gardens. This area is also overgrown but to a lesser extent than the green area to the south (Plate 13.6 – 13.7). Two remaining blocks of 1950s Dublin Corporation flats occupy the southeast corner.



Plate 13.5 Large patch of buddleia in centre of Bailey Gibson part of site, facing northwest



Plate 13.6 Teresa's Gardens from southern corner, facing North



Plate 13.7 Site from northern end, Facing Southwest

No previously unidentified archaeological or cultural heritage features were identified during the site inspection.

13.5.8 Conclusions

The proposed development site is located off the South Circular Road, Dublin 8, within the Parish of St James' and the Barony of Dublin. The eastern end of the proposed development boundary extends into the zone of archaeological potential for the historic town of Dublin (DU018-020). There are also a further 26 recorded monuments within a 500m study area.

The route of the Abbey Stream runs through the northern part of proposed development area but is only recorded by the RMP c. 330m to the southeast (DU018-043004). The Abbey Stream (DU018-043004) was an artificial branch of the Poddle initially constructed in the medieval period to divert water through the Liberty of St Thomas' Abbey. Though its exact date of construction has been subject to some debate with Jackson (1959, 39) suggesting an early 13th century date, Ronan (1927, 42) later, and Simpson (1997, 24) suggesting a date of between 1178 and 1185. The former course of Hangman's Stream flows south from the Abbey Stream, also within the proposed development area, with the course of both streams forming the parish boundary in this area.

At some point another watercourse was constructed to the immediate east of the northern area of the proposed development on Donore Avenue. It is described by Ronan (1927) as diverting southwards from Donore Avenue to connect to the Abbey Stream to the west of St. Teresa's Church. While Sweeney (1991) depicts a watercourse extending along the route of Donore Avenue and connecting to the Abbey Stream to the south of the church. The sequencing and date of these watercourses are unclear. The course of the Abbey Stream, as it passes through the northern part of the proposed development area, was culverted at some point in the 20th century.

From the 18th century onwards the southern part of the proposed development site has been occupied by some form of development. These were initially small houses but throughout the remainder of the post-medieval period the various structures on the site transitioned from larger houses into a school and a nunnery into factories. An analysis of the aerial photography and the site inspection did not identify any archaeological features. The site has been subject to a large degree of disturbance throughout the 20th century.

There are three industrial heritage sites within the proposed development, the Bailey, Son and Gibson Factory (IH 27), a rope walk (IH 28) and a tramway (IH 40), with a further 61 industrial heritage sites located within the study area. IH33, the Player Wills Factory, is located to the immediate east of the proposed development area.

Archaeological monitoring of geotechnical investigations within the southern part of the proposed development area was carried out in June 2019. Nothing of archaeological significance was identified. Monitoring of engineering test-pits was carried out within St Teresa's Gardens in 2014 (Licence 14E0245, Bennett 2014:147). This identified late medieval/early post-medieval deposits within the site and c. 30m to the north. The deposits identified within the proposed development area may represent a silted-up channel of the Abbey Stream. The deposit to the north of the proposed development area may represent an unknown medieval channel or an area of flooding associated with the Hangman's Stream.

Archaeological test excavations carried out directly adjacent to the proposed development area, at the southwest side of St. Teresa's Gardens (McIlreavy 2021; Licence No. 21E0455) identified two areas of archaeological significance comprising the remains of several linear features of possible archaeological significance and another linear feature which may correspond to a laundry diversion channel depicted on the first edition OS mapping of the area and shown on **Figure 13.2**. This feature was located at c. 1.85m below existing ground level.

13.5.9 Results and Analysis – Cultural Heritage

13.5.9.1 Cultural Heritage Sites

The term ‘cultural heritage’ can be used as an over-arching term that can be applied to both archaeology and architecture; however, it also refers to more ephemeral aspects of the environment, which are often recorded in folk law or tradition or possibly date to a more recent period. While no individual sites have been identified within the study area that could be defined as purely Cultural Heritage, the archaeological sites within the study area listed in **Table 13.1** and the industrial heritage sites listed in **Table 13.2**, are also considered to represent cultural heritage sites. These include the former Bailey Gibson site within the development area and the substantial remains of the Player Wills Factory to the immediate east.

13.5.9.2 Place Name Analysis

Townland and topographic names are an invaluable source of information on topography, land ownership and land use within the landscape. They also provide information on history; archaeological monuments and folklore of an area. A place name may refer to a long-forgotten site and may indicate the possibility that the remains of certain sites may still survive below the ground surface. The Ordnance Survey surveyors wrote down townland names in the 1830’s and 1840’s, when the entire country was mapped for the first time. Some of the townland names in the study area are of Irish origin and through time have been anglicised. The main reference used for the place name analysis is Irish Local Names Explained by P.W Joyce (1870). A description and possible explanation of each townland name in the environs of the proposed route are provided in the below table (**Table 13.3**).

| Name: | Derivation | Possible Meaning |
|----------------|--------------------------|--|
| Dolphin’s Barn | - | Dolphin is an English family name from the 13/14th century |
| Harold’s Cross | - | Harold is the name of a Danish family who settled in Dublin and Wicklow in the early medieval period |
| St James’ | - | - |
| St Catherine’s | - | - |
| Uppercross | - | - |
| Dublin | <i>Baile Átha Cliath</i> | Ford of the hurdles |

Table 13.3 Townlands, Parishes, and Baronies within the study area

13.5.9.3 Conclusions

A review of the place names surrounding the proposed development site has revealed that the areas derive their names from Danish and English settlers in the medieval period. The South Circular Road to the immediate south of the site forms the townland boundary between Dublin South City and Dolphin’s Barn and the barony boundary between Dublin and Uppercross. No purely cultural heritage sites (i.e. cultural heritage sites identified during the course of the assessment that have not been previously recorded in the RMP/SMR/DCIHR) have been identified within the study area.

13.6 Do Nothing Scenario

13.6.1 No Project Scenario

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

13.6.2 Extant Bailey Gibson Permission

In the short term (1-7 years), the extant permission for a Strategic Housing Development (Ref. ABP-307221-20) at the Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8 would be implemented. The effect would be as per the post mitigation effects outlined in the Cultural Heritage: Archaeology chapter included in the EIAR that accompanied that application which concluded as follows;

“There will be no potential archaeology or cultural heritage impacts from the demolition phase of the proposed development, and no mitigation measures are therefore required, there will consequently be no residual archaeology or cultural heritage impacts from the operational phase of the proposed development.

Following the implementation of the above mitigation measures, there would be no residual impacts on the archaeological or cultural heritage resource as should any archaeological remains be identified they will be subject to full resolution (i.e. archaeological excavation), thereby being preserved by record.

There will be no potential archaeology or cultural heritage impacts from the operational phase of the proposed development, and no mitigation measures are therefore required, 13-32 there will consequently be no residual archaeology or cultural heritage impacts from the operational phase of the proposed development.”

13.7 Difficulties Encountered

No difficulties were encountered during the course of this assessment.

13.8 Potential Significant Effects Impact Assessment

13.8.1 Demolition Phase

No upstanding archaeological remains have been identified within the proposed development site. Therefore, there will be no direct or indirect negative impacts on any known archaeological sites or monuments during the demolition phase of the proposed development.

The existing Bailey Gibson Factory will be subject to partial demolition during this phase. Detailed impacted assessment relating to this is included in Chapter 14 of this EIAR.

13.8.2 Construction Phase

Previous archaeological investigations at the northern part of the proposed development area have shown that evidence for the medieval Abbey Stream survives from c. 0.6m below ground level in this area. Evidence for the laundry diversion watercourse directly to the southwest of the development area was found at c.1.85m below ground level. The proposed development in this location includes the construction of a multi-purpose play pitch and public boulevard connecting the pitch to the main residential development to the south. Potential impacts to medieval and post-medieval watercourses in these areas may result from site strip and levelling and excavations associated with utility services trenches. Impacts are likely to be permanent, direct and moderate negative due to the proposed ground disturbances.

Evidence for original Bailey Gibson Factory (IH27) and ropewalk (IH28) may survive below the existing ground surface within the southern part of the proposed development area. Impacts in this area may result from site strip and levelling and excavations associated with construction of the proposed residential units and utility services trenches. Impacts are likely to be permanent, direct and significant negative due to the proposed ground disturbances.

There are no predicted impacts to Tramway IH 40 located along South Circular Road

Given the disturbance in the southern part of the site from 19th century and modern industrial and residential development, there is low potential for archaeological remains pre-dating the 18th century to survive within this part of the site. However, should there be previously unknown archaeological remains present beneath the existing ground level, prior to mitigation, there may be a permanent, direct moderate to significant negative impact due to the proposed ground disturbances.

13.8.3 Operational Phase

No upstanding archaeological sites have been identified within or surrounding the proposed development site. Therefore, there will be no direct or indirect impacts on any known archaeological sites or monuments or cultural heritage assets during the operational phase of the proposed development.

13.8.4 Cumulative

A number of developments, both proposed and those granted permission, in the surrounding area have been considered in the assessment of cumulative impacts.

There will be no cumulative impacts to the archaeological or cultural heritage resource. Should any archaeological or cultural heritage remains be identified on the site, they will be preserved

by record, mitigating any negative impacts and adding to the understanding of the historical development of this area.

There are 2 extant permission within SDRA 12 that are relevant to the cumulative impact, a Part VIII permission for development of St. Teresa's Gardens and a SHD permission for development of the former Player Wills factory. Both permissions include conditions that would protect any archaeological resource.

It is noted that the Part VIII permission for St. Teresa's Gardens includes the following Condition (No.2)

"The developer shall retain a suitably qualified licensed-archaeologist to advise regarding the archaeological implications of site clearance, demolition and/or construction methodology and to make appropriate recommendations for mitigation including detailed survey as necessary. b. The developer shall allow for the resolution of archaeology (both on site and necessary post excavation) in the project budget and timetable. c. The developer's archaeologist shall undertake licensed archaeological monitoring of all demolition and sub-surface works associated with the development including the breaking and removal of any floor slabs, levelling of ground etc. d. The archaeologist shall consult with and forward their Method Statement in advance of commencement to the Planning Authority. e. In the event of archaeological features being located in the course of the monitoring, the developer shall facilitate the archaeologist in fully recording such features, including if necessary the archaeological excavation of such features. In the event of significant archaeological features on site, the archaeologist retained by the developer shall immediately contact the Planning Authority. The Planning Authority (in consultation with the City Archaeologist and the National Monuments Service, Department of Culture, Heritage and the Gaeltacht) shall determine the further archaeological resolution of the site. f. Two copies of a written report and a digital report (on compact disc) containing the results of the archaeological monitoring shall be forwarded on completion to the Planning Authority and National Monuments Service, Department Arts Heritage and Gaeltacht. g. Following submission of the final report to the Planning Authority, where archaeological material is shown to be present, the archaeological paper archive shall be compiled in accordance with the procedures detailed in the Dublin City Archaeological Archive Guidelines (2008 Dublin City Council) and lodged with the Dublin City Library and Archive, 138-44 Pearse Street, Dublin 2."

Similarly, Condition 24 of the extant Player Wills SHD, ABP-308917-20 states;

The developer shall facilitate the archaeological appraisal of the site and shall provide for the preservation, recording and protection of archaeological materials or features which may exist within the site. In this regard, the developer shall: (a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation including hydrological and geotechnical investigations relating to the proposed development, and (b) employ a suitably qualified archaeologist prior to the commencement of development. The archaeologist shall assess the site and monitor all site development works. The assessment shall address the following issues: (i) the nature and location of archaeological material on the site, and (ii) the impact of the proposed development on such archaeological material. A report, containing the results of the assessment, shall be submitted to the planning authority and, arising from this

assessment, the developer shall agree in writing with the planning authority details regarding any further archaeological requirements including, if necessary, archaeological excavation prior to commencement of construction works. In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

Reason: In order to conserve the archaeological heritage of the area and to secure the preservation in-situ or by record and protection of any archaeological remains that may exist within the site."

Where proposed and granted developments in the surrounding area have the potential to impact on archaeological remains, mitigation measures have also been proposed to preserve by record any identified archaeological remains.

Other surrounding developments that are likely to be subject to archaeological mitigation from the Dublin City Archaeologist and/or National Monuments Service, include:

- Junction of Mill Street and Blackpitts, planning application reference 2182/16
- 118-128, The Coombe, planning application reference 4337/16
- The Brewery Block, Ardee St, planning application reference 2812/17 SHD0018/19 ABP-305324-19
- 75-78 Cork Street, planning application reference 3086/17
- The Donnelly Centre Phase 2, planning application reference 3426/18
- The Culvert Apartments, Pim Street, planning application reference 3449/18
- 6, 6A and 7 Pim Steet, planning application reference 2290/19
- Grand Canal Harbour, planning application reference 3209/19
- ESB Depot Parnell Avenue, planning application reference 3513/19
- Newmarket, Brabazon Place, planning application reference 4743/19
- Corner of Chamber Street and Ardee Street, planning application reference 3266/20
- Donnelly Centre SHD planning application reference SHD0001/17 ABP-300184-17
- Former Dulux Factory Davitt Road, planning application reference SHD0002/19 ABP-303435-19
- Mill Street, Sweeney's Terrace and Clarence Mangan Road, planning application reference SHD0003-19 ABP-303436 SHD0023/20 ABP-305483-19
- Lands at the former Concorde Industrial Estate, Naas Road, planning application reference SHD0010/19 ABP-304383-19
- 42A Parkgate Street, planning application reference SHD0001/20 ABP-306569-20
- The Old Glass Factory 113-115 Cork Steet, planning application reference SHD0020/20 ABP-308162-20
- Former Steelworks Site 32-35 James's Street, planning application reference SHD0029/20
- Former Player Wills Site, planning application reference SHD0031/20 ABP-308917-20
- Glebe House and Industrial Estate, Saint Agnes Road, planning application reference SHD0002/21 ABP-308917-20
- Dolphin Park (Templeogue Synge Street GAA Club), planning application reference 2724/19

- Site at the corner of South Circular Road, 33-37 Dolphins Barn Street, planning application reference 3618/15
- 43-50 Dolphin's Barn Street, Dublin 8, planning application reference 3853/17
- Brickfield Lane and Brown Street South, Dublin 8, planning application reference 3316/16
- Brickfield Lane and Brown Street South, Dublin 8, planning application reference 3197/18
- St. Teresa's Gardens, Dublin 8, planning application reference 2475/18
- Former Scholar's Bar, Donovan Lane, Dublin 8, planning application reference 2025/18
- Former Rialto Cinema, 355 South Circular Road, Dublin 8, planning application reference SHD0013/19 ABP-305061-19.

13.8.5 Summary

Table 13.4 below summarises the identified likely significant effects during the demolition and construction phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|--|---------------------|-------------------------|---------------|-------------|-----------|--------|
| Removal of deposits associated with the Abbey Stream, Tenter Water, Hangman's Stream and laundry diversion | Negative | Moderate | Site specific | Likely | Permanent | Direct |
| Removal of deposits associated with site of ropewalk IH 28 | Negative | Significant | Site specific | Likely | Permanent | Direct |
| Removal of deposits associated with Bailey Gibson factory IH 27 | Negative | Significant | Site specific | Likely | Permanent | Direct |
| Tramway IH 40 | No predicted impact | n/a | n/a | n/a | n/a | n/a |
| Physical removal of potential archaeological deposits | Negative | Moderate to Significant | Site specific | Likely | Permanent | Direct |

Table 13.4 Summary of Demolition & Construction Phase Likely Significant Effects in the absence of mitigation

13.9 Mitigation

13.9.1 Construction Phase Mitigation

All ground disturbances associated with the proposed development, will be monitored by a suitably qualified archaeologist under licence from the National Monuments Service of the Department of Housing, Local Government and Heritage.

Full provision will be made by the applicant, through the archaeological licencing system, for the resolution of any archaeological features/deposits that may be discovered during the course of works. Should any archaeological remains be identified, further mitigation, such as the preservation by record (archaeological excavation) may be required. Any further mitigation will require consultation with the Dublin City Archaeologist and National Monuments Service (DoHLGH).

13.9.2 Operational Phase Mitigation

As there will be no impact on any archaeological or cultural heritage sites during the operation phase of the proposed development, no mitigation measures are required.

13.10 Monitoring

The mitigation measures recommended above would also function as a monitoring system to allow the further assessment of the scale of the predicted impacts and the effectiveness of the recommended mitigation measures.

13.11 Residual Impact Assessment

13.11.1 Demolition Phase

Following the completion of mitigation measures included in Chapter 14, there will be no significant negative residual impacts on the archaeological or cultural heritage resource.

13.11.2 Construction Phase

Following the implementation of the above mitigation measures, there would be no significant negative residual impacts on the archaeological or cultural heritage resource as should any archaeological remains be identified, they will be subject to full resolution (i.e. archaeological excavation), thereby being preserved by record.

13.11.3 Operational Phase

There will be no potential archaeological or cultural heritage impacts from the operational phase of the proposed development, and no mitigation measures are therefore required. There will consequently be no residual archaeology or cultural heritage impacts from the operational phase of the proposed development.

13.11.4 Cumulative

There are no predicted residual impacts to any archaeological or cultural heritage assets.

