
Proposed Strategic Housing Development on the
Former Player Wills site
and undeveloped land owned by Dublin City Council
at South Circular Road, Dublin 8.

VOLUME II
ENVIRONMENTAL IMPACT ASSESSMENT REPORT



Document Control Sheet

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CHAPTER 1 INTRODUCTION

VOLUME II ENVIRONMENTAL IMPACT ASSESSMENT REPORT



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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 an application for permission for a mixed-use development that includes part Build to Rent and part Shared Accommodation Strategic Housing Development (SHD) at the former ‘Player Wills’ site on a site of 3.06 hectares including the former ‘Player Wills’ site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former ‘Player Wills’ site incorporates Eircode’s: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine’s Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former ‘Player Wills’ site to the west and the former ‘Bailey Gibson’ site to the east. A **Letter of Consent** is included with this application.

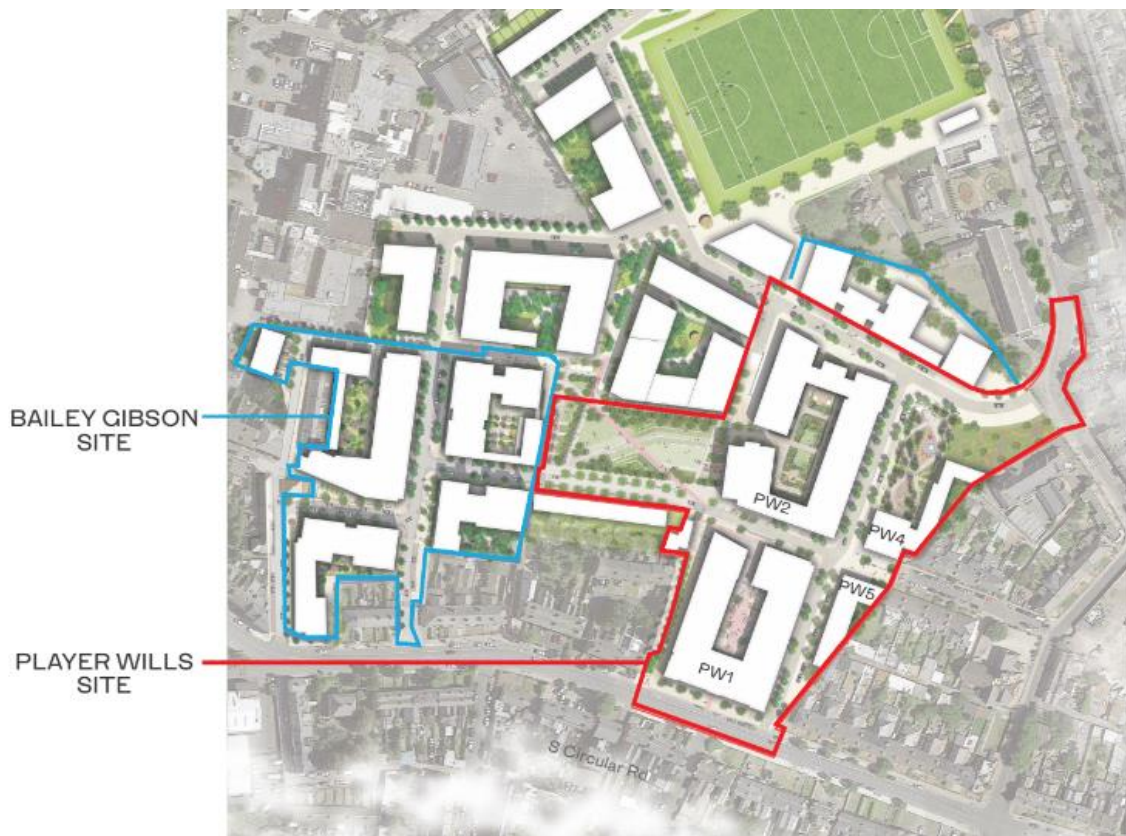


FIGURE 1-1 PROPOSED DEVELOPMENT SITE OUTLINED IN RED

This EIAR identifies, describes and assesses the likely significant effects of the proposed development in accordance with the EIA Directive 2011/92/EU as amended by Directive 2014/52/EU.

A comprehensive description of the proposed development is set out in **Chapter 2**. This description sets the basis against which specialist assessments presented in this EIAR were undertaken.

Briefly, the former Player Wills factory site is vacant and brownfield. To make way for the proposed development it is necessary to demolish some of the existing buildings on the site with the exception of the original fabric of the former Player Wills Factory Building which will be incorporated into the overall development. The extent of the demolition works is illustrated on **Figure 1.3**.

It is proposed to deliver 732 new homes across 4 no. buildings (PW1 (former factory building), PW2, PW4 and PW5);

- i. PW1, will incorporate both shared living accommodation (240 no. single occupancy rooms) and 47 no. BtR apartments
- ii. PW2 will encompass 415 no. BtR apartments
- iii. PW4, will encompass 9 no. BtR apartments
- iv. PW5, will encompass 21 no. BtR apartments

The geographical distribution of the proposed buildings across the site is illustrated on **Figure 1.2**.

In accordance with Specific Planning Policy Requirement No. 7 of the Sustainable Urban Housing: Design Standards for New Apartments (March, 2018), tenant services, amenities and facilities are proposed.

Having regard to the industrial architectural merit of the former factory, the ground floor of the Player Wills building will act as a community hub incorporating a range of uses including arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor space (Class 3 Use).

PW2 also includes commercial floor space at ground floor incorporating 2 no. retail units (Class 1 Use) and a café/bar/restaurant.

The proposed development will be set within a comprehensive landscape that will include 2 no. public parks; 'Players Park' to the north west of the former factory building connecting the Bailey Gibson site and the Player Wills site and 'St. Catherine's Park' adjacent to the existing National School. There will also be a temporary public park 1,158 sq.m to the northeast of the site set aside for a future school extension. The existing atrium in block PW1 (former factory building) will be retained and enhanced and a public plaza is proposed between blocks PW and PW4.

Communal open space for use by the residents is provided in the form of courtyards and roof terraces.

A double basement is proposed under PW2 and will accommodate the majority of carparking together with bicycle parking, waste storage and plant.

A childcare facility is proposed in PW4 and will accommodate 49 no. children.



FIGURE 1-2 PROPOSED SITE LAYOUT

1.1 Proposed Development Site

The proposed development site is located to the north of South Circular Road (SCR) and is defined to the east by predominately 2-storey residential dwellings on Donore Avenue and St. Catherine's Avenue. The western site boundary adjoins the former Bailey Gibson site that recently received permission from An Bord Pleanála (Ref. 307221-20) for a SHD of 416 new homes.

The Coombe Hospital is situated north-west of the subject site, while St. Teresa's Gardens housing estate is located to the north immediately adjoining the DCC lands. St Catherine's National School and St Catherine's Church are located to the east of the site.

Vehicular access is gained principally by two entrances located on South Circular Road adjacent to no. 274 and 290 South Circular Road. The site has a secondary frontage to St. Catherine's Avenue/Donore Avenue with access points along this road.

There are 9 no. vacant former industrial buildings on the proposed development site as illustrated below. The existing structures are not included on the Dublin City Council Record of Protected Structures. The former factory building is included in the National Inventory of Architectural Heritage. The area surrounding the factory is predominantly hardstanding.

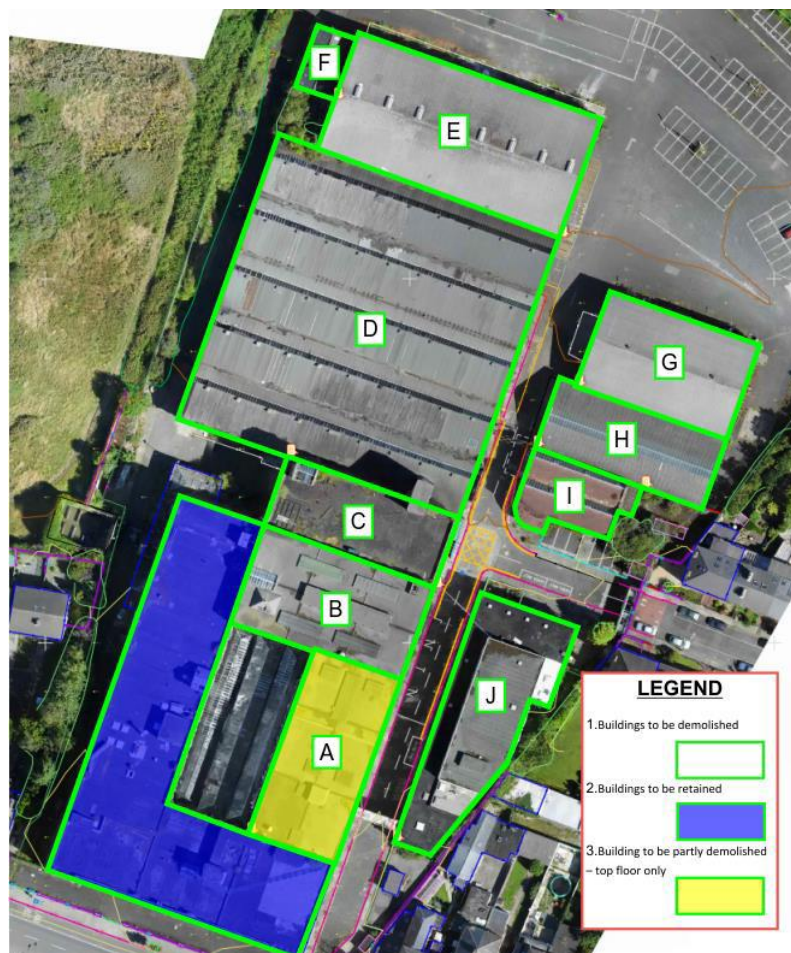


FIGURE 1-3 EXISTING BUILDINGS & EXTENT OF PROPOSED DEMOLITION

In the past, the site was levelled to accommodate the factory buildings and hardstanding areas. The existing topography ranges from approx. +21.17m near the south west corner of the site to +19.58 at the north-east boundary of the site.

The proposed development extends beyond the Player Wills site incorporating an area of approx. 0.67 hectares, the majority of which is best described as greenfield amenity space and will be developed as a public park, 'Players Park'. The balance is existing hard surfaced areas on the SCR and Donore Avenue, where works to the public realm and to facilitate access and connections to municipal services will take place.

1.2 Surrounding Context

The application area is approximately 2.2kms 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 former Bailey Gibson site to the west, St. Teresa's Gardens to the northwest and St. Catherine's National School and places of worship.

To the south and east of the site along the northern side of South Circular Road and on Donore Avenue is comprised of low-rise residential development, predominantly 2-storey red brick terraced housing. On the southern side of South Circular Road, existing residential development is also primarily comprised of 2-storey red brick terraced houses and beyond is the Grand Canal.

Further west along South Circular Road is an An Post Delivery Centre and Our Lady of Dolours Church. The Coombe Hospital is situated north-west of the subject site, immediately adjoining the DCC lands. St Catherine's National School and St Catherine's Church are located to the east on lands adjacent to SDRA 12. St Teresa's Gardens local authority housing estate is located to the north-west of the subject site and is subject to ongoing regeneration works.

Dolphins Barn Street/Cork Street (R110) is 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 the east 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 7-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 13-minute walk to the Fatima Red line Luas stop.

1.3 Masterplan and Proposed Development

A non-statutory **Masterplan** prepared by Dublin City Council and with cooperation from Hines acting on behalf of the Applicant accompanies this application. The Masterplan lands comprise 3 no. land parcels with a total area of 10.3 hectares, namely: DCC lands, Players Wills and the Bailey Gibson lands, see **Figure 1.4**. While lands share internal boundaries, there are no existing linkages between the individual plots.

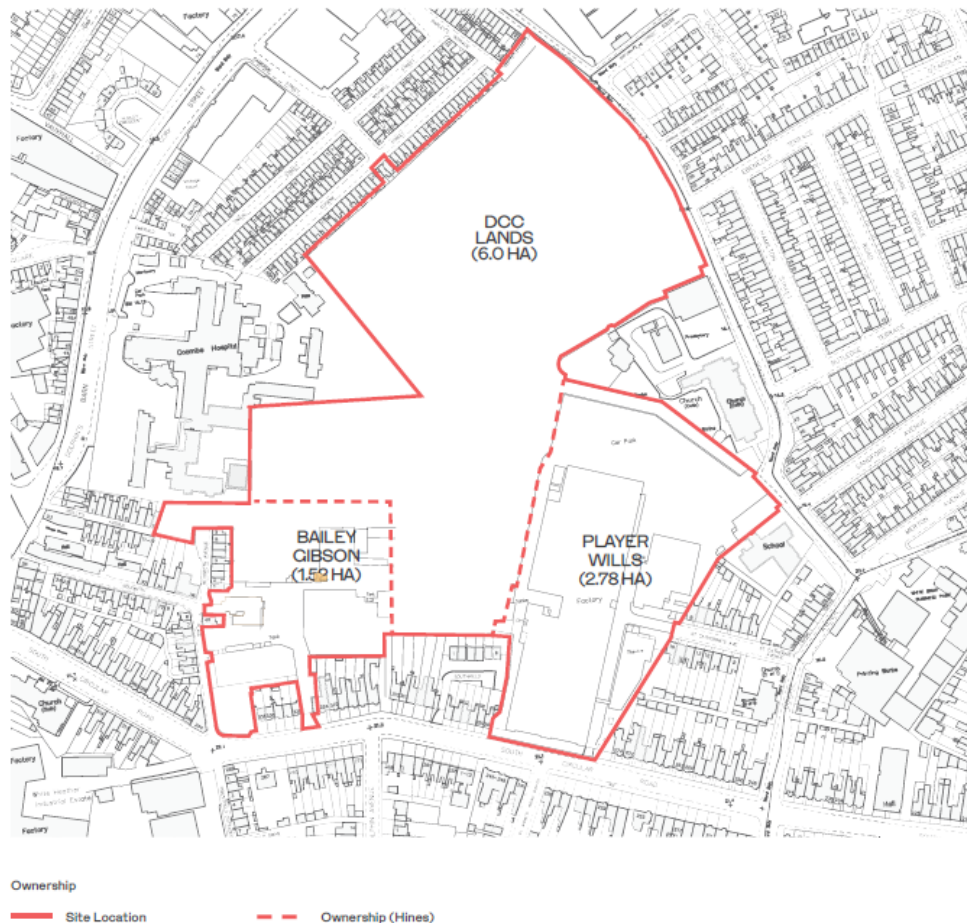


FIGURE 1-4 - MASTERPLAN LANDS

The Masterplan was prepared following the designation of the Masterplan lands (including the Site) as a Strategic Development and Regeneration Area (SDRA 12 – St Teresa’s Gardens) within the Dublin City Development Plan 2016-2022.

This designation of SDRA 12 led to the preparation and subsequent adoption of a non-statutory Development Framework for St. Teresa’s Gardens and Environs in 2017 which transposes the objectives of the City Development Plan for the SDRA 12 into an integrated planning framework.

The stimulus for the preparation of the Masterplan was two-fold:

- i. Since the adoption of the extant City Development Plan and the publishing of the Development Framework Plan, national planning policy has changed with the publication of the Project Ireland 2040 - National Planning Framework and the Eastern and Midlands Regional Spatial Economic Strategy together with Ministerial Guidelines including

Guidelines on Urban Development and Building Heights for Local Authorities and the Design Standards for New Apartments – Guidelines for Planning Authorities both published in 2018.

- ii. The coming into single ownership of the Player Wills and Bailey Gibson sites.

The preparation of this Masterplan represents the City Council's commitment to securing the regeneration objective as established in the Dublin City Development Plan 2016-2022 and realising the individual established guiding principles highlighted in the 2017 Development Framework Plan for St. Teresa's Gardens and Environs, including;

- Delivering a high quality, high-density residential led mixed-use quarter with complementary uses.
- Promoting a mix of tenure and residential unit types.
- Sensitively developing the interface of the Masterplan lands with surrounding existing low-rise residential dwellings.
- Increasing the scale of development toward the centre of the Masterplan lands.
- Providing generous, well designed, attractive, multifunctional public open space with good orientation, connectivity, and passive and active supervision.
- Integrating a municipal playing pitch.
- Defining the public realm and public and private open space.
- Using appropriate boundary treatments to define and secure private space.
- Promoting active streets through integration of ground floor entrances and aligning commercial space with existing surrounding roads.
- Incorporating generous pedestrian zones and limiting surface level carparking.
- Developing a comprehensive soft landscaping strategy.
- Developing a network of street and public spaces to ensure the social and economic integration of St. Teresa's Gardens with Player Wills and Bailey Gibson sites and the surrounding area.
- Ensuring north/south (Cork St. & Donore Avenue connection to South Circular Road) permeability and east/west (Dolphin's Barn Street and Cork Street) is achieved.
- Providing a range of community facilities accessible to the wider community, including sports facilities.
- Management of surface water using a softer green approach for all developments with an emphasis on an integrated design strategy with landscaping proposals to provide Sustainable Environmental Infrastructure.
- Highlighting the heritage of the local area.
- Providing for the future expansion of St. Catherine's National School.
- The mix of land uses identified in the 2017 Framework Plan are being maintained. They include residential, commercial, public park/open space, multi-sport area, private open space, playgrounds and new school.

The Masterplan includes a high-level design and layout for the Bailey Gibson, Player Wills and DCC lands. It envisages that the lands will yield a maximum of 2,275 new homes distributed across 15 blocks as follows;

- DCC lands – up to 850 units
- Player Wills – up to 975 units
- Bailey Gibson – up to 450 units

The building height strategy is as follows;

- Perimeter Blocks (2/3 Storeys)
- Intermediate Blocks (up to 6 storeys)
- Central Blocks (11-22 storeys)

3 no. public parks are included; a central park, a municipal playing pitch and a local park.

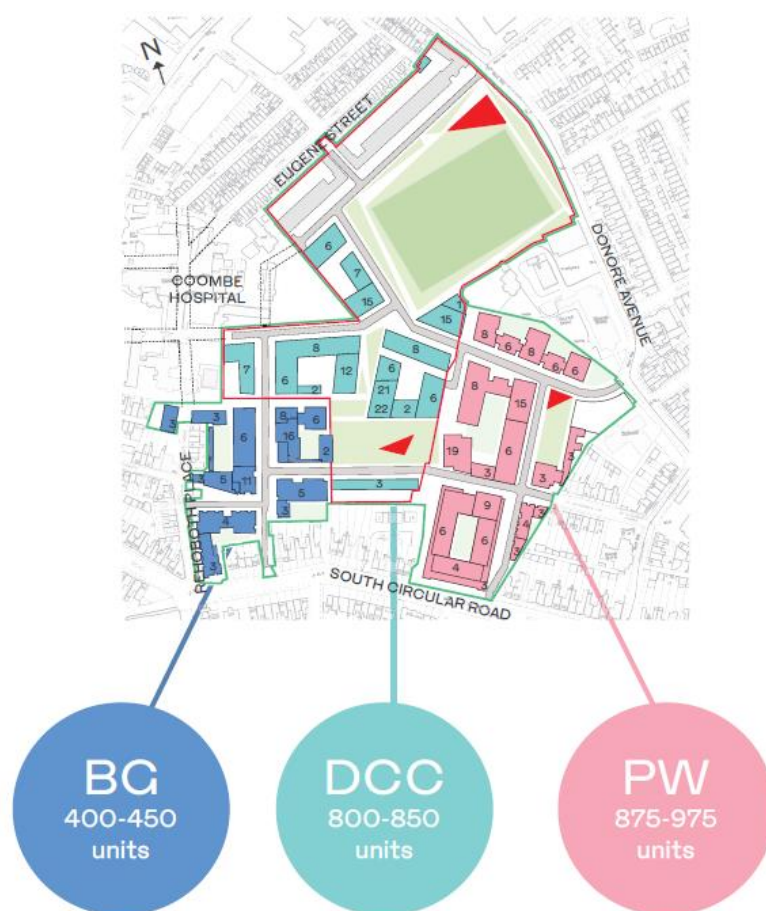


FIGURE 1-5 MASTERPLAN UNIT NUMBERS, HEIGHTS & DISTRIBUTION OF OPEN SPACE

A site wide access strategy is established with primary and secondary vehicular access points on the perimeter of the masterplan area. There are dedicated pedestrian/cyclist accesses and the street network is designed to promote permeability and connectivity across the 3 sites.



FIGURE 1-6 MASTERPLAN ACCESS & MOVEMENT STRATEGY

The ratio of car parking is not defined in the Masterplan, as it was considered that this aspect is more appropriately developed at planning design stage for the individual sites, as definitive details of the tenure type and mix emerge.

A site wide drainage strategy is included, with the individual plots generally being serviced separately with minimal interconnection.



FIGURE 1-7 MASTERPLAN DRAINAGE STRATEGY

This application seeks permission for the development of 732 no. build to rent new homes on the Player Wills site, together with a public park on lands owned by DCC to the west of the Player's site. This is less than the maximum 975 no. units outlined in the Masterplan and significantly more than the 315 no. units for the Player Wills site identified in the Development Framework. The Bailey Gibson site received planning permission (PL29S.307221) from An Bord Pleanála in September 2020 for a Strategic Housing Development incorporating 416 no. new homes.

Development of the remainder of the Masterplan lands will be subject to separate development consents.

1.4 The Applicant/Project Developer

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV, 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 GRESB, BREEM and 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.

1.5 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 Planning and Development Acts 2000, as amended, and the Planning and Development Regulations 2001, as amended. 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;

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

10b) (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 includes 732 no. new homes on a site of 3.06 hectares in an inner-city location and accordingly exceeds the numerical threshold for dwellings and the area threshold of 2 hectares established for mandatory EIA.

1.6 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 EIA, prior to development consent being given, of public and private developments that are likely to have significant effects on the environment, and where they exist, to design measures to mitigate and offset these effects. The preparation of an EIAR is a process which is prepared in conjunction with the overall design process to ensure that any mitigation measures can be incorporated into the overall development design.

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).

In summary, 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'.

1.7 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, taking into account 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.

1.8 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 of 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 recently permitted SHD development for Bailey Gibson lies to the west of the proposed development area and is relevant in the context of cumulative assessment. Accordingly, each chapter of this EIAR assesses the cumulative effect of this proposal in combination with the permitted Bailey Gibson scheme.

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.

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.

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, the Biodiversity Chapter and in the Appropriate Assessment Screening Report that accompanies this application under separate cover.

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'.

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).

Critically, this subject application is not functionally dependent on other sites within either SDRA 12 (i.e. Bailey Gibson, DCC lands or the Coombe Hospital site) or the Masterplan area (i.e. Bailey Gibson or the DCC lands).

It is noted that the proposed development includes 81 no. car parking spaces in the basement of PW2 for future residential development within the wider Masterplan area and lands contiguous with SDRA 12, that will be subject to a separate application for permission. It is noted that while residential parking is incidental to the primary purpose of the building, in this case, the proposed 81 no. spaces are included to serve a future development proposal and as such constitute 'other use' for the purpose of this SHD application, as they are not associated with the residential use proposed in this application. The proposed inclusion of these 81 no. car parking spaces does not assume that any future application for permission will be successful. The 81 no. car parking spaces will not be set out or used in the absence of a separate grant of planning permission for future residential development. Accordingly, an alternative use in the form of storage receptacles for this area is proposed (in the event that a future grant of planning permission for residential development is not forthcoming). In this event, the applicant would be satisfied to accept a condition requiring that the 81 no. spaces together with the circulation area would be used as storage ancillary to the proposed residential development in the event that a planning permission for future residential development is not granted before the expiration of the subject planning permission.

The inclusion of this car parking in this application is not necessary for the implementation of the proposed development (and, for completeness, does not affect the applicable threshold for "other uses" under the definition of SHD in the 2016 Act). The cumulative effect of this additional car parking is however considered in the Material Assets: Traffic and Transport chapter of this EIAR and the Air Quality and Climate Chapter.

- 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 guiding principles for development of SDRA 12 are established in the City Development Plan and the non-statutory Development Framework for St. Teresa's Gardens and Environs published in 2017.

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's 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 DCCs planning database identifies a recent approval (Reg. Ref. 4049/19) for a four-storey laboratory building which provides evidence that the future use of this site will remain as health care. Accordingly, these lands are not included in the Masterplan.

The most current available information on the future development of SDRA 12 is contained in the non-statutory Masterplan that accompanies this application.

Consistent with the judgement in the Apple Case, within this EIAR, each contributor has considered the effect of the development of the wider Masterplan lands together with this proposed development in so far as is practical i.e. using the high-level development parameters for the DCC owned lands established in the Masterplan and set out in Section 1.3 above.

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.

- **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, expanding the EV charging network, (DCCA 2019). The cumulative effects of this Plan together with the proposed project is considered in the following chapters; Population & Human Health, Material Assets: Traffic & Transport and Air Quality & Climate.

- **The Greater Dublin Strategic Drainage Study (GSDSDS)** – 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 GSDSDS 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 manner in which 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.

1.9 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 **Table 1.1**. Details of competency, qualifications and experience of the lead author of each discipline is outlined in the individual chapters.

1.10 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, 2002). 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	Paula Galvin
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	Andrew Archer Allanah Murphy
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	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	Ross Waters
14	Cultural Heritage – Built Heritage	Slattery Conservation	Shóna O'Keeffe
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 1.6 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 – DRAFT (Environmental Protection Agency, August 2017).
- 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.

1.11 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.

Guidance in relation to environmental matters provided by Dublin City Council during section 247 pre-planning meetings held on the 7th May 2019, 2nd July 2019, 7th February 2020, 10th March 2020 and 9th September 2020 respectively further advised on the scope of the EIAR. Matters discussed related to Unit Mix, Open Space, Daylight and Sunlight, Height, Architectural Design, Visual Impact, Materiality, Traffic and Parking and Surface Water Management. A detailed narrative of the pre-planning meetings is contained in the **Planning Statement** that accompanies this application under separate cover.

Direction provided by An Bord Pleanála in the form of an Opinion issued on foot of a pre-application consultation (PAC) meeting (ABP-307178-20) held on the 15th July 2020 relating to issues such as BTR and Residential Amenity, Height, Surface Water management, Traffic and Transportation are considered in the scope of this EIAR.

1.12 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 *Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports* (2017) 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 and 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 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
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

1.13 Consultation

A dedicated website for this proposed development is established and the EIAR is available at www.PWSCR2SHD.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.

Pre-planning consultation was held with Dublin City Council in advance of lodging this application and full details are contained in the **Planning Statement** that accompanies this application under separate cover. Guidance received is integrated into the design and in turn is assessed in this EIAR.

Public Open Days were hosted by the Applicant over 3 no. days on the 11th and 12th July 2019 and on the 12th March 2020. The public were notified via leaflet drops, social media and press advertisements. The information presented related to the future development of the Masterplan lands i.e. Bailey Gibson, Player Wills and Dublin City Council lands.

The purpose of the open days was to meet the public and listen to their thoughts, opinions and ideas as well as to show projected timelines for the development and provide people with an insight into the planning application. Members of the project team were present and provided information and answered questions as necessary.

Matters raised by the public at the Open Day related to:

- quantum and quality of open space to be provided within the masterplan lands;
- quantum and type of commercial uses proposed;

- desire for lands to deliver vibrancy and vitality during the day and night;
- future plans for St. Catherine's National School;
- mix of unit sizes and types;
- impact of construction traffic; and
- quantification of traffic movements during the operational stage and desire for improved cycling and pedestrian access.

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.

1. Irish Water
2. Transport Infrastructure Ireland
3. National Transport Authority
4. Department of Culture, Heritage and the Gaeltacht
5. Heritage Council
6. An Taisce
7. Department of Education and Skills
8. Coras Iompair Eireann
9. Dublin City Childcare Committee

CHAPTER 2

DEVELOPMENT DESCRIPTION

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



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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 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 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).

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. PL0003**.

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former 'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, 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. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use(residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
 - b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
 - c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;
 - d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
 - e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
- iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
 - a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m),

- incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
- b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m.
- iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;
 - v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.
 - vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
 - vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
 - viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
 - ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.
 - x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
 - xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.

- xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1(the former factory building);
- xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
- xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
- xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
- xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
- xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment 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	3.06 ha (gross) 2.39 ha (under Applicant's control)
No. Units	732 no. units in 4 no. blocks, including: <ul style="list-style-type: none"> • 492 no. apartments in 4 no. blocks (PW1, PW2, PW4 and PW5) • 240 no. Single Occupancy Shared Accommodation Units (PW1)
Tenant Amenities & Facilities	<ul style="list-style-type: none"> • 835 sq.m in PW1 (dedicated shared accommodation) • 1,588 sq.m in PW1 (apartments & shared accommodation) • 673 sq.m in PW2 (apartments & shared accommodation)
Non Residential Uses	<ul style="list-style-type: none"> • PW1 Arts, Cultural & Community Hub, 852 sq.m - Class 1 & 10 • PW1 Retail 503 sq.m - Class 1 • PW1 Food & Beverage 994 sq.m • PW1 Co-working Office - Class 3 • PW2 – 2 no. Retail combined 198 sq.m – Class 1 • PW2 – Food & Beverage 142 sq.m • PW2 – 81 no. carparking spaces 1,293 sq.m • PW4 - Crèche (275 sq.m) – Class 8(b)
Density	239 uph (gross) (including all 732 units on 3.06ha area site) 321 uph (net) (excludes DCC lands and temporary park for school extension)
Building Height	2 to 19 storeys
Unit Mix Summary	Excluding Shared Accommodation <ul style="list-style-type: none"> • 8% Studio • 59% 1-Bedroom • 22% 2-Bedroom • 11% 3-Bedroom
Car Parking	<ul style="list-style-type: none"> • 168 no. Spaces (148 no. dedicated to BtR apartments and 20 no. car share for all residents) & 37 no. surface spaces
Bicycle Parking	<ul style="list-style-type: none"> • 903 no. long stay • 110 no. short stay

TABLE 2-1 DEVELOPMENT OVERVIEW

Development Statistics	
Dual Aspect Units	51%
Public Open Space	Players Park (3,960 sq.m) St. Catherine's Park (1,350 sq.m) Temporary Park – School Extension Site (1,158 sq.m) PW1 Courtyard (690 sq.m) Public Plaza (320 sq.m)
Communal Amenity Space	3,671 sq.m (combined) courtyards and roof terraces PW 1 450 sq.m roof terrace (dedicated shared accommodation) PW1 285 sq.m roof terrace (dedicated apartments) PW2 1,123 sq.m courtyard & 1,525 sq.m roof terraces PW4 111 sq.m courtyard PW5 167 sq.m courtyard
Plot Ratio	2.19
Site Coverage	31%

TABLE 2-1 DEVELOPMENT OVERVIEW, CONTD.

2.3.1 Existing Structures

The site contains existing vacant industrial buildings that will be demolished to make way for the proposed development. **Figure 2.2** highlights the buildings that are to be demolished in green.



FIGURE 2-2 BUILDINGS TO BE DEMOLISHED & RETAINED

The original historic fabric of the Player Wills factory building (Block PW1) which will be retained (blue and yellow shading) and will house 240 no. Shared Accommodation single occupancy private living areas and 47 no. Build-to-Rent apartments.

The design decision to demolish elements of the former factory building was carefully considered following an architectural heritage appraisal of the building (see Chapter 14).

The removal of non-original and less coherent elements to the side and rear of the PW1 building is not considered to comprise any loss of architectural significance and will allow the most significant 1924 phase of building to become more apparent along with the 1930s second floor extension. The area of primary significance of the building, i.e. the front façade, will be retained and the building will retain its visual prominence along the streetscape of the South Circular Road. None of the structures on the subject site are included on the Dublin City Council Record of Protected Structures, however Block A is listed on the National Inventory of Architectural Heritage.

2.3.2 Residential

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

Building Ref.	Shared Accommodation (Single Occupancy)	Studio	1 Bed Apartment	2 Bed Apartment	3 Bed Apartment	2 Bed Duplex Apartments	3 Bed Triplex Apartments	Total
PW 1	240	12	23	8	4	-	-	287
PW 2	-	16	268	93	38	-	-	415
PW 4	-	-	-	-	-	2	7	9
PW 5	-	12	1	5	3	-	-	21
Total	240	40	292	106	45	2	7	732

TABLE 2-2 UNIT NUMBERS AND MIX

Excluding the Shared Accommodation (240 rooms), the proposed mix as a percentage of the overall Build to Rent (BtR) is;

- 40 no. Studios – 8%
- 292 no. 1 Bed Apartments – 59%
- 108 no. 2 Bed Apartments– 22%
- 52 no. 3 Bed Apartments– 10%

It is proposed to provide 49 no. units for Part V (of the Planning and Development Act 2000) purposes and these will be contained in PW2. The Part V mix is 20% (10 no.) studio's, 31% (15 no.) 1-bed units, 16% (8 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 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 (2018);

“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 2,261 sq.m of residential support and amenities is proposed;

- PW1 - 1,588 sq.m
- PW2 – 673 sq.m

2.3.3 Non-Residential Uses

The scheme includes a childcare facility that will accommodate 49 no. pre-school children. The creche is of a sufficient scale to accommodate all of the scheme’s childcare demand, estimated to be 16 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**.

Food and beverage floor space is proposed in Blocks PW1 (994 sq.m) and PW2 (142 sq.m) and will contribute to ground floor activation and vibrancy both during the day and night.

The remaining non-residential floor space is reserved for Class 1, 2, 3, 8, 10 and 11 uses including:

- PW1 Arts, Cultural & Community Hub, 852 sq.m
- PW1 Retail 503 sq.m
- PW1 Co-working Office
- PW2 – 2 no. Retail combined 198 sq.m
- PW2 – 81 no. carparking spaces 1,293 sq.m
- PW4 - Crèche (275 sq.m)

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, incorporating transitions to the surrounding low-rise neighbourhoods. Two to four-storey blocks (PW4 and PW5) are positioned at the perimeter adjoining existing residential areas, providing a degree of screening and a transition to taller blocks behind them. These smaller scale blocks enable the development to knit into the surrounding neighbourhood context.

The taller elements at 16-19 storeys are clustered toward the centre of the site where the carrying capacity is greatest and are positioned to terminate key vistas or to flank public spaces.

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 Levels	Max Height
PW1	5-9	32.53m
PW2	2-19	63.05m
PW4	2-3	10.125m
PW5	4	13.3m

TABLE 2-3 BUILDING HEIGHT

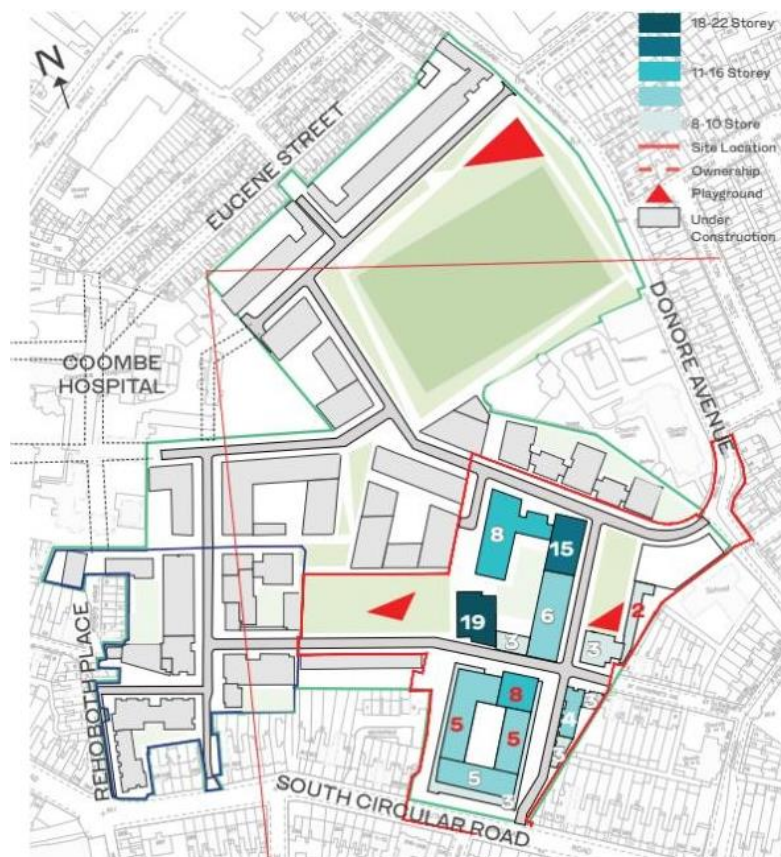


FIGURE 2-3 HEIGHT DISTRIBUTION

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 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.

Creating a reduced human scale at street level a shoulder height is expressed at the base of

the PW2 towers. This form is a widely accepted typology for creating comfortably scaled streetscapes mixed with higher tower elements. In addition, the taller buildings within the scheme have been designed to incorporate smaller components which reflect the scale of the apartments and allow for an articulated roof line and a vertical façade expression.

The view below of PW1 illustrates this concept with the blocks stepping up in scale from the 3-storey retained Player Wills factory building intersecting with the 8-storey tower element.



PLATE 2-1 VIEW OF PW1

Taller blocks in the PW2 building at 16 and 19 storeys incorporate vertical breaks to emphasise slenderness and reduce perceived mass. This approach breaks down the scale of the taller blocks and creates a modulation at the ridgeline, see image below.



PLATE 2-2 PW2 TOWER VIEW

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;

- Reflecting the domestic proportions of openings in the surrounding areas.
- Creating a material palette that is sympathetic to surrounding urban fabric.
- Adding texture to the facades to reflect the variation of brick in the surroundings.
- Using metal accents to reflect the sites industrial past.
- Establishing a datum to maintain the scale of the existing Player Wills factory building.
- Breaking the massing into smaller elements to create a sense of scale and proportion within volumes.

- Balconies where possible are semi-recessed to help with wind loading and to improve the daylighting within units.
- Creating a sense of depth within the facade to articulate the building volume.
- Allowing perimeter blocks to mediate the height of the development to knit into the existing residential context.



01. Light Grey Brick



02. Dark Grey



03. Buff Brick and Pre-Cast



04. Red Brick

The proposed development utilises two styles of brick from the local area; the red brick of South Circular Road and the Dolphin's Barn-style brick.

Reflecting the material character of the surrounding neighbourhood red brick is proposed on the PW4 and PW5 buildings where the massing is much smaller, and the PW1 and PW2 buildings use the Dolphin's Barn-style brick which complements the original Player Wills factory building.

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 original Player Wills factory building.

Textured brick is used to articulate the facade. The detail adds definition to the composition and breaks down the mass to a domestic scale. The scale of detailing makes reference to the residential context and the richness of brick detailing in the area.

It is proposed to introduce a grey brick to break the volume of the proposed higher blocks. To add accent and to echo the site's industrial heritage dark aluminium with bronze hues is proposed.

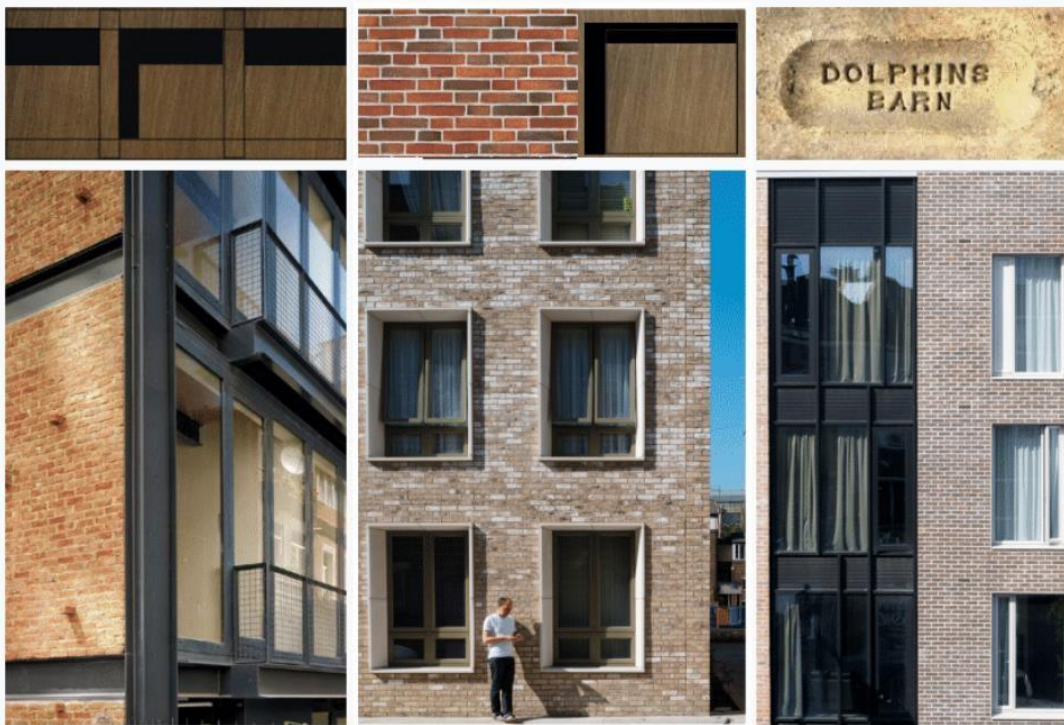


PLATE 2-3 MATERIAL EXAMPLES

Metal accents are used to articulate the contemporary brick façade and reflect the sites industrial past. The detailing of the factory façade is reflected and adopted in a contemporary way throughout the development.

2.3.7 Access, Parking & Connections

Vehicular access to the development will be via Donore Avenue, exit for vehicular traffic on to the South Circular Road will be via the existing access east of the Player Wills factory building. Replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings will be provided.

Car Parking is proposed as follows:

- in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
- in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.

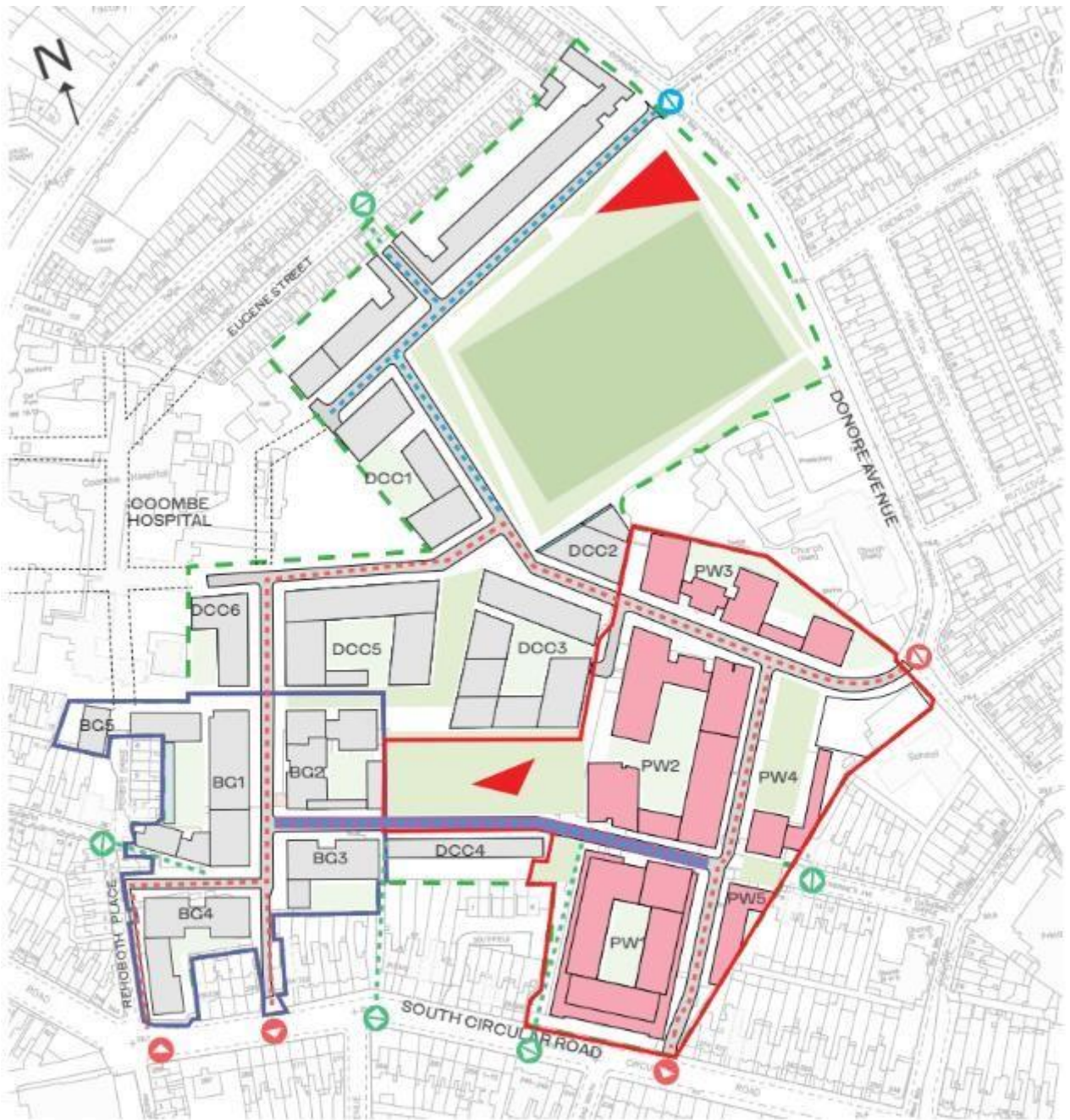
Additionally 37 no. surface level car parking spaces are proposed including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.

Access to the basement is proposed via a ramp access to the west of the PW2 building.

903 no. long-stay bicycle parking spaces are proposed, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.

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). Four dedicated pedestrian access points are proposed to promote the principle of permeability, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue. Within the site, footpaths are provided throughout with a shared pedestrian/cycle path around the perimeter. The proposed pedestrian/cycle infrastructure has been designed to allow it connect through to the wider Masterplan lands as they become developed. The road to the south of the 'Players Park' connects the adjoining Bailey Gibson Site to the proposed Player Wills site to which this application pertains.

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



- | | | | |
|--|-------------------------------------|--|------------------------------------|
| | Primary Vehicular Access Points | | SDRA Outline |
| | Primary Vehicular Routes | | Site Location |
| | Secondary Vehicular Access Points | | Shared Surface/Pedestrian Priority |
| | Secondary Vehicular Routes | | Playground |
| | Pedestrian/Cycle Only Access Points | | Land in applicant's ownership |
| | Pedestrian /Cycle Only Routes | | |

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:

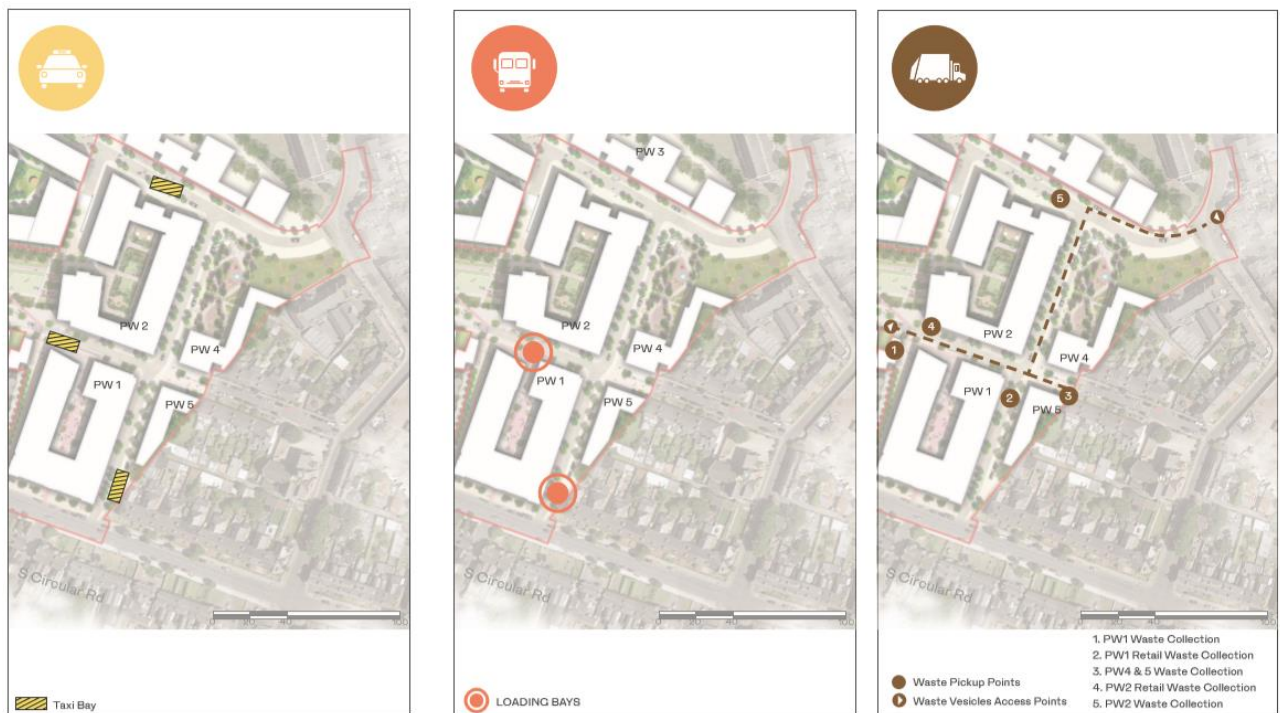


FIGURE 2-5 PROPOSED SERVICE VEHICLES ACCESS

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.

3 no. public open spaces are proposed, 2 no. are permanent and the third is temporary;

1. Player Park, a multi-functional, biodiverse rich park is located to the north west of the former Player Wills factory and is approx. 0.4 hectares;
2. St. Catherine Park, designed as a playground, is adjacent to the existing national school, to the north east of the site, and it incorporates an area of approx. 0.12 hectares; and,

- An area (approx. 0.12 hectares) adjacent to the school and reserved as part of SDRA 12 for the future expansion of the school will be developed as a temporary park until such time as the expansion secures planning permission under a separate application by the Department of Education.



FIGURE 2-6 PLAYERS PARK & ST. CATHERINE'S PARK – COMPUTER GENERATED IMAGES

The **Daylight, Sunlight & Overshadowing Study** submitted under separate cover demonstrates that the public parks will benefit from excellent sunlight. Players Park would receive 98% sunlight and St. Catherine's Park would receive 88%. These results significantly exceed the BRE threshold for 50% of an area to receive at least 2 hours of sunlight on the 21st March, for a space to appear adequately sunlit.

2.3.8.2 Communal Amenity Space

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

The distribution is as follows;

- PW1 – 735 sq.m of roof gardens
- PW2 – a 1,223sq.m courtyard and 1,535 sq.m roof gardens
- PW4 – a 111 sq.m courtyard
- PW5 - a 167 sq.m home zone plaza

In accordance with Appendix 1 of the Sustainable Urban Housing: Design Standards for New Apartments (2018), the minimum requirement is 2,839 sq.m and the proposed development incorporates 3,671 sq.m in the form of courtyards and roof 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.



FIGURE 2-7 OPEN SPACE

The individual courtyards and roof 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 gardening 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 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 proposals, the proposed design includes private amenity space for 98.7% of the proposed BtR units i.e. 486 of the total 492 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 responds to the detailed and 'human' scale of spaces, materials, lighting, seating, paving, and planting. The ground surfaces including the proposed 'red carpet' concept 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 37 no. visitor car parking spaces proposed together with 2 no. loading bays and 2 no. set down taxi spaces to service the development.

It is proposed to bring warmth to the streets with buff coloured granite paving flags proposed in the pedestrian areas with a degree of variance through the grain of the stone. Materials for on-street car parking will be delineated in a contrasting concrete or natural stone paving unit and will be capable of supporting service vehicles.

All streets will be finished with asphalt with the exception of the shared surface to the centre of the development and crossing points - it is proposed that these finishes will be concrete or natural paving stone.

The perimeter landscape includes the retention of existing boundary walls where possible. It is proposed to plant a temporary evergreen hedgerow along the site's western boundary with Dublin City Council lands to allow for integration of the wider Masterplan area in due course. Existing party walls will be retained where feasible along all other interfaces.

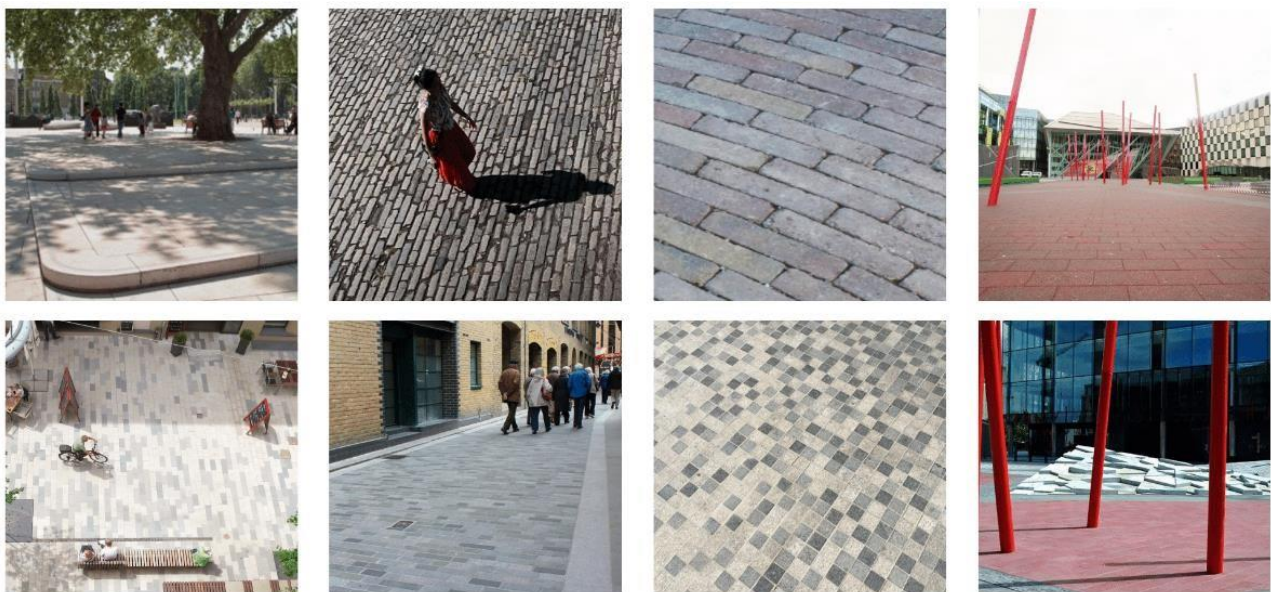


PLATE 2-5 PROPOSED HARD LANDSCAPE MATERIALS

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 Bailey Gibson development west of the subject site will include the construction of a foul sewer across both DCC's Land and the Player Wills site which will connect to the existing 300mm combined sewer located on Donore Avenue at the north-east corner of the subject site. This sewer will be constructed as part of the first phase of the development of the overall Masterplan lands, and has been designed with capacity to cater for the total projected flows from both the approved Bailey Gibson development and the Player Wills development to which this application pertains.

In order to achieve this outfall connection, Dublin City Council have provided consent for the construction of the foul sewer through their lands to the west of the Player Wills site. The foul sewer design has been carried out in accordance with the Irish Water Code of Practice for Wastewater. Foul wastewater discharge from the Player Wills SHD development will be; Average – 3.06l/s. Peak – 11.58l/s.

The final section of the drain, just prior to the discharge point to the combined sewer at Donore Avenue, has been sized to cater for the Player Wills foul flow and the future development of the wider Masterplan lands.



FIGURE 2-8 PROPOSED WASTEWATER DRAINAGE STRATEGY

2.3.9.2 Surface Water

DCC Drainage Planning Department policy requires that consideration be given to stormwater management over the full Masterplan area, which consists of the Player Wills site, DCC lands and the Bailey Gibson site. A Masterplan 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 the Masterplan 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, the new stormwater drainage system for the development will connect to the stormwater culvert located at the north east corner of the Player Wills site, in Donore Avenue, see **Figure** below.

The stormwater outflow from the Player Wills site, including allowance for climate change, to the stormwater culvert in Donore Avenue will discharge at the rates shown in the **Table** below.

These flow rates incorporate consideration of the effect of the SuDS measures which are proposed to be incorporated within the Player Wills development.

Storm Event	Flow (l/s)
1 Year ARI +20% for climate change	1.1
30 Year ARI +20% for climate change	10.8
100 Year ARI +20% for climate change	21.7

TABLE 2-4 STORMWATER PEAK OUTFLOW RATES

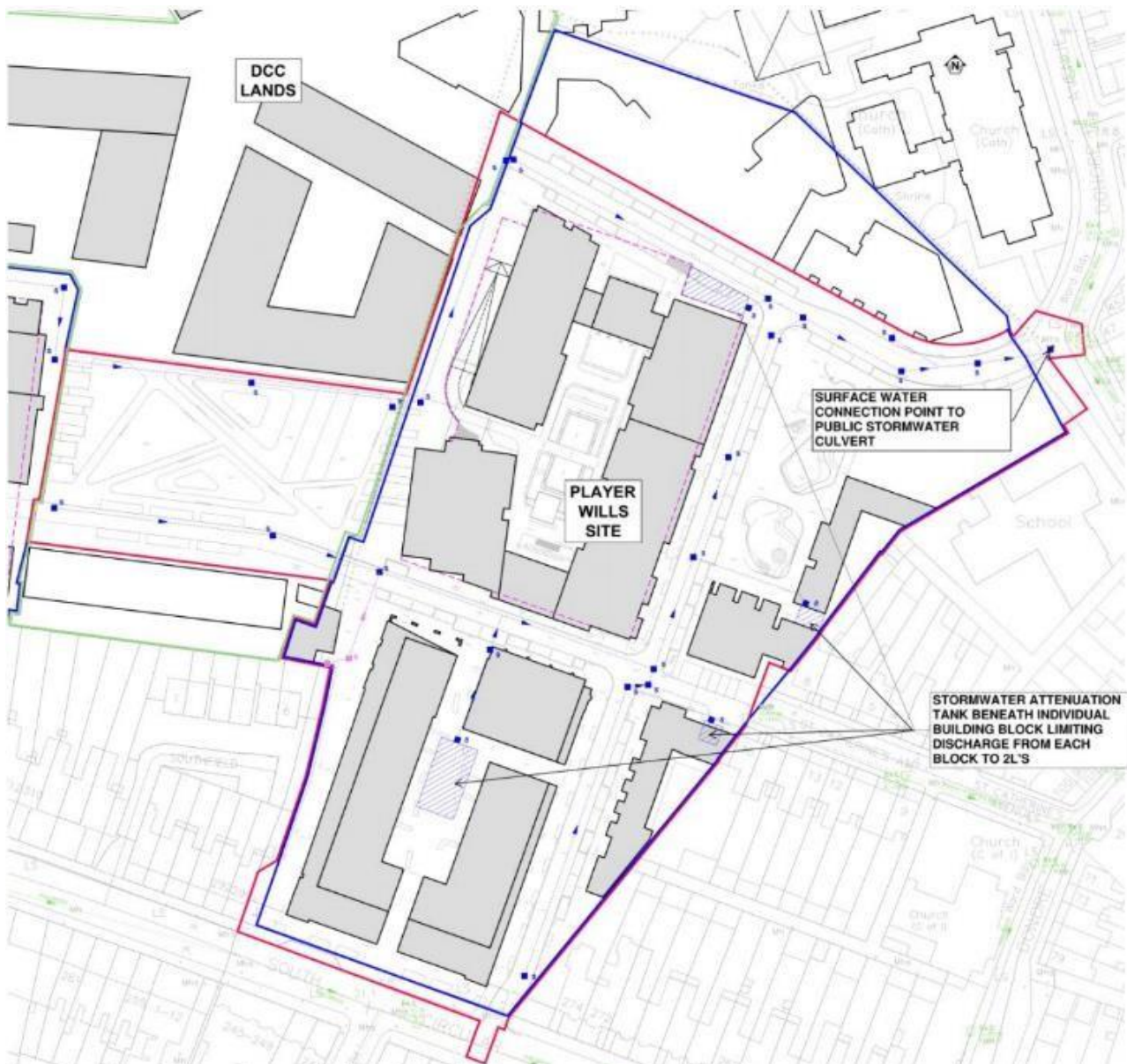


FIGURE 2-9 PROPOSED SURFACE WATER DRAINAGE STRATEGY

It is intended that the future development of DCC lands will include construction of new stormwater sewers within the new street network, which will discharge to the same stormwater

culvert, further along Donore Avenue, to the north-east. Given that the majority of the green open space within the Masterplan Area is located within DCC lands, this area has the greatest ability to provide space for attenuation of stormwater.

A Masterplan Drainage Strategy has been developed with DCC Drainage Planning Department to provide an integrated approach to stormwater management across the three sites within the Masterplan. This planning application covers the Player Wills Development to the south-east and the Southern Park to the south, between the Bailey Gibson and Player Wills sites. In accordance with the Masterplan drainage strategy, stormwater from the Player Wills site will be managed within that site prior to discharge to the stormwater culvert in Donore Avenue close to the junction with Sandford Avenue. Once the Masterplan has been fully developed, stormwater from all other areas of the Masterplan (DCC Lands, including the Southern Park, and the Bailey Gibson site) shall discharge to the stormwater culvert in Donore Avenue close to the junction with Harman St., after passing through an attenuation tank located to the north of the proposed Municipal playing pitch. To facilitate phased construction of the Masterplan, which will include construction of The Bailey Gibson, Players Park and Player Wills sites prior to construction of the remainder of DCC's Land, an interim approach to stormwater management from Bailey Gibson and the Southern Park sites will be employed.

The peak outflow rates from the Bailey Gibson development will be combined with the outflow from the Player Wills site on an interim basis, have been incorporated into the Micro drainage calculations for the Player Wills drainage network to facilitate pipe sizing for the final outfall drain from the point of connection of the stormwater drainage from each separate development, to the discharge location at Donore Avenue. This drainage arrangement is illustrated in the **Masterplan** that accompanies this application.

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.

Blue Roof Attenuation: Certain roof areas, generally those areas adjacent higher green roofs, have been selected to provide blue roof attenuation storage beneath the interception storage mat. Once the cellular drainage mat has filled, the surface water will enter the open crate storage cells below and spread across the area of the roof. Isolated flow control outlets will restrict flow to discharge at a rate of 2l/s/ha based on the blue roof catchment area.



FIGURE 2-10 PROPOSED SUDS STRATEGY

2.3.9.4 Water Supply

In accordance with Irish Water Code of Practice for Water Infrastructure (2017), a new 200mm diameter looped watermain is proposed to service the Player Wills 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 – 7.55/s. Peak – 18.895 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.

2.3.10.1 Building Research Establishment Environmental Assessment Method

BREEAM® (Building Research Establishment Environmental Assessment Method) is one of

the global leading green building rating systems that is used to measure the environmental performance of new and existing buildings.

BREEAM® assessment uses recognised measures of performance to evaluate the building's specifications, design, construction and use. These measures are set against nine categories and benchmark criteria, including:

- Energy: building operational energy and CO₂ emissions
- Management: management policy, commissioning, site management and procurement
- Health and Wellbeing: indoor and external issues (noise, light, air, quality, etc.)
- Materials: environmental impacts of building materials
- Transport: transport-related CO₂ and location-related factors
- Water: building consumption and efficiency
- Waste: construction and operational waste management
- Pollution: water and air pollution
- Land Use & Ecology: site and building footprint and ecological value and conservation.

Each of the criteria is scored and then multiplied by a weighting. The resulting overall score is then translated into a rating on a scale of BREEAM® certification levels: pass, good, very good, excellent and outstanding. The Applicant is aiming to achieve a final Excellent certification.

2.3.10.2 Building Regulations

The Part L 2017, Nearly Zero Energy Buildings (NZEB) Building Regulations is the new standard for all non-residential buildings constructed after 1st January 2019. The 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 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 20 no. roof mounted solar photovoltaic (PV) panels across all 4 no. 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. The development manager can view operational temperatures for the heating and cooling systems to ensure they are operating at maximum efficiency.

2.3.10.3 Traffic

The quantum of carparking proposed is significantly 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 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 492 carparking spaces and based on the foregoing this would give rise to the emission of 1,003,680 kgs of CO₂/annum.

The scheme proposes 168 no. carparking spaces and so 342,720 kgs of CO₂ will be generated per annum. The reduced car parking proposed results in significant CO₂ savings, a total of 660,960 kgs of CO₂ (660.9 tonnes) per annum.

Put in context, it takes 5 trees to offset 1 tonne of CO₂, so the reduced carparking at the Former Player Wills site is the equivalent of planting 660 trees.

2.3.11 Services

2.3.11.1 Electrical Supply

Based on information received from ESB Networks, the existing site is serviced by two existing sub-stations referred to as Clarkes A & Clarkes B sub-station. Both these sub-stations are to be decommissioned and new sub-stations to be installed to serve the site. 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.

A new underground cable shall connect into the existing network and route through the proposed development to serve 3 new sub-stations, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m). The existing 2 no. sub-stations are to be decommissioned. The decommissioning of the sub-stations will be staged as one sub-

station will be utilised for temporary power for the construction phase. **Figure 2.12** shows the proposed electrical infrastructure for the Proposed Development.

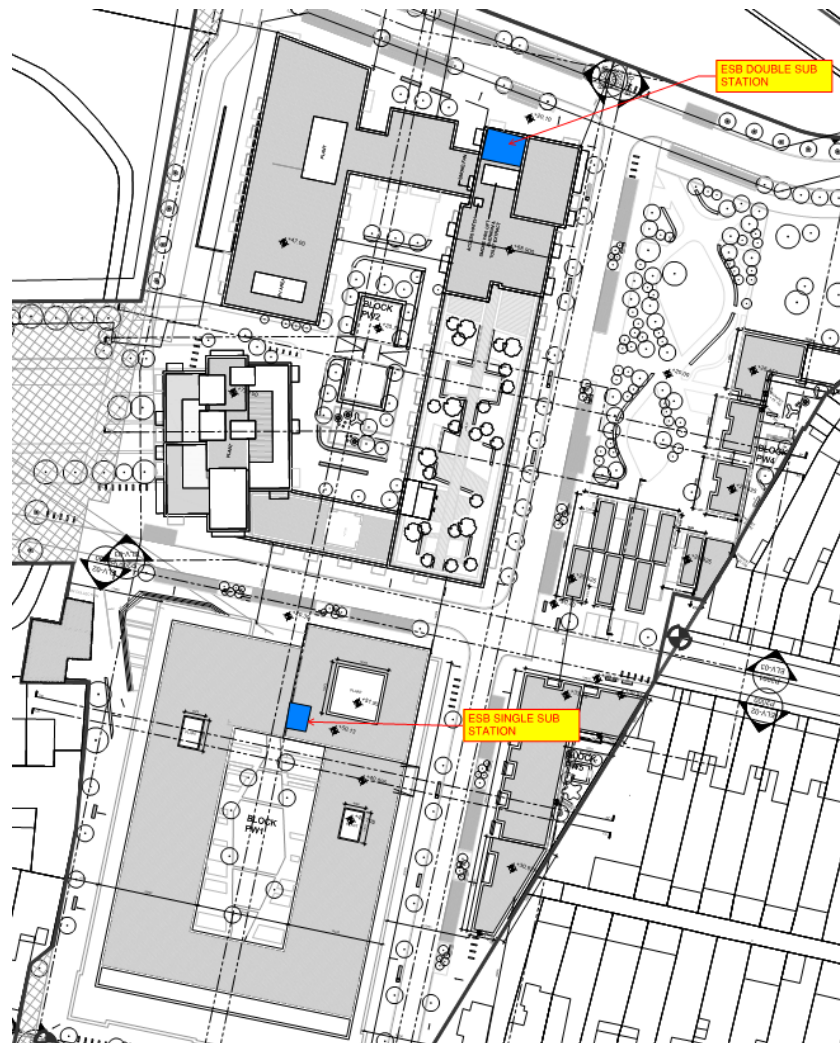


FIGURE 2-12 PROPOSED ESB INFRASTRUCTURE

2.3.11.2 Gas Supply

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. These works will be minor in nature and will be completed under a road opening licence from Dublin City Council.

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** shows the proposed gas infrastructure.

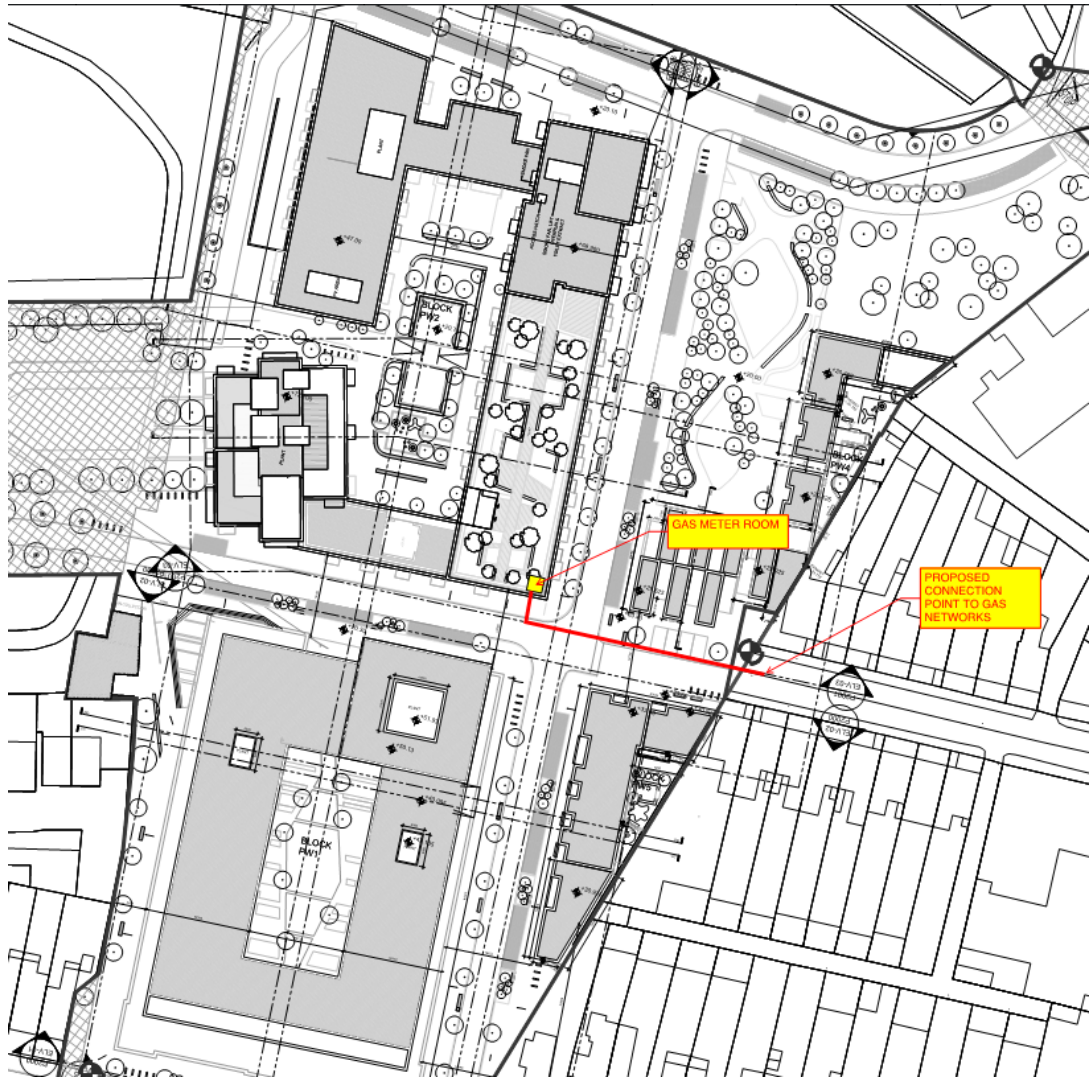


FIGURE 2-13 PROPOSED GAS INFRASTRUCTURE

2.3.11.3 Telecommunications

The supply of telecommunications infrastructure to the proposed development site will be provided by way of a connection to a telecoms control room from the existing telecommunication networks on South Circular Road. **Figure 2-14** shows the proposed telecommunications infrastructure for the Proposed Development note these rooms are generally on the ground floor except for PW2, where the telecommunications room is located at basement level.

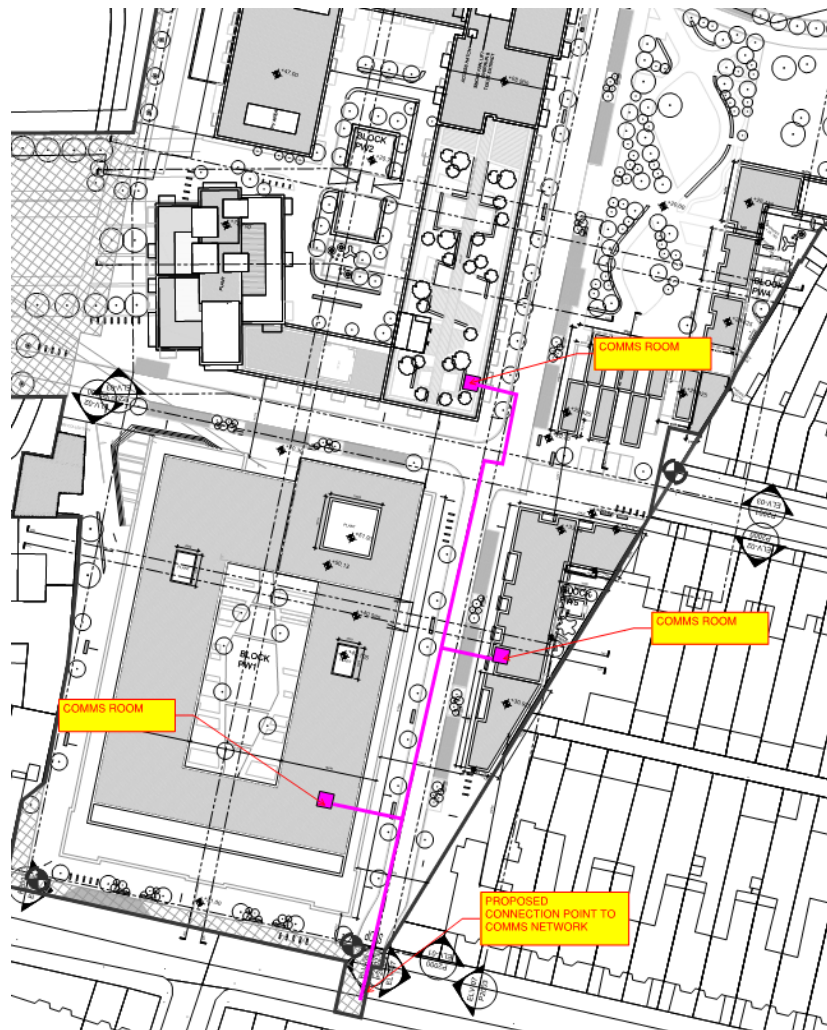


FIGURE 2-14 PROPOSED TELECOMS INFRASTRUCTURE

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. It is predicted that up to 320kg of waste would be generated per week at the creche.

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. It is predicted that up to 11000 litres of waste would be generated per week by the retail units and café/bar/restaurants.

2.4 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.

2.4.1 Programme

The development will be constructed in 5 no. phases and the estimated timeframe is approximately 42 months and 2 weeks. The construction phase of the proposed Player Wills development will overlap with that of the Bailey Gibson development for a period of 22 months. The duration of the overlap is susceptible to change as it is dependent on the actual commencement and completion dates of both projects. It is envisaged that the peak construction of either site will not overlap as it has been calculated that they will be approximately 4 months apart. The commencement date is dependent on successfully securing planning permission together with the time taken for procurement.

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.

The sequencing of works to each of the blocks is set out in the **Table** below together with anticipated durations for each phase.

Construction Phase	Description of Works	Approximate Duration	Estimated Completion Date
1	Structural Demolition	≈ 3 months	04 Aug 2021
	Site Setup	≈ 7 months	03 Dec 2021
	Lay Drainage for Initial Road N&E of PW1	≈ 1.5 months	24 Jun 2021
	Construct Road East of PW1 only	≈ 2 months	25 Aug 2021
	Lay Drainage in Players Park	≈ 1.5 months	21 Jul 2021
	Lay main Drainage Remainder	≈ 1.5 months	23 Aug 2021
	Construct Attenuation Tank	≈ 1.5 months	12 Aug 2021
2	PW2: Basement Works	≈ 36 months	18 Jul 2023
3	PW1: Ground + 8 Storeys + Roof	≈ 27 months	04 Mar 2024
4	PW2: Ground + 18 Storeys + Roof	≈ 30 months	12 Jul 2024
5	Players Park	≈ 9.5 months	12 Jul 2024
	PW4: Ground + 3 Storeys + Roof (Inclusive of Creche & St. Catherine's Park)	≈ 16.5 months	12 Nov 2024
	PW5: Ground + 3 Storeys + Roof	≈ 16 months	03 Dec 2024

TABLE 2-5 CONSTRUCTION WORKS PHASING AND DURATIONS

2.4.2 Site Compound

Due to the scale of the proposed development, it is necessary to establish multiple compounds, the locations are illustrated in the **Figure** below. The primary locations are within the Player Wills site. A smaller compound with associated visitor parking is proposed on DCCs lands to the west of the subject site.

The existing boundary walls will be retained where possible, the extent of retention is illustrated on L1-504_Site Boundary Condition Plan included in the landscape suite of drawings that accompany this application. Hoarding will be erected to further secure the site and prevent unauthorised access.

All construction chemicals, fuels and hydrocarbons maintained on site will be stored in a safe and secure manner. Dedicated fuel bowsers with dedicated 110% capacity bunds will be used to ensure that spillages are fully contained. Where more than one tank is stored, the bund shall be capable of holding 110% of the largest tank of 25% of the aggregate capacity (whichever is greater). 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

Drip trays used 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 shall 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.

All foul water generated by welfare units will be contained and disposed of in an appropriate

manner to prevent pollution, in line with relevant legislation and in accordance with site specific conditions post approval of the trade effluent waste discharge licence.

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 25m of drainage ditches, surface waters or open excavations. Fuel interceptor tanks will be installed as required to treat any runoff from the site.

Domestic waste generated in the offices, canteen and welfare facilities will be source segregated.

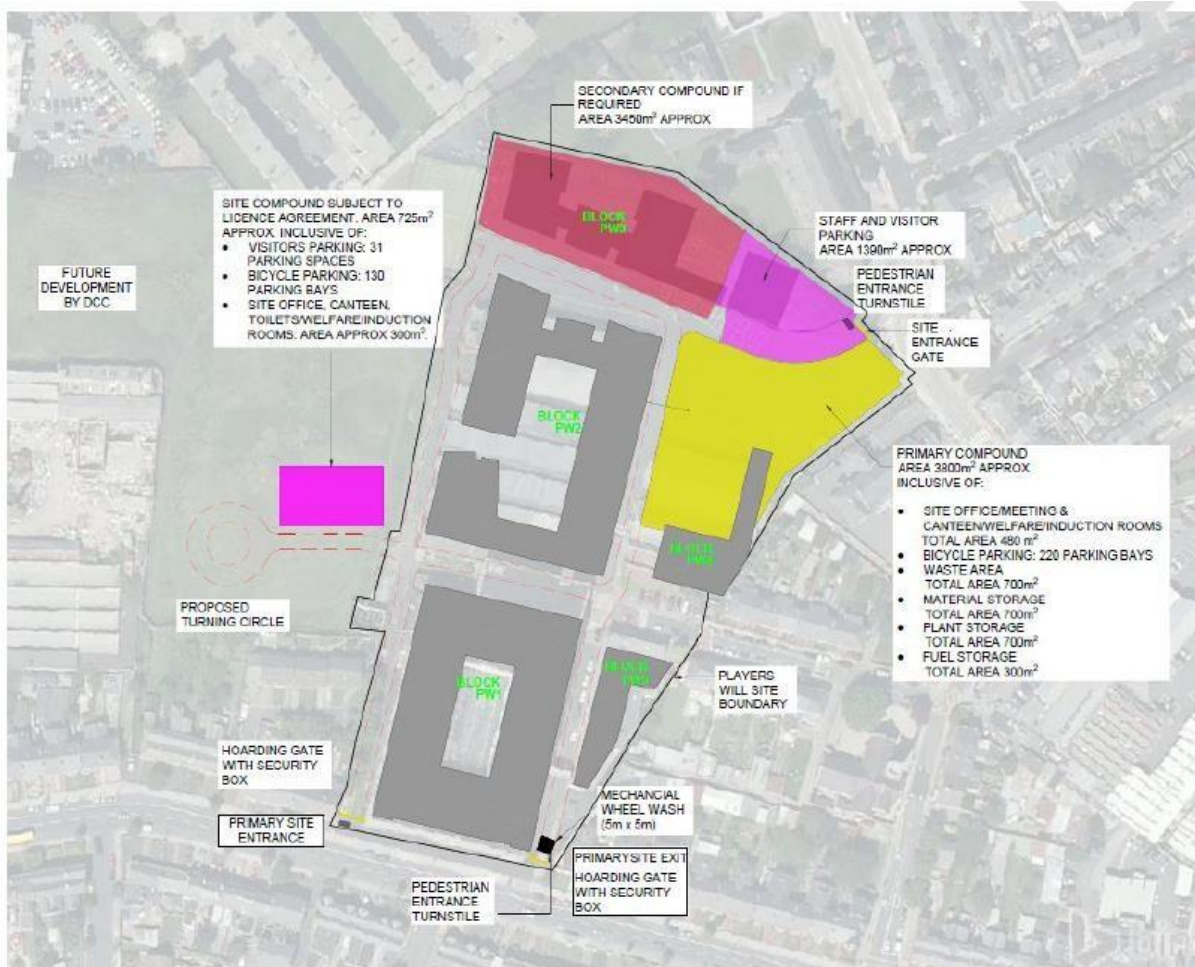


FIGURE 2-15 LOCATION OF CONSTRUCTION COMPOUNDS

2.4.3 Access

The locations of vehicular and pedestrian access points are illustrated on **Figure 2-15**. There is 1 no. primary site entrance for HGVs are proposed, south west of the original Player Wills Factory building. Vehicles leaving the site will use an existing opening to the south west of the original Player Wills factory building.

Car and pedestrian/cyclist access to the site compounds and associated parking areas will be from an existing access off Donore Avenue to the north east of the subject site.

Access to the site will be controlled via gates and turnstiles and security personnel will be present.

Temporary signage will be erected at all openings to notify those accessing the site of the on-site traffic routing arrangements.

2.4.4 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.

2.4.5 Construction Personnel & Parking

During the peak construction phase, it is estimated that there will be 700 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, 30 no. on DCC lands and 120 no. on the subject site. The provision of onsite parking will mitigate overspill of traffic onto the surrounding street network. 350 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.

2.4.6 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 53 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 (87 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).

It is likely that the majority of vehicles accessing the site will be 8 wheel large tippers (10.2 metres) 6 wheel grab lorries (8.1 metres), rigid delivery vehicles (7.8 metres), 6 wheel concrete

pump lorries (8.4 metres) and delivery vans (5.6 metres).

The proposed routes of construction vehicles across the wider network is shown in **Figure 12.16**. 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.