13.11.5 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development following the application of mitigation measures.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---------------------------|---------|--------------|--------|-------------|----------|------|
| None | n/a | n/a | n/a | n/a | n/a | n/a |

Table 13.5 Summary of Demolition & Construction Phase Effects Post Mitigation

The Table below summarises the identified likely significant effects during the operational phase of the proposed development post mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---------------------------|---------|--------------|--------|-------------|----------|------|
| None | n/a | n/a | n/a | n/a | n/a | n/a |

Table 13.6 Summary of Operational Phase Effects Post Mitigation

13.12 Interactions

Interactions are dealt with in Chapter 15 of this EIAR. Briefly, there is an interaction between Chapter 14, Built Heritage and Chapter 5, Landscape and Visual. These chapters have been fully reviewed and cross referenced during the course of the compilation of Chapter 13.

13.13 Summary of Mitigation & Monitoring

The Table below summarises the Demolition & Construction Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|--|--|--|
| Possible moderate to significant negative permanent impact on known and potential archaeological deposits. | Archaeological monitoring during all ground disturbances and subsequent archaeological excavation, if required, to ensure full preservation by record. | The mitigation measures will function as a monitoring system that will assess the efficiency of the mitigation and allow for additional mitigation where required. |

Table 13.7 Summary of Demolition & Construction Phase Mitigation and Monitoring

The Table below summarises the Operational Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|---------------------------|------------|------------|
| None | n/a | n/a |

Table 13.8 Summary of Operational Phase Mitigation and Monitoring

13.14 Conclusions

The assessment has shown that the likelihood that archaeological remains survive beneath the proposed development area is deemed to be low at the southern end and moderate to high at the northern part of the site (specifically relating to medieval and post-medieval watercourses). It is possible that ground disturbances associated with the development may directly and negatively impact any remains. The impacts may range from moderate to significant in significance. Any impacts will be fully ameliorated by the application of mitigation that will ensure the identification of any archaeological deposits or features and allow for their full preservation by record.

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www.archaeology.ie – DoHLGH website listing all SMR/RMP sites.

www.osiemaps.ie – Ordnance Survey aerial photographs dating to 1995-2013 and 6-inch/25-inch OS maps.

www.heritagemaps.ie – The Heritage Council web-based spatial data viewer which focuses on the built, cultural, and natural heritage.

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www.bingmaps.com – Satellite imagery of the proposed development area.

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CHAPTER 14

BUILT HERITAGE

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|--------------|--|--------------|
| 14 | Built Heritage..... | 14-5 |
| 14.1 | Introduction..... | 14-5 |
| 14.2 | Relevant Experience and Expertise | 14-6 |
| 14.3 | Proposed Development..... | 14-6 |
| 14.4 | Methodology | 14-7 |
| 14.4.1 | Desktop Study | 14-8 |
| 14.4.2 | Field Study..... | 14-8 |
| 14.4.3 | Visual Impact Assessment..... | 14-8 |
| 14.4.4 | Relevant Legislation & Guidance | 14-8 |
| 14.4.5 | Consultation | 14-9 |
| 14.5 | Baseline Environment..... | 14-10 |
| 14.5.1 | Context..... | 14-12 |
| 14.5.2 | Character..... | 14-19 |
| 14.5.3 | Significance | 14-22 |
| 14.5.4 | Sensitivity | 14-26 |
| 14.6 | Do Nothing Scenario..... | 14-26 |
| 14.5.5 | No Project Scenario..... | 14-26 |
| 14.5.6 | Extant Bailey Gibson Permission..... | 14-26 |
| 14.7 | Difficulties Encountered | 14-27 |
| 14.8 | Potential Significant Effects | 14-27 |
| 14.8.1 | Demolition Phase | 14-27 |
| 14.8.2 | Construction Phase | 14-28 |
| 14.8.3 | Operational Phase..... | 14-28 |
| 14.8.4 | Cumulative | 14-28 |
| 14.8.5 | Summary | 14-30 |
| 14.9 | Mitigation..... | 14-30 |
| 14.9.1 | Incorporated Design Mitigation | 14-30 |
| 14.9.2 | Construction Phase Mitigation | 14-45 |
| 14.9.3 | Operational Phase Mitigation | 14-46 |
| 14.10 | Monitoring | 14-46 |
| 14.11 | Residual Impact Assessment | 14-47 |
| 14.11.1 | Demolition Phase | 14-47 |

| | | |
|--------------|--|--------------|
| 14.11.2 | Construction Phase | 14-47 |
| 14.11.3 | Operational Phase..... | 14-48 |
| 14.11.4 | Cumulative | 14-48 |
| 14.11.5 | Summary | 14-49 |
| 14.12 | Interactions..... | 14-50 |
| 14.13 | Summary of Mitigation & Monitoring..... | 14-50 |
| 14.14 | Conclusion..... | 14-51 |
| 14.15 | References and Sources | 14-52 |
| 14.16 | Appendices, see Volume III | 14-52 |

Table of Figures

| | |
|--|-------|
| Figure 14.1: Sketch Overlay Of Existing Context Showing Heritage Assets Within The Wider Setting Of The Subject Site. Red Indicates Protected Structures, Blue indicates Z2 Zoned Residential Conservation Areas, and Orange indicates the Conservation Area along the Grand Canal. | 14-11 |
| Figure 14.2 Key Plan Identifying The Existing Blocks On Site. | 14-12 |
| Figure 14.3 Overlay Of 1846-7 Ordnance Survey Map Of The Subject Site Over The 1985 Dublin Corporation Map. | 14-13 |
| Figure 14.4 1955 Aerial Photograph Showing The Subject Site, With The South Circular Road To The Right-Hand-Side Of The Photo. Morgan Aerial Photograph Collection, National Library Of Ireland. | 14-14 |
| Figure 14.5 Current Aerial View Over Site, From Google Maps. | 14-14 |
| Figure 14.6 Extract From The 1838-47 Ordnance Survey Map, Showing The Subject Site In Red. | 14-15 |
| Figure 14.7 Extract From The 1886-88 Ordnance Survey Map, Showing The Subject Site In Red. | 14-16 |
| Figure 14.8 Extract From The 1907-09 Ordnance Survey Map, Showing The Subject Site In Red. | 14-17 |
| Figure 14.9 Extract From The 1943-62 Ordnance Survey Map, Showing The Subject Site In Red. | 14-18 |
| Figure 14.10 1933 Detail Of Aerial Photograph Showing The Subject Site. BFA Xpw042245. | 14-20 |
| Figure 14.11 1955 Detail Of Aerial Photograph Showing The Subject Site. BFA XAW044974. | 14-20 |
| Figure 14.12 Outline Fabric Chronology Plan Showing The Development Of Block D. | 14-21 |
| Figure 14.13 Photographs showing the Gibbsian doorway and encaustic tiles to the earliest section of Block D. . | 14-22 |
| Figure 14.14 Extract From The Location Map Showing The Viewpoints For The Views Assessing The Impact Of The Proposed Development On The Heritage Assets And Architectural Heritage Character Of The Wider Context. | 14-32 |
| Figure 14.15 Existing View Of Residential Conservation Area Along South Circular Road. Image Prepared By Modelworks. | 14-33 |
| Figure 14.16 CGI View Showing The Proposed Development And Proposed Cumulative Impact Along The South Circular Road. Image Prepared By Modelworks. | 14-34 |
| Figure 14.17 Baseline And Proposed Cumulative Views Along South Circular Road, From Junction With Donore Avenue. Image Prepared By Modelworks. | 14-35 |
| Figure 14.18 Baseline And Proposed Cumulative Views Looking West From Rutledge Terrace. Images Prepared By Modelworks. | 14-36 |
| Figure 14.19 Baseline And Proposed Cumulative View Looking West Along St. Catherine's Avenue, With The Church Of St. Catherine And St. James (A Protected Structure) Visible To The Left. Images Prepared By Modelworks. | 14-38 |
| Figure 14.20 Baseline And Proposed Cumulative View Of The Former Player Wills Factory, South Circular Road (A Protected Structure). Image Prepared By Modelworks. | 14-39 |
| Figure 14.21 Baseline And Proposed View Of The Church Of Our Lady Of Dolours, Dolphin's Barn (A Protected Structure). Image Prepared By Modelworks. | 14-41 |
| Figure 14.22 Baseline And Proposed Cumulative View Of Brú Chaoimhín, Cork Street (A Protected Structure). Image Prepared By Modelworks. | 14-42 |
| Figure 14.23 Baseline And Proposed Cumulative View Of Griffith College, South Circular Road (A Protected Structure). Image Prepared By Modelworks. | 14-43 |
| Figure 14.24 Baseline And Proposed Cumulative View Looking West Along South Circular Road, Past The Front Facade Of The Dublin Mosque (A Protected Structure). Image Prepared By Modelworks. | 14-44 |
| Figure 14.25 Diagram From DCC Development Plan 2016-22 Showing 'Key Views And Prospects (Indicative)', Chapter 4. | 14-45 |

Table of Tables

| | |
|--|-------|
| Table 14.1 Summary Of Demolition & Construction Phase Likely Significant Effects In The Absence Of Mitigation..... | 14-30 |
| Table 14.2 Summary Of Operational Phase Likely Significant Effects In The Absence Of Mitigation..... | 14-30 |
| Table 14.3 Summary Of Demolition And Construction Phase Effects Post Mitigation..... | 14-49 |
| Table 14.4 Summary Of Operational Phase Effects Post Mitigation. | 14-50 |
| Table 14.5 Summary Of Demolition & Construction Phase Mitigation And Monitoring..... | 14-50 |
| Table 14.6 Summary Of Operational Phase Mitigation And Monitoring. | 14-50 |

14 Built Heritage

14.1 Introduction

This chapter of the EIAR provides an assessment of the built heritage significance of the Bailey Gibson site (formerly the Rehoboth Works), its setting and context, and identifies any associated special architectural and historic character and any other features which are of note. An evaluation of the chronology of the site is also included. In the preparation of this report the site was evaluated and photographically recorded, internally and externally. These photographic survey was carried out during April 2019. No development has been carried out on the subject site since this survey, and these photographs therefore remain as a reliable record of the structures on site. These photographs are appended below, Appendix 14.3 and Appendix 14.4.

The chapter assesses and evaluates any existing built heritage that could potentially be impacted by the proposed redevelopment of the Bailey Gibson Site, and assesses the potential impact of the redevelopment.

There is some overlap between this Chapter (Built Heritage) and Chapter 5 of this EIAR (Landscape and Visual). This chapter does not relate to archaeological significance, which is covered in Chapter 13 of the EIAR.

It should be noted that none of the structures on the subject site are included on the Dublin City Council Record of Protected Structures and none of the buildings on site are included on the National Inventory of Architectural Heritage survey of this area.

The study area has been defined with reference to the potential for impact from the proposed redevelopment scheme, including the terraced houses neighbouring the site and other structures within the wider context of the site. The extent of the study area was established with regard to visual impact on Protected Structures in the wider context, and also encompasses the potential visual impact on key views and landmark buildings within Dublin city, as outlined in the Dublin City Council Development Plan 2016-22.

The subject site is located within a designated Strategic Development and Regeneration Area (SDRA) in the Dublin City Development Plan 2016-22, SDRA 12: St. Teresa's Gardens and Environs. The subject site has a total of 4. land use zonings (Z1, Z2, Z4 and Z14). The majority

of the proposed development site is zoned Z14, 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'*.

The adjoining terraced houses along Rehoboth Place are zoned Z1, with the objective to *'protect, provide and improve residential amenities'* and the neighbouring terraced houses along the South Circular Road are zoned Z2, with the objective to *'protect and/or improve the amenities of residential conservation areas'*. The Grand Canal, to the south of the subject site, is zoned as a Conservation Area.

Protected Structures within the vicinity of the subject site include the former Player Wills Factory, South Circular Road (RPS Reg. Ref. 8796), Our Lady of Dolours Church, South Circular Road (RPS Reg. Ref: 1849), and the Church of St. Catherine and St. James, Donore Avenue (RPS Reg. Ref: 2326). The visual impact of the proposed development on the setting of these Protected Structures, and other Protected Structures in the wider area, is assessed

low.

A full set of photomontage viewpoints addressing the visual impact of the proposed development on the heritage of the wider area has been prepared by ModelWorks. These photomontages have been compiled into a document titled '*Heritage Verified Photomontages*', which has been submitted under separate cover, and should be referred to alongside this Chapter.

14.2 Relevant Experience and Expertise

This chapter has been prepared by James Slattery, MRIAI, Principal at David Slattery Conservation Architects Ltd. James Slattery completed a BArch in 2001, and a Dip ABRCons in 2008. He is a member of the Royal Institute of the Architects of Ireland.

Relevant experience includes the preparation of the Built Heritage Chapter within an EIAR for the former Player Wills factory, South Circular Road; Holy Cross College, Clonliffe; the Dart Underground Project; the Luas Line Extension; the ESB Headquarters, Fitzwilliam Street; Heuston South Quarter; the redevelopment of the Boland's Quay site, Grand Canal; the redevelopment of the RTE Campus; the former Tedcastles Site, Dun Laoghaire; and the redevelopment of the former Odlum's Mill site, Cork city.

14.3 Proposed Development

This application relates to a proposed mixed-use strategic housing development (SHD) on a site of approx. 5.5 hectares in Dublin 8. It includes all of the former Bailey Gibson site and a small portion of the former Player Wills site, both of which are owned by the Applicant, CWTC Multi Family ICAV acting solely in respect of its sub fund DTBR SCR1 Fund. The balance of the proposed development site relates to land owned by Dublin City Council (DCC) known locally as the 'Boys Brigade pitch' and part of the St. Teresa's Gardens site, together with DCC controlled public roads.

The application area is predominately within Strategic Development Regeneration Area (SDRA) 12, St. Teresa's Gardens & Environs as identified in the Dublin City Development Plan 2016-2022. The part of the proposed development site not within SDRA 12 relate to works proposed in the public roads surrounding the site, South Circular Road, Donore Avenue and Rehoboth Place.

A comprehensive description of the proposed development is set out in the Planning Statement. The Statutory Notices should also be referenced.

Briefly, it is proposed to demolish the existing vacant buildings and structures on the Bailey Gibson site to make way for development of 345 new homes across 5 blocks, BG 1 - BG 5, ranging in height from 2-7 storeys. The residential blocks will be contained within the Bailey Gibson site. The typology is predominantly apartments with 4 townhouses proposed in block BG5.

This is a mixed tenure scheme, with 292 units proposed as Build to Rent (BtR) across blocks BG1-BG3 and 53 units proposed as Build to Sell (BtS) in blocks BG4 and BG5. It is proposed to deliver 34 social and affordable homes as part of the overall total.

All apartments have private amenity space. At ground floor this is in the form of terraces and on upper levels, balconies. Each of BG1-BG4 have communal amenity areas either as a courtyard or podium area.

Tenant amenities and facilities are proposed in the BtR blocks and include a gym, co-working space, kitchen/lounge areas, concierge, and waste facilities.

Over 2 hectares of public open space including a multi-sport play pitch, a playground, 'St. Teresa's Playground', a boulevard, 'St. Teresa's Boulevard', a park, 'Players Park', a plaza, 'Rehoboth Plaza'.

The proposed non-residential uses include in blocks BG1 and BG2 commercial units that have the capacity to support daily living needs e.g., a shop, pharmacy and professional services. A creche with capacity for approx. 60 children. In block BG2 the design includes floorspace for a café/restaurant/bar.

In total there are 89 car parking spaces allocated to the proposed apartments and all are contained within the Bailey Gibson site. Apart from 1 space at podium level, the parking is contained within a basement. Additionally, 10 'Go Car' spaces are proposed at podium level for residents use only. Each of the 4 townhouses has 1 on-curtilage car parking space.

Visitor parking is at street level and the proposed sport pitch will be serviced separately by new spaces on the public roads. The scheme includes set down parking for the creche, a loading bay for deliveries and coach parking area.

Provision is made for disabled parking, electric vehicle charging, a car sharing scheme and motorcycle parking.

784 spaces are proposed for cycle parking including secure residents parking, visitor parking and spaces for cargo bicycles.

Other works include the development of a network of streets across the proposed development site that will link with other sites within SDRA 12 and into the wider street network of Dublin 8. Improvement works within existing local streets to facilitate access and safe movement.

Ancillary development works includes the construction of electricity substations, meter rooms, plant rooms at basement level, waste storage areas, solar photovoltaics, drainage, landscaping, and lighting.

The Proposed Site Layout is illustrated on Drawing No. A00005 contained within the architectural suite of drawings.

14.4 Methodology

The cultural heritage value and significance of the application area has been assessed in accordance with the Planning and Development Act, 2000 (as amended), the DoAHG "*Architectural Heritage Protection: Guidelines for Planning Authorities*" (2011) and the Dublin City Council Development Plan 2016-22 (see relevant extracts appended below, Appendix 14.7).

The proposal for the subject site will be assessed with regard to its potential impact on the cultural heritage of the subject site, and any visual impact on the architectural character of the surrounding structures and area.

14.4.1 Desktop Study

A full evaluation of the chronology of the subject site and of the building fabric has been carried out in the preparation of this chapter. This evaluation has been carried out with reference to a number of important resources. These include the following -

- Trinity College Map Library
- the National Library of Ireland
- the Irish Architectural Archive
- Dictionary of Irish Architects
- Pearse Street Library – Dublin City Archive
- Britain from Above – Online Photographic Collection
- Irish Photo Archive – Online Photographic Collection
- Irish Times Archive

This desktop study resulted in the completion of an overview chronological history of the development of the subject site.