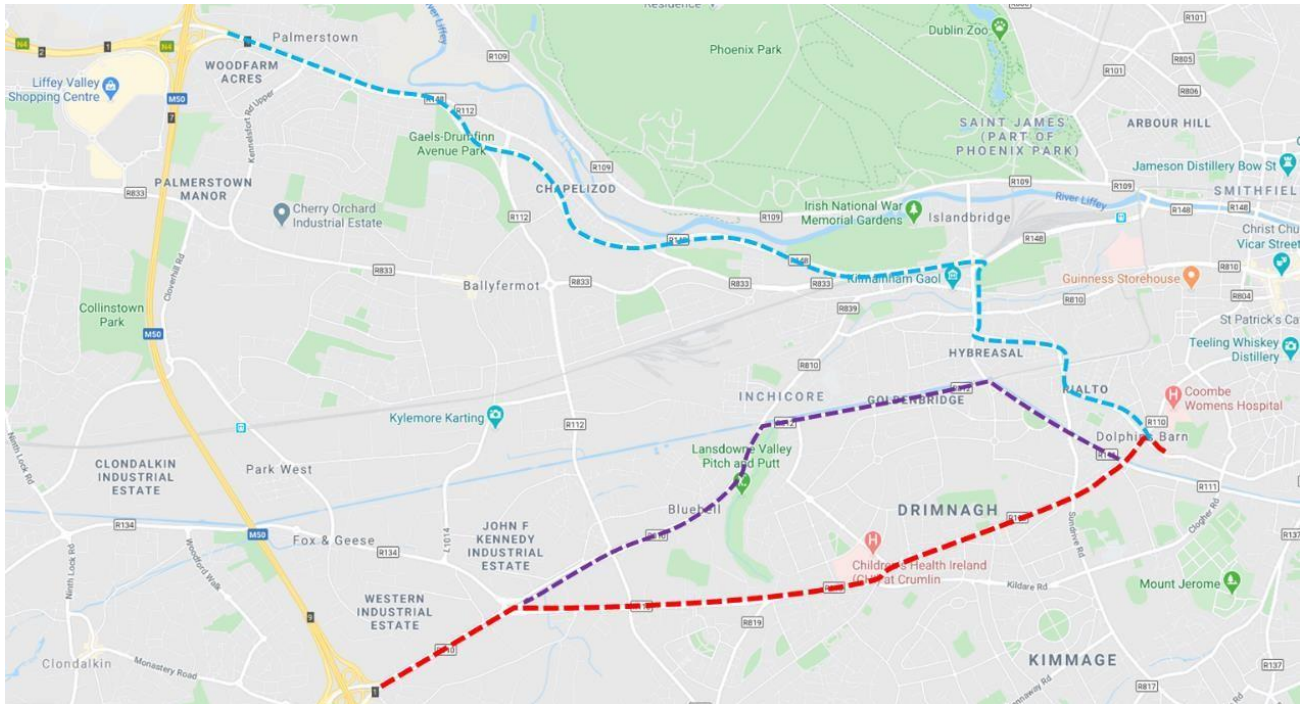


FIGURE 2-16 PROPOSED CONSTRUCTION TRAFFIC ROUTES

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.

2.4.7 Demolition Phase

Architectural features of interest and surviving historic fabric, as detailed below and in the Salvage Schedule (see Appendix 14.8), will be carefully taken down and salvaged prior to the demolition works. 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 are as follows:

- Historic brickwork from the areas of the building to be demolished.
- Original front entrance door.
- Historic timber balustrade to the front staircase, where sections of the staircase are to be demolished (Room G.26).
- Historic internal joinery, including doors, architraves, skirting and timber panelling etc.
- Historic steel industrial doors, internally and externally.

- Historic steel multi-pane windows (see separate Window Schedule for further detail).
- Historic cast-iron rainwater goods throughout, including hoppers, downpipes, brackets and straps.
- Historic wrought-iron railings and gates to the South Circular Road.
- Historic cast-iron radiators.
- Historic decorative cast-metal covers for service boxes.
- Historic timber storage units (Room G.5).

All existing disused buildings will be removed to make way for the proposed development with the exception of the fabric of the original Player Wills factory building.

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 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 2,500 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;

	Waste Types	%	Player Wills Site (Tonnes)
1	Concrete, Bricks, Tiles, Ceramic *	46	1,150
2	Timber	13	325
3	Slate	8	200
4	Asphalt, Tar and Tar products	6	150
5	Plasterboard	4	100
6	Glass	3	75
7	Metals *	20	500
	Total Waste	100%	2,500 Tonnes

*Note: If the warehouse is concrete-framed instead of steel-framed then item 1 quantity will rise & item 7 will fall.

TABLE 2-6 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 5.3.4 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, it is anticipated that this will be the Rilta Environmental Ltd., Rathcoole, Co. Dublin.

2.4.8 Earthworks

2.4.8.1 Ground Conditions

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

- Surface/Topsoil: generally tarmac surfacing;
- Made Ground: described as slightly sandy, slightly gravelly clay up to depths between 1.1m and 1.8m below ground level (bgl);
- Cohesive deposits: described as secondary sand and gravel constituents varied across the site and with depth, granular lenses occasionally present in the glacial till matrix. These deposits had some occasional or frequent cobble and boulder content.

Groundwater was encountered across the site varying between 1.7m and 2.4m bgl.

2.4.8.2 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.

2.4.8.3 Stripped Material

The majority of the site consists of tarmac surfacing. The estimated site strip volumes are set out below.

Item	Topsoil (m ³)	Surfacing and Fill Volume (m ³)	Made-Ground Excavation Volume (m ³)	Cohesive Deposits Volume (m ³)	Bedrock Volume (m ³)	Total (m ³)
*Site Strip	2,169	2,449	9,797	0	0	14,415

TABLE 2-7 SITE STRIP QUANTITIES

* Assumed 500mm site strip of entire surface area, which is taken to be 80% surfacing and fill & 20% made-ground.

An **Environmental Risk Assessment and Waste Characterisation Report** prepared by O'Callaghan Moran is included in Appendix 8.1 (Volume III) and establishes that the soils and subsoils are generally uncontaminated across most of the site. Soil containing arsenic was identified during the site investigations in 7 no. locations, the levels detected are below the Teagasc range for arsenic in clean Irish Soils. While the levels detected are not considered to be significant these material will be excavated and removed from the site during the site preparatory works to establish formation levels on the site.

Aliphatic and aromatic hydrocarbon levels were exceeded in one sample location. PAHS exceeded the S4UL in six samples. While the exceeding values are marginal the material in these locations will be removed during the site preparatory works and will not therefore present a risk to future site users.

The balance of the 56,923m³ of stripped material is confirmed as being suitable for an inert waste landfill. One such facility is the Huntstown Inert Waste Recovery Facility at Huntstown Quarry, Finglas, Dublin 11.

Excavated topsoil will be retained on site in a stockpile for re-use in landscaping.

2.4.8.4 Bulk Excavation

The bulk earthworks for the proposed development are associated with the basement excavation for the PW1 and PW2 building. The quantity of material to be excavated is estimated to be 42,204m³.

Based on the ground conditions established in the site investigation, toothed buckets on standard large excavation plant will be used up to depths of approximately 3 meters below natural ground level. 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.

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.

The basement excavations will encounter the water table, and temporary dewatering will be required to lower the water table in the immediate vicinity of the basement excavation footprint. Extracted ground water shall be pumped from the excavation to a treatment system to remove suspended solids and other contaminants, as required, to meet the water quality discharge limits of the temporary discharge licence agreement with Dublin City Council or Irish Water. Please refer to Chapter 9 of this EIAR and the Construction Environmental Waste Management Plan prepared by Garlands Consulting Engineers under separate cover for further information on dewatering.

The groundwater removed from the excavations will be treated on site to allow for settlement and or pH adjustment 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.

2.4.8.5 Foundations and Services

There will be excavation associated with the pouring of foundations and the establishment of trenches for site services. The quantity of material to be excavated is estimated to be 59,092m³

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.

2.4.8.6 Summary

The total volume of material generated during the demolition and earthworks is estimated to be 61,592m³, of this 2,169m³ of topsoil will be retained on site and reused for landscaping. The balance will be sent off-site for disposal and recovery using 4-axle trucks with an 18-tonne

capacity (36m³), this equates to approximately 1,550 truck movements.

2.5 Health and Safety

2.5.1 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.

2.5.2 Operational Phase

A COVID-19 site prevention strategy has been prepared for the proposed development in order to control the virus by suppressing transmission and preventing associated illness and death. It is understood that the virus is primarily spread through contact and respiratory droplets. Under some circumstances airborne transmission may occur (such as when aerosol generating procedures are conducted in health care settings or potentially, in indoor crowded poorly ventilated settings elsewhere).

To prevent transmission, WHO recommends a comprehensive set of measures including:

- Identify suspect cases as quickly as possible, test, and isolate all cases (infected people) in appropriate facilities;
- Identify and quarantine all close contacts of infected people and test those who develop symptoms so that they can be isolated if they are infected and require care;
- Use fabric masks in specific situations, for example, in public places where there is community transmission and where other prevention measures, such as physical distancing, are not possible;
- Use of contact and droplet precautions by health workers caring for suspected and confirmed COVID-19 patients, and use of airborne precautions when aerosol generating procedures are performed;

The design is cognisant of COVID-19 and is assessed as low risk. The risk assessment prepared determined that the risk of transmission between individuals within the proposed development is low. Given our current understanding of the transition and infection patterns of COVID-19, the main routes to infection include, a) large droplet transmission, b) surface contact and c) airborne transmission. It was determined that the layout of the proposed development will have the necessary control measures in place such as environmental controls pertinent to adequate ventilation, social distancing, spacing requirements, sewage and drainage etc. that allow for the risk to be qualified as low.

The Ventilation systems and Wastewater plumbing systems as proposed, have been designed as not to increase the spreading of the virus. All Design Team members have used accepted best practice methods where possible to mitigate COVID-19 infection of tenants and end users. In addition, it should be noted that there is an abundance of public open space and communal amenity space proposed as part of the proposed development so should there be a lockdown, people will have somewhere to go locally and will not be stuck in their apartments. Please refer to the **Covid-19 Risk Mitigation Report** prepared by International SOS contained in Appendix 4.1 (Volume III).

2.6 Monitoring

2.6.1 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.

2.6.2 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.

2.6.3 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.

2.7 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.

2.8 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.

2.9 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.

2.10 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 Garland Consulting Engineers.

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' 2018, and a **Planning Statement** and **Statement of Consistency** prepared by McCutcheon Halley submitted under separate cover 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



DECEMBER 2020

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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 Report (EIARs) for a range of development types including residential, commercial, renewable energy and waste. Directly relevant experience to this proposed development that Paula has been involved in is the direction of EIARs and Environmental Reports to accompany residential led applications that received permission for development including;

- Bailey Gibson (PL29S.307221) - Demolition of all structures, construction of 416 no. residential units (4 no. houses, 412 no. apartments) 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 (2017) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports - Draft 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 Draft 2017 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 Draft 2017 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 Alternative

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 Player Wills site would remain in its current condition, impermeable, predominantly hardstanding with vacant industrial units. The site in its present condition adversely effects 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.

Further decline of the original former Player Wills factory building may compromise the ability to secure a sustainable future for a building with some industrial heritage merit and this could have a negative impact on the local historic built environment.

A do-nothing approach would fail to address the shortage of homes in the City and would not be consistent with the objective to regenerate this site and integrate it with the wider SDRA 12 lands as set out in the Dublin City Development Plan (DCDP) 2016-2022.

There would be no increase in traffic under the do-nothing scenario, however, the site would fail to achieve the National Planning Framework, National Strategic Outcomes for compact growth and sustainable mobility both of this have consequent climate and human health benefits.

Surface water would continue to discharge unattenuated and untreated to the combined sewer network. This scenario would fail to address water quality issues whereby storm surges result in overflows and deleterious water quality in Dublin Bay.

Should the site remain in its current condition, no significant improvement in biodiversity is anticipated. Scrub vegetation of value would be unlikely to take hold due to the large expanses of hardstanding existing on site.

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	Neutral - Negative	Significant	Local/City	Short-term
Landscape & Visual	Negative	Significant	Local	Short-term
Material Assets: Traffic & Transport	Neutral	Imperceptible	Local	Short-term
Material Assets: Utilities	Neutral	Imperceptible	Local/City	Short-term
Land & Soils	Negative – Neutral	Significant - Imperceptible	Local/City	Short-term
Water & Hydrology	Neutral	Significant	Local/City	Short-term
Biodiversity	Neutral	Imperceptible	Local	Short-term
Noise & Vibration	Neutral	Imperceptible	Local	Short-term
Air Quality & Climate	Neutral - Negative	Imperceptible	Local/National	Short-term
Cultural Heritage: Archaeology	Neutral	Local/City	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 residential lands. The ‘do nothing’ scenario would prevent the delivery of the strategic planning objectives for the area. With the mitigation measures proposed in this EIAR and having regard to the findings that no significant effects on the environment are expected with such measures in place, the comparative environmental effects are not considered sufficient to rule out the proposed development.

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	2 – Led	Alternative 3 – Selected Concentration of growth targeted on existing SDR/ KDC/SDZ areas – elements of a phased approach to the development of land	3 –
PH1	++		-		+	-
BFF1	+	-	-		+	-
CF1	+	0	+	-	+	0
AQ1	+		?	-	+	-
W1	+	-	-		+	-
MA1	+		-		+	-
CH1	+	-	-	?	-	?
L1	+	0	-		+	0
Positive	Very Positive	Insignificant/ No impact	Negative	Very Negative	Uncertain	
+	++	0	-	--	?	

TABLE 3-3 ASSESSMENT OF DEVELOPMENT ALTERNATIVES (SOURCE SEA DCDP 2016-2022)

The proposed development site is subject to 2 no. zoning designations in the DCDP and the proposed land uses are all permissible in principle.

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 small portion of the subject site to the north-east is zoned ‘Z1’ - Sustainable Residential Neighbourhoods with an objective *“to protect, provide and improve residential amenities.”* This portion of the land has been set aside for the future expansion of St. Catherine’s National School, and will be used as a temporary public park until developed.

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 in the form of the sustainable urban expansion and consolidation of Dublin City and thereby contribute in a sustainable manner to meeting strategic planning objectives at a local and regional level.

The suitability of this site for the proposed development has been anticipated in the adopted 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.
- The site is not located within an area identified as susceptible to flooding.
- None of the structures on site are listed on the Record of Protected Structures
- There are no listed views or vistas pertaining to the site.

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 and its zoning (Z14 and Z4) 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, where increased height (up to 50m) is supported.

The Applicant recognised that redevelopment of the former Bailey Gibson site would achieve the principles of a compact city which is a sustainable urban form. It 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

The design approach for the proposed development is presented in the **Architectural Design Statement** prepared by the project architects, Henry J. Lyons and KPF Architects, and submitted under separate cover. It should be read in conjunction with this chapter of the EIAR.

3.2.3.1 Dublin City Development Plan

The Dublin City Development Plan 2016-2022 establishes the overall guiding principles for development within SDRA 12 and these principles act as the framework for design development.

Of relevance to development within the Player Wills site are;

- Concentration of residential development on the Player Wills site;
- Incorporation of a community hub, providing a range of facilities accessible to the wider neighbourhood;
- Opportunities to highlight local heritage;
- Development of a network of streets and public spaces to ensure ; physical, social and economic integration of St Teresa’s Gardens with the former Player Wills and Bailey Gibson sites.;
- Promotion of a mixed-use urban quarter with complementary strategies across adjoining sites in terms of urban design, inter-connections and land-use;
- Potential for one or two midrise buildings (up to 50 m);
- Reservation of site for expansion of St. Catherine’s National School;
- That at least 20% of the SDRA 12 be retained for public open space, recreation & sporting facilities including an area to facilitate organised games; and,
- Strong permeability through the lands 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.

Figure 3.1 is an extract from the DCDP and is an indicative illustration of the envisaged spread of development across the SDRA 12 lands and including the entirety of the Bailey Gibson site.

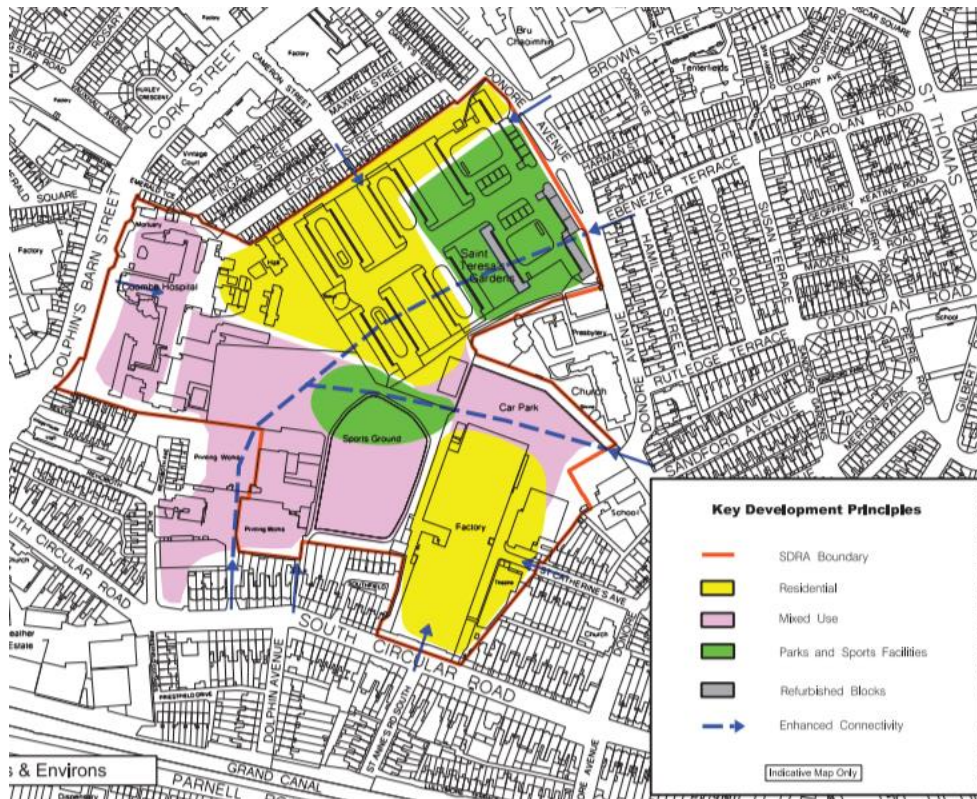


FIGURE 3-1 SDRA 12 KEY DEVELOPMENT PRINCIPLES

The primary key development principle for the proposed development site is residential and lands to the west, under the control of DCC, are identified as mixed-use.

This is an indicative land use map and the primary determinant of suitable uses is established in the site’s zoning objectives. The majority of the land is zoned Z14 with a small area to the north west zoned Z1. The permissible uses and open to consideration uses attached to each of these zonings us set out below.

Zoning Objective Z1	Zoning Objective Z14
<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>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>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>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 3-2 PERMISSIBLE & OPEN FOR CONSIDERATION USES

Having regard to the site's 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 and to achieve this it is likely that a commercial design would also integrate tall buildings. 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 extensive demolition of the existing buildings 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 not significant.

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 and this may continue post the pandemic, 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 e.g. an increase in employment opportunities for people.

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

3.2.4 Alternative Design (including size & scale)

The proposed development site is part of a wider landbank identified for regeneration, in the Dublin City Development Plan 2016-2022, Strategic Development Regeneration Area (SDRA12). The guiding principles for the development of SDRA 12 are established in the DCDP.

In 2017, Dublin City Council published the Development Framework for St. Teresa's Gardens and Environs. Its purpose is to translate the requirements and principles of the DCDP on the planning and development of the SDRA 12 lands. This spatial plan established design parameters for the proposed development site and the wider area. It sets out design considerations for land uses, number of residential units, heights, routes and street network, public open space and phasing. The Framework Plan is sufficiently developed to constitute a reasonable design alternative and for this reason it has been selected as Scenario 1.

The Development Framework was reviewed by Dublin City Council through the preparation of a Masterplan in conjunction with the Applicant. The stimulus for the preparation of the Masterplan arose from the Bailey Gibson and Player Wills sites coming into single ownership. The Masterplan sets out alternative designs for number of residential units, heights, public open space distribution and access. The Masterplan is sufficiently developed to constitute a reasonable design alternative and for this reason it has been selected as Scenario 2.

The proposed development represents an alternative design to the Development Framework and the Masterplan and is reasonably included for assessment as Scenario 3.

Each of the 3 no. design alternatives have been subject to significant planning and design input, are capable of implementation, and therefore represent plausible design alternatives for the development of the proposed development site. The key environmental issues associated with each alternative scenario has been considered by the applicant in advance of selecting the proposed preferred alternative.

3.2.4.1 Scenario 1 - Development Framework for St. Teresa's Gardens & Environs

A non-statutory Development Framework for St. Teresa's Gardens and Environs prepared by Dublin City Council in 2017 translates the requirements and principles of the SDRA 12 lands. Indicative design criteria are established for land uses, height, connectivity and public open space, see **Figure 3.3**.

The Development Framework proposes 6 buildings on the Player Wills site (Blocks 12-17) with heights ranging from 4-8 storeys. The former factory building (Block 16) is envisaged as a mixed-use building and Block 17 immediately to the east is proposed as a theatre. Across the other 4 no. blocks (12-15) the Framework proposes the delivery of 315 new homes which would realise a gross density of 113 units per hectare.

PLAYER-WILLS LANDS							
Footprints	Block No.	Block Name	Footprint (sqm)	Floors (No)	Bldg. Areas (sqm)	Total(s) (sqm)	Approx. Number of Units
	12	Parish N	1,660.4	7	11,622.8		
	13	Mid N	1,429.2	8	11,433.6		
	13	Mid SW	590.5	7	4,133.5		
	13	Mid SE	1,150.5	7	8,053.5		
	14	E – W	1,228.5	5	6,142.5		
	14	W - S	244.3	4	977.2		
	15	School - Site	605.6	2	1,211.2		
	15	School -Off-site	82.3	2	164.6		
	16	Factory	4,464.0	3	13,392.0	(Approx.)	
	17	Theatre	860.8	2	1,721.6	(Approx.)	
Player Wills Totals		Footprint (sqm)	12,316.1			58,852.5	GFA (sqm)
							315 units not incl. former factory/theatre

TABLE 3-5 PROPOSED PLAYER WILLS DEVELOPMENT PARAMETERS

The Development Framework identifies, the southern park with an area of 0.56 ha and it is envisaged as an area incorporating sensory planting schemes, leisure walks, a playground, seating/picnic areas and cafes.



FIGURE 3-3 PLAYER WILLS INDICATIVE HEIGHTS & LAND USES

Assessment of Likely Effects

The effect of the construction (including demolition) phase of implementing the layout and high level design parameters established in the Development Framework is comparable to the residual effects for the proposed development i.e. there would be no likely significant permanent environmental residual effects post application of standard mitigation measures.

Population & Human Health

There are factors that affect population and human health the effects of which are indeterminable in the absence of detailed design. In the context of population and human health, it is not possible to assess the affect of daylight, sunlight or overshadowing that may arise from the implementation of the layout presented in the Development Framework.

315 new homes together with arts and culture related activities and employment opportunities would be realised under the Development Framework and this would be a significant positive effect at a local and city wide context and the effect would be permanent.

Under this option 31 no. social and affordable homes would be delivered; this would have a significant positive effect locally.

The Development Framework provides for 0.03 hectares of public open space on the Player Wills site. While there is good overall provision of open space across the plan area, there is no phasing attached to the plan. As such the development of Player Wills may precede the delivery of the proposed parks. In this circumstance, the effect would be negative, and locally of slight to moderate significance with at least a short term duration i.e. until such time as the open space on the wider lands is delivered.

Landscape & Visual

The immediate surrounding context is low-rise and predominantly 2-storey housing. The Framework provides for blocks on the Player Wills site that range from 2-8 storeys. Increased height will change the landscape and townscape character. 8-storeys is considered to be relatively modest and the effect is determined to be locally neutral, not significant with a permanent duration.

Material Assets: Traffic & Transport

The Framework would have a positive effect on public transport as it would increase the critical mass required to support its viability.

Based on the modelling undertaken, it is determined that delays for traffic on the local network are in general minor with no significant delays predicted as result of the additional development. The effect would be at worst locally a slight negative with a permanent duration.

Material Assets: Built Services

Any increase in development would place additional demand on existing infrastructure including drainage and water supply. Irish Water have confirmed the feasibility of the proposed development which would generate a greater demand than the land uses proposed in the Development Framework. Accordingly, it can be reasonably assumed, that implementation of

this plan would also be acceptable to Irish Water and the effect is neutral, imperceptible and permanent.

Land & Soils

Development of the land would require site clearance and excavation to facilitate the basement indicated in the Framework. The effect would be negative due to the loss of underlying soils, however, this is consistent with achieving compact growth and protects greenfield sites from redevelopment. The effect is locally negative, with a significance rating of imperceptible to not significant and of permanent duration.

Water & Hydrology

The application area is not within a sensitive hydrological environment and there is no surface water body within the site. The implementation of the Development Framework would require sustainable urban drainage (SuDS) measures in line with the requirements of the Greater Dublin Strategic Drainage Study (GSDSDS). This would have a significant positive effect on the City's hydrological environment with a permanent duration.

The hydrogeological environment would continue to be protected due to the continued existence hardstanding associated with buildings and yard areas. The effect would thus be neutral and imperceptible locally with a permanent duration.

Biodiversity

Implementation of the Framework as it relates to the Player Wills site and the linear park would have a moderate positive effect on biodiversity as it includes a comprehensive planting programme.

Noise & Vibration

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

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.

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 315 carparking spaces and based on the foregoing this would give rise to the emission of 642,600kgs of CO₂/annum. This would be a significant negative effect locally and for the City with a permanent duration.

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.

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

Cultural Heritage - Archaeology

Due to the developed nature of the Player Wills plot, the site has already been subject to a significant degree of disruption. However, basement excavations may reveal hitherto undisturbed archaeological deposits. The effect is indeterminable at this stage.

The removal of soils to facilitate the development of the public park is considered to have a low likelihood of significantly impacting underlying archaeology as it would not require deep excavation. The effect is determined to be neutral.

Cultural Heritage – Built Heritage

The Development Framework has an objective that the heritage of the local area should be highlighted. However, it does not specifically relate this to the former factory building. The building is not listed in the Record of Protected Structures and the Framework Plan does not provide any specific development parameters for the building, other than assigning mixed use with a height of 3 storeys. Given this broad scope and the non-designation of the building in the Development Plan, there is a risk that the industrial architectural heritage may be lost under this option and the effect would be locally a significant negative with a permanent duration.

3.2.4.2 Scenario 2 - Masterplan

Following the acquisition of the Player Wills and Bailey Gibson site by the Applicant and on foot of the uncertainty regarding the future development of the Coombe lands, Dublin City Council commissioned the preparation of a non-statutory Masterplan for the integrated development of lands under their control including St. Theresa's Gardens and undeveloped greenfield areas together with the Applicant's landholding, see **Figure 3.4**. The Masterplan was prepared in cooperation with the Applicant and accompanies this application under separate cover.



FIGURE 3-4 MASTERPLAN LANDS

The Masterplan maintains the established guiding principles for regenerating the area and safeguards the Framework requirements including:

- Delivering a high quality, high-density residential led mixed-use quarter with complementary uses;
- Promoting a mix of tenure and residential unit types;
- Sensitively developing the interface of the Masterplan lands with surrounding existing low-rise residential dwellings;
- Increasing the scale of development toward the centre of the Masterplan lands;
- Providing generous, well designed, attractive, multifunctional public open space with good orientation, connectivity, and passive and active supervision;
- Integrating a municipal playing pitch;
- Defining the public realm and public and private open space;
- Using appropriate boundary treatments to define and secure private space;
- Promoting active streets through integration of ground floor entrances and aligning commercial space with existing surrounding roads;
- Incorporating generous pedestrian zones and limiting surface level carparking;
- Developing a comprehensive soft landscaping strategy;

- Developing a network of street and public spaces to ensure the social and economic integration of St. Teresa's Gardens with Player Wills and Bailey Gibson sites and the surrounding area;
- Ensuring north/south (Cork St. & Donore Avenue connection to South Circular Road) permeability and east/west (Dolphin's Barn Street and Cork Street) is achieved;
- Providing a range of community facilities accessible to the wider community, including sports facilities;
- Management of surface water using a softer green approach for all developments with an emphasis on an integrated design strategy with landscaping proposals to provide Sustainable Environmental Infrastructure;
- Highlighting the heritage of the local area; and,
- Providing for the future expansion of St. Catherine's National School.

Assessment of Likely Effects

The effect of the construction (including demolition) phase of implementing the layout and high level design parameters established in the Development Framework is comparable to the residual effects for the proposed development as outlined in this EIAR i.e. there would be no likely significant permanent environmental residual effects post application of standard mitigation measures.

Population & Human Health

The Masterplan provides for the delivery of up to 975 no. units on the Player Wills site. This is 350 units per hectare gross and represents an increase of over 200% on the Development Framework density.

The effect of this increase in housing delivery is significantly positive for population and human health both locally and in the context of the wider city, as new homes would be delivered close to employment opportunities.

Under this option 97 no. social and affordable homes would be delivered, this is over 200% more than the Development Framework. The effect on population is significantly positive.

The quantum of public open space (0.03 hectares) envisaged in the Development Framework Plan for the Player Wills site is significantly increased in the Masterplan. While this arises from a redistribution of the open space proposed in the Framework Plan for the Bailey Gibson site, notwithstanding, its location adjacent to the school and primary function as a play and gathering area for young families is locally significantly positive. The park has been tested for sunlight performance and 90% of the park will achieve at least 2-hours of sunlight on the BRE test reference date of the 21st March. This will be a bright space that will benefit health.

When compared with the Development Framework, this redistribution of the public open space is deemed a better response as it provides a hierarchy of public open space i.e. by reducing the size of the linear central park, a new local park is created.

Landscape & Visual

The City Development Plan allows for consideration of one or two midrise buildings (up to 50m) on this site. The Masterplan has regard to new national planning policy and guidance, for

compact regeneration and growth, established in the National Planning Framework and the Urban Development and Building Height Guidelines.

The height strategy includes 7 no. tall buildings across the Masterplan lands ranging from 15-22 storeys, with lower heights around the site perimeter increasing towards the centre of the site, see **Figure 3.5**. The maximum height on the Player Wills site is a projection of 19 storeys in block PW2, overlooking the central linear park.

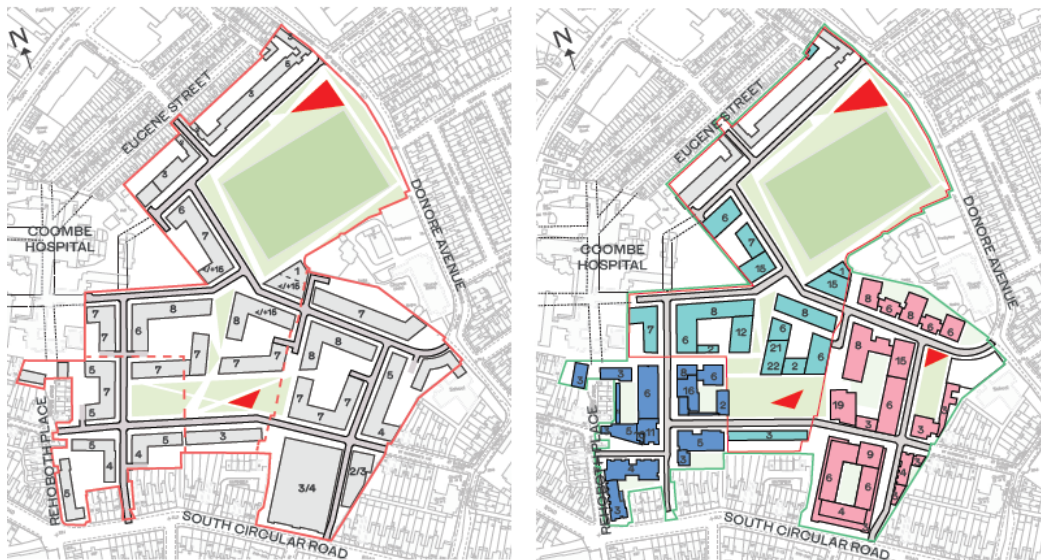


FIGURE 3-5 FRAMEWORK PLAN & MASTERPLAN HEIGHT STRATEGY

A principal environmental effect of increasing height is the impact on daylight, sunlight and overshadowing. The Development Framework does not include this analysis nor does it include sufficient detail for modelling. The Masterplan was subject to sunlight analysis of the proposed open spaces to determine if this alternative scenario of increased height is acceptable in terms of the standards established in the BRE Guidelines.

In terms of sunlight to communal amenity space in Player Wills, the analysis demonstrates that all receive the BRE target value of 2 hours of sunlight in more than 50% of the area on the 21st March. Importantly, the analysis also demonstrates that the inclusion of taller buildings on the Player Wills site does not impact access to sunlight in the wider Masterplan lands, see **Table 3.6**.

	Location	% >2 hours at surface level receiving sunlight on March 21 st	% >2 hours at roof level receiving sunlight on March 21 st	Total % >2 hours receiving sunlight on March 21 st	PASS/FAIL
1	BC1	54		54	PASS
2	BC2	96		96	PASS
3	BC3	100		100	PASS
4	BC4	98		98	PASS
5	PW2*	50	96	70	PASS
6	PW3	65		65	PASS
7	PW5	98		98	PASS
8	DCC1	69		69	PASS
9	DCC3	83		83	PASS
10	DCC5	70		70	PASS
11	DCC6	93		93	PASS

TABLE 3-6 SUNLIGHT TO COURTYARDS

Further the increased height does not affect sunlight to the proposed public open space across the Masterplan lands, demonstrated in the Table below.

	Location	% >2 hours at surface level receiving sunlight on March 21 st	PASS/FAIL
1	Central Park	99	PASS
2	Municipal Playing Pitch	99	PASS
3	Local Park	90	PASS

TABLE 3-7 SUNLIGHT TO MASTERPLAN PUBLIC OPEN SPACE

As the alternative increased height scenario is demonstrated to be acceptable, the increased height strategy is justified and the effect is **neutral** and **not significant** to the quality of the amenity space.

Any increase in height at this location will change the existing townscape character. However, this is consistent with emerging patterns of development in the immediate area as policies to densify the city are realised. The approach to height is one of respect, whereby buildings are scaled down at the boundaries as it meets existing development. In this way issues of overlooking are avoided.

Visual impact is largely subjective and can change with time and as further development emerges in the wider area. Overall, the Masterplan will deliver a new urban quarter with high quality architecture and a new skyline that will define the identity of this new urban

neighbourhood. It juxtaposes the old and new and in doing so introduces a layer of dynamism to Dublin 8.

Material Assets: Traffic & Transport

The Masterplan would have a greater positive effect on public transport when compared with the Development Framework as it would increase the critical mass required to support its viability.

The Masterplan adopts the provisions of the Design Standards for New Apartments which advocate reduced parking provision for Build to Rent schemes. Accordingly, 1 car parking space per 3 units is proposed.

Based on 975 units this would mean providing 325 car parking spaces and the associated CO₂ emissions per annum is 663,000kgs. This is only slightly higher when compared with the Development Framework but when balanced against the significant increase in new homes is justifiable.

Material Assets: Built Services

The Masterplan provides for between 875 and 975 new homes on the Player Wills site. Irish Water has confirmed the feasibility for 900 units at Player Wills together with non-residential uses of 4,500 sq.m. Accordingly, it can be reasonably assumed, that implementation of the Masterplan would also be acceptable to Irish Water and the effect is neutral, imperceptible and permanent.

Land & Soils

Development of the land would require site clearance and excavation to facilitate the basement. The effect would be negative due to the loss of underlying soils, however, this is consistent with achieving compact growth and protects greenfield sites from redevelopment. The effect is locally negative, with a significance rating of imperceptible to not significant and of permanent duration.

Water & Hydrology

The application area is not within a sensitive hydrological environment and there is no surface water body within the site. The implementation of the Masterplan would require sustainable urban drainage (SuDS) measures in line with the requirements of the Greater Dublin Strategic Drainage Study (GDSDS). This would have a significant positive effect on the City's hydrological environment with a permanent duration.

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

Biodiversity

Implementation of the Masterplan as it relates to the Player Wills site and the linear park would have a moderate positive effect on biodiversity locally as it includes for a comprehensive planting programme.

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.

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 the Player Wills plot, the site has already been subject to a significant degree of disruption. However, basement excavations may reveal hitherto undisturbed archaeological deposits. The effect is indeterminable at this stage.

The removal of soils to facilitate the development of the public parks is considered to have a low likelihood of significantly impacting underlying archaeology as it would not require deep excavation. The effect is determined to be neutral.

Cultural Heritage – Built Heritage

The Masterplan includes a specific objective for the Player Wills factory building to be rehabilitated, and not less than 35% of the ground floor of the factory building, approximately 1100m², shall be dedicated to community/cultural use, incorporating appropriate space to accommodate arts and culture activities. This is a significant benefit when compared with the Do Nothing Scenario and the Development Framework. The safeguarding of the building heritage merit together with the community gain will realise a significant positive effect locally with a permanent duration.

3.2.4.3 Scenario 3 - Proposed Development

Population and Human Health

The proposed development provides for 492 no. Build to Rent units 240 no. single occupancy share accommodation rooms. This is less than the maximum 975 no. outlined in the Masterplan and significantly more than the 315 no. units for the Player Wills site identified in the Development Framework. The gross density based on the area of the Player Wills site only (2.39 ha) is 306 units per hectare. This is approx. 133% more than the Development Framework density and 12% less than the Masterplan.

The effect in terms of delivery of new homes is significantly positive when compared with the Development Framework and slightly less positive when compared with the Masterplan.

Under this option 49 no. social and affordable homes would be delivered, this is 58% more than the Development Framework and 49% below the Masterplan. The effect on population remains significantly positive.

The design of blocks PW4 and PW5 was refined following the pre-application consultation (PAC) with An Bord Pleanála to mitigate impacts on existing residences to the east of the Player Wills site. The massing of PW4 was reduced from 3-storeys to 2 storeys along this boundary interface to mitigate the effect of overlooking on adjacent properties. These duplex units will replace the existing industrial unit and their site position and relationship to the boundary, together with their parapet and ridge height is similar to the existing unit on site.

The elevational treatment of the access gallery in PW5 has been redesigned resulting in elimination of the "lightbox" facade proposed at pre-application consultation stage. The revised facade consists of brick, perforated brick and a green wall. The facade elements will ensure neighbouring privacy is not compromised, whilst light transmission through the facade is minimised.

Across the scheme, the number of dual aspect units increased from 42% at the PAC stage to the current 51%. The effect of this on human health is determined to be significantly positive as units benefit from increased levels of daylight.

Landscape & Visual

The height strategy in the proposed development is consistent with the Masterplan i.e. maximum 19 storeys with a stepping down to the site boundaries. The effect of the proposed development is thus consistent with the Masterplan.

Block PW2 incorporates the proposed 2 no. towers and considerable attention has been given to them in the design with continuous refinements to achieve an optimum balance between slenderness ratios and associated enhanced townscape views and achieving the principles of compact growth.

The skyline profile of PW2 has been developed in response to detailed analysis and review across a wide range of townscape views. The diagrams below, illustrate the evolution from early massing profiles to the final configuration that represents the current scheme.

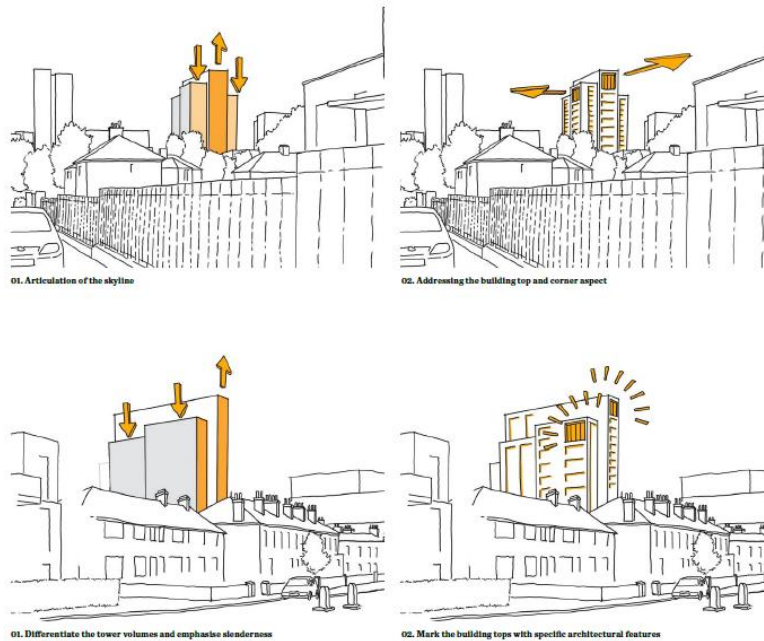


FIGURE 3-6 BLOCK PW2 EVOLUTION

To achieve the 3:1 slenderness ratio set out in the Dublin City Development Plan, this would result in floor plate that does not represent an efficient use of materials and resources with excessive lift provision, structural framing requirements and extent of facade to provide a limited number of units.

The expression at the top of the 19-storey element was simplified to reduce the complexity of the skyline profile. In addition, a reduction in height was applied to part of the central element to create a more slender top when viewed in the townscape.

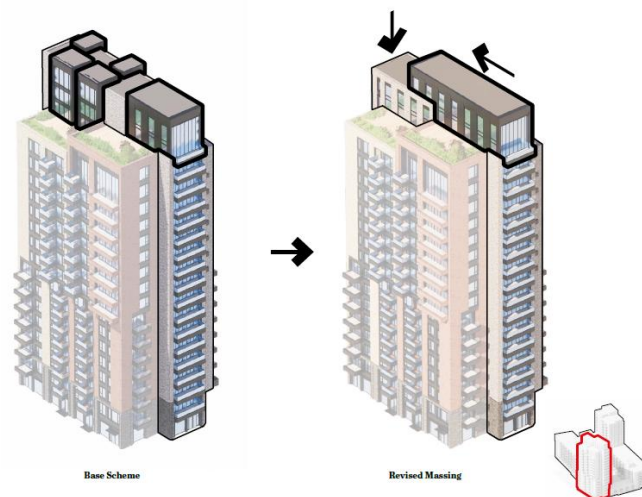


FIGURE 3-7 ALTERNATIVE TOP FLOOR EXPRESSIONS

Material Assets: Traffic & Transport

Under this scenario, 148 no. car parking spaces are proposed to service the BtR apartments together with 20 no. car share parking spaces. It is not proposed to provide dedicated car parking for the shared accommodation element of the scheme. The cumulative emissions arising from parking associated with the proposed development is 342,720kgs of CO₂ per annum.

This reduced car parking realises a 47% saving on CO₂ emissions when compared to the Development Framework (Scenario 1) and a 48% reduction when compared to the Masterplan (Scenario 2). This alternative thus performs better than the previous two development scenarios and the effect is significantly positive for human health, air quality and climate.

81 no. car parking spaces are included to serve a future proposed development and would generate a further 165,240kgs of CO₂. Taken together with the carparking included to serve the proposed development, the CO₂ savings would be 21% lower than the Development Framework (Scenario 1) and 23% less than the Masterplan (Scenario 2)

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 is the equivalent of planting up to 1,600 trees.

Material Assets: Built Services

This option is for approx. 25% less homes on the Player Wills site than the max. proposed in the Masterplan. The effect on water supply is thus less than the Masterplan and greater than the Development. However, confirmation of feasibility has been received from Irish Water and the effects is determined to be neutral and not significant.

The segregation of foul and surface water and controlled release would be required under any of the 3 no. options in line with the requirements of the GDSDS. As such, the effect is positive under all scenarios.

Land & Soils

Development of the site would require clearance and excavation of soils to facilitate the basement construction. Underground parking protects the public realm and would be required under for any development of the site. Thus, the effect on soils is permanently negative with an imperceptible to not significant effect under all 3 no. options.

Water & Hydrology

Similar to the other 2 options, this option includes SuDS measures and this will have a significant positive effect on the City's hydrological environment with a permanent duration.

The hydrogeological environment would be protected under all 3 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 comprehensive landscape scheme that incorporates a planting regime to promote biodiversity. The effect locally is consistent with the other 2 no. options i.e. 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 3 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 the Player Wills plot, the site has already been subject to a significant degree of disruption. However, basement excavations may reveal hitherto undisturbed archaeological deposits. The effect is indeterminable at this stage.

The removal of soils to facilitate the development of the public parks is considered to have a low likelihood of significantly impacting underlying archaeology as it would not require deep excavation. The effect is determined to be neutral.

Cultural Heritage – Built Heritage

The proposed development incorporates a well-considered community, cultural and arts hub in the ground floor of the former factory building. The effect is consistent with the Masterplan option and significantly positive when compared with the Development Framework. The safeguarding of the building's architectural heritage together with the community gain will realise a significant positive effect locally with a permanent duration.

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 Development Framework layout 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.

The Development Framework for St. Teresa's Gardens and Environs (Scenario 1) is the baseline from which the preferred alternative design emerged.

This chapter demonstrates that the proposed preferred alternative performs better during the operational stage when compared with the Development Framework, in terms of the delivery of housing, whereby 492 no. build to rent homes and 240 no. shared accommodation private living areas would be delivered, in comparison with 315 no. under the Development Framework. While this is less than the Masterplan's 975 no. units, Option 3 achieves an appropriate balance between high density development and the achievement of performance based criteria that safeguard the environment.

The intensification of development under the preferred scenario ensures that maximum use is made of the existing built environment.

The height strategy under all 3 scenarios 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.

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.

In terms of public open space, the Development Framework performs well in terms of quantum and is a significant positive. The approach to redistribution of public open space under Options 2 and 3 realises a significant positive effect in terms of usability.

The effect of the preferred alternative, the subject proposal, in terms of daylight and sunlight relative to the Framework Plan and Masterplan is determined to be significantly positive as the proposed development performs better than either of the other 2 no. scenarios.

3.5 Conclusion

To conclude, **Table 3.8** below provides a high-level comparison of the quality of the effects of the operational phase of the proposed development (the preferred alternative) with Scenario 1, the Development Framework and Scenario 2, the Masterplan.

Aspect	Scenario 1 Development Framework	Scenario 2 Masterplan	Scenario 3 Proposed Development
Population - Housing Delivery	Positive	Significantly Positive	Significantly Positive
Population - Social & Affordable Homes	Positive	Significantly Positive	Significantly Positive
Human Health – Daylight & Sunlight	Indeterminable	Positive	Significantly Positive
Human Health – Public Open Space	Significantly Positive	Significantly Positive	Significantly Positive
Human Health – Air Quality (CO ₂ emissions)	Negative	Positive	Significantly Positive
Landscape Character – New Urban Neighbourhood	Significantly Positive	Significantly Positive	Significantly Positive
Visual – Height	Significant Positive in the long term as full lands developed and new urban neighbourhood emerges.	Significant Positive in the long term as full lands developed and new urban neighbourhood emerges.	Moderate Positive leading to Significant Positive as wider lands in the Masterplan are developed.
Material Assets – Efficient use of existing built services and utilities	Moderate Positive	Significant Positive	Significant Positive
Land – efficient use of zoned and serviced lands	Moderate Positive	Significant Positive	Significant Positive
Water & Hydrology	Significant Positive	Significant Positive	Significant Positive
Biodiversity – quantum of communal and public open space	Significant Positive	Significant Positive	Significant Positive
Noise & Vibration	Neutral	Neutral	Neutral
Air Quality & Climate – reduction in CO ₂ emissions	Negative	Significant Positive	Significant Positive
Cultural Heritage - Archaeology	Neutral	Neutral	Neutral
Cultural Heritage - Built Heritage	Neutral-Negative	Significant Positive	Significant Positive

TABLE 3-8 HIGH-LEVEL COMPARISON OF ENVIRONMENTAL EFFECTS OF 3 NO. DEVELOPMENT ALTERNATIVES

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 and there is no hydrological pathway to a Designated European Site.
- The site is not located within an area identified as susceptible to flooding.

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.

CHAPTER 4

POPULATION AND HUMAN HEALTH

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



DECEMBER 2020

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4 Population and Human Health

4.1 Introduction

According to 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 - Draft (2017) 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 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).

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. PL0003**.

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former 'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, 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. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use(residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
 - b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of

- 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
- c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;
 - d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
 - e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
- iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
- a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
 - b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m.
- iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;
- v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1

- (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.
- vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
 - vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
 - viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
 - ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.
 - x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
 - xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
 - xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1(the former factory building);
 - xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
 - xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
 - xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
 - xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
 - xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment and lighting.

4.4 Methodology

To inform this assessment, the application area and surrounds were visited on a number of occasions in 2019 and 2020. 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 – Draft (EPA, 2017);

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.3.06 hectares, it includes the Player Wills site (2.39 hectares) and 0.67 hectares to accommodate works to facilitate connections to municipal services and works proposed to public roads, see **Figure 4.1**. It forms part of a wider area subject to a non-statutory **Masterplan** that is submitted with this application under separate cover.



FIGURE 4-1 APPLICATION AREA

In 2014, the Department of Environment, Community and Local Government, in conjunction with Local Authority Planning Departments, carried out a national survey of all lands zoned for residential development to determine the location and quantity of lands that may be regarded as being undeveloped and available for residential development purposes.

The survey quantified the total amount of lands identified for future housing development in the various Local Authority Development Plans. In effect, the lands identified are the areas within which much, if not all new urban housing in the state, is expected to be provided over a 6-year period to the end of this year.

As is illustrated in **Figure 4-2**, the Player Wills site is part of one of the most significant landbanks identified inside the canal cordon in the Residential Land Availability Survey 2014.



FIGURE 4-2 RESIDENTIAL LAND AVAILABILITY SURVEY 2014

The application area is located on the northern side of South Circular Road (SCR) and is bounded to the north by the Donore Youth Community Centre and St. Theresa's Church. The site is bound by 2-storey terraced housing along St. Catherine's Avenue and Donore Avenue. The western boundary adjoins the former Bailey Gibson site.

The site can be accessed via an existing entrance off Donore Avenue, St. Catherine's Avenue and South Circular Road.

The site is irregular-shaped and contains former industrial premises and predominantly concrete yard in poor repair. The land included in the application under the ownership of Dublin City Council are undeveloped and greenfield.

There are no Protected Structures located on the site. The nearest Protected Structure is St. Catherine & St. James' Church of Ireland, located c. 200 m east of the subject site (RPS No. 2326).

The application area includes lands that extend beyond the former Player Wills factory site to facilitate a public park, a public road connecting the Bailey Gibson and Player Wills site, public road improvements and connections to municipal services. This area comprises 0.67 hectares and is in the ownership of Dublin City Council.

4.5.2 Player Wills Zoning

The Player Wills plot is subject to 2 no. zoning designations;

- i. The majority of the site is zoned 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".
- ii. A small area to the northeast is zoned Z1, 'To protect, provide and improve residential amenities.

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

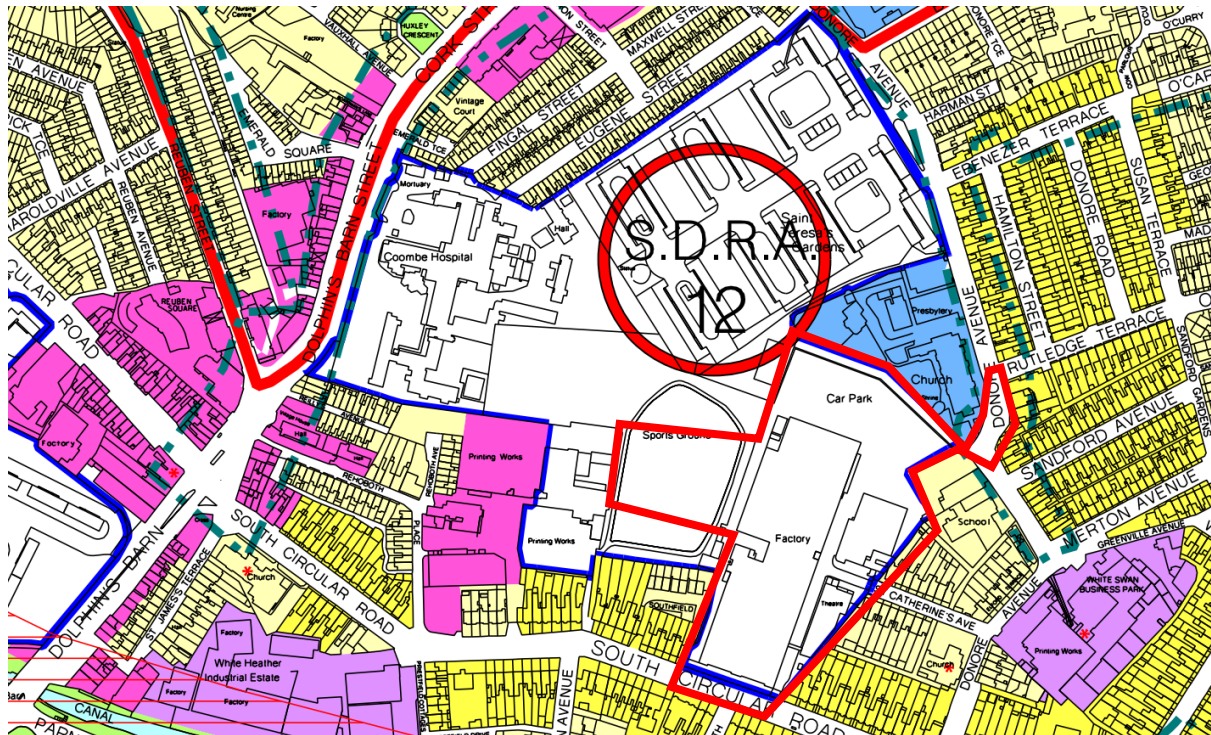


FIGURE 4-3 SITE ZONING

4.5.3 Surrounding Land Uses

The land uses immediately adjacent to the site comprise residential, institutional, health, enterprise and undeveloped lands. Within the immediate wider area is the Bailey Gibson site to the west, St. Teresa's Gardens to the north, St. Catherine's National School to the east and St Catherine's Parish Church, Hall and Presbytery.

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

Dolphins Barn Street/Cork Street (R110) is c.370m 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 buildings (6-8 storeys). A period of 'urban renewal' and change between 2003 and 2010 produced some notable new buildings and brought new residents to the area, 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 renewal in tandem with the regeneration of neighbouring Newmarket. The Cork Street/ Marrowbone Lane/Donore Avenue environs is a commercial and community hub for Cork Street with a range of retail outlets.

Dolphins Barn is approximately 400m 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. The area 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).

4.5.4 Sensitive Receptors

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

- i. Residential dwellings in surrounding streets; South Circular Road, Donore Avenue and St. Catherine's Avenue.
- ii. Occupants of the Coombe Hospital,
- iii. St. Catherine's National School, and,
- iv. Users of the public road network surrounding the site.

4.5.5 Public Transport

The site is located within a 5-minute walk of numerous high frequency Dublin Bus & Go-Ahead services which traverse 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.

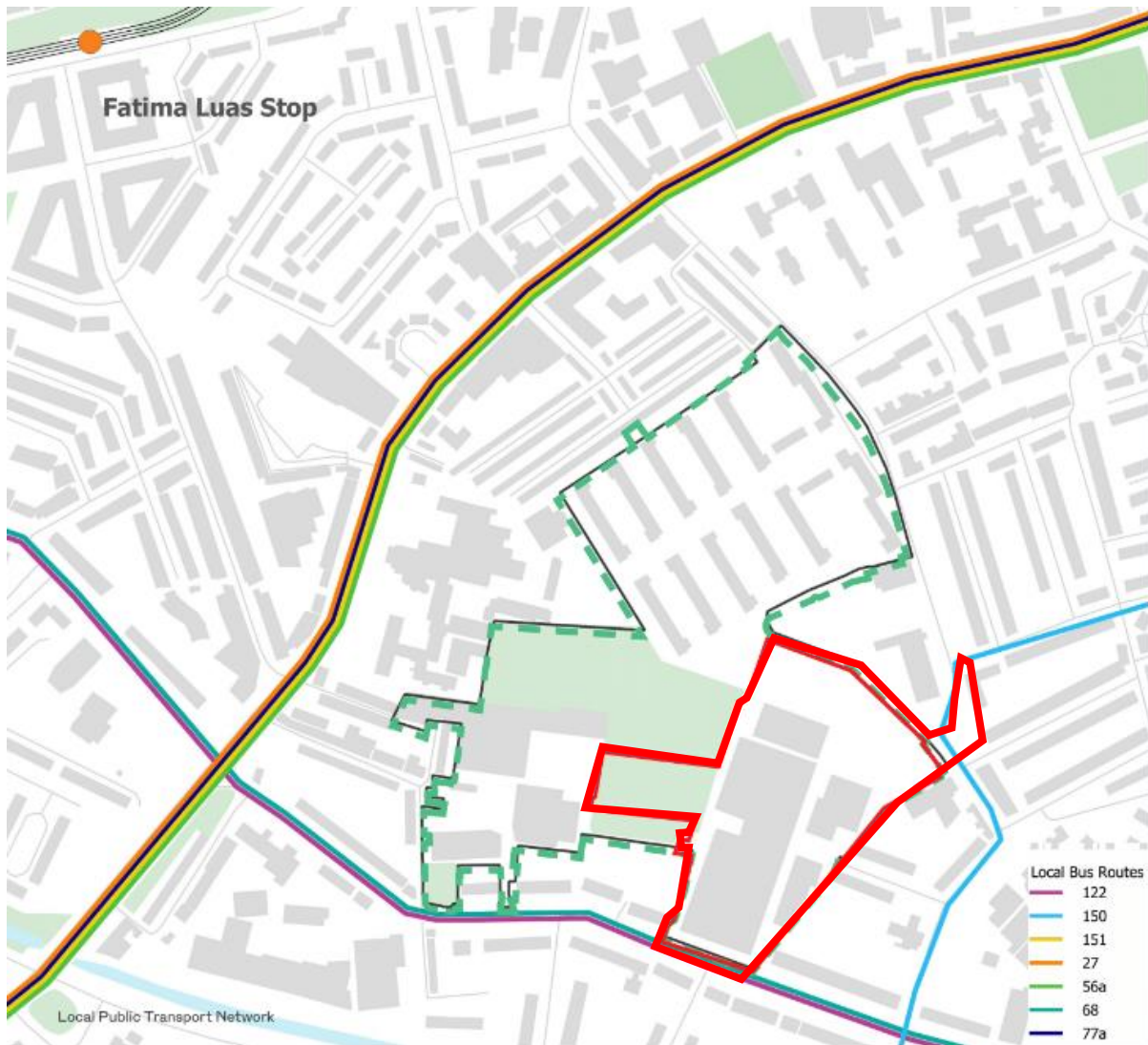


FIGURE 4-4 PUBLIC TRANSPORT

The site is also within a convenient walking and cycling distance of the city centre and a number of large employment centres including The Guinness Brewery c. 1.2 km or 15-minutes' walk and The Coombe Women's Hospital c. 0.3 km or 11-minutes' walk. Other nearby leisure and retail facilities include Spar, Centra, Templeogue Synge Street GAA Club and Capital Strength Weightlifting Club.

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 house. 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.

The city centre, TUD Grangegorman and Heuston Station are all within a 15-minute cycle of the site, as shown in the **Figure 4-17**. There are an estimated 160,000+ jobs located a 15-minute cycle of the site.

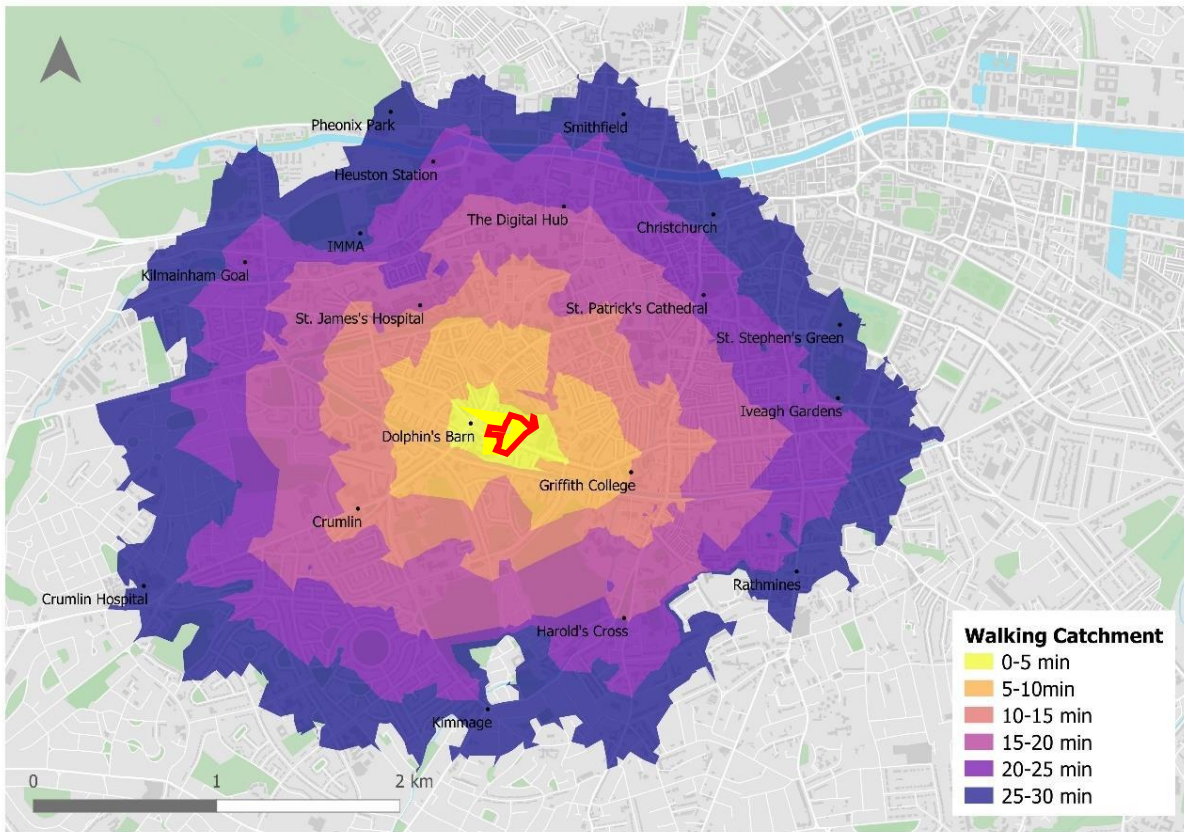


FIGURE 4-5 WALKING CATCHMENT

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 Player Wills 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'.

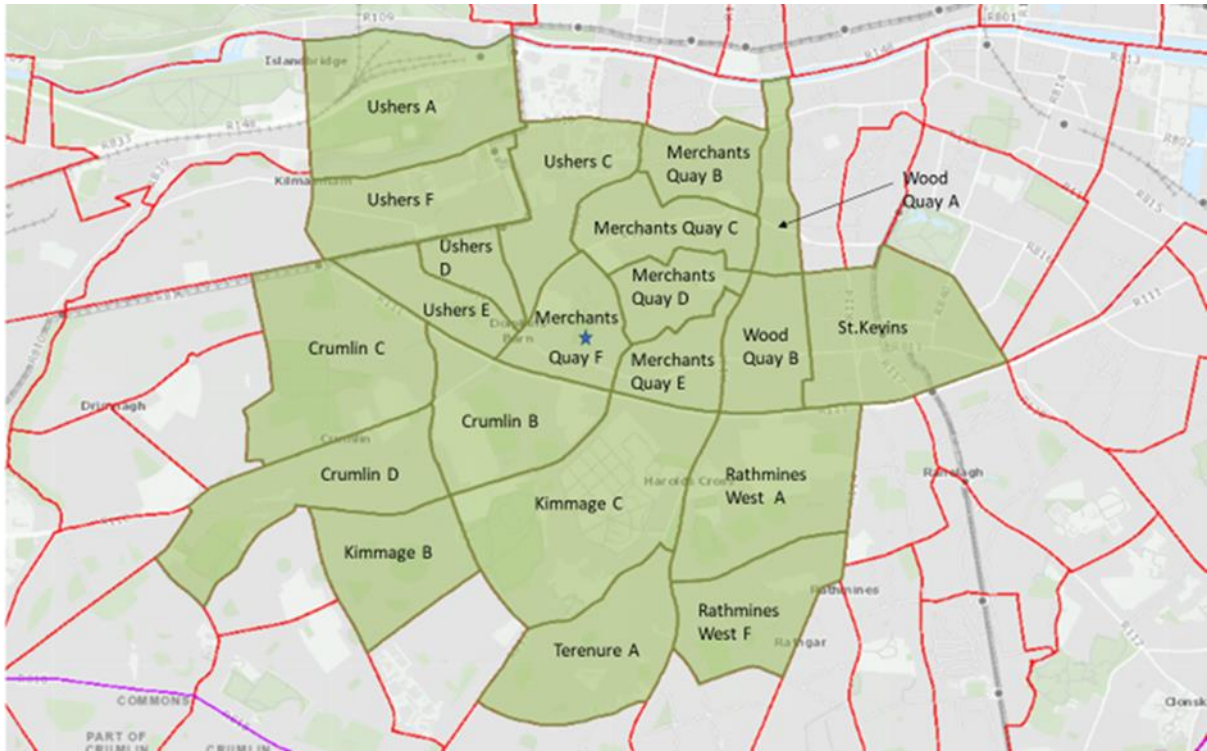


FIGURE 4-6 - ELECTORAL DIVISIONS IN THE STUDY AREA

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.

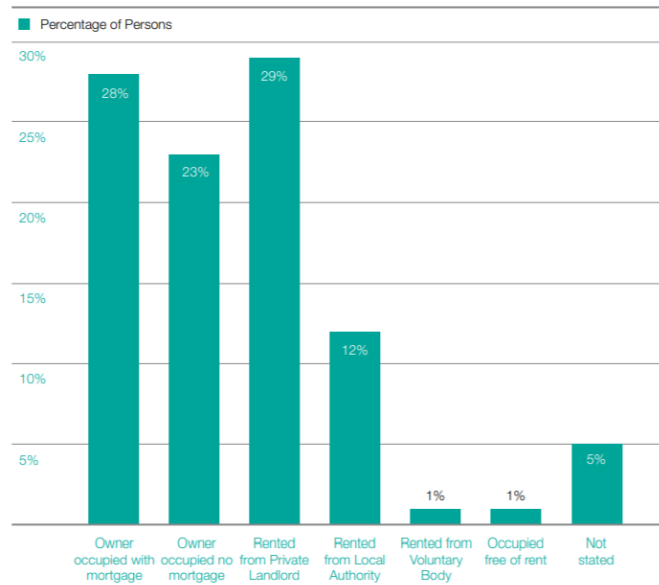


FIGURE 4-8 PERCENTAGE OF PEOPLE ACCORDING TO OCCUPANCY TYPE, DUBLIN CITY, 2016

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%. **Figure 4.9** and **4.10** illustrates 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.

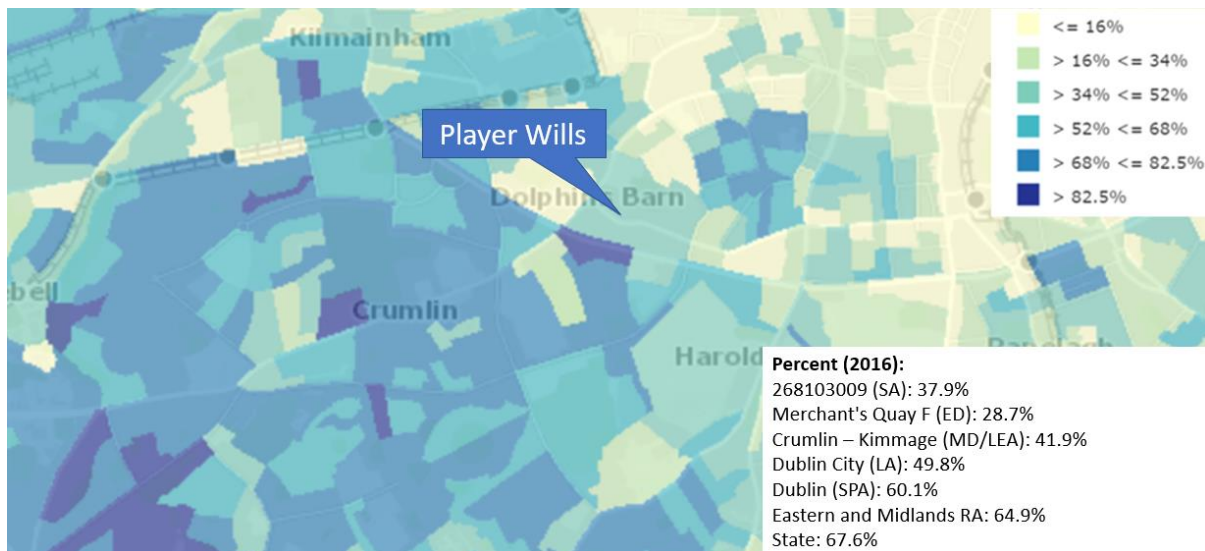


FIGURE 4-9 OWNER OCCUPANCY

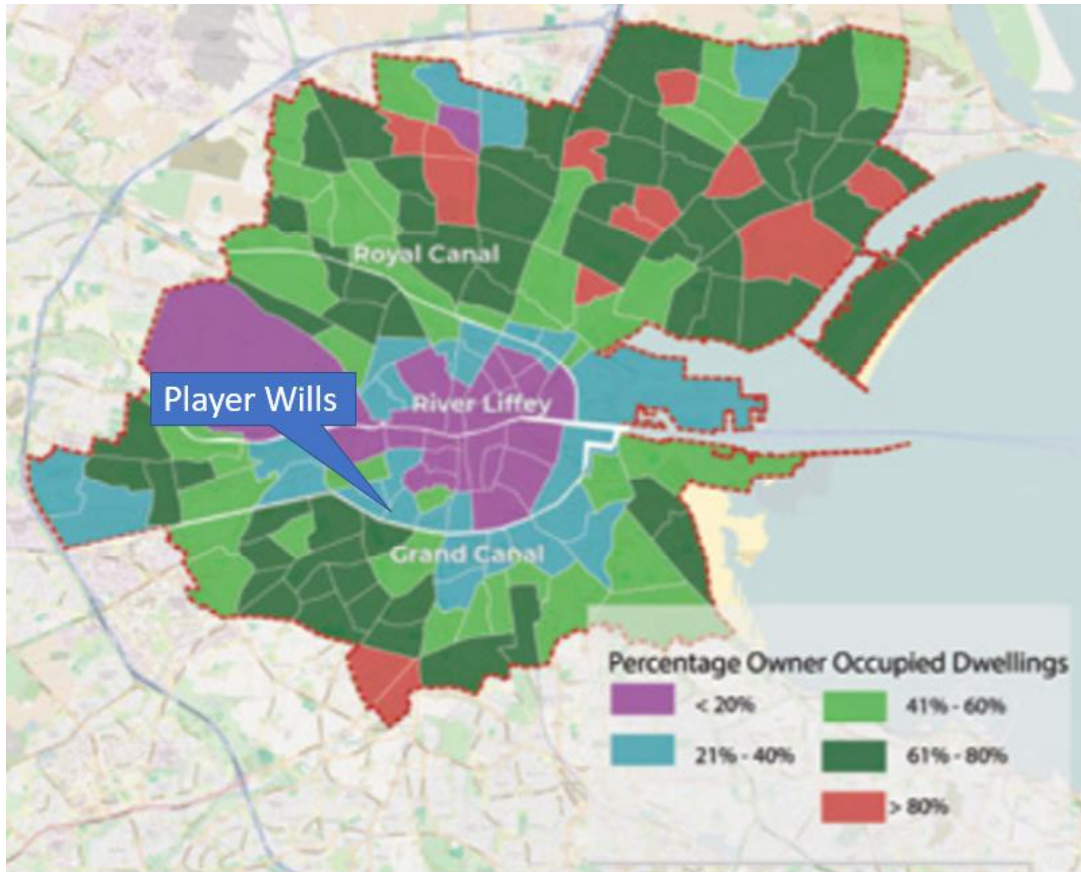


FIGURE 4-10 PEOPLE LIVING IN OWNER OCCUPIED DWELLINGS, DUBLIN CITY, 2016

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%.

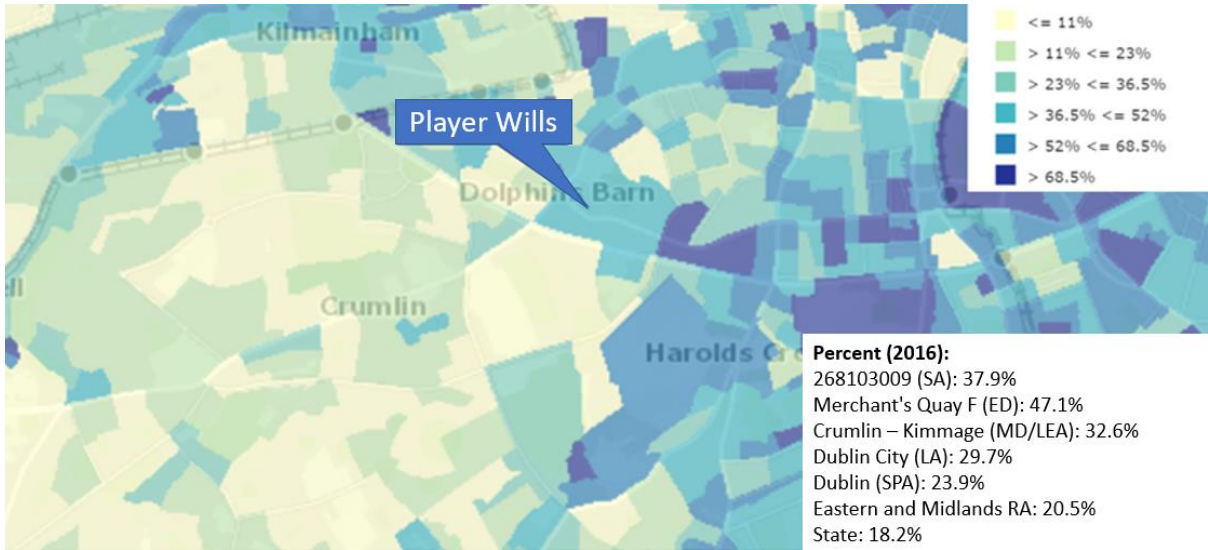


FIGURE 4-11 PRIVATE RENTED HOUSEHOLDS

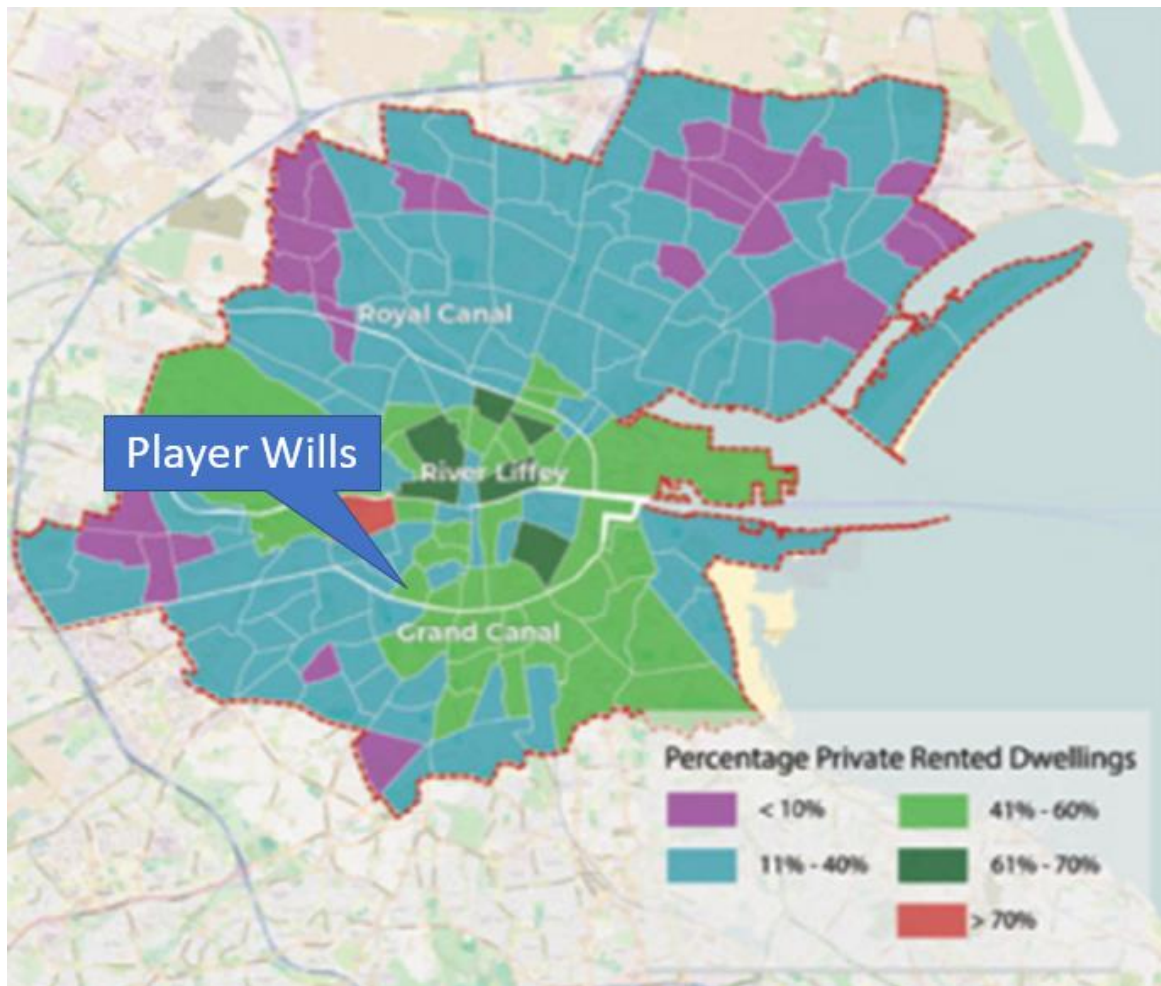


FIGURE 4-12 PEOPLE LIVING IN PRIVATE RENTED DWELLINGS, DUBLIN CITY, 2016

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.

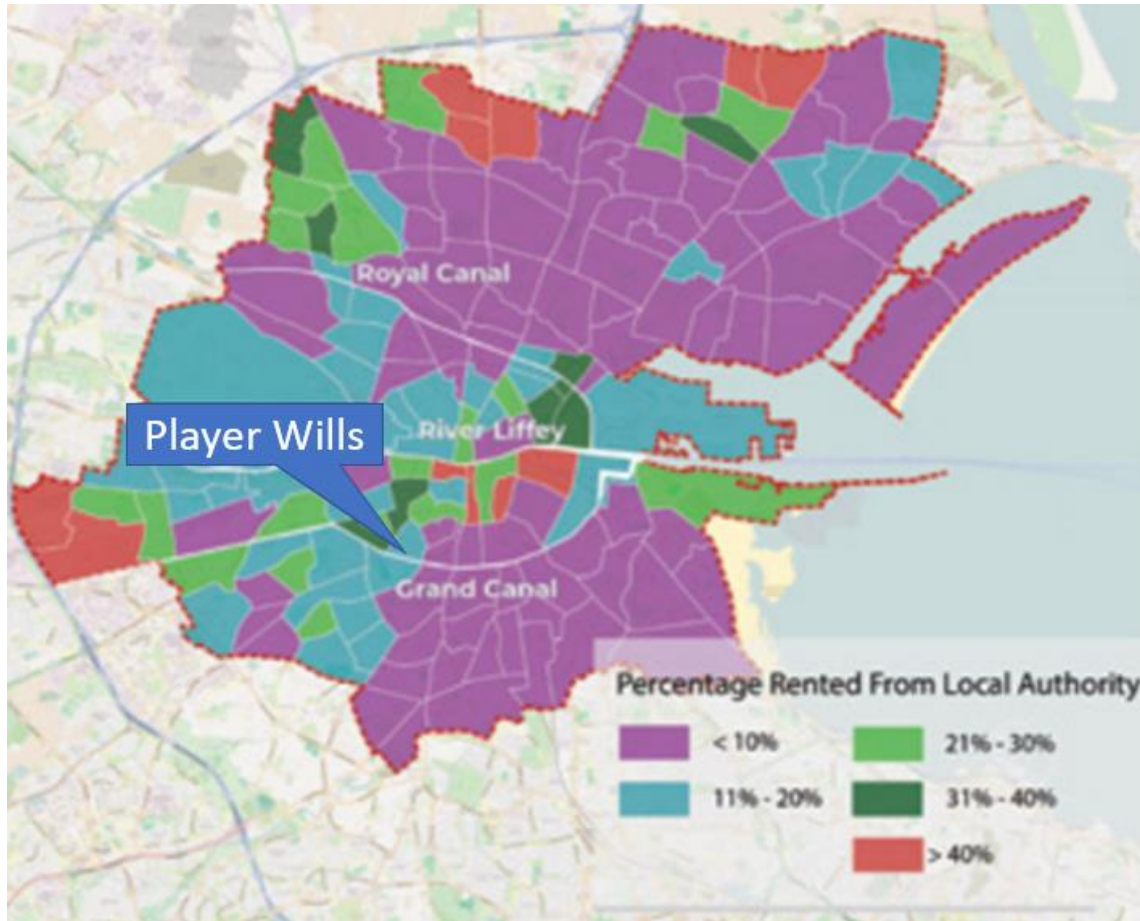


FIGURE 4-13 PEOPLE LIVING IN DWELLINGS RENTED FROM THE LOCAL AUTHORITY OR VOLUNTARY HOUSING BODY, DUBLIN CITY, 2016

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%.

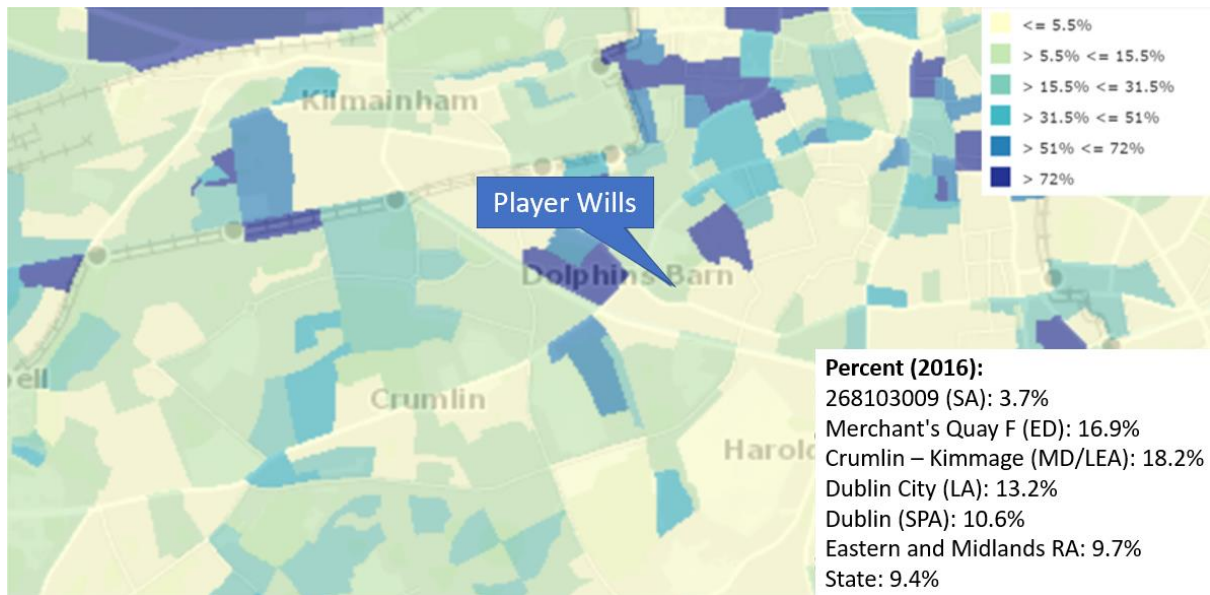


FIGURE 4-14 PERCENTAGE SOCIAL HOUSING RENTED, 2016

4.5.14 Employment

At the end of 2019 the State's labour market was in an extremely strong position with 4.8% unemployment recorded in December and this continued through to February 2020. However, the Covid-19 Pandemic and the subsequent public health measures has had a significant impact on the labour market. The CSOs monthly release issued in October 2020 states;

“The COVID-19 crisis has continued to have a significant impact on the labour market in Ireland in October 2020. While the standard measure of Monthly Unemployment was 7.3% in October 2020, the COVID-19 Adjusted Measure of Unemployment could indicate a rate as high as 20.2% if all claimants of the Pandemic Unemployment Payment (PUP) were classified as unemployed.”