14.4.2 Field Study

The site was visited and photographically recorded in the preparation of this assessment. These visits were carried out in April and May of 2019. The purpose of these visits was to ascertain the extent of surviving historic fabric and to identify any surviving features or structures or architectural or other interest.

14.4.3 Visual Impact Assessment

The proposal for the subject site has been assessed with regard to its potential impact on the cultural heritage of the subject site, and any visual impact on the architectural character of the surrounding structures and area. The visual impact of the proposed development on key view corridors and landmark buildings within the wider city, as outlined in the DCC Development Plan, has also been assessed.

Key viewpoints, prepared by ModelWorks, have been assessed. The locations of these viewpoints were selected so as to illustrate the impact on the Protected Structures and residential conservation areas within the wider context.

14.4.4 Relevant Legislation & Guidance

This chapter has been prepared having regard to the following;

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018);
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017);
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022);
- Advice Notes for Preparing Environmental Impact Assessment Reports, Draft (EPA,

2015);

- Advice Notes on Current Practice in the Preparation of Environmental Impact Statements, (EPA, 2003);
- Guidelines on the Information to be Contained in Environmental Impact Statements, (EPA, 2002)

The impact of the proposals on the cultural heritage value of the subject site has also been considered with regard to national and international guidelines and conservation charters, including:

- Architectural Heritage Protection: Guidelines for Planning Authorities, (Department of Arts, Heritage and the Gaeltacht, 2011);
- Granada Convention for the Protection of the Architectural Heritage of Europe, (Council of Europe, 1985).
- Venice Charter for the Conservation and Restoration of Monuments and Sites, (ICOMOS, 1964).
- Dublin Principles for the Conservation of Industrial Heritage Sites, Structures, Areas and Landscapes, (ICOMOS-TICCIH, 2011).
- Part IV: Architectural Heritage, Planning and Development Act, 2000 (as amended).
- Chapter 11: Built Heritage and Culture, Dublin City Council Development Plan, 2016-2022
- Chapter 15: Strategic Development and Regeneration Areas: Guiding Principles for Development, Dublin City Council Development Plan, 2016-2022
- Chapter 16: Development Standards, Dublin City Council Development Plan, 2016-2022
- NIAH Handbook (Department of Housing, Local Government and Heritage, 2021).
- Planning Leaflet 12: A Guide to Architectural Heritage, Office of the Planning Regulator, 2021.

The description of likely significant effects included in this chapter is in line with Table 3.3 of the Draft EPA Guidelines. These are reproduced in Chapter 1 of the EIAR.

14.4.5 Consultation

Prescribed bodies in relation to the protection of the architectural heritage in the Planning and Development Regulations, 2001 as amended, include:

- Minister for the Environment, Heritage and Local Government.
- The Heritage Council.
- The Arts Council.
- Bord Fáilte.
- An Taisce.

These bodies are notified of proposed works which may impact Protected Structures or structures within Architectural Conservation Areas. As there are no Protected Structures or Architectural Conservation Areas within the site boundary, consultation with these bodies in advance of lodging the application is not deemed necessary. This was confirmed by the Opinion from An Bord Pleanála, issued 20th April 2022, which provided a list of authorities to be notified of the application.

Consultation meetings were held between the Design Team and the Planning Authority on 12th August 2021 and 15th September 2021. It is noted that built heritage was not raised as a concern at any of these meetings.

The DCC Opinion issued to An Bord Pleanála as part of the pre-application process on the proposed development includes no opinion from the Conservation department.

14.5 Baseline Environment

The subject site is comprised of two distinct areas: the DCC owned Teresa's Gardens site, and the former Bailey Gibson industrial site. This assessment relates largely to the surviving historic fabric and built elements on the Bailey Gibson site, as the proposed demolition of the 20th century blocks on the Teresa's Gardens site has been considered separately by DCC.

Teresa's Gardens Site

There are two mid-20th century residential blocks on the Teresa's Gardens site at present, dating from c. 1942 and to the designs of Herbert Simms. This assessment does not relate to the demolition of these blocks. The clearing of the site will be carried out by DCC in advance of the commencement of the proposed development. This assessment does not relate to the works to the 20th century residential blocks. A Conservation Record Study was carried out by Kelly and Cogan Architects for DCC in advance of the DCC planned demolition of the blocks (Appendix 14.9).

Former Bailey Gibson Site

The subject site is largely comprised of modern industrial buildings, with a range of 20th century warehouse structures in varying condition. Some earlier structures survive on site, however these structures have been significantly altered and retain little or no original fabric. None of the structures on the subject site are included on the Dublin City Council Record of Protected Structures. None of the buildings on the site are included on the National Inventory of Architectural Heritage survey of this area.

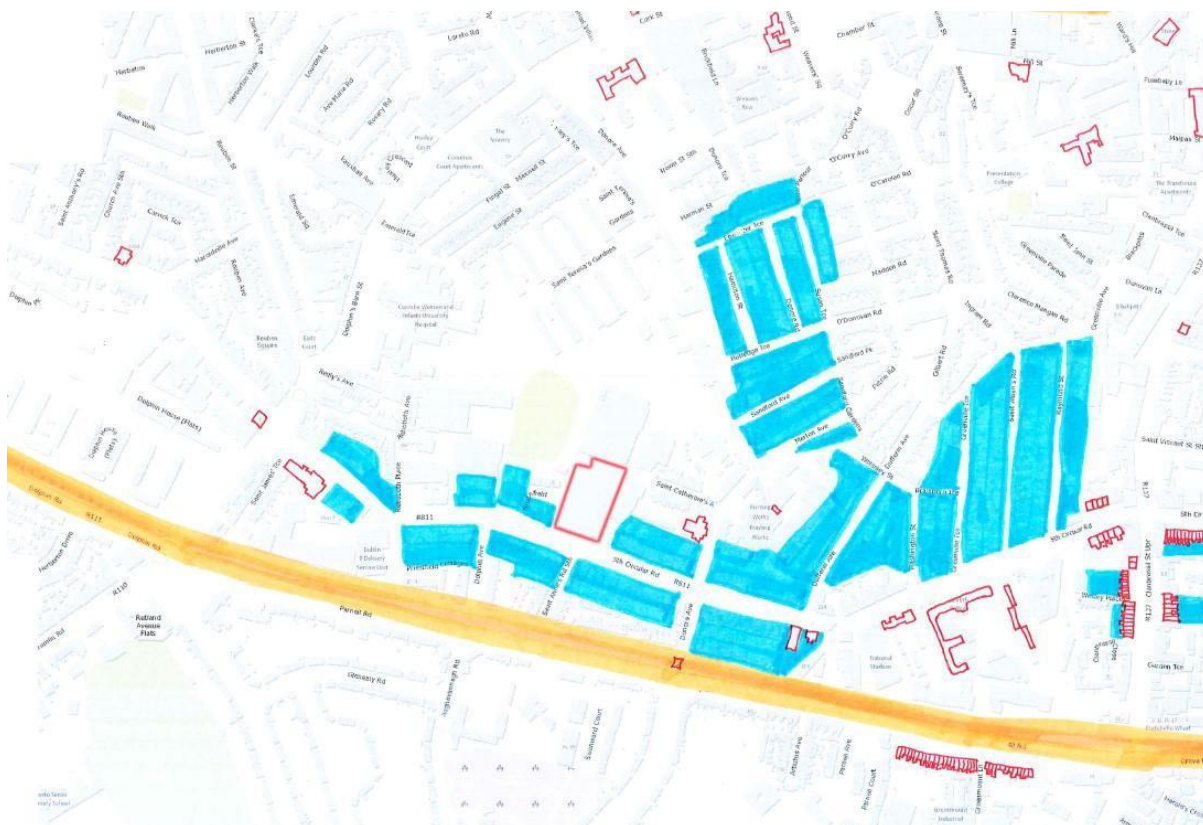


Figure 14.1: Sketch Overlay Of Existing Context Showing Heritage Assets Within The Wider Setting Of The Subject Site. Red Indicates Protected Structures, Blue indicates Z2 Zoned Residential Conservation Areas, and Orange indicates the Conservation Area along the Grand Canal.

The subject site is located within a designated Strategic Development and Regeneration Area (SDRA) in the Dublin City Development Plan 2016-22, SDRA 12: St. Teresa's Gardens and Environs. The subject site has a total of 4. land use zonings (Z1, Z2, Z4 and Z14). The majority of the proposed development site is zoned Z14, 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'*.

Protected Structures within the vicinity of the subject site include the former Player Wills Factory, South Circular Road (Reg. Ref. 8796), Our Lady of Dolours Church, South Circular Road (RPS Reg. Ref: 1849), and the Church of St. Catherine and St. James, Donore Avenue (RPS Reg. Ref: 2326). The neighbouring terraced houses along the South Circular Road are included on the National Inventory of Architectural Heritage, with a rating of 'Local' significance.

The adjoining terraced houses along Rehoboth Place are zoned Z1, with the objective to *'protect, provide and improve residential amenities'* and the neighbouring terraced houses along the South Circular Road are zoned Z2, with the objective to *'protect and/or improve the amenities of residential conservation areas'*. The Grand Canal, to the south of the subject site, is zoned as a Conservation Area.

14.5.1 Context

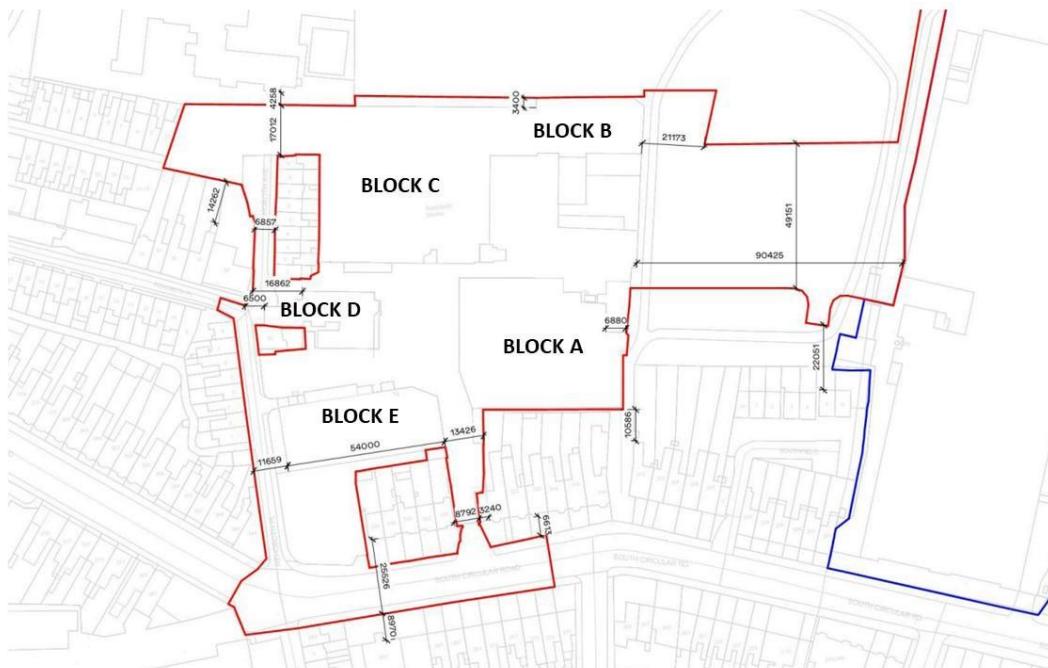


Figure 14.2 Key Plan Identifying The Existing Blocks On Site.

The subject site is located along the South Circular Road, in the vicinity of Dolphin's Barn. Historic maps show that the area was in open fields throughout the 18th and much of the 19th centuries. Regarding the development of the South Circular Road, Christine Casey notes in her 2005 book *"Buildings of Ireland: Dublin"*:

"Trustees for making a circular road were established by statute in 1763 in order to improve the principal city approaches and to reduce congestion. Subsequent acts of 1776 and 1778 permitted extensions of the route, and in the case of the South Circular the incorporation of existing streets (Harcourt, Adelaide, Mespil and Haddington roads) to complete a circuit from the Phoenix Park to the River Liffey. The South Circular runs for 4 ½ miles from Harrington Street to Islandbridge, with even numbering on the North side and odd on the South. The siting of the Richmond Penitentiary halfway along, planned from 1790 and begun in 1813, may have had an adverse effect on building development. Unlike the North Circular there are no 18th century buildings and precious few of Late Georgian or Early Victorian date... In the 1880s development spread West of Clanbrassil Street North of the former penitentiary, which was converted to a barracks in 1877."

The subject site was formerly a late Georgian suburban villa, with a large site laid out in formal gardens. The house appears to have been acquired by a religious order in the mid-19th century and became a Tent and Marquee Factory in the early 20th century. The site was developed extensively over the 20th century to adapt to its evolving light industrial use.

A comparison between the early 19th century form of the site, with suburban villa, gardens, and attendant structures, to the late 20th century peak of industrial usage of the site can be seen in the figures below. The extent of demolition and new construction carried out in the course of the 19th and 20th centuries is clearly visible here. The wider setting of the site, with

terraced housing along Rehoboth Place and the South Circular Road, was not in existence at the date of the 1846-47 map, and the context of the site has been utterly changed.

One structure appears to survive from the first edition Ordnance Survey map – to the western boundary to Rehoboth Place. This building will be referred to as Block D in this report. The neighbouring building to the south along Rehoboth Place also appears to survive, however this building is outside of the boundary of the subject site.



Figure 14.3 Overlay Of 1846-7 Ordnance Survey Map Of The Subject Site Over The 1985 Dublin Corporation Map.

There are very few 19th century structures surviving on site, with much of the existing building fabric dating from the latter half of the 20th century. A 1955 aerial photograph of the site shows the site largely as it stands today.



Figure 14.4 1955 Aerial Photograph Showing The Subject Site, With The South Circular Road To The Right-Hand-Side Of The Photo. Morgan Aerial Photograph Collection, National Library Of Ireland.

A comparison between the 1955 and contemporary aerial views shows some differences, most notably the construction of Block E (which appears to be underway in the 1955 photograph) and the demolition of a number of smaller infill buildings and of the bulk of the structures in the north-eastern section of the site.



Figure 14.5 Current Aerial View Over Site, From Google Maps.

In order to determine the chronology of building on the subject site, a number of historic maps and images were consulted (the relevant extracts are appended to the report - Appendix 14.1 - and should be referred to). These are as follows –

14.5.1.1 Taylor's Map of the Environs of Dublin, 1816

The South Circular Road has been laid out and runs to the south of the subject site. There is no development on the subject site apparent on this map.

14.5.1.2 Duncan's Map of the County of Dublin, 1821

The road now known as Rehoboth Place has been laid out by this time. A site to the east of the road, with two buildings marked on it, is labelled Rehoboth. One of these buildings, L-shaped in plan, is located in the north-western corner of the site. This may include the western section of Block D, however the level of detail included on this map is not sufficient to confirm this. There is a second centrally-located building on the site, and appears to have an entrance avenue running south to the South Circular Road.

14.5.1.3 1st Edition Ordnance Survey Map, 1838-47



Figure 14.6 Extract From The 1838-47 Ordnance Survey Map, Showing The Subject Site In Red.

This map provides a detailed view of the subject site. Labelled as Rehoboth, there is a central house, with extensive formal gardens laid out around it. There is a cluster of buildings in the north-western corner of the site, this cluster appears to include the western section of the existing Block D. An entrance avenue to the house leads north from the South Circular Road, and there is a Gate Lodge at the entrance.

14.5.1.4 Ordnance Survey Map, 1864-66

The subject site is noted as a Protestant Reformatory School by the time of this map. The eastern section of Block D has been constructed by this date.

14.5.1.5 Ordnance Survey Map, 1886-88



Figure 14.7 Extract From The 1886-88 Ordnance Survey Map, Showing The Subject Site In Red.

The site appears to have been subdivided into three separate properties by the time of this map, with Rehoboth House, Morton Villa and a Protestant Reformatory School all noted on the site. The field to the north of the site has been laid out with paths and formal gardens by this date. The buildings on the western section of the site, facing onto Rehoboth Place, have been subdivided into three properties.

14.5.1.6 Ordnance Survey Map, 1907-09



Figure 14.8 Extract From The 1907-09 Ordnance Survey Map, Showing The Subject Site In Red.

The northern area of the site is now labelled as Rehoboth Tent and Marquee Factory. A rope walk is noted along the eastern boundary of the factory site. There is a number of small buildings towards the western section of the factory site. Morton Villa and Rehoboth House are noted on this map. A new terrace of houses, Brooklyn Terrace, has been constructed in the south-eastern corner of the Rehoboth House site. The gate Lodge appears to have been demolished. The entrance avenues to Morton Villa and Rehoboth House remain extant.

14.5.1.7 Ordnance Survey Map, 1927-28

There is no coverage for the subject site at this date.

14.5.1.8 Ordnance Survey Map, 1943-62



Figure 14.9 Extract From The 1943-62 Ordnance Survey Map, Showing The Subject Site In Red.

There has been a significant level of development on the Rehoboth Factory Site, now labelled as Rehoboth Factory and Printing Works. A new terrace of houses has been constructed to the west of the Factory Site, along the new Rehoboth Avenue. Morton Villa and Rehoboth House remain extant. A terrace of houses has been constructed to the southern boundary of the site to the South Circular Road. The original entrance point remains extant. A new entrance for Morton Villa has been created to the west of the new terrace of houses.

14.5.1.9 Ordnance Survey Map, 1985

Significant changes to the subject site are noted on this map. Both Morton Villa and Rehoboth House have been demolished, and large new buildings constructed in their place. The group of smaller buildings on the Rehoboth Factory site have been replaced with a single large structure in the north-western section of the site. Some of the smaller 20th century structures to the eastern area survive. The location of the main entrance to the site is in the location of the original entrance avenue to Rehoboth House.

14.5.1.10 Current Ordnance Survey Map

The 20th century structures in the eastern section of the site have been demolished. A portion of the 20th century structure near the entrance from Rehoboth Place has been demolished.

14.5.2 Character

The subject site is a modern industrial site, comprising a number of 20th century warehouse structures. Some earlier structures survive on site, however these structures have been significantly altered and retain little or no original fabric. There is a tall 20th century brick chimney on the site, adjoining Block C. The chimney is not protected.

A full internal and external photographic record is appended below (Appendices 14.3 and 14.4), this should be read alongside this section.

14.5.2.1 Block A

It appears that this block was constructed between 1944 and 1955, and developed in a piecemeal fashion. It is a single-storey multi-span warehouse building, with steel structural columns and north lights.

14.5.2.2 Block B

This block is comprised of an early 20th century two-storey warehouse structure with saw-tooth roof and later extension to the east. Adjoining buildings to the south are in a ruinous condition.

14.5.2.3 Block C

This block is comprised of a number of small adjoining warehouse structures, with some areas dating from the early 20th century and others dating from the mid-20th century. The central section has a long pitched roof with multiple rooflights. The smaller sections to either side have saw-tooth roofs with north-lights.

There is a tall 20th century red-brick chimney adjoining this Block to the east. The chimney is square in plan and constructed of red-brick laid in Flemish bond. At ground floor level the chimney is cement rendered. Aerial photographs show that the chimney was formerly fully enclosed at ground floor level. There is a simple red-brick cornice at eaves level, with cement capping. There is a large hole at low level on the south-eastern elevation.



Figure 14.10 1933 Detail Of Aerial Photograph Showing The Subject Site. BFA Xpw042245.

The precise date of construction of this chimney is not known. The chimney is not visible in a 1933 aerial photographs, but can be seen in a 1952 aerial photograph.



Figure 14.11 1955 Detail Of Aerial Photograph Showing The Subject Site. BFA XAW044974.

There are limited views of the chimney from the streetscapes of South Circular Road and Rehoboth Place. The chimney cannot be considered to make any significant contribution to the character of these surrounding streets.

14.5.2.4 Block D

Block D comprises the earliest surviving structures on the site. An outline chronological development of these buildings is illustrated below.

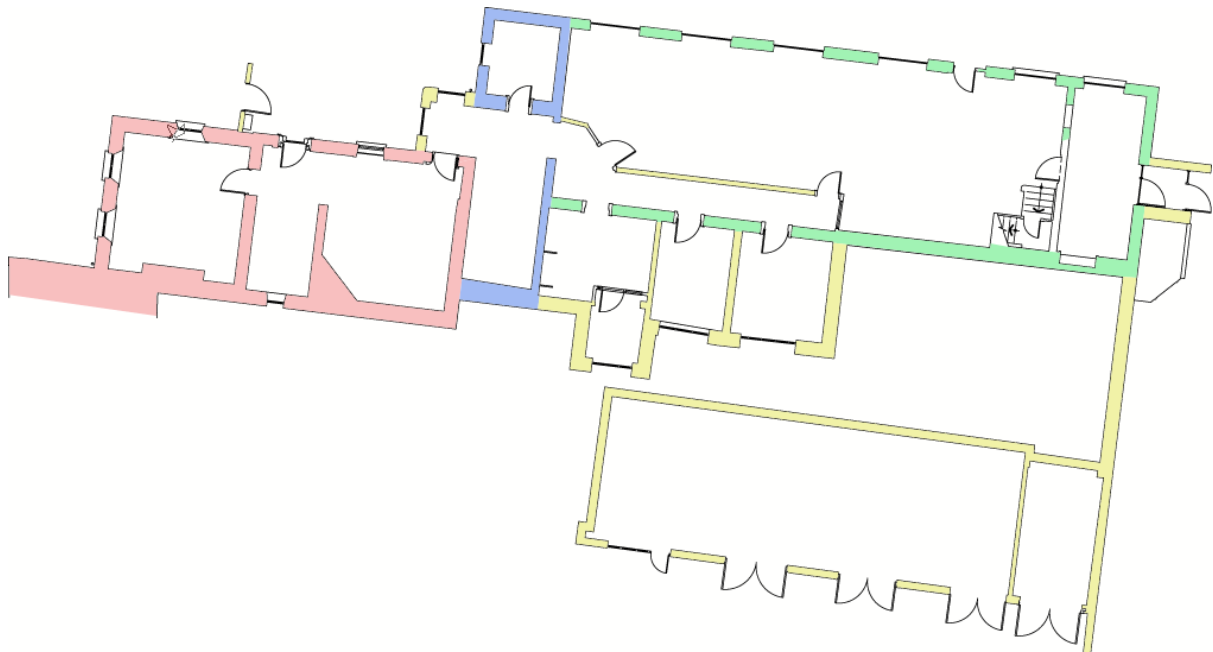


Figure 14.12 Outline Fabric Chronology Plan Showing The Development Of Block D.

Figure 14.12 above shows an outline fabric chronology plan of Block D. This is based on cartographic evidence. Red indicates the earliest known structure on site, evident in Duncan's map of 1821; blue indicates an extension to the east of the original structure, in evidence by the 1846-47 Ordnance Survey Map; green indicates the Protestant Reformatory School additions, noted for the first time on the 1864-66 Ordnance Survey Map, and; yellow indicates later 20th c. extensions

This Block is comprised of two two-storey 19th century blocks, with modern 20th century extensions to the south and east. While the outer brick shell of the 19th century blocks survives, the interiors have been significantly altered and there are very few surviving features of architectural interest. The older section, to the west, retains encaustic floor tiles to the entrance hall and the Gibbsian doorcase to the northern elevation.



Figure 14.13 Photographs showing the Gibbsian doorway and encaustic tiles to the earliest section of Block D.

14.5.2.5 Block E

This block appears to be the most recent development on site, dating from c. 1955. It is a large single-storey warehouse structure with pitched roof above and multiple rooflights.

14.5.3 Significance

None of the structures on the subject site have been included on the Dublin City Council Record of Protected Structures. The area was surveyed as part of the National Inventory of Architectural Heritage Dublin City Phase IV Survey, in 2013, and none of the structures listed on site were rated as being of any significance.

The Planning and Development Act, 2000 (as amended), requires that a protected structure be of significance or special interest under at least one of the following headings:

- Architectural
- Historic
- Artistic
- Cultural
- Archaeological
- Social
- Scientific
- Technical

The significance of the buildings and site will be analysed under each of these headings, in accordance with the DoAHG *Architectural Heritage Protection: Guidelines for Planning Authorities* (2011).

14.5.3.1 Architectural

The DoCHG Architectural Heritage Guidelines lists examples of how a structure may be attributed special architectural interest:

- a) *A generally agreed exemplar of good quality architectural design;*

- b) *The work of a known and distinguished architect, engineer, designer or craftsman;*
- c) *An exemplar of a building type, plan-form, style or styles of any period but also the harmonious interrelationship of differing styles within one structure;*
- d) *A structure which makes a positive contribution to its setting, such as a streetscape or a group of structures in an urban area, or the landscape in a rural area;*
- e) *A structure with an interior that is well designed, rich in decoration, complex or spatially pleasing.*

Block D is the earliest surviving building on site, with the western section appearing to date from the early 19th century. The building has been significantly altered in modern times, with the internal layout and detailing largely removed. Surviving historic architectural features such as the encaustic floor tiles Gibbsian door are of some interest. However, overall, the building cannot be considered to be of any particular architectural significance.

The Bailey Gibson site is a former industrial site, consisting largely of mid/late-20th century warehouse buildings. The site is located to the rear of the terraced housing along the South Circular Road, and cannot be considered to contribute to the streetscape of the South Circular Road.

- a) None of the buildings on site could be considered to be exemplars of good quality architectural design;
- b) None of the buildings on site are the work of a known and distinguished architect, engineer, designer or craftsman;
- c) There has been significant development and alterations to the subject site and all buildings on it over the course of their lifespan. None of the buildings on site could be considered to be exemplars of a building type, plan-form, style or styles of any period but also the harmonious interrelationship of differing styles within one structure;
- d) The subject site is located to the rear of a terrace of houses, and is largely invisible from the streetscape. None of the structures could be considered to make a positive contribution to its setting, such as a streetscape or a group of structures in an urban area, or the landscape in a rural area;
- e) None of the structures on site could be considered to have an interior that is well designed, rich in decoration, complex or spatially pleasing.

None of the buildings on the subject site can be considered to be of any particular architectural significance.

14.5.3.2 Historic

The criteria given by the DoCHG for a building to merit inclusion on the RPS on the basis of its historical significance are as follows:

- a) *A structure may have historical interest as the location of an important event that occurred in, or is associated with it, or by its association with a historic personality...*
- b) *A structure may have influenced, or been influenced by, an historic figure...*
- c) *Historic interest can be attributed where light is thrown on the character of a past age by virtue of the structure's design, plan, original use, materials or location...*
- d) *A structure may be a memorial to a past event.*
- e) *A structure may itself be an example of the effects of change over time. The design*

and fabric of the structure may contain evidence of its former use or symbolic meaning...

- f) Some fixtures and features may survive, for example in consistory courts and courts of law, that are important evidence of former liturgical or legal practice and may have special historical interest for that reason.*
- g) Some unusual structures may have historical or socio-historical interest, for example, early electricity substations...*
- h) Special historical interest may exist because of the rarity of a structure. Either few structures of an identifiable type were built at a particular time, or few have survived...*

The majority of the structures on site date from the mid/late 20th century. There is minimal early fabric surviving following many years of alterations and developments to accommodate the site's light industrial use.

Block D appears to be an early 19th century structure. However, the extent of alteration and fabric loss to this structure is such that it cannot be considered to be of any particular historic significance. Features such as the Gibbsian door are of interest.

14.5.3.3 Artistic

The DoCHG guidelines state that special artistic interest may be attributed to a structure for its *craftsmanship, design or decoration*. Examples given in the guidelines are:

- a) Examples of good craftsmanship;*
- b) Decoratively carved statuary or sculpture that is part of an architectural composition;*
- c) Decoratively-carved timber or ceramic-tiled shopfronts;*
- d) Ornate plasterwork ceilings;*
- e) Decorative wrought-iron gates;*
- f) Religious art in a place of public worship such as the Stations of the Cross or stained-glass windows;*
- g) Fixtures and fittings such as carved fireplaces, staircases or light-fittings;*
- h) Funerary monuments within a graveyard;*
- i) The relationship of materials to each other and to the totality of the building in which they are situated, if these have been designed as an ensemble.*

None of the structures on the subject site can be considered to be of any artistic significance.

14.5.3.4 Cultural

The DoCHG provides guidance for what might constitute cultural significance:

- a) Those structures to which the Granada convention refers as 'more modest works of the past that have acquired cultural significance with the passing of time';*
- b) Structures that literary or cinematic associations, particularly those that have a strong recognition value*
- c) Other structures that illustrate the development of society such as early schoolhouses, library buildings, swimming baths or printworks.*

None of the structures on the subject site are considered to be of any particular cultural significance under the above criteria.

14.5.3.5 Archaeological

This chapter does not address archaeological issues. Please see Chapter 13.

14.5.3.6 Social

Special Social interest is defined in the DoCHG guidelines as ‘those qualities for which a structure, a complex or an area has become a focus of spiritual, political, symbolic or other sentiment to any group of people. A community may have an attachment to a place because it is an essential reference point for that community’s identity, whether as a meeting place or a place of tradition, ritual or ceremony. The configuration, disposition or layout of a space or group of structures, where they facilitate behaviour that would otherwise be difficult or impossible, may be of social interest.’

None of the buildings on the subject site could be considered to be of social significance.

14.5.3.7 Scientific

Examples of how a structure may be of particular scientific significance are provided in the DoCHG guidelines:

- a) *The results of scientific research may be seen in the execution of the structure;*
- b) *the materials used in the structure may have the potential to contribute to scientific research, for example extinct pollen or plant species preserved in the base layers of ancient thatch roofs;*
- c) *The structure may be associated with scientific research that has left its mark on the place, such as early Ordnance Survey benchmarks carved into stonework.*

None of the buildings on the subject site could be considered to be of any particular scientific significance in accordance with the DoCHG guidance. There are no known results of scientific research in the execution of any structure, no known material which may contribute to scientific research, and no known associations with scientific research,

14.5.3.8 Technical

The DoCHG guidelines provide examples of how a structure may be attributed special technical interest:

- a) *It displays structural or engineering innovation evidenced in its design or construction techniques such as the use of cast- or wrought- iron prefabrication or an early use of concrete;*
- b) *It is the work of a known and distinguished engineer;*
- c) *It is an exemplar of engineering design practice of its time. For example, a bridge may be a masonry arch, an iron suspension or a concrete span;*
- d) *it displays technically unusual or innovative construction of cladding materials, such as early examples of glazed curtain walling, prefabricated concrete plank cladding or Coade stone;*
- e) *It contains innovative mechanical fixtures, machinery or plant or industrial heritage artefacts that describe the character of the production processes. The specifically industrial aspect of some sites like mill buildings, mill ponds, tailings, or derelict mines can often have a technical heritage value;*
- f) *Purely special technical interest can be ascribed to the innovative engineering qualities of a structure, as distinct from the building’s appropriateness for use, or its appearance or form.*

None of the buildings on the subject site could be considered to be of any particular technical significance. There is no evidence of surviving internal mechanical fixtures, plant or machinery which could be considered to be of technical or industrial interest.

Please see the Industrial Heritage Assessment of the site, prepared by IAC Archaeology, in Volume III (Appendix 14.6).

14.5.4 Sensitivity

It is clear from the above assessment that the subject site is not considered to be of particular significance and therefore cannot be considered to be particularly sensitive.

Architectural features such as the Gibbsian doorway (Block D) are of interest. The significance of features such as these can be protected through salvage.

14.6 Do Nothing Scenario

14.5.5 No Project Scenario

Block D, which contains some architectural features of interest, is presently vacant and not in use. The building is not in good condition and the upper floor is inaccessible. It is likely that its condition will continue to deteriorate if the site is not redeveloped, causing damage to the features of interest.

It should be noted that the subject site is zoned for development within the Dublin City Council Development Plan. In the absence of this subject proposal, it is very likely that another development of a similar nature would be progressed. This is in accordance with national policy for compact growth on brownfield sites.

14.5.6 Extant Bailey Gibson Permission

In the short term (1-7 years), the extant permission for a Strategic Housing Development (Ref. ABP-307221-20) at the Former Bailey Gibson Site, 326-328 South Circular Road, Dublin 8 would be implemented. The effect would be as per the post mitigation effects outlined in the Built Heritage chapter included in the EIAR that accompanied that application which concluded as follows;

“The salvaging of architectural features of interest will ensure minimal loss of historic features and fabric of interest. The demolition of the buildings cannot be considered to be a loss of built heritage.

There are no likely significant effects relating to cultural heritage: built heritage during the construction phase.

The impact of the proposed development on the architectural heritage character of the wider setting has been mitigated through various design decisions, including the material palette used, the stepping down in height of the blocks at the perimeter of the site, and the siting of taller blocks in the centre of the site. The resulting visual impact of the proposed development, and of the adjoining Masterplan lands, can be seen in the photomontages prepared by ModelWorks. These images clearly illustrate how the design of the proposed development mitigates and minimises the impact on the surrounding architectural heritage.”

The Board in their decision concluded;

“Built Heritage: Positive impact with any adverse impact mitigated by design. In disagreeing with the Inspector, the Board did not consider the impact to be a significant adverse impact, in that the development does not result in the loss of any of the protected built heritage in the area. The Board, as outlined above considers the development to positively contribute to the visual amenity of the area, based on the architectural scale, design, mass and the high quality of materials proposed throughout the scheme, and as such does not consider there to be a negative impact on the built heritage by reason of the visual or residential impact on the neighbouring residential architectural conservation area.”

14.7 Difficulties Encountered

Scant archival material relating to the subject site was available during the preparation of this assessment. This created difficulties in determining a full history of the development and growth of the site. The history of the site, and the various buildings on the site, is therefore based on limited historical sources, including historic maps and historic photographs. The result of this is that the precise date of construction of the buildings on site could not be determined.

14.8 Potential Significant Effects

The following sections refer to potential significant impacts in the absence of mitigation and without consideration of the specific features and design of the proposed development which will reduce these potential effects.