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.

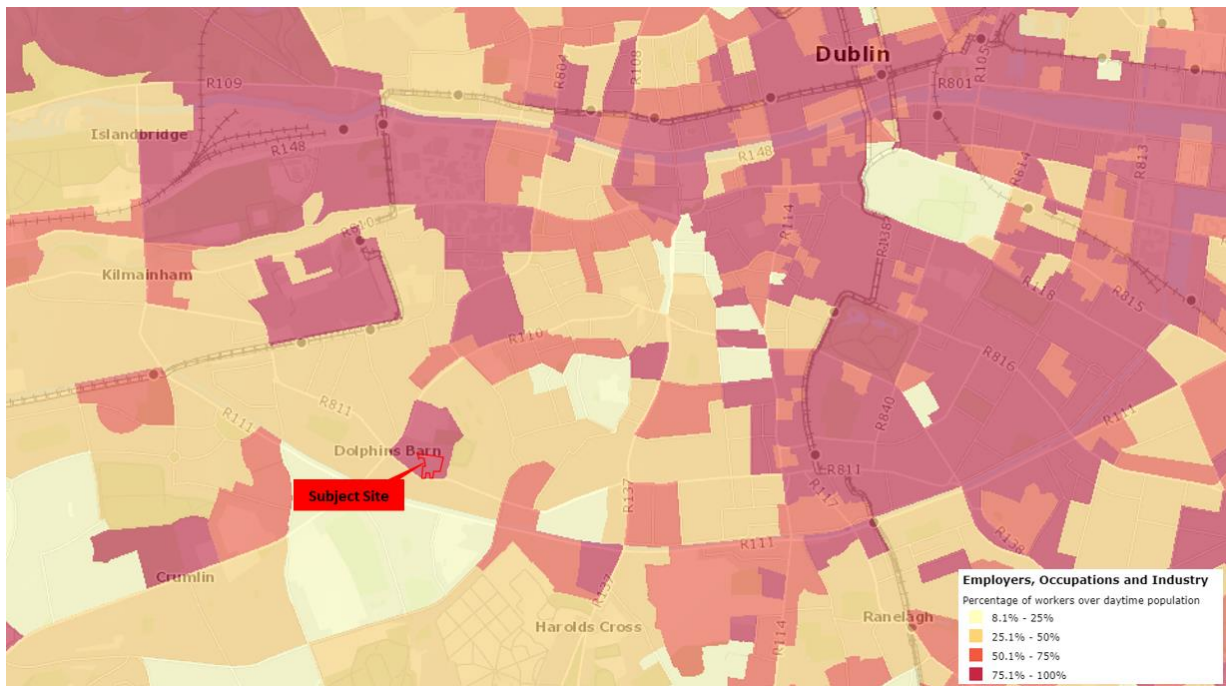


FIGURE 4-15 PERCENTAGE OF WORKERS OVER DAYTIME POPULATION, CSO 2016

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.

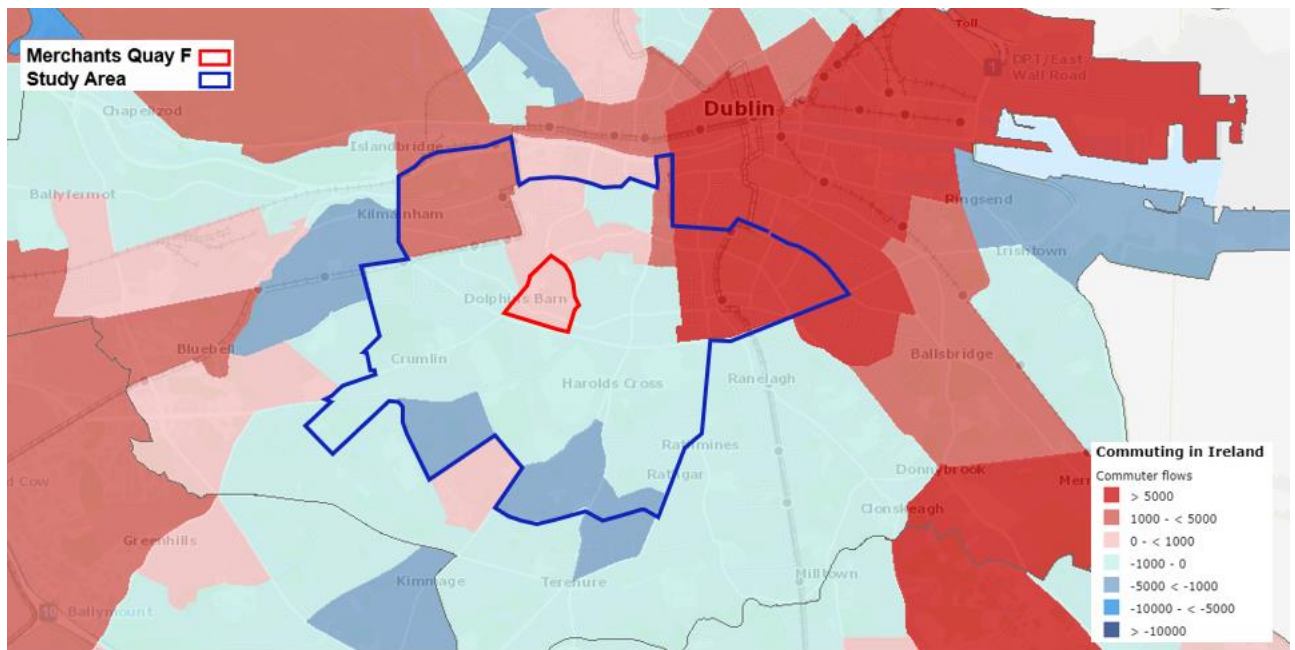


FIGURE 4-16 COMMUTER FLOWS (INWARD COMMUTERS LESS OUTWARD) BY ED, CSO 2016

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 Player Wills 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.”*

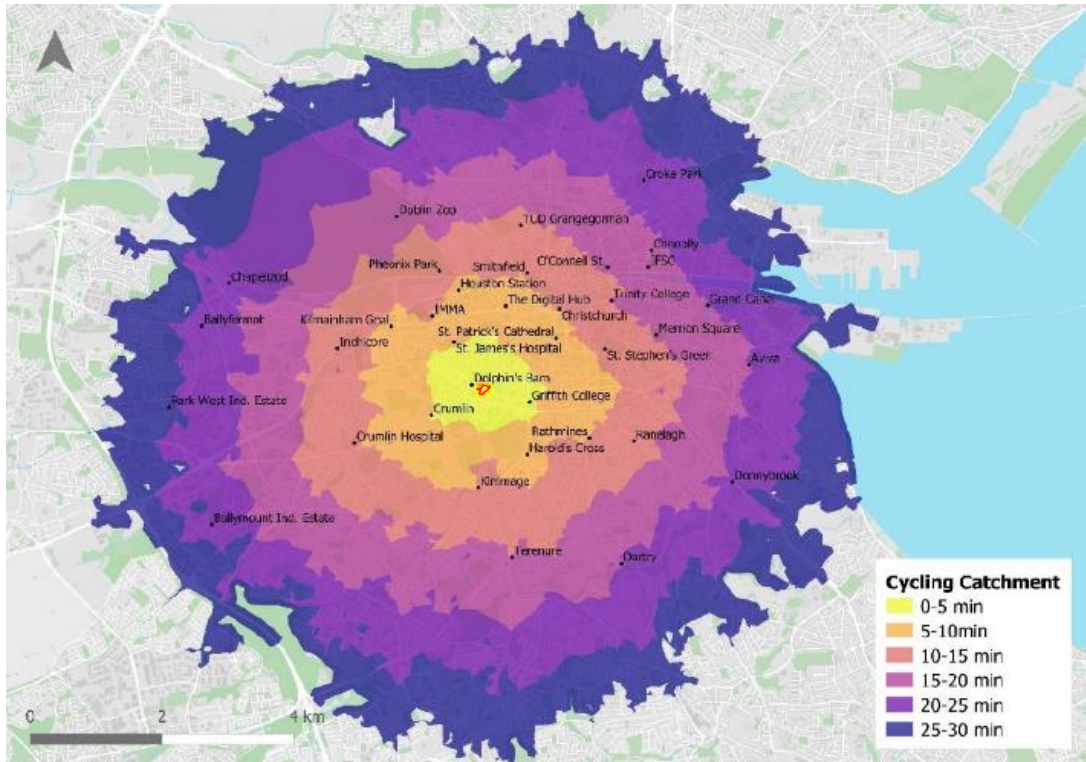


FIGURE 4-17 CYCLING CATCHMENT FOR PLAYER WILLS SITE (SOURCE: SYSTRA TTA)

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.

4.5.15.1 Education



FIGURE 4-18 - SCHOOLS IN STUDY AREA

The catchment area contains 9 no. primary and 3 no. secondary schools within approximately 15-minute walk (1 km) from the proposed development site. There are also 2 no. third level institutions located within the Study Area. **Figure 4.18** shows the numbered location of the primary schools (white), secondary schools (yellow), and the third level institutions (orange). **Table 4.5** shows the name of all schools and the approximate number of students (for primary and secondary schools only) attending.

No.	School	Students
Primary		
1	Scoil Iosaigh	86
2	Griffith Barracks School	275
3	St. Catherine's National School	214
4	Scoil Treasa Naofa Presentation Primary School Canal Way Educate Together St. James Primary School Mater Dei National School	240
5	Presentation Primary School	210
6	Canal Way Educate Together	281
7	St James Primary School	254
8	Mater Dei National School	176
9	St. Catherine's Primary School	215
Post Primary		
10	Loreto College	405
11	Presentation Secondary School	187
12	CBS Secondary School	116
Third Level		
13	Griffith College	7,448
14	Crumlin College	unknown

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 3 no. general practitioners within the study area (See **Figure 4.19** and **Table 4.6**).



FIGURE 4-19 HEALTHCARE FACILITIES IN STUDY AREA

No.	Facility
1	St. James Hospital
2	Coombe Hospital
3	Our Lady's Hospice
4	Dublin Medical Centre -GP
5	General Practitioner
6	General Practitioner

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 walktime) northeast of the subject site and Eamonn Ceannt Park & Playground approximately 1.2 km (16-minute walktime). The Grand Canal is less than 100m south of the Player Wills site

There are many sports clubs in the study area including Synge Street, Templeogue located 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
8	Harold's Cross Park and Playground
9	Pearse College Allotments
10	Weaver Park
11	Weaver Square Community Gardens
12	Pimlico Allotments

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 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

If the proposed development is not realised, it is anticipated that in the short to medium term the Player Wills 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.

4.7 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 Consultation

Public Open Days were hosted by the Applicant over 3 no. days on the 11th and 12th July 2019 and on the 12th March 2020. The public were notified via leaflet drops, social media and press advertisements. The information presented related to the future development of the Masterplan lands i.e. Bailey Gibson, Player Wills and Dublin City Council lands.

The purpose of the open days was to meet the public and listen to their thoughts, opinions and ideas as well as to show projected timelines for the development and provide people with an insight into the planning application. Members of the project team were present and provided information and answered questions as necessary.

Matters raised by the public at the Open Day related to;

- quantum and quality of open space to be provided within the masterplan lands;
- quantum and type of commercial uses proposed;
- desire for lands to deliver vibrancy and vitality during the day and night;
- future plans for St. Catherine's National School;
- mix of unit sizes and types;
- impact of construction traffic; and,
- quantification of traffic movements during the operational stage and desire for improved cycling and pedestrian access.

4.9 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.

4.9.1 Construction Phase

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

4.9.1.1 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.

4.9.1.2 Population

It is estimated that during peak construction there will be approximately 700 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.

4.9.1.3 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 700 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.

4.9.1.4 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 5.5.4** of the Construction 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 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.

4.9.1.5 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.

4.9.2 Operational Phase

4.9.2.1 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.

4.9.2.2 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 1,304. 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	Shared Accommodation	Total
PW1	12	23	8	4	0	0	240	287
PW2	16	268	92	38	1	0	0	415
PW4	0	0	0	0	2	7		9
PW5	12	1	5	3	0	0	0	21
Total Units	40	292	105	45	3	7	240	732
Occupancy	1	2	2.75	2.75	2.75	2.75	1	1,344
Projected Population	40	584	289	124	8	19	240	1,304

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 16 no. childcare spaces and all will be accommodated on site.

As outlined above the proposed creche is oversized and will provide places for 49 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 wider Masterplan lands a full scale GAA playing pitch is planned. 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 includes dedicated amenities and facilities to serve future occupants together with community, arts and cultural floor space that will be available for residents and the wider population. 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 Player Wills 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**.

4.9.2.3 Employment & Economy

The proposed development includes 852 sq.m of community, arts and culture floor space, 701 sq.m of retail and 1,136 sq.m of floorspace for cafe/bar/restaurant use. The estimated employment that will be generated from the non-residential uses is 191 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 27 no. employment positions.

Age Group	No. of Children	Adult: Child Ratio	Employees
0-1 year	7	01:03	2
1-2 years	15	01:05	3
2-3 years	12	01:06	2
3-6 years	15	01:08	2
Total	49	-	9

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.

4.9.2.4 Health

This application is accompanied by a '**Covid-19 Risk Mitigation**' report prepared by International SOS (please see **Appendix 4.1 Vol III**) and should be referenced in conjunction with this chapter.

A COVID-19 site prevention strategy has been prepared for the proposed development in order to control the virus by suppressing transmission and preventing associated illness and death. It is understood that the virus is primarily spread through contact and respiratory droplets. Under some circumstances airborne transmission may occur (such as when aerosol generating procedures are conducted in health care settings or potentially, in indoor crowded poorly ventilated settings elsewhere).

To prevent transmission, WHO recommends a comprehensive set of measures including:

- Identify suspect cases as quickly as possible, test, and isolate all cases (infected people) in appropriate facilities;
- Identify and quarantine all close contacts of infected people and test those who develop symptoms so that they can be isolated if they are infected and require care;
- Use fabric masks in specific situations, for example, in public places where there is community transmission and where other prevention measures, such as physical distancing, are not possible;
- Use of contact and droplet precautions by health workers caring for suspected and confirmed COVID-19 patients, and use of airborne precautions when aerosol generating procedures are performed;

The design is cognisant of COVID-19 and is assessed as low risk. The risk assessment prepared determined that the risk of transmission between individuals within the proposed development is low. Given our current understanding of the transition and infection patterns of COVID-19, the main routes to infection include, a) large droplet transmission, b) surface contact and c) airborne transmission. It was determined that the layout of the proposed development will have the necessary control measures in place such as environmental controls pertinent to adequate ventilation, social distancing, spacing requirements, sewage and drainage etc. that allow for the risk to be qualified as low.

The Ventilation systems and Wastewater plumbing systems as proposed, have been designed as not to increase the spreading of the virus. All Design Team members have used accepted best practice methods where possible to mitigate COVID-19 infection of tenants and end users. In addition, it should be noted that there is an abundance of public open space and communal amenity space proposed as part of the proposed development so should there be a lockdown, people will have somewhere to go locally and will not be stuck in their apartments.

Given this, in the absence of mitigation, the effect would be **negative** and **moderate** to **not significant**. The predicted effect of these combined measures on the health and wellbeing of future occupants is **moderate** and **not significant**.

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 carparking and prioritises both pedestrian and cyclists. 903 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. Catherine's Park' and communal open spaces distributed throughout the development in the form of courtyards and roof 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 (168 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 '**Daylighting, Sunlight and Overshadowing Study**' prepared by IES and should be referenced in conjunction with this chapter. It concludes as follows;

- i. **Shadow Analysis** - The Shadow analysis shows different shadows being cast from the baseline, 2017 Development Framework for St Teresa's Gardens and Environs and proposed scheme at particular periods throughout the year. It is noted from the images that overall, the proposed development would cast minimal additional shading on neighbouring buildings. This is further quantified by the Daylight Analysis of Existing Buildings section of this report.
- ii. **Daylight Analysis of Existing Buildings** - The Vertical Sky Component for 96% (281 of 294) of the points tested have a value greater than 27% or not less than 0.8 times their former value (that of the Existing Situation), exceeding the BRE recommendations. This increases to 99% when compared against the Framework

plan. The majority of the values are just outside the recommendations achieving high values between 24% and 26% and therefore good levels of light would still be received within the spaces beyond.

- iii. **Sunlight to Existing and Proposed Amenity Spaces** - For a space to appear adequately sunlit throughout the year, at least half of the garden or amenity area should receive at least 2 hours of sunlight on the 21st of March. On the 21st of March, all of the communal amenity areas provided for each block of the Player Wills site would receive at least 2 hours of sunlight exceeding the BRE recommendations. The results also highlight that the proposed 'Players Park' and 'St Catherine's Park' public parks exceed the BRE recommendations and will be high-quality spaces in terms of sunlight received.
- iv. **Average Daylight Factors** - Based on the results of the rooms tested across the proposed development site, 92% of the spaces tested within the proposed scheme have an Average Daylight Factors (ADF) above the recommended values, exceeding the BRE guidelines. This total would be expected to increase beyond 92% if all of the upper and outer paces across the development were included in the results.

A **Pedestrian Comfort Computational Fluid Dynamics (CFD) Report** prepared by IES 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.

- i. **Sitting Comfort Result** - 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 fully met the requirements of the Lawson's sitting comfort criterion for the full year.

The ground courtyard amenity spaces for the PW1 and PW2 blocks show good to fair compliance with the requirements of the sitting criterion. The ground amenity between PW1 and the PW2 block is susceptible to the prevailing westerly and south-westerly winds causing a wind tunnel effect between the buildings. The entrance of the PW2 block is also susceptible to the prevailing westerly and south-westerly winds.

- ii. **Standing Comfort Result** - 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 site shows good compliance with the requirements of this

criterion everywhere on the site. The balconies and ground amenities, all show air speed less than 6m/s for more than 95% of the year.

- iii. **Walking Comfort Result** - 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 site shows excellent compliance with the requirements of these criteria everywhere on the site.
- iv. **Safety Criteria Results** - The Lawson's Normal Pedestrian safety criteria stipulates that the local air speed at designated locations should not exceed 20m/s for more than 0.01% of the duration analysed. The Lawson's Sensitive Pedestrian safety criteria stipulates that the local air speed at designated locations should not exceed 15m/s for more than 0.01% of the duration analysed. Elderly people and children are usually classified as sensitive pedestrians. The results of the annual analysis for safety criteria show that the site generally shows excellent compliance with the requirements of the safety criteria.

4.9.3 Cumulative Impacts

The proposed development forms part of a non-statutory **Masterplan** that is submitted under separate cover with this application. The wider development of the masterplan lands will be subject to individual planning applications and associated EIARs where required.

Development of the **Bailey Gibson** site, also under the control of the Applicant, is subject of a granted SHD application – ABP-307221-20. The development comprises the demolition of all structures, and the construction of 416 no. residential units, a childcare facility, capable of accommodating 54 no. pre-school children and commercial floor space to facilitate a restaurant/café/bar, shop, financial/professional services, health services and community/arts.

The additional population that will be generated by the proposed development coupled with the permitted Bailey Gibson development and the anticipated development in the wider Masterplan 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 Bailey Gibson 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.

Taken together the Player Wills and Bailey Gibson site will deliver 908 no. permanent homes of which 90 no. will be allocated social and affordable residential units. A further 240 no. private living spaces in the form of shared accommodation will also be delivered. 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 and on lands owned by City Council as envisaged in the Masterplan.

The Masterplan 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;

- 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 groundfloor and 39 no. apartments.

Each of these developments requires a construction management plan to mitigate effects of the construction phases. Subject to adherence to measures contained in the individual plans, the cumulative effect 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.

The proposed development site includes an area reserved for the future expansion of St. Catherine's NS and this will contribute to the cumulative primary educational needs of the local area as the population of Dublin 8 grows. The effect is **locally positive** with a **permanent** duration.

4.10 Mitigation Measures

4.10.1 Incorporated Design

The shared accommodation element of the proposed development is restricted to single occupancy and the average size of the private living spaces is double the minimum required standard. All units benefit from excellent ventilation which according to the World Health Organisation is an effective control strategy for preventing infection and ill health in the hierarchy of controls (a framework used in occupational health to prioritise the controls needed for protection of human health). 21 no. kitchen/dining areas are proposed to serve the shared accommodation residents and they are largely evenly distributed across floors.

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.

4.10.2 Construction Phase

A **Construction 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.

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.

4.10.3 Operational Phase

Access to common areas will be subject to strict Covid-19 protocols and public health guidance will be followed in this regard.

Ventilation systems will be inspected periodically and maintained in good working order.

Occupants will be advised of physical distancing protocols = until a vaccine or tests for immunity are available.

Universal facial protection that help prevent droplets from reaching surfaces or others will be a requirement in common areas.

Suspected or confirmed COVID-19 cases will be isolated and quarantined in their individual private living areas.

There will be regular cleaning of spaces frequented by residents, staff and the public throughout the development.

Facility managers will encourage good hygiene and physical distancing by posting reminders and making hand sanitising stations available.

With the above measures in place the risk of transmission of Covid-19 should not be significant.

4.11 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.

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 of the proposed scheme. Indeed, the delivery of much needed housing will realise a likely **significant positive** effect for the local area.

4.12 Interactions

Interactions are dealt with in Chapter 15 of this EIAR.

4.13 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.

4.14 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**.

4.15 Conclusion

There are no significant adverse effects with respect to socio-economic factors, landuse, 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.

4.16 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 – Draft (EPA, 2017)
- Central Statistics Office (CSO) website www.cso.ie
- Department of Education and Sciences (DES) website www.education.ie.

CHAPTER 5

LANDSCAPE AND VISUAL

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



DECEMBER 2020

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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 the adjacent Bailey Gibson site, recently permitted by An Bord Pleanála (ABP Ref. PL29S.307221). Other relevant examples include: the regeneration of Dominick Street, Dublin 1, and O'Devaney Gardens, Dublin 7 (2010); 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 (2018-2020); 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

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. PL0003**.

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to

facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former 'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, 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. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use (residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
 - b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
 - c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;

- d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
 - e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
- iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
- a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
 - b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m.
- iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;
- v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.
- vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
- vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.

- viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
- ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.
- x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
- xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
- xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1(the former factory building);
- xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
- xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
- xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
- xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
- xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment and lighting.

The main site access will be from Donore Avenue, with secondary access point from South Circular Road.

Following the demolition of the majority of the buildings and structures on the site, four residential blocks will be built (PW1, PW2, PW4 and PW5); Block PW1 (the former Player Wills factory building) comprises modification and extension to an existing building, while the remaining blocks are new buildings. The proposed layout follows the indicative layout established in the non-statutory Development Framework for St. Teresa's Gardens and Environs 2017, with only minor deviations concerning street widths and the distribution of open space.

Building heights range mostly between 2 and 8 storeys with tower elements of 16 and 19 storeys in Block PW2. This generates a diverse and dynamic built form and roofscape, where buildings adopt a height transition from lower elements at the site perimeter, especially

adjoining existing residential areas, to taller elements at the centre of the site. Taller buildings provide a focus for vistas within and across the site, while also framing major public spaces.

Materials and detailing add further dynamics to the proposed buildings. The detail and quality of the former Player Wills factory building (Block PW1) is reinstated and the building repurposed as a community, arts and cultural hub. Within the remaining blocks, a palette of differently coloured brickwork prevails alongside delicate metalwork detailing. This material palette echoes both the site's industrial past, in the materiality of the former factory and warehouse buildings, and the Victorian houses that define much of the site's urban context.

Two public open spaces will be provided: a curated and formal civic space to be called 'Players Park' lies on the DDC land west of the Player Wills site and east of the Bailey Gibson site; and a play park between Blocks PW2 and PW4 to be called 'St. Catherine's Park'. Communal open space will be provided as a series of courtyards and roof terraces associated with each Block. Together with comprehensively landscaped streets, these will provide a 'chain' of hard and soft landscape as a setting to the buildings.

A full description of the proposed development is set out in Chapter 2 of this EIAR. The **Architectural Design Statement** and **Landscape Design Statement** should also be referenced.

5.3 Methodology

5.3.1 Relevant Legislation & Guidance

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

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports – Draft (EPA, 2017);
- 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 topic-specific guidance in its 2017 Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.

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 themselves, 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.

The proposed development will be assessed against these and other criteria in detail later in this chapter.

5.3.3 Local Planning Policy

Local area/site-specific planning guidance and policy is set out in the Dublin City Development Plan 20016-2022. 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 site is predominantly 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.

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.

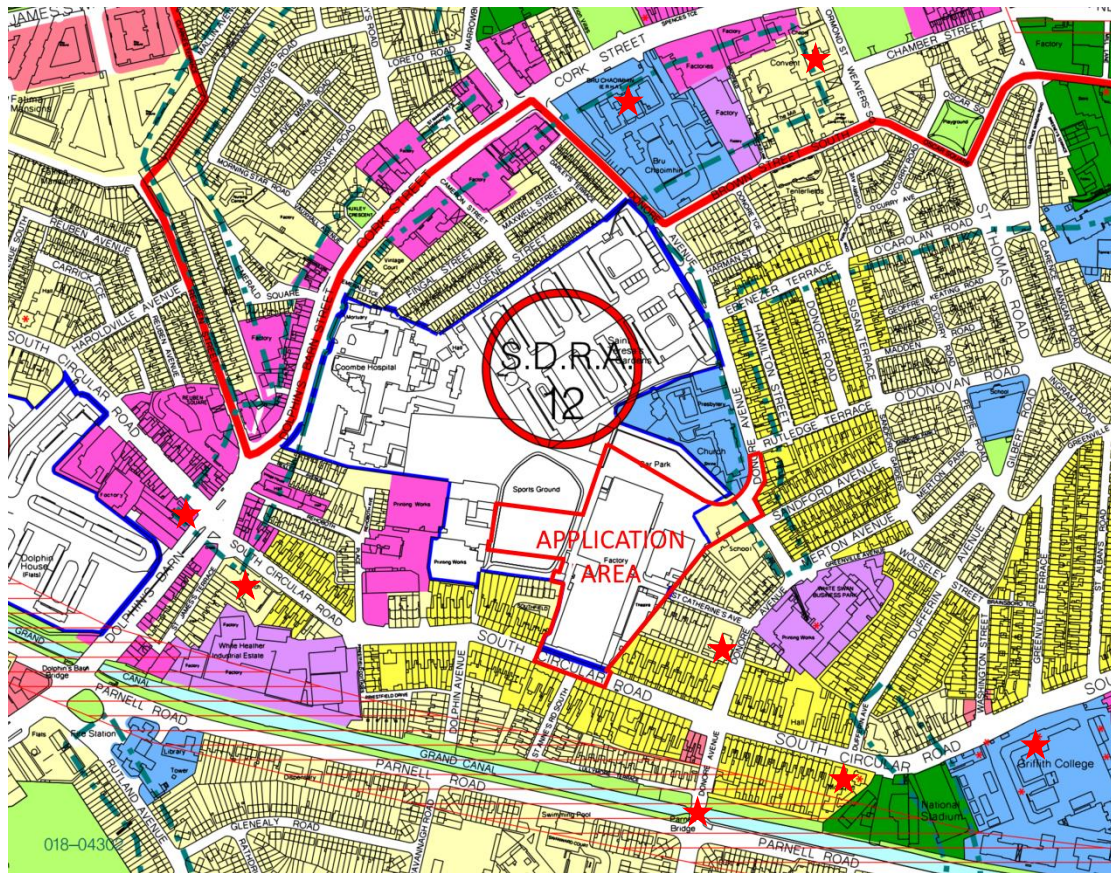


FIGURE 5-1 EXTRACT FROM MAP E, DUBLIN CITY DEVELOPMENT PLAN 2016-2022 (APPLICATION AREA OUTLINED IN RED, PROTECTED STRUCTURES EMPHASISED WITH RED STARS)

The land use zonings and SDRA 12 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).

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, particularly 5.7.2, and in the 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 75 metres to the east on Donore Avenue while Our Lady of Dolour's Church lies 300 metres west on South Circular Road; there is also the Dublin Mosque, a former church, 200 metres to the southeast on South Circular Road. Griffith College lies 375 metres to the southeast on South Circular Road. Parnell Bridge on the Grand Canal is a Protected structure and lies 175 metres to the southeast. Bank House on Dolphin's Barn road lies 375 metres west of the proposed development site. Beyond the wider Masterplan Area lies the former Convent on Cork Street / Ormond Street (425 metres northeast of the proposed development site) and nearby Bru Chaoimhin hospital (300 metres north).

The former Player Wills factory on South Circular Road is a fine art-deco building that is not currently listed; however its retention as part of the proposed development is being proposed due to 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).

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 as a basis for the Masterplan (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.

It must be noted at, while the Development Plan and SDRA 12 guidance give direction regarding appropriate building heights as described above, precedence is now given to the newer National Planning Framework 2018 (“the NPF”) and the Urban Development and Building Heights Guidelines 2018.

5.3.4 Consultation

Pre-application consultation has been undertaken with Dublin City Council and full details are presented in the Planning Statement that accompanies this application. Some of the points that are relevant to this chapter include;

- The slenderness of the towers in Block PW2 and the bearing this has on visual impacts.
- Consideration that greater building height is concentrated towards the centre of the overall masterplan land, clustering with other buildings, and successfully transitions in scale between the proposed development and the surrounding low-rise two storey development.
- 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.

In Item 2 of its opinion issued following pre-application consultation, An Bord Pleanála sought “further consideration/justification of the documents regarding the slenderness of the towers in PW2.” This matter is addressed in the **Response to An Bord Pleanála Opinion** that accompanies this application.

5.4 Baseline Environment

5.4.1 Landscape Character

The proposed development site has a distinctly industrial character established by a series of single-storey industrial units, of brick/render finish and sheet roofing, and a yard area alongside the distinctive 3-4 storey main factory building fronting onto South Circular Road. The site is devoid of trees or other vegetation. The flanks of existing two-storey houses and gardens define the site's eastern boundary and part of the western boundary. St. Catherine's National School and its grounds also define part of the eastern boundary, while St. Teresa's Church and its grounds define the northern boundary.

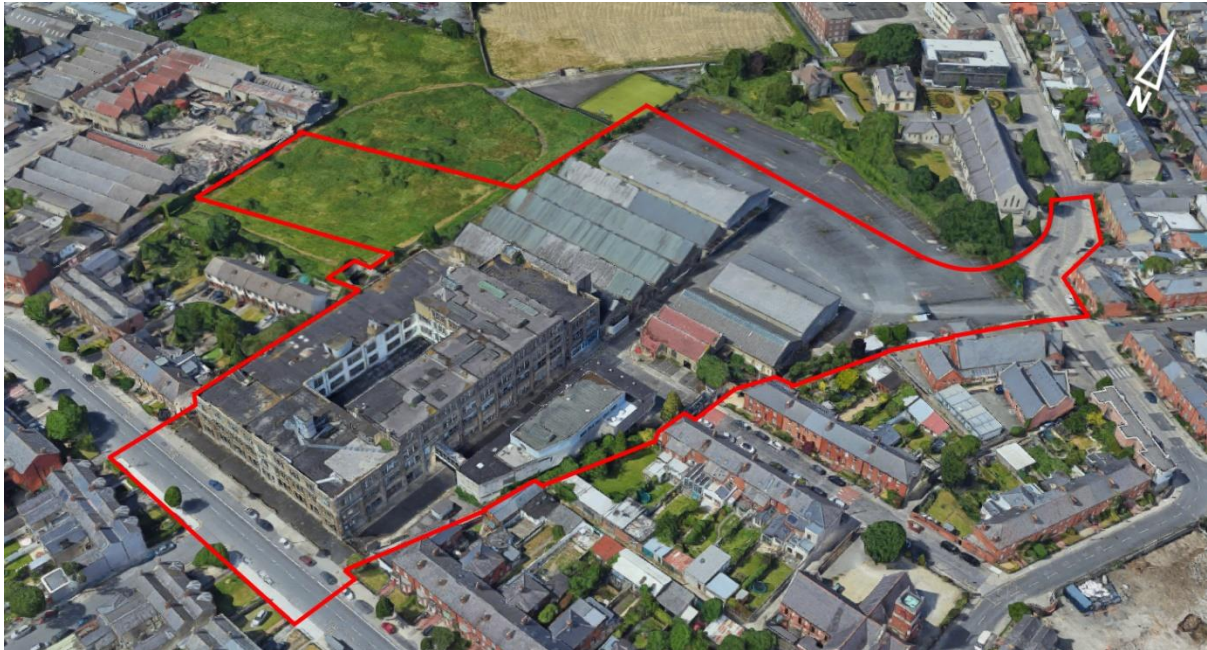


FIGURE 5-2 AERIAL VIEW OF THE PLAYER WILLS SITE (SOURCE: GOOGLE MAPS 3D, ANNOTATED)

The main factory building is not a protected structure but is included on the National Inventory of Architectural Heritage, rated for regional significance. It has an imposing presence on South Circular Road and is one of few surviving Art Deco buildings in Dublin. Its retention is proposed as a link to the site's history and to maintain the positive contribution it makes to the urban landscape character of South Circular Road.

As a whole, the proposed development site has a low landscape and visual sensitivity to the proposed development, with the existing (retained) factory building having moderate sensitivity.

The Masterplan area includes the Bailey Gibson site, west of the proposed development site; currently it 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 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.

Development of the Bailey Gibson site has recently been permitted by An Bord Pleanála (ABP Ref. PL29S.307221). It will be a new residential neighbourhood with a similar character to the proposed development of the former Player Wills site. As such, it will have a low sensitivity to the proposed development of the former Player Wills site.

The Masterplan area also includes DCC land at St Teresa's Gardens, an area of former public housing now largely demolished, vacant and mostly covered in rough grassland. The northern edge of this area, backing onto Eugene Street, is currently undergoing residential development by Dublin City Council. As an integral part of the wider regeneration area, it will comprise future public open space, with low landscape and visual sensitivity to the proposed development.

5.4.2 Landscape Context

The Coombe Hospital adjoins the Masterplan Area to the northeast and is part of SDRA12. 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 the Masterplan Area 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 the Masterplan Area, 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 the site 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 Masterplan Area 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 development of the Player Wills and Bailey Gibson sites is considered low.

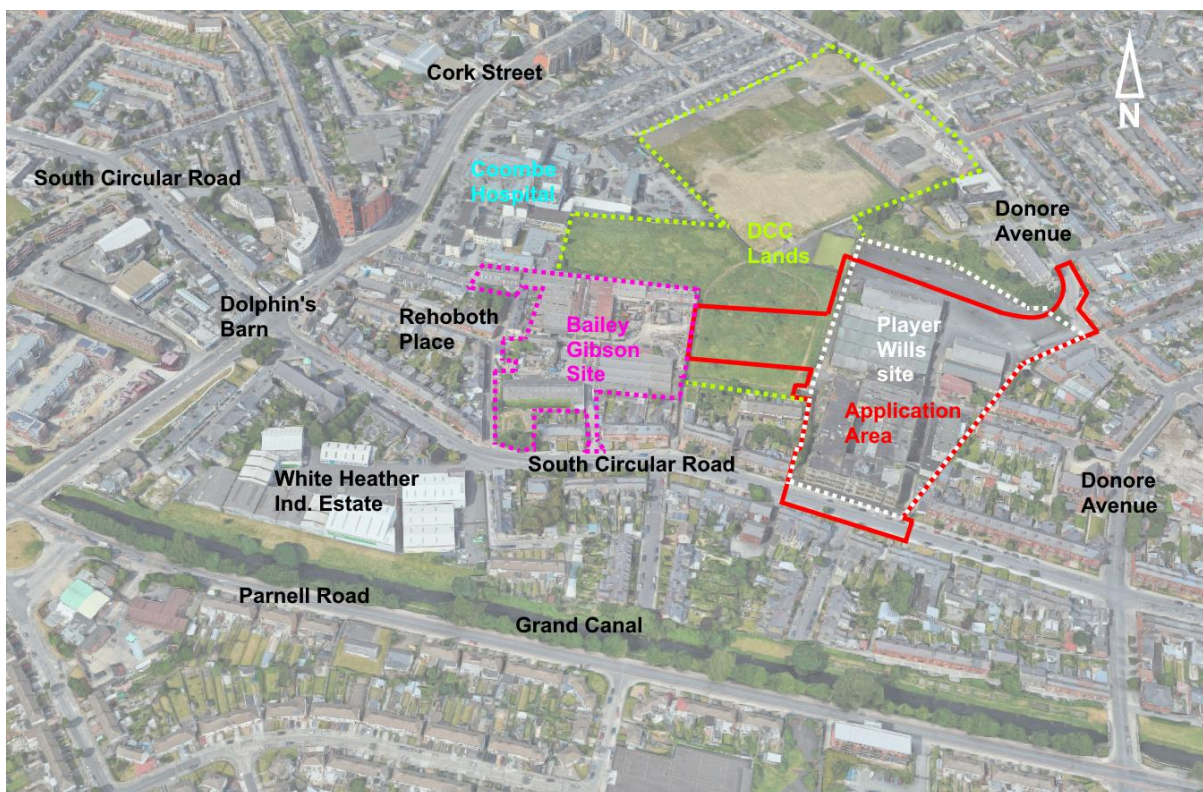


FIGURE 5-3 AERIAL VIEW FROM THE SOUTH (SOURCE: GOOGLE MAPS 3D, ANNOTATED)

5.4.3 Views & Prospects

The likely extent of significant views and prospects towards the Masterplan Area as a whole, and the proposed development site in particular, has been professionally assessed as an initial desk study supported with subsequent fieldwork. The outcome of those studies and the selection of photographic viewpoints for supporting photomontages have been presented to Dublin City Council, who has not requested any additional vantage points to be considered. The selection of viewpoints has also sought to be consistent with those used in support of the permitted Bailey Gibson development (ABP Ref. PL29S.307221), and to incorporate the wider Masterplan Area, to enable the cumulative impacts of development in the Masterplan Area to be assessed. Given that views towards the Player Wills site and the wider Masterplan Area 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 proposed development 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 the Masterplan Area, 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 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); REFER ALSO TO PHOTOMONTAGE BOOKLET.

5.5 Do Nothing Scenario

In the event that the proposed development does not go ahead, the existing site will retain its industrial landscape character in the short-term. 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 local urban landscape character.

The site is, however, zoned for development and therefore future development remains likely. Furthermore, adjoining lands to the east and north are also part of the same development zoning, where future development is also likely to occur. In the event of doing nothing on this site, adjacent lands are likely to become redeveloped in the meantime, parts of which will have a poor outlook onto this site and may further increase pressure for its development.

Therefore, 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 urban 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.

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, Donore Avenue and St. Catherine’s 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. Moderate adverse visual impacts are likely from the operation of demolition plant within the site where these are glimpsed in views from Donore Avenue and St. Catherine’s Avenue.

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 42 months and 2 weeks. 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, Donore Avenue, St. Catherine’s 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 located in the north-eastern part of the site (see **Construction Environmental Management Plan**), adjacent to the school and church, with vehicular access from Donore Avenue and exit onto South Circular Road.

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 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.

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 elements of Block PW2 will be 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 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 operational 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.

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.

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. The existing art deco Player Wills factory building is one such feature, with a distinct presence on South Circular

Road in particular, where its loss would likely have a moderately negative impact upon landscape character.

New development will often 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.

The proposed development will take a former low-rise industrial site transform it into a medium- to high-density residential neighbourhood with its own character and identity. This will introduce a significant change of character to the proposed development site. New buildings will be of significantly increased scale and height, and will exhibit richer elevational detailing. New public streets and open spaces will replace closed-off concrete/tarmac yards.

The development will adopt 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. The proposed development will have a character similar to the recently permitted development at the former Bailey Gibson site (ABP Ref. PL29S.307221), and that complements the existing mixed use development on Dolphin's Barn / Cork Street. This potentially has a moderately positive impact on landscape character by extending an established high quality modern city neighbourhood.

The proposed development incorporates buildings ranging from 3 to 19 storeys high. Lower buildings at the perimeter provide a transition of height and scale between neighbouring low-rise buildings and the proposed taller buildings. Lower new buildings will be easily screened from the wider area by intervening buildings, while taller buildings will be visible from a wider area, with the potential to intrude upon sensitive landscapes. This has the potential for moderately adverse visual effects.

The proposed development will include the remodelling and upward extension of the former factory building on South Circular Road. Works to the existing building will be sensitive to its character and heritage while new set-back upper floors will be contemporary in design. By retaining and upgrading this building, this will reinforce the existing character of the street, where impacts on landscape and visual amenity are potentially slightly to moderately positive.

The proposed development is of a scale that incorporates 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.

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

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 Likely 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 Masterplan Area that includes SDRA12, where development will occur on the former Bailey Gibson site to the east (recently permitted: ABP Ref. PL29S.307221) and it is anticipated that future development will occur (subject to planning consent) on Dublin City Council land to the north and west. Those developments are of similar scale and complementary character to the proposed development and will integrate closely in terms of building relationships, street networks and open spaces.

On its own, the proposed development of four blocks is likely to appear as a modest contemporary urban intervention set in a relatively 'traditional' residential suburb, while as part of the wider Masterplan Area development, it will contribute to a new urban neighbourhood with its own character and identity. Resulting cumulative impacts on local landscape character and visual amenity are likely to be positive.

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 years, supporting several contemporary buildings of 4-12 storeys high. Consented developments in this area propose buildings typically up to 6-7 storeys. At 33-37 Dolphin's Barn Street, there is consent for a 6 storey retail & residential building; at 43-50 Dolphin's Barn Street, there is consent for a 4-7 storey residential/retail building (3853/17) and at 75-78 Cork Street there is consent for a 6-storey mixed use building (3086/17).

On South Circular Road to the west, the former Rialto Cinema is undergoing redevelopment as 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 storey residential buildings are under construction (2475/18).

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).

These developments, some of which are under construction, indicate a changing urban landscape that incorporates clusters of contemporary development of significantly greater height than the adjacent 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	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
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	Moderate	Site Specific, Local	Likely	Permanent	Direct, cumulative
Scale and heights of buildings	Negative	Moderate	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 neighbouring residential areas	Negative	Moderate - High	Local	Likely	Permanent	Direct
Visual impact upon the Grand Canal Conservation Area	Negative	Slight - Moderate	Local	Likely	Permanent	Direct
Visual impact upon major road corridors	Neutral	Slight - 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 42 months and 2 weeks. 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' compounds, 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 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 the Masterplan. The design approach seeks to minimise or mitigative visual impacts and satisfy the guiding principles of good urban design contained in section 3.2 of the Urban Development and Building Height Guidelines (see section 5.3.2 above), and also the development standards contained in Chapter 16 of the Development Plan (see section 5.3.3 above).

Mitigation measures addressing the height, scale, form and massing of the buildings have also been employed and established as part of the permitted Bailey Gibson development (ABP Ref. PL29S.307221), where An Bord Pleanála "considered that the proposed development would not have significant adverse landscape and visual impacts arising from either the number, form, bulk, scale or height of the proposed blocks and did not consider that the proposed development would have an overbearing impact on the surrounding area, including the Residential Conservation Areas."

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. Three- to four-storey blocks are positioned at the

eastern site perimeter (blocks PW4 and PW5) adjoining existing residential areas, providing screening and a transition to taller blocks behind them. The height of the retained former Player Wills factory building (block PW1) is three storeys with substantial set-backs to the additional storeys above. The taller elements at 16 and 19 storeys are located towards the centre of the Masterplan area in Block PW2, where they will form part of a cluster with other buildings in the Masterplan area.

The approach to height as a whole across the Masterplan Area is to establish a sweeping rhythm of height, transitioning from low-rise margins to clusters of taller buildings at the centre. This concept is illustrated in **Figure 5.5** below, with Player Wills to the right, Bailey Gibson to the left and an indication of future DCC development at the centre behind the central park.

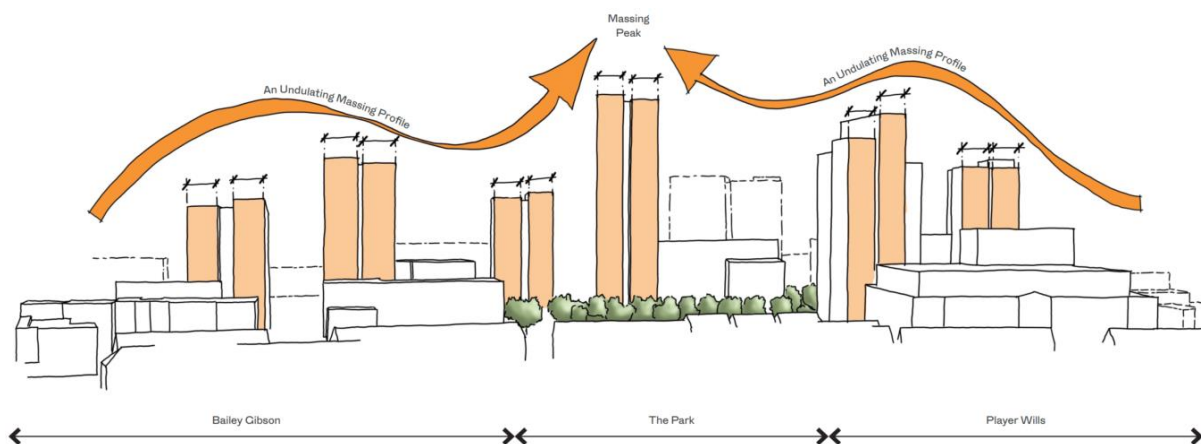


FIGURE 5-5 HEIGHT STRATEGY FOR MASTERPLAN AREA (IMAGE: HENRY J LYONS)

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.

PW1 preserves the existing art deco building and uses set-backs and modest height increases to create a built form that reads as a low-rise building where it fronts onto South Circular Road, with a relatively horizontal emphasis, while greater height from the additional floors is set back far into the site where it better relates to other proposed blocks. Existing modern extensions that detract from the former factory building are removed.

PW4 is two-three storeys and completes a perimeter block with neighbouring existing properties, while PW5 at four storeys does the same. Their modest scale emphasises the human/street scale and complements the existing traditional streets they adjoin. Contemporary expression takes the form of simple building volumes and flat roofs.

PW2 is set back from the site boundaries and adopts a hierarchy of height, with two slender tower elements of 16 and 19 storeys anchored by six to eight storeys below. The taller

elements are further articulated by stepped roof levels and inset facades, providing a visual focus for vistas through the site, while the lower elements frame the adjoining streets and open spaces.

In response to comments from An Bord Pleanála at the pre-application stage, further consideration has been given to the slenderness of the proposed towers in Block PW2. This has been examined and addressed by alterations to the elevations to reinforce a vertical emphasis, and a simplification of the scale and form of the uppermost floors to emphasise the set-backs and reduce their perceived scale and volume.

This approach delivers some of the key objectives set out in section 3.2 of the Urban Development and Building Height Guidelines at the scale of the city/town at the district / neighbourhood / street level, particularly:

- Successful integration and enhancement of character of the area
- Having regard for the setting of landmarks and key views
- Delivering variety in scale and form, responding to adjoining developments, avoiding monolithic or slab-like buildings
- Creating visual interest in the streetscape.
- Increasing legibility in the wider urban area
- Contributing a wider mix of buildings and dwelling types in the local area.

A more detailed account of these alterations is set out in the **Response to An Bord Pleanála Opinion** and the **Architectural Design Statement**, included in the submission documents.

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.

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.

Active street frontages add visual richness, a human scale and encourage lively dynamic streets through regular front doors and community/retail spaces.

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 proposed building blocks PW1 to PW5 sit within a rich contemporary landscape setting, with communal courtyards at the centre of the blocks for residents.

A major formal open space comprises the Players Park, located at the western side of the Player Wills site, but which lies at the heart of the wider masterplan area. It is overlooked by block PW2 and adjoins both the Bailey Gibson and Dublin City Council sites. A tree-lined pedestrian-priority boulevard passes through the southern edge of the plaza, while formal paths provide structure and focus, weaving their way through a broad multi-functional space,

a neighbourhood park for both informal and programmed activities. Trees frame the perimeter of the space providing a buffer/transition to the adjacent buildings.

Between Blocks PW2 and PW4 lies St. Catherine's Park, a large play park, its organic flowing layout providing a visual contrast to the buildings and streets surrounding it. It is richly populated with play features and ornamental soft landscaping to provide an intimate and stimulating experience, along with a pleasing outlook from neighbouring buildings and streets.

This approach delivers some of the key objectives set out in section 3.2 of the Urban Development and Building Height Guidelines at the scale of the city/town at the district / neighbourhood / street level, particularly:

- Integrating into / enhancing the character and public realm of the area
- Creating visual interest in the streetscape
- Making a positive contribution to place-making, incorporating new streets and public spaces
- Contributing to the improvement of legibility through the site or wider urban area

5.7.2.4 Façades and materials

The art deco façade of the former Player Wills factory building (block PW1) is retained and is echoed in the proportions and detailing of the adjoining block PW2. The simple vertical grain of modular windows and balconies also emphasises slenderness in the tower elements.

The extensive use of brick, especially 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. In some instances, metal detailing echoes the industrial nature of the existing site, while throughout the development, window openings and balconies provide contrasts in colour and texture.

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.

The above approach delivers on some of the key objectives set out in section 3.2 of the Urban Development and Building Height Guidelines at the scale of the city/town at the district / neighbourhood / street level, particularly:

- Responding to local character and architectural sensitivities through the considered use of materials and high quality detailing
- Creating visual interest in the streetscape
- Making a positive contribution to the urban neighbourhood and streetscape
- Well-considered use of building materials
- Aiding legibility through the site

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 Masterplan Area landscape, the proposed Player Wills development will make a moderate and positive contribution to this new urban neighbourhood. Impacts upon the surrounding urban landscape will also be moderately positive, retaining and reusing the art deco former factory building while replacing an abandoned industrial premises with an attractive residential-led development.

The taller blocks in PW2 give structure and form to the development, helping to define its core and mark the gateway into the site from Donore Avenue. The scale of these blocks is broken down by façade recesses and the regular pattern/layout of window openings and balconies, creating a slender vertical emphasis at the same time.

The existing art deco former factory building will enjoy a stronger presence on the street by virtue of being brought back into use and enjoying greater visual and physical permeability. Active ground floor uses include café, retail and community spaces with direct access to South Circular Road and the new internal north-south streets. With the additional floors set back from the street frontage, the renewed factory building will remain a local landmark and reinforce this approach as a gateway into the site.

A human scale is reinforced at street level through active frontages, double-height where retail/community uses are in 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.

The proposed Players Park and St. Catherine's Park are major public open spaces delivered as part of the Player Wills development. Players Park is on DCC land and will link the proposed Player Wills development to the permitted Bailey Gibson development (ABP Ref. PL29S.307221). The scale and presence of block PW2 will be echoed by buildings of a similar scale in the permitted Bailey Gibson development, serving as focal features and 'book ends'

to this major public space. Players Park will be a multi-functional active space with comprehensive hard and soft landscaping providing a distinctive character of its own, as well as high quality setting to neighbouring buildings. St. Catherine's Park will similarly provide a robust, attractive and active landscape setting to blocks PW2 and PW4, and enhance views into the site from the Donore Avenue approach.

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.

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 coloured aluminium panels/detailing.

5.8.4 Visual Impacts – Donore Avenue and the eastern residential environs

A series of verified photomontage views (9a, 9b, 10a, 10b, 11 and 12) illustrate the residual visual impacts arising from the proposed development and are appraised below. Refer to the booklet of photomontages by Modelworks, submitted as part of the planning application.

View 09a – Existing

The outlook from Donore Avenue across the northern part of the Masterplan Area encompasses what remains of St. Teresa's Gardens council estate. Much has been cleared, but two remaining blocks are visible in this view. Palisade railings and hoardings diminish the character and quality of the landscape at present, while street trees enhance an otherwise hard though somewhat open urban landscape. This view has a low sensitivity to the proposed development (refer to section 5.4.2).

View 09A – Proposed

This view illustrates the Player Wills development in the context of the new proposed public open space within the DCC lands, with the removal of the existing hoardings and buildings, and the introduction of a broad green recreational space with playground and perimeter tree planting. While the new park itself has a major positive visual impact in the foreground, it is not part of the Player Wills development.

In this view, Block PW2 is visible through the trees as part of the backdrop to the new park along with a glimpse of Block PW4 to the left of it; the magnitude of change is moderate and has a slightly positive impact upon visual amenity. Blocks PW1 and PW5 are screened by the Blocks PW2 and PW4. Block PW2 appears as a compact cluster of contemporary buildings, forming a cohesive and dynamic arrangement of building volumes and heights, with complementary contrasting coloured brickwork as the prevailing material while window openings and balconies add contrast, texture, depth and emphasise a vertical grain. The appearance of the Player Wills development provides a pleasing backdrop and defines a new contemporary neighbourhood that contains and frames the park, giving it scale, and establishes a new contemporary skyline.

View 09a – Proposed + Masterplan

The development of the Masterplan Area will bring a major magnitude of change to this view, where new buildings within the DCC lands (red outline) will accompany the Player Wills development and continue the new urban backdrop across the park, while the permitted Bailey Gibson development (ABP Ref. PL29S.307221) shown in the background is screened from view by the intervening development. The full character of the Masterplan Area will be evident in this view, with the extensive green landscape of the park enhancing the setting of the foreground street, while Block PW2 will contribute to cluster of taller buildings that bring a visually rich new neighbourhood into the area and define an entirely new backdrop/skyline to the park. The full Masterplan development, incorporating the proposed 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 the Masterplan Area has a low sensitivity to the proposed development as a result (refer also to section 5.4.2).

View 09b – Proposed

The proposed development lies to the left of this vista – the blue outline describes Block PW2 hidden by the existing intervening terraced houses. Until the DCC portion of the Masterplan area is developed, the existing residential block terminating this vista will remain in place. There is no change to this view arising from the proposed development and as a result, there will be no visual impact upon this view arising from it.

View 09b – Proposed + Masterplan

Development of the wider Masterplan Area 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 and contrast to the traditional streetscape in the foreground and a backdrop to the intervening park, while screening the permitted Bailey Gibson development (ABP Ref. PL29S.307221) entirely from view. The result will be a visually rich urban landscape, where visual impacts of the proposed 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, and while the church is clearly recognisable it does not add a particular focus or quality to this view. Sensitivity to the proposed development is considered to be low as a result.

View 10a – Proposed

The northern tower of Block PW2 is visible above the church, providing a contrasting contemporary character and a focal feature at the end of the vista along street. There is no dominant architectural style of quality in either the existing or proposed views, with the proposed development simply adding to the mix. The proposed tower element flags the presence of the proposed development, a clue to the city beyond the street, but in isolation neither reinforces the existing sense of place nor defines a new one. The magnitude of change is moderate and visual impacts are considered slightly adverse.

View 10a – Proposed + Masterplan

The coloured outlines in this view indicate that part of the Player Wills development is all that will be visible above the existing skyline, providing a contrasting contemporary character and a focal feature at the end of the vista along the street. Development of both the DCC land (red outline) and the permitted Bailey Gibson development (ABP Ref. PL29S.307221, green 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 the Masterplan Area, while the Bailey Gibson development continues to make no contribution to this view. The magnitude of change arising from development of the wider Masterplan area, including the Player Wills site, is moderate and 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

Block PW2 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. The church retains its visual separation from the proposed development in this view and remains the dominant feature of the view, though to a lesser extent than in the existing view. The magnitude of change is moderate and visual impact is considered to be slightly to moderately negative.

View 10b – Proposed + Masterplan

Development of the DCC land and the permitted Bailey Gibson development (ABP Ref. PL29S.307221) will not be visible, as illustrated in this view. It should be noted that development proposals for the part of the former Player Wills site referred to as PW3 are not yet sufficiently developed to be shown as part of the context model. However, it will form part of the wider Masterplan Area development, including other lands adjacent to the church, which

is likely to be a significant additional element of this view as a backdrop to the church. The magnitude of change is likely to remain moderate and visual impacts are likely to be slightly negative as a result.

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

The taller element at the northern end of block PW1 is visible as a terminal feature in this vista, replacing the existing view of this building with a new contemporary elevation. Part of Block PW2 is also just visible above the intervening rooftops to the right. While contemporary and contrasting in character, PW1 provides focus for the view and is not of a scale or character that would be detrimental to the character and quality of the street in the foreground. Visual impacts are considered slight and neutral.

View 11 – Proposed + Masterplan

This view demonstrates that the remaining parts of the Masterplan area would not feature in this view, being screened by intervening houses – the permitted Bailey Gibson development (ABP Ref. PL29S.307221) is outlined in green while development on the DCC land is outlined in red. Visual impacts from the Masterplan area, including the Player Wills site, will be slight and neutral.

View 12 – Existing

This vista along O'Donovan Road and 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 Player Wills development will introduce two building elements at the termination of this vista, with a low magnitude of change that results in a slight but neutral visual impact. The northern parts of block PW2 appear in the distance above the intervening rooftops and treetops, providing a new visual accent to the skyline. Contrasting brick tones echo those of buildings in the foreground, while the grain and rhythm of the new building elevations provide a complementary contrast. The proposed development adds a little depth to the view, hinting at the presence and character of a new urban neighbourhood beyond the intervening streetscape.

View 12 – Proposed + Masterplan

Development of the wider Masterplan area will partially screen the Player Wills development. The illustrative development of the DCC land, outlined in red, screens part of Block PW2 while

entirely screening the permitted Bailey Gibson development (ABP Ref. PL29S.307221) from view (shown ghosted in the background). The cumulative effect of these developments will establish a moderate magnitude of change to this view. Intervening street trees will provide a foil to the taller buildings that are visible, where several taller buildings will provide a more dynamic and contemporary skyline at the termination of this vista. The Masterplan area 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.

It should be noted that development proposals for the part of the former Player Wills site referred to as PW3 are not yet sufficiently developed to be shown as part of the context model, but it is likely to feature as part of the terminating view in this vista. The magnitude of change is likely to remain moderate, with a slightly positive visual impact.

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 photomontages by Modelworks, submitted with the planning application. The appraisal below follows a sequence from east to west.

View 13 – Existing

South Circular Road approach 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, which frame the vista, and is a residential conservation area. The proposed development site is relatively distant from this vantage point and sensitivity to the proposed development is considered low to moderate (refer to section 5.4.2).

View 13 – Proposed

Some of the additional floors that comprise part of the redevelopment of Block PW1 are visible as a new feature on the skyline that terminates this vista, displaying the contemporary character of the building extension; the existing building at PW1 is not visible. There is also a partial view to the uppermost floor of Block PW2 to the right above the rooftops, though this is almost imperceptible as a new feature. Despite its contemporary character, it does little to diminish the character of the streetscape, while it also aids legibility by adding a point of focus that identifies the proposed development as a destination ahead. The magnitude of change is low, resulting in a low neutral visual impact.

View 13 – Proposed + Masterplan

Red and green outlines on this view indicate that the development on the DCC land (red) and at the permitted Bailey Gibson development (ABP Ref. PL29S.307221, outlined in green) will not feature in this view. Therefore the magnitude of change resulting from the wider development of the Masterplan area will remain low and visual impacts will be a slight neutral effect.

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 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 will have a slight to moderate neutral visual impact upon this view. The magnitude of change is moderate, where the upper storeys of Blocks PW1 and PW2 are glimpsed above the intervening rooftops. While this interrupts the established rhythm of the intervening Victorian roofscape and contrasts with the existing streetscape, it is the first part of a more comprehensive change to the backdrop to this Victorian terrace that will occur with the wider development of the Masterplan area, as described below. Its presence adds contrast and depth to the urban landscape, signalling the presence of a new urban neighbourhood beyond the established historic streetscape in the foreground. The character of South Circular Road prevails in the context of the Player Wills development.

View 01 – Proposed + Masterplan

The wider masterplan development introduces a small degree of additional change to this view, where the blocks within the Player Wills site are joined by the taller elements of the permitted Bailey Gibson development (ABP Ref. PL29S.307221, above Block PW1 at the centre) and DCC development (red outline beside the partial view of Block PW2).

Visual impacts from the full Masterplan development, including the proposed development, are considered to be moderate but neutral. 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.

View 02 – Existing

This view from St. Anne's Road lies at the edge of the Grand Canal Conservation Area, extending north across South Circular Road to the former Player Wills factory building. The immediate streetscape is pleasant but the factory building appears somewhat dilapidated with a cluttered roofscape. Sensitivity to the proposed development is considered moderate.

View 02 – Proposed

There will be a significant change to the outlook from this street, where proposed blocks PW1 and PW2 present a more contemporary urban landscape. PW1 incorporates the renovated and redeveloped art deco factory building with additional floors set back above. The

contrasting detail of the upper floors allow the original building elevation to remain prominent. The tower elements of Block PW2 modulate a new skyline with contrast of scale, built form and materiality. The transition between them is progressive and unified, resulting in a cohesive assembly of built elements. Altogether, it is an attractive new urban landscape that terminates the vista and encloses the street, with a moderately positive visual impact as a result.

View 02 – Proposed + Masterplan

Built development within the DCC land is likely to feature to a minor degree above the intervening rooftops to the left in this view. It will add only slightly to the built landscape beyond the street, with a moderately positive visual impact remaining.

View 03a – Existing

This part of South Circular Road contains a mix of residential conservation area (Victorian terraces) adjoined by pockets of industrial land, including the Bailey Gibson site. This view contains a notable gap in the streetscape where a pocket of undeveloped land forms part of the Bailey Gibson site. The roofscape of the existing factory units at the Bailey Gibson site provides a backdrop in 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, which is largely out of view. This view has a low to moderate sensitivity to the proposed development (refer to section 5.4.2).

View 03a – Proposed

Development of the Player Wills site only introduces a modest change to the backdrop of this view, with the upper floors of block PW1 and a glimpse of the southern tower of block PW2 redefining the skyline above the intervening rooftops. This provides a new contemporary urban backdrop that contrasts with the foreground streetscape, adding depth to this urban landscape. The visual impact of this change is considered to be low to moderate and neutral.

View 03a – Proposed + Masterplan

The wider masterplan development will introduce a high magnitude of change to this view. The permitted Bailey Gibson development (ABP Ref. PL29S.307221) will bring about significant change to the foreground, with the removal of existing trees, the introduction of new buildings at the street edge and the presence of taller buildings in the background; taller buildings within the DCC land may also be glimpsed. However, the prevailing traditional suburban streetscape character is retained in the foreground while new buildings add depth and diversity to create a more structured and contemporary urban landscape and define a stronger sense of place. Visual impacts from the full masterplan development are likely to be moderately positive. The Player Wills development is now more visible and forms part of a more extensive and cohesive urban landscape, where it makes a moderately positive contribution.

View 3b – Existing

The simple broad streetscape of terraced Victorian houses is punctuated by the former Player Wills factory building, which has a distinct but complementary presence in the streetscape.

Street trees soften the streetscape and break up the built skyline. This is a residential conservation area and has a moderate sensitivity to the proposed development.

View 3b – Proposed

Development of the Player Wills site introduces partial views of blocks PW1 and PW2, providing a new contemporary backdrop to the traditional streetscape in the foreground. The character and presence of the former factory building is retained, reinstated and complemented by the contrasting character of additional floors above and set back from the original building. The assembly of slender volumes, proportions of window openings and arrangement of balconies all emphasise a vertical grain and maximise the perception of slenderness. The form and details of the buildings add to the visual richness of the proposed development and make a distinct but complementary contrast with the foreground landscape. The magnitude of change is moderate to high and considered moderately positive.

View 3b – Proposed + Masterplan

There is no change to this view as a result of the wider development of the Masterplan area, as both the permitted Bailey Gibson development (ABP Ref. PL29S.307221) and the DCC lands lies out of frame to the left of this view, and therefore there are no additional visual impacts as a result.

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

Intervening buildings screen the proposed development entirely from view, as indicated by the blue outline, resulting in no change to this landscape and no visual impacts as a result.

View 04 – Proposed + Masterplan

This view indicates that partial views of future development of the DCC land (red outline) and the permitted Bailey Gibson development (ABP Ref. PL29S.307221) will allude to the new urban neighbourhood within the Masterplan area, but will result in only a low magnitude of change will little effect on the poor urban character in this location. The Player Wills development (blue outline) will remain entirely screened from view and overall visual impacts will be low 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 brings about a low to moderate magnitude of change to this view in the form of the tower elements of Block PW2 and a partial glimpse of Block PW1. Each tower element of PW2 displays its character as a series of interlocking slender volumes with a modulated roofscape created by varied heights and set-backs. These and the glimpsed part of PW1 read as a 'family' of buildings as a backdrop to the streetscape in the foreground, adding depth and a degree of unity to the urban landscape, resulting in a slightly positive visual impact.

View 05a – Proposed + Masterplan

From this vantage point, both the permitted Bailey Gibson development (ABP Ref. PL29S.307221, centre) and DCC development (red outline, left) are clearly visible and will define a comprehensive new urban landscape as a backdrop to the existing streetscape. At this proximity, the architectural details of the proposed buildings will be easily distinguished and the rich architectural qualities of those buildings have a moderately positive visual impact upon this urban landscape. They will almost entirely screen the proposed development from view at this vantage point, which as a result will not make a perceptible contribution to the positive visual impacts of development in the Masterplan area.

View 06 – Existing

This vista along South Circular Road to the west of the Masterplan area is characterised mainly by red brick Victorian terraces, although tall contemporary buildings located on Dolphin's Barn terminate the vista. 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

There will be an imperceptible magnitude of change to this view as a result of the proposed development, resulting in an imperceptible and neutral visual impact. The visible parts of the proposed development will occur as a very small amount of infill on the skyline to the left of the existing tower building, where they are too small to either display any character of their own or influence the character of the existing landscape.

View 06 – Proposed + Masterplan

Development of the Masterplan Area, including the proposed development site, brings only a low magnitude of change to the view, with a degree of infill at the skyline by development on the DCC lands (red outline, left of the existing tower building) and permitted Bailey Gibson development (ABP Ref. PL29S.307221, right of the tower building). A contrast of materials and grain will allow the existing tower building on Dolphin's Barn to remain the dominant terminating feature, but 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. Visual impacts are likely to be slightly positive, but with no contribution to these visual impacts made by the proposed development.

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 photomontages by Modelworks, submitted with the planning application.

View 08 – Existing

This residential area adjoins the northern edge of the wider Masterplan Area, 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. 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 proposed development is partially visible to the left of this view. Block PW1 remains screened by intervening buildings in the foreground, while a substantial part of Block PW2 is visible above the rooftops, including both towers and parts of the upper floors elsewhere. This provides a new contemporary backdrop to the foreground streetscape and signals the presence of a new neighbourhood beyond. The detail and visual richness of the new buildings is evident, and while its scale and contemporary character contrasts with the houses in the foreground, the magnitude of change from the Player Wills development is low and visual impacts are considered to be slight and neutral.

View 08 – Proposed + Masterplan

New buildings in this landscape will result primarily from development of the DCC lands (red outline) and, to a lesser extent, from the Player Wills lands, while the permitted Bailey Gibson development (ABP Ref. PL29S.307221) makes an insignificant contribution. The magnitude of change to this view will be moderate, introducing 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. Visual impacts are likely to be moderate and neutral, with the Player Wills development continuing to contribute a slight neutral impact.

View 16 – Existing

This view from Cameron Street overlooks the former St. Teresa's Gardens, where new houses built recently by Dublin City Council can be seen just beyond the cottages and hoarding at the end of the street. The character of the street is one of two-storey Victorian houses which frame

the view towards the proposed development site, while the new houses have a simple brick construction with mono-pitched roofs. It is a relatively poor quality streetscape with low sensitivity to the proposed development (refer to section 5.4.2).

View 16 – Proposed

The proposed block PW2 is substantially visible in this view, terminating the vista where it extends beyond the street and newly built houses. The proposed development displays the modulated building heights and elevations, with a contrasting range of fenestration and material finishes that help to break down the building volumes into more slender components with a strong vertical emphasis. It provides a new urban backdrop as context to the streetscape, and a focal point for the vista. The magnitude of change is moderate and visual impact is considered moderate but neutral.

View 16 – Proposed + Masterplan

The DCC land within the Masterplan area lies closest to the viewer and the red outline indicates that a small part of it will feature in this view, while the permitted Bailey Gibson development (ABP Ref. PL29S.307221, green outline) will be screened from view by buildings to the right. In due course it is expected that the hoarding will be removed and Cameron Street will connect to the Masterplan area, at least for pedestrians and cyclists. The magnitude of change will be moderate to high, where the existing streetscape extends into the Masterplan area towards the proposed development, with the proposed development being more visible and making the principal contribution to the additional built development visible from here. The magnitude of change will be high and visual impact moderately positive as a result of the new connected streetscapes and urban spaces.

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 blue outline against the intervening trees and buildings indicates that the proposed development will be entirely screened from view, resulting in no change and no visual impacts.

View 07 – Proposed + Masterplan

This view indicates that the wider Masterplan area development comprising proposed Player Wills development (blue outline), DCC lands (Red outline) and permitted Bailey Gibson development (ABP Ref. PL29S.307221, green outline) will all be entirely screened from view by the intervening buildings, with no visual impacts arising as a result. The red outline suggests that there may be scope for a glimpse of the development on DCC lands but this likely to be a minor or imperceptible change to this view.

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 not special qualities and sensitivity to the proposed development is low (refer to section 5.4.2).

View 24 – Proposed

In this view, the upper floors of Block PW2 are visible above the early learning centre in the foreground. This is a minor intervention in this view and expresses a contrasting architectural character of higher quality than the foreground. The magnitude of change to this view is low, with a slight neutral visual impact arising as a result of it.

View 24 – Proposed + Masterplan

The view indicates that future development of the wider Masterplan area, including the permitted Bailey Gibson development (ABP Ref. PL29S.307221, green outline) and the DCC lands (red outline) will have a more substantial presence in this view than the proposed development, which now lies behind (and entirely screened by) the development on DCC lands. In combination, the Masterplan area development introduces a moderate magnitude of change to this view, where a cluster of contemporary buildings with modulated roofscapes, elevations and a high standard of finishes will have a moderately positive visual impact, to which the proposed development will make no contribution.

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 photomontages by Modelworks, submitted with the planning application.

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 Player Wills development is entirely screened from view by intervening buildings except for an imperceptible addition to the roofscape from the northern tower of Block PW2. The magnitude of change is imperceptible and there will be no adverse visual impacts arising as a result.

View 14 – Proposed + Masterplan

This view demonstrates the extent to which the entire Masterplan area development will be screened from view by intervening buildings. Green and red outlines demonstrate (respectively) that the permitted Bailey Gibson development (ABP Ref. PL29S.307221) and the proposed DCC development are likely to be almost entirely screened from view, and will be imperceptible where elements are visible, so visual impacts will be imperceptible and neutral.

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

There is a partial view of the upper floors of the southern tower element of Block PW2 at the end of this vista, above the rooftops to the left of the trees. It is not sufficiently visible to either demonstrate its own character or to have a perceptible effect upon this view. The magnitude of change is imperceptible and visual impacts are imperceptible and neutral as a result.

View 15 – Proposed + Masterplan

This view demonstrates that the development of the wider Masterplan area will be glimpsed beyond the end of the street, with development on the DCC lands (red outline) glimpsed behind the proposed development, with neither sufficiently visible to either demonstrate their own character or to have a perceptible effect upon the character of this view. The permitted Bailey Gibson development (ABP Ref. PL29S.307221, green outline) remains screened by intervening buildings and trees. The magnitude of change to this view remains low or imperceptible and therefore visual impacts remain imperceptible and neutral.

View 17 – Existing

This view from the side of the canal 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 extent 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 visible above the intervening rooftops in the form of the new floors added to the former factory building at Block PW1, and the two tower elements in PW2. Their character is a distinct contrast to the traditional houses in the foreground. However, as a cluster of new buildings, they begin to establish a sense of place and signal another

neighbourhood beyond the terraced houses. The built forms are clearly articulated with stepped roofscapes, inset façade elements and a contrasting range of material finishes. The towers of block PW2 enjoy a strong vertical emphasis as a result, maximising the perception of slender forms, while block PW1 exhibits a more grounded and horizontal character. The new buildings draw the viewers eye away from the canal but allow the canal and its immediate setting to remain dominant. The magnitude of change is moderate and visual impacts are moderate and neutral.

View 17 – Proposed + Masterplan

This view demonstrates that future development on DCC land (red outline, centre) and the permitted Bailey Gibson development (ABP Ref. PL29S.307221, green outline to the left) will further expand the presence of new buildings as a backdrop to the canal corridor, which will add visual richness and diversity to the character of this view by incorporating contemporary buildings with a range of heights, detailing and materials. Visual impacts will remain moderate and neutral.

View 18 – Existing

Aughavanagh Road lies south of the Grand Canal with a vista towards the Masterplan Area 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 Player Wills development appears as a relatively small addition to the urban landscape, where the two tower elements appear towards the right beyond the school and houses. The contrasting colours of brickwork and the vertical pattern of window openings and balconies break up the mass and scale of the buildings and lend them a slender quality, aided by step-backs at roof level. Existing trees along the canal provide separation from the foreground neighbourhood and provide context for the new development. The new buildings aid legibility of the area, signalling the presence and character of a new urban neighbourhood nearby. The magnitude of change is low and visual impacts are slight and neutral.

View 18 – Proposed + Masterplan

Proposed development within the Masterplan area 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, the wider Masterplan area development will add visual richness and diversity to 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 Masterplan development and aids its integration into the existing urban landscape. Visual impacts from development of the Masterplan area upon the residential area and canal corridor (as seen from here) are

considered to be moderately neutral, with the proposed development contributing a slight neutral impact.

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 proposed development is outlined in blue in this view, indicating that it is entirely screened from view by the intervening trees, though in winter there might be filtered views to the upper floors of PW2 in particular. Otherwise, there is no perceptible change to this view, therefore visual impacts will be imperceptible and neutral.

View 19 – Proposed + Masterplan

The wider Masterplan Area development will add new residential buildings to the background of this view, counterbalancing the existing industrial character with a high-quality residential environment. Future development of the DCC lands (outlined in red) and the permitted Bailey Gibson development (ABP Ref. PL29S.307221, outlined in green) will both contribute to a cluster of residential development at the centre of this view. The proposed development (outlined in blue) will remain substantially hidden in this particular view, though may feature from other nearby vantage points. The Masterplan development gives rise to a moderate magnitude of change that is likely to result in a moderately positive visual impact.

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. It is likely that any future redevelopment of this site would reduce the visibility of the proposed development. There is ongoing consultation for the proposed variation of its zoning to Z1 Residential and Z9 Open Space, as part of a citywide Review of Industrial Lands Study.

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 Player Wills development does not feature in this view at all, being entirely screened by intervening buildings as indicated by the blue outline. There is no change to this view as a result of the proposed development and there are no visual impacts arising as a result.

View 20 – Proposed + Masterplan

Development of the proposed Masterplan area makes a low magnitude of change to this view, with the tallest buildings within the DCC lands (outlined in red) complementing the modest presence of the permitted Bailey Gibson development (ABP Ref. PL29S.307221, outlined in green); the proposed development at Player Wills (outlined in blue) will remain hidden from view. The wider character of the Masterplan Area 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 Masterplan area development and a slight neutral visual impact will occur as a result.

View 22 – Existing

This open space at Dolphin Road adjoins the Grand Canal Conservation Area (towards the 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 blue outline against the intervening trees indicates that the proposed development will be entirely screened from view by intervening trees and buildings, with no visual impacts arising as a result. It is feasible that part of the proposed development may be glimpsed through the trees in winter, behind Grand Canal Court, but the magnitude of change would be imperceptible, with no perceptible visual impacts arising.

View 22 – Proposed + Masterplan

This view indicates that not only will the proposed development be screened from view but so will the future development of the wider Masterplan area, including the permitted Bailey Gibson development (ABP Ref. PL29S.307221, green outline) and DCC lands (red outline). Again, it is feasible that parts of the wider development may be glimpsed through intervening trees, but with the screening effect of Grand Canal Court factored in, the magnitude of change is likely to be low or imperceptible, with a low to imperceptible neutral visual impact as a result.

View 23 – Existing

This vantage point lies at Grand Canal View (with the LUAS just behind the viewer), looking east along the canal towards the proposed development site. The canal is flanked by housing and green space to the left and the broad tree-lined bank of the canal to the right. It is an

attractive landscape in a distinctly suburban context, with moderate to high sensitivity to the proposed development (refer to section 5.4.2).

View 23 – Proposed

The blue outline against the trees and houses at the left indicates the proposed development lies off to one side of this vista and is screened entirely from view, with no visual impacts arising as a result.

View 23 – Proposed + Masterplan

Similarly, future development within the Masterplan Area, including the permitted Bailey Gibson development (ABP Ref. PL29S.307221, green outline) and DCC lands (red outline), will remain out of view in this vista, screened entirely by intervening houses and trees, with no visual impacts arising as a result.

5.8.8 Visual Impacts – longer views from south

A 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 photomontages by Modelworks, submitted with the planning application.

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 top few storeys of the tower elements of Block PW2 feature in a small way on the horizon in this view, slightly animating the existing horizon by way of their contemporary built form and materiality. However, this is a minor magnitude of change to the character this view and visual impacts are slight and neutral.

View 21 – Proposed + Masterplan

The top 2-3 storeys of the permitted Bailey Gibson development (ABP Ref. PL29S.307221) appear just about the rooftops slightly left of centre in this view (green outline), accompanied by one of the taller building from development of the DCC land (red outline). While they are sufficiently visible to convey a little of their own contemporary urban character, they do not intrude significantly into the view. Their character and scale complement the visible parts of the proposed development and the mixed urban landscape in the foreground, where the magnitude of change is low and visual impacts are slight 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 tower elements of Block PW2 are visible above the intervening rooftops / treetops in this view. Their façade detailing lends them texture, contrast and a slender vertical emphasis. They are evidently distant from the site, so not overbearing in any way, and while they intrude slightly upon an otherwise consistent low-lying skyline, the proportions and vertical emphasis are somewhat complementary to the many gravestones that populate the foreground. Without any further context, the proposed buildings appear a little isolated. The magnitude of change is low and visual impacts are slightly negative; however, further development in the Masterplan Areas is proposed as discussed below.

View 25 – Proposed + Masterplan

This view indicates that the development of the Masterplan area as a whole will add context and a notably regular rhythm of built development along this part of the skyline. The proposed development will make the greatest contribution, with development on the DCC lands (red outline) and permitted Bailey Gibson development (ABP Ref. PL29S.307221, green outline) continuing the broad pattern of built form emerging at the skyline. 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. Again, the proportions of the distant buildings echo the patterns of gravestones in the foreground. The magnitude of change is 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	Unlikely	Short-term	Direct
Partially demolished buildings	Negative	Moderate	Site specific	Unlikely	Temporary	Direct
Stockpiles of demolition waste	Negative	Slight	Site specific	None	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	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
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	Slight	Site Specific	Likely	Permanent	Direct
Character of former factory building	Positive	Moderate	Site specific	Likely	Permanent	Direct
Changes to existing streetscapes	Positive	Moderate	Site Specific	Likely	Permanent	Direct
New streetscapes	Positive	High	Site Specific	Likely	Permanent	Direct
Visual impact upon Donore Avenue and adjoining residential areas	Neutral or positive, occasionally negative	Slight - moderate	Local	Likely	Permanent	Direct
Visual impact upon South Circular Road and adjoining residential areas	Neutral - positive	Imperceptible - moderate	Local	Likely	Permanent	Direct
Visual impact upon Dolphin's Barn and adjoining residential areas	Neutral - positive	Imperceptible -slight	Local	Likely	Permanent	Direct
Visual Impact upon Cork Street and adjoining residential areas	Slight - moderate	Neutral	Local	Likely	Permanent	Direct
Visual impact upon residential areas south of the Grand Canal	Neutral	None, sometimes slight or moderate	Local	Likely	Permanent	Direct
Visual impact upon the Grand Canal Conservation Area	Neutral - positive	None, occasionally slight or moderate	Local	Likely	Permanent	Direct
Visual impact upon long views from Crumlin Road	Neutral	Slight	Local	Likely	Permanent	Direct
Visual impact from Mount Jerome.	Negative	Slight	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 a wider Masterplan Area, and the cumulative effects of this wider development upon landscape and visual impacts are illustrated and discussed in the appraisal above. The wider Masterplan area 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 might appear neutral or even slightly negative on its own, the inclusion of further development on adjacent land within the Masterplan area significantly enhances the scope and delivery of good placemaking, which will have a significant positive effect on landscape and visual impacts.

Secondly, the proposed development along with the wider Masterplan Area 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 therefore be consistent with this change and positively reinforce the emerging urban character, having a slightly or moderately positive impact upon landscape character and visual amenity.

5.9 Interactions

Principal interactions will be with Built Heritage. Refer to Chapter 15 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.

In the first instance, chapter 15 considers the anticipated impacts upon the site's heritage assets, which is mainly concerned with the former Player Wills factory building that fronts onto South Circular Road plus less significant elements within the other buildings on the site. The chapter concludes that the loss of architectural fabric, features and historic interest has minimised as part of careful design, where the residual impacts are neutral and not significant.

Chapter 15 determines that the additional two floor extension above roof level will have a neutral visual impact upon the contribution this building makes to the streetscape of South Circular Road on account of its design and set-back from the road frontage, while the restoration works to the original fabric of this building will have a positive impact upon the built structure and its appearance.

Chapter 15 then considers the anticipated visual impacts upon the adjacent residential conservation areas and Protected Structures in the surrounding area. It recognises that visual impacts have been minimised through a high standard of building design and setting back taller buildings from the site boundaries, seeking to maximise their distance from the adjacent residential conservation area and nearby Protected Structures. It concludes that the proposed development will not be overbearing upon the character of the neighbouring residential conservation area, and visual impacts upon this and nearby Protected Structures will neutral and not significant.

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 Conclusion

The proposed development will have a positive landscape impact by replacing a former industrial site, much of which currently has an adverse impact upon the urban landscape character of the local area, It will retain, reinstate and repurpose the existing factory building fronting onto South Circular Road, which currently has a positive impact on the landscape character and visual amenity of this street.

The proposed development will deliver part of a new residential neighbourhood that forms a cohesive and comprehensive vision for the Masterplan Area. The proposed development has a high density contemporary urban character that is consistent with this vision, which contrasts with the more traditional streetscapes of neighbouring residential areas to the south and east, but is also consistent with contemporary residential developments built or permitted nearby to the west and north. The proposed development echoes the character, scale and quality of the permitted development of the former Bailey Gibson site (ABP Ref. PL29S.307221), which also forms part of the Masterplan Area.

The proposed development will have a moderately to highly positive impact upon landscape character by delivering part of a new urban neighbourhood that establishes its own contemporary identity. Increased permeability and legibility of the site will provide access to high quality public open spaces and streetscapes framed by a range of contemporary buildings with rich and varied architectural qualities and active frontages, delivering an attractive and vibrant neighbourhood on what is currently a vacant industrial site.

The scale, massing and character of the proposed development will have a range of visual impacts upon the surrounding urban landscape. Building heights step back from established low-rise residential edges to provide space and visual separation, allowing proposed taller buildings to occupy the background of views of more traditional streetscapes, avoiding an overbearing and intrusive presence in those streetscapes and minimising adverse visual impacts. Building height and contrasting character frequently adds visual richness and depth to the urban landscape, aiding legibility and local identity. In most instances, any residual adverse visual impacts are balanced out or outweighed by the positive contributions made to the urban landscape by the proposed development.

5.13 References and Sources

'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



DECEMBER 2020

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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 potential impact of the proposed development on the operation of the local road network both during the short-term construction phase and long-term operational phase and outlines 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 report 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, BCE CEng, and Allannah Murphy, BE PGDip, of SYSTRA Ltd. Andrew 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. Works completed include detailed Traffic and Transport assessments for residential and commercial developments throughout Dublin & Ireland, including mixed use development at Clonburris, Monard & Cherrywood Strategic Development Zones (SDZs), residential development at Water Rock Midleton and Oldtown Celbridge amongst others. Allannah is a principal consultant with 7 years' experience in transport planning, traffic engineering and development planning. She has worked on numerous Transport Impacts Assessments, Mobility Management Plans and Environmental Impact Assessments including work on Clonburris and Monard SDZ, 9 Urban Expansion Areas within Cork zoned for significant residential development and applications for commercial applications at Liffey Valley and Kildare Village amongst others. SYSTRA also completed the Transport Assessment for the adjacent Bailey Gibson site, also under the ownership of the applicant.

6.3 Proposed Development

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former 'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, 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. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use (residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
 - b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
 - c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;
 - d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
 - e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.

- iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
 - a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
 - b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m.
- iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;
- v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.
- vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
- vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
- viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
- ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.

- x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
- xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
- xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1(the former factory building);
- xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
- xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
- xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
- xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
- xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment and lighting.

6.4 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 Statements (EPA, 2002)
- Draft Advice Notes for Preparing Environmental Impact Statements (EPA, 2015);
- Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2017);
- Transport Infrastructure Ireland's (TII's) Traffic & Transport Assessment Guidelines (2014).
- Guidelines for the Environmental Assessment of Road Traffic, 2003, Institute of Environmental Management & Assessment (UK Based).

There are also a number of relevant national and regional 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 Trip 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 3.3 of the Draft EPA Guidelines, outlined previously in Chapter 1.
- **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 as part of the planning consultation process. There were also a number of separate pre-application meetings held with the Dublin City Council's Transportation Department relating specifically to the Transport Assessment for the proposed development. 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, car parking ratio and proposed mobility management measures were also discussed at length. DCC broadly accepted the proposed strategies but emphasised the importance of mobility management on the proposed development site and supporting measures required to support planning application. DCC also raised a number of points on the submission to An Bord Pleanála as part of the pre-app consultation. This included emphasis on ensuring works carried out on public roads adhered to DCC construction standards, ensuring the public realm and footpaths were unaffected by refuse collection, rearrangement on-street parking and taking in charge arrangements, inclusion of a contra-flow cycle lane and additional pedestrian crossings. These issues have been addressed in the final submission and are reflected in this chapter's assessment.

6.5 Baseline Environment

6.5.1 Surrounding Land Use

The surrounding land use is largely residential comprising of predominantly terrace housing. St. Catherine's National School is also located to the north-east adjacent to the existing site entrance on Donore Avenue. North of the site entrance is St. Teresa's Church and Donore Youth and community centre. To the north-west is St. Teresa's Gardens which forms part of SDRA 12. The site is currently disused but formerly housed the Player Wills factory.

6.5.2 Site Location

The site is located on the South Circular Road with connections to St. Catherine's Avenue and Donore Avenue to the North. The primary access points to the site is currently located along the South Circular Road and along Donore Avenue north of St. Catherine's National School. The location of the site in relation to the surrounding road network is shown in **Figure 6-1** below.

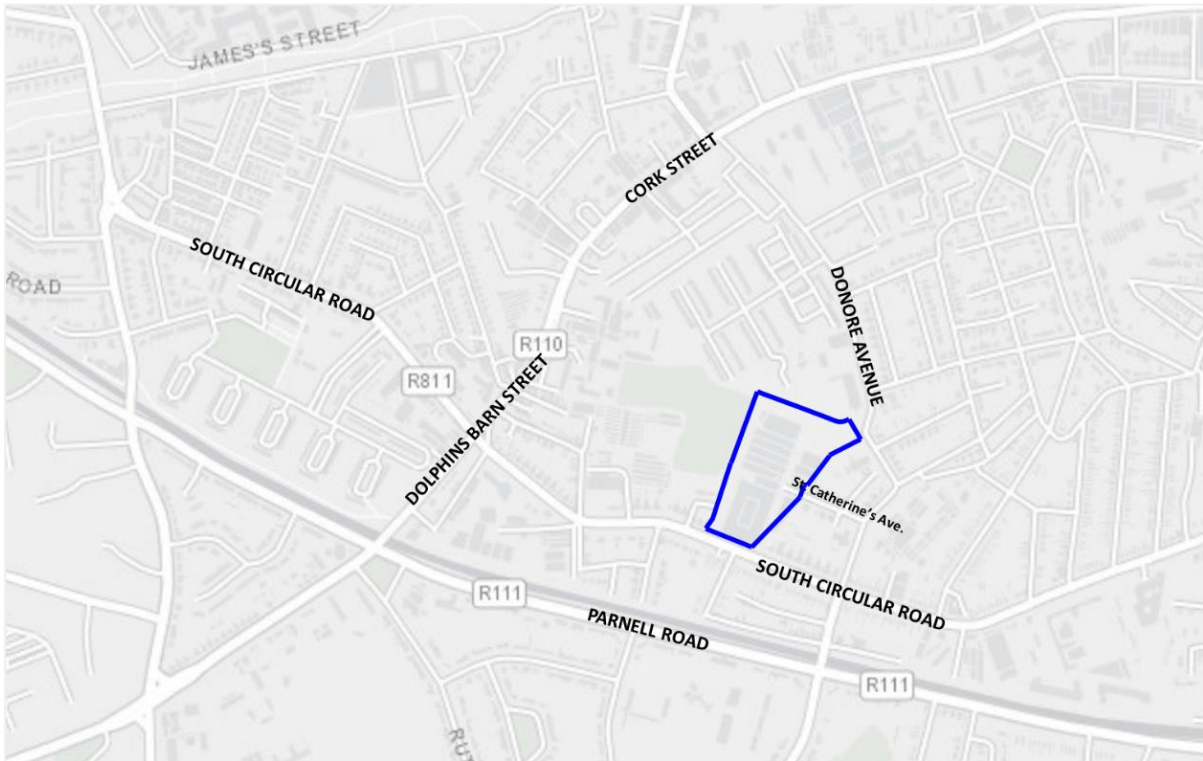


FIGURE 6-1 PROPOSED DEVELOPMENT SITE LOCATION & SURROUNDING ROAD NETWORK

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 20-minute walk of the site and Griffith College is within 10-minutes. The city centre is a 25-30-minute walk. Heuston Station and the Royal Hospital Kilmainham are also within a 30-minute walk of the site. The Phoenix Park is just over 30-minute walk away. **Figure 6-2** below outlines the walking catchment in 5-minute intervals.

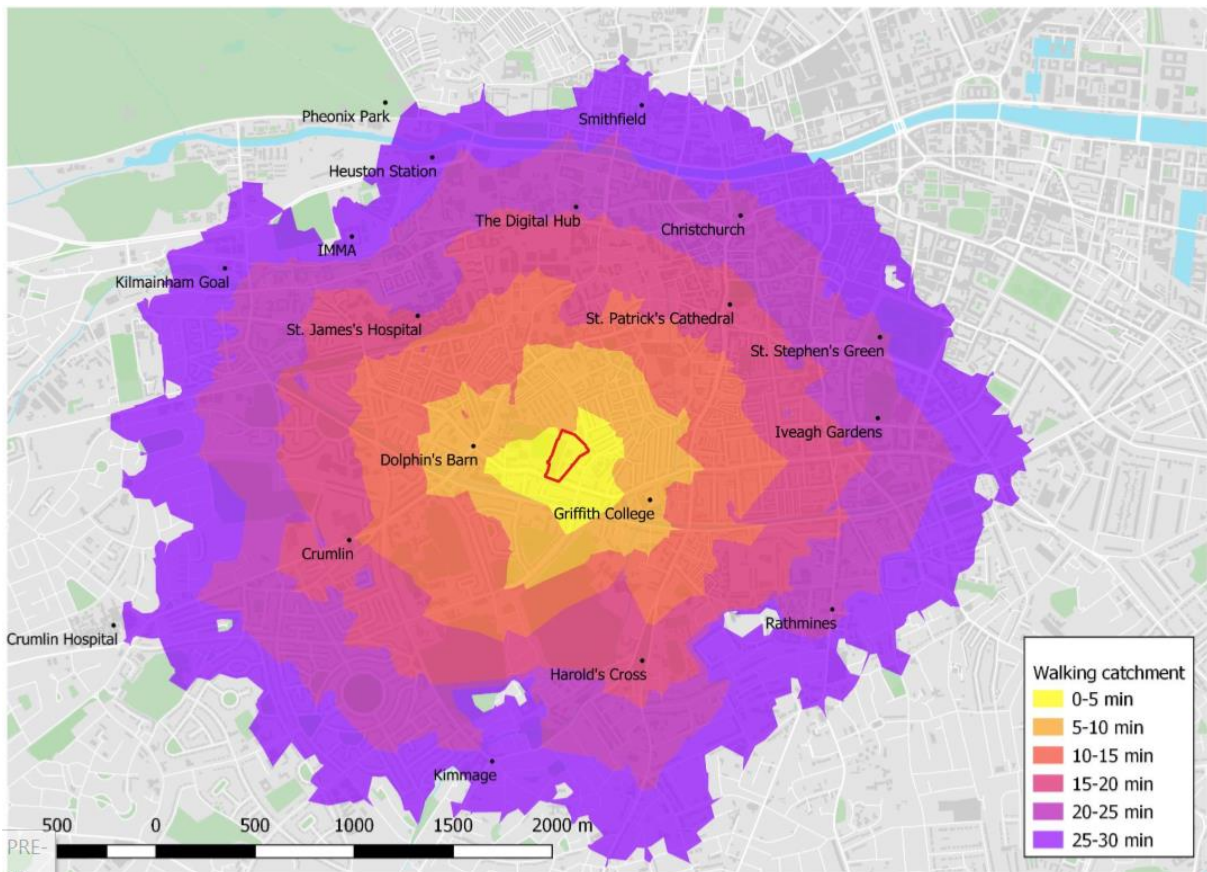


FIGURE 6-2 WALKING CATCHMENT

In the immediate vicinity of the site there are good quality pedestrian routes along South Circular Road with wide footpaths varying between 2.2 & 4.2m from Donore Avenue to Dolphin’s Barn Cross and good quality lighting. However, there is an unmarked pedestrian crossing, with dropped kerb lines and traffic island directly in front of the adjacent Bailey Gibson Site and signalised pedestrian crossings at the Donore Avenue/SCR junction. Along St. Catherine’s Avenue & Donore Avenue the footpaths vary in width from 1.4m-2.7m. There is a marked zebra crossing on Donore Avenue directly in front of the school.

6.5.4 Cycling Accessibility & Infrastructure

The proposed development site is highly accessible by cycling. The city centre, TUD Grangegorman, Coombe and St James’s Hospitals and Heuston Station are all within a 15-minute cycle of the site. **Figure 6-3** outlines the cycling catchment in 5-minute intervals.

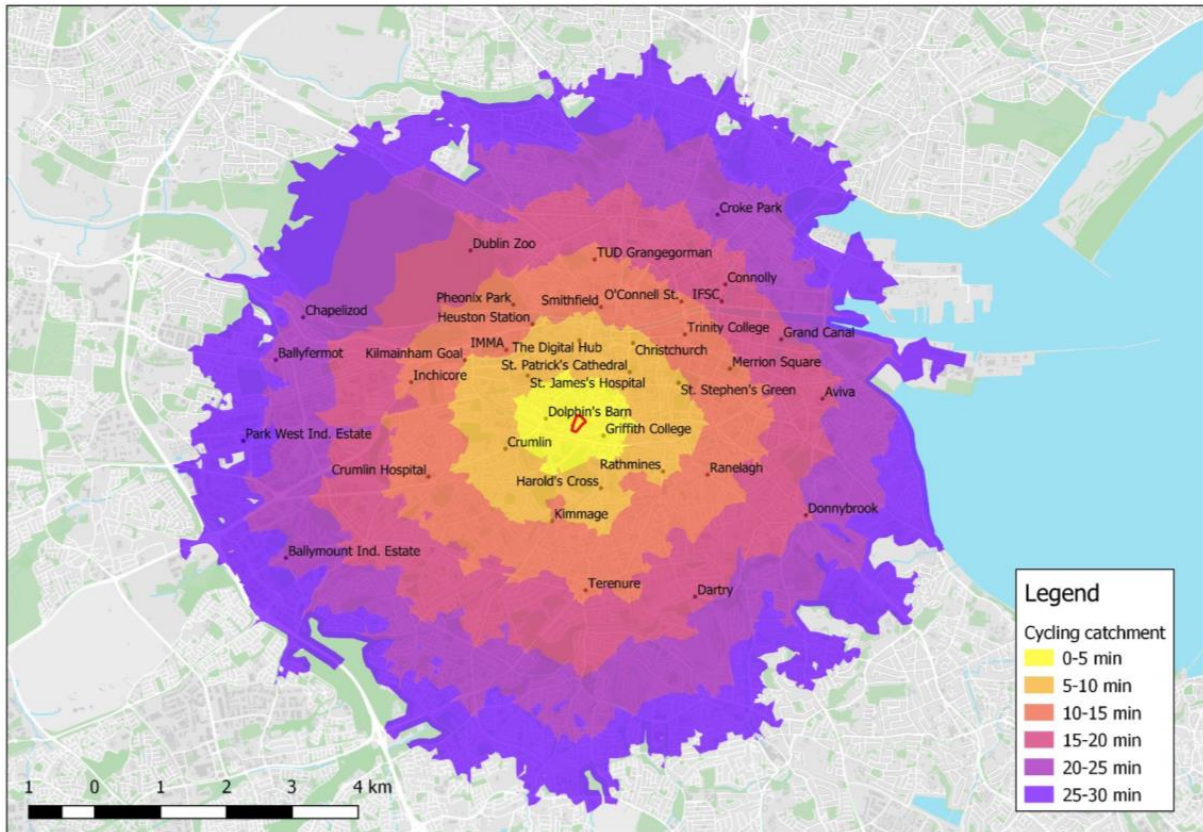


FIGURE 6-3 CYCLING CATCHMENT

There are cycle lanes provided the majority of the way from Dolphin's Barn Cross to the City Centre and along the length of the Canal towards the docklands as shown from the existing facilities map taken from the Greater Dublin Area Cycle Strategy and illustrated in **Figure 6-4** Error! Reference source not found. 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.

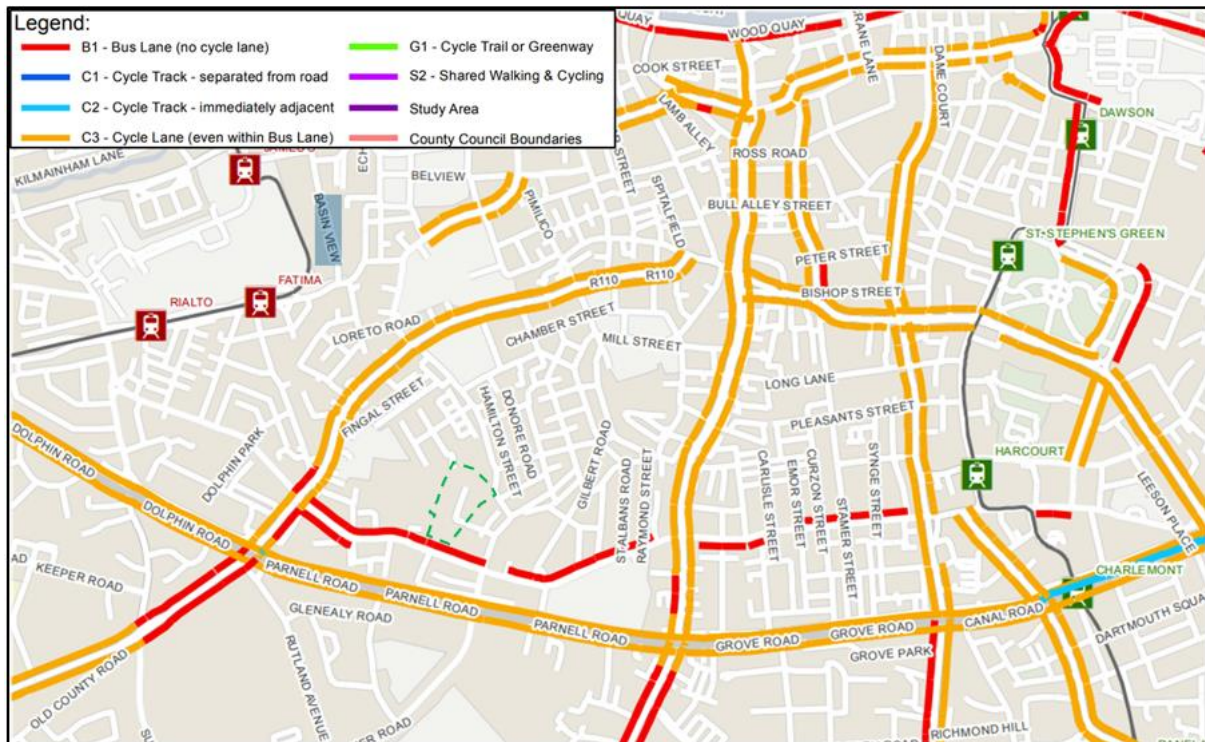


FIGURE 6-4 EXISTING CYCLE FACILITIES

(Map Data © National Transport Authority¹)

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 12-minute walk to the Fatima Red line Luas stop. **Figure 6-5** below illustrates the existing public transport network and stop locations.

¹ GDA Cycle Network Plan- Existing Facilities Maps https://www.nationaltransport.ie/wp-content/uploads/2014/04/Existing_Facilities_Maps11.pdf

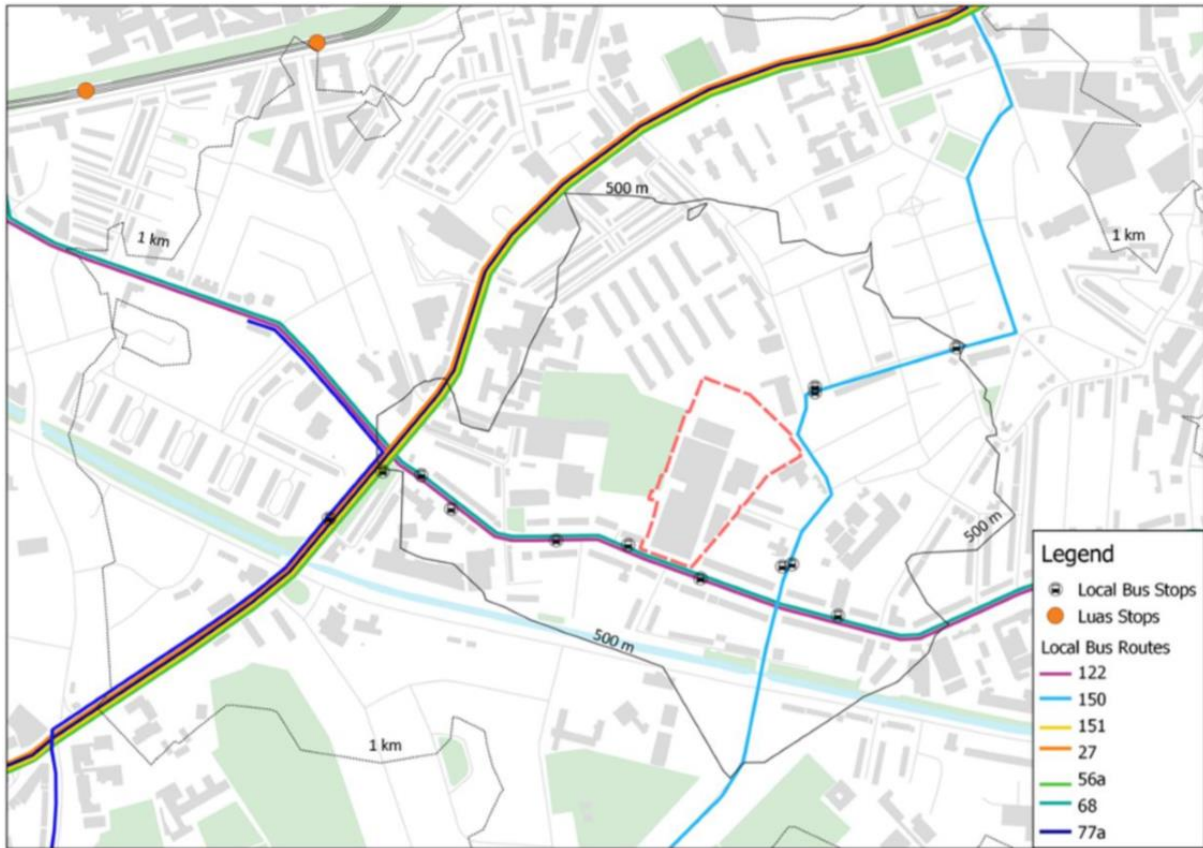


FIGURE 6-5 LOCAL PUBLIC TRANSPORT SERVICES

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	Tallaght/Saggart/ Citywest-Connolly/Point	4	4	6	9

TABLE 6-1 LOCAL PUBLIC TRANSPORT SERVICES FREQUENCY (MIN)

6.5.6 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.

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 6-6** 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.

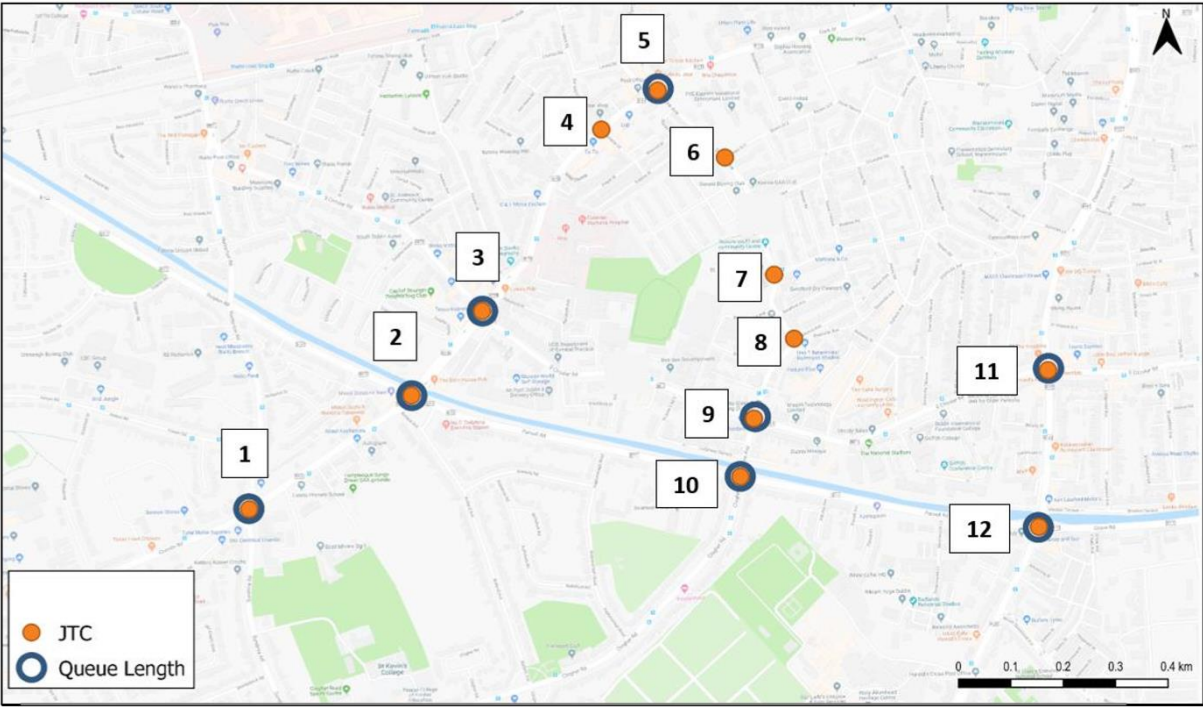


FIGURE 6-6 TRAFFIC SURVEY LOCATIONS

6.5.6.1 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 **Figures 6.7 & 6.8** 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 (921 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.

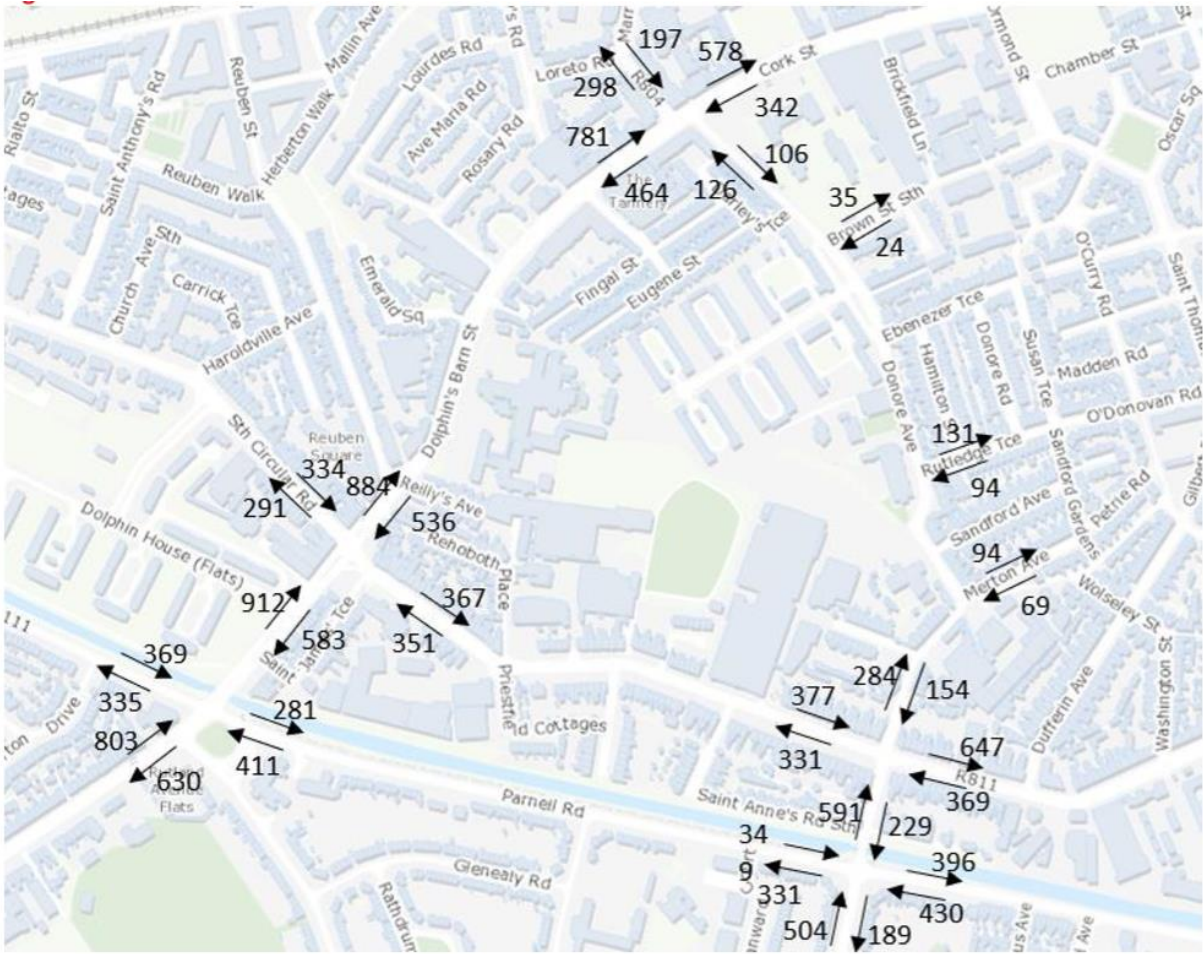


FIGURE 6-7 AM PEAK TRAFFIC VOLUMES

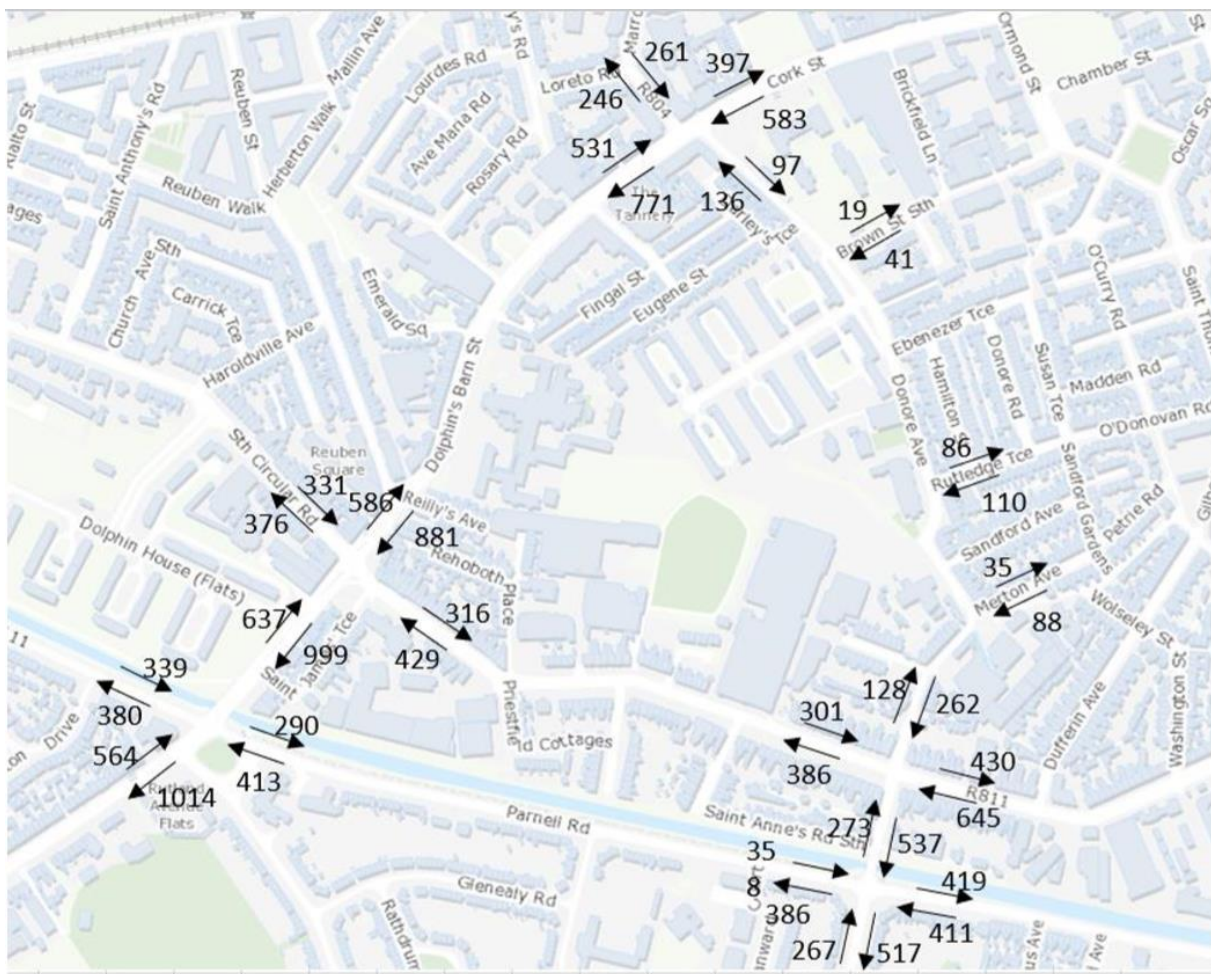


FIGURE 6-8 PM PEAK TRAFFIC VOLUMES

6.5.6.2 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 **Figures 6.9 & 6.10** for the AM and PM peak hour respectively.

As shown in **Figure 6-9**, 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 queuing observed travelling eastbound along the canal at Donore Avenue.

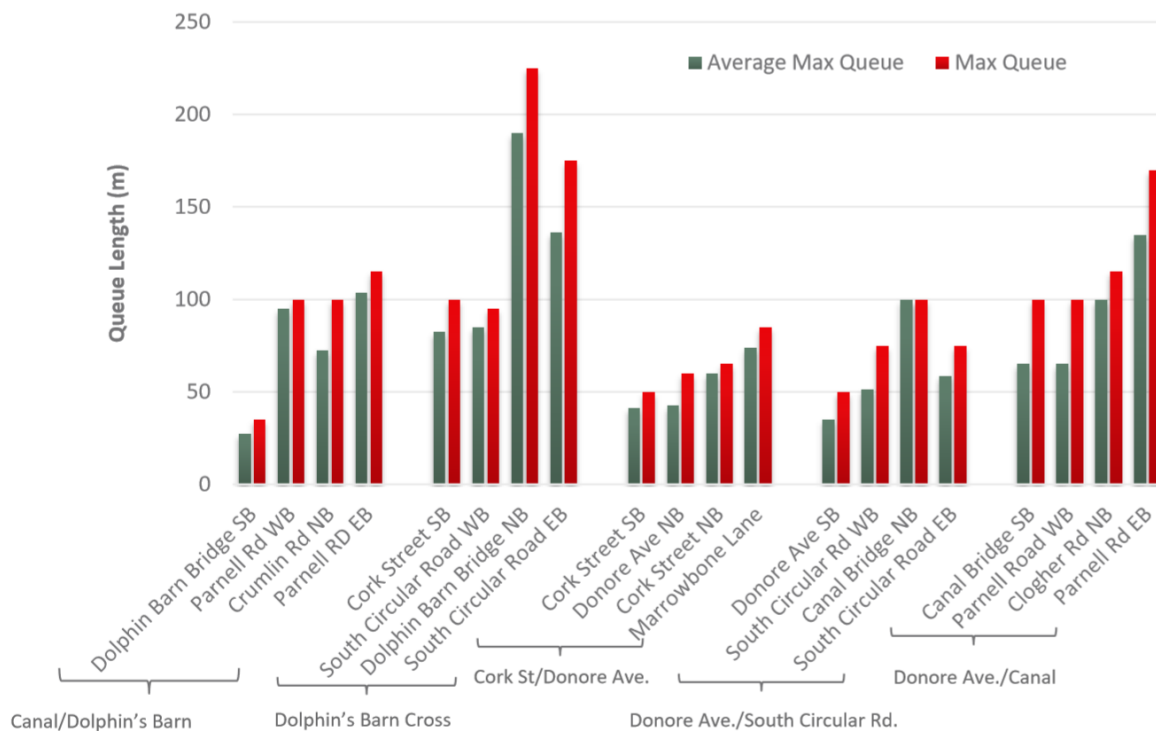


FIGURE 6-9 AM PEAK (8-9) QUEUE LENGTHS

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.

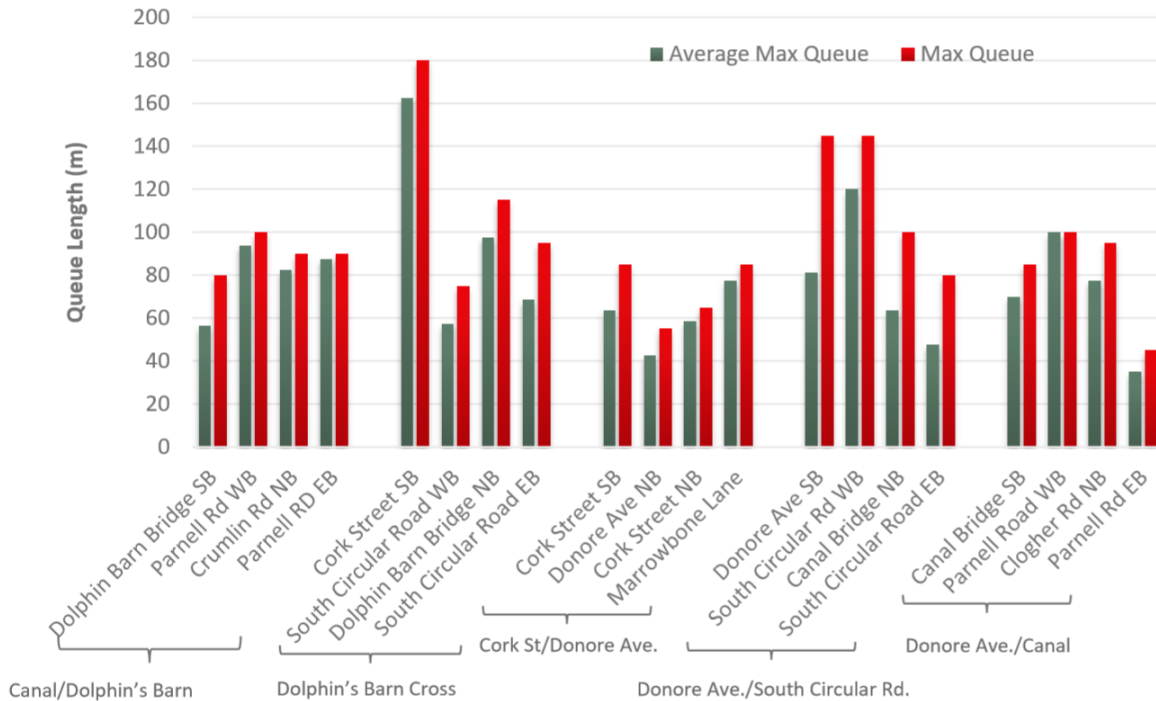


FIGURE 6-10 PM PEAK (17-18) QUEUE LENGTHS

6.5.7 Projected Increases in Traffic without the Current Proposals

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 'PAG Unit 5.3: Travel Demand Projections'. The predicted growth in background traffic for each year is detailed in Section 6.8.3.3: 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.

6.5.8 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 6.11**.

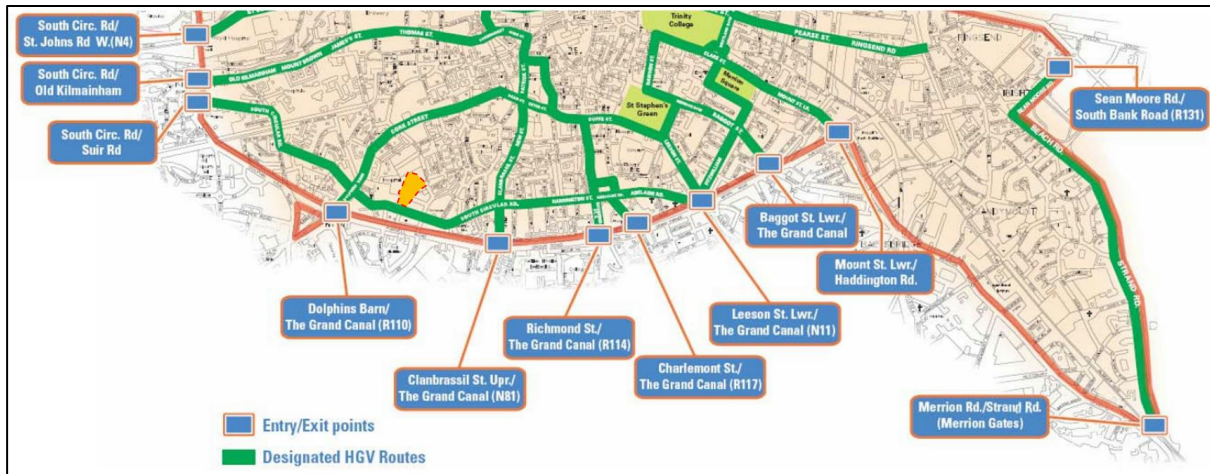


FIGURE 6-11 PERMITTED HGV ROUTING

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.

6.5.9 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 6.12**.



FIGURE 6-12 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 6.12** 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
No.	Severity	Vehicle	Circumstances	Day	Time	No. Casualties
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

6.5.10 Future Infrastructural Improvements

6.5.10.1 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 better bus system with a capacity to carry for more people. As part of this programme there are a number of initiatives planned, including:

- Delivery of a network of new or improved core bus corridor to improve journey times and 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.

There are total 16 Core Bus Corridors which are planned to be developed over 3 phases. Greenhills-City Centre Corridor which runs along Dolphin's Barn Street is planned to be developed in phase 2 of the project. The preliminary design for these corridors is currently being progressed by National Transport Authority based on feedback from the initial public consultation.

The Greenhills-City Centre corridor is classified as a very high frequency spine with frequencies of 2.7-3.7minutes 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 site. This route will operate at a frequency of 5-10 minutes. **Figure 6.13** shows the planned network redesign, as of November 2019, which has been revised based on the first round of public consultation. Bus connects is currently in planning stages and will undergo further rounds of public consultation.

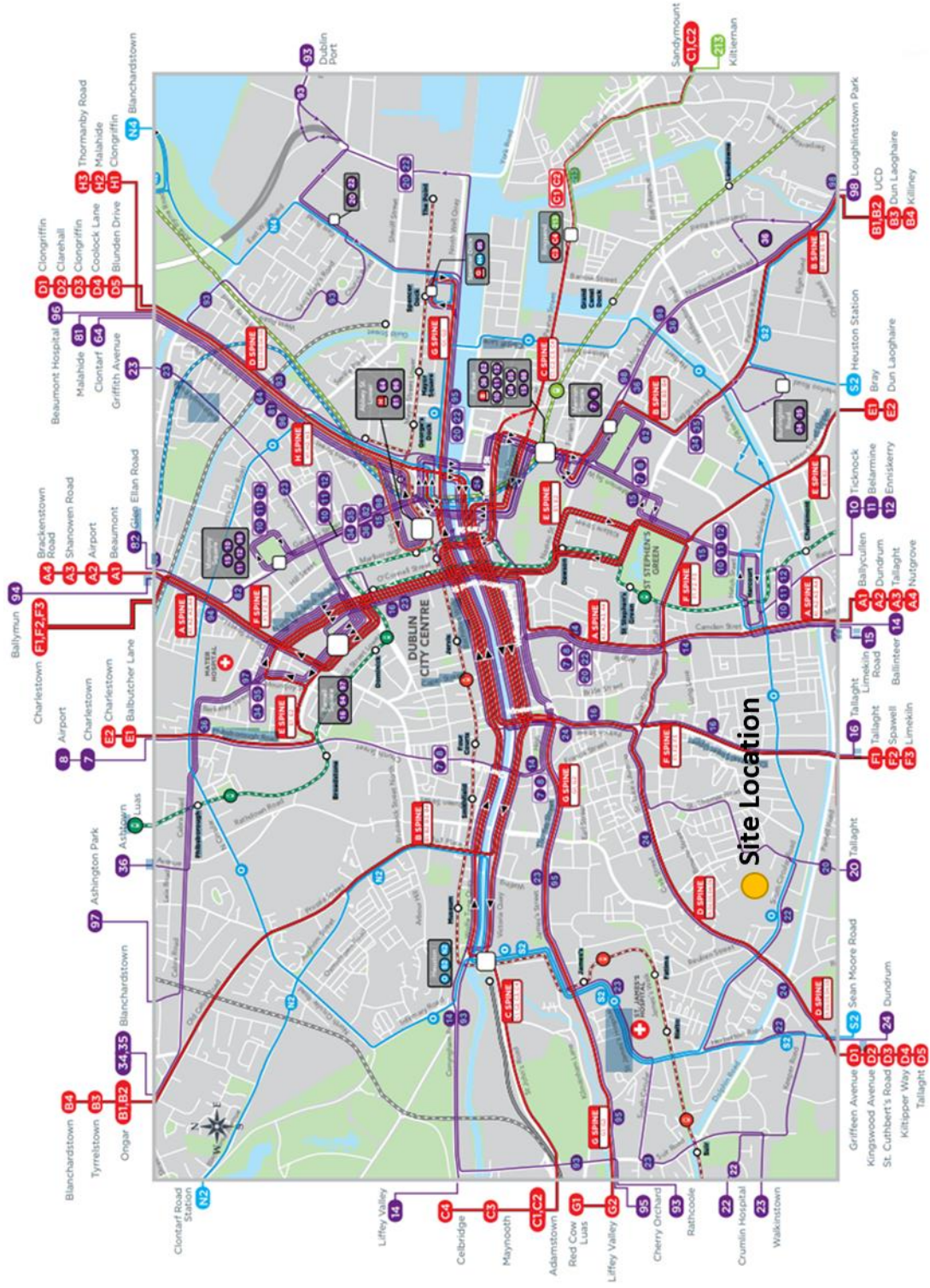


FIGURE 6-13 BUS CONNECTS NETWORK RESIGN – CITY ROUTES & FREQUENCIES

6.5.10.2 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 proposed cycle network close to the proposed development site is shown below, with the Grand Canal Greenway, the Primary Routes 8 and SO1 / N10 and the Secondary Routes 8C and SO2 running near to the site as shown in **Figure 6.14**.

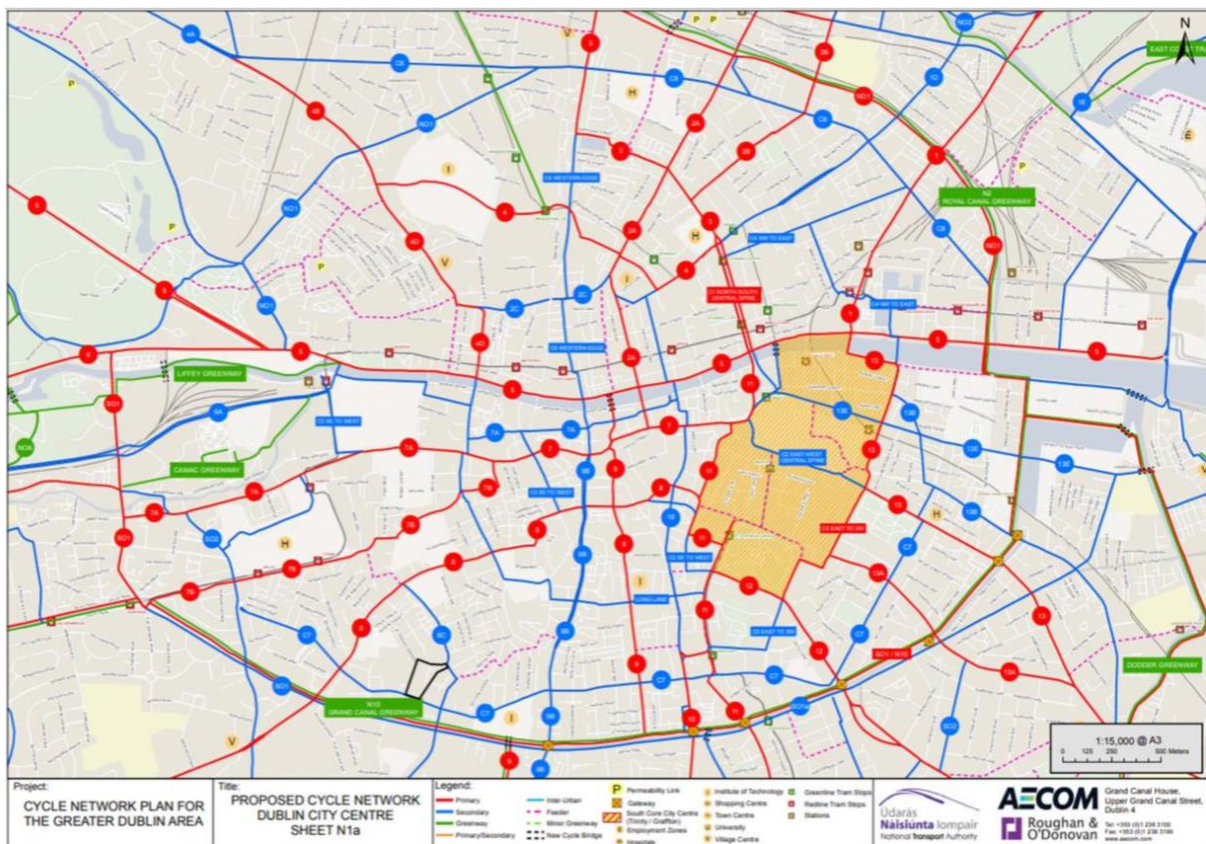


FIGURE 6-14 GDA CYCLE NETWORK PLAN – CITY CENTRE

6.6 Do Nothing 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 within the built-up footprint of existing settlements boundaries.

Part of 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.

A development framework was developed for the SDRA by DCC and included the proposed development site in its entirety. This included an access strategy, internal road layout and street hierarchy which prioritised the integration of the SDRA 12 lands and promoted strong permeability to generate movement east-west and north-south through the site.

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 EPA draft EIAR guidelines (2017) 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 assessment². 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 (see **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.

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 39 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.

During the peak of the construction phase for the proposed development, it is estimated that up to 700 personnel will be working at the PW 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 150 on-site parking spaces will

² TII, Traffic and Transport Assessment Guidelines, May 2014

be provided for visitors and staff combined. This will result in 150-200 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 areas shown in pink in **Figure 6.15** and will be accessed via Donore Avenue. The working hours on site will be 07:00am-18:00pm meaning the majority of staff will be arrive before busiest morning peak and after evening peak.

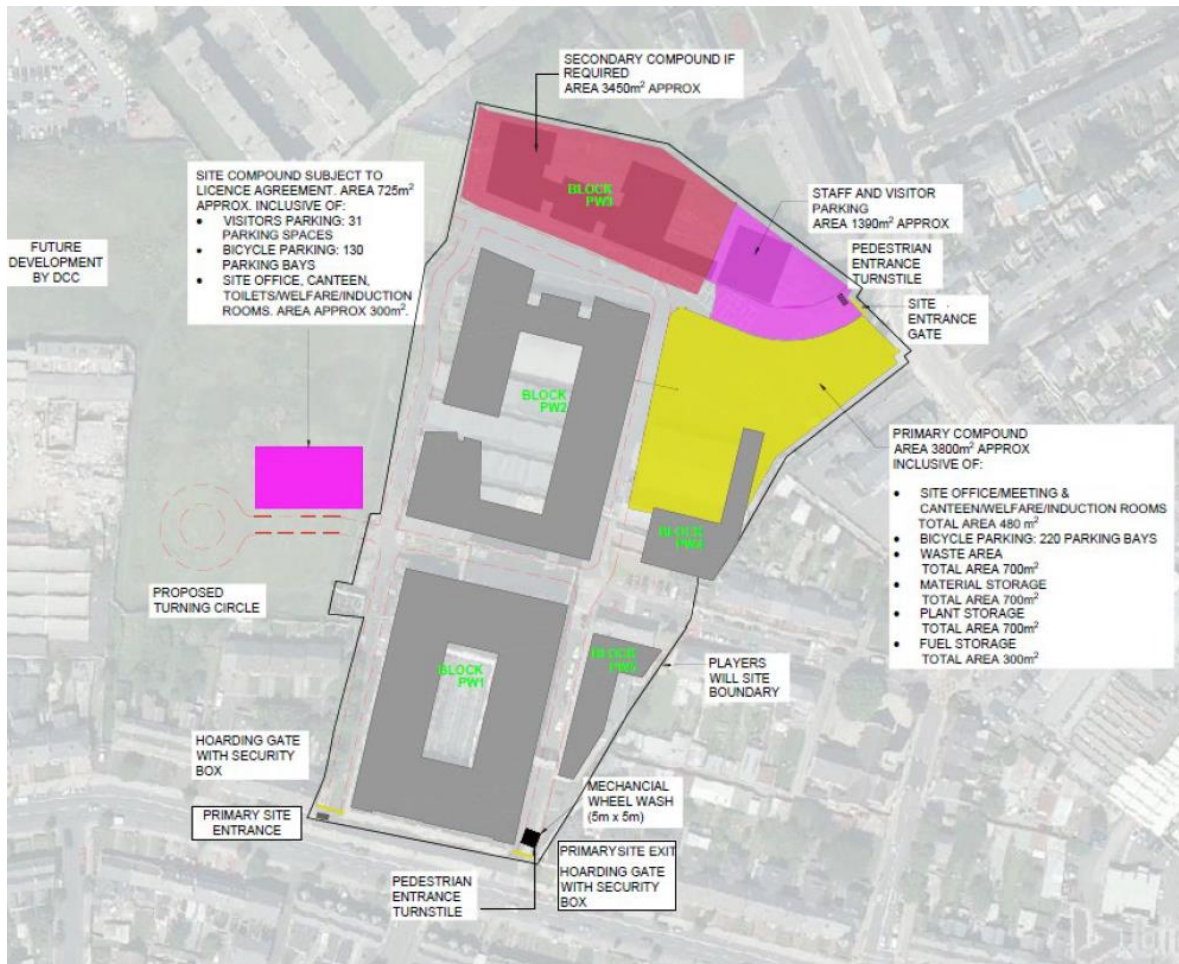


FIGURE 6-15 SITE CONSTRUCTION COMPOUND

It is assessed that the majority of these staff/visitor 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.

Heavy Construction Vehicles will enter and exit the Site from the South Circular Road, a designated route 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 block PW2.

Construction Stage	Duration (approximate)	Average HGV One-way Trips per day
Average across total construction period	42.5 months	41
Peak period	8 months	87

TABLE 6-4 HGV TRIPS BY CONSTRUCTION STAGE

As shown, the maximum number of HGVs to the site will be during the basement excavation however this will be temporary lasting 8 months. The average number of HGVs to site over the entire construction phase will be closer to 41 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 6.16**.

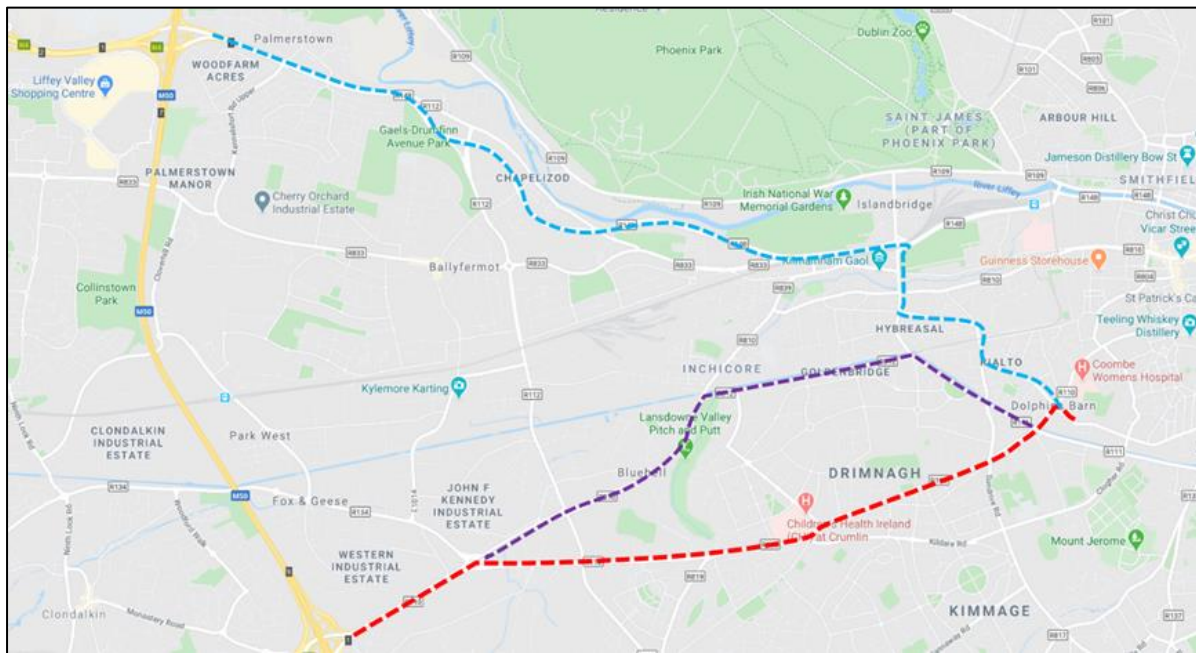


FIGURE 6-16 CONSTRUCTION HGV POTENTIAL ROUTES TO SITE

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 12.7% & on the Dolphin's Barn Cross Canal Bridge by 5.4% 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.

6.8.3 Operational Phase

6.8.3.1 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 the 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

6.8.3.2 Model Development

A combination of models and data sources have been used to determine the development trip generation, assignment and distribution of demand from the proposed development. 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 below in **Figure 6.17**. 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 6-17: VISSIM MODEL EXTENT

6.8.3.3 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)³. 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

³ 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>

models however, some adjustments have been made to the minimum green times of the traffic signals in response to the changing traffic flows.

6.8.3.4 Trip Generation

6.8.3.4.1 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
Shared Accommodation	240	1	240
Studio	40	1.53	61
1 bed	292	1.98	578
2 bed	106	2.32	246
3 bed	45	2.74	123
2 bed duplex	2	2.32	5
3 bed triple apartments	7	2.74	19
TOTAL	732	2.09	1272

TABLE 6-6 ESTIMATED DEVELOPMENT POPULATION BY UNIT TYPE

Based on the above the average household size for the development is 2.09 with a total population of 1272. From further census data (stat bank table E1002) the average household size for a 'flat or apartment in a purpose-built block' was also found to be 2.11 which, considering the higher proportion of shared accommodation and 1-bed units, would indicate the population estimated is reasonably accurate.

The estimated population was then inputted 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	400	64	94	254

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 384 departures and 82 arrivals in the AM peak and 288 arrivals and 132 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.

6.8.3.4.2 Retail Development

The retail/food and beverage element of the development, consisting of 1837 sqm, is expected to predominantly be used by residents and local residents within the walking and cycling catchment of the site, particularly as there is no dedicated parking for the commercial elements of the development. There is no extra traffic expected to be generated by this element of the site, but to ensure a robust assessment of the development impact, some vehicular trips have

been estimated. For the AM peak a number of vehicular trips have been assumed for deliveries and servicing. For the PM peak the trips have been estimated using TRICS and mode share data for the development extracted from the NTA's ERM. 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	4	4	13	14

TABLE 6-8 ASSUMED PEAK HOUR RETAIL VEHICULAR TRIPS GENERATED BY THE DEVELOPMENT

6.8.3.4.3 Creche

TRICS, the trip rate database, was used again to estimate the likely trip generation for the proposed creche. 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 overall development mode share was then applied to the person trips to estimate the vehicular trips to the creche. 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	3	2	1	1

TABLE 6-9 ESTIMATED PEAK HOUR CRECHE VEHICULAR TRIPS GENERATED BY THE DEVELOPMENT

6.8.3.4.4 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 6.18**.

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.

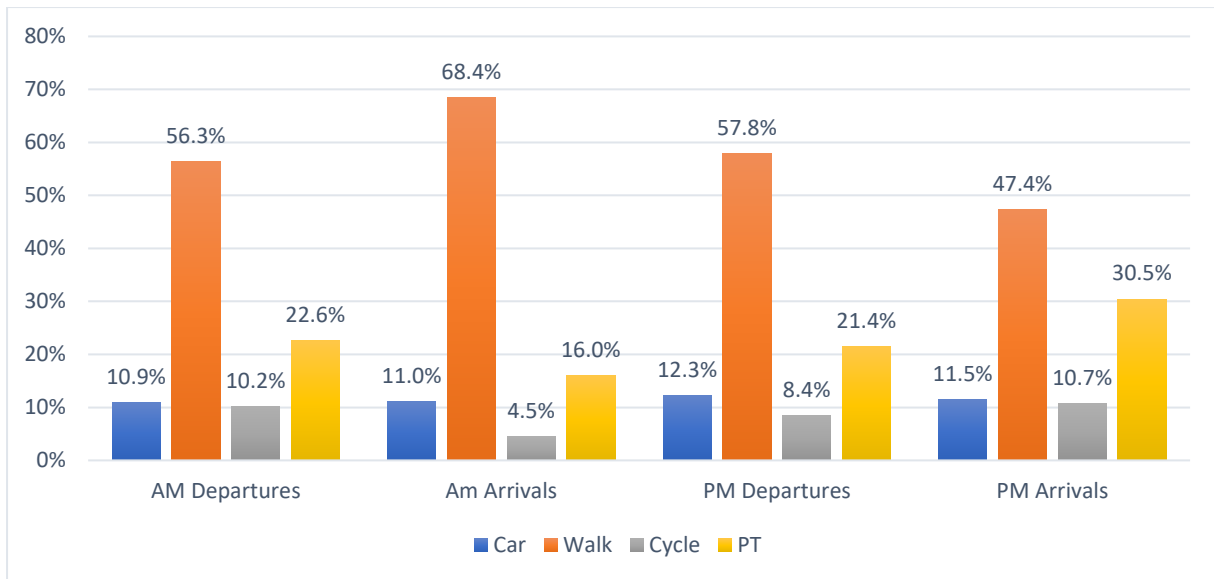


FIGURE 6-18: PEAK HOUR MODEL SPLIT (PERSON TRIPS)

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	43	7	11	29
Walk	225	44	54	120
Cycle	41	3	8	27
PT	90	10	20	77
Total	400	64	94	254

TABLE 6-10 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 6-11**.

Mode	08:00-09:00		17:00-18:00	
	Departures	Arrivals	Departures	Arrivals
Car	35	6	9	24

TABLE 6-11 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 6.12**. 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	35	6	9	24
Retail/Food & Beverage	4	4	13	14
Creche	3	2	1	1
Total	42	12	23	39

TABLE 6.12 COMBINED PEAK HOUR VEHICULAR TRIPS GENERATED BY THE DEVELOPMENT

6.8.3.5 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. Figures 6.19 & 6.20 show the distribution of traffic travelling to and from the development in the AM & PM peaks respectively.



FIGURE 6-19: AM PEAK DEVELOPMENT TRAFFIC DISTRIBUTION



FIGURE 6-20: PM PEAK DEVELOPMENT TRAFFIC DISTRIBUTION

6.8.3.6 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 6.21**.

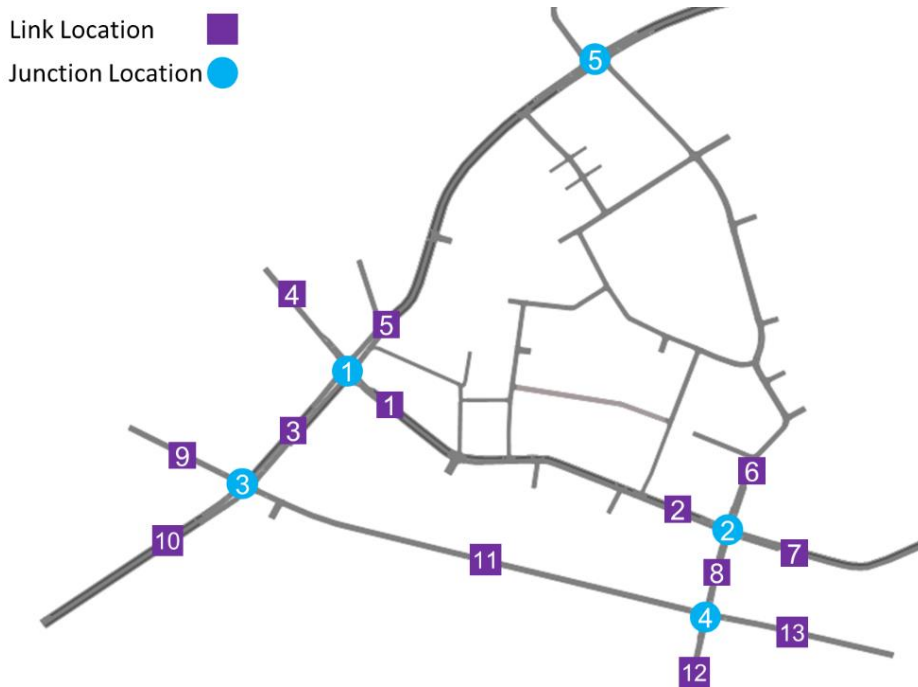


FIGURE 6-21: DEVELOPMENT CONTRIBUTION LOCATIONS

The development contribution to the future year link flows for the AM & PM Peak periods are provided below in **Tables 6.13 & 6.14** for the locations outlined. As shown, the contribution of development to overall traffic is low in both peaks with the highest contribution 7.5% along the Donore Avenue in the evening peak. Based on the criteria outlined in **Table 6.3** the majority of links will experience an imperceptible or not significant impact with a slight impact on Donore Avenue in the evening peak.

Location	AM Do-Nothing Flows				Dev. Flows	Development Contribution		
	2020	2024	2029	2039		2024	2029	2039
1	718	753	816	883	27	3.5%	3.2%	3.0%
2	708	743	805	871	16	2.1%	1.9%	1.8%
3	1495	1568	1700	1839	18	1.1%	1.0%	1.0%
4	625	656	711	769	9	1.4%	1.3%	1.2%
5	1420	1490	1615	1747	0	0.0%	0.0%	0.0%
6	438	459	498	539	10	2.1%	2.0%	1.8%
7	1016	1066	1155	1250	8	0.7%	0.7%	0.6%
8	820	860	932	1009	10	1.1%	1.1%	1.0%
9	704	738	800	866	0	0.0%	0.0%	0.0%
10	1433	1503	1629	1763	18	1.2%	1.1%	1.0%
11	686	720	780	844	0	0.0%	0.0%	0.0%
12	693	727	788	852	4	0.5%	0.5%	0.5%
13	826	866	939	1016	6	0.7%	0.6%	0.6%

TABLE 6-13 AM PEAK LINK FLOWS DEVELOPMENT CONTRIBUTION

Location	PM Do-Nothing Flows				Dev. Flows	Development Contribution		
	2020	2024	2029	2039		2024	2029	2039
1	745	782	847	916	26	3.2%	3.0%	2.8%
2	687	721	781	845	21	2.8%	2.6%	2.4%
3	1636	1716	1860	2012	13	0.8%	0.7%	0.6%
4	707	742	804	870	13	1.7%	1.6%	1.5%
5	1467	1539	1668	1804	0	0.0%	0.0%	0.0%
6	390	409	443	480	33	7.5%	6.9%	6.4%
7	1075	1128	1222	1322	9	0.8%	0.7%	0.7%
8	810	850	921	996	15	1.7%	1.6%	1.5%
9	719	754	818	884	0	0.0%	0.0%	0.0%
10	1578	1655	1794	1941	13	0.8%	0.7%	0.7%
11	724	759	823	891	0	0.0%	0.0%	0.0%
12	784	822	891	964	8	1.0%	0.9%	0.8%
13	830	871	944	1021	7	0.8%	0.7%	0.7%

TABLE 6-14 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 6.15**. As outlined in the tables the contribution of development traffic is less than 4.3% for any of the main junctions local to the site with the majority below 2.5%. It is therefore considered to have an imperceptible impact in the majority of junction with a not significant impact on the Donore Avenue/South Circular Road junction in the PM peak.

Location	AM Dev. Contribution			PM Dev. Contribution		
	2024	2029	2039	2024	2029	2039
1	2.4%	2.2%	2.1%	1.8%	1.6%	1.5%
2	2.0%	1.9%	1.7%	4.3%	4.0%	3.7%
3	0.8%	0.7%	0.7%	0.8%	0.8%	0.7%
4	1.3%	1.2%	1.1%	1.5%	1.3%	1.2%
5	0.8%	0.7%	0.7%	0.8%	0.7%	0.6%

TABLE 6-15 PEAK JUNCTION FLOW DEVELOPMENT CONTRIBUTION

As detailed in Section 6.8.1 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 contributes less than this to the majority of link with the exception of Donore Avenue in the evening peak. However, the guidelines also state that impact assessments are recommended where the number of residential units exceed 200 dwelling. It should be noted that while the number of housing units proposed is 492 Units (in addition to 240 shared accommodation units) the number of residential parking spaces is just 148 (with a further 81 spaces reserved

for future development and 20 spaces for GoCar car sharing vehicles) which is low for a development of this size and will therefore generate car traffic equivalent to a much smaller development. Nonetheless a full assessment of the local road network and junctions has been undertaken for each forecast year using the VISSIM model developed.

6.8.3.7 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.

6.8.3.8 Network Statistics

Table 6.16 outlines the AM peak network statistics for the Do-Nothing and Do-Something Scenario⁴. As shown, there are only slight increases of 3.8%-5.4% in the average delay experienced in the network with corresponding reductions in speed. In absolute terms, this represents a marginal increase in delay of 3.3-6.1 seconds per vehicle. There is no notable change in latent demand compared to the Do-Nothing.

Network Stats	2024			2029			2039		
	DN	DS	Diff	DN	DS	Diff	DN	DS	Diff
Average Delay (s)	86.2	89.5	3.8%	95.0	99.8	5.1%	111.4	117.4	5.4%
Average Speed (kph)	25.6	25.4	-0.9%	24.7	24.0	-2.7%	22.3	21.7	-2.7%
Latent Demand (vehs)	0.0	0.0	0.00	0.0	0.2	0.20	19.2	23.4	4.20

TABLE 6-16 DEVELOPMENT IMPACT ON AM PEAK NETWORK STATISTICS

In the evening peak the impact of the development is imperceptible with increases in average of delay 0.7%-2.3% between the Do-Nothing and Do-Something. This is just 0.6-2.6 seconds per vehicle. Again, there is no notable increases in latent demand.

⁴ The “Do-Something Scenario” represents the scenario where the proposed development is consented and developed.

Network Stats	2024			2029			2039		
	DN	DS	Diff	DN	DS	Diff	DN	DS	Diff
Average Delay (s)	91.4	92.0	0.7%	98.6	99.6	1.1%	110.8	113.4	2.3%
Average Speed (kph)	24.5	24.4	-0.6%	23.5	23.4	-0.4%	22.0	21.8	-1.0%
Latent Demand (vehs)	0.6	0.6	0.0	0.0	0.0	0.0	8.0	8.6	0.6

TABLE 6-17 DEVELOPMENT IMPACT ON PM PEAK NETWORK STATISTICS

Based on the change in network statistics outlined it is considered the impact of 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 and there is no significant increase in latent demand indicating the network is operating within capacity.

6.8.3.9 Queue Lengths

The change in queue lengths are presented in **Table 6.18** 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 2m. The most notable increases are as follows:

- Queuing northbound over Dolphin’s Barn Bridge at Junction 1 increases by approximately 14m in 2039, approximately 2-3 vehicles;
- Queuing eastbound about the South Circular Road on approach to Junction 2 increases by 11m by 2039;
- Queuing Northbound along the Crumlin Road on approach to Junction 3 increases by 17m or 3 vehicles by 2039;
- Queuing eastbound on the Canal on approach to Junction 4 increases by 11m in 2039;

All other increases in queuing are less than 1 vehicles in length.

Junction/Arm		Do-Nothing without Development				Do-Something with Development		
		2020	2024	2029	2039	2024	2029	2039
1	Cork St SB	16	17	20	24	17	21	25
	SCR WB	17	18	21	27	19	23	32
	Bridge	48	50	83	109	58	87	123
	SCR EB	32	34	46	77	35	49	78
2	Donore Ave SB	7	8	9	10	8	9	10
	SCR WB	4	5	7	32	6	8	37
	Donore Ave NB	60	62	65	54	64	68	54
	SCR EB	10	11	12	20	12	14	31
3	Bridge	4	4	4	4	5	4	4
	Canal WB	14	18	31	44	17	29	36
	Crumlin Rd	10	11	18	60	12	19	77
	Canal EB	27	30	40	56	33	39	58
4	Donore Ave	9	10	11	13	10	9	13
	Canal WB	11	11	14	12	10	14	12
	Clogher Rd	28	33	40	40	35	41	40
	Canal EB	24	44	63	52	48	73	63
5	Cork St SB	8	8	9	10	8	9	10
	Donore Ave	7	8	10	11	9	11	13
	Cork St NB	19	20	30	44	22	29	44
	Marrowbone Lane	25	29	36	47	29	36	48

TABLE 6-18 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 6.19** 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 increase by 5m in 2029 & 33m by 2039 an increase of approximately 6 vehicles. However, at this junction as a whole the average increase in queuing is less than 10% in 2039.

Junction/Arm		Do-Nothing without Development				Do-Something with Development		
		2020	2024	2029	2039	2024	2029	2039
1	Cork St SB	58	69	97	194	75	102	227
	SCR WB	12	13	19	45	19	25	49
	Bridge	24	27	29	25	27	30	26
	SCR EB	19	20	22	29	21	23	31
2	Donore Ave SB	22	23	40	43	22	40	45
	SCR WB	28	30	35	45	31	37	48
	Donore Ave NB	23	27	32	33	29	34	34
	SCR EB	15	16	18	20	18	19	22
3	Bridge	13	14	16	20	14	17	21
	Canal WB	35	38	43	51	38	42	50
	Crumlin Rd	21	23	28	35	23	30	37
	Canal EB	20	22	26	29	22	26	29
4	Donore Ave	10	11	26	20	14	26	20
	Canal WB	26	29	35	47	29	36	51
	Clogher Rd	9	10	11	11	10	11	11
	Canal EB	22	25	30	44	25	29	44
5	Cork St SB	13	14	17	23	15	18	23
	Donore Ave	10	10	14	17	10	13	18
	Cork St NB	14	15	17	18	14	17	19
	Marrowbone Lane	31	39	29	31	40	29	32

TABLE 6-19 DEVELOPMENT IMPACT ON PM PEAK AVERAGE QUEUE LENGTHS (M)

The impact on queue lengths will be negative, long-term but local and is considered overall to be not significant given the majority of arms experience an imperceptible increase with a slight increase along a minority of junction approaches. However, the impact on queuing along Cork Street Southbound will be moderate. The results are pre-mitigation and represent the 'worst case' effects.

6.8.3.10 Journey Times

Journey times have been extracted from the model for the routes outlined in **Figure 6.22**.



FIGURE 6-22: 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 6-20**. In all modelled years there is either not significant or slight impacts with the development in place as journey times increase by up to 12 seconds or 6.4%. The slight impacts occur on the South Circular Road in both directions, which the majority of development traffic travels along. There is also a slight impact by 2039 on Cork Street northbound Journey impacts along the remaining routes are imperceptible or not significant.

Route	2024			2029			2039		
	DN	DS	Diff	DN	DS	Diff	DN	DS	Diff
SCR EB	134	135	1.0%	140	146	4.2%	176	187	6.4%
SCR WB	122	127	3.8%	127	131	3.5%	163	172	5.2%
Canal WB	115	114	-0.2%	118	120	1.7%	137	139	1.8%
Canal EB	164	168	2.6%	172	181	5.6%	182	190	4.6%
Cork Street NB	190	195	2.7%	198	207	4.7%	232	244	5.2%
Cork Street SB	126	126	0.0%	129	131	1.5%	137	137	-0.2%
Donore Ave. NB	183	183	-0.3%	182	183	0.4%	171	171	-0.1%
Donore Ave. SB	125	123	-1.6%	129	127	-2.1%	128	130	2.0%

TABLE 6-20 AM PEAK JOURNEY TIMES – DO-NOTHING VS DO-SOMETHING (SEC)

In the evening peak, the changes in modelled journey times are minor with no significant impacts, changes range between just 0.0-4.9% which is within the expected daily variations of journey times. The most notable, but still not significant, impact is along the South Circular Road westbound where journey times increase by up to 6 seconds.

Route	2024			2029			2039		
	DN	DS	Diff	DN	DS	Diff	DN	DS	Diff
SCR EB	138	139	0.8%	138	139	0.5%	145	146	0.2%
SCR WB	122	128	4.9%	125	129	3.4%	151	156	3.1%
Canal WB	169	169	0.2%	172	172	0.2%	181	182	0.7%
Canal EB	148	148	0.0%	154	154	-0.2%	173	173	0.0%
Cork Street NB	219	218	-0.1%	225	226	0.3%	230	230	0.3%
Cork Street SB	134	135	1.1%	143	149	4.2%	161	166	3.3%
Donore Ave. NB	175	176	0.7%	185	185	0.0%	189	190	0.8%
Donore Ave. SB	129	128	-0.5%	160	160	0.1%	160	165	3.0%

TABLE 6-21 PM PEAK JOURNEY TIMES – DO-NOTHING 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 5.4%. Along some junction arms and routes the impact will be slight or moderate. The impact will be negative and long-term in nature and represents the ‘worst case’ effects.

6.8.4 Cumulative

The requirement under the EIA Directive is to assess cumulative effects with other “existing and/or approved projects”.⁵ This assessment goes further than that requirement and includes assessment of development proposals that are not yet consented. The proposed development in this application forms part of a wider non-statutory Masterplan (included under separate cover) which includes the proposed development site, the Bailey Gibson site and lands under the control of Dublin City Council. In addition, there is potential for future development on lands adjacent to the church, also under the ownership of the Applicant. The Bailey Gibson site recently received planning permission from An Bord Pleanála; however, the proposals for remaining lands are still in development. This section provides a cumulative assessment of traffic generation for the overall masterplan development and the future development on lands adjacent to the church in its entirety.

The traffic generated by the Bailey Gibson site & proposed development site during both construction and operational phases has been considered below for all modelled years, commencing from 2024. In order to assess a worst-case scenario, the 2024 assessment also

⁵ EIA Directive, Annex III.3

includes for the potential future development on lands adjacent to the church, which as previously noted in Section 6.8.3.6, will utilise 113 parking spaces in the proposed development site.

In addition, the operation impact of the DCC lands, St Teresa’s Gardens, has been considered for the forecast years of 2029 & 2039. The construction impacts of the DCC lands and operational impacts in 2024 have not been considered here as these lands are unlikely to be constructed within the same timeframe as the Bailey Gibson, potential future development on lands adjacent to the church & 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 with the potential future development on lands adjacent to the church planned for construction in 2021, pending submission for planning and grant of permission. **Table 6-22** masterplan lands and operational timeline outlines the operational timeline of the various development lands detailed above with regard to the traffic impact assessment years modelled.

Development Area	2024	2029	2039
Bailey Gibson	✓	✓	✓
Proposed Development (Player Wills)	✓	✓	✓
Potential Development Lands Adjacent Church	✓	✓	✓
DCC Lands (Balance of Masterplan lands & development of other lands contiguous to Masterplan area)		✓	✓

TABLE 6-22 MASTERPLAN 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 in Section 6.6.2.4. The DCC lands however are expected to have a lower level of parking provision, approximately 100 spaces site wide, and thus a lower car mode share. This assumption is based on discussions with 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. 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 6.8.3.3.

This section of the reports outlines the cumulative impacts of the developments outlined.

6.8.4.1 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 6.2** is presented below in **Table 6.23**.

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	53	85
Peak period	8 months	87	184

TABLE 6-23 HGV TRIPS BY CONSTRUCTION STAGE

As shown the maximum number of HGVs to the site will increase from 87 to 184 HGVs per work day with all sites included. On average, the cumulative number of HGVs will be 85 HGVs over the entire construction period compared to 41 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 26% & on the Dolphin's Barn Cross Canal Bridge by 11.1%. The increase in overall traffic as result of the additional HGVs along these links will be less than 1.0% and 0.5% 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 moderate.

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.

6.8.4.2 Cumulative Operational Phase Impacts

The modelling results for the cumulative impacts are presented in the following sections. As discussed, it has been assumed DCC lands 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.

6.8.4.3 Network Statistics

Table 6.24 outlines the AM peak network statistics for the Do-Nothing and Do-Something (Cumulative) Scenario, which includes the proposed development. As shown, there are moderate increases of 3.1-12.2% in the average delay experienced in the network with

corresponding reductions in speed. In absolute terms, this represents an increase in delay of 2.7-13.5 seconds per vehicle. There is no notable change in latent demand compared to the Do-Nothing.

Network Stats	2024			2029			2039		
	DN	DS	Diff	DN	DS	Diff	DN	DS	Diff
Average Delay (s)	86.2	88.9	3.1%	95.0	102.6	8.0%	111.4	124.9	12.2%
Average Speed (kph)	25.6	25.1	-1.8%	24.7	23.3	-5.7%	22.3	20.7	-7.2%
Latent Demand (vehs)	0.0	0.0	0.0	0.0	0.2	0.2	19.2	23.6	4.4

TABLE 6-24 DEVELOPMENT IMPACT ON AM PEAK NETWORK STATISTICS

In the evening peak the impact of the development is less with increases in average of delay 1.2% - 6.2% between the Do-Nothing and Do-Something (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		
	DN	DS	Diff	DN	DN	DS	Diff	DS	DN
Average Delay (s)	91.4	92.5	1.2%	98.6	100.7	2.2%	110.8	117.7	6.2%
Average Speed (kph)	24.5	24.3	-0.8%	23.5	23.2	-1.4%	22.0	21.2	-3.7%
Latent Demand (vehs)	0.6	0.8	0.2	0.0	1.0	1.0	8.0	8.8	0.8

TABLE 6-25 DEVELOPMENT IMPACT ON PM PEAK NETWORK STATISTICS

Compared to the network statistics presented previously in Section 6.8.3.8 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.

6.8.4.4 Queue Lengths

The change in queue lengths are presented in **Table 6.26** 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, there are greater than the impacts presented previously of the proposed development alone. There most moderate increases are as follows:

- Queuing northbound over Dolphin’s Barn Bridge at Junction 1 increases by approximately 28m in 2039, approximately 5-6 vehicles;
- Queuing westbound along South Circular Road westbound towards Junction 1 increases by approximately 25m in 2039, approximately 4-5 vehicles;
- Queuing eastbound about the South Circular Road on approach to Junction 2 increases by 44m by 2039 though the total queue is still just 64m or 11 vehicles;

- Queuing Northbound along the Crumlin Road on approach to Junction 3 increase by 30m or 5 vehicles by 2039;

All other increases in queuing are less than 1 vehicles in length.

Junction/Arm		Do-Nothing without Development				Do-Something with Development		
		2020	2024	2029	2039	2024	2029	2039
1	Cork St SB	16	17	20	24	17	21	23
	SCR WB	17	18	21	27	25	36	52
	Bridge	48	50	83	109	59	91	137
	SCR EB	32	34	46	77	35	50	77
2	Donore Ave SB	7	8	9	10	8	9	10
	SCR WB	4	5	7	32	7	8	35
	Donore Ave NB	60	62	65	54	67	69	55
	SCR EB	10	11	12	20	14	17	64
3	Bridge	4	4	4	4	6	5	5
	Canal WB	14	18	31	44	19	30	46
	Crumlin Rd	10	11	18	60	12	22	91
	Canal EB	27	30	40	56	33	44	59
4	Donore Ave	9	10	11	13	11	12	14
	Canal WB	11	11	14	12	12	16	15
	Clogher Rd	28	33	40	40	37	44	42
	Canal EB	24	44	63	52	51	98	66
5	Cork St SB	8	8	9	10	8	9	10
	Donore Ave	7	8	10	11	10	11	13
	Cork St NB	19	20	30	44	19	31	43
	Marrowbone Lane	25	29	36	47	29	37	47

TABLE 6-26 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 6.27** for each modelled forecast year. As shown, the differences are largely imperceptible with the vast majority of queue increase less than 3m. The most significant, more moderate impacts are as follows:

- Queuing southbound along Cork Street towards junction 1 increases by 48m by 2039;
- Queuing westbound along South Circular Road increases by 16m in 2029 and 40m in 2039;
- Queuing westbound along the Canal at Junction 4 increases by 16m by 2039.