14.8.1 Demolition Phase

None of the 20th century warehouse blocks on site can be considered to be of any architectural or historic significance. The blocks have been developed and altered over a series of phases. A number of areas are in poor condition and/or vacant. The demolition of these buildings will allow for the redevelopment of the site with a high quality architecturally designed mixed-use development, which has the potential to enhance and revitalise the site and the surrounding area. The demolition of the 20th century warehouse blocks cannot be considered to be any particular loss.

Block D is of an earlier date and retains some features of architectural interest, including encaustic tiles, a stone Gibbsian doorway, and other historic fabric such as roof slates and bricks. However, the interiors have been significantly altered and most original features removed, with the result that this building is far from its original form. The surrounding light-industrial context of these buildings has significantly altered the setting of these buildings. The buildings cannot be considered to be of any particular architectural or historic significance.

Likely Significant Effect: The demolition of the buildings on site will result in the loss of surviving historic architectural features of interest, including the Gibbsian stone doorway, and other surviving historic fabric in Block D.

Quality: Negative.

Significance: Significant.

Extent: Local.

Context: This effect will conform to established conditions as the condition of Block D is

steadily deteriorating through dereliction and neglect.

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Worst-Case.

14.8.2 Construction Phase

There are no likely significant effects relating to cultural heritage and the built environment during the construction phase.

14.8.3 Operational Phase

The proposed development includes the construction of some multi-storey residential blocks. This will contrast with the existing residential conservation area, which is comprised of two-storey terraced red-brick houses. The Protected Structures within the wider area are taller landmark buildings, the former Player Wills Factory, the Our Lady of Dolours Church, Dolphin's Barn, and the Church of St. Catherine and St. James, Donore Avenue.

Likely Significant Effect: The proposed new development may have an over-bearing visual impact on the character of the neighbouring residential conservation area.

Quality: Negative.

Significance: Significant.

Extent: Local.

Context: This effect will contrast with the established baseline conditions as the existing structures on the site are low-rise and are not visible from the South Circular Road.

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Worst-Case.

Likely Significant Effect: The proposed new development may have a visual impact on the views of/from the neighbouring Protected Structures, the former Player Wills Factory, Our Lady of Dolours Church and St. Catherine and St. James's Church.

Quality: Negative.

Significance: Significant.

Extent: Local.

Context: This effect will contrast with the established baseline conditions as the existing structures on the site are low-rise and are not visible from within the wider context.

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Worst-Case.

14.8.4 Cumulative

The wider design proposal includes the redevelopment of the adjoining lands at the former Player Wills Factory and the lands adjoining St. Teresa's Church, Donore Avenue. Further information on this is included alongside this application. Dublin City Council also propose to redevelop the neighbouring vacant site to the north of the former Bailey Gibson site.

The redevelopment of the subject site and the neighbouring sites with a number of high-rise blocks will alter the established low-rise residential character of the area. It is considered that

the re-use and redevelopment of the existing vacant former industrial site will have a positive impact on the character. The re-use of the neighbouring former Player Wills factory and the construction of new blocks on the vacant plot along the South Circular Road will enliven the street and have a positive impact on the character of this Z2 Residential Conservation Area. The blocks facing onto this streetscape are lower in height, so as to be in keeping with the low-rise residential character of this street. This will ensure that the character of the area is enhanced and improved by the proposed redevelopment.

It should be noted that none of the sites within the redevelopment area are currently in use. Development of the adjoining lands as a whole will contribute positively to the character of the wider area, through the creation of a new urban neighbourhood, with significant public realm improvements. This would be a positive impact on the surrounding conservation area and on the character of the wider area. This will ensure that the character of the area is enhanced and improved by the proposed redevelopment.

Within the wider area of Dolphin's Barn, Cork St and Newmarket Square there is a significant amount of development permitted and under construction. Other developments in the area which may contribute to the cumulative impact include the redevelopment of the site at 33-37 Dolphin's Barn Street (Reg. Ref: 3618/15), the redevelopment of the site at Brickfields Lane and Brown Street South (Reg. Ref: 3316/16 and 3197/18), the redevelopment of St. Teresa's Gardens (Reg. Ref: 2475/18), the SHD development at the Donnelly Centre, Cork Street (Reg. Ref: SHD0001/17), and the SHD development at Mill Street, Sweeney's Terrace and Clarence Mangan Road (Reg. Ref: SHD0003/19). This area of Dublin 8 is in transition bringing the large volume of underutilised sites into that exists in the area into high density development. As a whole Dublin 8 is being transformed and the redevelopment of the subject site, along with the adjoining permitted Player Wills site and the future redevelopment of the adjoining lands, is in keeping with this existing trend of redevelopment of brownfield sites.

Effect: In the absence of mitigation efforts, the proposed new development of this site and others in the wider area may have a visual impact on the architectural heritage character of the wider area, much of which is zoned as a residential conservation area.

Quality: Negative.

Significance: Moderate.

Extent: Local.

Context: This effect will contrast with the established baseline conditions as the existing character of the wider area is primarily low-rise red brick 19th century terraced and semi-detached houses. The proposed new developments largely comprise taller residential buildings in a modern style, which will contrast with the existing architectural heritage character. This is in keeping with existing trends in the area, where new developments are taller than the existing context, for example the Reuben Street Apartment block by FKL Architects (up to 12 storeys in height) and the proposed new Children's Hospital at St. James's/Rialto (up to 7 storeys in height).

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Cumulative.

14.8.5 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---------------------------------------|----------|--------------|--------|-------------|-----------|------------|
| Loss of historic features of interest | Negative | Significant | Local | Likely | Permanent | Worst-Case |

Table 14.1 Summary Of Demolition & Construction Phase Likely Significant Effects In The Absence Of Mitigation

The Table below summarises the identified likely significant effects during the Operational phase of the proposed development in the absence of mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|----------|--------------|--------|-------------|-----------|------------|
| The proposed new development may have an over-bearing visual impact on the character of the neighbouring residential conservation area. | Negative | Significant | Local | Likely | Permanent | Worst-Case |
| The proposed new development may have a visual impact on the views of/from the neighbouring Protected Structures. | Negative | Significant | Local | Likely | Permanent | Worst-Case |
| The proposed new development of this site and others in the wider area may have a visual impact on the architectural heritage character of the wider residential conservation area. | Negative | Moderate | Local | Likely | Permanent | Cumulative |

Table 14.2 Summary Of Operational Phase Likely Significant Effects In The Absence Of Mitigation.

14.9 Mitigation

14.9.1 Incorporated Design Mitigation

The design proposal for the site has been developed with consideration of the architectural heritage impact of the proposed works.

Visual impact assessments have informed the design of the footprint, massing and architecture of the proposed redevelopment, so as to minimise visual impact of the proposed new blocks on the neighbouring residential conservation area and any Protected Structures within the wider context of the site. For a full suite of CGI Photomontages, see the documentation prepared by ModelWorks accompanying this submission under separate cover and refer to the Landscape and Visual Impact chapter of this EIAR (Chapter 5).

Please note that two booklets of photomontages have been prepared by ModelWorks, one of which refers specifically to heritage views.

The visual impact of the proposed development has been assessed using these Photomontages. The basis for the Assessment of the Impact is as follows:

Visual impact may occur by means of intrusion and/or obstruction, where visual intrusion is an impact on a view without blocking it, and visual obstruction is an impact on a view involving the blocking thereof. The structure used for assessing the impact of a development is based on the Guidelines for Landscape and Visual Impact Assessment by the Landscape Institute and Institute of Environmental Management and Assessment, 2002 in the case of both impact on character and visual impact on the architectural heritage of the area. The following scale is used to assess effect.

The quality criteria used for the visual and landscape assessment are based on those given in the EPA 'Guidelines on the information to be contained in Environmental Impact Statements', 2022, (Table 3.4) as follows:

- **Positive:** A change which improves the quality of the environment.
- **Neutral:** No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
- **Negative/Adverse:** A change which reduces the quality of the environment.

The significance of potential visual and landscape impacts and effects are assessed according to EPA guidelines as follows:

- **Imperceptible Impact:** An effect capable of measurement but without significant consequences.
- **Not Significant:** An effect which causes noticeable changes in the character of the environment but without significant consequences.
- **Slight Impact:** An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
- **Moderate Impact:** An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
- **Significant Impact:** An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.
- **Very Significant:** An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment.
- **Profound Impact:** An effect which obliterates sensitive characteristics.

Potential impacts arising from a proposed development may also be considered in terms of duration/frequency as described in the EPA Guidelines:

- **Momentary:** Effects lasting from seconds to minutes.
- **Brief:** Effects lasting less than a day.
- **Temporary:** Effects lasting less than a year
- **Short-term:** Effects lasting one to seven years
- **Medium-term:** Effects lasting seven to fifteen years
- **Long-term:** Effects lasting fifteen to sixty years.
- **Permanent:** Effects lasting over sixty years.



Figure 14.14 Extract From The Location Map Showing The Viewpoints For The Views Assessing The Impact Of The Proposed Development On The Heritage Assets And Architectural Heritage Character Of The Wider Context.

The photomontage images prepared have been prepared to assess the impact of the development of the subject application site, and to assess the cumulative impact of neighbouring developments. In these images, green lines indicate development of the Bailey Gibson site, blue lines indicate the neighbouring development of the Player Wills site, and red lines indicate development of the DCC lands.

These photomontage images clearly illustrate the incorporated design mitigation undertaken so as to minimise the visual impact of the proposed development on the architectural heritage character of the wider setting. Incorporated design mitigation measures undertaken include the siting of the taller blocks towards the centre of the site, the stepping down of height of blocks towards the perimeter, and the use of a material palette which is in harmony with the surrounding residential conservation areas. This is particularly evident in the design of Block BG4, which is three-storeys in height and faced in red-brick. These measures ensure that the block, which faces onto the South Circular Road, is in keeping with the architectural character and scale of the neighbouring residential terraces and Z2 Residential Conservation areas.

The proposed development is not visible from many of the viewpoints, and therefore cannot be considered to have any visual impact on these viewpoints. A selection of viewpoints is assessed in detail below.

It should be noted in particular that the proposed development will have no visual impact on views of key landmark buildings within the city, and will not impose upon significant view corridors within the city, as outlined in the DCC Development Plan (see **Figure 14.24 Diagram From DCC Development Plan 2016-22 Showing 'Key Views And Prospects'**, below).

Residential Conservation Areas



Figure 14.15 Existing View Of Residential Conservation Area Along South Circular Road. Image Prepared By Modelworks.

The height and materiality of the proposed new development were designed with consideration of the existing residential conservation area along the South Circular Road. Taller blocks are set back from the road, with small blocks along the perimeter. This minimises the visual impact of the proposed development on the character of the adjoining residential conservation area and on views of/from the Protected Structures in the wider area.



Figure 14.16 CGI View Showing The Proposed Development And Proposed Cumulative Impact Along The South Circular Road. Image Prepared By Modelworks.

Views showing the proposed development as visible along the South Circular Road illustrate the positive impact that the development will have on the character of the residential conservation area. The proposed new blocks along the perimeter are low-rise and utilise red-brick, ensuring that they are in keeping with the existing architectural character. The blocks are of high quality architectural design and will be an improvement over the existing vacant site at the corner of the South Circular Road.

The CGI Photomontage view showing the impact of the full development of the adjoining lands illustrates the cumulative impact of the development on the character of the residential conservation area along the South Circular Road. It is considered due to the positioning of the taller backs at a significant distance from the street, the new high-rise blocks will not impinge upon the character of the streetscape and cannot be considered to have an over-bearing visual impact on the residential conservation area.

The proposed development cannot be considered to have a significant visual impact on the

architectural heritage character of this viewpoint.

- **Moderate Impact:** An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends.
- **Neutral:** A change which does not affect the quality of the environment.
- **Long-term:** Impact lasting fifteen to sixty years



Figure 14.17 Baseline And Proposed Cumulative Views Along South Circular Road, From Junction With Donore Avenue. Image Prepared By Modelworks.

The proposed development will have low visual impact on the character of the residential conservation area in the section of South Circular Road at the junction with Donore Avenue. The proposed new blocks in the redevelopment of the adjoining lands will have some visual impact on the streetscape, but it is considered that this impact will not be overbearing and will have minimal impact on the character of the streetscape.

The proposed development cannot be considered to have a significant visual impact on the architectural heritage character of this viewpoint.

- **Slight Impact:** An impact which causes noticeable changes in the character of the environment without affecting its sensitivities.
- **Neutral:** A change which does not affect the quality of the environment.
- **Long-term:** Impact lasting fifteen to sixty years



**Figure 14.18 Baseline And Proposed Cumulative Views Looking West From Rutledge Terrace.
Images Prepared By Modelworks.**

CGI Photomontage views from within the residential conservation area to the east of the adjoining redevelopment site at Rutledge Terrace illustrate that the proposed development of the subject site will have no visual impact on the character of this area. The cumulative visual impact of the development of the adjoining lands will have some visual impact on the character

of the residential conservation area, however it is not considered that the new buildings will have an overbearing impact. This is due to the distance between this Z2 Residential Conservation Area and the proposed new blocks, and to the level of screening of the new blocks which will be provided by the existing St. Teresa's Church.

The proposed development cannot be considered to have a significant visual impact on the architectural heritage character of this viewpoint.

- **Moderate Impact:** An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends.
- **Neutral:** A change which does not affect the quality of the environment.
- **Long-term:** Impact lasting fifteen to sixty years

Neighbouring Protected Structures

CGI Photomontages to assess the impact of the proposed development, and the cumulative impact of the development of the full redevelopment of the adjoining lands on all Protected Structures within the wider setting have been prepared by ModelWorks.



Figure 14.19 Baseline And Proposed Cumulative View Looking West Along St. Catherine's Avenue, With The Church Of St. Catherine And St. James (A Protected Structure) Visible To The Left. Images Prepared By Modelworks.

The Church of St. Catherine and St. James, at the corner of Donore Avenue and St. Catherine's Avenue, is a Protected Structure (RPS Reg. Ref. 2326) in the vicinity of the subject site. It is clear from the CGI Photomontages prepared by ModelWorks that the proposed redevelopment will have minimal visual impact on the setting and character of this Protected Structure. The cumulative visual impact of the development of the adjoining lands will have some visual impact on the Protected Structure from this viewpoint, however it is not considered

that the new buildings will have an overbearing impact.

The proposed development cannot be considered to have a significant visual impact on the architectural heritage character of this viewpoint.

- **Moderate Impact:** An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends.
- **Neutral:** A change which does not affect the quality of the environment.
- **Long-term:** Impact lasting fifteen to sixty years
-



Figure 14.20 Baseline And Proposed Cumulative View Of The Former Player Wills Factory, South Circular Road (A Protected Structure). Image Prepared By Modelworks.

The former Player Wills Factory, South Circular Road, is a Protected Structure (RPS Reg. Ref. 8796) in the vicinity of the subject site. It is clear from the CGI Photomontages prepared by ModelWorks that the proposed redevelopment of the subject site will have no visual impact on the setting and character of this Protected Structure. The subject site incorporates part of

the lands of the former Player Wills factory, namely the area to the north of the front block. Development in this area is considered to be acceptable, as detailed in the Architectural Heritage Impact Assessment of the former Player Wills Factory (Appendix 14.8). It should be noted that the description of the former Player Wills Factory in the Dublin City Council Record of Protected Structures refers specifically to the southern block only, which is outside of the boundaries of the subject development site:

"South section of complex comprising four blocks ranged around central lightwell and gates/railings to South Circular Road".

The subject development will not have any impact on the historic fabric of the Protected Structure.

The cumulative visual impact of the development of the adjoining lands will have some visual impact on the Protected Structure from this viewpoint, however it is not considered that the proposed development of the Player Wills site is considered to have a positive impact on the character and significance of the Protected Structure.

The proposed development cannot be considered to have a significant visual impact on the architectural heritage character of this viewpoint.

- **Moderate Impact:** An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends.
- **Positive:** A change which improves the quality of the environment.
- **Long-term:** Impact lasting fifteen to sixty years



Figure 14.21 Baseline And Proposed View Of The Church Of Our Lady Of Dolours, Dolphin's Barn (A Protected Structure). Image Prepared By Modelworks.

The Church of Our Lady of Dolours, Dolphin's Barn, is a Protected Structure (Reg. Ref. 1849) in the vicinity of the subject site. The proposed redevelopment of the subject site will have no visual impact on this view towards the Church. The proposed new buildings cannot be considered to impinge upon the setting of this Protected Structure. Similarly, the proposed new buildings within the adjoining redevelopment lands are considered to have minimal visual impact on the character and setting of the Church of Our Lady of Dolours, Dolphin's Barn.

The proposed development cannot be considered to have a significant visual impact on the architectural heritage character of this viewpoint.

- **Imperceptible Impact:** An impact capable of measurement but without noticeable consequences.
- **Neutral:** A change which does not affect the quality of the environment.
- **Long-term:** Impact lasting fifteen to sixty years



Figure 14.22 Baseline And Proposed Cumulative View Of Brú Chaoimhín, Cork Street (A Protected Structure). Image Prepared By Modelworks.

Brú Chaoimhín, at the junction of Cork Street and Donore Avenue, is a Protected Structure (Reg. Ref. 2052) within the vicinity of the subject site. The CGI photomontages clearly illustrate that the proposed works at the subject site will have no visual impact on the character or setting of this Protected Structure. Similarly, the proposed redevelopment of the adjoining redevelopment lands will not be visible from the front setting of this building.