Junction/Arm		Do-Nothing 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	19	35	85
	Bridge	24	27	29	25	28	30	27
	SCR EB	19	20	22	29	22	25	33
2	Donore Ave SB	22	23	40	43	22	39	54
	SCR WB	28	30	35	45	31	38	54
	Donore Ave NB	23	27	32	33	30	36	36
	SCR EB	15	16	18	20	18	20	22
3	Bridge	13	14	16	20	14	17	21
	Canal WB	35	38	43	51	37	41	52
	Crumlin Rd	21	23	28	35	24	31	39
	Canal EB	20	22	26	29	22	26	29
4	Donore Ave	10	11	26	20	11	32	26
	Canal WB	26	29	35	47	30	38	63
	Clogher Rd	9	10	11	11	10	12	12
	Canal EB	22	25	30	44	25	29	45
5	Cork St SB	13	14	17	23	15	18	24
	Donore Ave	10	10	14	17	10	13	19
	Cork St NB	14	15	17	18	14	17	19
	Marrowbone Lane	31	39	29	31	40	30	33

TABLE 6-27 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.

6.8.4.5 Journey Times

Journey times have been extracted from the model for the routes outlined previously in **Figure 6.17**. The difference between journey times along the routes shown with the cumulative developments in place during the morning peak are outlined in **Table 6.28**.

In 2029 & 2039 there is a moderate impact with the developments in place as journey times increase by 26.2% along South Circular Road eastbound by 2039 and 15% westbound. There are also some increased delays along the Canal and Cork Street Northbound. Delays along Donore Avenue however are not significant with no increases modelled above 5%.

Route	2024			2029			2039		
	DN	DS	Diff	DN	DS	Diff	DN	DS	Diff
SCR EB	134	136	1.3%	140	147	5.0%	176	222	26.2%
SCR WB	122	130	6.2%	127	139	9.5%	163	188	15.0%
Canal WB	115	118	3.0%	118	132	11.6%	137	143	4.6%
Canal EB	164	175	6.8%	172	182	6.0%	182	192	5.5%
Cork Street NB	190	195	2.3%	198	212	7.3%	232	258	11.1%
Cork Street SB	126	126	0.1%	129	131	1.3%	137	136	-1.3%
Donore Ave. NB	183	189	3.1%	182	183	0.4%	171	172	0.7%
Donore Ave. SB	125	125	-0.3%	129	128	-1.2%	128	130	2.3%

TABLE 6-28 AM PEAK JOURNEY TIMES – DO-NOTHING 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 2029 & 2039 with increases of 11.1%-23.5%. There are also increases along Cork Street and Donore Avenue Southbound by 2039.

Route	2024			2029			2039		
	DN	DS	Diff	DN	DS	Diff	DN	DS	Diff
SCR EB	138	139	0.8%	138	140	1.1%	145	148	2.0%
SCR WB	122	128	5.6%	125	139	11.1%	151	187	23.5%
Canal WB	169	169	0.1%	172	172	0.2%	181	191	5.6%
Canal EB	148	149	0.1%	154	154	0.1%	173	174	0.2%
Cork Street NB	219	220	0.7%	225	229	1.5%	230	232	1.0%
Cork Street SB	134	135	0.8%	143	152	6.5%	161	178	10.6%
Donore Ave. NB	175	179	2.3%	185	184	-0.3%	189	195	3.5%
Donore Ave. SB	129	129	-0.4%	160	162	1.6%	160	179	11.6%

TABLE 6-29 PM PEAK JOURNEY TIMES – DO-NOTHING 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 12.2% in 2039. The impact will be negative and long-term in nature and represent the 'worst case' effects.

As part of the delivery of the masterplan, 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.

6.8.5 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 Player Wills	Negative	Slight	Local	Likely	Short-Term	Direct
Combined Construction Traffic from Masterplan & potential future development adjacent to the church	Negative	Moderate	Local	Likely	Short-Term	Cumulative

TABLE 6-30 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 Player Wills	Negative	Not Significant/Slight	Local	Likely	Long-Term	Direct
Improved footpaths along Donore Avenue, South Circular Road and Community Park	Positive	Not Significant	Local	Likely	Long-Term	Direct
Combined Traffic Volumes from Masterplan & potential future development adjacent to the church	Negative	Moderate	Local	Likely	Long-Term	Cumulative
Improved pedestrian and cycling connectivity	Positive	Slight	Local	Likely	Long-Term	Cumulative

TABLE 6-31 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 parking ratio which has been applied with just 0.28 car parking spaces per residential unit and 1.3 bikes spaces provided per unit. This has been included in the results presented.

The car parking ratio is significantly below the maximum standards for 1 per unit as set out in the 'Dublin City Development Plan 2016-2022' and results in a significantly lower number of car trips generated. The Development Plan bike parking standards are 1 per unit, lower than the proposed 1.3. 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.

It is noted that the proposed development includes 81 no. car parking spaces in the basement of PW2 for future residential development within the wider Masterplan area and lands contiguous with SDRA 12, that will be subject to a separate application for permission. It is noted that while residential parking is incidental to the primary purpose of the building, in this case, the proposed 81 no. spaces are included to serve a future development proposal and as such constitute 'other use' for the purpose of this SHD application, as they are not associated with the residential use proposed in this application. The proposed inclusion of these 81 no. car parking spaces does not assume that any future application for permission will be successful. The 81 no. car parking spaces will not be set out or used in the absence of a separate grant of planning permission for future residential development. Accordingly, an alternative use in the form of storage receptacles for this area is proposed (in the event that a future grant of planning permission for residential development is not forthcoming). In this event, the applicant would be satisfied to accept a condition requiring that the 81 no. spaces together with the circulation area would be used as storage ancillary to the proposed residential development in the event that a planning permission for future residential development is not granted before the expiration of the subject planning permission.

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 leaving the site via South Circular Road. Traffic will enter via Donore Avenue where the road centreline will be realigned to facilitate a narrow, safer carriageway with reduced design speeds for cars and higher-quality footpaths. This will benefit both the proposed development and the adjacent school.

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 external junction improvements. The anticipated effect when compared with the access strategy presented in the Development Framework for

St. Teresa's Gardens and Environs is a likely significantly positive for the local area with long-term/permanent duration.

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 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;
- 20 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 in section **6.9.2**, 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 CMP 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 Masterplan 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 Player Wills	Negative	Not Significant	Local	Likely	Short-Term	Direct
Combined Construction Traffic from Masterplan & potential future development adjacent to the church	Negative	Slight	Local	Likely	Short-Term	Cumulative

TABLE 6-32 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 Player Wills	Negative	Not Significant	Local	Likely	Long-Term	Direct
Improved footpaths along Donore Avenue, South Circular Road and Community Park	Positive	Not Significant	Local	Likely	Long-Term	Direct
Combined Traffic Volumes from Masterplan & potential future development adjacent to the church	Negative	Slight	Local	Likely	Long-Term	Cumulative
Improved pedestrian and cycling connectivity	Positive	Slight	Local	Likely	Long-Term	Cumulative

TABLE 6-33 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	Implementation of the CTMP including: <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. 	CTMP will be reviewed and monitored by the Construction Manager as part of the contractor's appointment.

TABLE 6-34 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	Implementation of the MMP to further reduce car demand. Measures include: <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. 	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.

TABLE 6-35 SUMMARY OF DEMOLITION & CONSTRUCTION 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 6-30** to **Table 6-33**. All impacts have been shown to be slight or moderate. The associated mitigation and monitoring measures to minimise these impacts are detailed in **Table 6-34** and **Table 6-35**.

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 (Draft), August 2017, Environmental Protection Agency.
- 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



DECEMBER 2020

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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 Player Wills Site and on adjacent Dublin City Council (DCC) lands to the west of the Player Wills site, South Circular Road, Dublin 8 (the **Proposed Development**). Relevant mitigation and monitoring measures are also presented in this section.

The EPA's draft 'Guidelines on the information to be contained in an Environmental Impact Assessment Reports' (2017) 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;
6. Telecommunications.

Impacts on traffic and transport are assessed in Chapter 6. Separate standalone reports for waste management are included with this application, 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 has been prepared by Ciarán O'Rafferty (BA, BAI, MIEI, MStructE), Chartered Civil and Structural Engineer at Barrett Mahony Civil and Structural Consulting Engineers, with over 15-years' experience in consulting roles for similar type and scale developments including the preparation of EIARs. Such projects include the adjacent Bailey Gibson development for which Ciarán prepared the assessment of the section of the EIAR addressing potable water supply, surface water drainage and waste water drainage, The Concorde Industrial Estate SHD consisting of 492 residential units and 3347m² of mixed commercial space with a single level basement car park, 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. For this chapter, Ciarán prepared the assessment of potable water supply, surface water drainage and waste water drainage.

Mark Hopkins (Beng, MIEI, Ceng), Chartered Building Services engineer at O'Connor Sutton and Cronin with over 10 year experience in consulting roles for similar type and scale developments including Bailey Gibson development for which Mark prepared the assessment of the section of the EIAR addressing Electrical, Telecommunications and Gas, Cherrywood

TC2 with 384 apartment units over a shared basement carpark (Dublin), TC1 Residential with 366 apartments over a shared basement, Woodward Square, Glencairn Gate, Dublin 18 with 160 apartments including amenity space over a shared basement car park. For this chapter, Mark prepared the assessment of electricity, gas and telecommunications.

7.3 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. PL0003**.

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former 'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, 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. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use (residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising:
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor

- space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
- b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
 - c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;
 - d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
 - e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
- iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
- a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
 - b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m.
- iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;

- v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.
- vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
- vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
- viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
- ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.
- x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
- xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
- xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1 (the former factory building);
- xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
- xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
- xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
- xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
- xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment and lighting.

7.3.1 Water Supply

In accordance with Irish Water Code of Practice for Water Infrastructure, a new 200mm diameter looped watermain is proposed to service the proposed 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 – 3.738l/s. Peak – 18.96l/s.

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.

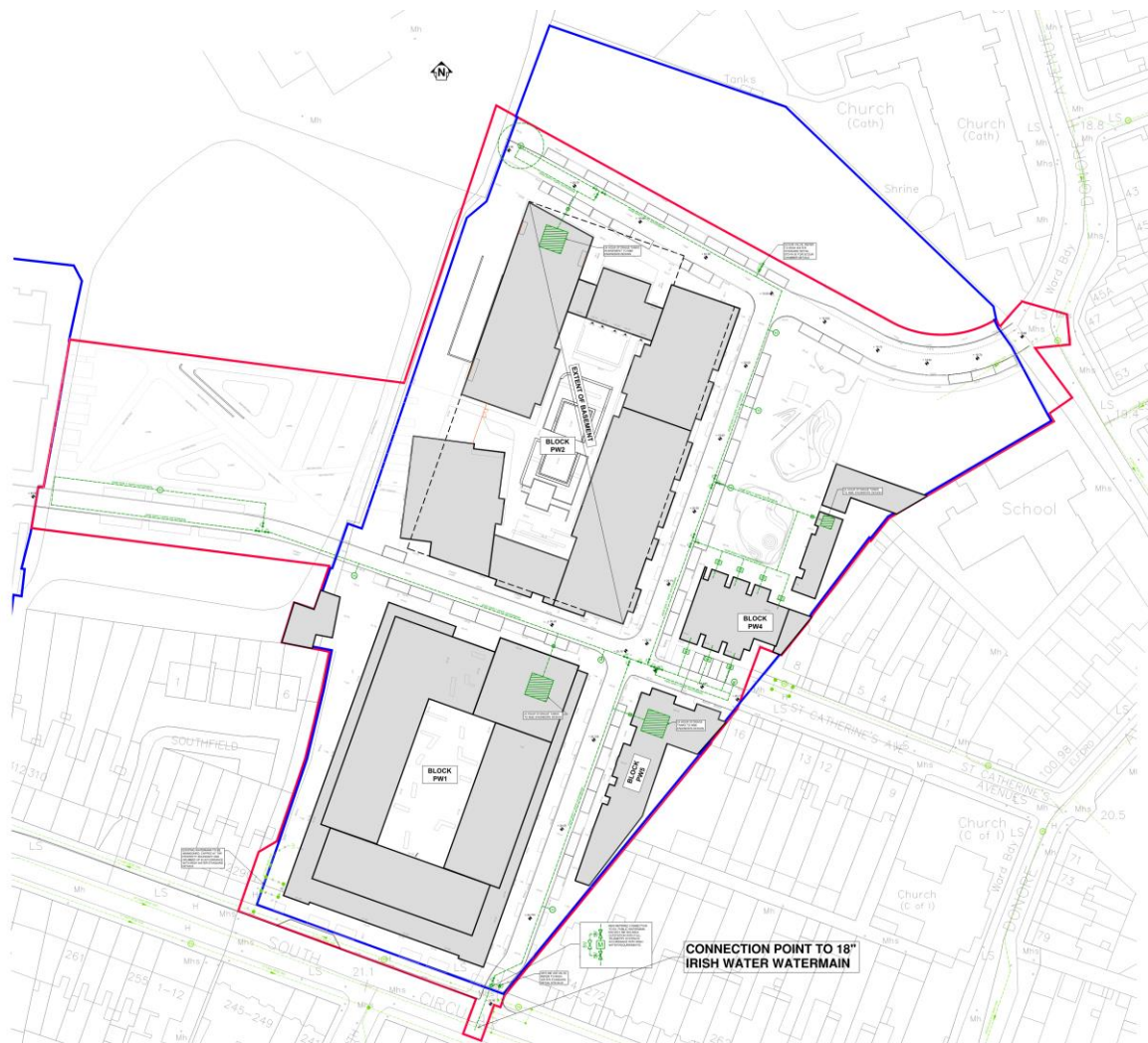


FIGURE 7-1 PROPOSED POTABLE WATER SUPPLY

7.3.2 Wastewater Drainage

The permitted Bailey Gibson development to the west includes the construction of a foul sewer across both DCC's Land and the proposed development site. This sewer will connect to the existing combined sewer in Donore Avenue at the north-east corner of the Players Wills site.

The foul drainage system for the proposed development site will connect to the new foul sewer constructed as part of the Bailey Gibson SHD development, which, will have a live connection to the public combined sewer in advance of the proposed development.

The foul sewer design has been carried out in accordance with the Irish Water Code of Practice for Wastewater. The final section of the sewer, just prior to the discharge point to the combined sewer at Donore Avenue, has been sized to cater for the proposed development foul flow and also the foul flows from the Bailey Gibson site and the southern portion of the DCC lands located between the Bailey Gibson and proposed development site, all of which are subject to separate planning applications. Foul wastewater discharge from the proposed development will be as follows; Average – 3.337 l/s. Peak – 10.524 l/s.

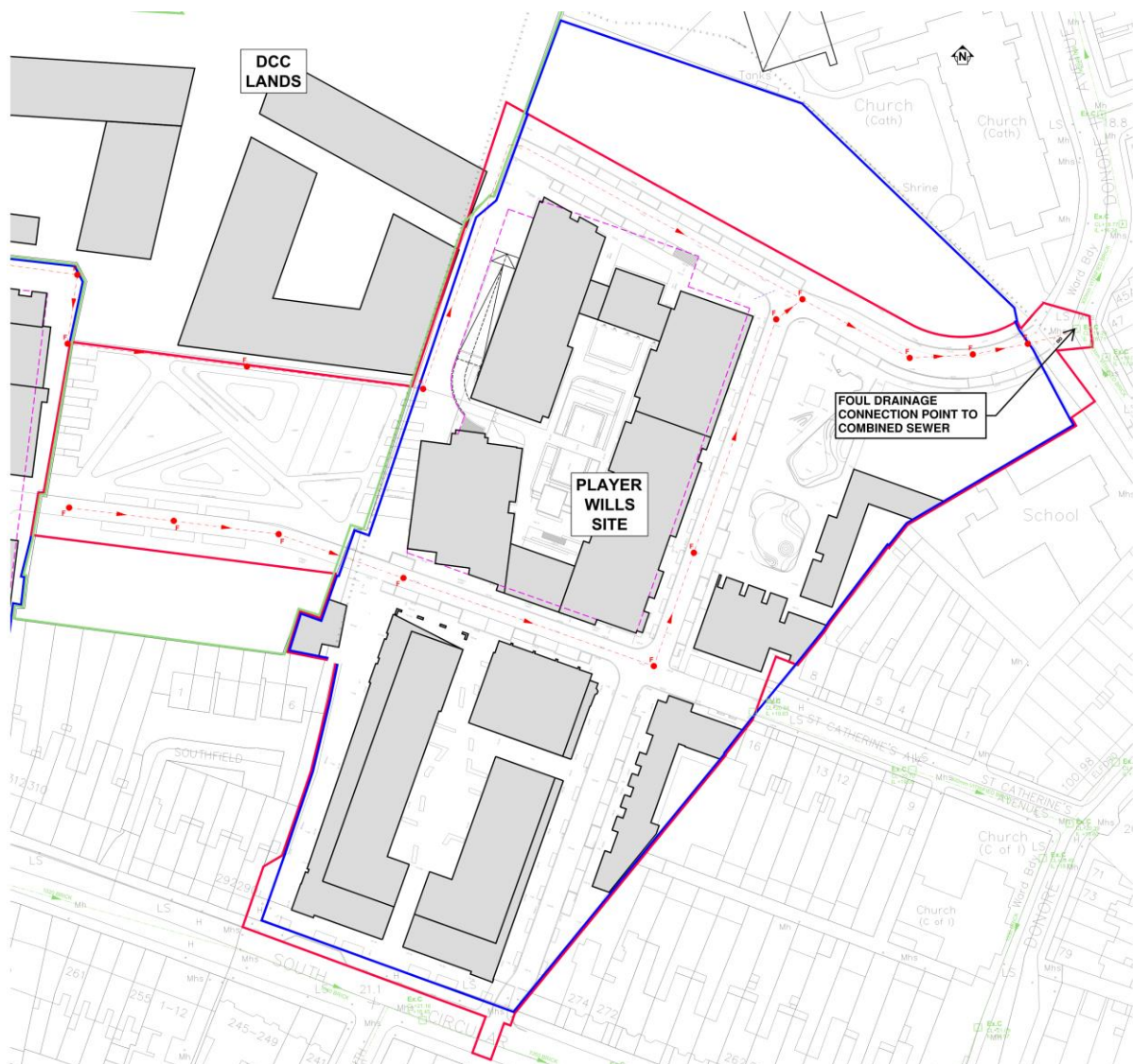


FIGURE 7-2 PROPOSED WASTE WATER DRAINAGE

7.3.3 Surface Water Drainage

DCC Drainage Planning Department policy requires that consideration be given to stormwater management over the full Masterplan, which consists of the proposed development site, DCC lands and the Bailey Gibson site. A Masterplan 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 the Masterplan will be developed in different stages and as a result, the stormwater management and drainage strategy includes provision to account for this staging. Refer to **Figure 7-6**.

7.3.3.1 Surface Water Drainage System

In accordance with the Masterplan drainage strategy, stormwater from the proposed development will be managed within that site prior to discharge to the stormwater culvert in Donore Avenue between the Sandford Avenue junction and St. Teresa's Church. Once the Masterplan has been fully developed, stormwater from all other areas of the Masterplan (DCC Lands, including the proposed 'Players Park' (located to the west of Player Wills on DCC lands) which is included in this planning application and the Bailey Gibson site) shall discharge to the stormwater culvert in Donore Avenue close to the junction with Harman St., after passing through an attenuation tank located to the north of the municipal playing pitch on DCC land. To facilitate phased construction of the Masterplan, which will include construction of The Bailey Gibson, Players Park and Player Wills sites prior to construction of the remainder of DCC's Land, an interim approach to stormwater management from Bailey Gibson and the Players Park sites will be employed.

Construction of the Bailey Gibson site, that will form phase 1 of the Masterplan, shall include construction of a stormwater sewer from the Bailey Gibson site, across DCC Land and the Player Wills site to connect to the existing public stormwater culvert in Donore Avenue between the Sandford Avenue junction and St. Teresa's Church. This connection shall serve as the point of discharge of stormwater from the Bailey Gibson SHD site and Players Park until the remainder of DCC's land has been developed. This connection shall also serve as the permanent outfall connection for the Player Will site.

When the DCC Lands are developed, stormwater from the Bailey Gibson SHD site and Players Park will be diverted into the stormwater infrastructure within DCC's lands at the north west corner of the Player Wills site and will be directed to the attenuation tank located to the north of the municipal playing pitch.

The proposed Player Wills development comprises four individual building blocks (PW1, PW2, PW4 and PW5), two park areas, Players Park and St. Catherine's Park to the northeast of the Player Wills site and a network of streets which are to be taken in charge by Dublin City Council.

The stormwater management for the site is as follows:

Each individual block shall incorporate green roofs throughout and all hard landscaping at grade within the private space of each block shall be discharged to tree pits or filter strips with overflows which shall finally discharge to an attenuation tank which will be individual to each block, located within the private land of that block and maintained by the developer. The attenuation tank, along with a proprietary flow control device, hydrobrake or similar, shall limit discharge from each block to 2l/s/ha subject to a 2l/s minimum rate due to practical minimum

discharge limits. The outfall drain from each block shall connect to the new stormwater drainage network within the street.

In accordance with DCC policy for roads to be taken in charge, the road drainage has been designed to cater for the 5 Year ARI storm event including a 20% allowance for climate change with no attenuation of stormwater discharge from these areas.

Both St. Catherine's Park to the northeast within the Player Wills site and Players Park located between the Bailey Gibson and Player Wills sites will have a significant area of soft landscaping throughout. Hard paved surfaces forming footpaths through the parks will all drain to filter strips located along the verge/kerbline of each footpath. 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 both parks 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 parks in high intensity storm events, the filter strips will incorporate a land drain which will have an overflow connection to the main surface water network. The area covering the proposed St. Catherine's Park is currently a fully hard paved surface with untreated and unattenuated discharge to the public combined sewer. The proposed drainage system for St. Catherine's Park shall provide a significant improvement from existing peak discharge rates.

7.3.3.2 Sustainable Drainage Systems

7.3.3.2.1 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 10l/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.

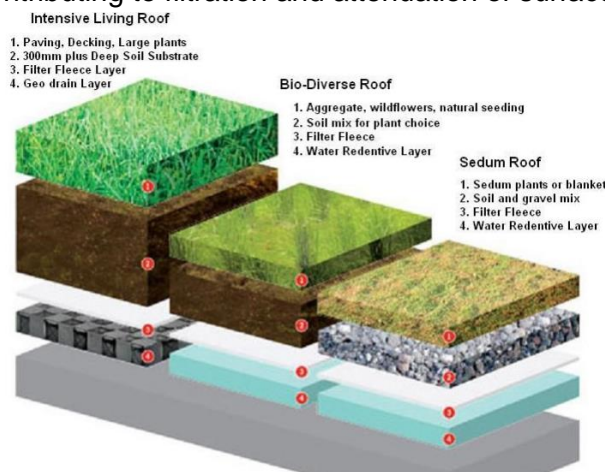


FIGURE 7-3 TYPICAL GREEN ROOF INTERCEPTION STORAGE DETAILS

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.

7.3.3.2.2 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.

7.3.3.2.3 Basement Fuel and Oil Interceptors

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 fuel and oil interceptor prior to discharge via a pumped system to the foul drainage network.

7.3.3.2.4 Attenuation Storage

As outlined in 7.2.3.1, the stormwater discharge from the each of the individual blocks will be directed to a buried attenuation tank on the site of each block, which will restrict outflow to the street drainage to 2l/s. In accordance with DCC policy for roads to be taken in charge, stormwater runoff from the proposed public roads within the proposed development have been sized for a 1:5 average recurrence interval event but the stormwater discharge shall not be directed to an attenuation tank.

Design Head = Top Water Level - Invert of Outlet Pipe

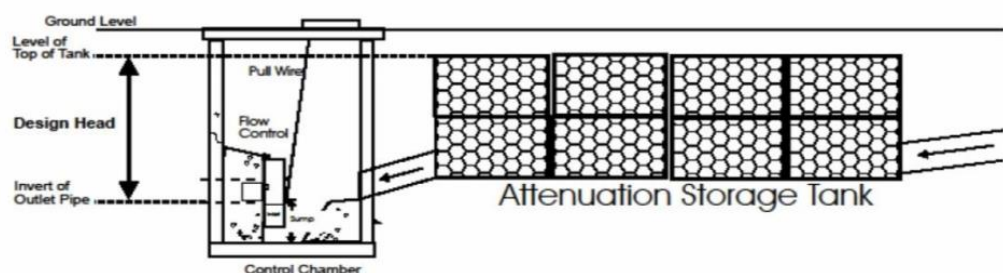


FIGURE 7-4 TYPICAL ATTENUATION STORAGE TANK DETAIL

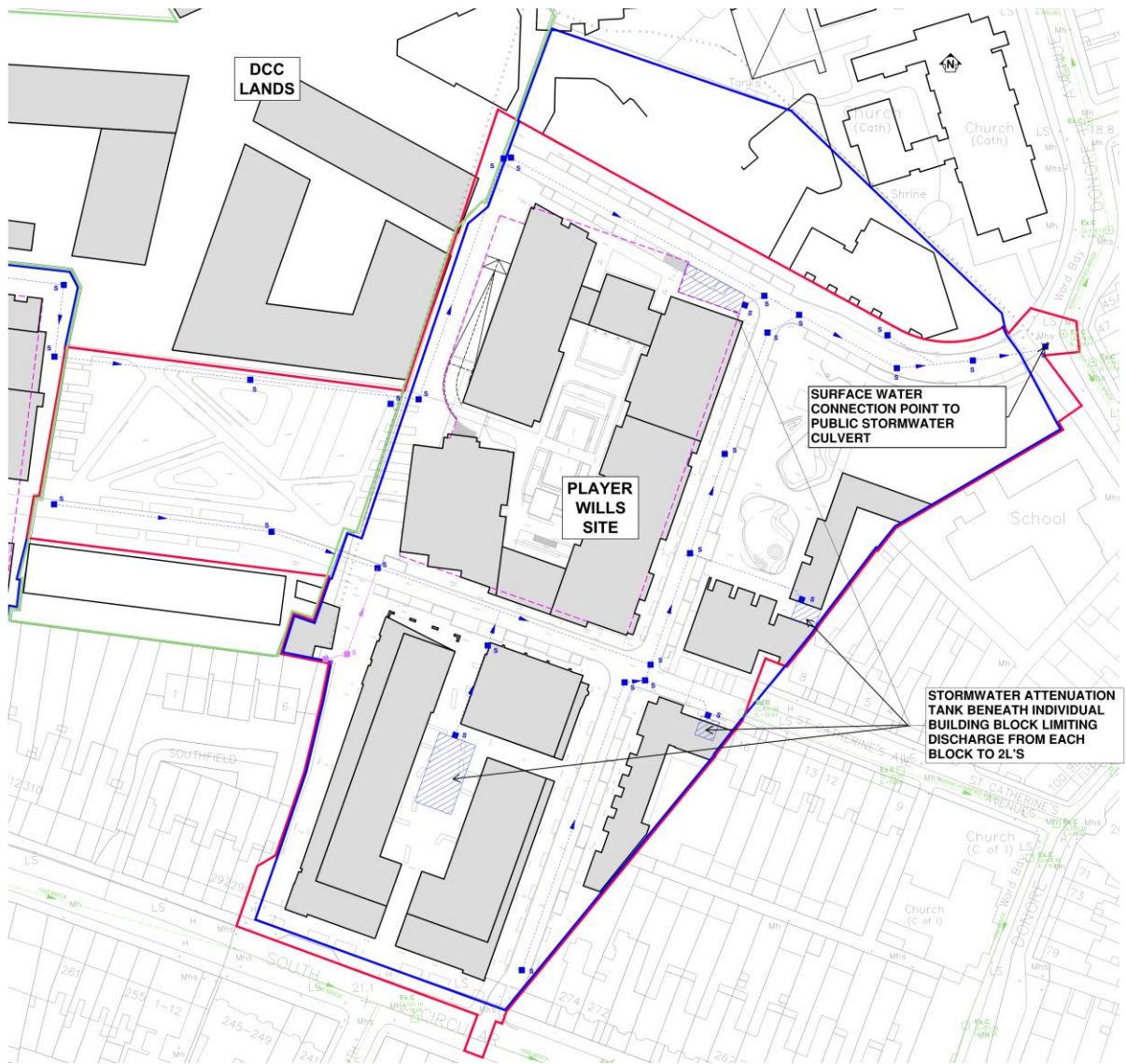


FIGURE 7-5 PROPOSED SURFACE WATER DRAINAGE

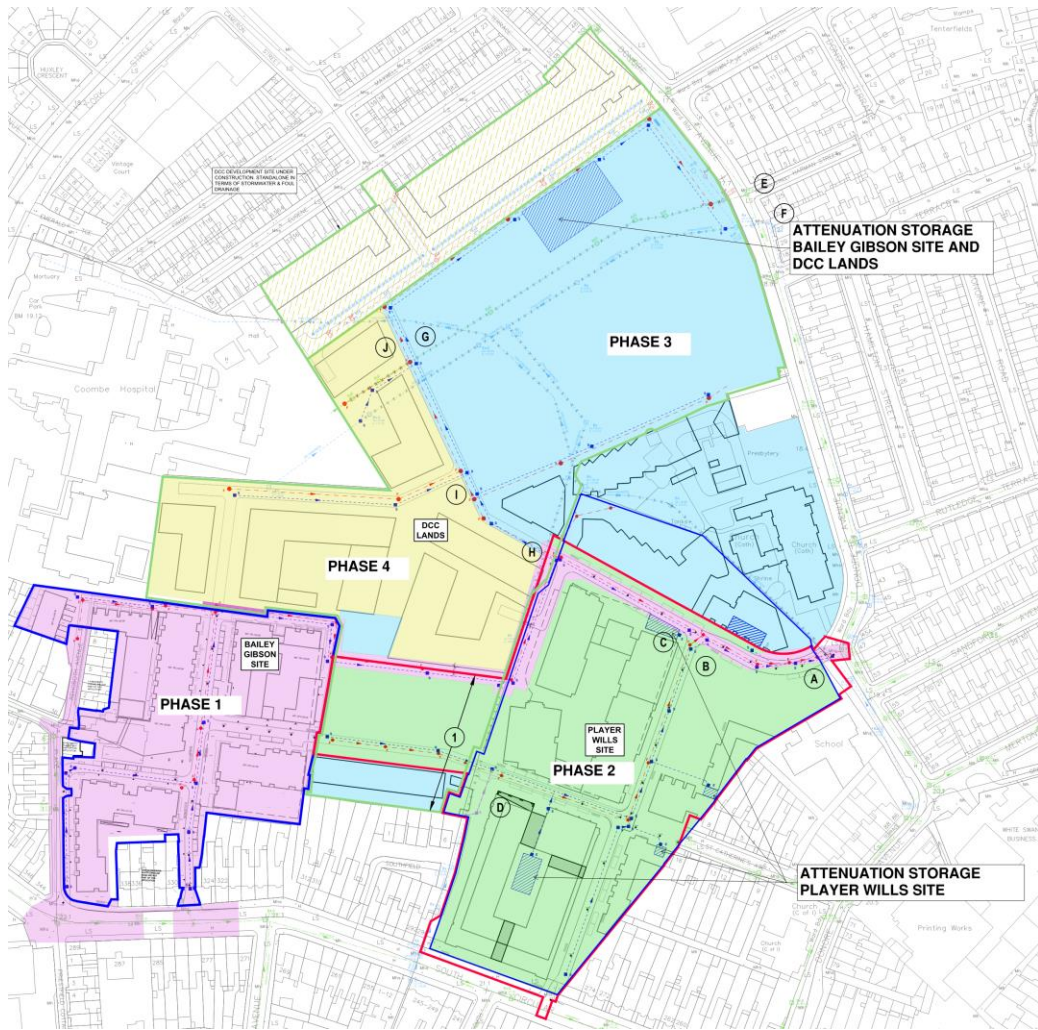


FIGURE 7-6 PROPOSED MASTERPLAN DRAINAGE PHASING

7.3.4 Electrical Supply

A new underground cable shall connect into the existing network refer to and route through the proposed development to serve 3 new sub-stations, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m); with the final location to be agreed with ESB Networks. The existing 2 no. sub-station are to be decommissioned. The Decommissioning of the sub-stations will be staged as one sub-station will be utilised for temporary power for the construction phase **Figure 7-7** shows the proposed electrical infrastructure for the Proposed Development.

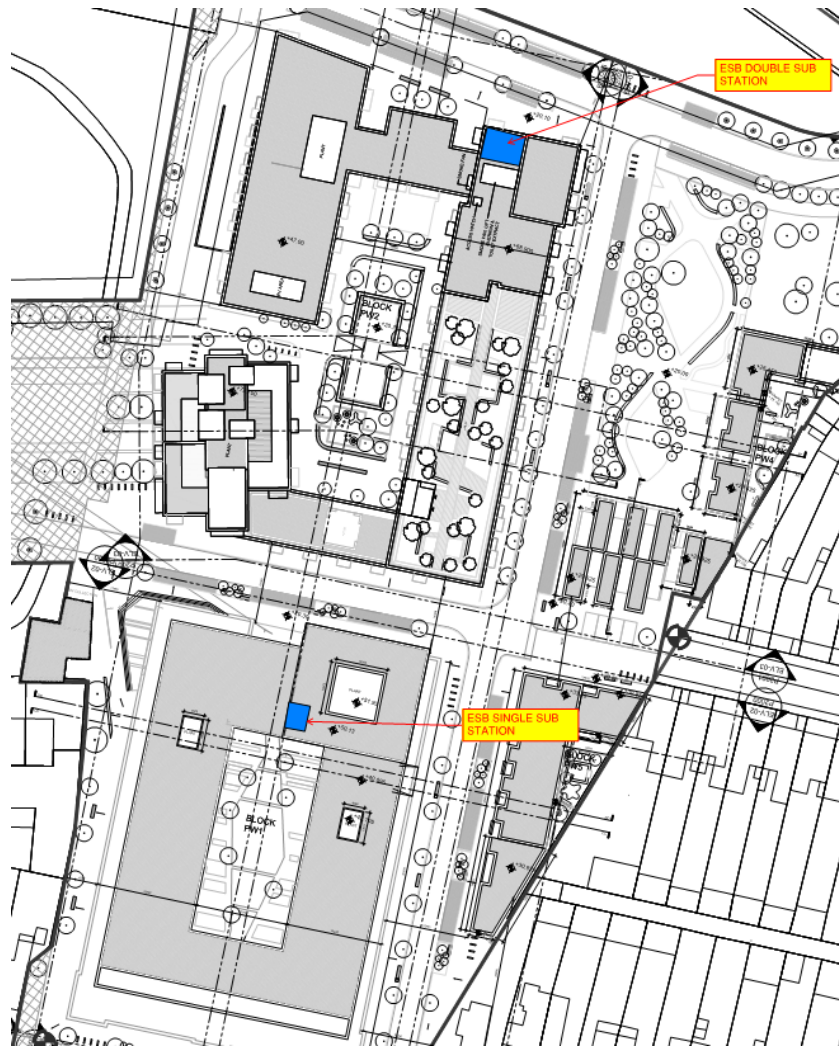


FIGURE 7-7 PROPOSED ESB INFRASTRUCTURE

7.3.5 Gas Supply

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 7-8** shows the proposed gas infrastructure for the Proposed Development.

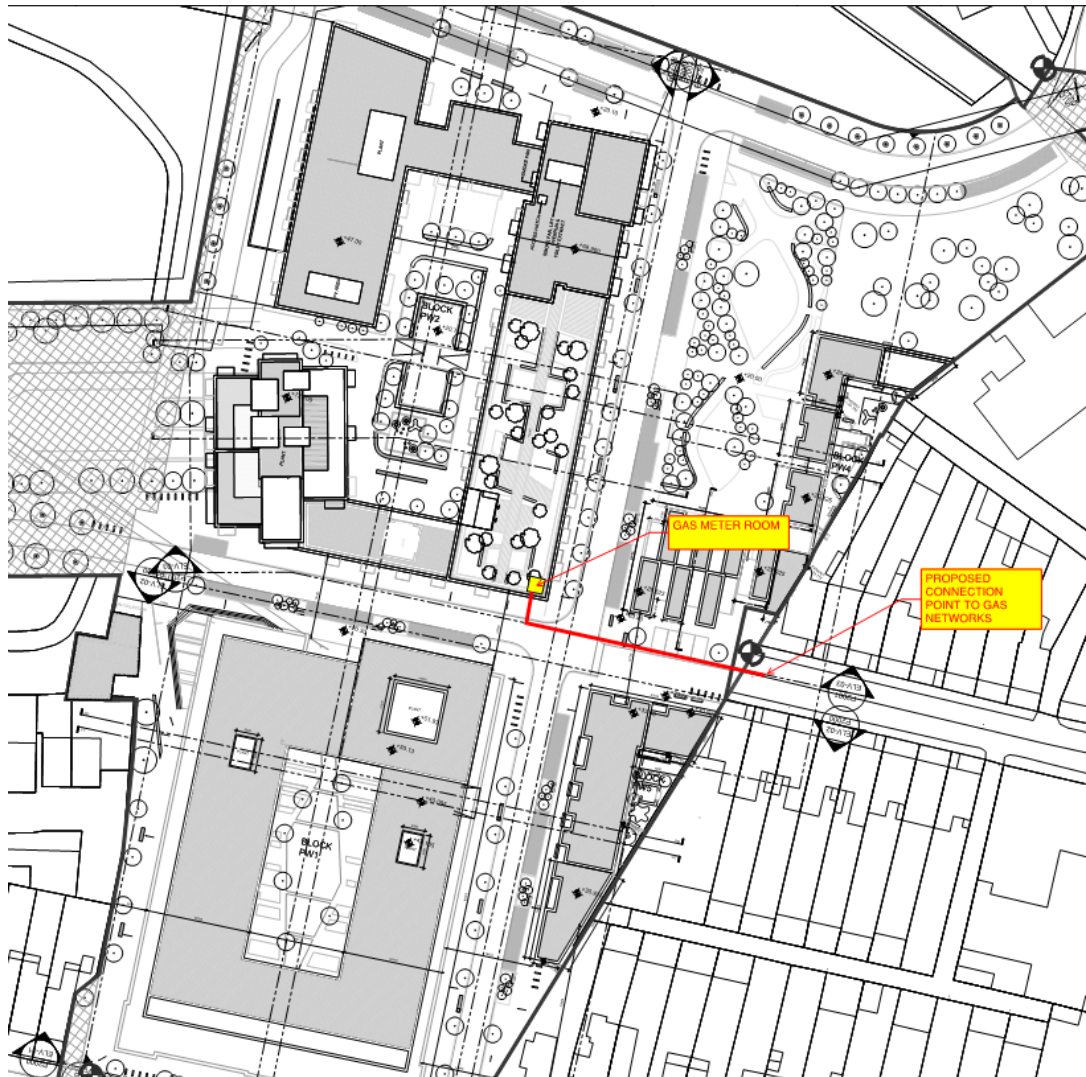


FIGURE 7-8 PROPOSED GAS INFRASTRUCTURE

7.3.6 Telecommunications

The supply of telecommunications infrastructure to the Proposed Development site will be provided by way of a connection to a telecoms control room from the existing telecommunication networks on South Circular Road. **Figure 7-9** shows the proposed telecommunications infrastructure for the Proposed Development note these rooms are generally on the ground floor except for PW2, where the telecommunications room is located at basement level.

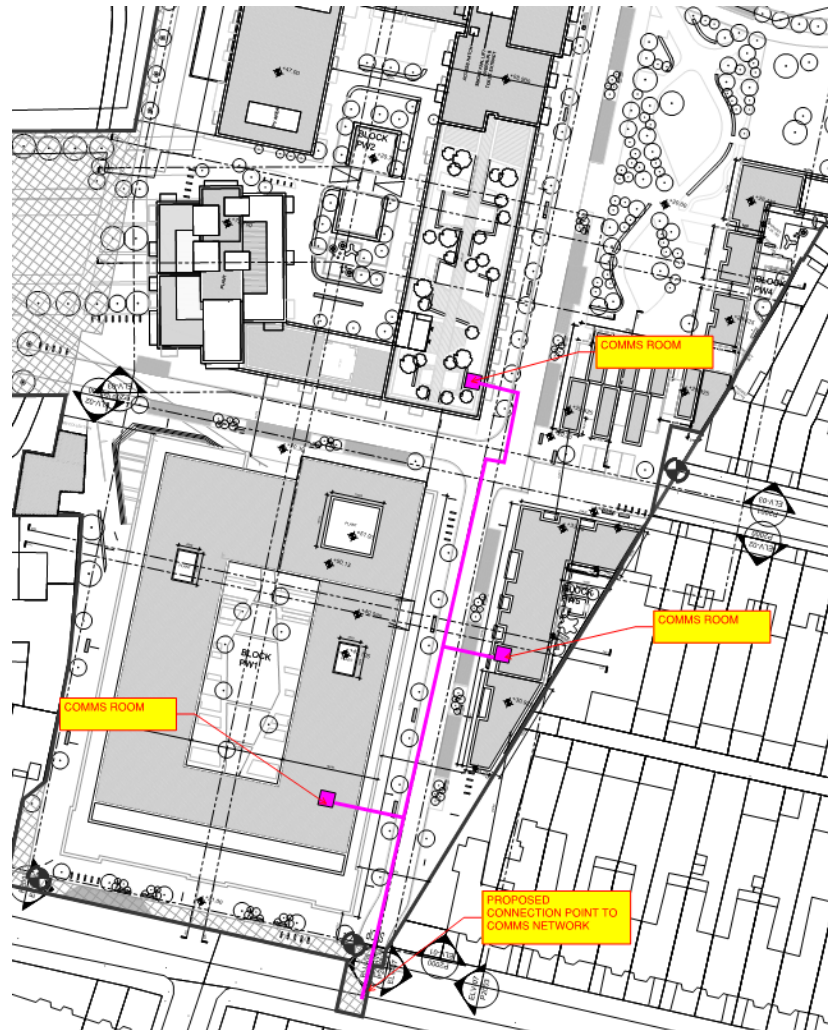


FIGURE 7-9 PROPOSED TELECOMS INFRASTRUCTURE

7.4 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 – Draft (EPA, 2017);

7.4.1 Relevant Legislation & Guidance

The following sources of information were in used in completion of this assessment

- Dublin City Development Plan – SDRA 12 – Development Framework For St. Theresa’s Gardens and Environs. March 2017 – DRAFT
- Greater Dublin Area Regional Code of Practice for Drainage Works
- Greater Dublin Strategic Drainage Study (GDSDS)
- Environmental Protection Agency (EPA)
- Site Investigation Report (Ground Investigations Ireland)
- Site Visit (OCSC)
- Geological Survey of Ireland (GSI) online maps and databases
- Correspondence and meetings with Dublin City Council.
- 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 assessment of 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, as listed above. The details of that consultation are set out below.

The rating of impacts within this chapter is in line with Table 3.3 of EPA Draft Guidelines (EPA, 2017). The rating of impacts is reproduced in Chapter 1 of this report.

7.4.2 Consultation

7.4.2.1 Drainage and Water Supply

As part of the preparation of this chapter meetings took place with Dublin City Council Drainage Planning Department Engineers to discuss the public surface water network and both their general planning policies and specific policies relevant to the proposed development site and wider Masterplan. The main objective for DCC, in addition to their general guidelines for planning applications, was that the full Masterplan should be provided with an integrated surface water management strategy which would be adopted by each of the individual sites. It was also agreed that extensive surveys of the existing public stormwater network were required to inform the design of the proposed new surface water sewers and the requirement

for diversions of existing sewers, as well as the phasing for those diversions. The meetings were held at Dublin City Council Civic Offices, Wood Quay, Dublin 8 on the following dates:

- 10.06.2019
- 12.07.2019
- 11.12.2019

Liaison with Irish Water took through the Pre-Connection Enquiry and Design Vetting Process. A Pre-connection Enquiry was submitted to Irish Water on 11.04.2019 with details of the development proposals and foul flow and water demand calculations. A response to the Pre-Connection Enquiry was received on 29.10.2019 and confirms feasibility of a connection to the Irish Water networks at the proposed locations. The design was submitted to Irish Water for Design Vetting on 08.04.2020 and a Letter of Design Acceptance was issued by Irish Water on 08.04.2020.

Contained in **Appendix 7.1** (see Volume III) is a) Irish Water Pre-connection Enquiry Response and b) Irish Water Statement of Design Acceptance for the proposed development site.

7.4.2.2 Electricity

Liaison with ESB took place throughout 2019 and a site meeting was held with ESB (Denis Culhane) on 07.08.2019 to review the strategy and initial network capacity review.

7.4.2.3 Gas

Consultation has taken place with Gas Networks Ireland (GNI) with regard to the availability of gas supplies and no concerns have been raised by GNI (See **Figure 7.14**).

Liaison with Gas Networks Ireland took place through late 2019 and early 2020. Site maps were provided along with network capacity advice from Roy Kavanagh of gas networks Ireland on the 20.03.2020.

7.4.2.4 Telecommunications

Telecom records have been requested from Eir, and Virgin. Existing records have been received from eir and Virgin for the area adjacent to the site.

7.5 Baseline Environment

The proposed development site, which includes lands owned by DCC is bounded by the Bailey Gibson site to the west, further DCC lands and private residences to the west and north-west, private residences and St. Catherine's National School to the east, St. Theresa's Church and Donore Avenue to the north and the South Circular Road to the south. The site contains several industrial type warehouse buildings, formerly operating as a cigarette factory. The Player's Wills 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. Refer to **Figure 7-10**.

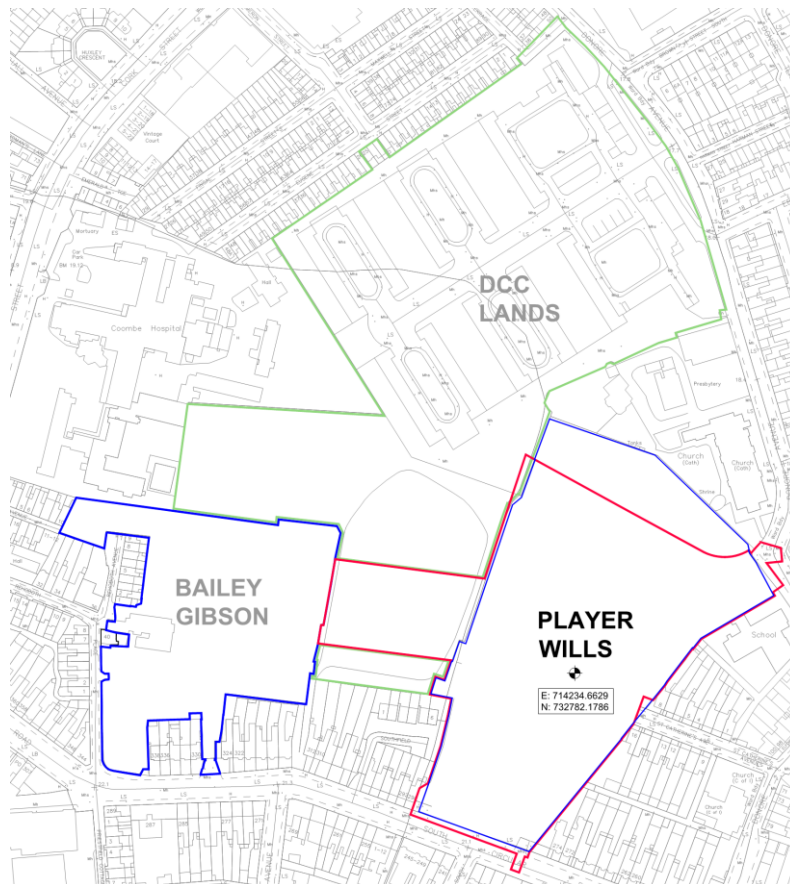


FIGURE 7-10 SITE OUTLINE

7.5.1 Water Supply

There is a total of three existing cast iron watermains located in the South Circular Road to the south of the site. These watermains are 4, 6, and 18-inch respectively. There is also a 9-inch cast iron watermain located in St Catherine’s Avenue to the east of the site and a 6-inch cast iron watermain located in Donore Avenue to the north-east of the site. There are two existing connections from the development to the public watermains, one to the north-east and another to the south-west of the site. Refer to **Figure 7-11**.

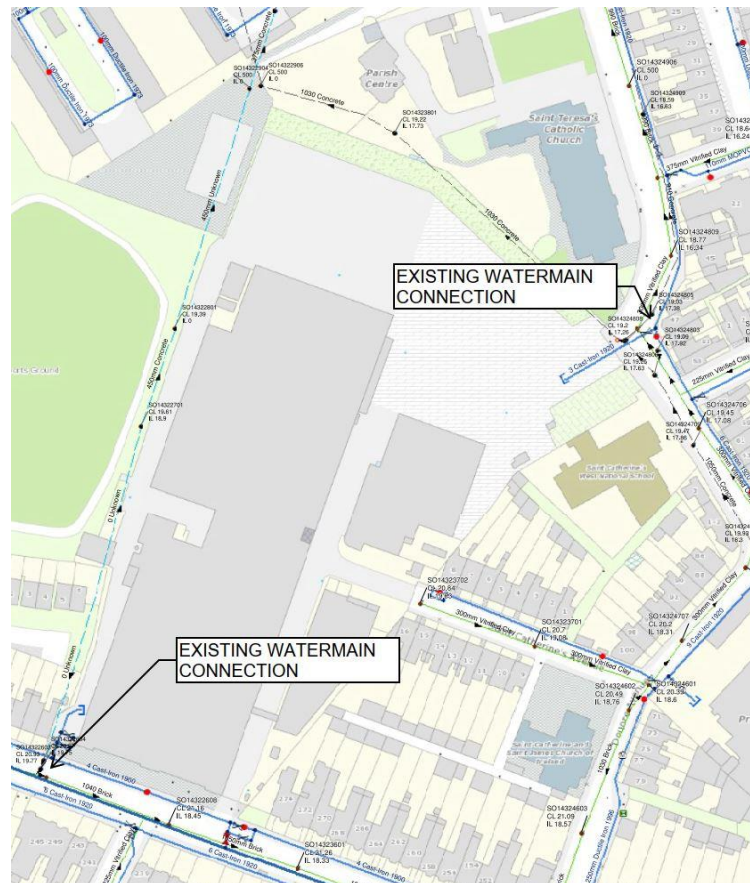


FIGURE 7-11 EXISTING WATER SUPPLY

7.5.2 Wastewater Drainage

A 300mm diameter vitrified clay combined sewer is located within St. Catherine’s Avenue to the east of the site. A 300mm diameter combined sewer which becomes a 910mm diameter combined sewer culvert further downstream to the east of St. Theresa’s Church, is located within Donore Avenue to the north-east of the proposed development site. A 1040mm brick combined Irish Water sewer is located within the South Circular Road with a flow direction of west to east, parallel to the southern boundary of the site.

There are three existing connections from the development to the public combined sewers to the south and north-east of the site. Refer to **Figure 7-12** below. The site has not been in use as a factory for some time so no foul flow generated from the use of the buildings has been considered for the baseline environment. Underground drainage surveying of the site has

confirmed approximately 75% of the surface water from the Player Wills site is also discharged to these two combined sewers. There are no flow control or other sustainable drainage initiatives currently in place on the site. As a result, in a design storm event of 50mm/hr rainfall intensity, assuming a conservatively low positively drained area of 50% discharging to the combined sewers, this gives a peak stormwater discharge rate to the combined sewers in the area of $2.39 \times 0.5 \times 50 / 60 / 60 \times 10000 = 165.97 \text{ l/s}$.

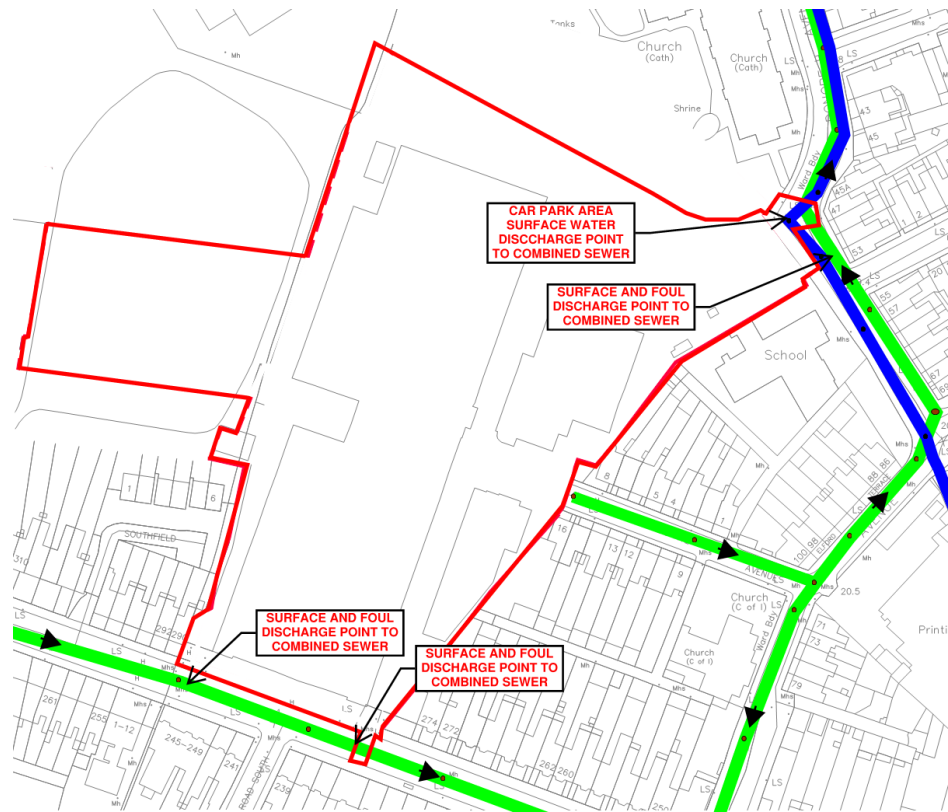


FIGURE 7-12 EXISTING DRAINAGE CONNECTIONS

The existing 300mm diameter combined sewer which changes to a 910mm diameter combined sewer to the north-east of the site flows northwards along Donore Avenue. It connects with the 900mm diameter combined sewer in Cork Street which then runs eastwards. The 300mm combined sewer coming from Rehoboth Ave, which originates to the west of the Bailey Gibson site, also connects to this sewer within Cork Street. 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 and adjacent DCC lands and Bailey Gibson sites 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 (WwTP), where the sewage is treated before being discharged to the Irish Sea. Refer to **Figure 7-13** below.

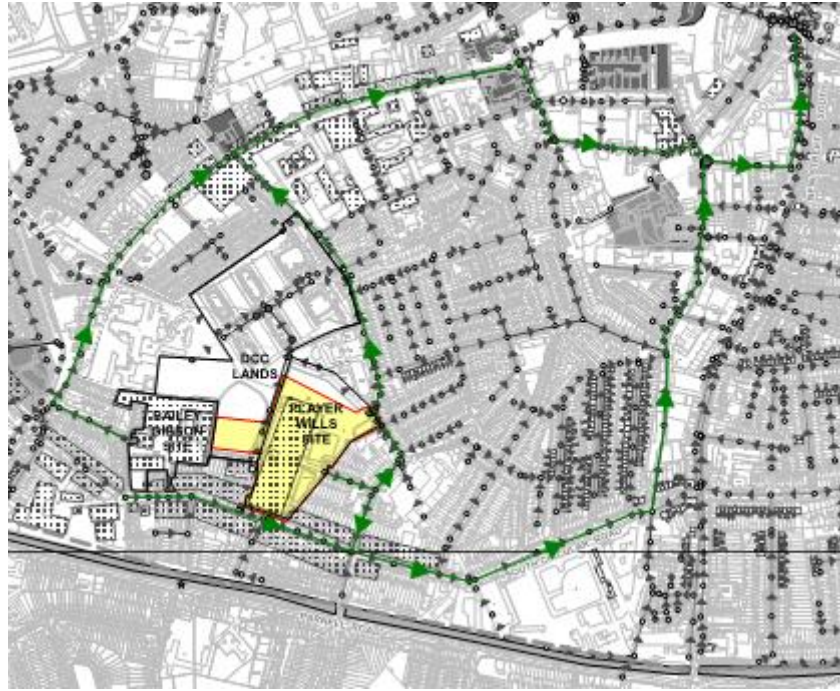


FIGURE 7-13 EXISTING SEWER LAYOUT SURROUNDING THE SITE (EXTRACT FROM GDSDS)

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 in 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 180mm 25mbar gas main within South Circular Road to the south of the site. Refer to **Figure 7-14** for the existing infrastructure utility map. This infrastructure is sufficient to meet the requirements of the proposed development.

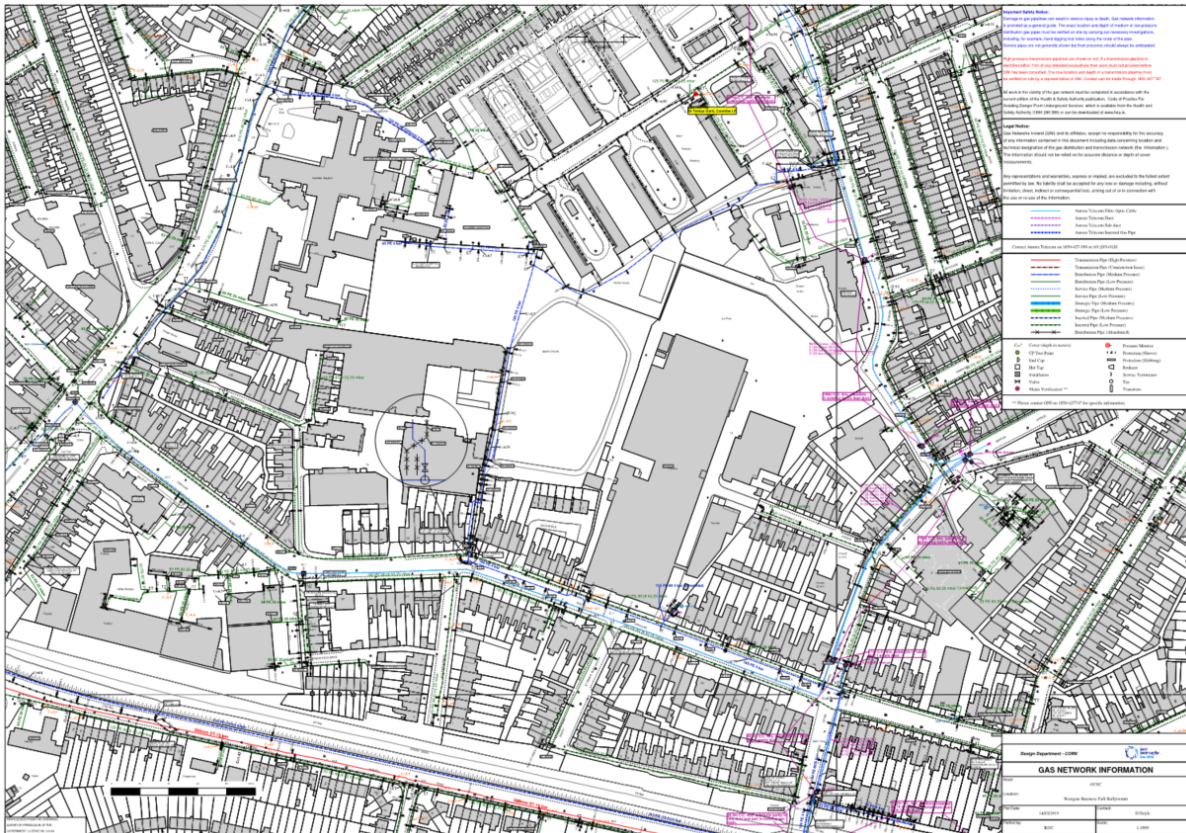


FIGURE 7-14 EXISTING GAS NETWORKS INFRASTRUCTURE

7.5.4 Telecommunications

Eir and Virgin have both confirmed that they have existing infrastructure routing in the South Circular Road. There is one connection from the eir network that serves the existing site. Refer to **Figure 7-15** for the existing infrastructure utility map. This infrastructure is sufficient to meet the requirements of the proposed development.

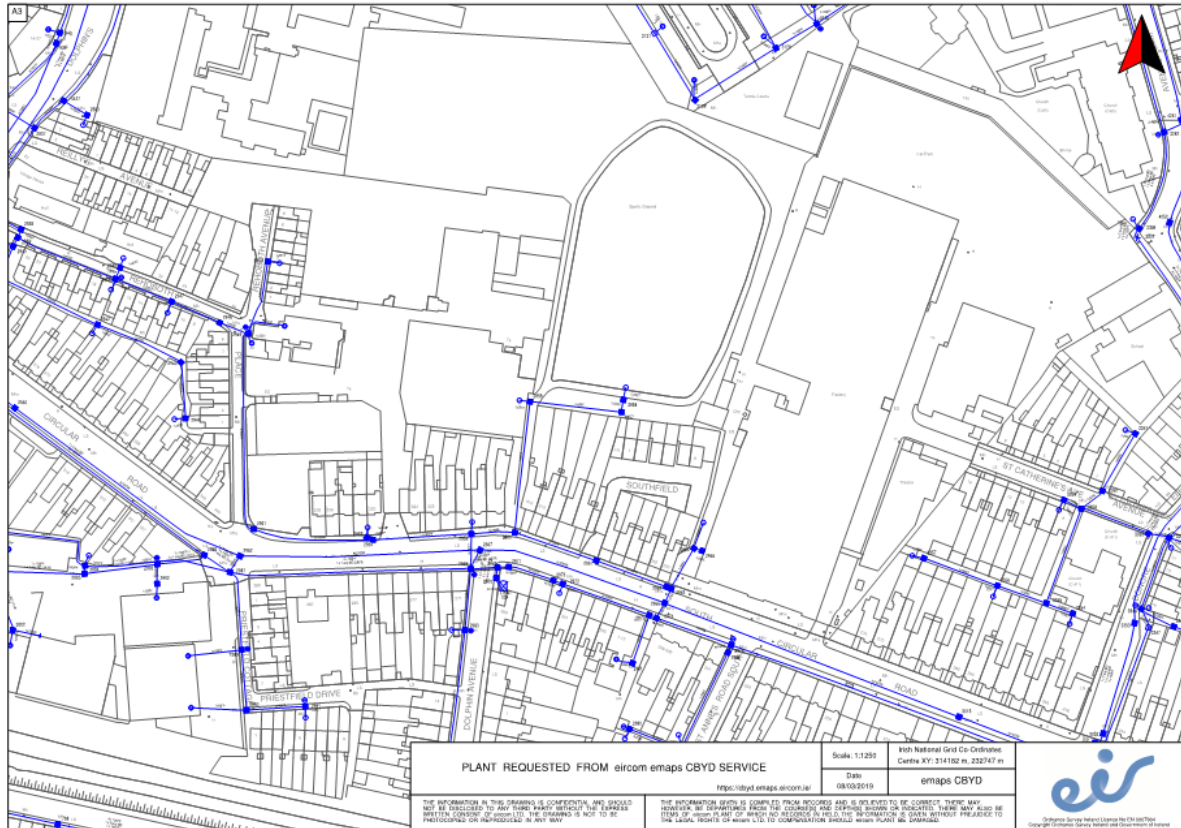


FIGURE 7-15 EXISTING EIR TELECOMS INFRASTRUCTURE

7.5.5 Electricity Supply

There are two existing ESB substations serving the site and local housing located on St Catherine's Ave. Based on information received from ESB Networks, the existing site is serviced by two existing sub-stations referred to as Clarkes A & Clarkes B sub-station. Both these sub-stations are to be decommissioned and new sub-stations to be installed to serve the site. 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. 3 no. new sub-stations are proposed to service the development with the existing sub-stations being retired (See Figure 7-16).

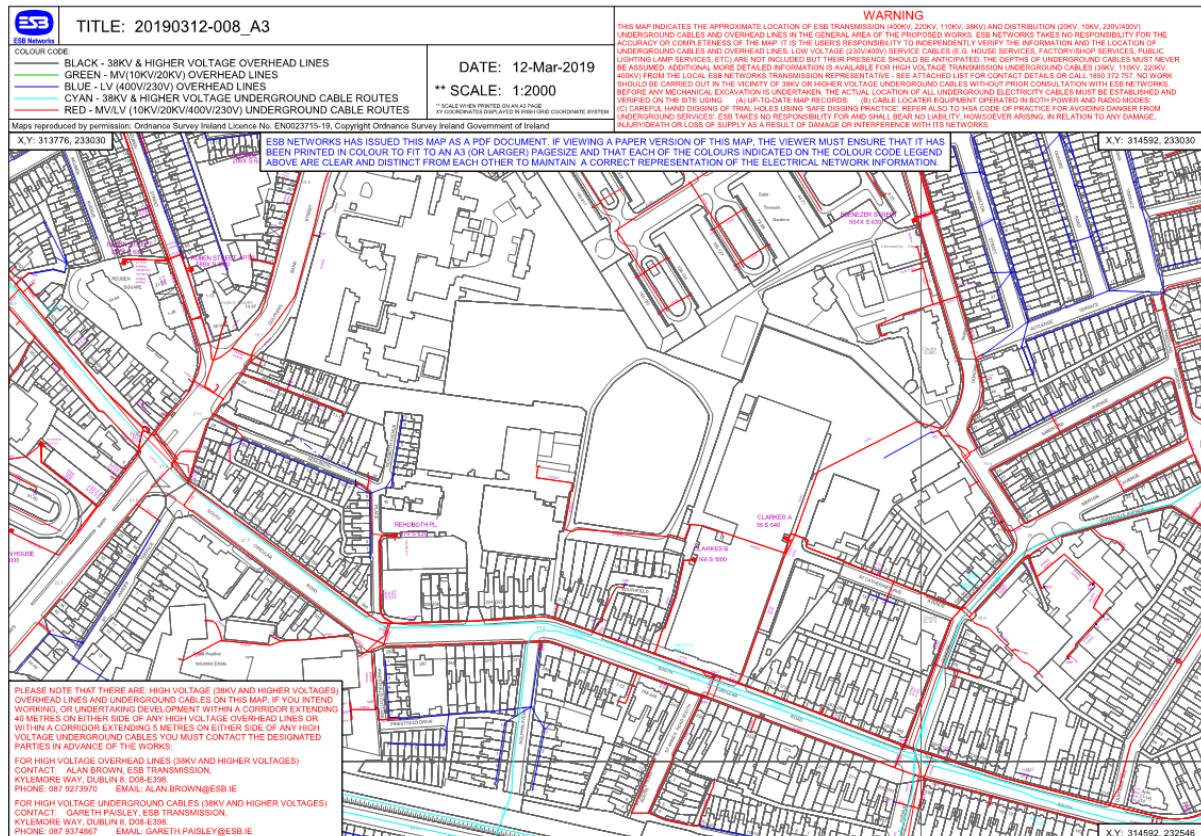


FIGURE 7-16 EXISTING ESB INFRASTRUCTURE

7.5.6 Surface Water Drainage

The natural surface level falls across the site from south-west to north-east. There is an existing 1050mm public surface water culvert located in Donore Avenue. 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. There is a 300mm diameter vitrified clay combined sewer located within St. Catherine's Avenue to the east. There is also a 300mm vitrified clay combined sewer within Donore Avenue to the north-east of the site. Further north along Donore Avenue, to the east of the proposed site, this sewer changes to a 990mm brick combined sewer culvert. A 1050mm brick combined sewer culvert runs within the South Circular Road.

Approximately 75% of all positively drained surface water from the site discharges to combined sewers located in Donore Avenue and the South Circular Road. There are no sustainable drainage systems or flow control devices in place at the site. As noted in 7.4.2, 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 25% of the site which consists of hard surfaced car park, across the north of the site, discharges untreated and unattenuated stormwater to the stormwater culvert running along the northern edge of the property. The proposed Players Park area is an undeveloped field with no positive drainage to the public surface water network.

7.6 Do Nothing Scenario

7.6.1 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.

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 water demand requirements, would be progressed on the site that accords with national policy for compact growth on brownfield sites.

7.6.2 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.

7.6.3 Surface Water Drainage

If the proposed development was not to proceed, unattenuated and untreated surface water discharge to the combined sewer 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.

7.6.4 Electricity / Gas & Telecommunications

If the proposed development was not to proceed, there would be no increase in the demand on the existing networks and the effect would be neutral

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.

7.7 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 surveys were eventually completed which provided an informed basis for the assessment of existing assets and design for the proposed new surface water drainage system.

7.7.4 Electricity

Due to the operational procedures of the ESB, they do not confirm if network upgrade works will be required until planning permission is granted. We do note that there is already ESB capacity allocated to the site with the existing sub stations and the ESB electrical distribution maps indicate substantial infrastructure in the area with MV distribution cables routing down south circular road.

7.7.5 Gas

None.

7.7.6 Telecommunications

None.

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 as outlined in 7.8.2, 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 a 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.

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 two existing connections. 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 Residential Component:

Block No.	No. of Units	Population Equivalent Per Unit	Total Population	Daily Demand (L) @150l/p/day	Average Day/ Peak Week Demand (Daily Discharge*1.25/24/60/60) l/s	Peak Discharge (5*Ave Day/Peak Week) l/s
PW1	240 *	1	240	36000	0.521 l/s	2.605 l/s
	47	2.7	127	19050	0.276 l/s	1.380 l/s
PW2	415	2.7	1121	168150	2.433 l/s	12.165 l/s
PW4	9	2.7	25	3750	0.054 l/s	0.270 l/s
PW5	21	2.7	57	8550	0.124 l/s	0.620 l/s
Total			1570	235500	3.408 l/s	17.04 l/s

TABLE 7-1 RESIDENTIAL WATER DEMAND CALCULATIONS

* Shared Accommodation Units – Population Equivalent taken as 1 person per unit (all units are single occupancy).

7.8.2.1.2 Retail/Café/Bar/Community/Arts/Culture Component:

Block No.	Area (m ²)	Staff Daily Discharge 1 person per 19m ² @90l/p/day	Patrons Daily Discharge @15l/p/day **	Average Day/ Peak Week Demand (Daily Discharge*1.25/24/60/60) l/s	Peak Discharge (5*Ave Day/Peak Week) l/s
PW1	2,349	11127	12506	0.342 l/s	1.71 l/s
PW2	340	1610	2550	0.06l/s	0.3 l/s
Total	1837	8701	13778	0.325 l/s	2.01 l/s

TABLE 7-2 NON-RESIDENTIAL USES WATER DEMAND CALCULATIONS

** Retail/Café/Bar – 1 patron per 2m². Community/Arts/Culture – 1 patron per 10m²

7.8.2.1.3 Childcare Component:

Block No.	Area (m ²)	Population Equivalent 50 Children and 1 staff per 5 children	Daily Discharge (L) @50 l/p/day	Average Day/ Peak Week Demand (Daily Discharge*1.25/24/60/60) l/s	Peak Discharge (5*Ave Day/Peak Week) l/s
PW4	275	60	3000	0.043l/s	0.217l/s

TABLE 7-3 CRECHE WATER DEMAND CALCULATION

7.8.2.1.4 Total Water Demand

Block No.	Daily Demand (L)	Average Day/Peak Week Demand (l/s)	Peak Demand (l/s)
PW1	59910	1.139 l/s	5.695 l/s
PW2	169770	2.493 l/s	12.465 l/s
PW4	7850	0.097 l/s	0.487 l/s
PW5	8550	0.124 l/s	0.620 l/s
Total	246080	3.853 l/s	19.267 l/s

TABLE 7-4 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 South Circular Road. 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 watermains within the development and issued a Statement of Design Acceptance. Both letters are contained in **Appendix 7.1** (Volume III of the EIA). 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 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 Residential Component:

Block No.	No. of Units	Population Equivalent Per Unit	Total Population	Daily Discharge Rate (L) @150l/p/day	Average Discharge Rate (Daily Discharge*1.1/24/60/60) l/s	Peak Discharge *
PW1	240 **	1	240	36000	0.458 l/s	2.748 l/s
	47	2.7	127	19050	0.243 l/s	1.458 l/s
PW2	415	2.7	1121	168150	2.141 l/s	6.423 l/s
PW4	9	2.7	25	3750	0.048 l/s	0.288 l/s
PW5	21	2.7	57	8550	0.109 l/s	0.654 l/s
Total			1570	235500	3 l/s	9 l/s

TABLE 7-5 RESIDENTIAL FOUL FLOW CALCULATION

* Peak Demand Factor (Pf_{dom}) varies with total population.

** Shared Accommodation Units – Population Equivalent taken as 1 person per unit.

7.8.2.2.2 Retail/Café/Bar/Community/Arts/Culture Component:

Block No.	Area (m ²)	Staff Daily Discharge 1 person per 19m ² @90l/p/day	Patrons Daily Discharge @15l/p/day **	Total Average Discharge Rate (Daily Discharge*1.1/24/60/60) l/s	Peak Discharge (4.5*Ave Discharge)
PW1	2349	11127	12506	0.301 l/s	1.354 l/s
PW2	340	1610	2550	0.053 l/s	0.2385 l/s
Total	1837	8701	13778	0.286 l/s	1.59 l/s

TABLE 7-6 NON-RESIDENTIAL FOUL FLOW CALCULATION

* * Retail/Café/Bar – 1 patron per 2m². Community/Arts/Culture – 1 patron per 10m²

7.8.2.2.3 Childcare Component:

Block No.	Area (m ²)	Population Equivalent 50 Children and 1 staff per 5 children	Daily Discharge (L) @50 l/p/day	Average Discharge Rate (Daily Discharge*1.1/24/60/69) l/s	Peak Discharge (4.5*Ave Discharge)
PW4	275	60	3000	0.038 l/s	0.172 l/s

TABLE 7-7 CRECHE FOUL FLOW CALCULATION

7.8.2.2.4 Total Foul Discharge

Block No.	Daily Discharge (L)	Average Discharge (l/s)	Peak Discharge (l/s)
PW1	59910	1.002 l/s	5.56 l/s
PW2	169770	2.194 l/s	6.661 l/s
PW4	7850	0.086 l/s	0.460 l/s
PW5	8550	0.109 l/s	0.654 l/s
Total	246080	3.391 l/s	10.762 l/s

TABLE 7-8 TOTAL FOUL DISCHARGE

A Pre-Connection Enquiry Application was submitted to Irish Water for the proposed development with a proposed connection location 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 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, imperceptible and permanent effect.

7.8.2.3 Surface Water Drainage

Due to the presence of low permeability boulder clay soils on this site, 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 site is predominantly hardstand with approximately 75% of all surface water discharging to the combined sewers in the surrounding streets and the remaining 25% discharging to an obsolete culvert along the northern edge of the site.

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. Considering a 50mm/hr rainfall intensity, approximately equivalent to a 2Year ARI peak intensity event, over a drained area of 1.96 hectares, this equates to a discharge rate of 272 l/s. New development discharge rates are limited to 2l/s/ha or Q_{bar} , whichever is greater. For this site, this equates to 8.24 l/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

7.8.2.4.1

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-stations based on their 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.

The additional demand on the gas network will have an imperceptible impact of long term and neutral effect on the surrounding area as there is sufficient capacity in the gas network system to manage the additional demand created by the development. It should be noted that the residential scheme will utilise exhaust air heat pumps for heating (i.e. limited gas demand). The gas load for the development is primarily for the retail units.

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. As 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, as no network upgrades are required, and that this process includes a review of the effect on the existing water supply network from both existing and all other known proposed developments, it is considered that the cumulative effects are neutral, not significant and long 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 400,000 PE extension for the plant, to be complete in the first half of 2021.

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 The Masterplan sites

The development site forms part of a Masterplan, consisting of the Bailey Gibson site, DCC Lands and The Player Wills site within SDRA 12 lands. There is a possibility that these developments could impact the capacity of the local foul water drainage network. However, Irish Water have already reviewed the proposed foul flow calculations for both the Player Wills and Bailey Gibson sites and confirmed that both 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, slight and long-term.

7.8.3.4 Electricity

The development site forms part of a Masterplan, consisting of the Bailey Gibson site, DCC Lands and The Player Wills site. There is a possibility that these developments, as well as other nearby development sites, could impact the availability of electricity supply. 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. This review is undertaken following a grant of planning permission. Should network upgrades be required these would benefit the local community as it would modernise the network in this area. 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 a Masterplan, consisting of the Bailey Gibson site, DCC Lands and The Player Wills site. The majority of the development is not proposing to utilise gas for the residential properties and as such the likely demand from this development on the gas network is minor. 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 a Masterplan, consisting of the Bailey Gibson site, DCC Lands and The Player Wills site. 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	Imperceptible	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	Unlikely	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	Unlikely	Temporary	Direct
Untreated ground water discharge to foul drainage system	Negative	Not Significant	Local	Unlikely	Brief	Direct
Removal of stormwater discharge to combined sewers	Positive	Imperceptible	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	Unlikely	Temporary	Direct
Untreated ground water discharge to surface water drainage system	Negative	Not Significant	Local	Unlikely	Brief	Direct
Increased electrical demand over existing	Neutral	Imperceptible	Local	Likely	Short term	Direct
Increased Gas demand over existing	Neutral	Imperceptible	Local	Unlikely	Short term	Direct
Increased telecommunication demand over existing	Neutral	Imperceptible	Local	Unlikely	Short term	Direct

TABLE 7-9 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	Imperceptible	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 Masterplan and other nearby developments	Neutral	Not significant	Local	Likely	Long-term	Cumulative
Cumulative increase in foul flows from Masterplan and other nearby developments	Neutral	Not significant	Local	Likely	Long-term	Cumulative
Cumulative removal of stormwater discharge to combined sewers from Masterplan 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 Masterplan and other nearby developments	Neutral	Not significant	Local	Likely	Long-term	Cumulative
Cumulative increase in Gas Demand from Masterplan and other nearby developments	Neutral	Not significant	Local	Likely	Long-term	Cumulative
Cumulative increase in telecommunication demand from Masterplan and other nearby developments	Neutral	Not significant	Local	Likely	Long-term	Cumulative

TABLE 7-10 SUMMARY OF OPERATIONAL PHASE LIKELY SIGNIFICANT EFFECTS IN THE ABSENCE OF MITIGATION

7.9 Mitigation

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 the infrastructure will be reduced.

7.9.2 Construction Phase 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.

The Construction Environmental Management Plan 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 relevant to this chapter have been reproduced below.

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 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.

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

¹ Building Regulations 1997 to 2020

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.

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 Masterplan area, the provision of the sustainable drainage systems including, green and blue 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 residential units heating system is proposed to be an 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 are 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 are 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 are 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 has capacity to cater for the proposed development water demand without network upgrades, which is based on their assessment of the effect of the proposed development, existing demand and all other known proposed developments in combination, along with the above-mentioned mitigation measures, the residual cumulative effect to the water supply infrastructure will be neutral, imperceptible and long 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.

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 development's 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	Neutral	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 7-11 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	Imperceptible	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 7-12 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 the GNI code of Practice documents. 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.

7.12 Interactions

Interactions are dealt with in Chapter 15 of this EIAR.

7.13 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 7-13 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 7-14 SUMMARY OF OPERATIONAL PHASE MITIGATION AND MONITORING

7.14 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 relevant authorities have confirmed that the design proposals put forward and associated water demand and discharge rates, can be catered for within the capacity of the existing systems. 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.

7.15 References and Sources

- Irish Water – Code of Practice for Water Infrastructure
- Irish Water – Code of Practice Wastewater Infrastructure
- Irish Water – Wastewater Standard Details
- Irish Water – Water Standard Details
- BS EN 752:2008 “Drain and Sewer Systems outside Buildings”
- The Building Regulations Technical Guidance Document H
- Ciria C753 “The SUDS Manual”
- Sewers for adoption: 6th Edition
- Guidelines on the information to be contained in Environmental Impact Assessment Report (EPA Draft Aug 2017)
- Irish Water Local Area Network Map
- Dublin City Council Local Area Network Map
- ESB Construction Standards for MV Sub-Station Buildings.
- ESB electrical services handbook for housing schemes.
- GNI – Guidelines for Designers and Builders Domestic Sites
- <https://www.esbnetworks.ie/staying-safe/contractor-safety/digging-and-excavation-work>
- <https://www.gasnetworks.ie/corporate/freedom-of-information/make-a-request/>
- <https://cbyd.emaps.eircom.ie/Eircom-CBYD/>

CHAPTER 8 LAND & SOILS

VOLUME II ENVIRONMENTAL IMPACT ASSESSMENT REPORT



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8 Land and 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 Masters 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 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 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 Bailey Gibson site in 2020.

8.2 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. PL0003**.

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25,

D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former 'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, 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. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use (residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
 - b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
 - c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;
 - d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment

- area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
- e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
- iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
 - a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
 - b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m.
 - iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;
 - v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.
 - vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
 - vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
 - viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no.

- motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
- ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.
 - x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
 - xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
 - xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1(the former factory building);
 - xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
 - xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
 - xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
 - xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
 - xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment and lighting.

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.

The PW2 basement will extend from ground level (c. 20m Ordnance Datum (OD)) to a depth typically of 8m below ground level (bgl) (12.5mOD). The PW1 basement extends from ground level to a depth typically of 3.5m bgl. This will result in the excavation of 57,846m³ of materials from the site of which 16,328m³ will comprise bedrock, 22,161m³ will comprise in-situ, natural soils and the remainder (19,458m³) overlying made ground granular fill, top soil, bitumen and concrete paving.

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 – Draft (EPA, 2017);
- 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

Phase 1 and 2 investigations were completed at the site by AECOM in 2018 with additional site investigations designed and supervised by O'Callaghan Moran & Associates completed in 2019. The AECOM site investigations were confined to the external parts of the site and comprised two trial pits, twelve boreholes, ground gas and groundwater monitoring in four of the boreholes which were converted to groundwater and ground gas monitoring wells. Environmental and waste classification testing was also completed on twenty-six soil samples collected from the boreholes. The details are included in the AECOM Report titled, Former John Player and Sons Factory, Phase 2 Environmental Site Assessment and Soil Waste Classification, 2018 in **Appendix 8.1** in Volume III of the EIAR.

OCM completed additional investigations in 2019 which comprised the opening of fourteen trial pits including areas externally and within the buildings, the opening of four additional boreholes which were converted to groundwater monitoring and ground gas monitoring wells and the collection of thirty soil samples for environmental and waste classification testing. The findings of the site investigations are outlined in detail in the O’Callaghan Moran Environmental Risk Assessment and Waste Characterisation Report completed in November 2019 which is also included in **Appendix 8.1** and are used here to establish the baseline site conditions.

The lands to the west of the application area owned by DCC and included for the purpose of delivering a public park and a road connecting the permitted Bailey Gibson site and the Player Wills site, are amenity lands and have never been developed, as evidenced in Chapter 13, Archaeology & Cultural Heritage of this EIAR. This part of the application area will not be subject to large scale development, the proposal is limited to the delivery of a substantial public park ‘Player’s Park’ and a road that will connect the Bailey Gibson and Player Wills sites. Accordingly, it was not deemed necessary to carry out site investigations in this area.

8.3.3 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, 2017 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 2.2 kms southwest of Dublin city centre (**Figure 8.1**). The proposed development site includes the former Player Wills site of 2.39 hectares and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land.

The site is bound to the north by institutional lands (St. Teresa’s Church) and St. Teresa’s Gardens, to the north east by St. Catherine’s National School and to the east by rows of terraced residential dwellings (Donore Avenue and St. Catherine’s Avenue) and to the south by South Circular Road (SCR). It is bound to the southwest by residential dwellings (SCR and Southfield), to the west by the Bailey Gibson site and to the northwest by open undeveloped lands under the control of DCC.

The proposed development site includes lands under the control of Dublin City Council to the west of the Player Wills site through which surface water drainage from the Bailey Gibson site further to the west will run, a park ‘Players Park’ will be constructed and a road connecting the

Bailey Gibson and Player Wills site will be provided. The drainage will run through the northern section of the Player Wills site and connect to the Irish Water Sewer on Donore Avenue.

The Player Wills site is generally flat with a slight gradient from west to east. The DCC lands are also flat and are currently unused.

The existing site layout is shown on **Figure 8.2**. The site is accessed from the South Circular Road along the southern site boundary and also along the northeast site boundary via Donore Avenue. The main building is the structure to the south of the site, with warehousing joining the northern side and an office block to the east. There is a second block of warehouses in the north-east of the site. There is a bunded oil storage area along the western site boundary, but the oil tanks have been removed. The remainder of the site is bitumen and concrete paved yard area which was used for car parking and truck delivery.

8.4.2 Soils and Sub Soils

The Teagasc subsoils map (**Figure 8.3**) indicates the site and surrounding lands are covered by Made Ground underlain by Limestone till (TLs). The 2018 and 2019 site investigations established that the open paved areas are 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 range in thickness from 5-6.5m below ground level (bgl) and is thicker in the east of the site.

The soils are generally uncontaminated. Slightly elevated Aliphatic and aromatic hydrocarbon were detected in one sample location in the southwest of the site in the main building. This appears to be an isolated occurrence, as elevated levels were not detected in the other trial pits across the site.

8.4.2.1 Baseline Soil Quality

The AECOM 2018 site investigation included the collection of twenty-six soils samples from two trial pits and twelve boreholes while the OCM 2019 investigation included the collection of thirty soil samples from fourteen trial pits. The locations of the boreholes and trial pits are shown on **Figure 8.5**.

Fifty six 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 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.

In the AECOM investigation the S4UL limits were only exceeded in five of twenty-six samples for PAH parameters. The samples from BH-10(0.5m) BH-14 and BH-15 (1m), BH-18A (0.5m) and TP-6 (0.4-1.1m) exceeded the S4UL for the PAH parameters.

In the OCM investigation the S4UL limits were exceeded for PAH parameters in five trial pits, TP-17(0-1m and 1-2m), TP-18 (0-1m) TP25 (0-1m), TP-B2 and TP-B4 (0-1m) (**Table 8.1**)

Physiochemical	Units	MW-1	MW-2	MW-3	BH-9	BH-11	GTV	IGV
Electrical Conductivity	µS/cm	785.40	1254.6	518.16	377.40	425.41	1875	1,000
Inorganic								
Ammonium	mg/l	0.15	0.45	0.16	0.16	0.31	0.175	0.15
Chloride	mg/l	19	32	18	22	41	187.5	30
Sulphate	mg/l	110.00	60.00	110.00	110	410	187.5	200
Potassium	mg/l	4.9	6.8	2.9	2.0	2.0	NE	5
Napthalene			17				0.075	1

NE Denotes Not Established

TABLE 8-1 INORGANICS AND POLYCYCLIC AROMATIC HYDROCARBONS (PAH) EXCEEDING LIMITS

Aliphatic and aromatic hydrocarbons exceeded the S4UL in one location, TP-A5 (0-1m). Arsenic marginally exceeded the S4UL in eight trial pits, TP-17(1-2m), TP-18, TP-22, TP-25, TP-A3, TP-A6, TP-B3 and TP-B4 (al 0-1m) (**Table 8.2**). The arsenic values detected in these trial pits were however within the acceptable range for clean agricultural soils based on the Teagasc Soil Guidelines.

Asbestos was detected in soils samples collected from soils at TP-18, TP-25, TP-B5 and TP-B6. The levels detected were at or less than 0.001%.

TPH	Units	MW-1	MW-2	GTV	IGV
Aliphatic TPH >C5-C6	µg/l	< 0.10	< 0.10	NE	NE
Aliphatic TPH >C6-C8	µg/l	< 0.10	< 0.10	NE	NE
Aliphatic TPH >C8-C10	µg/l	< 0.10	32	NE	NE
Aliphatic TPH >C10-C12	µg/l	< 0.10	3.9	NE	NE
Aliphatic TPH >C12-C16	µg/l	130	< 0.10	NE	NE
Aliphatic TPH >C16-C21	µg/l	280	< 0.10	NE	NE
Aliphatic TPH >C21-C35	µg/l	180	< 0.10	NE	NE
Aliphatic TPH >C35-C44	µg/l	< 0.10	< 0.10	NE	NE
Total Aliphatic Hydrocarbons	µg/l	580	36	0.75	NE
Aromatic TPH >C5-C7	µg/l	< 0.10	31	NE	NE
Aromatic TPH >C7-C8	µg/l	< 0.10	18	NE	NE
Aromatic TPH >C8-C10	µg/l	< 0.10	1100	NE	NE
Aromatic TPH >C10-C12	µg/l	< 0.10	81	NE	NE
Aromatic TPH >C12-C16	µg/l	33	19	NE	NE
Aromatic TPH >C16-C21	µg/l	85	< 0.10	NE	NE
Aromatic TPH >C21-C35	µg/l	16	< 0.10	NE	NE
Aromatic TPH >C35-C44	µg/l	< 0.10	< 0.10	NE	NE
Total Aromatic Hydrocarbons	µg/l	130	1200	NE	NE
Total Petroleum Hydrocarbons	µg/l	720	1300	7.5	NE
Benzene	µg/l	< 0.030	29	0.75NE	10

NE Denotes Not Established

TABLE 8-2 ALIPHATIC AND AROMATIC HYDROCARBONS EXCEEDING LIMITS

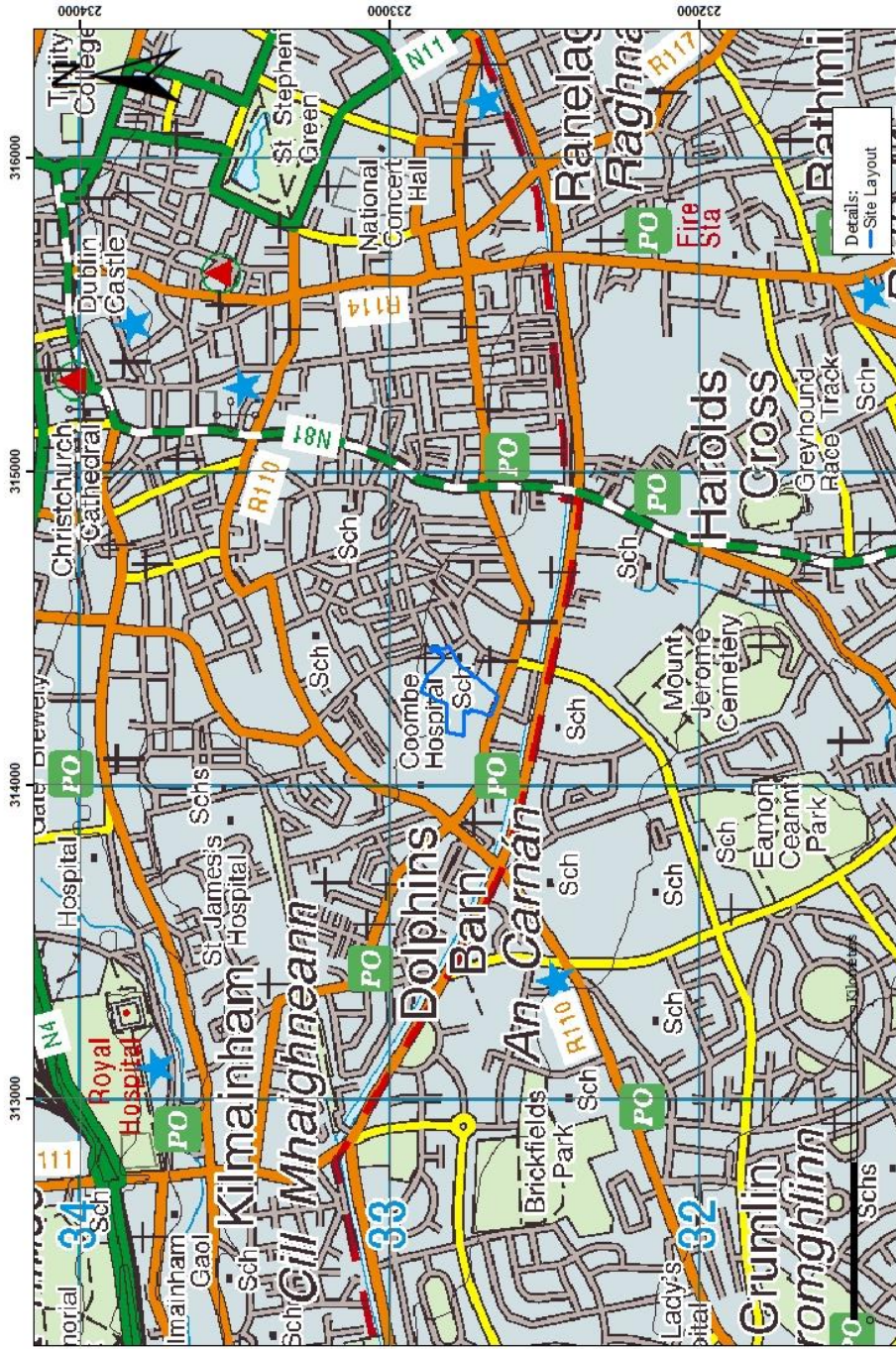


FIGURE 8-1 SITE LOCATION

314000



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.

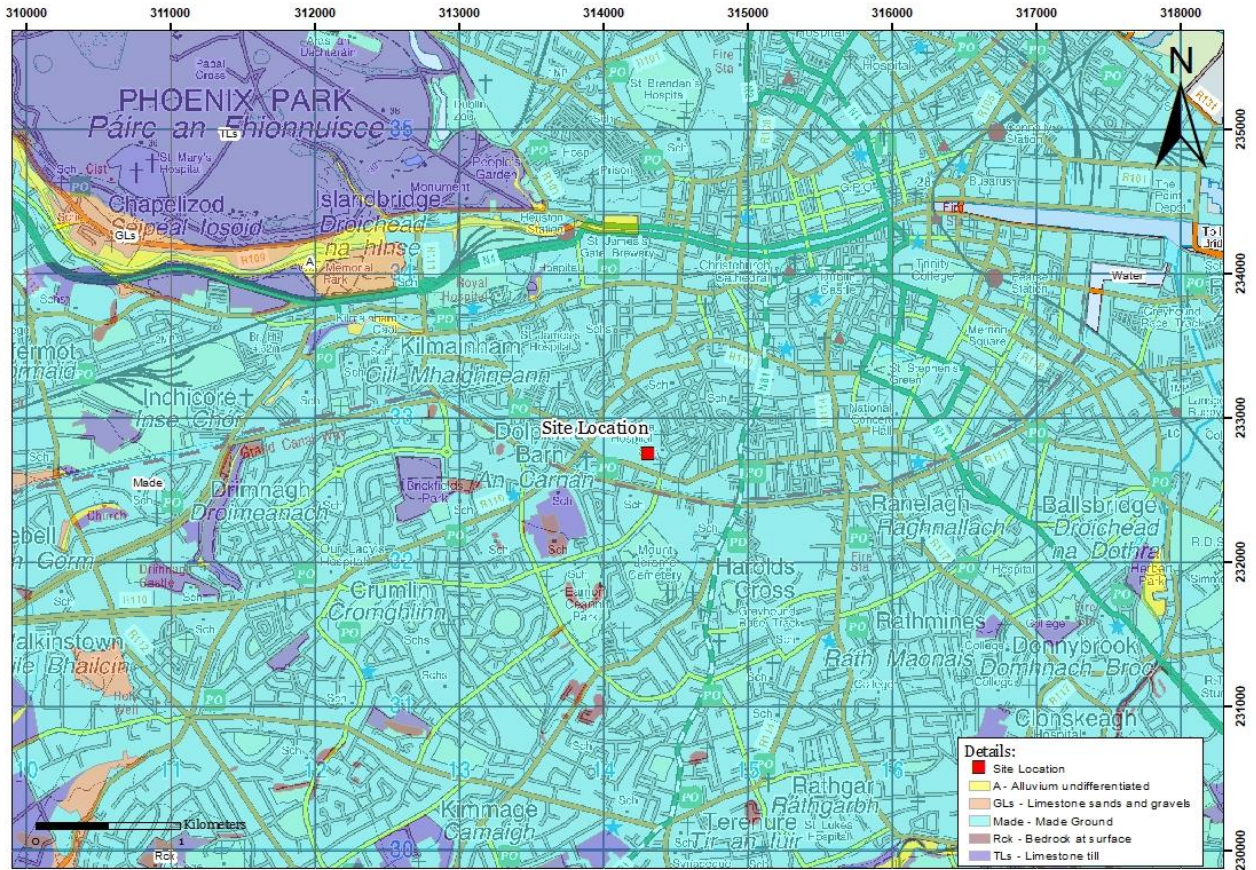


FIGURE 8-3 SUBSOILS

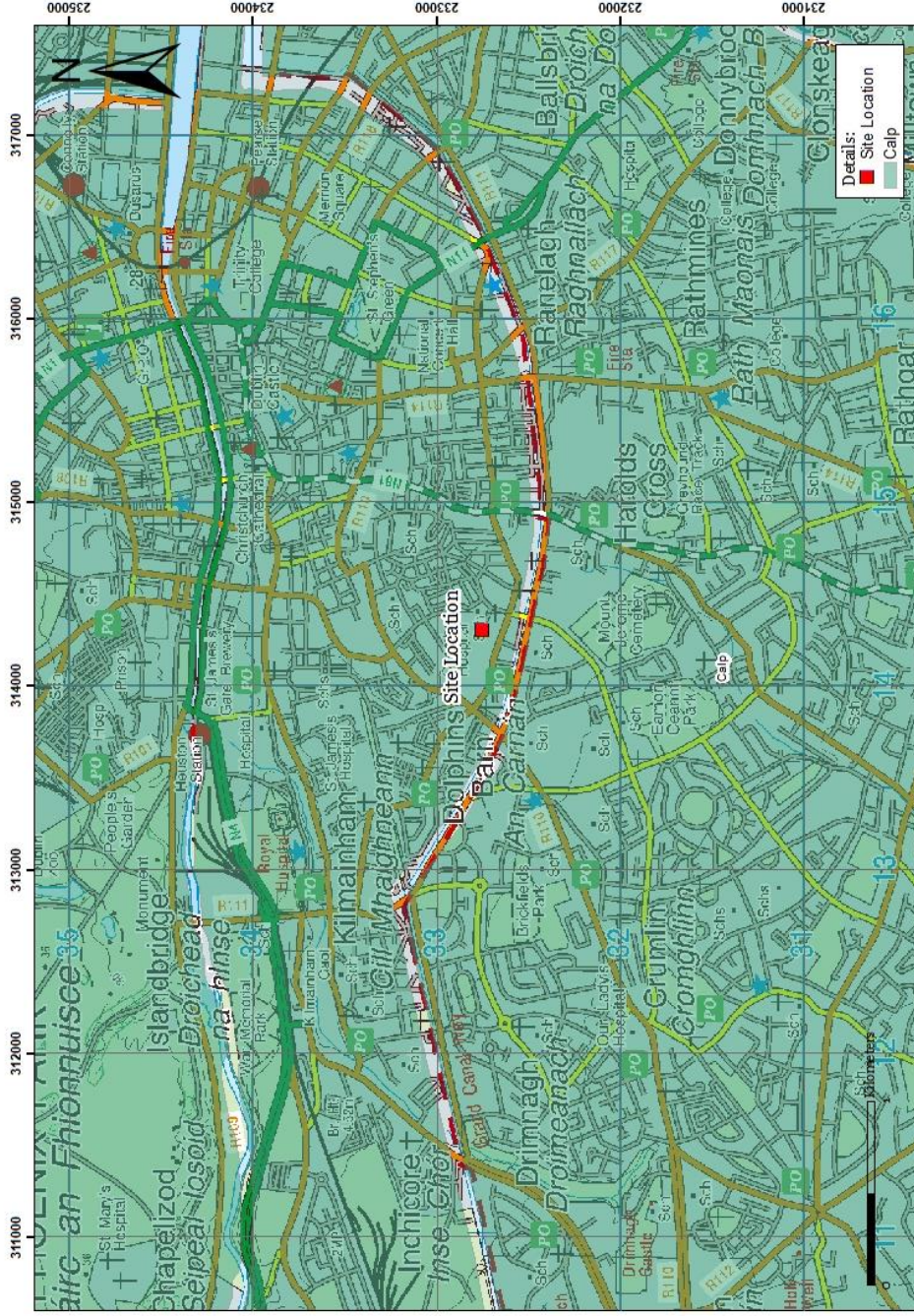


FIGURE 8-4 BEDROCK GEOLOGY



FIGURE 8-5 2018 & 2019 SAMPLE LOCATIONS

8.5 Do Nothing 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 it would remain a disused partially brownfield and partially greenfield development site. This would not have any significant impact on the soils and geology beneath the site.

8.6 Difficulties Encountered

There were no difficulties encountered when carrying out the assessment.

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 Garlands and submitted under separate cover. Nine of the ten buildings on site will be removed as outlined in the CEMP.

During the demolition phase c.14,415m³ of 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.

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 site. 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. 8m bgl to form basement car parking, storage, plant rooms and cycle parking beneath Block PW2 and to c.3.5m at the northeast of Block PW1 to accommodate plant

rooms. This will result in the excavation and removal of c. 3,891m³ of Made Ground and granular fill that underlies the paved area, c.22,848m³ of subsoils and 16,435m³ of shale/limestone bedrock. 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 recovery or disposal.

Concrete will be used to form foundations, basement levels, and buildings and hard paved areas.

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 site. The soils will be protected against infiltration by contaminated surface water, for example caused by oil leaks from cars or delivery vehicles.

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.

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 307221 Demolition of all structures, including 4 no. buildings (9,757 sq.m GFA) and 1 no. ESB substation to make way for development of the site; the construction of 416 no. residential units in 5 no. blocks, with a cumulative gross floor area of 31,105 sq.m

2. 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.
3. SHD 0002/19 Redevelopment of former Dulux Factory site, Davitt Road, 8266m² development footprint with 119 basement level car parking spaces.
4. 3756/15, Redevelopment Parnell Road 40 space basement car park.
5. 3853/1743-50 Dolphin Barn Street, redevelopment of former factory to include 67 basement car parking spaces on development footprint of 3253m².
6. 3086/17, 75-78 Cork Street, redevelopment of factory, development footprint of 1815m² with basement level car parking
7. 3974/17, 44 Parnell Road, Development of apartment building on 1000m² footprint with basement car park 9 spaces and waste storage area.
8. 3513/19, Parnell Road, Former ESB Depot, Development of 55 unit residential over 57 no. car space basement.
9. 20207/17, Como Lake Ltd 69D Donore Av, Development with 26 car parking spaces at basement Level.

Using the various development footprints as a conservative estimate for basement void space the combined developments will result in the loss of approximately 2.2% of the subsoil and 0.1% 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 Strategic Development and Regeneration Area 12 (SDRA 12) and the non-statutory Master Plan for Player Wills, Dublin City Council and Baily Gibson lands includes for the redevelopment of the local area including the Player Wills site. These include the permitted Bailey Gibson development to the west of the site, and redevelopment of lands at owned by Dublin City Council to the north-east including the development of GAA playing pitches. 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 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 regeneration of the Masterplan lands will have a positive, moderate, permanent effect on the soils and geology on the SDRA 12 area.

8.7.6 Summary

Table 8.3 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 8-3 SUMMARY OF DEMOLITION & CONSTRUCTION PHASE LIKELY SIGNIFICANT EFFECTS IN THE ABSENCE OF MITIGATION

Table 8.4 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 8-4 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 bedrock in the northern 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 requirements of the Construction Environmental Management Plan (CEMP) prepared by Garlands which is included with this application 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.

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 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.

There will be a park to the west which covers 3,960m² and a playground at St Catherine's Park to the northeast covering 1,350m². These elements 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.

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.

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 001-3/19 The redevelopment of the Rialto Cinema on South Circular Road which is located c300m west of the site
- 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
- 5 3086/17, 75-78 Cork Street, redevelopment of factory,
- 6 3974/17, 44 Parnell Road, Development of apartment building
- 7 3513/19, Parnell Road, Former ESB Depot,
- 8 20207/17, Como Lake Ltd 69D Donore Av,

The Strategic Development and Regeneration Area 12 (SDRA 12) development plan includes for the redevelopment of lands in the immediate environs of the Player Wills site. These include proposed developments at the Bailey Gibson site to the east of the site, and redevelopment of lands at the Coombe Hospital to the north of the site and lands owned by Dublin City Council to the northeast of the site. The development at the Bailey Gibson site 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

TABLE 8-5 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
Constructed hard paving and SUDS systems, landscaping	Positive	Moderate	Local	Likely	Permanent	Direct

TABLE 8-6 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 8.7 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 contractor appointed personnel

TABLE 8-7 SUMMARY OF DEMOLITION & CONSTRUCTION PHASE MITIGATION AND MONITORING

Likely Significant Effect	Mitigation	Monitoring
Removal of subsoil and bedrock	Implementation of relevant CMP measures including; 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. 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.	Monitoring of CMP measures by contractor appointed personnel
Construction of basement, foundations, buildings and roads	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.	Monitoring of CMP measures by contractor appointed personnel

TABLE 8-8 SUMMARY OF DEMOLITION & CONSTRUCTION PHASE MITIGATION AND MONITORING, CONT'D.

Table 8.8 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 8-9 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 established that the soils and bedrock are uncontaminated.

The proposed development will involve the removal of buildings from the site, the removal soils to install for water, foul sewers electrical services and the removal of soils and 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 the preparation of a Construction and Demolitions Waste Management Plan and the preparation of a Construction Environmental Management Plan which includes for a monitoring programme to ensure the development does not impact 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, 2019, O'Callaghan Moran & Associates
- Construction Environmental Management Plan, 2020, Garlands Consulting Engineers
- 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 – Draft (EPA, 2017);
- Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements, Institute of Geologists of Ireland 2013.

CHAPTER 9

WATER AND HYDROLOGY

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



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9 Water and 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 Masters 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 Land and chapter and the Water and Hydrology sections of the EIAR for the adjacent Bailey Gibson site in 2019, which received permission from An Bord Pleanála in September 2020.

9.3 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. PL0003**.

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former 'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, 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. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use (residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
 - b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of

- 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
- c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;
 - d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
 - e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
- iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
- a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
 - b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m.
- iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;
- v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set

aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.

- vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
- vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
- viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
- ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.
- x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
- xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
- xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1(the former factory building);
- xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
- xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
- xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
- xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
- xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment and lighting.

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 Drawing PL1100 (Block PW1) and PL1198 and PL1199 (Block PW2) contained in the architectural suite of drawings that accompany this application.

The PW2 basement will extend from ground level (c. 20m Ordnance Datum (OD)) to a depth typically of 8m below ground level (bgl) (12.5mOD). The PW1 basement extends from ground level to a depth typically of 3.5m bgl. This will result in the excavation of 57,846m³ of materials from the site of which 16,328m³ will comprise bedrock, 22,161m³ will comprise in-situ, natural soils and the remainder (19,458m³) overlying made ground granular fill, top soil, bitumen and concrete paving.

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
- European Communities Environmental Objectives (Groundwater) Regulations (S.I. 9 of 2010)
- 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 – Draft (EPA, 2017);
- 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.

9.4.2 Site Investigations

Phase 1 and 2 investigations were completed at the site by AECOM in 2018 with additional site investigations designed and supervised by O'Callaghan Moran & Associates were completed in 2019. The AECOM site investigations were confined to the external parts of the site and comprised two trial pits, twelve boreholes, ground gas and groundwater monitoring in four of the boreholes which were converted to groundwater and ground gas monitoring wells. Environmental and waste classification testing was also completed on twenty six soil samples collected from the boreholes. The details are included in the AECOM Report titled, Former John Player and Sons Factory, Phase 2 Environmental Site Assessment and Soil Waste Classification, 2018 in **Appendix 8.1** in Volume III of the EIAR. OCM completed additional investigations in 2019 which comprised the opening of fourteen trial pits including areas

externally and within the buildings, the opening of four additional boreholes which were converted to groundwater monitoring and ground gas monitoring wells and the collection of thirty soil samples for environmental and waste classification testing. The findings of the site investigations are outlined in the O'Callaghan Moran Environmental Risk Assessment and Waste Characterisation Report completed in November 2019 which is also included in **Appendix 8.1**.

The lands to the west of the application area owned by DCC and included for the purpose of delivering public infrastructure (a park and road) have never been developed as evidenced in Chapter 13, Archaeology & Cultural Heritage, of this EIAR. This part of the application area will not be subject to large scale development, the proposal is limited to the delivery of a substantial public park 'Player's Park' and a road that will connect the Bailey Gibson and Player Wills sites. Accordingly, it was not deemed necessary to carry out intrusive site investigations in this area' Monitoring well MW-1 is located immediately to the east of these lands on the Player Wills site and is considered to be representative of the baseline water quality beneath the green area based on the groundwater flow direction.

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, 2017 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 2.2 kms southwest of Dublin city centre (**Figure 9.1**). The proposed development site includes the former Player Wills site of 2.39 hectares and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land.

The site is bound to the north by institutional lands (St. Teresa's Church) and St. Teresa's Gardens, to the north east by St. Catherine's National School and to the east by rows of terraced residential dwellings (Donore Avenue and St. Catherine's Avenue) and to the south by South Circular Road (SCR). It is bound to the southwest by residential dwellings (SCR and Southfield), to the west by the Bailey Gibson site and to the northwest by open undeveloped lands under the control of DCC.

The proposed development site includes lands under the control of Dublin City Council to the west of the Player Wills site through which surface water drainage from the Bailey Gibson site further to the west will run, a park 'Players Park' will be constructed and a road connecting the Bailey Gibson and Player Wills site will be provided. The drainage will run through the northern section of the Player Wills site and connect to the Irish Water Sewer on Donore Avenue.

The Player Wills site is generally flat with a slight gradient from west to east. The DCC lands are also flat and are currently unused.

The existing site layout is shown on **Figure 9.2**. The site is accessed from the South Circular Road along the southern site boundary and also along the northeast site boundary via Donore Avenue. The main building is the structure to the south of the site, with warehousing joining the northern side and an office block to the east. There is a second block of warehouses in the north-east of the site. There is a bunded oil storage area along the western site boundary, but the oil tanks have been removed. The remainder of the site is bitumen and concrete paved yard area which was used for car parking and truck delivery.

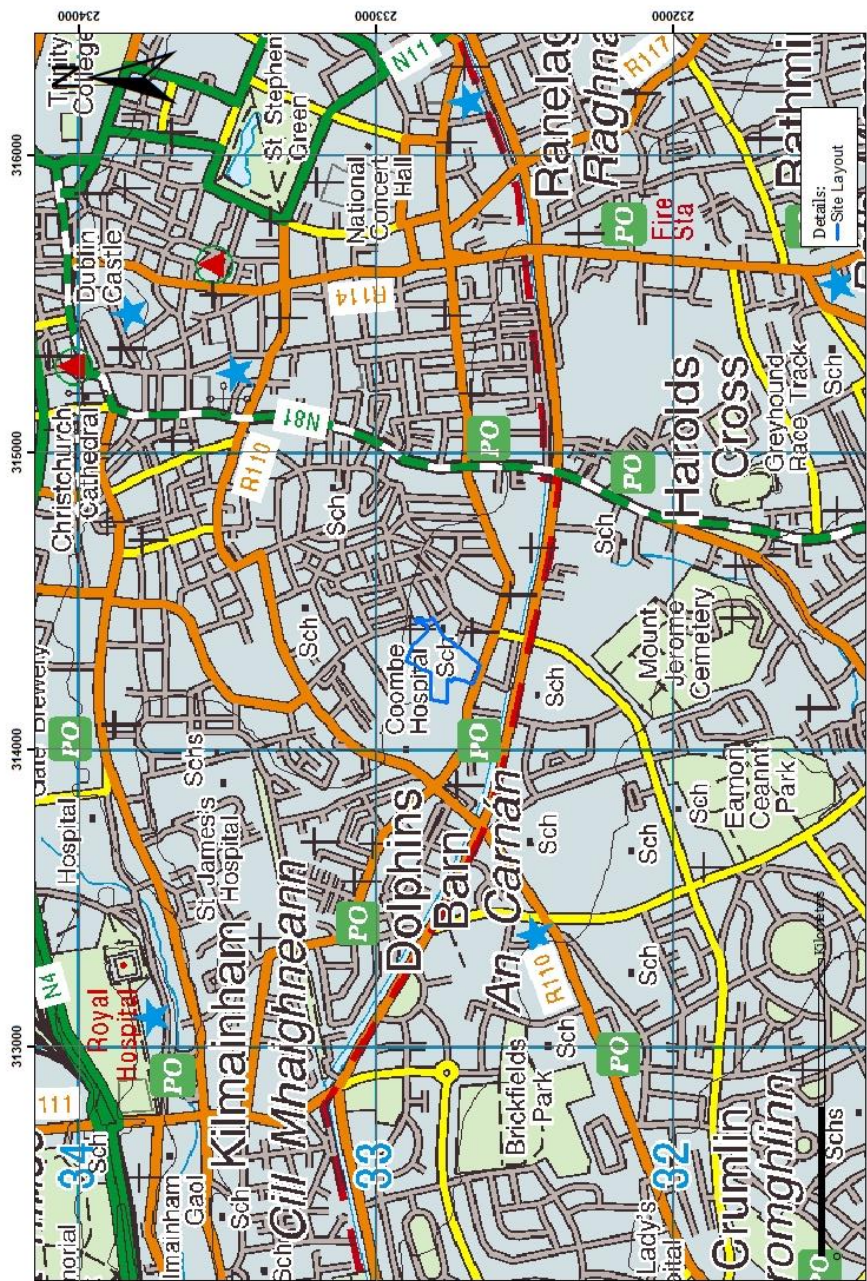


FIGURE 9-1 SITE LOCATION

314000



FIGURE 9-2 SITE LAYOUT

9.5.2 Hydrology

The player will site is completely paved with bitumen or concrete paving and buildings. Rainfall run off discharges to the combined storm sewers and foul sewers on both South Circular Road and Rehoboth Place. In the greenfield area to the west of Player Wills site, rainfall recharge percolates to ground through the soils. 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 site from fluvial sources, so it is possible to develop the site within Flood Zone C. 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

Baseline groundwater quality was established by OCM in 2019 by sampling the groundwater in four wells installed during the AECOM 2018 investigations (BH-9, BH-10, BH-11 and BH-16) and three additional wells installed in 2019 during the OCM investigations (MW-1, MW-2 and MW-3). 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.

The well locations are shown on **Figure 9.6**. They are in the bedrock aquifer and the construction details are in the AECOM and OCM Reports in Appendix 8.1. BH-9, 10 and 11 are in the south of the site. BH-16 is at the north east corner of the warehouse building. MW-1 is in the west of the site, MW-2 is in the east of the site and MW-3 is along the northern site boundary.

Water levels were recorded in the wells and the data used to calculate the direction of groundwater flow. The flow is to the northeast, as shown on **Figure 9.7**. The water table is shallow, ranging in depth from 1.2 and 1.81m 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**.

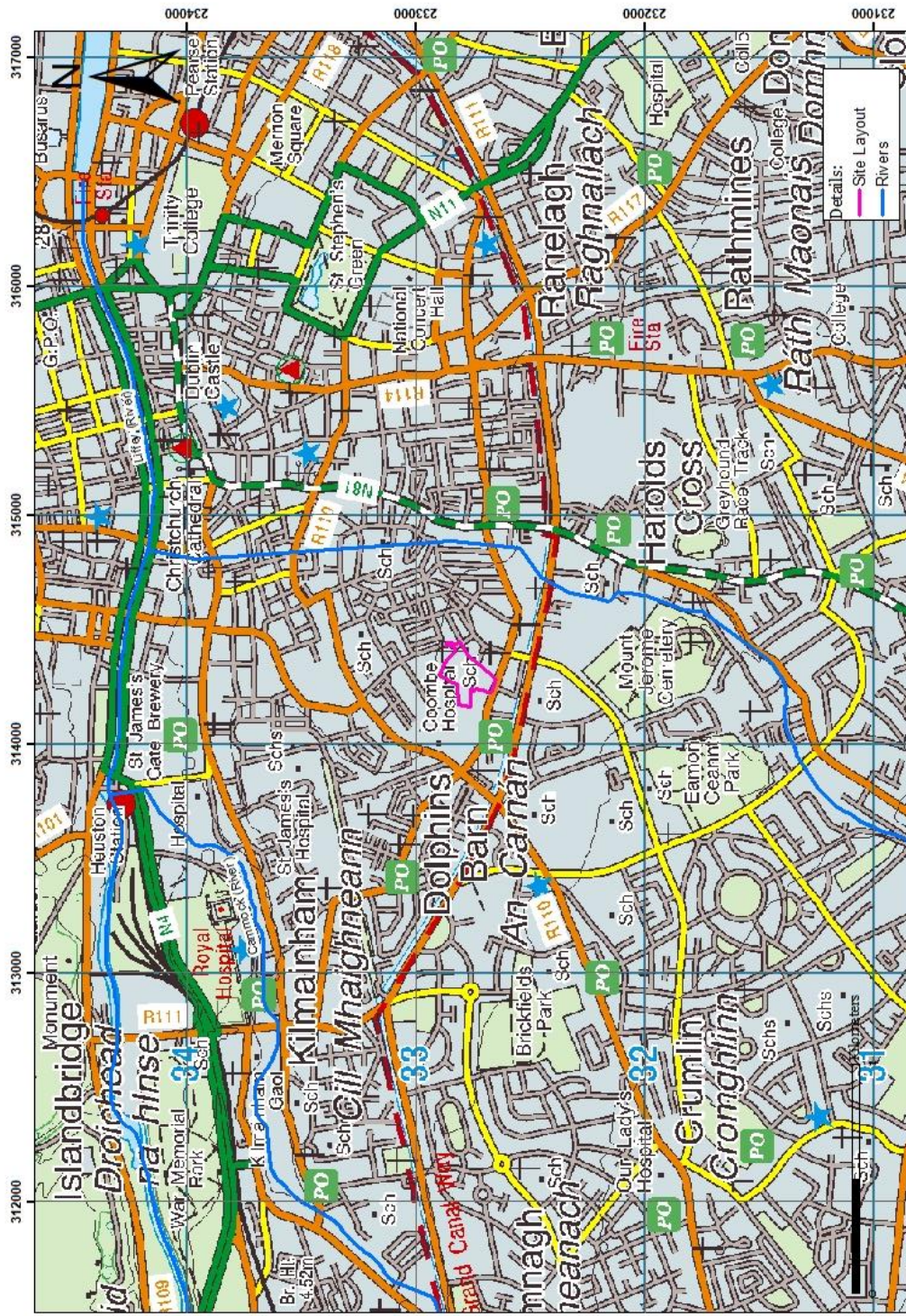


FIGURE 9-3 HYDROLOGY

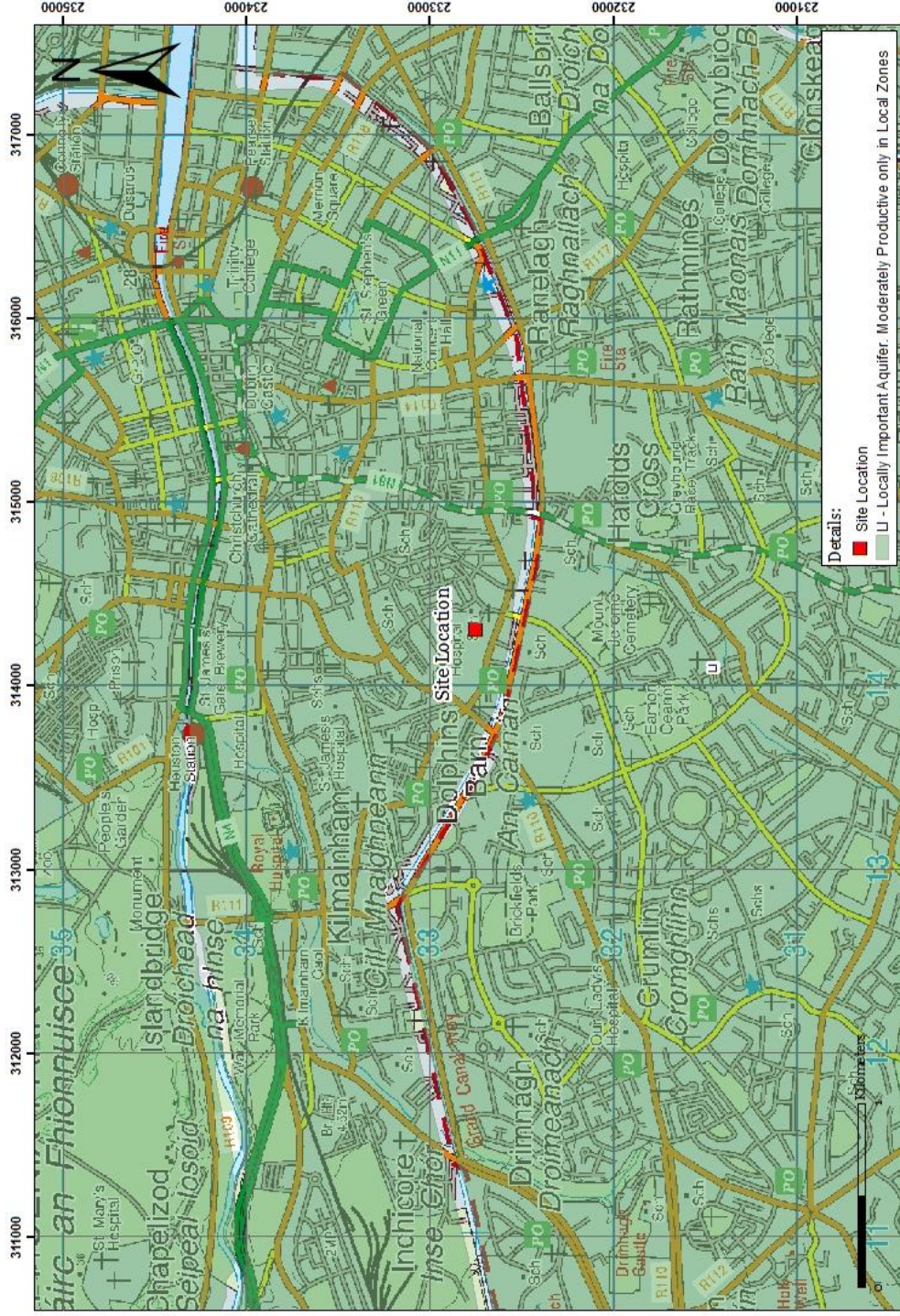


FIGURE 9-4 AQUIFER CLASSIFICATION

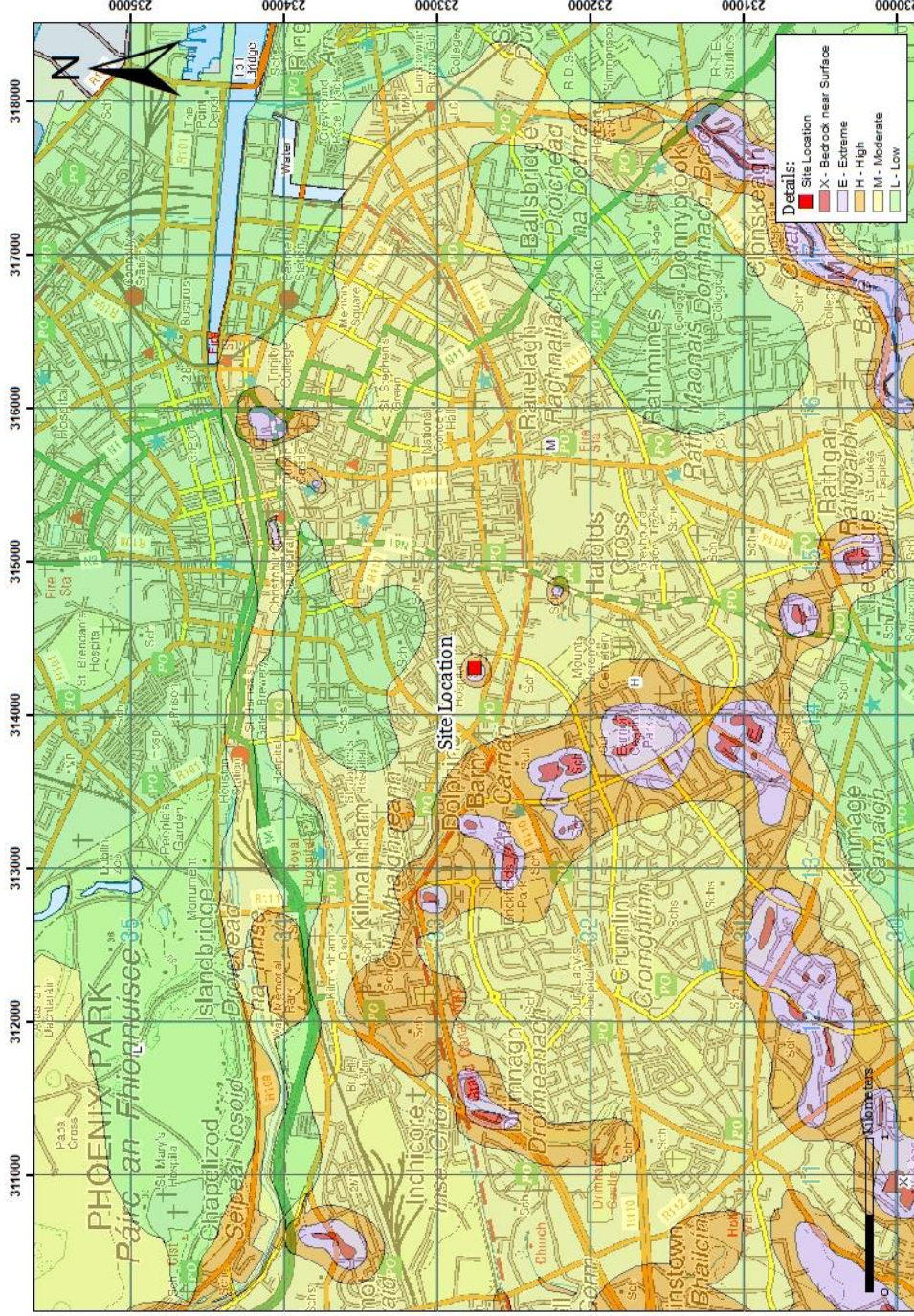


FIGURE 9-5 AQUIFER VULNERABILITY

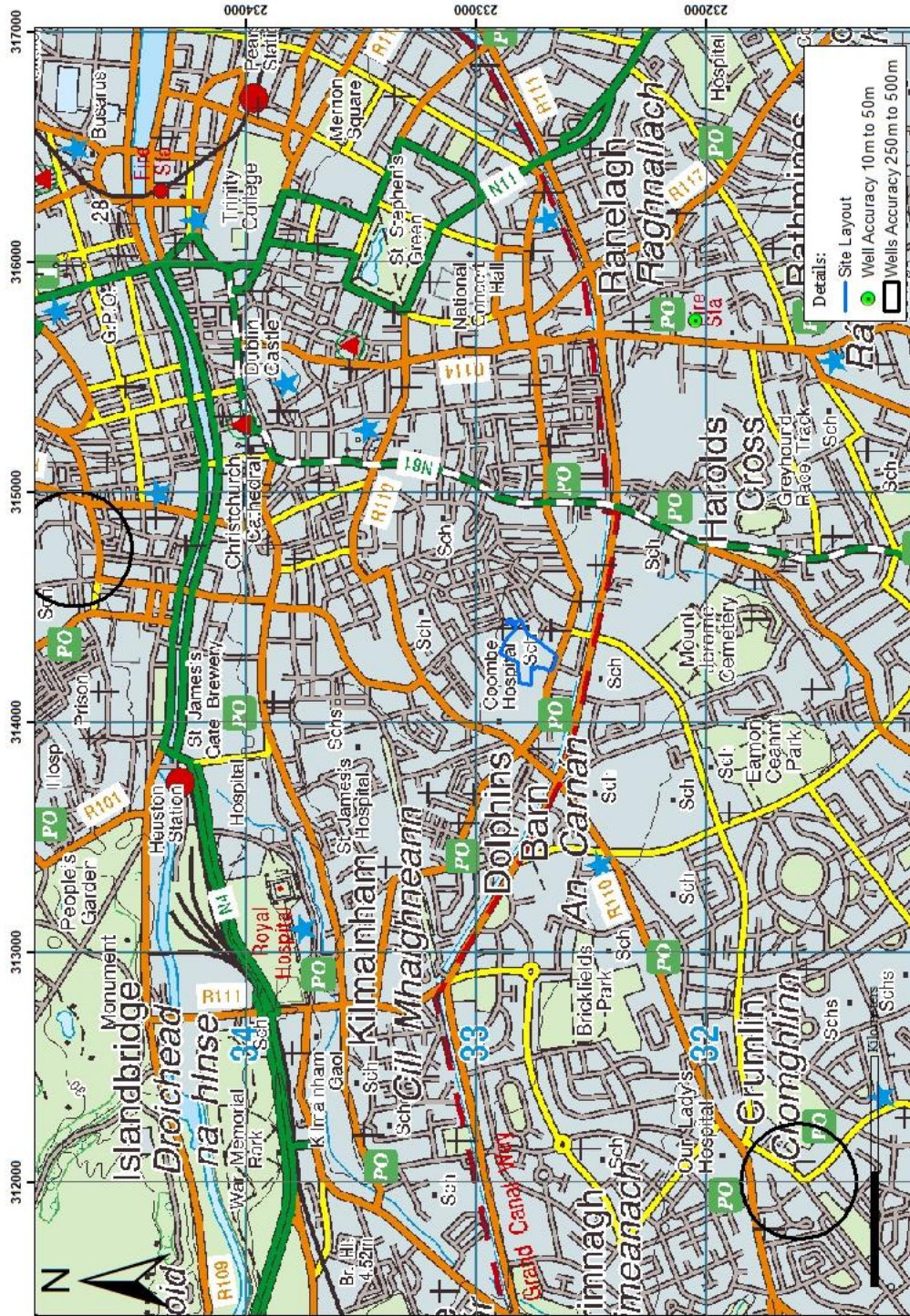


FIGURE 9-6 WELL LOCATION

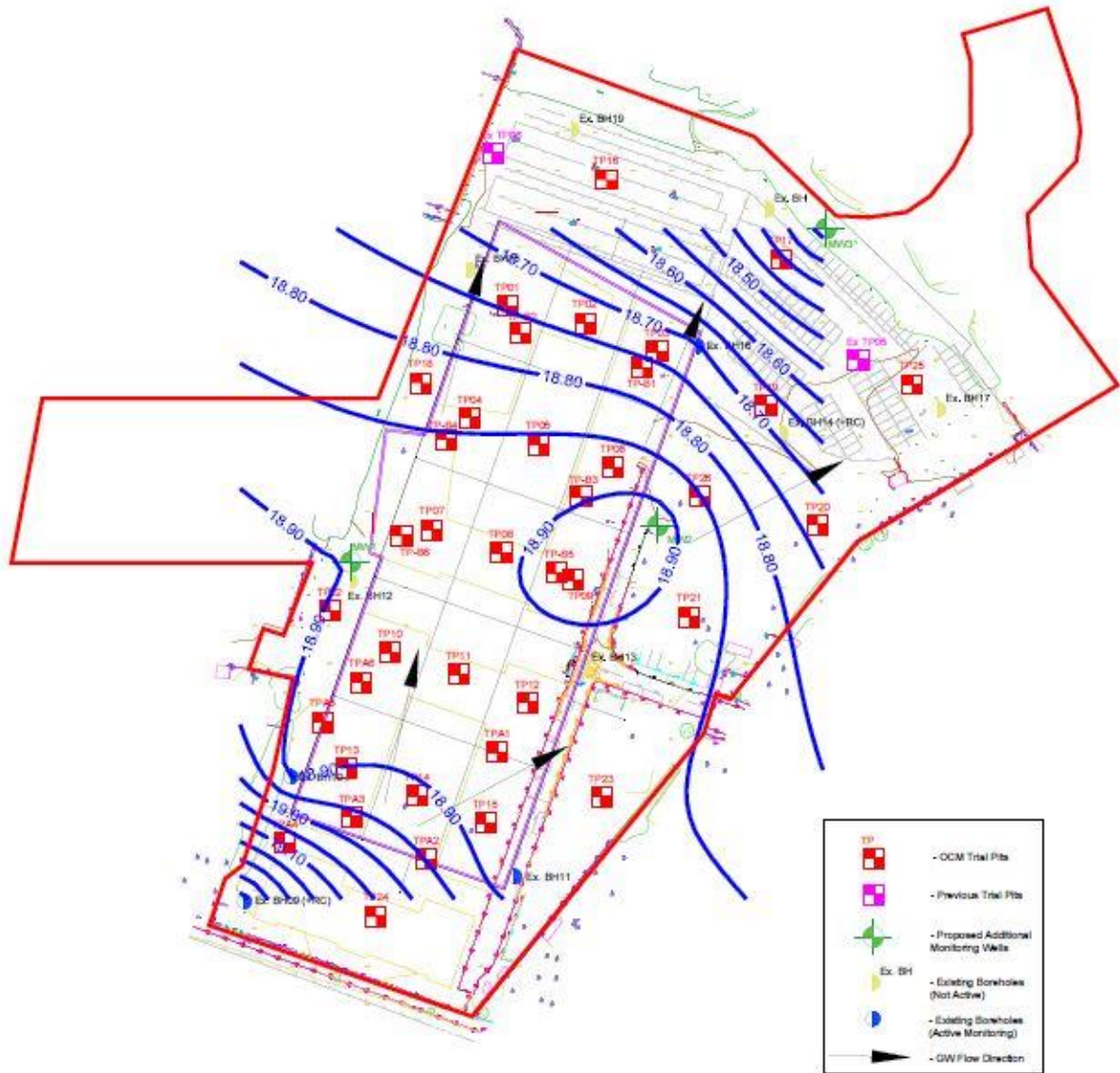


FIGURE 9-7 GROUNDWATER FLOW DIRECTION

Parameter	Units	MW-1	MW-2	MW-3	BH-9	BH-10	BH-11	BH-16
Electrical Conductivity	µS/cm	785.40	1254.60	518.16	377.40	456.74	425.41	449.89
Temperature	°C	11.95	11.34	11.85	11.95	12.16	12.32	12.50
pH	(pH units)	7.57	7.47	8.18	7.67	8.10	8.06	8.27
Water Level	mbtoc	1.71	1.06	1.53	1.78	1.81	1.61	1.20

TABLE 9-1 FIELD HYDROCHEMISTRY

*mbtoc denotes meters below top of casing

The samples were placed in laboratory prepared containers and stored in coolers at below 4°C prior to shipment to Chemtest, an accredited laboratory in the UK. Chain of custody (C.O.C.) documentation was included with the samples.

The samples were analysed for dissolved metals (boron, lead, nickel, copper, zinc, arsenic, cadmium, chromium, and mercury), total petroleum hydrocarbons (speciated), PAH, MTBE (methyl tert butly ether), volatile organic carbons (VOC), BTEX, phenols, pH and, sodium potassium, chloride, sulphide, sulphate, ammonium and nitrate. The parameter range was based on the site history and the need to establish a comprehensive environmental baseline for the groundwater quality. The analytical method detection limits (MDL) were all below relevant water quality guidance values.

9.5.4.1 Results

The full laboratory test reports are in OCM Report in **Appendix 8.1** (see Volume III) and the results are presented on **Table 9.2**. The Table includes Interim Guideline Values (IGV) published by the EPA and the Groundwater Threshold Values (GTV) set out in the European Communities Environmental Objectives (Groundwater) Regulations (S.I. 9 of 2010), as amended.

The IGVs are not statutory, but were developed to assist in the assessment of impacts on groundwater quality and are based on, but are more conservative than the Drinking Water quality standards. GTVs have only been established for core indicator parameters.

(See Table 4.2 Inorganics and Metals in Appendix 8.1)

Physiochemical	Units	MW-1	MW-2	MW-3	BH-9	BH-10	BH-11	BH-16	GTV	IGV
Electrical Conductivity	µS/cm	785.40	1254.60	518.16	377.40	456.74	425.41	449.89	1875	1,000
Temperature	°c	11.95	11.34	11.85	11.95	12.16	12.32	12.50	NE	25
pH	pH units	7.57	7.47	8.18	7.67	8.10	8.06	8.27	NE	≥6.5 and 9.5≤
Inorganic & Metals										
Ammonium	mg/l	0.15	0.45	0.16	0.16	0.14	0.31	0.15	0.175	0.15
Nitrate	mg/l	22	< 0.50	14	20	22	15	12	37.5	25
Chloride	mg/l	19	32	18	22	19	41	19	187.5	30
Sulphate	mg/l	110.00	60.00	110.00	110	110	410	110	187.5	200
Sulphide	mg/l	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	NE	NE
Sodium	mg/l	20	25	25	24	21	21	26	150	150
Boron	µg/l	160	210	140	140	150	140	130	750	1000
Chromium	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	37.5	30
Arsenic	µg/l	< 1.0	< 1.0	< 1.0	< 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	< 1.0	7.5	10
Nickel	µg/l	5.6	1.9	2.8	5.1	6.0	3.2	3.4	15	20
Mercury	µg/l	< 0.50	< 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	< 0.080	3.75	5
Copper	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1,500	30
Zinc	µg/l	4.2	2.5	4.0	5.3	4.7	5.6	5.7	75	100
Potassium	mg/l	4.9	6.8	2.9	2.0	1.9	2.0	3.0	NE	5

NE Denotes Not Established

TABLE 9-2 GROUNDWATER SAMPLING RESULTS

(See Table 4.3 Polycyclic Aromatic Hydrocarbons (PAH) in Appendix 8.1)

PAH	Units	MW-1	MW-2	MW-3	BH-9	BH-10	BH-11	BH-16	GTV	IGV
Naphthalene	µg/l	< 0.10	17	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	1
Acenaphthylene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Acenaphthene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Fluorene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Phenanthrene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Anthracene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	10000
Fluoranthene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	1
Pyrene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Benzo[a]anthracene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Chrysene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Benzo[b]fluoranthene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	0.5
Benzo[k]fluoranthene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	0.05
Benzo[a]pyrene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.0075	NE
Indeno(1,2,3-c,d)Pyrene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	0.05
Dibenz[a,h]Anthracene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Benzo[g,h,i]perylene	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	0.05
Total Of 16 PAH's	µg/l	< 2.0	17	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	0.075	0.1

NE Denotes Not Established

TABLE 9.2 GROUNDWATER SAMPLING RESULTS CONTD.

(See Table 4.4 Aliphatic and Aromatic Hydrocarbons in Appendix 8.1)

TPH	Units	MW-1	MW-2	MW-3	BH-9	BH-10	BH-11	BH-16	GTV	IGV
Aliphatic TPH >C5-C6	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aliphatic TPH >C6-C8	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aliphatic TPH >C8-C10	µg/l	< 0.10	32	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aliphatic TPH >C10-C12	µg/l	< 0.10	3.9	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aliphatic TPH >C12-C16	µg/l	130	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aliphatic TPH >C16-C21	µg/l	280	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aliphatic TPH >C21-C35	µg/l	180	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aliphatic TPH >C35-C44	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Total Aliphatic Hydrocarbons	µg/l	580	36	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NE	NE
Aromatic TPH >C5-C7	µg/l	< 0.10	31	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aromatic TPH >C7-C8	µg/l	< 0.10	18	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aromatic TPH >C8-C10	µg/l	< 0.10	1100	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aromatic TPH >C10-C12	µg/l	< 0.10	81	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aromatic TPH >C12-C16	µg/l	33	19	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aromatic TPH >C16-C21	µg/l	85	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aromatic TPH >C21-C35	µg/l	16	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Aromatic TPH >C35-C44	µg/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	NE	NE
Total Aromatic Hydrocarbons	µg/l	130	1200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NE	NE
Total Petroleum Hydrocarbons	µg/l	720	1300	< 10	< 10	< 10	< 10	< 10	7.5	NE
Phenols	µg/l	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	NE	0.5

NE Denotes Not Established

TABLE 9.2 GROUNDWATER SAMPLING RESULTS CONTD.

(See Table 4.5 Volatile Organic Compounds from Appendix 8.1)

VOCs	Units	MW-1	MW-2	MW-3	BH-9	BH-10	BH-11	BH-16	GTV	IGV
Dichlorodifluoromethane	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Chloromethane	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Vinyl Chloride	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Bromomethane	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NE	10
Chloroethane	µg/l	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NE	10
Trichlorofluoromethane	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,1-Dichloroethene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Trans 1,2-Dichloroethene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,1-Dichloroethane	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
cis 1,2-Dichloroethene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Bromochloromethane	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NE	10
Trichloromethane	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,1,1-Trichloroethane	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Tetrachloromethane	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,1-Dichloropropene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Benzene	µg/l	< 1.0	29	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.75	10
1,2-Dichloroethane	µg/l	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NE	10
Trichloroethene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,2-Dichloropropane	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Dibromomethane	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NE	10
Bromodichloromethane	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NE	10
cis-1,3-Dichloropropene	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NE	10
Toluene	µg/l	< 1.0	4.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	525	10
Trans-1,3-Dichloropropene	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NE	10
1,1,2-Trichloroethane	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NE	10
Tetrachloroethene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,3-Dichloropropane	µg/l	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NE	10
Dibromochloromethane	µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NE	10
1,2-Dibromoethane	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NE	10
Chlorobenzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,1,1,2-Tetrachloroethane	µg/l	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NE	10
Ethylbenzene	µg/l	< 1.0	4.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
m & p-Xylene	µg/l	< 1.0	220	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
o-Xylene	µg/l	< 1.0	37	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Styrene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Tribromomethane	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Isopropylbenzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Bromobenzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,2,3-Trichloropropane	µg/l	< 50	< 50	< 50	< 50	< 50	< 50	< 50	NE	10
N-Propylbenzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
2-Chlorotoluene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,3,5-Trimethylbenzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
4-Chlorotoluene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Tert-Butylbenzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,2,4-Trimethylbenzene	µg/l	< 1.0	61	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Sec-Butylbenzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,3-Dichlorobenzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
4-Isopropyltoluene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,4-Dichlorobenzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
N-Butylbenzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,2-Dichlorobenzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,2-Dibromo-3-Chloropropane	µg/l	< 50	< 50	< 50	< 50	< 50	< 50	< 50	NE	10
1,2,4-Trichlorobenzene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
Hexachlorobutadiene	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NE	10
1,2,3-Trichlorobenzene	µg/l	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NE	10
Methyl Tert-Butyl Ether	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	10	10

NE Denotes Not Established

TABLE 9.2 GROUNDWATER SAMPLING RESULTS CONTD.

None of the parameters exceeded the GTV in MW-1, 3, BH-9, BH-10 or BH-16. Ammonium was marginally above the IGV in MW-3 and BH_9. Ammonium and sulphate exceeded the GTV in BH-11. Ammonium, naphthalene, aliphatic and aromatic hydrocarbons exceeded the GTV in MW-2. Xylene, chloride, potassium and electrical conductivity exceeded the IGV in MW-2.

The elevated ammonium and sulphate in BH-11 and the elevated hydrocarbons, VOC and ammonium in MW-2 appear to be localised. The ammonium, chloride potassium and electrical conductivity in MW-2 may be associated with low oxygen-reducing conditions locally associated with the hydrocarbon contamination. There is no evidence of contamination in BH-16 and MW-3 which are down hydraulic gradient of MW-2.

9.6 Do Nothing 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 objectives.

Alternatively, the site would remain a vacant 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. Details on the assessment and management of wastewater effluent are presented in Chapter 7, Material Assets and Utilities.

9.6.1 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 Wills site. Monitoring well MW-1 is located immediately to the east of these lands on the Player Wills site and is considered to be representative of baseline water quality beneath the green area based on the groundwater flow direction.

9.7 Potential Significant Effects

9.7.1 Demolition Phase

During the demolition phase c.14,415m³ of Made Ground and surface paving will be excavated to clear the site and remove existing underground services (foul and storm sewer) pipe work, and electrical ducting. These works will be undertaken above the groundwater table which is located c. 1-2mbgl. There are no surface water courses either on, or adjacent to the site. Because the works will occur above the water table and because of the distance between the site and surface water courses the demolition works will have a neutral, insignificant, temporary effect at the local/site scale on surface water downstream of the site and the groundwater beneath the site.

There is the potential for accidental release of fuel oils or chemicals to the ground during the demolition or construction phases. 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.

9.7.2 Construction Phase

During the construction phase Made Ground and natural soils will be excavated to install new services (storm foul and water and electrical ducting) and for building foundations blocks in the west of the Player Wills factory site. The services and foundations in this part of the site will not extend below the water table.

In the east of the site deeper excavations will take place to c.8m bgl to form basement car parking, plant rooms and attenuation storage basins. This will result in the excavation and removal of c. 3,891m³ of Made Ground and granular fill and c.22,848of subsoils and 16,435³ of weathered mudstone/limestone bedrock.

The Made ground and natural subsoils will be removed to licensed/permitted waste management facilities in accordance with the recommendations in the O'Callaghan Moran & Associates waste classification assessment for soils being removed from the site presented in Appendix 8.1. The excavation of the soils will extend into the groundwater table. Because of this the removal of the soils will have a temporary insignificant, effect at the local/site scale on groundwater beneath the site.

The excavations will encounter the water table and dewatering will be required. This will result in a local lowering (c.5-6m) of the water table in the immediate vicinity of the basement excavation footprint.

A twenty four hour pumping test was undertaken in the proposed basement footprint which indicates that the water table is drawn down to formation level in the bedrock at pumping rates of 0.3m³/hour. The Pump Test Report is in Appendix 9.1. Monitoring of the drawdown of the water table in the bedrock wells around the pumped well showed that pumping will not result in any significant water table drawdown beyond the site boundary. Rising head permeability tests undertaken as part of the testing shows that the permeability of the bedrock is quite low (5.9x10⁻⁶m/s – 9.4x10⁻⁸m/s) indicating that water yields from this bedrock aquifer type should

be low. The pumping rate to establish the drawdown to formation level during the test confirmed this to be the case.

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/ shaley limestone). The dewatering will therefore result in a slight, negative, temporary effect on the water table around the excavation footprints for the basements and for the attenuation storage basins under each of the 4 no. building blocks.

The monitoring programme undertaken by OCM as part of the environmental site assessment established that the groundwater beneath the site was uncontaminated over most of the site. At monitoring well MW-2 which is located just to the east of the PW2 basement excavation some hydrocarbon contamination was detected in the groundwater. While the water from the excavation dewatering programme is expected to be clean it is possible that hydrocarbon contamination detected in MW-2 could be pulled into the excavation and this water may require treatment to remove or reduce below the required limits the hydrocarbon in the water being removed prior to discharge from the site. The water will also 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 license. The licence will specify the emission limit values (ELVs) including limit values for hydrocarbons 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.

9.7.3 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, 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.

9.7.4 Operational Phase

The PW2 basement footprint is c. 6,067m² and the PW1 basement footprint is 220m². When constructed, shallow groundwater flow i.e. groundwater in the subsoils and weathered top of bedrock, will be diverted around the basement and attenuation basins 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.

9.7.5 Cumulative Effect

A number of developments 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 307221 Demolition of all structures, including 4 no. buildings (9,757 sq.m GFA) and 1 no. ESB substation to make way for development of the site; the construction of 416 no. residential units in 5 no. blocks, with a cumulative gross floor area of 31,105 sq.m
2. SHD 001-3/19 The redevelopment of the Rialto Cinema on South Circular Road which is located c300m west of the site with a development footprint of c3000m². Basement car park and plant rooms
3. SHD 0002/19 Redevelopment of former Dulux Factory site, Davitt Road, 8266m² development footprint with 119 basement level car parking spaces
4. 3756/15, Redevelopment Parnell Road 40 space basement car park,
5. 3853/1743-50 Dolphin Barn Street, redevelopment of former factory to include 67 basement car parking spaces on development footprint of 3253m².
6. 3086/17, 75-78 Cork Street, redevelopment of factory, development footprint of 1815m² with basement level car parking
7. 3974/17, 44 Parnell Road, Development of apartment building on 1000m² footprint with basement car park 9 spaces and waste storage area.
8. 3513/19, Parnell Road, Former ESB Depot, Development of 55 unit residential development over 57 no. car space basement.
9. 20207/17, Como Lake Ltd 69D Donore Av, Development with 26 car parking spaces at basement Level.

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 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 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 Baily Gibson lands includes for the redevelopment of the local area including the Player Wills site. These include proposed

developments at the Bailey Gibson site to the west of the site, and redevelopment of lands owned by Dublin City Council to the north-east including the development of GAA playing pitches.

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.

9.7.6 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

9.8 Mitigation

9.8.1 Incorporated Design Mitigation

The proposed design involves the removal of soils and bedrock which will require 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.

9.8.2 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

9.8.3 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.

9.9 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.

9.9.1 Demolition Phase

The impacts of the demolition phase on hydrology and groundwater post mitigation will be neutral, imperceptible, temporary and at the site scale.

9.9.2 Construction Phase

The impacts of the construction phase on hydrology and groundwater post mitigation will be slight, insignificant, temporary and at the site scale.

9.9.3 Operational Phase

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.

9.9.4 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 001-3/19 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,
- 4 3853/1743-50 Dolphin Barn Street, redevelopment of former factory,
- 5 3086/17, 75-78 Cork Street, redevelopment of factory,
- 6 3974/17, 44 Parnell Road, Development of apartment,

7 3513/19, Parnell Road, Former ESB Depot,

8 20207/17, Como Lake Ltd 69D Donore Av,

The Strategic Development and Regeneration Area 12 (SDRA 12) development plan includes for the redevelopment of lands in the immediate environs of the Player wills including the Bailey Gibson site to the west and lands owned by Dublin City Council to the north of the site. 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.

9.9.5 Summary

The Table below summarises the effects of the proposed development during the demolition and construction post 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 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

9.10 Monitoring

The Works Contractor will appoint an appropriately qualified and experienced person to monitor the demolition and construction works to ensure that the measures outlined in the CEMP are being implemented. 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.

9.11 Interactions

Interactions are dealt with in Chapter 15 of this EIAR.

Briefly, the demolition and construction phase works have the potential to impact on 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.

9.12 Summary of Mitigation & Monitoring

Table 9.8 summarises the Demolition & Construction Phase mitigation and monitoring measures.

Likely Significant Effect	Mitigation	Monitoring
<p>Removal of paving and fill and existing underground services</p>	<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>	<p>Monitoring of CEMP measures by contractor appointed personnel</p>

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 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 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 phase 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.

9.13 Conclusions

Detailed site investigations including the installation of groundwater monitoring wells, field and laboratory analysis of groundwater quality and pumping tests were completed to establish baseline hydrogeological conditions of the site. The investigations established that the groundwater is generally of good quality with some localised contamination in MW-2 in the central portion of the site.

The proposed development will involve the removal of buildings from the site, the removal soils to install for water, foul sewers electrical services and the removal of soils and 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 which includes for a monitoring programme to ensure the development does not impact on environmental receptors.

The implementation of the mitigation measures will result in insignificant impacts on the environment.

9.14 References and Sources

- Environmental Risk Assessment and Waste Characterisation Report, 2019, O'Callaghan Moran & Associates
- Construction Environmental Management Plan, 2020, Garlands Consulting Engineers
- 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 – Draft (EPA, 2017);
- 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
- European Communities Environmental Objectives (Groundwater) Regulations (S.I. 9 of 2010)
- EU Floods Directive 2007/60/EC European Communities (Assessment) and Management of Flood Risks) Regulations, 2010 (S.I. No. 122 of 2010)

CHAPTER 10

BIODIVERSITY (FLORA & FAUNA)

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



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10 Biodiversity (Flora and Fauna)

10.1 Introduction

This Chapter of the EIAR comprises an assessment of the likely effects on Biodiversity (Flora & Fauna) of the proposed construction of a strategic housing development at the 'Player Wills' site, South Circular Road, Dublin 8.

It includes a description of the baseline site ecological conditions based on several surveys, assesses the potential effects of the proposed development during the construction and operational phases on flora and fauna (habitats and species that are present on the site) and includes appropriate measures to mitigate such impacts.

The proposed development is defined 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 Senior Ecologist Matthew Hague BSc MSc Adv. Dip. Plan. & Env. Law CEnv MCIEEM. Matthew is a highly experienced and qualified ecologist, with a master's degree in Ecosystem Conservation and Landscape Management. He has over 18 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 and East Road in Dublin City Centre; Portmarnock, Glencairn, Clay Farm, Brennanstown 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

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. PL0003**.

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former 'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, 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. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use(residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
 - b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;

- c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;
 - d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
 - e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
- iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
- a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
 - b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m.
- iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;
- v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.
- vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.

- vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
- viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
- ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.
- x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
- xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
- xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1(the former factory building);
- xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
- xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
- xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
- xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
- xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment and lighting.

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.

The PW2 basement will extend from ground level (c. 20m Ordnance Datum (OD)) to a depth typically of 8m below ground level (bgl) (12.5mOD). The PW1 basement extends from ground level to a depth typically of 3.5m bgl. This will result in the excavation of 57,846m³ of materials from the site of which 16,328m³ will comprise bedrock, 22,161m³ will comprise in-situ, natural soils and the remainder (19,458m³) overlying made ground granular fill, top soil, bitumen and concrete paving.

10.4 Methodology

A comprehensive desk-based assessment has been undertaken, and numerous site visits have been carried out, between May 2019 and September 2020 (see Section 10.4.2).

10.4.1 Desk study

This Ecological Impact Assessment (EclA) and 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) (and revised and draft guidelines 2017);
- EPA Advice Notes of *Current Practice (in the Preparation of Environmental Impact Statements)* (EPA, 2003) (and revised advice notes 2015);
- 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 (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.

The report has regard to the following **legislative instruments**:

- The Planning and Development Act, 2000 – 2020 (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;
- 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 Report 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);

- Masterplan for Player Wills, Dublin City Council and Bailey Gibson Lands (SDRA 12) (HJL, January 2020), including the accompanying AA Screening 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, ecological surveys were undertaken at the site, including habitat, invasive species, mammal and day-time bat surveys, by the author on 5th and 21st May 2019, and on 11th February 2020, 4th March and 16th July 2020. In addition, dusk and dawn bat surveys were carried out at the site on 19th/20th August 2019 and on 3rd/4th September 2020 by specialist bat ecologist Mr Brian Keeley. Birds present on the site were recorded during each visit and an assessment of habitat suitability for species with links to European sites was made, to appraise the potential for ex-situ effects on European sites. A final site survey was carried out on 29th September 2020.

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

¹ Smith G. F., O'Donoghue P., O'Hora K. and Delaney E. 2010

² Fossitt J. 2000

³ Stace, 2010

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. A daytime assessment (internal and external) was 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 the 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.

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.

Consultation meetings were held between the Design Team and Dublin City Council on May 15th 2019, July 1st 2019, September 27th 2019 and 17th January 2020. Biodiversity was not raised as a concern at any of these meetings, other than in the context of landscape, green roof and SuDS design requirements. Comments were received from DCC Parks and Landscape Services as part of its overall report on the proposed development, dated June 11th 2020. DCC noted that bat surveys are required to ensure that no bats are roosting on the site and that the development will not cut bats off from their foraging habitats (fragmentation). DCC also noted that due to the site's proximity to the Grand Canal, the site may have nesting areas for swifts, house martins and swallows. Surveys for these species were undertaken.

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*^{5,6}. This methodology is in turn consistent with the *Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland – Terrestrial, Freshwater, Coastal and Marine*⁷. 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.

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

⁴ Refer to the Civil Engineering Infrastructure Report prepared by Barrett Mahony Consulting Engineers

⁵ NRA, 2009. Guidelines for Assessment of Ecological Impacts of National Road Schemes. National Roads Authority

⁶ 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

⁷ The CIEEM Guidelines', CIEEM, September 2018

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 Player Wills (see **Figures 10.1** and **10.2**) is bounded to the south by South Circular Road and to the east by existing residential development and St. Catherine's School. St Theresa's Church lies immediately to the north. To the west is a large area of open, undeveloped land, dominated by rank grassland and bramble/buddleia dominated encroaching scrub (the 'Boys Brigade' land). To the west of this undeveloped land, which is in the ownership of Dublin City Council, is an area known as the 'Bailey Gibson' site. This is the subject of a separate SHD application (ABP Reg. Ref. 307221), which was recently (14th September 2020) granted planning permission.

The Player Wills site is almost entirely occupied by buildings and artificial surfaces. With the exception of small patches of ruderal plants, some isolated pockets of scrub and small trees and an area of bramble scrub and trees along the northern boundary (adjoining St. Theresa's Church), there are no vegetated habitats of any description on the site.

Although there are numerous buildings on the site, including the old Players factory itself, the bat surveys undertaken recorded no evidence of any use of the site by roosting bats. Similarly, there is no evidence of nesting birds with the exception of feral pigeons on the site. No evidence of nesting swifts, swallows or house martins was recorded anywhere within the site.

There are no watercourses present on or in the immediate vicinity of the site⁸. The nearest such feature, the Grand Canal, is approximately 100m to the south at its closest point. The River Poddle is approximately 700m 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. The proposed development site is located within the River Liffey and Dublin Bay catchment (in the Dodder sub-catchment and the Poddle sub-basin).

⁸ <https://gis.epa.ie/EPAMaps/>

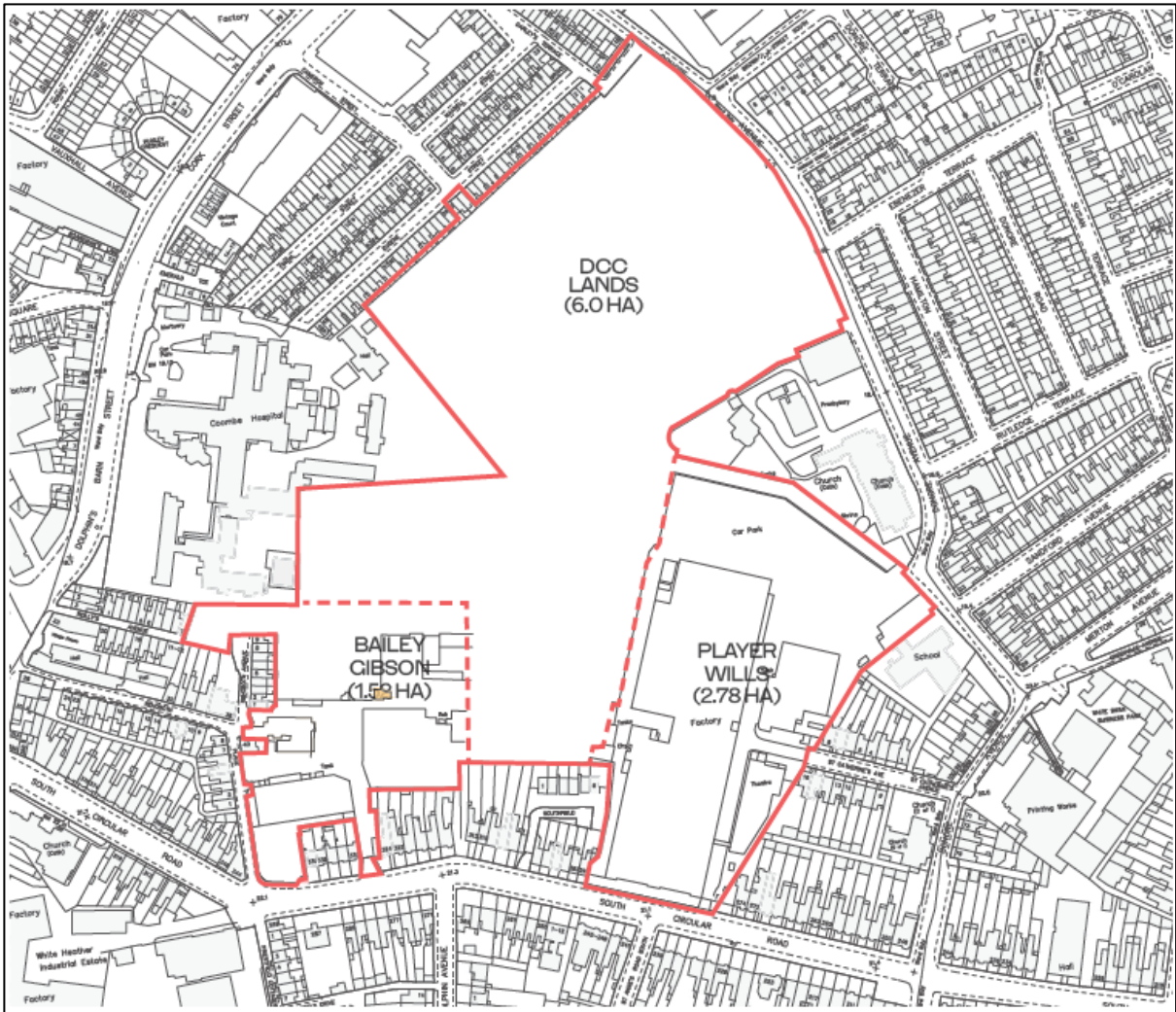


FIGURE 10-1 LOCATION OF PROPOSED PLAYER WILLS DEVELOPMENT SITE WITHIN THE SDRA 12 LANDS



FIGURE 10-2 LOCATION OF PROPOSED PLAYER WILLS DEVELOPMENT SITE (RED LINE IS INDICATIVE, REFER TO ACCOMPANYING DOCUMENTATION FOR FULL DETAILS)

10.5.2 Designated Conservation Areas

For the risk of an adverse effect to occur there must be a 'source', such as a construction site; a 'receptor', such as a site designated 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. 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 Player Wills site. The AA Screening report concludes that, on the basis of objective information it can be excluded that the construction and operational phases of the proposed development, individually or in-combination with other plans or projects, will have significant effects on any European site.

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.4.7km to the east; North Dublin Bay SAC (site code 000206), c.7.5m to the north east; South Dublin Bay and River Tolka Estuary SPA (site code 004024), c.4.7km to the east; and North Bull Island SPA (site code 004006), c.7.5km 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**.

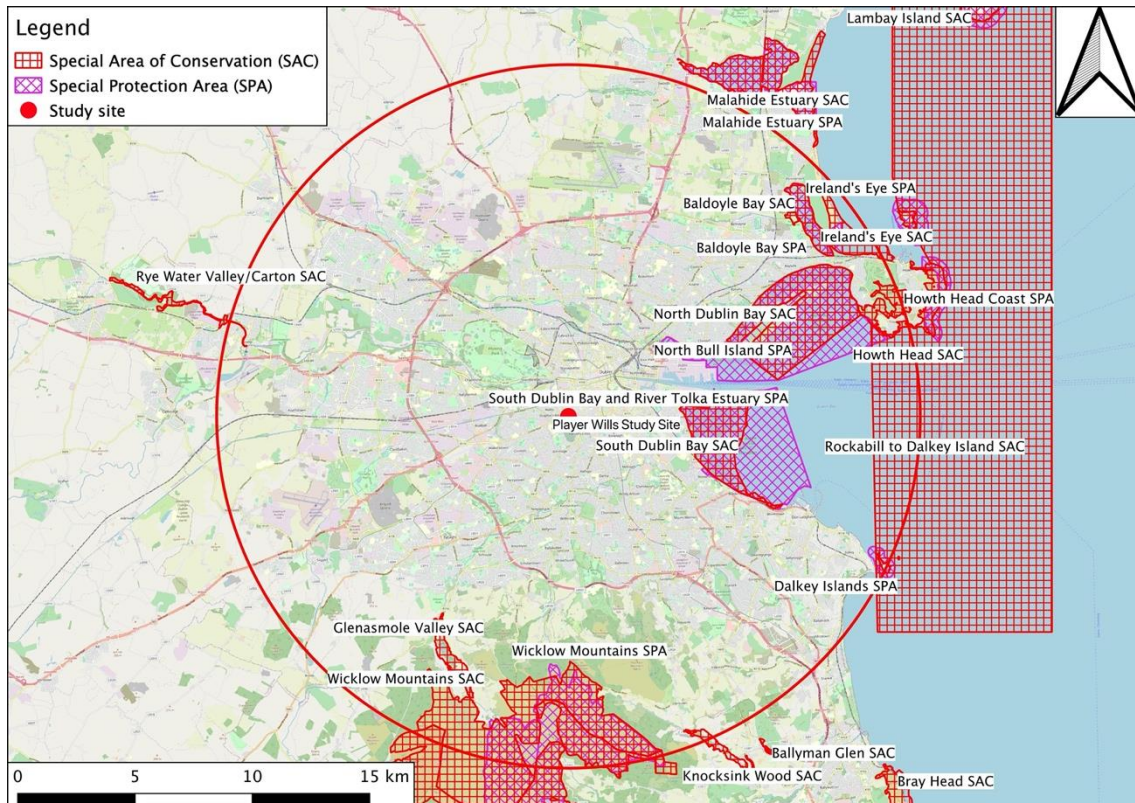


FIGURE 10-3 STUDY SITE SHOWING EUROPEAN SITES (CIRCLE DENOTES A 15KM RADIUS FROM THE CENTRE OF THE STUDY CITY) (SOURCE: OPENSTREETMAP)

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.100m from the Player Wills site. The Royal Canal pNHA (site code 002103) is c.3.8km to the north.

These sites are shown in **Figure 10.4**.