The proposed development cannot be considered to have a significant visual impact on the architectural heritage character of this viewpoint.

- **Imperceptible Impact:** An impact capable of measurement but without noticeable consequences.
- **Neutral:** A change which does not affect the quality of the environment.
- **Long-term:** Impact lasting fifteen to sixty years



Figure 14.23 Baseline And Proposed Cumulative View Of Griffith College, South Circular Road (A Protected Structure). Image Prepared By Modelworks.

The Griffith College campus, South Circular Road, is a Protected Structure (Reg. Ref. 1846) in the wider setting of the subject site. It is clear that the proposed redevelopment of the subject site will have no visual impact on the character or setting of the college buildings. Similarly, the redevelopment of the adjoining redevelopment lands will have no visual impact on the character or setting of the Protected Structures. There will be no impact on the roofscape of the main College building.

The proposed development cannot be considered to have a significant visual impact on the architectural heritage character of this viewpoint.

- **Imperceptible Impact:** An impact capable of measurement but without noticeable consequences.
- **Neutral:** A change which does not affect the quality of the environment.
- **Long-term:** Impact lasting fifteen to sixty years



Figure 14.24 Baseline And Proposed Cumulative View Looking West Along South Circular Road, Past The Front Facade Of The Dublin Mosque (A Protected Structure). Image Prepared By Modelworks.

The Dublin Mosque, South Circular Road, is a Protected Structure (Reg. Ref. 1848) within the wider setting of the subject site. The CGI photomontages show that the proposed redevelopment will not be visible from this viewpoint. Similarly, the redevelopment of the adjoining redevelopment lands will not be visible from this viewpoint. The development will therefore have no impact on the character or setting of this Protected Structures.

The proposed development cannot be considered to have a significant visual impact on the architectural heritage character of this viewpoint.

- **Imperceptible Impact:** An impact capable of measurement but without noticeable consequences.
- **Neutral:** A change which does not affect the quality of the environment.
- **Long-term:** Impact lasting fifteen to sixty years

Key Views, Prospects and Landmark Buildings

The proposed development is not within the boundaries or sightlines of any of the Key Views and Prospects noted in Dublin City Council Development Plan 2016-22. CGI Photomontages showing the impact of the proposed works on landmark buildings within the City have been prepared by ModelWorks, and submitted as part of the accompanying documentation. These photomontages clearly illustrate that the proposed development will not be visible from any of the viewpoints, and therefore will not negatively impact views to/from significant landmark buildings within the city.

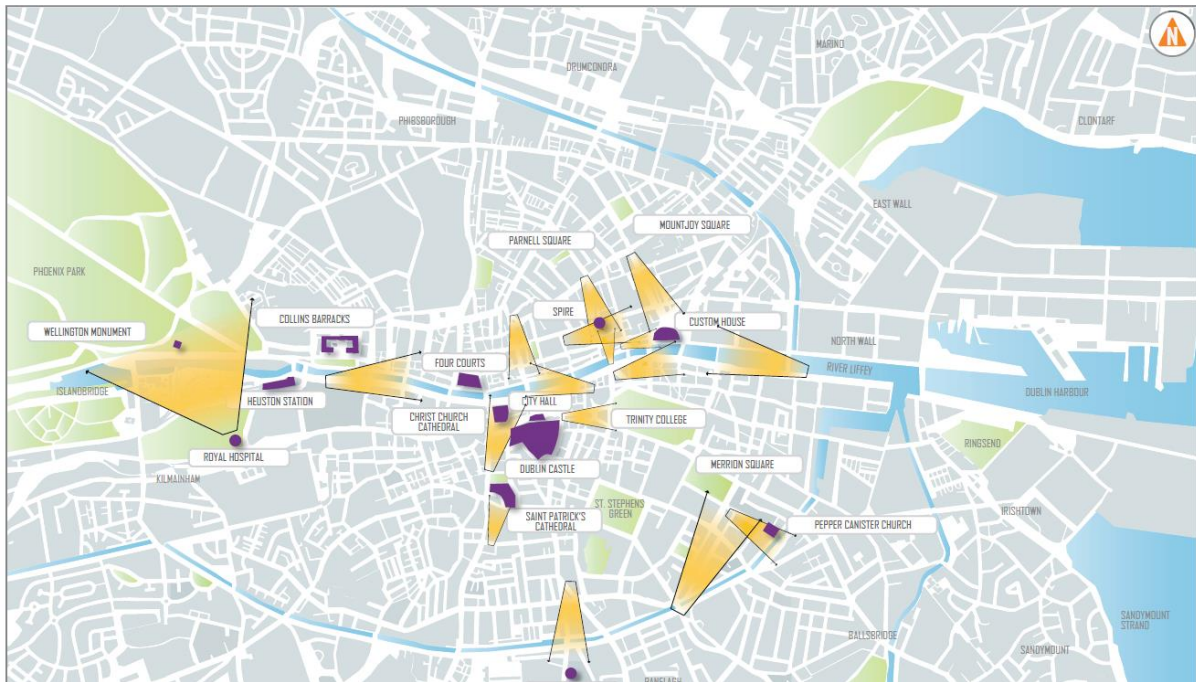


Figure 14.25 Diagram From DCC Development Plan 2016-22 Showing 'Key Views And Prospects (Indicative)', Chapter 4.

CGI Photomontages were prepared in order to assess the potential visual impact of the proposed redevelopment of the adjoining lands on the following structures:

- Christchurch Cathedral
- St. Patrick's Cathedral
- Dublin Castle
- Trinity College Dublin

The proposed development is not visible in views of any of these landmark buildings. Please see the documentation prepared by ModelWorks accompanying this submission

14.9.2 Construction Phase Mitigation

Former Bailey Gibson Site

Architectural features of interest and surviving historic fabric in Block D will be carefully taken down and salvaged prior to the demolition of the structure. The re-use of this fabric within the proposed scheme will be considered. This will ensure that significant features are not lost as part of the proposed development and that the loss of historic fabric is minimised.

The historic architectural features and fabric to be salvaged is as follows:

- Surviving historic brickwork at Block D.
- Surviving historic stonework, including cills, coping stones and the Gibbsian doorway, all at Block D.
- Surviving historic slates and ridge tiles at Block D.
- Surviving historic encaustic floor tiles at entrance hall to Block D.
- Surviving historic cast-iron rainwater goods to Block D.

Please see the outline method statement for the salvaging of the historic fabric appended below (Appendix 14.5).

A full photographic survey of the site has been carried out, and is appended below in the form of a photographic record (Appendices 14.3 and 14.4).

Former Player Wills Site

The subject site incorporates part of the lands of the former Player Wills factory, namely the area to the north of the front block. Development in this area is considered to be acceptable, as detailed in the Architectural Heritage Impact Assessment of the former Player Wills Factory¹ (Appendix 14.8). It should be noted that the description of the former Player Wills Factory in the Dublin City Council Record of Protected Structures refers specifically to the southern block only, which is outside of the boundaries of the subject development site:

"South section of complex comprising four blocks ranged around central lightwell and gates/railings to South Circular Road".

The subject development will not have any impact on the historic fabric of the Protected Structure.

14.9.3 Operational Phase Mitigation

There are no relevant mitigation works at Operational Phase as the likely significant effects arising from the Operational Phase have been considered as part of the incorporated design mitigations.

14.10 Monitoring

A qualified conservation architect will oversee the recording, disassembly, taking down, storage and salvaging of material from the site, so as to ensure minimal damage to the historic features.

¹ Please note: this assessment was carried out in 2019-2020, prior to the Dublin City Council's decision to add the front (southern) block of the former Player Wills Factory to the Record of Protected Structures.

14.11 Residual Impact Assessment

14.11.1 Demolition Phase

The design decision to demolish all of the existing blocks on the subject site was carefully considered following an architectural heritage appraisal of all buildings on site.

As detailed above, none of the blocks on the subject site are considered to be of little or no significance. Given the level of intervention to the historic structures and the modern provenance of Blocks A, B, C and E, it is not considered that the demolition of these blocks will have a detrimental impact on the character of the site. The structures are not visible from the adjoining streetscape of South Circular Road, and their demolition therefore cannot be considered to detract from the character of the wider area.

A full photographic record of the blocks to be demolished has been carried out. This is in accordance with the guidance in the Dublin City Council Development Plan 2016-22, Section 16.10.17: *'Retention and Re-Use of Older Buildings of Significance which are not Protected'*:

"The re-use of older buildings of significance is a central element in the conservation of the built heritage of the city and important to the achievement of sustainability. In assessing applications to demolish older buildings which are not protected, the planning authority will actively seek the retention and re-use of buildings/ structures of historic, architectural, cultural, artistic and/or local interest or buildings which make a positive contribution to the character and identity of streetscapes and the sustainable development of the city. Where the planning authority accepts the principle of demolition a detailed written and photographic inventory of the building shall be required for record purposes."

Fabric of architectural or historic interest from Block D will be salvaged for re-use within the site, in accordance with the accompanying Conservation Method Statement and Salvage Schedule. This will ensure minimal loss of historic fabric.

The salvaging of architectural features of interest will ensure minimal loss of historic features and fabric of interest. The demolition of the buildings cannot be considered to be a loss of built heritage.

Effect: Minimal loss of historic fabric.

Quality: Neutral.

Significance: Not significant.

Extent: Local.

Context: Not unique.

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Residual.

14.11.2 Construction Phase

There are no likely significant effects relating to cultural heritage and the built environment during construction phase.

14.11.3 Operational Phase

As noted in Section 14.8.1 *incorporated Design Mitigation*, the likely significant effects of the proposed redevelopment on the neighbouring residential conservation area and on views to/from the Protected Structures in the wider area have been taken into consideration throughout the design process, and visual impact assessments carried out to ensure minimal visual impact on the existing architectural heritage.

Effect: Visual impact of the proposed new development on the neighbouring residential conservation area.

Quality: Neutral.

Significance: Not significant.

Extent: Local.

Context: Not unique.

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Residual.

Effect: Visual impact of the proposed new development on the views of/from the neighbouring Protected Structures, Our Lady of Dolours Church and St. Catherine and St. James's Church.

Quality: Neutral.

Significance: Not significant.

Extent: Local.

Context: Not unique.

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Residual.

14.11.4 Cumulative

The accompanying booklet of 'Heritage Verified Photomontages' prepared by ModelWorks and submitted under separate cover clearly illustrates the visual impact which the subject development, the development of the wider redevelopment lands and other developments in the area will have on the existing architectural character of the area. While it is clear that there will be some cumulative visual impacts (considered in greater detail in the section '*Incorporated Design Mitigation*', above), it is considered that the impact will not be overbearing and that the existing architectural character of the residential conservation areas and Protected Structures in the vicinity will be maintained.

The cumulative impact of the developments is considered to have an overall positive impact, as it will bring the vacant former industrial site, and the adjoining vacant DCC and Player Wills lands back into use, thereby enhancing and enlivening the character of the area.

The proposed new developments will be in keeping with the existing trends of development in the area.

Effect: Visual impact of the proposed new high-rise developments of the redevelopment of the adjoining lands on the architectural heritage character of the wider area, much of which is zoned as a residential conservation area.

Quality: Neutral.

Significance: Moderate.

Extent: Local.

Context: Not unique.

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Cumulative.

Effect: Re-use and regeneration of existing vacant/under-used structures and sites within the area will re-enliven the area and enhance the architectural heritage character.

Quality: Positive.

Significance: Moderate.

Extent: Local.

Context: Not unique.

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Cumulative.

14.11.5 Summary

The Table below summarises the identified likely significant effects during the demolition and construction phase of the proposed development following the application of mitigation measures.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---------------------------------|---------|-----------------|--------|--------------------------|--|-----------|
| Minimal loss of historic fabric | Neutral | Not significant | Local | This is a likely effect. | This is a permanent and constant effect. | Residual. |

Table 14.3 Summary Of Demolition And Construction Phase Effects Post Mitigation.

The Table below summarises the identified likely significant effects during the operational phase of the proposed development post mitigation.

| Likely Significant Effect | Quality | Significance | Extent | Probability | Duration | Type |
|---|---------|-----------------|--------|--------------------------|--|----------|
| The visual impact of the new development on the character of the neighbouring residential conservation area. | Neutral | Not significant | Local | This is a likely effect. | This is a permanent and constant effect. | Residual |
| Visual impact of the proposed new high-rise development on the views of/from the neighbouring Protected Structures, Church of Our Lady of Dolours and St. Catherine and St. James's Church. | Neutral | Not significant | Local | This is a likely effect | This is a permanent and constant effect. | Residual |

Table 14.4 Summary Of Operational Phase Effects Post Mitigation.

14.12 Interactions

Chapter 15 of the EIAR deals with interactions.

14.13 Summary of Mitigation & Monitoring

The Table below summarises the Demolition & Construction Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|---|--|---|
| Minimal loss of surviving historic architectural features and fabric from the structures to be demolished on site | Significant architectural features will be carefully removed and salvaged during the demolition phase. | Works to be carried out in accordance with the Method Statement and supervised by a Conservation Architect. |

Table 14.5 Summary Of Demolition & Construction Phase Mitigation And Monitoring.

The Table below summarises the Operational Phase mitigation and monitoring measures.

| Likely Significant Effect | Mitigation | Monitoring |
|--|--|------------|
| The visual impact of the new high-rise development on the character of the neighbouring residential conservation area. | Visual impact assessments have been carried out at design stage to minimise visual impact on the architectural heritage character of the wider area. | N/A |
| Visual impact of the proposed new high-rise development on the views of/from the neighbouring Protected Structures, including Our Lady of Dolours Church and St. Catherine and St. James's Church. | Visual impact assessments have been carried out at design stage to minimise visual impact on the architectural heritage character of the wider area. | N/A |

Table 14.6 Summary Of Operational Phase Mitigation And Monitoring.

14.14 Conclusion

As detailed above, the much-altered, former industrial buildings on the subject site are of limited significance and are not considered to be of sufficient interest to warrant retention within the proposal. None of the buildings on the subject site are included in the Dublin City Council Record of Protected Structures, or the National Inventory of Architectural Heritage.

It is, however, considered that some of the surviving historic fabric in Block D is of interest. Fabric of architectural or historic interest from Block B will be salvaged, in accordance with the accompanying Conservation Method Statement and Salvage Schedule. This mitigating measure will ensure minimal loss of historic fabric.

The proposed new build elements within the site are located towards the centre of the site, thereby minimising their visual impact on the streetscape of South Circular Road, on neighbouring residential conservation areas, and on Protected Structures in the vicinity of the site.

In conclusion, it is considered that, with the incorporated design mitigation and other mitigating factors as discussed above, the impact of the proposed development on the architectural heritage character of the subject site and the surrounding context will be positive.

14.15 References and Sources

- *'Buildings of Ireland: Dublin'*. 2005. Casey, C.
- *'Free State Architecture: Modern Movement Architecture in Ireland, 1922-49'*. 2009. Larmour, P.
- *'Industrial and Commercial Architecture. In: Art and Architecture of Ireland Volume IV: Architecture 1600-2000'*. 2015. Rowley, E.
- *'Ireland and the New Architecture, 1900-1940'*. 1991. Rothery, S.
- *'More than Concrete Blocks: Vol. 1: 1900-1940.'* 2016. Rowley, E. (ed.).

14.16 Appendices, see Volume III

- 14.1 Historic Map Extracts
- 14.2 Key Plans
- 14.3 Photographic Record – External
- 14.4 Photographic Record – Internal
- 14.5 Outline Conservation Method Statement
- 14.6 Relevant Extracts from Architectural Heritage Protection Guidelines and DCC Development Plan
- 14.7 *Industrial Heritage Assessment of the Bailey Gibson Site*, prepared by IAC Archaeology, 2019
- 14.8 *Architectural Heritage Assessment Of The Former Player Wills Factory*, by David Slattery Conservation Architects, 2020
- 14.9 *Conservation Record Study of St. Teresa's Gardens*, by Kelly and Coogan Architects, 2013

CHAPTER 15

INTERACTIONS OF THE FOREGOING

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | |
|--|-------------|
| 15 Interactions of the Foregoing | 15-2 |
| 15.1 Introduction | 15-2 |
| 15.2 Population & Human Health..... | 15-2 |
| 15.3 Landscape & Visual | 15-2 |
| 15.4 Material Assets: Traffic & Transport | 15-3 |
| 15.5 Material Assets: Built Services..... | 15-3 |
| 15.6 Land & Soils | 15-4 |
| 15.7 Water & Hydrology | 15-4 |
| 15.8 Biodiversity (Flora & Fauna) | 15-5 |
| 15.9 Noise & Vibration | 15-5 |
| 15.10 Air Quality & Climate | 15-6 |
| 15.11 Archaeological & Cultural Heritage | 15-6 |
| 15.12 Built Heritage..... | 15-7 |
| 15.13 Conclusion | 15-9 |

Table of Tables

| | |
|--|------|
| Table 15.1 Interactions with Potential for Significant Impacts Before the Implementation of Mitigation Measures..... | 15-8 |
|--|------|

15 Interactions of the Foregoing

15.1 Introduction

The construction (including demolition), operational and cumulative impacts of the proposed development have been assessed within each chapter of the EIAR. In practice many impacts have slight or subtle interactions with other disciplines. This chapter highlights those interactions which are considered to potentially be of a significant nature. The potential impacts arising from the interactions were identified early in preparation of the EIAR / design process and therefore have been avoided through (i) design measures or (ii) the specific mitigation measures outlined in the EIAR chapters and summarised in Chapter 16.