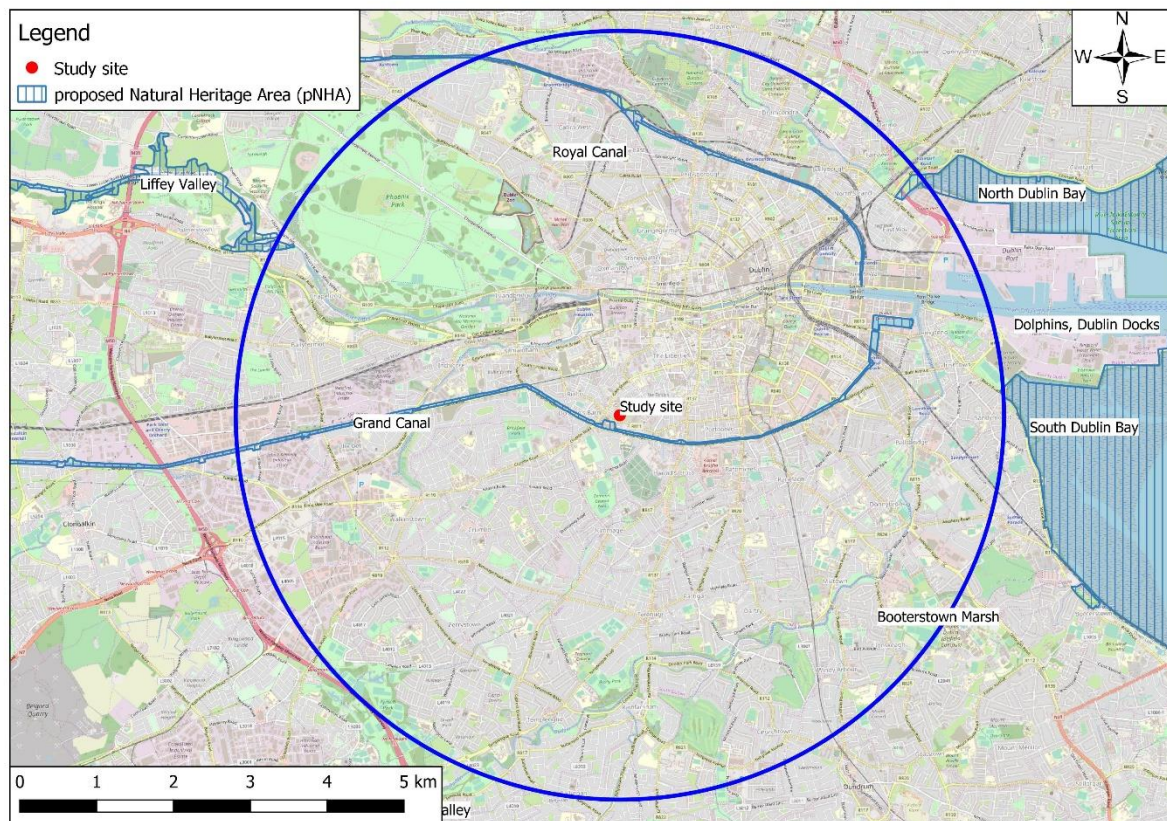


FIGURE 10-4 STUDY SITE SHOWING DESIGNATED CONSERVATION AREAS (NON-EUROPEAN SITES) (CIRCLE DENOTES A 5KM RADIUS FROM THE CENTRE OF THE STUDY SITE) (SOURCE: *OPENSTREETMAP*)

10.5.3 Rare and Protected Species

The NPWS and NBDC databases were consulted with regard to rare species⁹ 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 (*Heraclium 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 the presence of Japanese knotweed, which is present at various locations along the Grand Canal within 500m of the site. It is not however known to be present within the proposed development site, and none was recorded.

⁹ Curtis & McGough 1988

10.5.4 Habitats

The habitats present on the proposed development site are shown in **Figure 10.5**

Inside the northern boundary fence (along the St. Theresa's Church boundary) is a series of relatively small London plane (*Platanus x hispanica*) trees, a cluster of semi-mature sycamore and a taller hybrid poplar (*Populus x canadensis*). Other than these trees and with the exception of minor patches of buddleia (*Buddleja davidii*) and bramble (*Rubus fruticosus* agg.) scrub (Fossitt code **WS1**) and some small, self-sown saplings of ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*) and elder (*Sambucus nigra*) the site is almost entirely dominated by buildings and hard surfaces (**BL3**).

A sole early mature Lawson cypress (*Chamaecyparis lawsoniana*) is present on the eastern boundary. Occasional ruderal plants are present, 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.

The area within the DCC-owned lands to the west of the proposed development site, which is to be used as a project site compound, comprises abandoned and unmanaged rank grassland (**GS1/GA2**), with encroaching scrub (**WS1**, dominated by buddleia, bramble and sycamore seedlings).

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*, via the *European Communities (Birds and Natural Habitats) Regulations, 2011-2015*.

As confirmed in the accompanying bat survey report (refer to **Appendix 10.I, Volume III** of the EIAR), bat activity was low to moderate throughout the survey periods in both 2019 and 2020. Most bat activity was recorded outside the proposed development site in a green area (the Dublin City Council-owned lands). Small numbers of three species (common pipistrelle, soprano pipistrelle and Leisler's bat) in 2019 and two species (common pipistrelle and Leisler's bat) in 2020 were recorded.

Lighting from existing buildings surrounding the site was high. During the surveys undertaken in 2019 and 2020 no bats were seen to emerge from any building and no bat returned to any building on the site.

Examination of the rooftop elements of the main factory building and of all buildings internally examined yielded no evidence whatsoever of roosting bats. There was no staining, no bat droppings or bat carcasses. There is no evidence of bat usage of the buildings within the site. There are suitable features in particular on the roof of the building but there is no evidence of bat usage. There are numerous houses surrounding the buildings including a house gable close to the factory (to the west) with potential. The lack of any significant vegetation on the site greatly reduces its suitability for commuting or foraging bats.

Similarly no evidence of badgers or other species protected under the *Wildlife Act* including otter (itself further protected under the Habitats Regulations) 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.

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 small numbers of swifts were seen flying high near the eastern boundary of the site in July 2020, 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.

Although the factory building contains features potentially suitable for use by roosting bats, no evidence of roosting bats has been found on the site, and this was confirmed by the bat detector surveys undertaken in 2019 and 2020. There are no habitats of any importance for commuting/foraging bat species either on the site or in the immediate vicinity. 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, very small numbers of nesting birds on the northern boundary (the boundary with St. Theresa's Church). The bird fauna recorded on the site was however 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 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*¹⁰.

¹⁰ (NRA, 2009 (Rev. 2) <https://www.tii.ie/technical-services/environment/planning/Guidelines-for-Assessment-of-Ecological-Impacts-of-National-Road-Schemes.pdf>

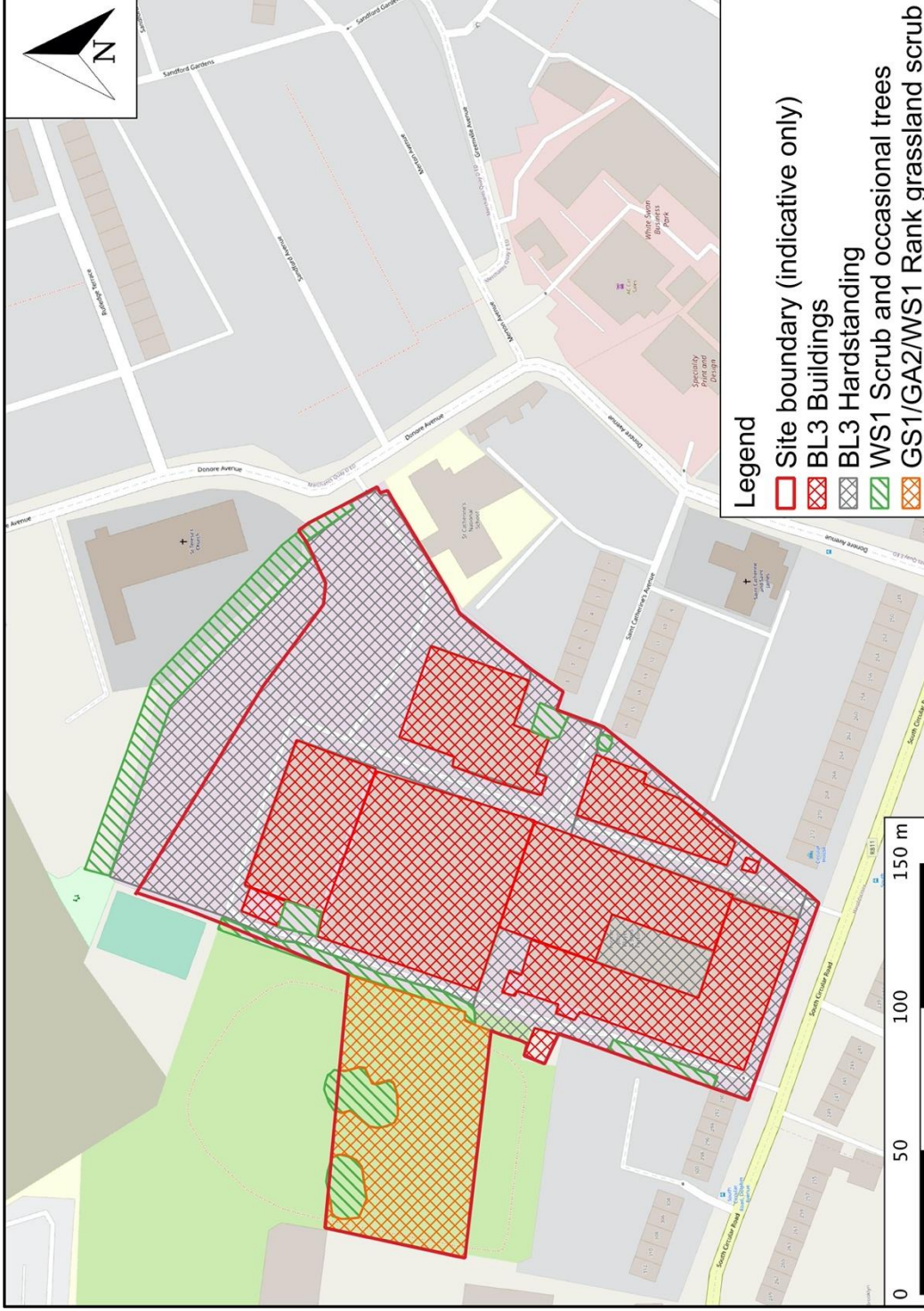


FIGURE 10-5 HABITAT MAP (SOURCE: *OPENSTREETMAP*.) (SITE BOUNDARY RED LINE IS INDICATIVE ONLY, FOR FULL DETAILS REFER TO THE ACCOMPANYING DOCUMENTATION.)



Plate 10.1: Looking north along the western side of the site.

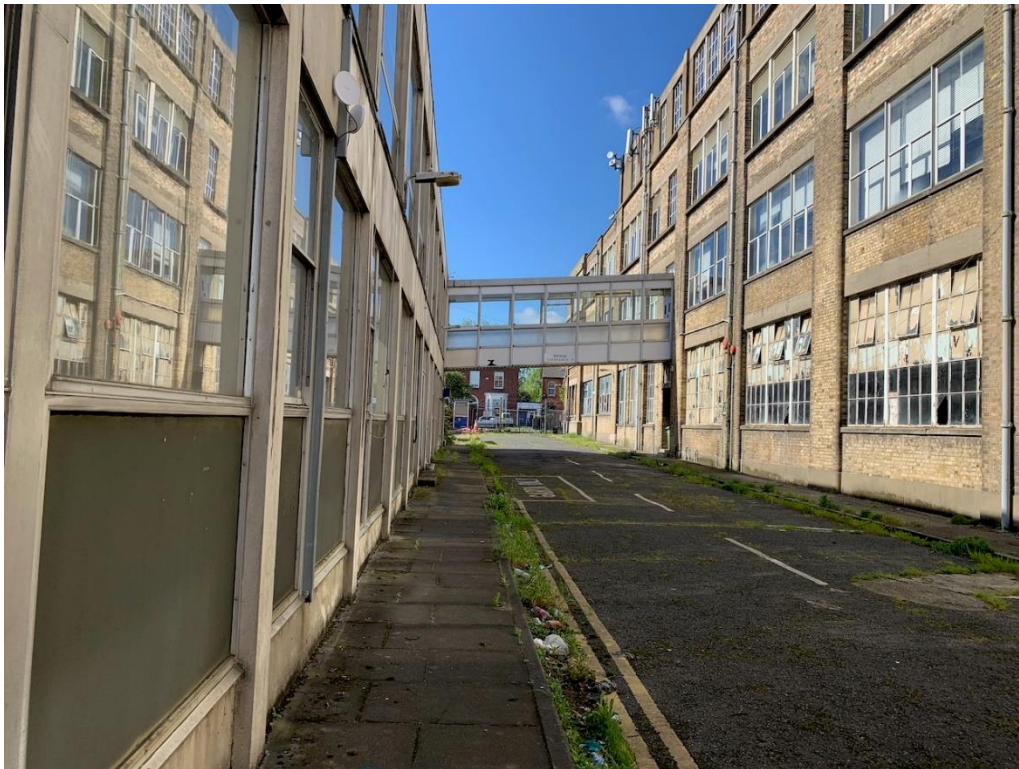


Plate 10.2: Looking south between the old cigarette factory and other buildings.



Plate 10.3: The northern part of the site.



Plate 10.4: Looking south along the western boundary.



Plate 10.5: Internal view of one of the buildings to be demolished.

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

As noted in Section 10.4.6 the Player Wills site is of no ecological importance, and with the exception of very small patches of ruderal scrub and the small number of trees on the northern boundary, the site is virtually entirely hardstanding and buildings. 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, although if left unmanaged the adjacent DCC lands, which include the proposed site compound, 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 it is reasonable to expect that any potential impacts would be similar to those predicted to arise as a result of the proposed development.

10.8 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 Player Wills, 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 and their replacement with the mixed-use development and landscaping.

These areas are of no ecological value and there will be *no significant impacts* as a result of this loss.

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 impacts* 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 impact on biodiversity* as there will be a loss of some established vegetation. However, the landscaping proposed (refer to Chapter 5) 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.

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, Demolition & Environmental Management Plan for the proposed development¹¹. 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 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.

¹¹ Garland Consulting Engineers

- 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 connect to the existing 300mm combined sewer in Donore Avenue at the north-east corner of the Player Wills site.

A Pre-connection Enquiry was submitted to Irish Water on 11th April 2019 with details of the development proposals and foul flow calculations. A response to the Pre-Connection Enquiry was received on 29th October 2019 and confirms feasibility of a connection to the Irish Water network at the proposed location without a need for network upgrades. A copy of the Pre-Connection Enquiry and Irish Waters letter of feasibility is included in Appendix II(c) of the Civil Engineering Infrastructure Report for Planning prepared by BMCE. Irish Water have also carried out the mandatory SHD design vetting on the proposed foul drainage design and issued a Statement of Design Acceptance for same. Refer to Appendix II(d) of the Civil Engineering Infrastructure Report for Planning, which contains the letter from Irish Water, dated 8th April 2020.

All flow rates and volumes are based on the Irish Water Code of Practice for Wastewater.

Foul wastewater discharge from the proposed development (Peak Discharge estimated to be approximately 10.5l/s, Daily Discharge approximately 24,6080l) will be treated at the Irish Water Wastewater Treatment Plant (WwTP) at Ringsend prior to discharge to Dublin Bay. 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 are expected to be completed within five years. This will increase the plant capacity from 1.65m PE (population equivalent) to 2.4m PE. Regardless of the status of the WwTP upgrade works, at less than 0.1% of the capacity of Ringsend WwTP, the peak discharge from the proposed development is not significant in the context of the existing capacity available at Ringsend. Though the WwTP is currently over-capacity (the plant is currently accommodating 1.9m PE), recent water quality assessment undertaken in Dublin Bay (published by the EPA (see Section 3.3.1) confirms that Dublin Bay is classified as “unpolluted”, there is no evidence that operations from the over capacity of the WwTP is affecting the conservation objectives of the European sites in Dublin Bay.

- 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

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 Player Wills, Dublin City Council and Bailey Gibson 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 Player Wills, which is in full compliance with all of the relevant Plan Objectives.

The Strategic Development and Regeneration Area 12 (SDRA 12) development plan includes for the redevelopment of lands in the immediate environs of the Player Wills site. These include proposed developments at the Bailey Gibson Site to the west of the site and lands owned by Dublin City Council to the west of the site. A Masterplan has been prepared for the SDRA 12 lands. The Masterplan has been subject to Screening for Appropriate Assessment. The AA Screening process has concluded the Masterplan either on its own or in-combination with other developments will have no impact on the European sites.

An application for Strategic Housing Development has been made for proposed development at the Bailey Gibson site (ABP Reg. Ref.: 307221). This development was subject to Screening for Appropriate Assessment and the AA Screening report concluded that there would be no likelihood of significant impact on any European sites as a result of the proposed development. An Bord Pleanála concluded that stage 2 AA was not required and planning permission for this development was granted by on 15th September 2020.

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 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 October 2020):

- 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;
- ABP 307221 ‘Bailey Gibson’, South Circular Road: mixed use residential development.

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 design, 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.

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 account of the All-Ireland Pollinator Plan 2015-2020.

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.

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 1st March to 31st August). 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 2011-2015. 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 10.4.5), 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, in order to enhance the overall biodiversity value of the proposed development site, a total of two bat boxes (such as Schwegler 2F or Schwegler 2FE or equivalent)) will be installed on the walls of buildings. In addition, two triple cavity swift boxes (such as Schwegler 17A or equivalent) will also be installed. 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 years¹².

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 10.7.2 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

¹² <http://www.swiftconservation.ie/>

Drainage Study (GSDSDS). The GSDSDS addresses the issue of sustainability by requiring designs to comply with a set of drainage criteria which aim to minimize the impact of 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.

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. 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 buildings and hard standing – all 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.

10.15 References and Sources

Bat Conservation Ireland 2010. *Bats and Lighting- Guidance Notes for Planners, engineers, architects and developers*. Bat Conservation Ireland. Accessed online at: http://www.batconservationireland.org/pubs/reports/BCIrelandGuidelines_Lighting.pdf

CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester, United Kingdom

Council of the European Communities (1992). Council Directive of 21 May 1992 on The Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC). O. J. L 206/35, 22 July 1992

Council Directive 79/409/EEC on the Conservation of Wild Birds. (The EU Birds Directive)

Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora. (The EU Habitats Directive)

Council Directive 2000/60/EC of the European Parliament and of the Council establishing a Framework for the Community Action in the Field of Water Policy (The Water Framework Directive)

Department of Culture, Heritage and the Gaeltacht. 2017. *Ireland's Third National Biodiversity Plan*

- DG Environment. 2003. *Interpretation Manual of European Union Habitats*. European Commission
- Doogue D., Nash D., Parnell J., Reynolds S., & Wyse Jackson P. 1998. *Flora of County Dublin*. The Dublin Naturalists' Field Club
- Dublin City Development Plan
- EPA, 2002. *Guidelines on the information to be contained in Environmental Impact Statements*. Environmental Protection Agency
- EPA, 2003. *Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)*
- EPA, 2017. *Revised Guidelines on the Information to be contained in Environmental Impact Statements (Draft)*
- EPA, 2015. *Advice Notes of Current Practice in the Preparation of Environmental Impact Statements (Draft)*
- Fossitt J. 2000. *A Guide to Habitats in Ireland*. Heritage Council
- Hayden T. & Harrington R. 2001. *Exploring Irish Mammals*. Town House Dublin
- Kelleher, C. and Marnell, F. 2006. *Bat Mitigation Guidelines for Ireland*. *Irish Wildlife Manuals, no. 25*. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht
- NPWS, 2013. *The Status of EU Protected Habitats and Species in Ireland*. Department of Environment, Heritage and Local Government
- NRA. 2009. *Guidelines for Assessment of Ecological Impacts of National Road Schemes*. National Roads Authority
- Smith G. F., O'Donoghue P., O'Hora K. and Delaney E. 2010. *Best Practice Guidance for Habitat Survey and Mapping*. Heritage Council
- Stace, 2010 *New Flora of the British Isles 3rd Edition*. Cambridge University Press
- Webb D.A., Parnell J. & Doogue D. 1996. *An Irish Flora*. Dundalgan Press

CHAPTER 11

NOISE AND VIBRATION

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



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11 Noise and 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:

- Bailey Gibson Strategic Housing Development, Dublin 8
- St Marnock's Bay Phase 1C, Portmarnock, Co Dublin;
- Kettle's Lane housing development, Kinsealy, Co Dublin;
- Carr's Lane housing development, Malahide Road, Co Dublin; and
- Havelock House mixed-use development, Ormeau Road, Belfast.

11.2 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. PL0003**.

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former

'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, 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. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use (residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
 - b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
 - c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments; and, 4 no. 3-bed apartments;
 - d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.

- e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
- iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
- a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
 - b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m.
- iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;
- v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.
- vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
- vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
- viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.

- ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.
- x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
- xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
- xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1(the former factory building);
- xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
- xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
- xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
- xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
- xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment 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 the most appropriate 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, (Draft August 2017);
- 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.

BS 5228-1:2009+A1:2014 sets out guidance on permissible noise levels relative to the existing noise environment. **Table 11-1** 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 11.8.1.2**.

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, $L_{Aeq, T}$* ” 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 . 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 a 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**.

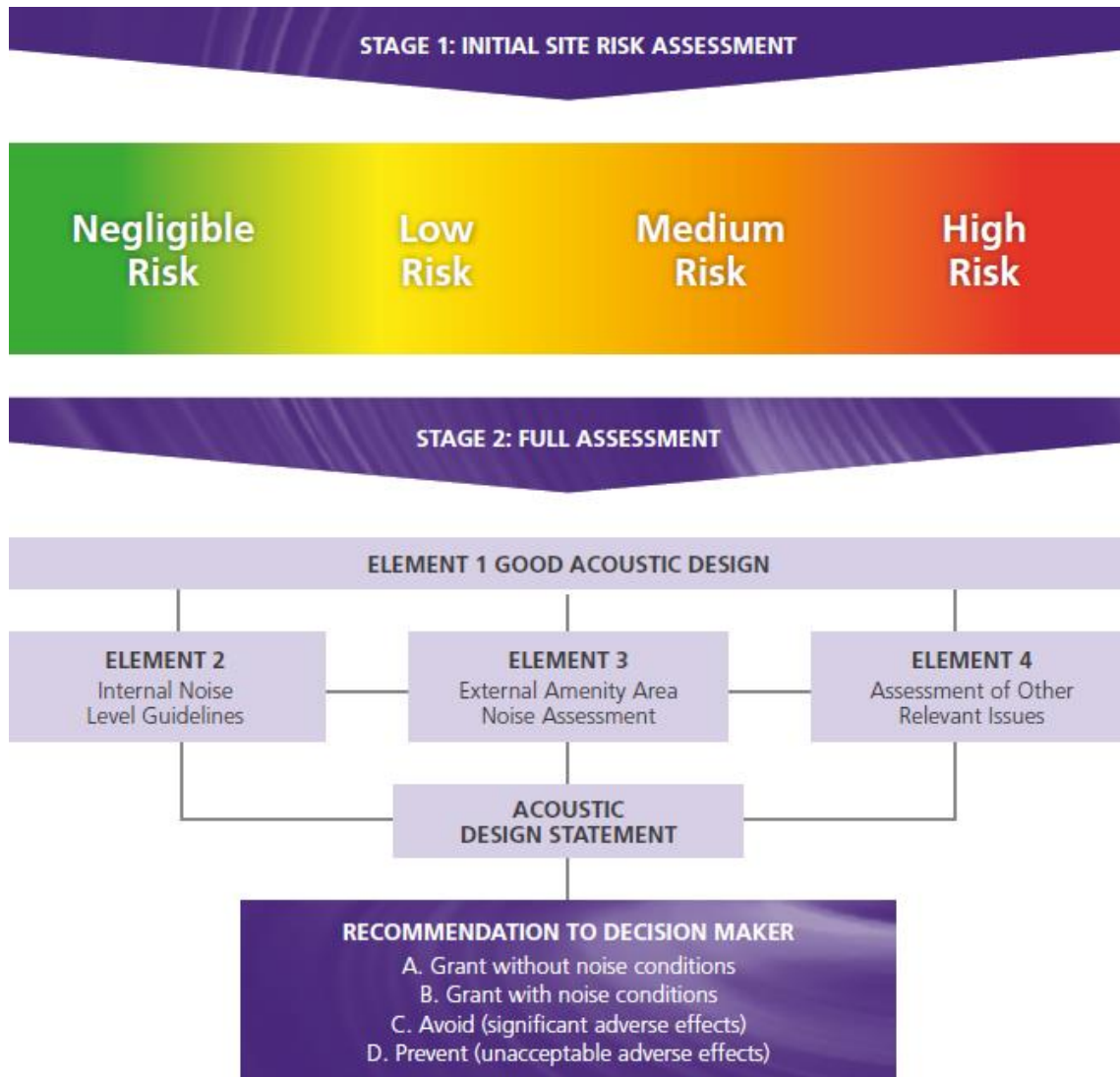


FIGURE 11-1 PROPG APPROACH

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.”

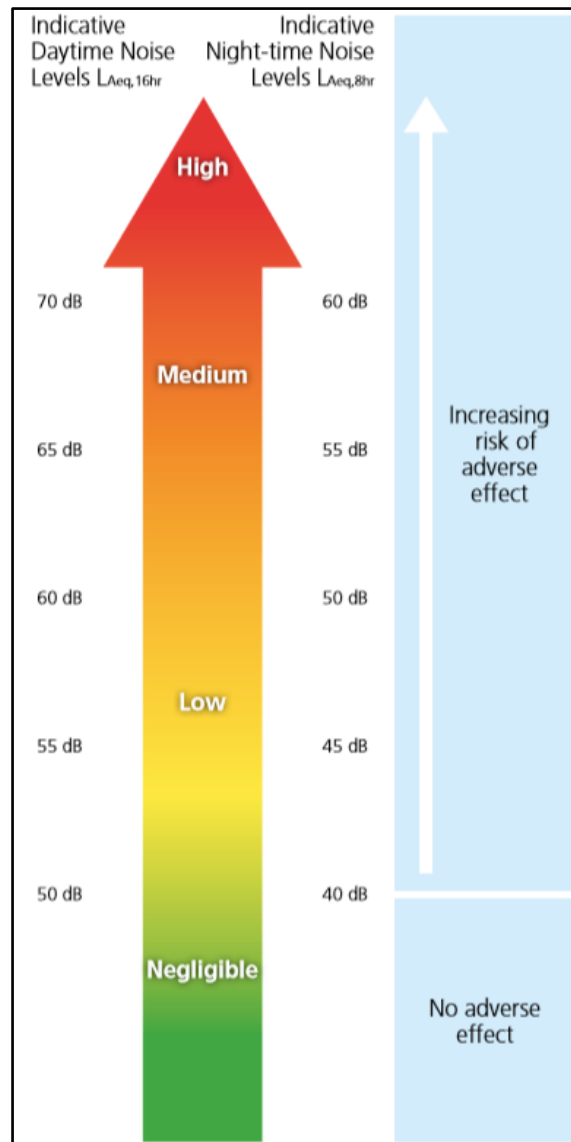


FIGURE 11-2 INITIAL NOISE RISK ASSESSMENTS

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 and north east by existing buildings on St. Catherine's Avenue and Donore Avenue. To the west is the former Bailey Gibson site that recently received permission from An Bord Pleanála for a strategic housing development. Dublin City Council lands (St. Teresa's Gardens) lie to the north of the site.

The surrounding environment in the vicinity of the development site is mixed in nature with residential, a primary school and churches making up the majority of the surrounding building uses. The buildings of the Coombe Women's and Infant's University Hospital are at a distance of approximately 101 m to the northwest of the proposed development site.

The site currently experiences noise at moderate to high noise levels along South Circular Road, Dolphin's Barn Street and Donore Avenue. 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.

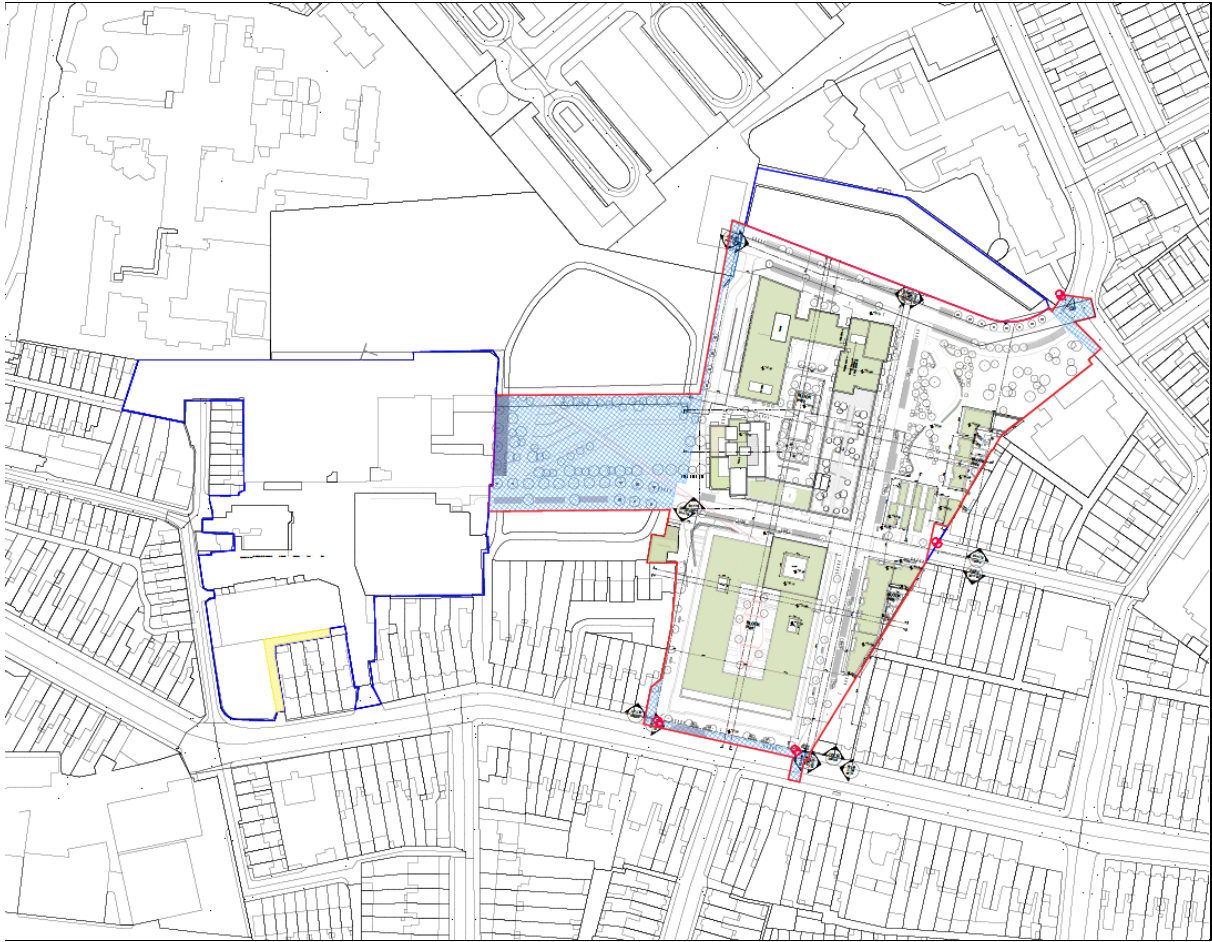


FIGURE 11-3 SITE LAYOUT

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 the Figure 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.

- UN1 – Unattended measurement location representing the existing noise climate at façades along South Circular Road. Noise levels measured at this location are also used to evaluate the potential inward impact on the development from traffic noise on South Circular Road;
- UN2 – Unattended measurement location representing the existing noise climate along Donore Avenue. Noise levels measured at this location are also used to evaluate the potential inward impact on the development from traffic noise on Donore Avenue and to capture the existing noise environment at the nearby church and school; and
- AN3 – Attended location to capture a snapshot of the daytime noise environment at St Catherine’s Avenue, to evaluate potential outward impact from the development site on nearby houses.

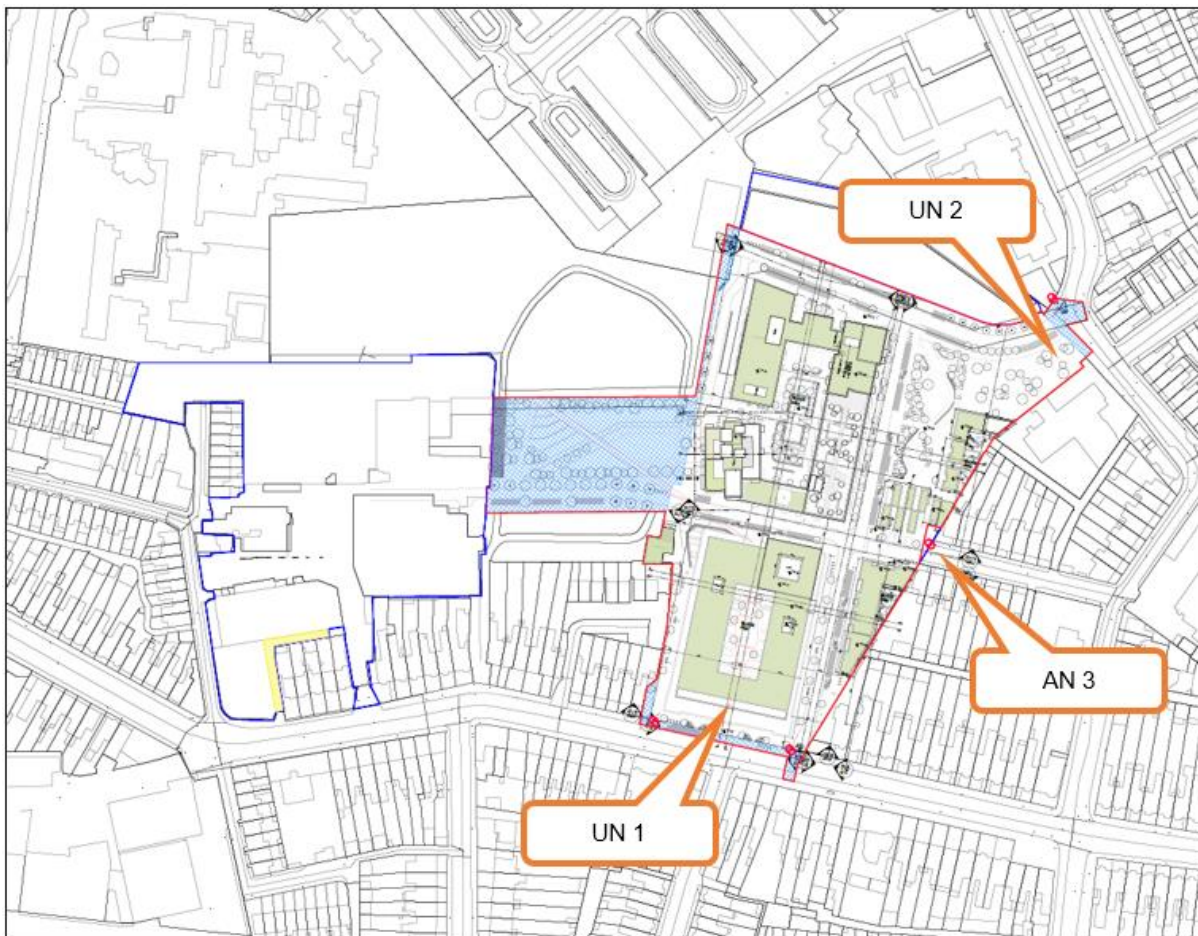


FIGURE 11-4 NOISE MONITORING LOCATIONS

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. Noise levels were logged over consecutive 15-minute periods.

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.

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 Level Meter	Rion NL-52	586944	August 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 location AN3. The results are presented in **Table 11-7**.

Time	Subjective Impression of Noise Environment	Measured Noise Levels (dB re. 2x10 ⁻⁵ Pa)			
		L _{Aeq}	L _{Amax}	L _{A10}	L _{A90}
12:20	<ul style="list-style-type: none"> Distant road traffic on R811 Birdsong Construction noise 	44	68	47	37
14:09	<ul style="list-style-type: none"> Distant road traffic on R811 Birdsong Intermittent construction noise 	46	67	52	41
15:25	<ul style="list-style-type: none"> Distant road traffic on R811 Birdsong Distant construction noise 	46	62	48	41

TABLE 11-7 SUMMARY OF MEASUREMENT RESULTS FOR LOCATION AN3

Noise levels were in the range 44 to 46 dB L_{Aeq,15min} and 37 to 41 dB L_{A90,15min}. The main contributors to noise build-up were road traffic in the distance 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 11-8** and for night-time periods in **Table 11-9**.

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 11-8 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 11-9 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.

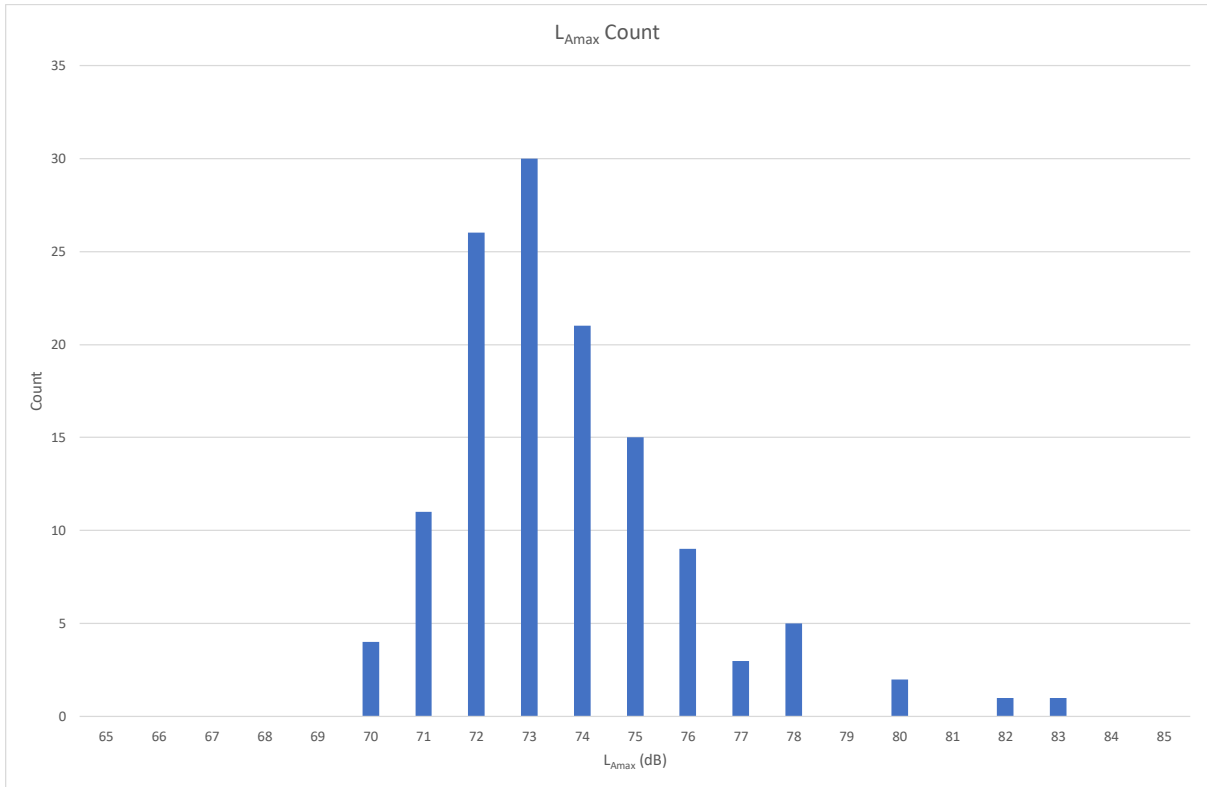


FIGURE 11-5 NUMBER OF L_{AFMAX}, 15 MIN EVENTS AT EACH DECIBEL LEVEL MEASURED DURING THE NIGHT PERIOD AT LOCATION UN1 (FREE-FIELD)

The data shows that a value of 74 dB L_{AFmax, 15 min} is not typically exceeded at this location. **Table 11-12** 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 11-10** and for night-time periods in **Table 11-11**.

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 11-10 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 11-11 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 min} is not typically exceeded at this location. **Table 11-12** presents the L_{AFmax} noise level assumed for the purpose of this assessment.

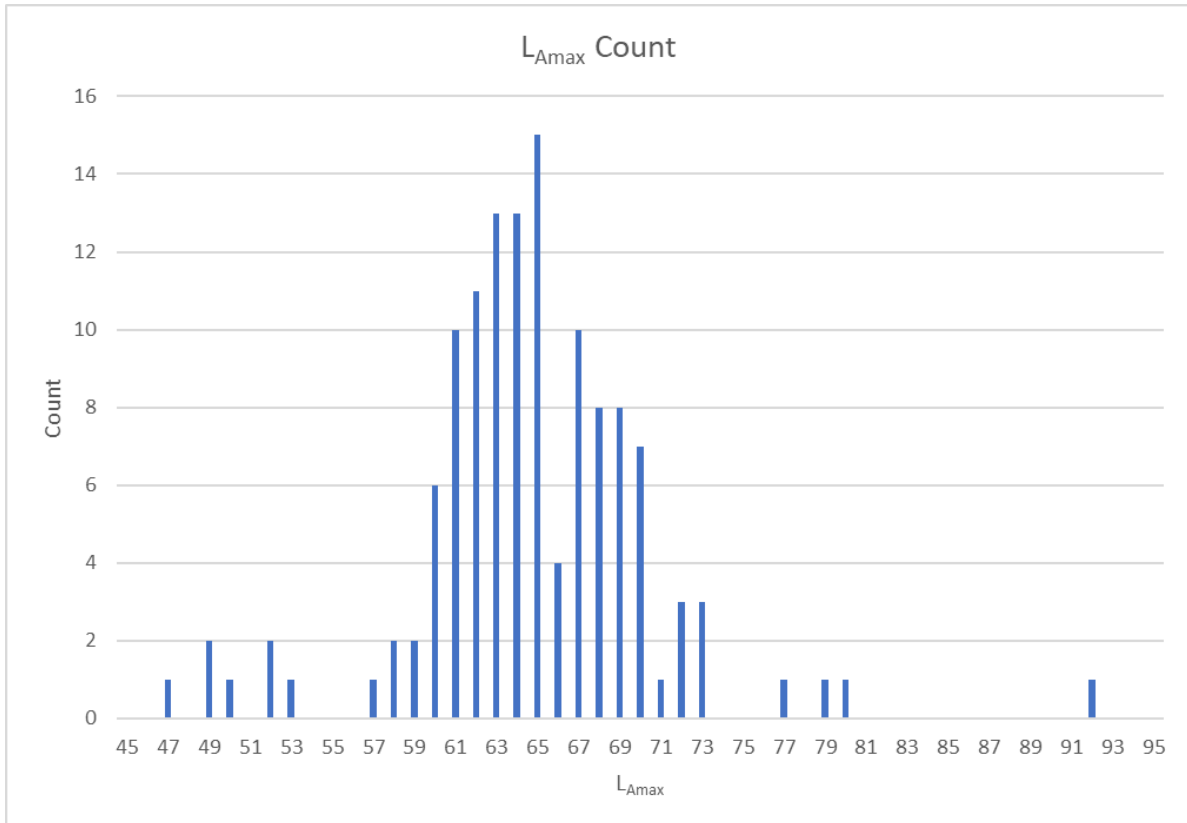


FIGURE 11-6 NUMBER OF L_{AFmax}, 15 MIN EVENTS AT EACH DECIBEL LEVEL MEASURED DURING THE NIGHT PERIOD AT LOCATION UN2 (FREE-FIELD)

The data shows that a value of 70 dB L_{AFmax}, 15 min is not typically exceeded at this location. **Table 11-12** 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} .

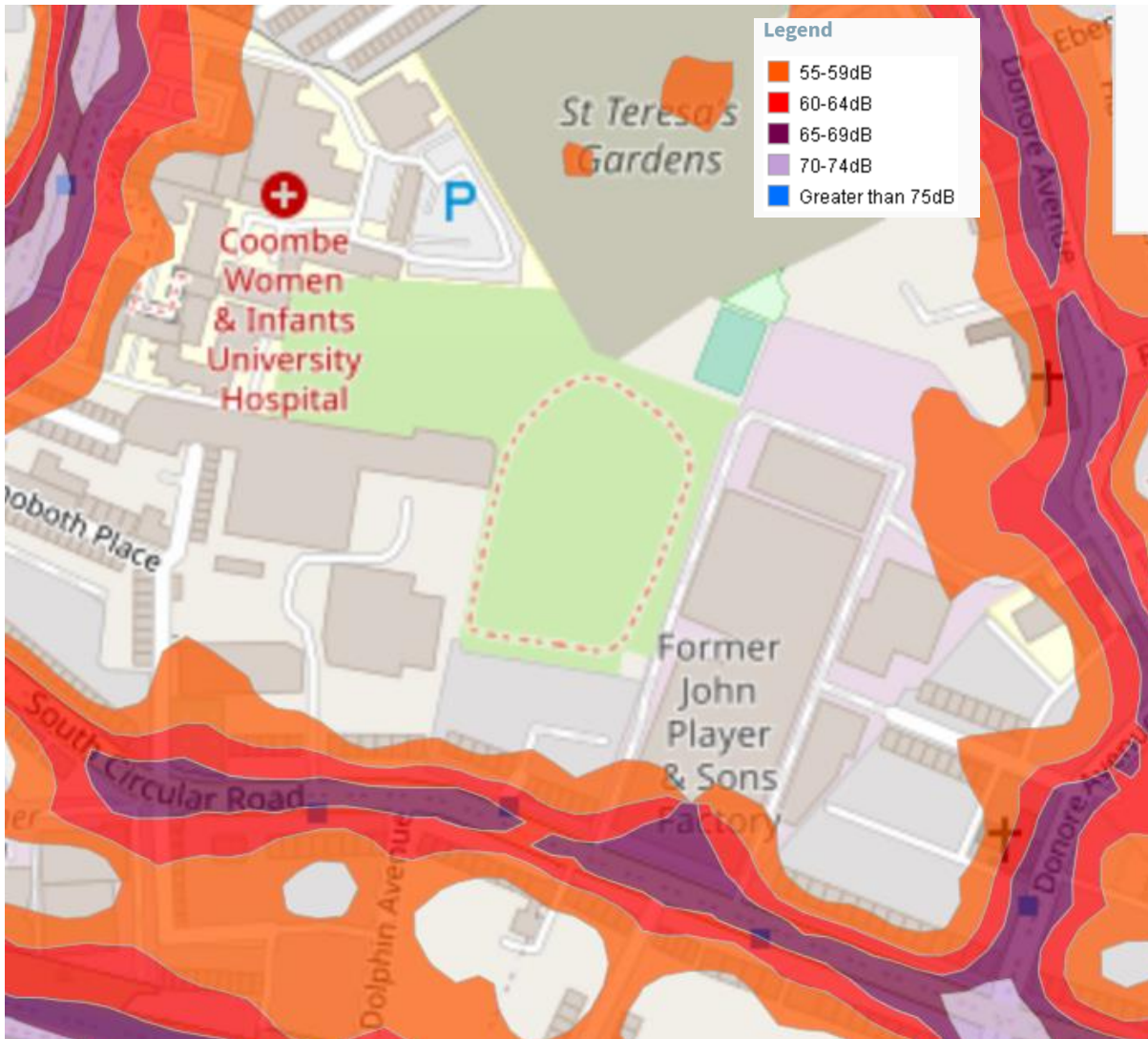


FIGURE 11-7: EPA ROUND 3 NOISE MAP FOR DAYTIME



FIGURE 11-8: EPA ROUND 3 NOISE MAP FOR NIGHT-TIME

11.4.9 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 11-12 ASSUMED EQUIVALENT CONTINUOUS AND MAXIMUM NOISE LEVELS INCIDENT ON FAÇADE AT SOUTH CIRCULAR ROAD.

Similarly, for the noise levels measured at Donore Avenue:

Donore Avenue	Octave Band Centre Frequency (Hz)						L _{Aeq, T} dB
	125	250	500	1k	2k	4k	
Daytime L _{Aeq}	54	55	54	54	48	39	57
Night-time L _{Aeq}	42	46	44	44	39	29	47
Night-time L _{Amax}	75	73	69	68	65	65	73

TABLE 11-13 ASSUMED EQUIVALENT CONTINUOUS AND MAXIMUM NOISE LEVELS MEASURED AT DONORE AVENUE.

This information will be used later for the inward impact assessment.

11.4.10 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 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.

11.6 Difficulties Encountered

No difficulty was encountered in the preparation of this EIAR chapter.

11.7 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.

11.8 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.

11.8.1 Demolition and Construction Phase

11.8.1.1 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 permitted Bailey Gibson development proposed Player Wills developments. 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 Player Wills site on the Donore Avenue side. Secondary compounds may be required at the north end of the Player Wills site on DCCs land between the Player Wills 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 11-8**. Based on the noise levels measured during the noise survey, a criterion of 65dB L_{Aeq} is adopted for construction noise.

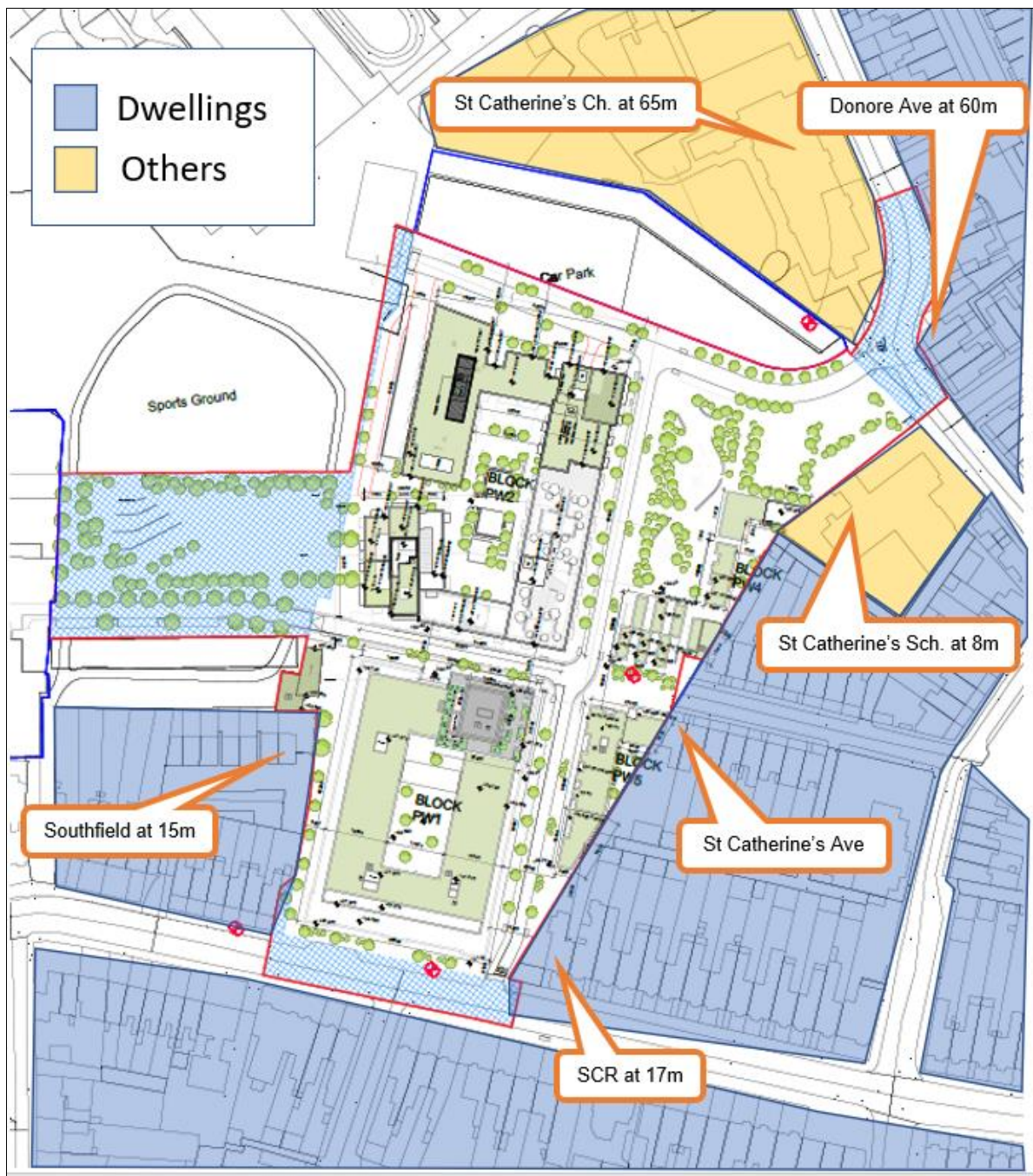


FIGURE 11-9: NOISE-SENSITIVE LOCATIONS WITH DISTANCES TO NEAREST PROPOSED BUILDING

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 construction works are estimated to last 3 months, 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 9 weeks to complete and the duration of piling activity is 4 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.

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 11.9.1**.

Construction Phase	Item of Plant (BS 5228-1 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
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	Crane mounted auger (C3.16)	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 PLAYER WILLS 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

11.8.1.2 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

11.8.1.3 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
Dolphin's Barn	+0.1
South Circular Road, west of site	+0.2
South Circular Road, east of site	+0.2

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

11.8.2 Operational Phase

11.8.2.1 Building Services Plant Noise

The layout of the proposed development includes open plant areas at various roof levels on buildings PW1 and PW2 as shown in **Figure 11-11** and **Figure 11-12**.

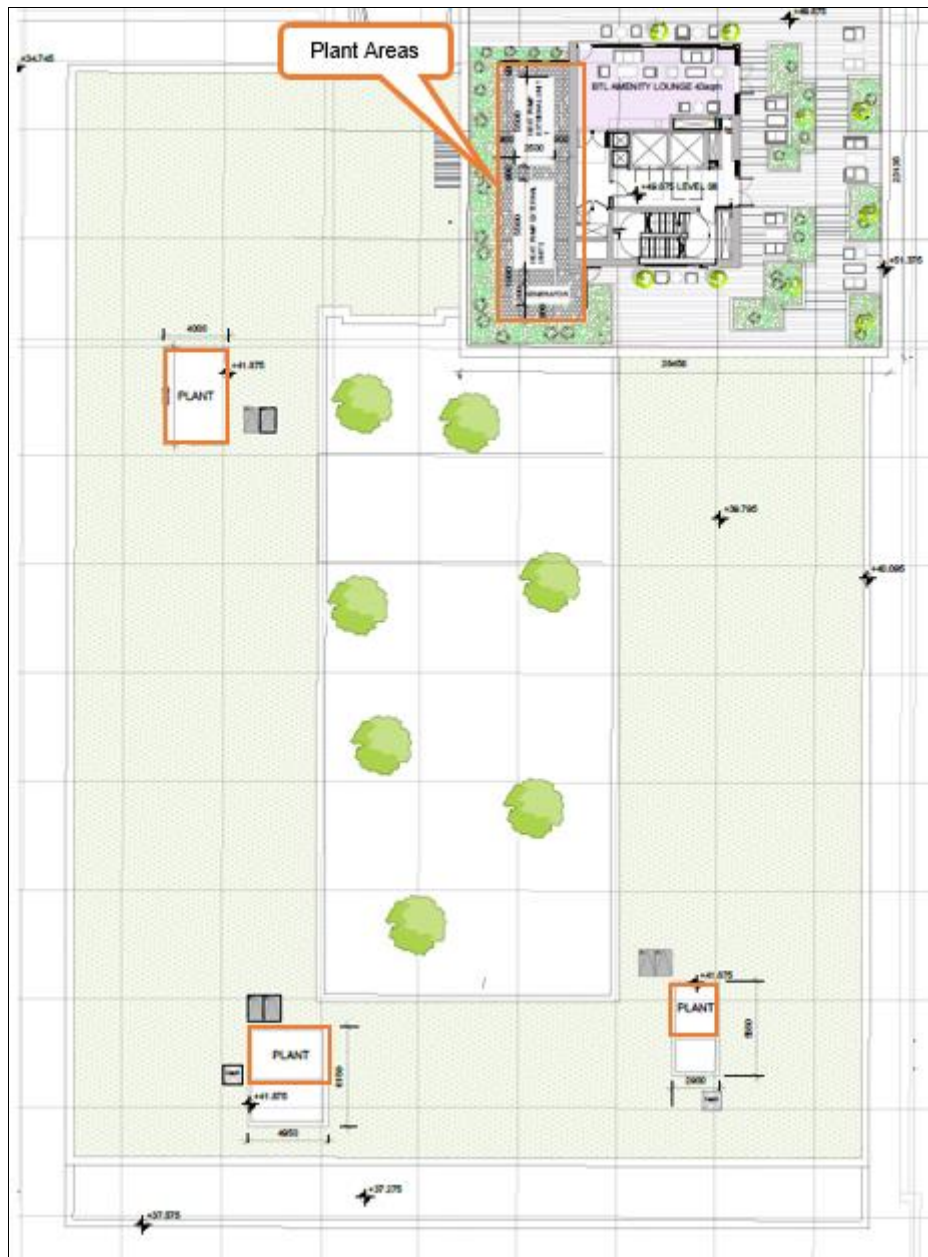


FIGURE 11-11 PLANT AREA AT ROOF LEVEL ON BUILDING PW1

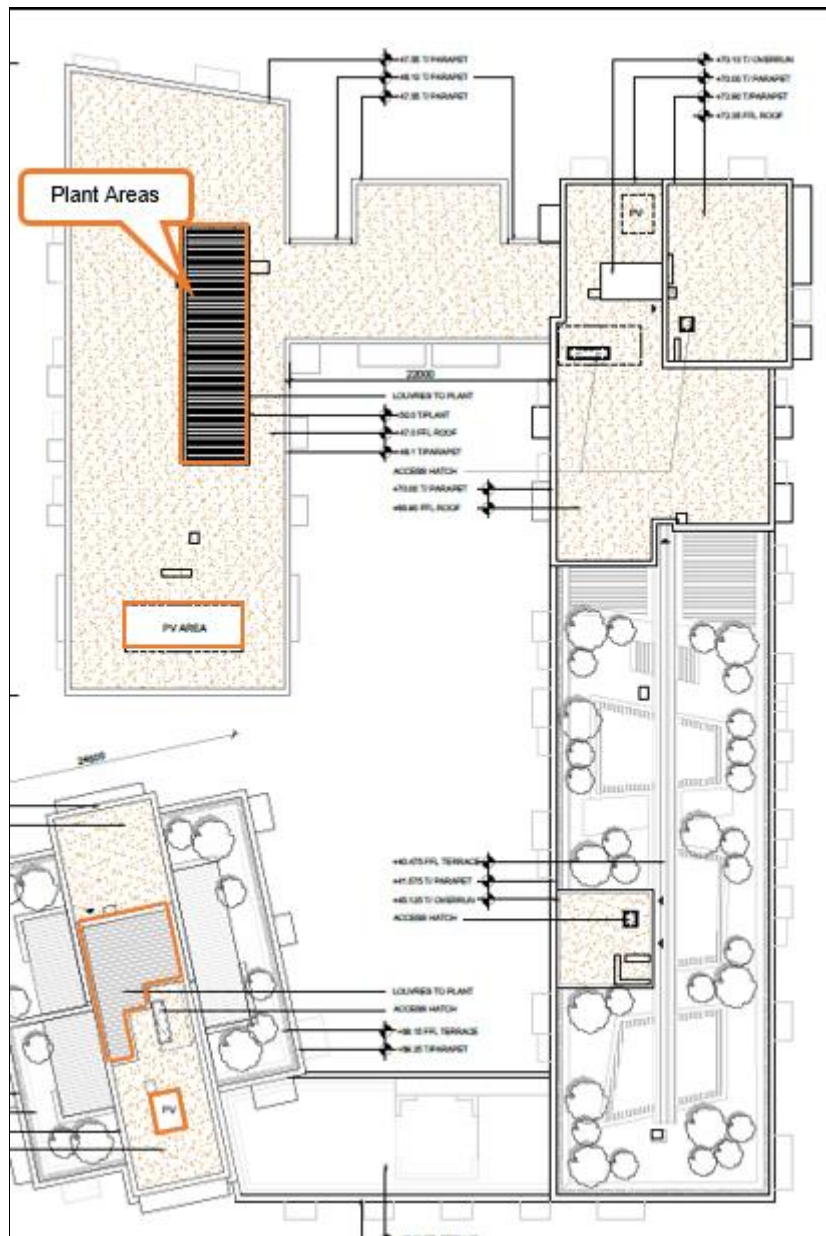


FIGURE 11-12 PLANT AREA AT ROOF LEVELS ON BUILDING PW2

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

11.8.2.2 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 are two loading bays at street level serving retail and café units: one at the south-western corner of PW2 and one near the southern corner of PW5.

At the loading bay at the southwestern corner of PW2, the nearest existing noise-sensitive locations are the 2-story houses at Southfield, which lie to the east of the Player Wills building and to the rear of houses along South Circular Road, at a distance of approximately 38m from the loading bay.

From previous studies noise of delivery activities, noise levels were found up to 67 dB $L_{Aeq,30min}$ at 10m distance. Applying a correction for additional distance and the screening provided by the party walls, the expected noise level during daytime delivery events at ground floor level is 50dB $L_{Aeq,1hr}$. This noise level is within the criteria of 50dB $L_{Aeq,1hr}$ set out in **Section 11.3.2.2**.

At second loading bay near the southern corner of building PW5, the nearest noise-sensitive location is a house on South Circular Road, where the main part of the house is at a distance of approximately 15m from the centre of the loading area. Using the same methods, and also assuming that on average there will only be one 20-minute delivery event in any one-hour period, the predicted noise level is 53dB $L_{Aeq,1hr}$. This is slightly in excess of the criterion of 50dB $L_{Aeq,1hr}$ set out in **Section 11.3.2.2**, but in the context of the measured noise levels in the range 60 to 62dB $L_{Aeq,1hr}$ at the front facades of south circular road, daytime delivery activities are not expected to cause a significant noise impact at this location.

However, in the case of both delivery areas, the predicted noise level of delivery activity would exceed the night-time criterion of 45dB $L_{Aeq,15mins}$, therefore it is recommended that deliveries are restricted to daytime periods, i.e. 07:00 hrs to 23:00 hrs.

Quality	Negative
Significance	Slight
Extent	Local
Probability	Likely
Duration	Permanent

TABLE 11-21 DESCRIPTION OF IMPACTS FOR DELIVERY ACTIVITY

11.8.2.3 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 morning and evening peak hours 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	
	Increase in traffic flow	Increase in noise level, dB	Increase in traffic flow	Increase in noise level, dB
SCR east of R110	3.5%	0.1	3.0%	0.1
SCR west of Donore Ave	2.1%	0.1	1.8%	0.1
R110 south of SCR	1.1%	0.0	1.0%	0.0
SCR west of R110	1.4%	0.1	1.2%	0.1
R110 north of SCR	0.0%	0.0	0.0%	0.0
Donore Ave north of SCR	2.1%	0.1	1.8%	0.1
SCR east of Donore Ave	0.7%	0.0	0.6%	0.0
Donore Ave south of SCR	1.1%	0.0	1.0%	0.0
R111 west of R110	0.0%	0.0	0.0%	0.0
R110 south of R111	1.2%	0.1	1.0%	0.0
R111 between R110 and Donore Ave	0.0%	0.0	0.0%	0.0
Donore Ave south of R111	0.5%	0.0	0.5%	0.0
R111 west of Donore Ave	0.7%	0.0	0.6%	0.0

TABLE 11-22 PREDICTED CHANGE IN NOISE LEVEL ASSOCIATED WITH VEHICULAR TRAFFIC - AM PEAK HOUR

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

11.8.3 Cumulative

A non-statutory Masterplan accompanies this application under separate cover and establishes broad principles for the development of the subject site together with the Player Wills site, also under the control of the Applicant, and, lands owned by Dublin City Council.

In so far as is practical this assessment considers the likely significant noise and vibration effects that may arise from development of the wider Masterplan lands.

On review of the Dublin City Council planning register, the only permitted development with potential to cause cumulative construction noise impacts with the proposed development is the Bailey Gibson development. Below shows the combined 40m zones of influence of the two sites.

11.8.3.1 Cumulative Construction Noise

In respect of construction noise, it has been established in **Section 11.8.1.1** 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.

Figure 11-13 shows the combined 40m zones around Bailey Gibson and Player Wills developments. Review of the Construction Environmental Management Plan shows that the excavation phases of the two developments will overlap for approximately 6 months.



FIGURE 11-13: COMBINED 40M ZONE AROUND BAILEY GIBSON AND PLAYER WILLS SITES

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
Dolphin's Barn	+0.3
South Circular Road, west of site	+0.7
South Circular Road, west of site	+0.7

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.

11.8.3.2 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 future development of the wider Masterplan lands and other development that may take place adjacent to the church on Donore Avenue.

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:

- 2025: the combined effect of the Bailey Gibson and Player Wills developments; and
- 2040: the combined effect of the Bailey Gibson and Player Wills developments and development of Dublin City Council lands as set out in the masterplan, together with other planned development on lands adjacent to the masterplan area

The identified traffic noise effects for the operational phase presented in this chapter are thus worst case i.e. when the full Masterplan area is developed.

Quality	Negative
Significance	Slight
Extent	Local
Probability	Likely
Duration	Short-term

TABLE 11-25 DESCRIPTION OF IMPACTS FOR ADDITIONAL VEHICULAR TRAFFIC ON SURROUNDING ROADS - OPERATIONAL PHASE

11.8.4 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 11-26 MINIMUM SOUND REDUCTION INDICES FOR EXTERNAL GLAZING (R, dB)

The glazing performance in **Error! Reference source not found.** will be applied to the façade extent outlined in red in **Figure 11-14**.

Non-glazed external walls should be constructed to meet a value at least 10 dB higher than the respective values for glazing in **Error! Reference source not found.** Fresh air inlets in the facades will be acoustically rated to limit noise ingress into the internal spaces.

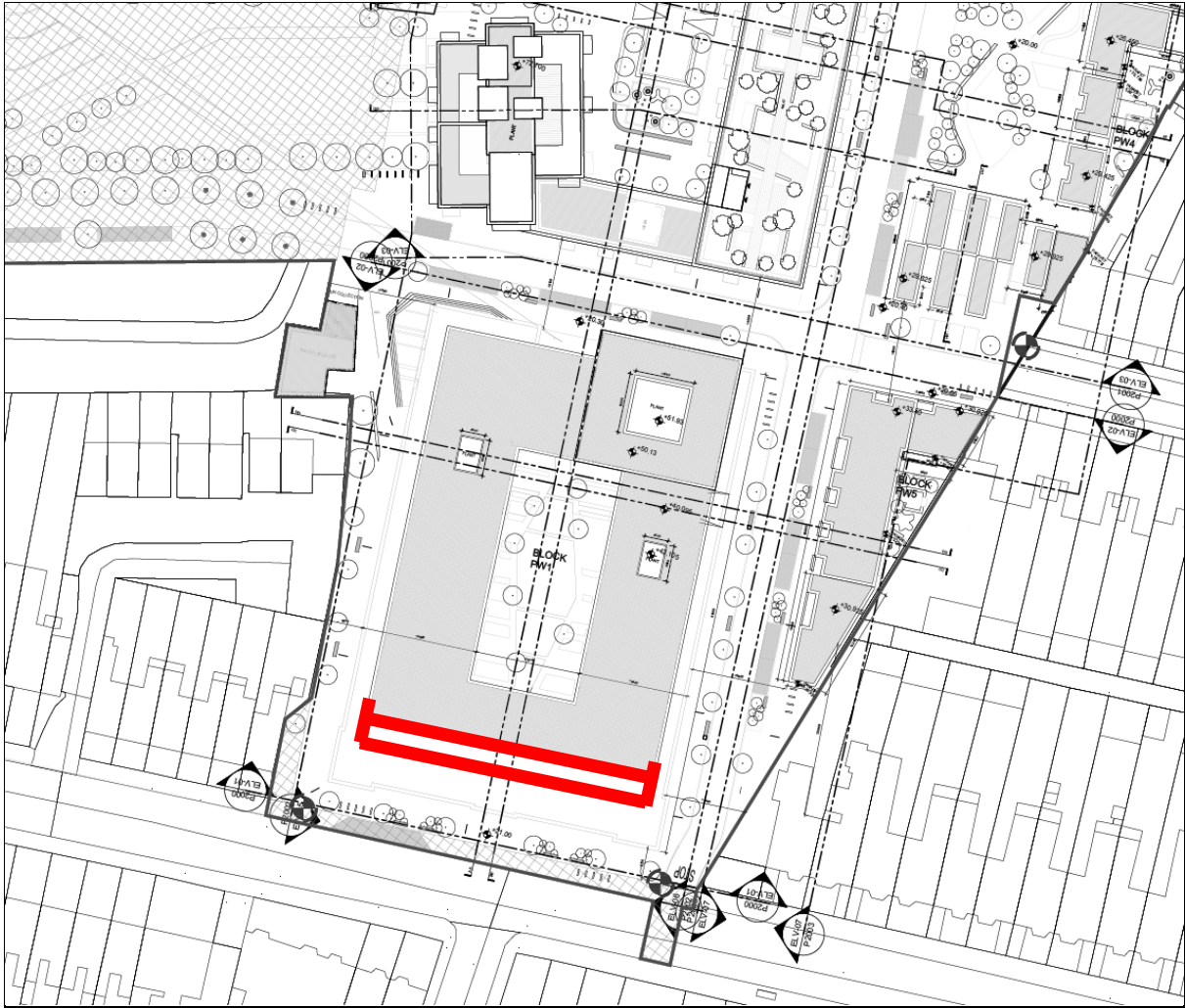


FIGURE 11-14 EXTENT OF GLAZING REQUIRED WITH PERFORMANCES AS IN TABLE 11-26

11.8.5 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
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 11-27 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 11-28 SUMMARY OF OPERATIONAL PHASE LIKELY SIGNIFICANT EFFECTS IN THE ABSENCE OF MITIGATION

11.9 Mitigation

11.9.1 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.

11.9.1.1 Selection of Quiet Plant

This practice is recommended in relation to sites with static plant such as compressors and generators. It is recommended that these units 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.

11.9.1.2 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.

11.9.1.3 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.

11.9.1.4 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.

11.9.1.5 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.

11.9.2 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 considered during the detailed design stage.

11.9.2.1 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.

11.9.2.2 Deliveries

As discussed in **Section 11.8.2.2**, 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.

11.9.2.3 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.

11.10 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 11-15**.

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*.

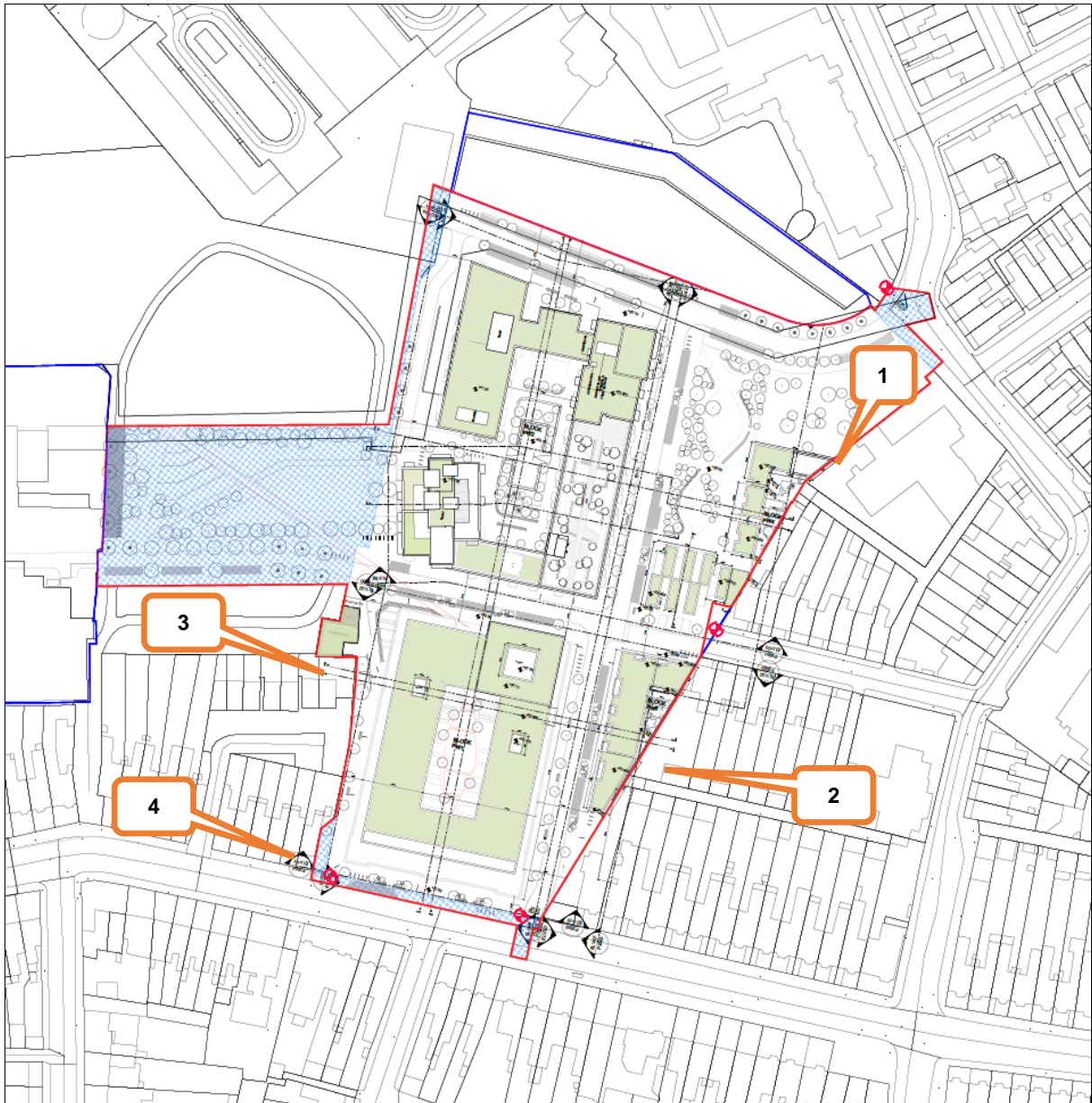


FIGURE 11-15 CONSTRUCTION AND DEMOLITION NOISE MONITORING LOCATIONS

11.11 Residual Impact Assessment

This section describes the degree of environmental change that will occur after the proposed mitigation measures have taken effect.

11.11.1 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.

11.11.2 Operational Phase

11.11.2.1 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.

11.11.2.2 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 **neutral, not significant, permanent** impact.

11.11.2.3 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.

11.11.3 Cumulative

As noted in **Section 11.8.3.2**, 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 within the non-statutory Masterplan for the area. The effect is therefore neutral, imperceptible and permanent.

11.11.4 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
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 11-29 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 11-30 SUMMARY OF OPERATIONAL PHASE EFFECTS POST MITIGATION

11.12 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.

11.13 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 11-31 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 11-32 SUMMARY OF OPERATIONAL PHASE MITIGATION AND MONITORING

11.14 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.

11.15 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, (Draft August 2017);
- 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



DECEMBER 2020

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12 Air Quality and Climate

12.1 Introduction

This chapter assesses the likely air quality and climate impacts, if any, associated with the development of a mixed use strategic housing development at the 'Player Wills' site and on lands owned by Dublin City Council, 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 and the Institution of Environmental Science. She has been active in the field of air quality for over 3 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)
- Mixed-use development at Killamonan, The Ward, Co. Dublin (Client: O'Connor Whelan)
- Residential development at Kilbelin, Newbridge, Co. Kildare (Client: Ardstone Developments)
- Frascati Centre redevelopment, Blackrock, Co. Dublin (Client: IMRF II Frascati Limited Partnership)
- Trinity Wharf mixed-use development, Co. Wexford (Client: Roughan & O'Donovan)
- Residential development, Castletreasure, Co. Cork (Client: Cairn Homes)
- Residential development, Lakeview, Midleton, Co. Cork (Client: O'Flynn Group)
- Mixed-use development at Newtown, Drogheda, Co. Louth (Client: J. Murphy Developments Ltd)
- Residential & mixed-use development, Woodbrook, Shankill, Co. Dublin (Client: Aeval Unlimited Company)
- Mixed-use development, at Naas Road, Walkinstown, Co. Dublin (Client: Development 8 Limited)

- Mixed-use development, Mountpark, Baldonnell Industrial Estate, Co. Dublin (Client: MLEU Dublin Ltd.)
- Residential development, Rathmullen, Drogheda, Co. Meath (Client: Trailford Ltd.)

12.3 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. PL0003**.

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former 'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, 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. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use(residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor

- space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
- b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
 - c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;
 - d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
 - e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
- iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
 - a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
 - b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m.
 - iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;
 - v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory

building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.

- vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
- vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
- viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
- ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.
- x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
- xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
- xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1(the former factory building);
- xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
- xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
- xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
- xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
- xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment and lighting.

When considering a development of this nature, the potential air quality and climate impact on the surroundings must be considered for each of two distinct stages:

- Construction phase, and;

- Operational phase.

During the construction stage the main focus in relation to air quality impacts will be from potential fugitive dust emissions from site activities. There is also the potential for air quality impacts associated with removal of asbestos materials on site during demolition works. Emissions from construction vehicles and machinery have the potential to impact climate. The construction phase impacts will be short-term in duration.

The primary potential sources of air and climatic emissions during the operational phase of the proposed development are as a result of traffic related emissions and are deemed long-term and will involve a change in traffic flows on road links nearby the proposed development. The proposed development has been designed to minimise the impact on climate where possible in line with the most recent development guidelines (Nearly Zero Energy Building (NZEB) Part L of the Building Regulations, 1997 to 2020) and in reference to measures within the National Mitigation Plan¹. The inclusion of climate friendly design and the promotion of more sustainable modes of transport such as public transport, cycling and walking will benefit climate in the long term.

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 – Draft (EPA, 2017);
- Advice Note on Preparing Environmental Impact Statements – Draft (EPA, 2015)
- Advice Notes On Current Practice (In The Preparation Of Environmental Impact Statements) (EPA, 2003)
- Guidelines On Information To Be Contained in Environmental Impact Statements (EPA, 2002)

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”.*²

¹ Department of Communications, Climate Action and Environment (DCCA) (2017)

² Policy S124

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.

Attention has been paid to these objectives 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, PM_{2.5}, benzene and CO 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).

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
Benzene	2008/50/EC	Annual limit for protection of human health	5 µg/m ³
Carbon Monoxide	2008/50/EC	8-hour limit (on a rolling basis) for protection of human health	10 mg /m ³ (8.6 ppm)

TABLE 12-1 AMBIENT AIR QUALITY STANDARDS

Note 1 EU 2008/50/EC – Clean Air For Europe (CAFÉ) 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 regards 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, Health & 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 Gothenburg Protocol

In 1999, Ireland signed the Gothenburg Protocol to the 1979 UN Convention on Long Range Transboundary Air Pollution. The initial objective of the Protocol was to control and reduce emissions of Sulphur Dioxide (SO₂), Nitrogen Oxides (NO_x), Volatile Organic Compounds (VOCs) and Ammonia (NH₃). To achieve the initial targets Ireland was obliged, by 2010, to meet national emission ceilings of 42 kt for SO₂ (67% below 2001 levels), 65 kt for NO_x (52%

reduction), 55 kt for VOCs (37% reduction) and 116 kt for NH₃ (6% reduction). In 2012, the Gothenburg Protocol was revised to include national emission reduction commitments for the main air pollutants to be achieved in 2020 and beyond and to include emission reduction commitments for PM_{2.5}.

European Commission Directive 2001/81/EC, the National Emissions Ceiling Directive (NECD), prescribes the same emission limits as the 1999 Gothenburg Protocol. A National Programme for the progressive reduction of emissions of these four transboundary pollutants has been in place since April 2005 (DEHLG, 2004; 2007). The data available from the EPA in 2020 (EPA, 2020a) indicated that Ireland complied with the emissions ceilings for all pollutants. Directive (EU) 2016/2284 “*On the Reduction of National Emissions of Certain Atmospheric Pollutants and Amending Directive 2003/35/EC and Repealing Directive 2001/81/EC*” was published in December 2016. The Directive applied the 2010 NECD limits until 2020 and established new national emission reduction commitments which will be applicable from 2020 and 2030 for SO₂, NO_x, NMVOC, NH₃, PM_{2.5} and CH₄. In relation to Ireland, 2020 emission targets are 25.5 kt for SO₂ (65% on 2005 levels), 66.9 kt for NO_x (49% reduction on 2005 levels), 56.9 kt for NMVOCs (25% reduction on 2005 levels), 112 kt for NH₃ (1% reduction on 2005 levels) and 15.6 kt for PM_{2.5} (18% reduction on 2005 levels). In relation to 2030, Ireland’s emission targets are 10.9 kt (85% below 2005 levels) for SO₂, 40.7 kt (69% reduction) for NO_x, 51.6 kt (32% reduction) for NMVOCs, 107.5 kt (5% reduction) for NH₃ and 11.2 kt (41% reduction) for PM_{2.5}.

12.4.1.5 Climate Agreements

Ireland ratified the United Nations Framework Convention on Climate Change (UNFCCC) in April 1994 and the Kyoto Protocol in principle in 1997 and formally in May 2002 (UNFCCC, 1997; UNFCCC, 1999). For the purposes of the EU burden sharing agreement under Article 4 of the Doha Amendment to the Kyoto Protocol, in December 2012, Ireland agreed to limit the net growth of the six Greenhouse Gases (GHGs) under the Kyoto Protocol to 20% below the 2005 level over the period 2013 to 2020 (UNFCCC, 2012).

The UNFCCC is continuing detailed negotiations in relation to GHGs reductions and in relation to technical issues such as Emission Trading and burden sharing. The most recent Conference of the Parties to the Convention (COP25) took place in Madrid, Spain from the 2nd to 13th December 2019 and focussed on advancing the implementation of the Paris Agreement. The Paris Agreement was established at COP21 in Paris in 2015 and is an important milestone in terms of international climate change agreements. The Paris Agreement is currently ratified by 187 nations and has a stated 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 greenhouse gas 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 on elevating adaption onto the same level as action to cut and curb emissions.

The EU, in October 2014, agreed the “2030 Climate and Energy Policy Framework”(EU 2014). The European Council endorsed a binding EU target of at least a 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990. The target will be delivered collectively

by the EU in the most cost-effective manner possible, with the reductions in the ETS and non-ETS sectors amounting to 43% and 30% by 2030 compared to 2005, respectively. Secondly, it was agreed that all Member States will participate in this effort, balancing considerations of fairness and solidarity. The policy also outlines, under “Renewables and Energy Efficiency”, an EU binding target of at least 27% for the share of renewable energy consumed in the EU in 2030.

The Climate Action and Low Carbon Development Act 2015 (Government of Ireland, 2015) was developed to provide for the approval of plans by the government in relation to climate change and to enable achievement of the national transition objective of achieving decarbonisation by 2050. Under this Act the National Mitigation Plan (DCCAIE, 2017) and the National Adaptation Framework (DCCAIE, 2018) were established. The National Mitigation Plan sets out objectives for achieving a reduction in GHG emissions and transitioning the four key sectors (power generation, built environment, transport and agriculture) to decarbonisation, while the National Adaptation Framework aims to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts. With the implementation of the Climate Action and Low Carbon Development Act 2015 Ireland has implemented a number of strategies to reduce GHG emissions in future years, with a number of other strategies currently being proposed. As a result of this, moving forward, GHG emissions should be lowered in future years, reducing impacts on climate.

In October 2020, the Climate Action and Low Carbon Development (Amendment) Bill 2020 (Government of Ireland, 2020) was published in draft format (draft 2020 Climate Act) which amends and enhances the 2015 Climate Act. Once approved, the purpose of the 2020 Climate Act is to provide for the approval of plans ‘for the purpose of pursuing the transition to a climate resilient and climate neutral economy by the end of the year 2050’. The 2020 Climate Act will also ‘provide for carbon budgets and a decarbonisation target range for certain sectors of the economy’. The 2020 Climate Act 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 published in 2019 (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 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

This chapter focuses on identifying the existing baseline levels of PM₁₀ and PM_{2.5} in the region of the proposed development by an assessment of EPA monitoring data. The Institute of Air Quality Management in the UK (IAQM) guidelines (2014) outline an assessment method for predicting the impact of dust emissions from demolition, earthworks, construction and haulage 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 magnitude of the dust impacts in the absence of mitigation measures.