This chapter was prepared by Kayleigh Sexton of McCutcheon Halley Planning Consultants with input from the lead author of each assessment.

15.2 Population & Human Health

During the construction phase, the following likely interactions may occur with population and human health and in the absence of mitigation may give rise to likely significant effects;

- **Material Assets – Traffic & Transport:** Traffic flow for construction vehicles in the locality has potential to impact upon road safety;
- **Noise & Vibration:** There is potential for impact on human health associated with noise during the construction phase; and,
- **Air Quality & Climate:** There is potential for impact on human health from dust associated with construction activities and the removal of asbestos containing materials during the demolition phase.

During the operational phase the potential interactions are;

- **Landscape:** The landscape plan will impact on the quality of the private and communal open spaces, which could impact on people's health and well-being; and,
- **Material Assets – Traffic & Transport:** Traffic flows within the site has the potential to create safety risks for pedestrians and cyclists.

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

15.3 Landscape & Visual

During the construction phase the potential impact is;

- **Population & Human Health:** The emergence of plant to facilitate the development resulting in short-term, slight to not-significant, neutral visual effects for the existing resident population and users of the surrounding road network.

During the operational phase the potential interactions are:

- **Population & Human Health:** The landscape plan will impact on the quality of the private and communal open spaces, which will impact on people's health and well-being;

- **Population & Human Health:** The demolition of dilapidated structures and the replacement with modern residential units, will have a beneficial impact on population and human health.
- **Biodiversity:** The landscaping has significant interaction with biodiversity in relation to the potential of the proposed planting maximising biodiversity benefits.
- **Cultural Heritage – Built Heritage:** This is dealt with under section 15.12 below.

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

15.4 Material Assets: Traffic & Transport

During the construction phase, the following aspects would interact with traffic and transport and in the absence of mitigation may give rise to likely significant effects;

- **Noise & Vibration:** Construction traffic, excavation works and the build out of the blocks may result in short-term localised noise and vibration effects; and,
- **Air Quality and Climate:** Emissions from construction traffic may impact local air quality and climate in terms of increased emissions of greenhouse gases from vehicles.
- **Population & Human Health:** Increased noise and dust from construction traffic may impact the amenities and health of existing residents in close proximity to the site.

During the operational phase the potential interactions are;

- **Population & Human Health:** Allowing people to work and live closer to services and amenities and high quality public transport modes would interact with patterns of traffic and transport locally.
- **Air Quality and Climate:** Emissions from traffic associated with future occupants may impact local air quality and climate in terms of increased emissions of greenhouse gases from vehicles.

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

15.5 Material Assets: Built Services

During the construction phase, the following aspects would interact with built services and in the absence of mitigation may give rise to likely significant effects;

- **Population & Human Health:** Connections to existing services may require a temporary interruption to existing services in the local area.
- **Water & Hydrology:** The construction of the proposed services (water supply, drainage and IT etc.) may affect the local hydrological and hydrogeological environment as there is a risk of suspended solids run off.

During the operational phase the potential interactions are;

- **Water & Hydrology:** There will be an increased demand on potable water supply.
- **Air Quality and Climate:** The built services have an interaction with climate in the availability and use of non-greenhouse gas reliant power and heat sources.

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

15.6 Land & Soils

During the construction phase, the following aspects would interact with land and soils and in the absence of mitigation may give rise to likely significant effects;

- **Air Quality & Climate:** Site preparatory works during the construction stage have the potential to cause impact on the air quality and climate, through the generation of dusts.
- **Water & Hydrology:** Site preparatory works (i.e. site clearance, re-profiling etc.) during the construction stage have the potential to impact on the hydrology and hydrogeology due to the risk of suspended solids becoming entrained in surface water runoff and accidental spills etc.
- **Biodiversity:** Site preparatory works have the potential to cause impact on the biodiversity of the site, through removal and disturbance of habitats and species.
- **Archaeological and Cultural Heritage:** Site clearance works may impact on sub-surface archaeology.

No potential operational interactions were identified.

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

15.7 Water & Hydrology

During the construction phase, the following aspects would interact with water and hydrology and in the absence of mitigation may give rise to likely significant effects;

- **Material Assets Built Services:** The construction of the proposed services (water supply, drainage and IT etc.) may affect the local hydrological and hydrogeological environment as there is a risk of suspended solids run off.
- **Land & Soils:** Site preparatory works (i.e. site clearance, re-profiling etc.) during the construction stage have the potential to impact on the hydrology and hydrogeology due to the risk of suspended solids becoming entrained in surface water runoff and accidental spills etc.

During the operational phase the potential interactions are;

- **Material Assets Built Services:** There will be an increased demand on potable water supply and on the municipal drainage system.

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

15.8 Biodiversity (Flora & Fauna)

During the construction phase, the following aspects would interact with biodiversity and in the absence of mitigation may give rise to likely significant effects;

- **Land & Soils:** Site preparatory works have the potential to cause impact on the biodiversity of the site, through removal and disturbance of habitats and species.
- **Water & Hydrology:** Any negative impact on water quality arising from accidental spillages etc. may impact biodiversity.

During the operational phase the potential interactions are;

- **Landscape & Visual:** The quality of the landscaping plan and appropriateness of the species may significantly impact biodiversity as there will be a minor reduction in vegetation cover for nesting birds as a result of the proposed development. However, the landscaping proposed (refer to Chapter 5 of this EIAR) will lead to an increase in habitat (feeding and nesting) for birds.

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

15.9 Noise & Vibration

During the construction phase, the following aspects would interact with noise and vibration and in the absence of mitigation may give rise to likely significant effects;

- **Population & Human Health:** There is potential for impact on human health associated with noise generated during the construction phase.
- **Material Assets - Traffic & Transport:** Construction traffic may give rise to localised noise and vibration effects.

No potential operational interactions were identified.

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

15.10 Air Quality & Climate

During the construction phase, the following aspects would interact with air quality and climate and in the absence of mitigation may give rise to likely significant effects;

- **Population & Human Health:** There is potential for impact on human health from dust associated with construction activities.
- **Material Assets - Traffic & Transport:** Emissions from construction traffic may impact local air quality and climate in terms of increased emissions of greenhouse gases from vehicles.

During the operational phase the potential interactions are;

- **Population & Human Health:** There is potential for impact on human health from a deterioration in air quality associated with emissions from vehicles.
- **Material Assets - Traffic & Transport:** Emissions from traffic associated with future occupants may impact local air quality and climate in terms of increased emissions of greenhouse gases from vehicles.
- **Material Assets - Built Services:** The built services have an interaction with climate in the availability and use of non-greenhouse gas reliant power and heat sources.

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

15.11 Archaeological & Cultural Heritage

During the construction phase, the following aspects would interact with cultural heritage and in the absence of mitigation may give rise to likely significant effects;

- **Land and Soils:** Site clearance works may impact on sub-surface archaeology.

During the operational phase the potential interactions are:

- **Landscape and Visual:** The proposed development may have an over-bearing visual impact on the character of the neighbouring residential conservation area and on the views of/from the neighbouring Protected Structures, including the Player Wills Factory building, Our Lady of Dolours Church and St. Catherine and St. James's Church.

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

15.12 Built Heritage

During the construction phase, the following aspects would interact with cultural heritage and in the absence of mitigation may give rise to likely significant effects;

- **Landscape and Visual:** The demolition of all existing structures on the site may result in the loss of historic features and fabric of significance.

During the operational phase the potential interactions are;

- **Landscape and Visual:** The proposed development may have an over-bearing visual impact on the character of the neighbouring residential conservation area and on the views of/from the neighbouring Protected Structures, including the Player Wills Factory building, Our Lady of Dolours Church and St. Catherine and St. James's Church.

The likely impacts of the proposed development are low / not significant and neutral, while in conjunction with the cumulative development of SDRA 12, these impacts increase but remain neutral.

| Interaction | Population & Human Health | | Landscape | | Material Assets-Traffic | | Material Assets-Built Services | | Land & Soils | | Water & Hydrology | | Biodiversity | | Noise & Vibration | | Air Quality & Climate | | Archaeological and Cultural Heritage | | Built Heritage | |
|--|---------------------------|-----|-----------|-----|-------------------------|-----|--------------------------------|-----|--------------|-----|-------------------|-----|--------------|-----|-------------------|-----|-----------------------|-----|--------------------------------------|-----|----------------|-----|
| | Con | Op. | Con. | Op. | Con. | Op. | Con. | Op. | Con. | Op. | Con. | Op. | Con. | Op. | Con. | Op. | Con. | Op. | Con. | Op. | Con. | Op. |
| Population & Human Health | | | x | ✓ | ✓ | ✓ | x | x | x | x | x | x | x | x | ✓ | x | ✓ | x | x | x | x | x |
| Landscape & Visual | ✓ | ✓ | | | x | x | x | x | x | x | x | x | x | ✓ | x | x | x | x | x | x | x | ✓ |
| Material Assets-Traffic & Transport | ✓ | ✓ | x | x | | | x | x | x | x | x | x | x | x | ✓ | x | ✓ | ✓ | x | x | x | x |
| Material Assets-Built Services | ✓ | x | x | x | x | x | | | x | x | ✓ | ✓ | x | x | x | x | x | ✓ | x | x | x | x |
| Land & Soils | x | x | x | x | x | x | x | x | | | ✓ | x | ✓ | x | x | x | ✓ | x | ✓ | x | x | x |
| Water & Hydrology | x | x | x | x | x | x | ✓ | ✓ | ✓ | x | | | x | x | x | x | x | x | x | x | x | x |
| Biodiversity (Flora & Fauna) | x | x | x | ✓ | x | x | x | x | ✓ | x | ✓ | x | | | x | x | x | x | x | x | x | x |
| Noise & Vibration | ✓ | x | x | x | ✓ | x | x | x | x | x | x | x | x | x | | | x | x | x | x | x | x |
| Air Quality & Climate | ✓ | ✓ | x | x | ✓ | ✓ | x | ✓ | x | x | x | x | x | x | x | x | | | x | x | x | x |
| Archaeological & Cultural Heritage | x | x | x | ✓ | x | x | x | x | ✓ | x | x | x | x | x | x | x | x | x | | | x | x |
| Built Heritage | x | x | ✓ | ✓ | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | | |
| Con. - Construction Phase Op. - Operational Phase ✓ - Potential Significant Interaction x - No Significant Interaction | | | | | | | | | | | | | | | | | | | | | | |

Table 15.1 Interactions with Potential for Significant Impacts Before the Implementation of Mitigation Measures

15.13 Conclusion

As outlined above, the proposed development has the potential to impact on various environmental aspects, with interactions and inter-relationships between these aspects as described above. The EIAR has considered these interactions and inter-relationships throughout the appraisal, firstly through the design and layout of the proposed developments, to avoid impacts where possible, and also in the definition of suitable mitigation measures to minimise the impacts.

CHAPTER 16

SUMMARY OF MITIGATION MEASURES

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



JUNE 2022

Table of Contents

| | | |
|-----------|--|-------------|
| 16 | Summary of Mitigation Measures..... | 16-2 |
| 16.1 | Introduction | 16-2 |

Table of Tables

| | | |
|------------|---|-------|
| Table 16.1 | Incorporated Design Mitigation Measures | 16-3 |
| Table 16.2 | Demolition & Construction Phase Mitigation Measures | 16-6 |
| Table 16.3 | Operational Phase Mitigation Measures | 16-11 |

16 Summary of Mitigation Measures

16.1 Introduction

A key objective of the Environmental Impact Assessment process is to identify likely significant environmental impacts at the pre-consent stage and where necessary to propose measures to mitigate or ameliorate such impacts. This chapter of the EIAR summarises the proposed mitigation measures set out in Chapters 4 to 14.

All the mitigation measures proposed within the individual specialists' assessments will be incorporated into the final Construction and Environmental Management Plan (CEMP) prior to works commencing on-site.

Table 16.1 Incorporated Design Mitigation Measures

| Aspect | Table 16.1 Incorporated Design Mitigation |
|---|--|
| Population & Human Health (Ch. 4) | <ul style="list-style-type: none"> • Appointment of a project supervisor for the design process (PSDP) to oversee and coordinate the design work including: <ul style="list-style-type: none"> - identification of hazards; - elimination and / or reduction of hazards where possible; - communication of necessary control measures and remaining risks to PSCS for addressal in safety and health plans; and - ensure that the work of designers is coordinated to ensure safety. • The proposed development complies with the Building Regulations which provide for the safety and welfare of people in and about buildings |
| Landscape & Visual (Ch. 5) | None Proposed |
| Material Assets: Traffic & Transport (Ch. 6) | <ul style="list-style-type: none"> • Parking ratio of 0.26 car parking spaces and 1 bicycle space per bedroom has been applied to reduce additional vehicular traffic and encourage bicycle use and / or ownership. • Inclusion of several on-site facilities which shall reduce the need for external travel. • Optimal design of public realm and road network to limit the impact of traffic on the local road network and prioritise walking and cycling on internal road networks. • Revised access strategy in the Mobility Management Plan which is anticipated to positively affect the local area. |
| Material Assets: Built Services (Ch. 7) | <ul style="list-style-type: none"> • The design has been prepared based on relevant codes of practice, design guidance and in consultation with relevant local and statutory authorities to ensure best practice design, considering the effect on local and wider network for water supply, foul and surface water drainage, gas supply, electrical network, and telecommunication network. • The development will be constructed to the Part L Near Zero Energy Building (NZEB) standard which will result in an improved thermal performance along with the incorporation of renewable technology, the demand on infrastructure (gas and electricity) will thus be reduced. |
| Land & Soils (Ch. 8) | <ul style="list-style-type: none"> • The proposed design involves the removal of soils and small amounts of bedrock in the eastern portion of the site. The remainder of the development will be constructed at or close to ground level, which minimises the impacts on the soil and geology. |
| Water & Hydrology (Ch. 9) | <ul style="list-style-type: none"> • The proposed design involves the removal of soils and bedrock which will require a small amount of dewatering on the east of the site where the basements are being developed and for attenuation basins beneath each of the building blocks. The remainder of the site will be constructed at or close to ground level without the need for dewatering of the subsoil or bedrock which minimises the potential impact on groundwater. There are no watercourses on or adjacent to the site. There will therefore be no direct run-off to surface water courses during the demolition and construction phase. |

| Aspect | Table 16.1 Incorporated Design Mitigation |
|---|---|
| Biodiversity (Flora & Fauna) (Ch. 10) | <ul style="list-style-type: none"> The proposed development incorporates a comprehensive landscape design¹, with biodiversity-focussed planting (refer to Chapter 5 and the Landscape Design Statement that accompanies the application). The planting proposed in the Landscape Design Statement will greatly enhance the biodiversity resource on the proposed development site by creating new, pollinator-friendly habitats, both in the proposed parks and within the development in general. |
| Noise & Vibration (Ch. 11) | <ul style="list-style-type: none"> None Proposed |
| Air Quality & Climate (Ch. 12) | <ul style="list-style-type: none"> The Energy and Sustainability Report prepared O'Connor Sutton Cronin (OCSC) submitted under separate cover with this planning application details a number of design measures that have been considered in order to reduce the impact on climate wherever possible. The Mobility Management Plan prepared by Systra details integrated initiatives to promote and encourage sustainable travel methods by residents thereby reducing travel related impacts to climate. Such measures included in the proposed development to reduce the impact to climate are: <ul style="list-style-type: none"> - Achieving as high as possible BER rating (A2/A3); - The development will be in compliance with the requirements of the Near Zero Energy Building (NZEB) Standards; - A renewable energy rating (RER) of 20% will be achieved to comply with Part L (2021) of the NZEB regulations; - Minimising heat loss where possible; - Use of natural ventilation where possible; - Use of heat pumps; - Use of PV solar panels; - Use of energy efficient lighting and maximising natural daylight where possible; - Provision of electric car charging points; - Provision of increased bicycle parking; - Reduction in maximum DCC car parking spaces to promote a modal shift in transport uses; - Accessible public transport links to reduce dependence on private cars. In addition, WELL and BREEAM certification is being sought in relation to the proposed development with every effort made to achieve a BREEAM Excellent certification. BREEAM is a sustainability assessment for buildings which promotes climate resilience and more sustainable environments. Adequate attenuation and drainage have been incorporated into the design of the development to avoid potential flooding impacts as a result of increased rainfall events in future years. |
| Archaeological & Cultural Heritage (Ch. 13) | <ul style="list-style-type: none"> None Proposed. |

¹ By Niall Montgomery & Partners (NMP)

| Aspect | Table 16.1 Incorporated Design Mitigation |
|--------------------------------|---|
| Built Heritage (Ch. 14) | <ul style="list-style-type: none"> Discussions about the proposal were held with the Dublin City Council conservation office at an early design development stage. Visual impact assessments have informed the design of the footprint, massing and architecture of the proposed redevelopment, so as to minimise visual impact of the proposed new blocks on the neighbouring residential conservation area and any Protected Structures within the wider context of the site. |

Table 16.2 Demolition & Construction Phase Mitigation Measures

| Aspect | Table 16.2 Demolition & Construction Mitigation Measures |
|---|--|
| Population & Human Health (Ch. 4) | <ul style="list-style-type: none"> • A Construction and Environmental Management Plan (CEMP) and Construction & Demolition & Waste Management Plan (CDWMP) have been prepared and submitted with this application under separate cover. To be further updated and agreed with Dublin City Council prior to commencement of construction. • Construction personnel to implement requirements of CEMP and CDWMP. • Appointment of project supervisors for the construction phase (PSCS) and the preparation of a Preliminary Health and Safety Plan to address health and safety issues from the design stage through to the construction phases of the development. |
| Landscape & Visual (Ch. 5) | <ul style="list-style-type: none"> • The demolition and construction phases of development will be completed expediently through careful construction planning and management prior to commencing on site and throughout the construction phase • The contractors' compound, including site offices and parking, will be located within the site and away from nearby houses. • Perimeter hoardings will be installed along the site boundaries. • A construction materials and waste storage area will be located within the proposed development site, screened from public view by intervening buildings as well as perimeter hoardings. • The tower cranes will be the tallest and most visible elements, but are temporary structures for the duration of construction only. These will be 'parked' in an orderly manner when not in use and removed from the site at the earliest opportunity. • Plant machinery, when not in use, these will be parked in compound areas and/or away from the site perimeter in order to minimise visibility outside of working hours. • A vehicle management strategy will be implemented, to minimise visual impacts and other impacts on neighbouring streets and residents, including the defined haul routes and times of operation; consolidation of vehicle movements for deliveries to site or removal of materials from site; and staggering of vehicle movements to minimise or avoid queuing on neighbouring streets. |
| Material Assets: Traffic & Transport (Ch. 6) | <ul style="list-style-type: none"> • A preliminary Construction Traffic Management Plan (CTMP) and Construction Environmental Management Plan (CEMP) including a plan for scheduling and management of construction traffic have been submitted under separate cover. The implementation and monitoring of the CTMP will be managed by the appointed Construction manager. • The CTMP measures include the following: <ul style="list-style-type: none"> - Construction Staff encouraged to arrive before 7:30am and leave after 18:00pm and outside of school drop off hours; - Limited parking on site for staff with majority required to arrive by sustainable means; - Parking provided to prevent overspill onto surrounding network; - Appointment of Construction Manager/Community Liaison Officer; |

| Aspect | Table 16.2 Demolition & Construction Mitigation Measures |
|--|---|
| | <ul style="list-style-type: none"> - Construction Travel Plan to be developed by appointed Contractor; - Bike parking, storage and drying areas provided on site; - Agreed haulage routes along designated HGV routes; - Wheel wash facilities; - Road cleaning and sweeping along section of South Circular Road adjacent to the site; - Construction signage at all entrances and exits; - HGVs carrying soil to be fully sheeted; - HGVs inspected for dirt and mud before exiting onto public road network; - Control and timing of deliveries where possible; - Entrances and exits manned by flag men during deliveries. |
| Material Assets: Built Services (Ch. 7) | <ul style="list-style-type: none"> • A Construction and Environmental Management Plan (CEMP) have been submitted under separate cover and includes a range of integrated control measures and associated management activities to mitigate the effect of the proposed development on-site construction activities. • The appropriate construction methodology as outlined in Irish Water (IW) Code of Practice will be employed. All watermain connection works shall be carried out by the IW accredited regional contractor and be tested in accordance with Irish Water Code of Practice for Water Infrastructure. • Pressure testing prior to connection to public network to prevent the ingress of ground water. • Protection in place of all underground services for which diversions are not required. • Any leakage from foul sewers will be cordoned off and contaminated effluent and soil collected and disposed of by a licenced contractor. • All new infrastructure is to be installed and constructed to the relevant codes of practice and guidelines. • Implementation of on-site treatment system to meet discharge licence requirements. • Connections to service providers carried out to the approval of the Local Authority or relevant provider. • If excavation is required in public areas, all utilities and public services are to be identified and checked. |
| Land & Soils (Ch. 8) | <ul style="list-style-type: none"> • Best practice measures will be applied in the demolition and construction stage to minimise impacts on soils and geology. • Removal of all potentially contaminating liquids in the existing site buildings and their disposal in accordance with the requirements identified in the CEMP. • Regular maintenance of construction and demolition plant, and storage of all fuel oils for plant in bunded storage areas. • Storage of all construction materials with potential to impact on soils in secure bunded areas within the site compound. Drip trays provided for drum storage. All waste containers shall be stored within a secondary containment system. • Storage of waste generated on site (excluding Made Grounds and soils) shall be stored in designated waste storage areas in covered skips in accordance with the CEMP, which is included under separate cover. |

| Aspect | Table 16.2 Demolition & Construction Mitigation Measures |
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| | <ul style="list-style-type: none"> Storage of hazardous waste such as waste oil, chemicals and preservatives shall be stored in seal containers and kept in designated waste storage areas separate from other waste materials while awaiting collection and treatment or disposal at a licensed facility in accordance with the CEMP, which is included under separate cover. Excavation and the stripping soil/made ground undertaken only when necessary to prevent sediment run off and leaching of nutrients from soils into drains. Excavated soils shall be temporarily stockpiled to minimise effects of weathering. Careful management when re-working material to minimise dust generation, ground water infiltration and generation of runoff. In relation to the preparation, pouring and management of concrete and cementitious materials: <ul style="list-style-type: none"> All batching and mixing activities will be located in contained areas; Pouring of cementitious materials will be carried out where possible in the dry; Pumped concrete will be monitored to ensure no accidental discharge; Excess concrete will not be discharged to ground; There will be no hosing into the ground surface of spills of concrete, cement, grout or similar materials; Washout from mixing plant or concrete trucks will not be permitted on the site. |
| Water & Hydrology (Ch. 9) | <ul style="list-style-type: none"> Standard best practice measures including CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors, (C532) will be applied to minimise potential impacts on surface water hydrology and groundwater. Removal of all potentially contaminating liquids from the existing buildings (including oil storage tanks, boilers, chemicals and cleaning agents) from the site and disposal in accordance with CEMP requirements, which is included under separate cover. All construction and demolition plant will be regularly checked to ensure there are no leaks or drips of oils to ground. Plant maintenance will not be undertaken on site. All fuel oils for plant will be stored in bunded storage areas in the site compound. All construction materials with the potential to impact on water will be stored in secure bunded areas in the construction compound or at designated storage areas on the construction site footprint. Drip trays will be provided for drum storage. All waste containers (including all ancillary equipment such as vent pipes and refuelling hoses) will be stored within a secondary containment system. Excavation and the stripping of soils will not be undertaken until absolutely necessary to prevent sediment run off and leaching of nutrients from soils into drains or to groundwater. All potentially contaminating liquids in the existing site buildings, including oil storage tanks, boilers, chemicals and cleaning agents will be removed from the site and disposed in accordance with the requirements of the |

| Aspect | Table 16.2 Demolition & Construction Mitigation Measures |
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| | <p>Construction Environmental Management Plan submitted under separate cover.</p> <ul style="list-style-type: none"> Excavated soils will be stockpiled to minimise the effects of weathering. Care will be taken in re-working this material to minimise dust generation, groundwater infiltration and generation of runoff. The following mitigation measures will be used to control the interaction of wash down water from concrete and cementitious material with water <ul style="list-style-type: none"> All batching and mixing activities will be located in contained areas; Pouring of cementitious materials will be carried out where possible in dry weather conditions; Pumped concrete will be monitored to ensure no accidental discharge; Excess concrete will not be discharged to ground; There will be no hosing into the ground surface of spills of concrete, cement, grout or similar materials; Washout from mixing plant or concrete trucks will not be permitted on the site. Groundwater removed from excavations will be treated on site prior to discharge to the IW storm sewer, and the appropriate licence will be obtained prior to commencement. |
| Biodiversity (Flora & Fauna) (Ch. 10) | <ul style="list-style-type: none"> No designated conservation areas will be impacted in any way by the proposed development and no mitigation measures are required in this regard. There will be no significant habitat loss as a result of the proposed development – there will be no loss of Key Ecological Receptors, regardless, a significant amount of new planting has been incorporated into the landscape design. Where practicable, the clearance of scrub area and any other vegetation potentially suitable for use by nesting birds will be carried out outside the bird nesting season. Should the construction programme require clearance within the nesting period the appropriate nesting surveys will be undertaken by suitably qualified ecologists. There are no roosting bats on the site, however, six bat boxes and three triple cavity swift boxes will be installed under the supervision of a suitably experienced ecologist. There will be no surface water related impacts on biodiversity as a result of the proposed development |
| Noise & Vibration (Ch. 11) | <ul style="list-style-type: none"> A Construction Noise and Vibration Management Plan, such as the example document included with this EIAR in Appendix 11.1, will be prepared by the appointed contractor in advance of construction. Selection of quiet plant. Siting of noisy plant as far away from sensitive properties as permitted by site constraints and the use of vibration isolated support structures where necessary, to comply with the EC Directive on Outdoor Noise Emissions 2000/14/EC. Screening. Liaison between the contractor/developer and residents. |

| Aspect | Table 16.2 Demolition & Construction Mitigation Measures |
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| | <ul style="list-style-type: none"> Limiting the hours during which site activities likely to create high levels of noise are permitted and monitoring levels of noise during critical periods and at sensitive locations; Appointing a site representative responsible for matters relating to noise and vibration. |
| Air Quality & Climate (Ch. 12) | <ul style="list-style-type: none"> The pro-active control of fugitive dust to ensure the prevention of significant emissions. A dust management plan will be implemented on site, included in Appendix 12.2 of Volume III of this EIAR. These measures will be incorporated into the overall Construction Environmental Management Plan (CEMP) for the site. The specification and circulation of a dust management plan and development means by which performance of the plan can be monitored and assessed. Undertaking of remedial measures prior to demolition works as specified in the Asbestos Survey Report, to be carried out by a suitably qualified contractor. Prevention of on-site or delivery vehicles from leaving engines idling and minimising waste of materials due to poor timing or over ordering on site. |
| Archaeological & Cultural Heritage (Ch. 13) | <ul style="list-style-type: none"> All ground disturbances associated with the proposed development, will be monitored by a suitably qualified archaeologist under licence from the National Monuments Service of the Department of Housing, Local Government and Heritage. Full provision will be made by the applicant, through the archaeological licencing system, for the resolution of any archaeological features/deposits that may be discovered during the course of works. Should any archaeological remains be identified, further mitigation, such as the preservation by record (archaeological excavation) may be required. Any further mitigation will require consultation with the Dublin City Archaeologist and National Monuments Service (DoHLGH). |
| Built Heritage (Ch. 14) | <ul style="list-style-type: none"> Significant architectural features will be carefully removed and salvaged during the demolition phase from block D. A method statement for the salvaging of the historic fabric included in Volume III of the EIAR (Appendix 14.5). Fabric of architectural or historic interest from Block D will be salvaged A full photographic and drawn record has been made. See Volume III of the EIAR (Appendix 14.3 and 14.4) Visual impact assessments have been carried out at design stage to minimise visual impact on the character of the building and of the wider area. |

Table 16.3 Operational Phase Mitigation Measures

| Aspect | Table 16.3 Operational Phase Mitigation Measures |
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| Population & Human Health (Ch. 4) | <ul style="list-style-type: none"> • None proposed. |
| Landscape & Visual (Ch. 5) | <ul style="list-style-type: none"> • The design evolution of the proposed development has incorporated a series of measures to minimise or avoid adverse landscape and visual impacts while delivering a scale and quality of development envisaged by SDRA 12. The design approach also seeks to satisfy the guiding principles of good urban design contained in section 3.2 of the Urban Development and Building Height Guidelines, and also the development standards contained in Chapter 16 of the Development Plan. • The design of the proposed development has also evolved from the previously permitted scheme for the Bailey Gibson site under ABP Ref. TA29S.307221, particularly with regard to the scale and height of the proposed buildings. Key changes are described below, while a more detailed account of the changes can be found in Section 4.8 of the Architectural Design Statement that accompanies the planning application. • A sensitive approach has been taken to scale, layout and height of buildings, incorporating transitions to the surrounding low-rise neighbourhoods • A range of built form is used within the site in response to existing/neighbouring buildings and opportunities elsewhere for a bolder approach. • The layout adopts a street hierarchy, some with slow speeds, shared surfaces and pedestrian priority or home zones. • Regular maintenance of the external building fabric and public/private open spaces will be undertaken to maintain the highest standards of building presentation and landscaping |
| Material Assets: Traffic & Transport (Ch. 6) | <ul style="list-style-type: none"> • Implementation of a Mobility Management Plan (MMP) submitted under separate cover which is intended to reduce the need for car travel. |
| Material Assets: Built Services (Ch. 7) | <ul style="list-style-type: none"> • The relevant audits will be carried out by IW prior to completion of the defect liability period to ensure compliance with the relevant Codes of Practice and standard details prior to taking in charge. • Integration of Sustainable Drainage Systems (SuDs) to improve on the existing public drainage system. All SuDs shall be maintained either by the Applicant, or where taken in charge, the Local Authority to maintain their optimal functioning. • Gas demands on the existing gas network will be low due to NZEB energy efficient design, thermal performance of the buildings and use of renewable technology. The apartment system is proposed to be exhaust air heat pump which does not require gas. The gas demand will be in the form of the ground floor retail units, and it is predicted that this gas demand will be small. • Design and construction of required telecommunication services infrastructure and electrical services in accordance with the relevant guidelines. |

| Aspect | Table 16.3 Operational Phase Mitigation Measures |
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| Land & Soils (Ch. 8) | <ul style="list-style-type: none"> Sustainable Drainage Systems (SuDS) measures are incorporated into the developed surface water management system. The SUDS Strategy Plan was prepared by Barret Mahony Consulting Engineers (BMCE) and the details are shown on BMCE Drawings No C-1021 and C-1022. These include both intensive and extensive green roofs, blue roofs, interconnected tree pits, attenuation storage beneath each of the building blocks and oil interceptors in basement parking areas, to prevent the discharge of oily run-off to ground or surface water courses. Much of the site will be hard paved with buildings, walkways and parking areas which will minimise the risk of oil spills or leaks from cars or trucks discharging to ground beneath the site. Soft landscaping will incorporate clean top soils and planting which will enhance the quality of the soil environment. The details are presented in the Landscape suite of drawings that accompany this application under separate cover. The Player Park to the east of the Bailey Gibson site and the development of the Sports pitches in the northeast of the site will also enhance the quality of the operational site. |
| Water & Hydrology (Ch. 9) | <ul style="list-style-type: none"> Sustainable Drainage Systems (SuDS) measures are incorporated into the developed surface water management system. These include attenuation for stormwater beneath each building block, both intensive and extensive green roofs, blue roofs, interconnected tree pits, attenuation storage and oil interceptors in basement parking areas to prevent the discharge of oily run-off to ground or surface water courses. These measures are outlined in detail in the BMCE Drainage Design report included under separate cover with this application. The bulk of the site will be hard paved with buildings walkways and parking areas which will minimise the risk of spills or leaks from cars or trucks discharging to groundwater beneath the site. |
| Biodiversity (Flora & Fauna) (Ch. 10) | <ul style="list-style-type: none"> There will be no impacts related to foul water as a result of the proposed development and therefore no mitigation measures are required. There will be no impacts related to surface water as a result of the proposed development. |
| Noise & Vibration (Ch. 11) | <ul style="list-style-type: none"> In order to ensure that acceptable operational noise levels at the nearest noise sensitive locations are achieved, the following mitigation measures will be implemented where appropriate during the detailed design stage. In addition to selecting plant with suitable noise levels, the following best practice measures are recommended for all plant items in order to minimise potential noise disturbance for adjacent buildings: <ul style="list-style-type: none"> where ventilation is required for plant rooms, consideration will be given to acoustic louvers or attenuated acoustic vents, where required to reduce noise breakout; ventilation plant serving plant rooms and car parks will be fitted with effective acoustic attenuators to reduce noise emissions to the external environment; |

| Aspect | Table 16.3 Operational Phase Mitigation Measures |
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| | <ul style="list-style-type: none"> - the use of perimeter plant screens will be used, where required, for roof top plant areas to screen noise sources; - the use of attenuators or silencers will be installed on external air handling plant; - all mechanical plant items e.g. fans, pumps etc. shall be regularly maintained to ensure that excessive noise generated by any worn or rattling components is minimised; - any new or replacement mechanical plant items, including plant located inside new or existing buildings, shall be designed so that all noise emissions from site do not exceed the noise limits outlined in this document, and; - Installed plant will have no tonal or impulsive characteristics when in operation. <ul style="list-style-type: none"> • Deliveries be restricted to daytime periods to avoid disturbance to noise-sensitive locations. • Noise mitigation measures with respect to the outward impact of traffic from the development are not deemed necessary. |
| Air Quality & Climate (Ch. 12) | <ul style="list-style-type: none"> • None proposed. |
| Archaeological & Cultural Heritage (Ch. 13) | <ul style="list-style-type: none"> • None proposed. |
| Built Heritage (Ch. 14) | <ul style="list-style-type: none"> • There are no relevant mitigation works at Operational Phase as the likely significant effects arising from the Operational Phase have been considered as part of the incorporated design mitigations. |