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):³

- 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 11/09/2020 to inform this assessment. The traffic data includes details of the construction phase traffic for the proposed development in addition to the

³ *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.

cumulative traffic associated with the proposed development and the permitted Bailey Gibson development, together with future planned developments as outlined in the Masterplan together with development of lands adjacent to St. Teresa's church that may occur in the future. These latter proposals will be subject to separate development consents and have not yet progressed to planning.

While the construction period for the proposed development is expected to last for over 2 years, 42 months and 2 weeks, as outlined in Chapter 6 Material Assets: Traffic & Transport, none of the surrounding road links meet the scoping criteria and therefore, a detailed assessment of construction traffic is not required as there is no potential for likely significant impacts.

12.4.3 Operational Phase Methodology

12.4.3.1 Air Quality Assessment – Impact from Road Traffic (DMRB Assessment)

The air quality assessment has been carried out following procedures described in the publications by the EPA (2002; 2003; 2015; 2017) and using the methodology outlined in the guidance documents published by the UK Highways Agency (2019) 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.

In 2019 the UK Highways Agency DMRB air quality guidance was revised with *LA 105 Air Quality* replacing a number of key pieces of guidance (HA 207/07, IAN 170/12, IAN 174/13, IAN 175/13, part of IAN 185/15). This revised document outlines a number of changes for air quality assessments in relation to road schemes but can be applied to any development that causes a change in traffic. Traffic data for the proposed development was provided by Systra on 11/09/2020. This included operational stage traffic for the proposed development as well as the cumulative traffic associated with the permitted development and the Bailey Gibson site, together with future development of the Masterplan lands and land adjacent to St. Teresa's church that may occur in the future. These latter proposals will be subject to separate development consents and have not yet progressed to planning. .

The UK Highways Agency guidance *LA 150* (2019) scoping criteria outlined in Section 12.3.2 was used to determine the road links required for inclusion in the 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, see Chapter 6 of this EIAR for full details. 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 Ecological Assessment

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 (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.

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 European designated area of conservation is located within 200 m of the proposed development; and
- A significant change in AADT flows (>5%) will occur.

There are no European designated areas of conservation within 200m of the proposed development site, therefore, an assessment of the impact of the proposed development on NO_x concentrations and nitrogen deposition is not required.

12.4.3.3 Climate Assessment

The UK Highways Agency has published an updated DMRB guidance document in relation to climate impact assessments *LA 114 Climate* (UK Highways Agency, 2019), 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 operation, will roads meet or exceed any of the following criteria:

- 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.

If one or more road links meets the above criteria then further assessment is required. 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.

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 which is located approximately 9.5 km north of the site. For data collated during five representative years (2015 – 2019), the predominant wind direction is westerly to south-westerly, with generally moderate wind speeds (see **Figure 12-1**) (Met Eireann, 2020).

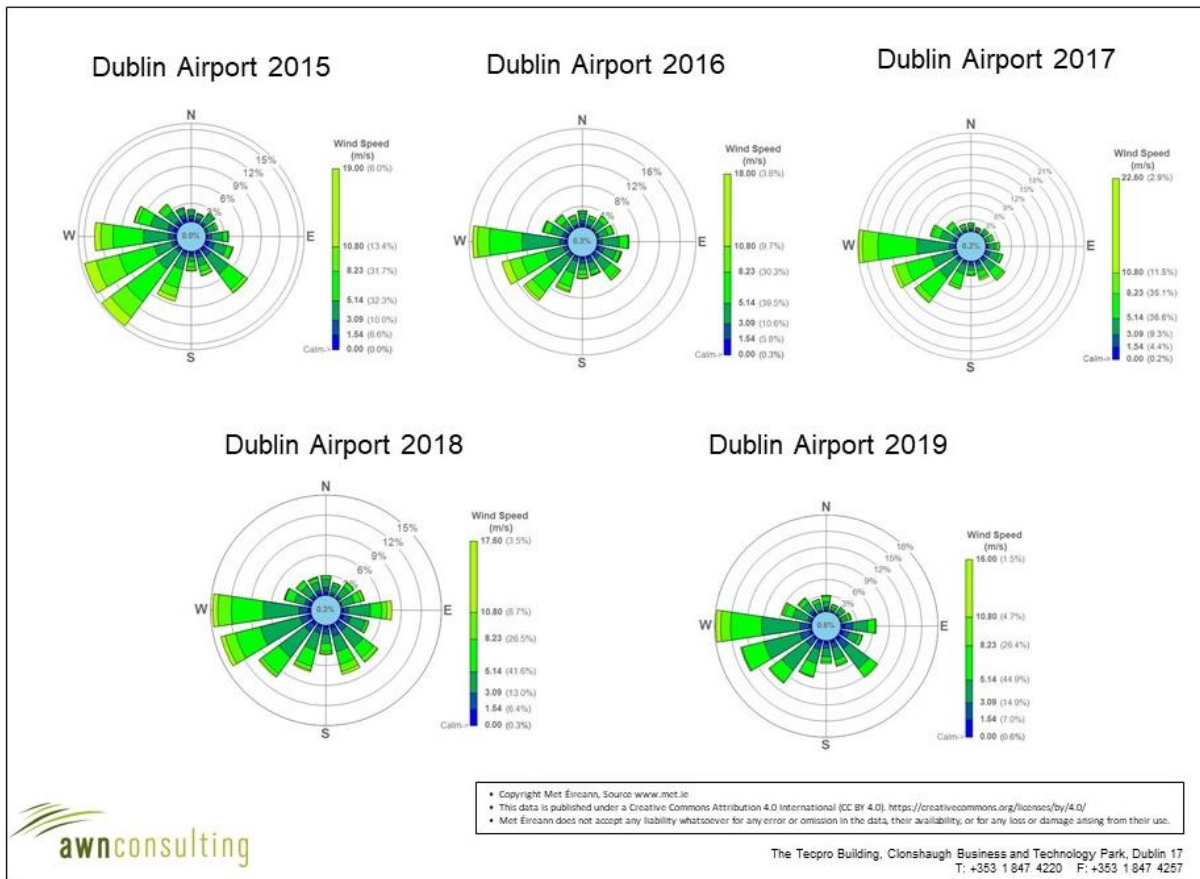


FIGURE 12-1 DUBLIN AIRPORT WINDROSES 2015 – 2019

12.5.2 Baseline Air Quality – Review of Available Background Data

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 2019*” (EPA, 2020). 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, 2019a). 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 Air Quality Standards Regulations 2002 (S.I. No. 271 of 2002), four air quality zones have been defined in Ireland for air quality management and assessment purposes (EPA, 2020b). 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, 2020b). 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.).

With regard to NO₂, continuous monitoring data from the EPA (EPA, 2020) 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, 2020) (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, 2020) 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 99.8th percentile, 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).

Continuous PM_{2.5} monitoring carried out at the Zone A location of Rathmines showed PM_{2.5}/PM₁₀ ratios ranging from 0.53 – 0.68 over the period 2015 – 2019. Based on this information, a conservative ratio of 0.7 was used to generate a background PM_{2.5} concentration in the region of the proposed development of 10.5 µg/m³.

In terms of benzene, the annual mean concentration in the Zone A monitoring location of Rathmines ranged from 0.3 – 1.0 µg/m³ for the period 2015 – 2019. An upper average annual mean concentration of 0.68 µg/m³ was observed for this period. This is well below the limit value of 5 µg/m³. Based on this EPA data an estimate of the background benzene concentration in the vicinity of the proposed development is 1.0 µg/m³.

With regard to CO, annual averages at the Zone A, locations of Winetavern Street and Coleraine Street over the 2015 – 2019 period are low, peaking at 0.5 mg/m³ which is 5% of the limit value of 10 mg/m³. Based on this EPA data, an estimate of the background CO concentration in the region of the development is 0.5 mg/m³.

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 emissions up to 2018 (EPA, 2020c). The data published in 2020 determined that Ireland has exceeded its 2018 annual limit set under the EU's Effort Sharing Decision (ESD), 406/2009/EC1 by 5.59 Mt. For 2018, total national greenhouse gas emissions are 60.93 million tonnes carbon dioxide equivalent (Mt CO₂eq). This is 0.1% lower (0.07 Mt CO₂eq) than emissions in 2017. Agriculture is the largest contributor in 2018 at 33.9% of the total, with the transport sector accounting for 20.1% of emissions of CO₂.

Greenhouse gas emissions from the transport sector increased by 1.6% or 0.20 Mt CO₂eq in 2018. This is the fifth year out of the last six with increased emissions in transport. Private diesel cars increased by 7.7% in 2018 while the number of passenger petrol cars decreased

by 4.5%. Road transportation accounted for 12,225 kt CO₂eq which is 20.1% of the total 2018 emissions and an increase of 1.6% on 2017.

The EPA 2019 GHG Emissions Projections Report for 2018 – 2040 (EPA 2019b) 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. 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 – 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 10 Mt CO₂eq under the “With Existing Measures” scenario and 9 Mt CO₂eq under the “With Additional Measures” scenario (EPA, 2019c).

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 several residential properties bordering the site to the west, east and south, there is also a primary school on the north-eastern boundary. There are approximately 25 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 to be 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 estimated to be 15 µg/m³ and there are approximately 25 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 low.

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



FIGURE 12-2 LOCATION OF DUST SENSITIVE RECEPTORS WITHIN 20M OF WORKS

12.6 Do Nothing 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).

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.

12.7 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 200 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, 2020) 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 12.4.5). The major dust generating activities are divided into four types within the IAQM guidance to reflect their different potential impacts. These are:

- Demolition;
- Earthworks;
- Construction; and
- Trackout (movement of heavy vehicles).

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 15,454 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 89,000 m³ of buildings to be demolished. 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 12-6**). There is an overall medium 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 low (Section 12.4.5).

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 12-6 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 the total site area is 3.06 hectares and there is the requirement for approximately 59,092 m³ of material to be excavated. This results in an overall high risk of temporary dust soiling impacts and a low risk of temporary human health impacts as a result of earthworks activities prior to mitigation (see **Table 12-7**).

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 12-7 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 temporary dust soiling impacts and a low risk of temporary human health impacts as a result of the proposed construction activities prior to mitigation (**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 – 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 87 one-way HGV movements during the excavation for the basement. On average there will be 41 outward HGV movements per day during construction. Taking the worst-case peak figure as a conservative approach this results in an overall high risk of temporary dust soiling impacts and a low risk of temporary human health impacts as a result of the proposed trackout activities prior to mitigation (see **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 – TRACKOUT

Summary of Dust Emission Risk

The risk of dust impacts as a result of the proposed development are summarised in **Table 12-10** 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 must be implemented. In the absence of mitigation dust impacts from demolition and construction works are predicted to be short-term, localised, negative and significant.

Potential Impact	Dust Emission Magnitude			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	High Risk	High Risk	High Risk	High Risk
Human Health	Medium Risk	Low Risk	Low Risk	Low Risk

TABLE 12-10 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 12.3.2 and referenced below.

- 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.

It can therefore be determined that the construction stage traffic will have a negative, 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. Therefore, the impact on climate is assessed to be negative, 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 low as per Section 12.4.5. It has been established that there is a medium to low 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 slight.

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 Construction Environmental Management Plan 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.

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 12.3.2) 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. Details on the operational traffic associated with the proposed development in addition to the cumulative traffic associated with the permitted Bailey Gibson development together with future development of the Masterplan lands and land adjacent to St. Teresa's church that may occur in the future. These latter proposals will be subject to separate development consents and have not yet progressed to planning. However, there 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 12.3.2, it can therefore be determined that the impact to air quality from traffic emissions during the operational stage is negative, local, 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 12.9.3). 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 12.4.3.3 (UK Highways Agency, 2019). It can therefore be determined that traffic related CO₂ and N₂O emissions during the operational phase are long-term, localised, negative 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 Standards 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 negative, local, long-term but overall 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 eight relevant granted planning permissions for sites within 350m of the proposed development (planning refs. ABP-PL29S.307221, 3618/15, 3756/15, 2027/17, 3086/17, 3853/17, 2475/18 and 3705/19) which are described briefly below and their locations detailed in **Figure 12.3**.

ABP PL29S.307221 The proposed development involves demolition of all structures, construction of 416 no. residential units (4 no. houses, 412 no. apartments) and associated site works at the Former Bailey Gibson Site 326-328 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.

2475/18 The proposed development involves amendments to the previously permitted planning permission (planning ref. 2033/14) at St. Teresa's Gardens, Donore Avenue, Dublin 8. The proposed development involves the construction of a proposed residential development and involves demolition of 2 no. four storey flat blocks, a football club premises, boxing club premises/changing facility and a shop premises to facilitate the future development (Phase B) of an enlarged park and multisport playing pitch in accordance with the 2017 Development Framework for the SDRA 12 lands.

There is the potential for the construction stages of these 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 Bailey Gibson site is within the applicant's ownership and received planning permission from An Bord Pleanála (ABP PL29S.307221) as described above. It is envisaged that works on both the Bailey Gibson 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 Bailey Gibson 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 masterplan area should these receive planning permission in the future. 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 masterplan 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 42 months and 2 weeks 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.

Site	Impact	Description of impact
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.
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.
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 12-11 SUMMARY OF CUMULATIVE DEMOLITION & CONSTRUCTION DUST IMPACTS

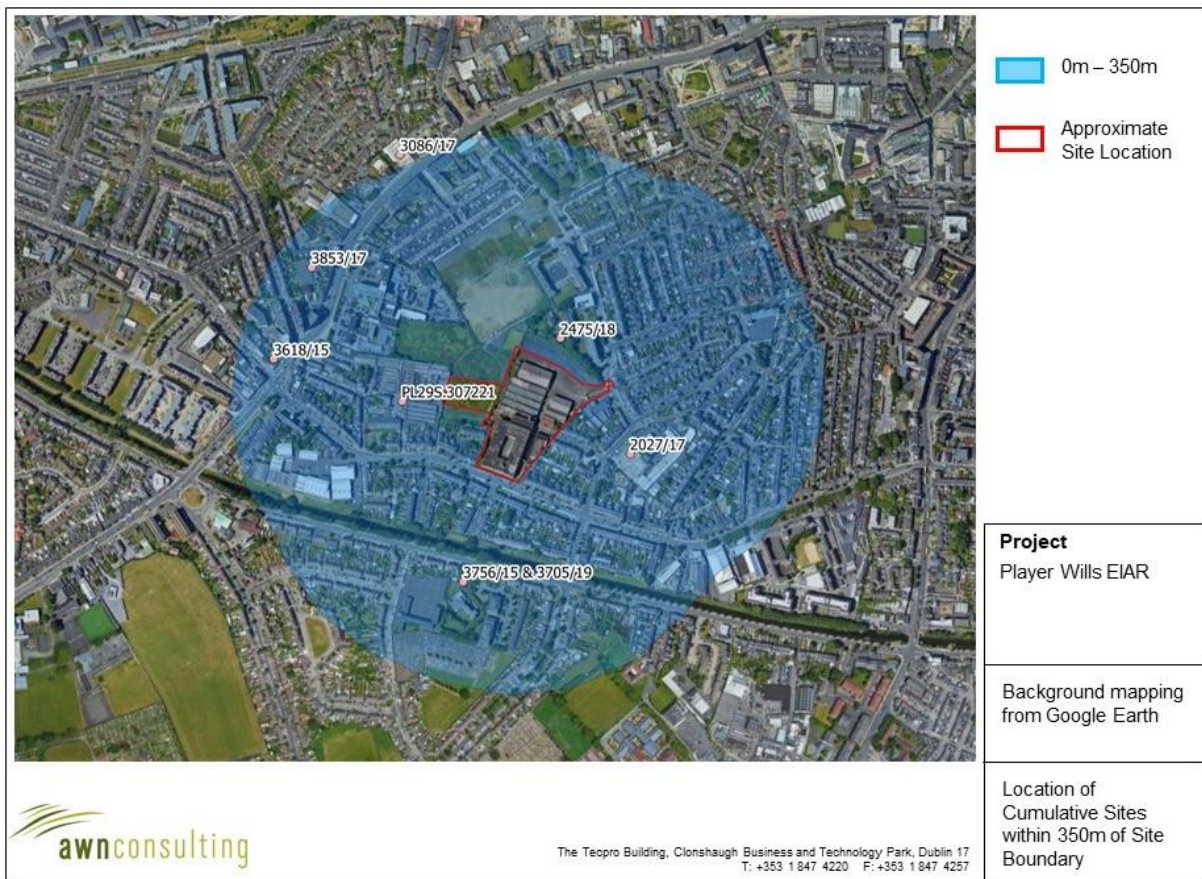


FIGURE 12-3 LOCATION OF CUMULATIVE SITES WITHIN 350M OF SITE BOUNDARY

Asbestos containing materials have also been identified on the neighbouring Bailey Gibson 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 12.9.1.1). In the absence of mitigation, cumulative impacts are predicted to be temporary and significant, negative and localised with regards to human health.

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 Section 12.3.2). Therefore, there is an imperceptible cumulative impact to air quality and climate during the operational stage.

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	Negative	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

TABLE 12-12 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	Negative	Imperceptible	Local	Likely	Long-term	Direct

TABLE 12-13 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 12.6.1.1).

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 12.6.2.2 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 must be regularly watered, as appropriate, during dry and/or windy conditions.
- Vehicles exiting the site shall 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.

12.10.1.2 Climate

Construction traffic and embodied energy of construction materials are expected to be the dominant source of greenhouse gas emissions as a result of the construction phase of the development. Construction vehicles, generators etc., will give rise to some CO₂ and N₂O 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 2018 of 60.93 million tonnes of CO₂eq, emissions from the proposed development will be a minor fraction of overall national emissions.

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

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 12.9.3.

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 (2019) of the NZEB regulations;
- Minimising heat loss where possible;
- Use of natural ventilation where possible;
- Use of heat pumps;
- Use of PV solar panels;
- 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 at four 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 in **Figure 12.4** below.



FIGURE 12-4 PROPOSED DUST MONITORING LOCATIONS DURING DEMOLITION & CONSTRUCTION WORKS

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 12.9.1.1 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 12.9.1.1. 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 locally temporary and insignificant with regards to human health.

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 12.3.2 for carrying out a detailed air modelling assessment. Therefore, there is no potential for significant impacts 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, negative, 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, negative 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	Negative	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

TABLE 12-14 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	Negative	Imperceptible	Local	Likely	Long-term	Direct

TABLE 12-15 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 human beings 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 long term and imperceptible with respect to human beings.

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.

With the appropriate mitigation measures to prevent fugitive dust emissions (see Section 12.9.1.1 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 12.9.1.1 and Appendix 12.2 (Volume III))	Construction dust monitoring using Bergerhoff gauges along site boundary with sensitive receptors (see Section 12.10)

TABLE 12-16 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, negative, 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.

12.16 References and Sources

BRE (2003) Controlling Particles, Vapours & Noise Pollution From Construction Sites

Department of Communications, Climate Action and Environment (DCCAE) (2017) National Mitigation Plan

Department of Communications, Climate Action and Environment (DCCAE) (2018) National Adaptation Framework

DEHLG (2004) National Programme for Ireland under Article 6 of Directive 2001/81/EC for the Progressive Reduction of National Emissions of Transboundary Pollutants by 2010

DEHLG (2004) Quarries and Ancillary Activities, Guidelines for Planning Authorities

DEHLG (2007) Update and Revision of the National Programme for Ireland under Article 6 of Directive 2001/81/EC for the Progressive Reduction of National Emissions of Transboundary Pollutants by 2010

Department of the Environment, Heritage and Local Government (2010) Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities

Dublin City Council (2016) Dublin City Development Plan 2016 – 2022

Dublin City Council & Codema (2019) Dublin City Council Climate Change Action Plan 2019 -2024

EEA (2012) NEC Directive Status Reports 2011

Environmental Protection Agency (2002) Guidelines On Information To Be Contained in Environmental Impact Statements

Environmental Protection Agency (2003) Advice Notes On Current Practice (In The Preparation Of Environmental Impact Statements)

Environmental Protection Agency (EPA) (2015) Advice Notes for Preparing Environmental Impact Statements – Draft

Environmental Protection Agency (EPA) (2017) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports - Draft

Environmental Protection Agency (2019a) Air Quality Monitoring Report 2018 (& previous annual reports)

Environmental Protection Agency (2019b) GHG Emissions Projections Report - Ireland's Greenhouse Gas Emissions Projections 2018 - 2040

Environmental Protection Agency (2020a) Ireland's Transboundary Gas Emissions 1990 – 2030

Environmental Protection Agency (2020b) EPA website Available at: <http://www.epa.ie/whatwedo/monitoring/air/>

Environmental Protection Agency (2020c) Ireland's Provisional Greenhouse Gas Emissions 1990 – 2018

Environmental Resources Management (1998) Limitation and Reduction of CO₂ and Other Greenhouse Gas Emissions in Ireland

European Council (2014) Conclusions on 2030 Climate and Energy Policy Framework, SN 79/14

German VDI (2002) Technical Guidelines on Air Quality Control – TA Luft

Government of Ireland (2020) Climate Action and Low Carbon Development (Amendment) Bill 2020

Institute of Air Quality Management (IAQM) (2014) Guidance on the Assessment of Dust from Demolition and Construction Version 1.1

Met Éireann (2020) Met Eireann website: <https://www.met.ie/>

The Scottish Office (1996) Planning Advice Note PAN50 Annex B: Controlling The Environmental Effects Of Surface Mineral Workings Annex B: The Control of Dust at Surface Mineral Workings

Transport Infrastructure Ireland (2009) Guidelines for Assessment of Ecological Impacts of National Roads Schemes (Rev. 2, Transport Infrastructure Ireland, 2009)

Transport Infrastructure Ireland (2011) Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes

UK DEFRA (2016) Part IV of the Environment Act 1995: Local Air Quality Management, LAQM. PG(16)

UK DEFRA (2019) NO_x to NO₂ Conversion Spreadsheet (Version 7.1)

UK DEFRA (2018) Part IV of the Environment Act 1995: Local Air Quality Management, LAQM.TG(16)

UK Department of the Environment, Transport and Roads (1998) Preparation of Environmental Statements for Planning Projects That Require Environmental Assessment - A Good Practice Guide, Appendix 8 - Air & Climate

UK Highways Agency (2007) Design Manual for Roads and Bridges, Volume 11, Section 3, Part 1 - HA207/07 (Document & Calculation Spreadsheet)

UK Highways Agency (2019) 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 (2019) UK Design Manual for Roads and Bridges (DMRB) Volume 11 Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 14 LA 114 Climate

UK Office of Deputy Prime Minister (2002) Controlling the Environmental Effects of Recycled and Secondary Aggregates Production Good Practice Guidance

UN Framework Convention on Climate Change (1997) Kyoto Protocol To The United Nations Framework Convention On Climate Change

UN Framework Convention on Climate Change (2012) Doha Amendment To The Kyoto Protocol

USEPA (1997) Fugitive Dust Technical Information Document for the Best Available Control Measures

World Health Organisation (2006) Air Quality Guidelines - Global Update 2005 (and previous Air Quality Guideline Reports 1999 & 2000)

CHAPTER 13

ARCHAEOLOGICAL AND

CULTURAL HERITAGE

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



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13 Archaeological and 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 by Ross Waters and Grace Corbett. Ross has a BA, MA, MIAI, MCIfA. He is a graduate of University College London where he completed a Masters degree in Managing Archaeological Sites in 2017. He obtained his undergraduate degree, Ancient and Medieval History and Culture, from Trinity College Dublin in 2015. Ross has been working with IAC Archaeology since 2016 and is mainly involved in compiling archaeological assessments and EIAR chapters for projects around Ireland including Chatham House Development, Chatham Street, Dublin and Trinity Street Car Park Redevelopment, Dublin.

Grace is a Senior Archaeological and Cultural Heritage Consultant with IAC Ltd. She holds an MA in Landscape Archaeology from the University of Sheffield and a BA in Archaeology and Classics from the University College Cork. She is also a member of the Institute of Archaeologists of Ireland and the Chartered Institute for Archaeologists and has over 16 years' experience working in the commercial archaeological sector, both in Ireland and the U.K. Grace has an in-depth understanding of the legislative and planning frameworks governing heritage in Ireland and specialises in the production and delivery of archaeological and built heritage desktop assessments, EIAR, master plans, and management plans across all sectors of development. Grace has worked on a number of EIARs and assessments across Dublin

including Parnell Square Development, Vic Motors Site Goatstown Road, Taylor's Lane Ballyboden and Connolly Station Redevelopment.

Both Ross Waters and Grace Corbett co-authored the Cultural Heritage – Archaeology chapter for the EIAR submitted with the permitted (PL29S.307221) Bailey Gibson Strategic Housing Development application.

13.3 Proposed Development

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former 'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, 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. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use(residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor

- space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
- b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
 - c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;
 - d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
 - e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
- iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
 - a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m
 - b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m.
 - iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;

- v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.
- vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
- vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
- viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
- ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.
- x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
- xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
- xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1 (the former factory building);
- xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment of centreline along sections of Donore Avenue with associated changes to road markings;
- xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
- xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
- xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
- xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment 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. The excavation of two geotechnical test pits at the site was monitored in June 2019 (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);
- Guidelines on the information to be contained in Environmental Impact Statements, 2003, EPA;
- 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 2003, EPA;

Guidelines on the information to be contained in environmental impact assessment reports (Draft August 2017), 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 Acts 2000 to 2019; 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 draft guidelines (2017), 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 Culture, Heritage, and the Gaeltacht – 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;
- Dublin City Council: Planning Section.

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 application 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;
- 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 sites are also listed on the recently launched website created by the Department of Culture, Heritage and the Gaeltacht (DoCHG) – 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 DoCHG 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) was consulted to obtain information on cultural heritage sites in and within the immediate vicinity of the proposed route. 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 1970-2019.

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 nine recorded monuments within a 500m radius of the proposed development.

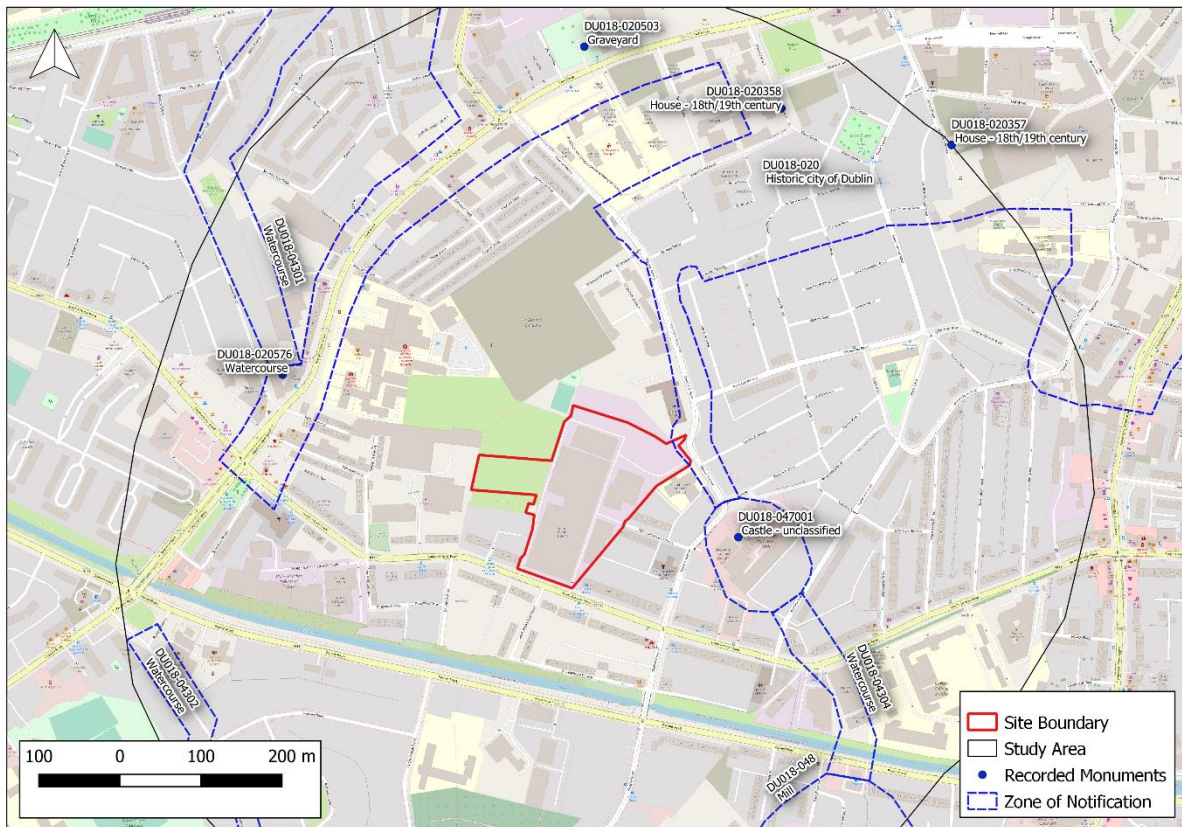


FIGURE 13-1 LOCATION OF PROPOSED DEVELOPMENT AND SURROUNDING RECORDED MONUMENTS

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. 3.5km 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. 1.6km to the north-northeast of the application 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. 1.7km 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. 1.45km 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. 1.4km 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 application area continued to be located outside of this settlement core during this period.

There are several recorded watercourses in the wider vicinity, the route of the Abbey Stream (RMP DU018-043004) 213m to the east-southeast and that of the former Dublin City Watercourse (RMP DU018-043001) runs 344m to the east, while the zone of archaeological potential for that specific RMP ends there, the zone of potential for the city of Dublin (RMP DU018-020) is located adjacent to the northeast corner of the site, and the watercourse continues in this area. While the course of the Abbey Stream as recorded by the RMP (RMP DU018-04004) is located 213m to the east-southeast of the proposed development site, it has been recorded flowing through the northeast corner of the site, and continuing north westward, c. 30m north of the proposed development area (see Figure 13.1). The Abbey Stream 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 between 1178 and 1185.

Watercourses were rechannelled through the lands to power various mills and industries in the area. One of these watercourses, later known as the City Watercourse, was channelled along James's Street and Thomas Street to feed a cistern on High Street, which in turn provided water for the citizens of Dublin throughout the medieval period. 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.

The remains of the City Watercourse (RMP DU018-043001) were investigated c. 135m to the west-northwest (Licence 04E0512, Bennett 2004:0583). It was first built in the 13th century through the excavation of a large embanked ditch.

13.5.1.5 Post-Medieval Period (AD1600-1900)

The City Watercourse (RMP 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 (RMP 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 Abbey Stream flows were diverted into a culvert in Donore Avenue at its point of entry to the site at its northeast corner during the 20th century and the culvert which runs to the north of the site is now defunct. Survey work was also carried out by Dublin City Council on the course of Hangmans Stream which flows along the western boundary of the site which showed this to now be the location of a 450mm stormwater pipe.

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. 785m to the north, which was infilled and built over in 1978. The canal passes west-northwest to east-southeast c. 145m to the south of the proposed development.

13.5.2 Summary of Previous Archaeological Fieldwork

Geotechnical investigations were carried out at the site in June 2019 to inform structural development and designs of the proposed development. The geotechnical investigations were subject to archaeological monitoring and 25 trial pits were excavated at the site. The greenfield aspect of the site did not require sites investigations as this area will be used as a park and will not be subject to large scale development.

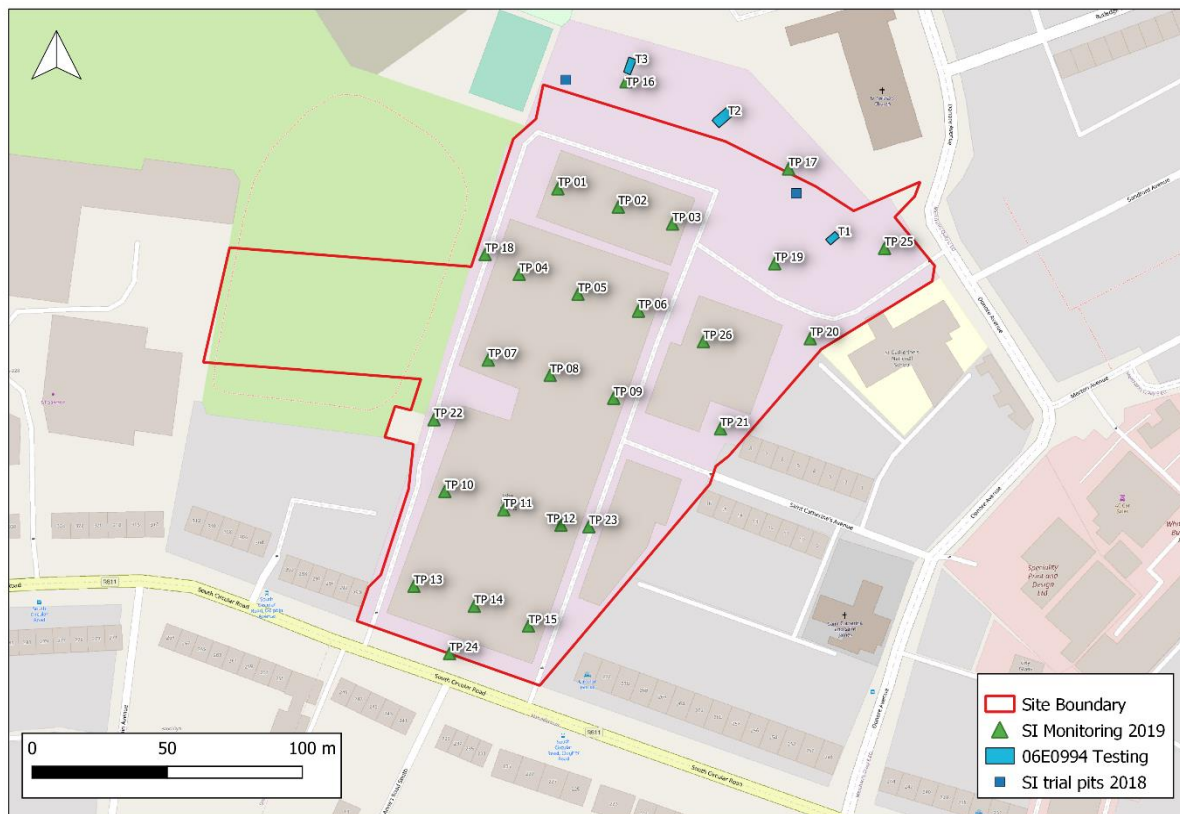


FIGURE 13-2 LOCATION OF PREVIOUS INVESTIGATIONS WITHIN THE APPLICATION AREA

The natural geology was encountered from 1.1m – 1.8m below ground level (bgl), above which made ground deposits were consistently found across the site which contained stone, red brick, crushed mortar, charcoal, roof tile and white china (Plates 13.1 – 13.2).



PLATE 13.1 TP25, FACING NORTHWEST



PLATE 13.2 TP20, FACING WEST

A review of the Excavations Bulletin (1970–2019) has revealed that there has been one archaeological investigation within the proposed development area and a further 44 within the

study area of the proposed development, 28 of which did not identify any archaeological deposits or features. These are discussed below.

Test-trenching in the northern half of the site, adjacent to the zone of archaeological potential for Dublin city (RMP DU018-020; Figure 13.2). Three trenches were excavated revealing a stratigraphy of modern tarmac and rubble to a depth of c. 0.5m below ground level (bgl), grey brown silt with sherds (broken pieces of pottery) of 19th/20th-century glazed china to a depth of c. 2m bgl, and a layer of grey marl subsoil underlying this (Licence 06E0994, Walsh 2006, Bennett 2006:644). No archaeological deposits, including any evidence for the city watercourse, were identified. Ground investigations works were also carried out within the site in 2018 (Figure 13.2). The results indicate that made ground deposits, consisting of angular gravel, sandy clay with gravel, gravelly clay with fragments of red brick and dark grey sandy gravelly clay are present on the site to depths of 1.5m – 1.7m bgl. Red brick and ceramics were identified at depths between 0.5m – 1.5m bgl (Ground Investigations Ireland 2018).

Testing at the site of Donore Castle (RMP DU018-047001), c. 120m to the east, 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 (Licence 03E1807, Bennett 2003:524). The zone of notification is an area surrounding the presumed location of the castle which is intended to be used for the purposes of notification under Section 12 of the National Monuments Acts 1930 to 2004. Any development works proposed within the zone must first submit notice in writing to the Department of Culture, Heritage, and the Gaeltacht.

Several watercourses have been investigated in the vicinity of the site. The closest was encountered during the excavation of engineering pits, c. 115m to the northeast, which revealed deposits of medieval and post-medieval date (Licence 14E245, Bennett 2014:147). These deposits comprised part of the medieval watercourse (RMP DU018-043004) and one of its 18th century branches. Another medieval watercourse (RMP DU018-020692) was discovered during testing, c. 400m to the west-northwest (Licence 00E0876, Bennett 2002:0571). The watercourse was an unlined, 0.5m-deep branch of the diverted medieval River Poddle. The remains of the 13th century City Watercourse (RMP DU018-043001) were investigated c. 355m to the west-northwest 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 number of investigations uncovered evidence of post-medieval tanning activity between c. 385-430m to the north of the site, consisting of timber-lined tanning boxes (Licence 00E0286, Bennett 2000:0256; Licence 00E0728, Bennett 2004:0529; Licence 00E0728 ext., Bennett 2005:427). A mid-19th century tanning complex was also discovered during testing c. 475m

to the north (Licence 04E0398, Bennett 2004:0530). It was bounded by a tributary of the River Poddle and was dug into the riverine silts, built using moulded Dundry stone.

Evidence of post-medieval activity comprising 19th century occupation was exposed c. 305m to the north-northwest of the site (Licence 04E0996, Bennett 2004:0532). Excavation in advance of a residential development, c. 390m to the north-northeast, in proximity to two Chamber Street Type buildings located the foundations of two buildings (Licence 00E0480, Bennett 2001:418). The quantity of ash recovered from the site indicated that they had been burned down in the post-medieval period as pottery recovered from the ash dated from the 16th to 18th centuries. Additional evidence of post-medieval occupation was revealed during monitoring c. 470m to the north at Weaver's Square. This consisted of red-brick and concrete foundations of indeterminate date (Licence 02E0724 ext., Bennett 2003:0598). Later monitoring in the area for a different development identified features and deposits of the early Georgian development of Dublin (Licence 16E0321, Bennett 2016:454).

The military history of the surrounding area has been encountered during archaeological works. A geophysical survey at Oscar Square Park, c. 410m to the north-northeast, identified two air raid shelters built during World War II (Licence 08R120, Gimson and Bonsall 2008). These were used as communal shelters for the resident of the square and were backfilled and buried under the park. An assessment, c. 490m to the southeast, identified the 19th century office quarters of the penitentiary originally located on the site of Griffith Barracks (Licence 03E0921, Bennett 2003:0579).

The following 28 investigations did not identify anything of archaeological significance within the study area of the proposed development; 93E0019 (Bennett 1993:071), 95E0262 (O'Rourke 1996), 00E0728 (Bennett 2000:0255), 02E0724 (Bennett 2002:0522), 00E0877 ext. (Bennett 2002:0558), 02E0893 (Shanahan 2002), 02E0912 (Bennett 2003:514), 01E0537 (Bennett 2003:516), 03E1648 (Bennett 2003:517), 03E0939 (Stafford 2003), 03E0954 (Bennett 2003:515), AE/03/91 (Bennett 2003:1840), 04E1340 (Bennett 2004:0520), 03E1537 (Bennett 2004:0533), 03E1021 (Bennett 2004:0536), 04E0020 (Lynch 2003), 00E0728 ext. (Bennett 2005:428), 04E0270 (Bennett 2005:429), 04E0310 (Nelis 2005), 05E0315 (Bennett 2005:418), 05E0448 (Bennett 2005:430), 04E0270 (Bennett 2005:431), 06E0314 (Bennett 2006:625), 08E0503 (Bennett 2008:399), 11E0432 (Bennett 2011:190), 11E0432 (Bennett 2012:193), 14E0372 (Bennett 2015:493), and 16E0026 (Bennett 2016:479).

13.5.3 Cartographic Analysis

The following presents a review of evidence from cartographic sources which cover the proposed application 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 proposed development site 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 proposed development site 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 13.3)



FIGURE 13-3 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. It is situated across agricultural fields and is bordered by a laneway to the northeast. A trackway from the laneway travels east-west through the northern extent of the site. There are six structures shown along the laneway which leads to a square enclosure to the east that may represent the castle (RMP DU018-047001) at Roper Rest marked on Petty's map. A watercourse (RMP

DU018-043004) is depicted alongside the laneway leading north into Dublin City. Dolphin's Barn is marked to the west with limited development along it.

William Faden's Plan of the City of Dublin, 1797 (Figure 13.3)

On Faden's map the proposed development is located across three fields and is bordered to the south by a road (South Circular Road) which runs parallel to the newly constructed Grand Canal, c. 120m to the south. The trackway at the northern end of the site is no longer extant and there are three structures within the northeast corner of the site, on the road that leads to Ropers Rest. A structure is depicted here, along with several other buildings and their associated gardens. The watercourse is again seen running parallel to this laneway.

William Wilson's Modern Plan of the City and Environs of Dublin, 1798

This map depicts Ropers Rest to the east within a wooded area without any other structures. A road is illustrated entering the northeast corner of the proposed development site from the Donore Ave., named Love Lane on this map. A watercourse (RMP DU018-043004) is depicted traveling northwest-southeast directly to the north of the proposed development area leading into Dublin. This watercourse supplies a mill (RMP DU018-048001) to the southeast of the site (RMP DU018-048001). A north-south watercourse is situated at the west of the site and joins the first watercourse to the immediate northwest of the site.

Thomas Campbell's City of Dublin, 1811 (Figure 13.4)

The two watercourses from Wilson's map are also depicted on this map, with the watercourse along the northern boundary of the site annotated as the Liberty Water. Several of the structures located to the east, at Ropers Rest on Faden's map, are depicted again along a new road that travels south to the Circular Road. The Canal Docks have been constructed to the southwest of the development at Dolphins Barn.

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 proposed development area, which is depicted within an empty, open field at this time, with the route of the Liberty Water roughly depicted north of the site.

William Duncan's Map of the Country of Dublin, 1821

This map provides more detail than Taylor's, with five structures depicted along the road to the east of the proposed development. A house named Rehoboth is located to the west of the site. There are no other changes of note.

John Cooke's Royal Map of Dublin, 1822

Cooke's map depicts the proposed development within two open fields and is bordered by the watercourses to the north, the watercourse at the west of the site is also depicted. There are no other significant changes.



FIGURE 13-4 EXTRACT FROM CAMPBELL'S MAP (1811) AND ORDNANCE SURVEY MAP (1847) OF DUBLIN

First Edition Ordnance Survey Map, 1837, scale 1:10560

There are three small structures at the northeast corner on Love Lane, outside of the proposed development area, and one fronting onto the Circular Road in the southeast corner, within the site. 'Rehoboth', to the west, now contains a school and nunnery. Roper's Rest is no longer depicted to the east, however, the site of Donore Castle (RMP DU018-047001) and Donore

Mills are marked in the same location. A cotton factory and Green Ville House have been built over them. Richmond Penitentiary, to the southeast, has expanded further and the Calico Printing Mills are illustrated to the north on Love Lane. The watercourse, along Love Lane (Donore Ave.) is no longer depicted, however, this may be due to the scale of the map. The watercourse which flowed along the northern edge of the proposed development area is still shown, while that along the western edge is not.

Ordnance Survey Map, 1847, scale 1:1056 (Figure 13.4)

This map shows in greater detail the site and its surrounding area. The watercourses along the northern and western boundaries of the site are still depicted, with that at the north labelled as 'Poddle River'. The watercourse along Love Lane is also shown as an open watercourse. There are no changes within the site boundary.

Ordnance Survey Map, 1864, scale 1:1056

The watercourses along the northern and western boundaries of the site are still depicted although that along Love Lane is no longer shown and may have been culverted by this point. The structure at the southeast corner of the site, as shown on the 1837 map, is no longer depicted. There has been some residential development in the surrounding environs of the proposed development. Salem Terrace borders the site to the west on the Circular Road. The nunnery and school are no longer annotated to the west and their structures are named 'Rehoboth', which contains a reformatory. The site of Donore Mills is no longer annotated to the east, with the cotton spinning mill in that area having expanded. The printing mills to the north of the site are also not annotated. The cotton factory has expanded and is marked as Cotton Spinning.

Second Edition Ordnance Survey Map, 1871-5, scale 1:10560

The Circular Road is marked as the Parliamentary Boundary on this map and the watercourse that forms the northern limit of the site is named the Poddle River. The parish boundary between St James' and St Catherine's runs to the west of the site, along the small watercourse shown on previous mapping.

Ordnance Survey Map, 1886-8, scale 1:1056

There are no changes within the proposed development site at this time.

Ordnance Survey Map, 1906-9, scale 1: 2500 (Figure 13.5)

By the time of this edition the proposed development is situated within one large open field with no structures within it. The River Poddle, along the northern edge of the site, is still depicted, as is the small watercourse along the western edge. There has been significant development to the immediate east of the site including residential buildings, a school, St Catherine's Chapel of Ease, and the Greenville Tobacco & Snuff Manufactory. The Tobacco factory has replaced the cotton spinning from the second edition OS map. The penitentiary to the southeast has been transformed into Wellington Barracks. An exercise track is drawn in the fields to the north of the site. Rehoboth has been divided into the Rehoboth Factory (Tent & Marquees), Rehoboth House, and Morton Villa. The South Circular Road has seen

significant development and a tramway has been built along it to the immediate south of the site.

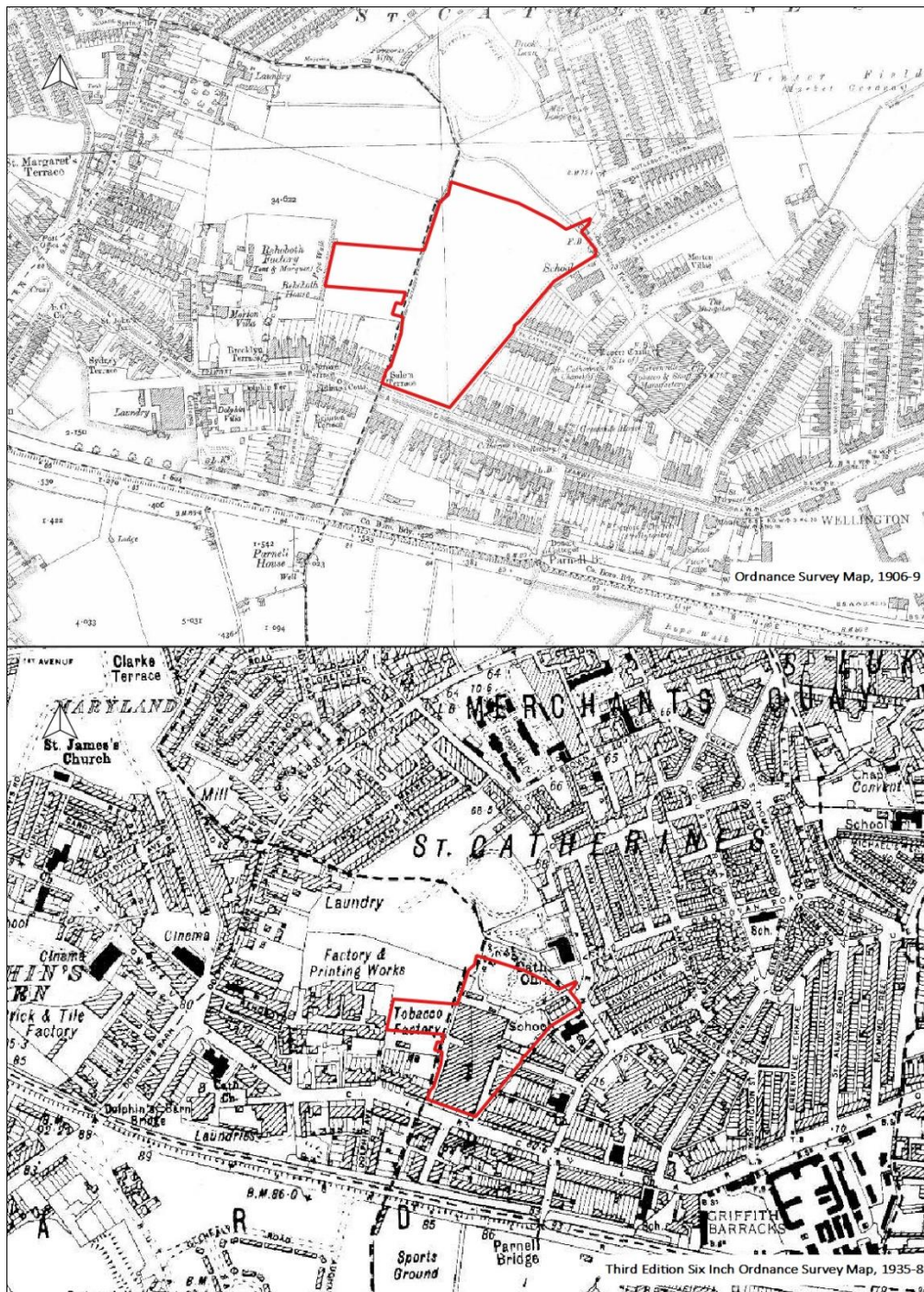


FIGURE 13-5 EXTRACT FROM ORDNANCE SURVEY MAPS (1906-9 AND 1935-8) OF DUBLIN

Third Edition Ordnance Survey Map, 1935-8, scale 1:10560 (Figure 13.5)

Within this edition the central and southern parts of the proposed development area are occupied entirely by a tobacco factory. The northern end of the site contains a path and

gardens, a row of houses is located at the northeast corner and the western extension of the site is located within an open field. The watercourse to the north of the site and small watercourse to the west are no longer depicted and have likely been culverted by this time. The Greenville Tobacco & Snuff Manufactory, site of Donore Castle, and Greenville House are no longer annotated to the east and the Wellington Barracks have been renamed to the Griffith Barracks. A Catholic Church is depicted to the immediate northeast. The tram along the South Circular Road has been removed. The structures to the west at Rehoboth have been replaced by a Factory and Printing Works.

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.

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 nine recorded monuments within the study area of the proposed development. (see **Figure 13.1**; **Table 13.1**).

RMP No.:	Location:	Classification:	Distance from Development:
DU018-020	Donore Ave.	Dublin City Zone of Archaeological Potential	Within northeast corner
DU018-047001	Donore Ave.	Castle - unclassified	107m east
DU018-043004	South Circular Road	Watercourse	213m east-southeast
DU018-020576	Dolphin's Barn Street	Watercourse	342m west
DU018-043001	Reuben Street	Watercourse	344m east
DU018-020358	Weaver's Square	House - 18th/19th century	402m north-northeast
DU018-020503	Cork Street	Graveyard	411m north
DU018-043002	Rutland Avenue	Watercourse	418m southwest
DU018-048001	Kimmage	Mill - unclassified	482m southeast
DU018-020357	Sweeney's Terrace	House - 18th/19th century	497m northeast

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 is one industrial heritage site within the proposed development, the Player Wills Factory (IH 33), and the site of one bordering the site to the west, a rope walk (IH 28).

The John Player factory (IH 33) was built in 1935 in an art-deco style. The DCIHR notes that substantial remains of the factory survive within the site:

‘It retains a wealth of interior features including original timber and glazed panelling, light and heat fittings and impressive continuous factory floor spaces. The relationship of form to function is evident throughout with careful design and location for preparation, packing, weighing and dispatch areas etc. The use of cast-iron, timber and glazing throughout is characteristic of early twentieth century industrial architecture. The external design and detailing, particularly to the south façade, are a relatively rare example of the art deco idiom in Dublin architecture, and the use of giant pilasters as well as the careful juxtaposition of red-brick, yellow-brick and concrete (as well as the simple interplay of projecting and recessed bays) create a harmonious and balanced façade. As a surviving twentieth century factory the site is of Industrial Heritage interest, contributed to by the survival of weighing machines, tanks, fixtures and factory layout.’

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 DCIHR survey lists a further 44 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 13.6**). The factory that is located within the proposed development area is described in detail within Chapter 14 Architectural Heritage of this EIAR.

IH No.:	Name/ Type:	Status of Site:	Distance from Development:
IH 33	Players Wills Factory {Tobacco Factory}	Substantial remains	0m
IH 28	Rope walk	No upstanding remains	Immediate west
IH 34	Tramway	Remains unknown	20m south
IH 27	Bailey, Son & Gibson Ltd {Rehoboth Factory & Printing Works, Tent Marquee & Flag makers}	Partial remains	49m west
IH 40	Tramway	Partial remains	107m southwest
IH 42	Grand Canal	Substantial remains	125m south

TABLE 13-2 INDUSTRIAL HERITAGE SITES (IH)

IH No.:	Name/ Type:	Status of Site:	Distance from Development:
IH 32	Boot Manufactory, White Swan Laundry {Greenville Tobacco & Snuff Manufactory; Greenmount Cotton Spinning Mill}	Partial remains	134m east
IH 31	White Swan Laundry {Cotton Dye Works}	Remains unknown	149m east
IH 43	Parnell Bridge {Canal Bridge}	Substantial remains	172m south-southeast
IH 41	Lime Kilns	Original replaced	185m southwest
IH 24	Laundry	Original replaced	190m northwest
IH 39	White Heather Laundry	Substantial remains	195m southwest
IH 29	Glue Factory	Original replaced	221m northeast
IH 16	Chemical Works	Original replaced	232m north
IH 38	Canal Docks	Remains unknown	251m southwest
IH 37	White Heather Industrial Estate, Laundry	Original replaced	277m west-southwest
IH 22	Spring Bridge (road/river Poddle)	Original replaced	279m northwest
IH 15	Tannery	Partial remains	285m north
IH 18	Sweet Factory	Original replaced	289m north
IH 14	Phelan & Co. Ltd. Furniture, Wire Mattress, Curled Hair & Bedding Manufacturers (Furniture Factory)	Original replaced	289m north
IH 17	Tenter Fields, Textile Production	Original replaced	296m northeast
IH 23	Clothing Factory {Tan Yards}	Remains unknown	298m west-northwest
IH 20	Chemical Works	Original replaced	301m northwest
IH 25	Tan Yard	No remains	311m west
IH 19	Hosiery Factory	Original replaced	316m north-northwest
IH 21	Botany Weaving Mill {City Woollen Mills}	Original replaced	323m northwest
IH 44	Rope Walk	No remains	346m southeast
IH 13	Thos. Elliott & Sons Irish Poplin, Silks & Silk Handkerchief Manufacturers & Co., Factory {Poplin and Silk Factory}	Original replaced	348m north

TABLE 13-2 INDUSTRIAL HERITAGE SITES (IH) CONTD.

IH No.:	Name/ Type:	Status of Site:	Distance from Development:
IH 36	Harbour	Remains unknown	374m west-southwest
IH 9	{Rob. Maguire Rope Manufactory}, Bacon Curing Factory {Rope Walk}	Remains unknown	384m north
IH 10	Printing Works	Partial remains	394m north
IH 26	Brick and Tile Factory	No remains	402m west
IH 35	Dolphin's Barn Bridge {Camac Bridge} (Canal bridge)	Substantial remains	426m west-southwest
IH 11	Dye Works	Original replaced	429m north-northeast
IH 12	Paper Mill	Original replaced	444m north-northeast
IH 8	Tan Yard	Original replaced	457m north
IH 6	Tan Yard	No remains	460m north
IH 30	Rope walk	Original replaced	462m east
IH 46	Laundry {Rutland Flour Mills}	No remains	464m southwest
IH 1	Scribona Cake Factory	Original replaced	468m north
IH 4	Biscuit Factory {Foundry & Engineering Works}	Partial remains	487m north
IH 45	Greenmount & Boyne Weaving Manufactory {Greenmount Spinning Manufactory}	Partial remains	488m southeast
IH 3	Rope Walk	No remains	491m north
IH 5	Biscuit Factory {Engineering Works}	Remains unknown	496m north
IH 2	Delphinium Pottery {Distillery}	No remains	497m north-northwest
IH 7	Poplin Factory {Lace Factory}	Substantial remains	498m north

TABLE 13-2 INDUSTRIAL HERITAGE SITES (IH) CONTD.

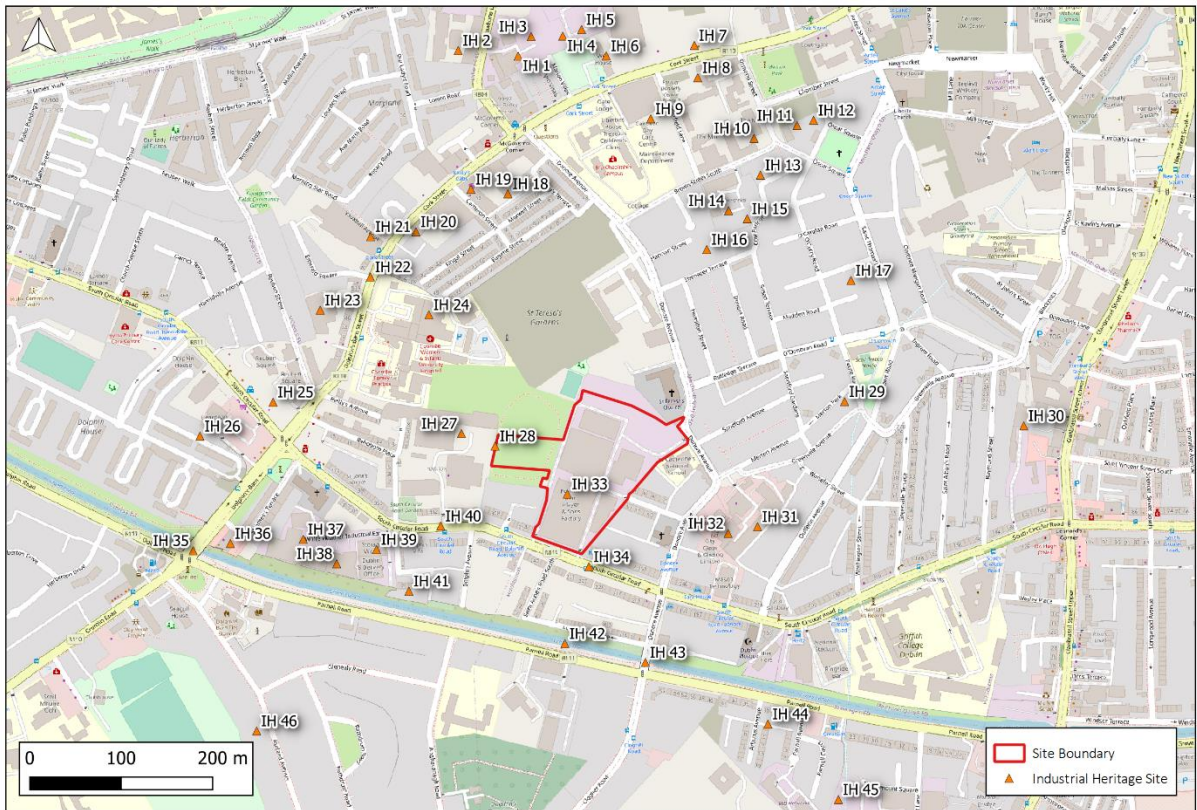


FIGURE 13-6 LOCATION OF PROPOSED DEVELOPMENT AND SURROUNDING INDUSTRIAL HERITAGE SITES

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 (2003-2018), and Bing Maps did not reveal any previously unknown archaeological features due to the urban nature of the landscape (Plate 13.3).



PLATE 13.3 GOOGLE SATELLITE IMAGE 2018

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 site is currently occupied by the former Player Wills Tobacco Factory building at the southern end, with warehouse structures at the central and eastern areas of the site (Plate 13.4). These structures cover c. 80% of the site. The northern and north eastern end of the site is occupied by a car park (Plates 13.5-13.6). All buildings are currently vacant. The western section of the development area is formed by a level greenfield area that is currently very overgrown and surrounded by a rough footpath. The course of the Abbey Stream flows along the northern edge of the site, outside of the site boundary. This area is extensively overgrown and the Stream itself is culverted.

No previously unrecorded features of archaeological potential were noted during the course of the inspection. The existing Player Wills factory remains extant and is listed within the Dublin City Industrial Heritage Record. The site of a ropewalk borders the development area to the immediate west, but possesses no upstanding remains.



PLATE 13.4 ENTRANCE TO THE SITE, FACING NORTH



PLATE 13.5 **CENTRAL PART OF SITE, FACING SOUTH**



PLATE 13.6 **NORTHEAST OF THE SITE SHOWING SCRAP PILES, FACING NORTHEAST**

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 north eastern end of the proposed development boundary extends into the zone of archaeological potential for the historic town of Dublin (RMP DU018-020). There are also a further 9 recorded monuments within a 500m study area, of which watercourses form the majority.

The former Player Wills factory (IH 33) contained within the proposed development is listed on the Dublin City Industrial Heritage Record. The survey records a further 45 industrial heritage sites within the study area of the proposed development, one of which a rope walk (IH 28) extends along the western boundary of the site.

A review of the Excavations Bulletin (1970-2019) has revealed that there has been one previous archaeological investigation within the proposed development, which did not identify anything of archaeological significance. These excavations, together with the monitoring of ground investigation works within the site boundary has shown deposits of made ground up to c. 2m bgl. There have been 44 investigations within the study area, 28 of which did not identify anything of archaeological significance. The remaining investigations encountered evidence of medieval and post-medieval watercourses and evidence of post-medieval habitation, tanning, and military activity.

An analysis of the cartographic sources revealed that the proposed development was situated within open fields bordered by watercourses to the north and west, with minor residential development throughout the post-medieval period until the 20th century. The site and its environs were subject to significant development in the 20th century when a tobacco factory was built within its confines. The field inspection and review of aerial photography did not identify any previously unknown archaeological features. It did reveal that c. 80% of the site area is occupied by structures and has been subject to significant disturbance during the 20th century.

The Abbey Stream flows, which previously flowed east to west to the north of the site, were diverted into a culvert in Donore Avenue at its point of entry to the site at its northeast corner during the 20th century and the culvert which runs to the north of the site is now defunct. Survey work was also carried out by Dublin City Council on the course of Hangmans Stream which flows along the western boundary of the site which showed this to now be the location of a 450mm stormwater pipe.

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**, can also be considered as cultural heritage sites.

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 which have not been previously recorded) have been identified within the study area.

13.6 Do Nothing Scenario

If the proposed development were not to proceed there would be no negative impact on the archaeological and cultural heritage resource. However, as the area has been zoned for development it is likely that a development of a similar nature would be progressed, in which case the effects on any potential archaeological deposits at the site would be consistent with the identified impacts set out in this assessment.

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 impacts on any known archaeological sites or monuments during the demolition phase of the proposed development.

The existing Player Wills Factory is listed within the DCIHR and as such possesses cultural heritage significance. The partial demolition of these structures and redevelopment of aspects of the factory, will result in a direct significant negative impact on the cultural heritage resource.

13.8.2 Construction Phase

The construction of the proposed development will include excavations of up to c.8m below ground level for the creation of a double level basement at the northern end of the site; excavations up to 3.5m for a small single basement and general site strip of c. 0.5m below ground level to include foundation excavations of c.1m below ground level and topsoil stripping across the greenfield area to facilitate landscaping and construction of a road in this area.

A small section of the Zone of Archaeological Potential for Dublin City (DU018-020) is located at the north eastern corner of the site. This area of the Zone of Potential covers the culverted course of the River Poddle, which is used as part of the municipal storm water drainage network. Excavations associated with the site strip and drainage in this area may directly impact on archaeological deposits in this area. Impacts prior to mitigation may range from slight to moderate negative.

Given the disturbance on site from 19th century and modern industrial development, there is low potential for archaeological remains pre-dating the 18th century to survive within the main area of development, although less disturbance has taken place within the greenfield area where a park is proposed. It remains possible that should previously unknown archaeological remains survive beneath the existing ground level, prior to mitigation, there may be a moderate to profound negative direct impact on these feature or deposits. This would be caused by ground disturbances associated with the proposed development including all ground reduction and excavation works associated with the insertion of the proposed basements within the northern part of the site.

No impacts are predicted on the site of the Ropewalk that borders the development area to the west, as it possesses no upstanding remains.

13.8.3 Operational Phase

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

This application forms part of a wider Masterplan area that includes the former Bailey Gibson site and lands under the control of Dublin City Council. As previously identified, permission was granted by An Bord Pleanála for development of the former Bailey Gibson site. The Board in making their decision concluded in relation to archaeology that the proposed development would not be likely to have significant adverse effects.

Condition No. 20 of the Grant of Permission relates to archaeology;

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.

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.

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. This includes the permitted development at the Bailey Gibson site adjacent to the proposed application area to the west.

Other surrounding developments that will be subject to archaeological mitigation from the Dublin City Archaeologist and/or National Monuments Service, include:

- 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

The Masterplan that accompanies this application identifies further development within surrounding lands. These will be subject to separate applications for consent and archaeological impact assessments will be submitted as necessary. The cumulative impact of this subject proposal with those developments will be assessed at that time.

13.8.5 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
Physical removal of potential archaeological deposits associated with DU018-020	Negative	Slight to Moderate	Site specific	Likely	Permanent	Direct
Physical removal of potential archaeological deposits	Negative	Moderate to profound	Site specific	Likely	Permanent	Direct
Partial removal and redevelopment of Player Wills Factory	Negative	Significant	Site specific	Likely	Permanent	Direct
Site of ropewalk	No impact	N/a	N/a	N/a	N/a	N/a

TABLE 13-4 SUMMARY OF DEMOLITION & CONSTRUCTION PHASE LIKELY SIGNIFICANT EFFECTS IN THE ABSENCE OF MITIGATION

13.9 Mitigation

13.9.1 Demolition Phase Mitigation

The existing Player Wills Factory will be subject to partial demolition and redevelopment. Detailed mitigation measures relating to this are included in Chapter 14, of this EIAR.

13.9.2 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 Culture, Heritage, and the Gaeltacht.

Full provision will be made by the client, 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 (DoCHG).

13.9.3 Operational Phase Mitigation

As there will be no impact on any archaeological remains 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 residual impact on the cultural heritage resource.

13.11.2 Construction Phase

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.

13.11.3 Operational Phase

There will be no potential archaeology 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 profound negative permanent impact on 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.
Significant negative permanent impact on the Player Wills Factory due to partial demolition and redevelopment.	Full written and photographic record – as detailed in Chapter 14.	

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
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TABLE 13-8 SUMMARY OF DEMOLITION & CONSTRUCTION PHASE MITIGATION AND MONITORING

13.14 Conclusions

The assessment has shown that whilst the likelihood that archaeological remains survive beneath the proposed development area is deemed to be low, it remains possible that ground disturbances associated with the development may directly and negatively impact any remains. The impacts may range from moderate to profound 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.

The Player Wills is included in the Dublin City Industrial Heritage Survey and is considered to possess cultural heritage significance. The factory will be subject to direct, negative significant impacts due to its partial demolition and redevelopment. Prior to these works taking place the factory will be subject to a full written and photographic record. Detailed mitigation measures are included in Chapter 14 Built Heritage.

13.15 References and Sources

Bennett, I. (ed.) 1987–2010 Excavations: Summary Accounts of Archaeological Excavations in Ireland. Bray. Wordwell.

Bradley, J 1992 'The topographical development of Scandinavian Dublin.' In F. H. A. Aalen and K. Whelan (eds). Dublin City and County: from Prehistory to Present. Dublin: Geography Publications.

Chartered Institute for Archaeologists 2014a Standards & Guidance for Field Evaluation.

Chartered Institute for Archaeologists 2014b Standards & Guidance for Archaeological Excavation.

Chartered Institute for Archaeologists 2014c Standards & Guidance for an Archaeological Watching Brief (Monitoring).

Clarke, H. 2002. Historic Towns Atlas of Dublin. Part 1

Clarke, H.B 1990 Medieval Dublin: The Living City Dublin: Irish Academic Press

Culleton E. (ed.) 1999 Treasures of The Landscape; Townland Names by An Tathair Seamas S. De Vaal Dublin: Trinity College.

De Courcy, J.W. 1996 The Liffey in Dublin Gill & Macmillan, Dublin

Department of Arts, Heritage, Gaeltacht, and the Islands. 1999a Framework and Principles for the Protection of the Archaeological Heritage. Dublin. Government Publications Office.

Department of Arts, Heritage, Gaeltacht, and the Islands. 1999b Policy and Guidelines on Archaeological Excavation. Dublin. Government Publications Office.

Dowd, M., Carden, R., 2016. 'First evidence of a Late Upper Palaeolithic human presence in Ireland.' *Quaternary Science Reviews* 139: 158-163.

Dublin City Development Plan, 2016-2022.

Environmental Protection Agency. 2015 Draft Advice Notes on Current Practice (in the preparation of Environmental Impact Statements). Dublin. Government Publications Office.

Environmental Protection Agency. 2017 Draft Guidelines on the Information to be Contained in Environmental Impact Statements. Dublin. Government Publications Office.

Jackson, V. 1959 The Inception of the Dodder Water Supply, *Dublin Historical Record* Vol. 15 (2) pp.55-68.

Joyce, P. W. 1870. *Irish Local Names Explained*. Sydney: Wentworth Press.

Lynch, R. 2003. *Archaeological Assessment at Cork Street/Cameron Street Dublin 8*. Licence 04E0020.

McErlean, T. 1983 "The Irish townland system of landscape organisation". In Reeves-Smyth, Terence; Hamond, Fred (eds) *Landscape Archaeology in Ireland BAR British Series 116*. pp. 315–39.

National Monuments Service, Department of Culture, Heritage, and the Gaeltacht. *Sites and Monuments Record, County Dublin*

National Museum of Ireland. *Topographical Files, County Dublin*.

Nelis, D. 2005. *Archaeological monitoring at Cork Street/Cameron Street, Dublin 8*. Licence 04E0310.

Ronan, M.V. 1927 The Poddle River and its Branches. *The Journal of the Royal Society of Antiquaries of Ireland Sixth Series, Vol. 17 (1)* pp.39- 44.

Simpson, L. 1997 Historical Background to the Patrick Street Excavation in C. Walsh *Archaeological Excavations at Patrick, Nicholas & Winetavern Streets, Dublin*. Dingle; Brandon pp.17-33

Stout, G. and Stout, M. 1997 *Early Landscapes: from Prehistory to Plantation*. In F.H.A. Aalen et. al. (eds), *Atlas of the Irish Rural Landscape*. Cork. Cork University Press.

13.15.1 Cartographic Sources

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

13.15.2 Electronic Sources

www.childrenshomes.org.uk

www.excavations.ie – Summary of archaeological excavation from 1970–2018.

www.archaeology.ie – DoCHG website listing all SMR sites.

www.osiemaps.ie – Ordnance Survey aerial photographs dating to 1995, 2000 & 2005 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.

www.googleearth.com – Satellite imagery of the proposed development area.

www.bingmaps.com – Satellite imagery of the proposed development area.

www.booksulster.com/library/plnm/placenamesC.php - Contains the text from Irish Local Names Explained by P.W Joyce (1870).

www.logainm.ie –Placenames Database of Ireland launched by Fiontar agus Scoil na Gaelige and the DoCHG.

CHAPTER 14

BUILT HERITAGE

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



DECEMBER 2020

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14 Built Heritage

14.1 Introduction

This chapter of the EIAR provides an assessment of the built heritage significance of the Player Wills Factory site, its setting and context, and the built heritage elements within the wider context, including Protected Structures and Residential Conservation Areas. The chapter identifies any special architectural and historic character of the subject site, and any other features which are of note. An evaluation of the chronology of the site is also included.

This chapter does not relate to archaeological significance, which is covered in Chapter 13 of the EIAR.

The site was fully evaluated and photographically recorded, externally and internally, in the preparation of this report. These photographs are included in Volume 3 of the EIAR, Appendix 14.5 and Appendix 14.6. There is some overlap between this Chapter (Built Heritage) and Chapter 5 of this EIAR (Landscape and Visual).

The chapter assesses and evaluates any existing built heritage, both on site and in the immediate setting of the site, which could potentially be impacted by the proposed development. 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.

It should be noted that none of the structures on the subject site are included on the Dublin City Council Record of Protected Structures. The main Factory building, comprising Factory No. 1 and No. 2, is included on the National Inventory of Architectural Heritage (NIAH). The structure is attributed a rating of 'Regional' significance by the NIAH, under the special interest categories of Artistic, Architectural, Historical and Social.

The study area has been defined with reference to the red-line boundary of the application area, and also considers the heritage of the wider context of the site, including the adjoining Bailey Gibson and Masterplan lands, and the surrounding area. The potential for impact from the proposed development on the built heritage of the wider area, including residential conservation areas and neighbouring Protected Structures has also been considered.

The entirety of the subject site is located within a designated Strategic Development and Regeneration Area in the Dublin City Development Plan 2016-22, S.D.R.A. 12: St. Teresa's Gardens and Environs.

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'*. Portions of the eastern side of Donore Avenue are also zoned Z2. The structures to the East of the site, along Donore Avenue, are 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 wider vicinity of the subject site include the Church of St. Catherine and St. James, Donore Avenue (RPS Reg. Ref: 2326), Donore Castle, Donore Avenue (RPS Reg. Ref: 2325), Our Lady of Dolours Church, South Circular Road (RPS Reg. Ref: 1849), the Dublin Mosque and Islamic Information Centre, South Circular Road (RPS

Reg. Refs: 1847, 1848), the former Griffith Barracks, South Circular Road (RPS Reg. Ref: 1846) and Brú Chaomhín, Cork Street (RPS Reg. Ref: 2053).

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 ABRCCons 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 Bailey Gibson Site, South Circular Road, the Dart Underground Project, the Luas Line Extension, the ESB Headquarters on Fitzwilliam Street, Heuston South Quarter, the redevelopment of the Boland's Quay site, and the redevelopment of the RTE Campus. Ongoing projects on similar SHD developments include the Tedcastles Site, Dun Laoghaire.

14.3 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. PL0003**.

DBTR-SCR1 Fund, a Sub-Fund of the CWTC Multi Family ICAV intend to apply to An Bord Pleanála for permission for a mixed-use Build to Rent Strategic Housing Development at the former 'Player Wills' site (2.39 hectares) and adjoining lands (0.67 hectares) under the control of Dublin City Council. A public park, public road and works to South Circular Road and to facilitate connections to municipal services at Donore Avenue are proposed on the Dublin City Council land. The former 'Player Wills' site incorporates Eircode's: D08 T6DC, D08 PW25, D08 X7F8 and D08 EK00 and has frontage onto South Circular Road, St. Catherine's Avenue and Donore Avenue, Dublin 8. The Dublin City Council undeveloped land adjoins the former 'Player Wills' site to the west and the former 'Bailey Gibson' site to the east. The total area of the proposed development site is 3.06 hectares.

The design rationale is to create and deliver a high quality, sustainable, 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. The Proposed Site Layout is illustrated on Drawing No. PL0003 contained within the architectural suite of drawings.

The development will consist of;

- i. the demolition of all buildings (15,454 sq.m GFA), excluding the original fabric of the former Player Wills Factory, to provide for the development of a mixed use(residential, community, arts and culture, creche, food and beverage and retail) scheme comprising predominantly build to rent apartment dwellings (492 no.) together with a significantly lesser quantity of single occupancy shared accommodation private living areas (240 no.), with an average private living floor area of 24.6 sq.m (double the minimum private living space size required for single occupancy shared accommodation) and a

- arts/culture/community hub within the repurposed ground floor of the former factory building;
- ii. change of use, refurbishment, modifications and alterations to the former Player Wills Factory building (PW1) to include the removal of 1 no. later addition storey (existing 4th storey) and the later addition rear (northern) extension, retention and modification of 3 no. existing storeys and addition of 2 no. storeys set back on the building's south, east and west elevations with an 8-storey projection (max. height 32.53m) on the north eastern corner, with a cumulative gross floor area of 17,630 sq.m including ancillary uses, comprising;
 - a. at ground floor 852 sq.m of floor space dedicated to community, arts and cultural and exhibition space together with artist and photography studios (Class 1 and Class 10 Use), 503 sq.m of retail floor space (Class 1 Use), 994 sq.m of café/bar/restaurant floor space, 217 sq.m of co-working office floor space (Class 3 Use) and ancillary floor space for welfare facilities, waste management and storage;
 - b. 240 no. single occupancy shared accommodation private living areas, distributed over levels 1-4, including 2 no. rooms of 30 sq.m, 49 no. rooms of 25 sq.m; 14 no. rooms of 23 sq.m, 58 no. rooms of 22.5 sq.m, 8 no. rooms of 20 sq.m, 104 no. rooms of 19 sq.m and 5 no. disabled access (Part M) rooms (3 no. 32 sq.m and 2 no. 26 sq.m); 21 no. kitchen/dining areas, and, 835 sq.m of dedicated shared accommodation services, amenities and facilities distributed across levels 1-4, to accommodate uses including lounge areas, entertainment (games) area, 2 no. external terraces (Level 03 and 04), laundry facilities, welfare facilities and waste storage;
 - c. 47 no. build-to rent apartments distributed across levels 1-7 including 12 no. studio apartments; 23 no. 1 bed apartments, 8 no. 2 bed apartments: and, 4 no. 3-bed apartments;
 - d. 1,588 sq.m of shared (build to rent and shared accommodation) services, amenities and facilities including at ground floor reception/lobby area, parcel room, 2 no. lounges and administration facilities; at Level 01 entertainment area, TV rooms, entertainment (games room), library, meeting room, business centre; at Level 02 gym and storage and at Level 07, a lounge area.
 - e. Provision of communal amenity outdoor space as follows; PW1 - 450 sq.m in the form of roof terraces dedicated to shared accommodation and 285 sq.m roof terrace for the proposed apartments .
 - f. a basement (190 sq.m) underlying the proposed 8-storey projection to the northeast of PW1 to accommodate plant.
 - iii. the construction of 445 no. Build to Rent apartment units, with a cumulative gross floor area of 48,455 sq.m including ancillary uses distributed across 3 no. blocks (PW 2, 4 and 5) comprising;
 - a. PW2 (45,556 sq.m gross floor area including ancillary uses) - 415 no. apartments in a block ranging in height from 2-19 storeys (max. height 63.05m), incorporating 16 no. studio units; 268 no. 1 bed apartments, 93 no. 2 bed apartments and 38 no. 3-bed apartments. At ground floor, 2 no. retail units (combined 198 sq.m) (Class 1 use), and a café/restaurant (142 sq.m). Tenant services, amenities and facilities (combined 673 sq.m) distributed across ground floor (lobby, mail room, co-working and lounge area), Level 06 (terrace access) and Level 17 (lounge). Provision of communal amenity open space including a courtyard of 1,123 sq.m and roof terraces of 1,535 sq.m

- b. Double basement to accommodate car parking, cycle parking, waste storage, general storage and plant.
 - c. PW4 (1,395 sq.m gross floor area including ancillary uses) - 9 no. apartments in a part 2-3 storey block (max. height 10.125m) comprising, 2 no. 2-bed duplex apartment units and 7 no. 3-bed triplex apartment units. Provision of communal amenity open space in the form of a courtyard 111 sq.m
 - d. PW5 (1,504 sq.m gross floor area including ancillary uses) - 21 no. apartments in a 4 storey block (max. height 13.30m) comprising 12 no. studio apartments, 1 no. 1-bed apartment, 5 no. 2-bed apartments, and 3 no. 3-bed apartments. Provision of communal amenity space in the form of a courtyard 167sq.m.
- iv. the construction of a childcare facility (block PW4) with a gross floor area of 275 sq.m and associated external play area of 146 sq.m;
 - v. the provision of public open space with 2 no. permanent parks, 'Players Park' (3,960 sq.m) incorporating active and passive uses to the northwest of the former factory building on lands owned by Dublin City Council; 'St. Catherine's Park' (1,350 sq.m) a playground, to the north east of the Player Wills site adjacent to St. Catherine's National School. A temporary public park (1,158 sq.m) to the northeast of the site set aside for a future school extension. The existing courtyard (690 sq.m) in block PW1 (former factory building) to be retained and enhanced and a public plaza (320 sq.m) between proposed blocks PW and PW4.
 - vi. 903 no. long-stay bicycle parking spaces, with 861 no. spaces in the PW2 basement and 42 no. spaces at ground level in secure enclosures within blocks PW4 and PW5. 20 no. spaces reserved for non-residential uses and 110 no. short-stay visitor bicycle spaces provided at ground level.
 - vii. 4 no. dedicated pedestrian access points are proposed to maximise walking and cycling, 2 no. from South Circular Road, 1 no. from St. Catherine's Avenue and 1 no. from Donore Avenue.
 - viii. in the basement of PW2, 148 no. car parking spaces to serve the proposed build to rent apartments including 19 no. dedicated disabled parking spaces and 6 no. motorcycle spaces. 20 no. spaces for a car sharing club ('Go Car' or similar). 10% of parking spaces fitted with electric charging points.
 - ix. in the basement of PW2, use for 81 no. car parking spaces (1,293 sq.m net floor area) including 5 no. dedicated disabled parking spaces, 3 no. motorcycle spaces and 10% of parking spaces fitted with electric charging points to facilitate residential car parking associated with future development on neighbouring lands. The area will not be used for carparking without a separate grant of permission for that future development. In the alternative, use for additional storage (cage/container) for residents of the proposed development.
 - x. 37 no. surface level car parking spaces including 3 no. disabled access and 3 no. creche set down spaces and 10% fitted with electric charging points. 2 no. loading bays and 2 no. taxi set-down areas.
 - xi. development of internal street network including a link road (84m long x 4.8m wide) to the south of the proposed 'Players Park' on land owned by Dublin City Council that will provide connectivity between the former 'Bailey Gibson' site and the 'Player Wills' site.
 - xii. vehicular access will be provided via Donore Avenue with a one-way exit provided onto South Circular Road to the east of block PW1(the former factory building);
 - xiii. replacement and realignment of footpaths to provide for improved pedestrian conditions along sections of Donore Avenue and South Circular Road and realignment

- of centreline along sections of Donore Avenue with associated changes to road markings;
- xiv. a contra-flow cycle lane is proposed at the one-way vehicular exit to the east of PW1 (former factory building) to allow 2-way cycle movements via this access point;
 - xv. decommissioning of existing 2 no. ESB substations and the construction of 2 no. ESB substations and associated switch rooms, 1 no. single ESB substation in PW 1 (43.5 sq.m) and 1 no. double ESB substation in PW2 (68 sq.m);
 - xvi. the construction of a waste and water storage building (combined 133 sq.m, height 4.35m) to the west of building PW1;
 - xvii. all ancillary site development works; drainage, rooftop solar photovoltaics (20 no. panels total), landscaping, boundary treatment and lighting.

14.4 Methodology

The cultural heritage value and significance of the proposed development site has been assessed in accordance with the Planning and Development Act 2000 (as amended), the Department of Arts Heritage and the Gaeltacht 'Architectural Heritage Protection: Guidelines for Planners', 2011, and the Dublin City Council Development Plan 2016-22.

A separate assessment was carried out on the adjoining Bailey Gibson site, which has received permission from An Bord Pleanála for a SHD development. This assessment is cognisant of the Bailey Gibson site, also under the control of the applicant.

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

14.4.1 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.

14.4.2 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, Draft (EPA, 2017);
- 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)
- Urban Development and Building Heights: Guidelines for Planning Authorities, (Department of Housing, Planning and Local Government, 2018)

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, 2001);
- 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.
- 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
- Development Framework for St. Teresa's Gardens and Environs, 2017
- NIAH Handbook (Department of Culture, Heritage and the Gaeltacht, 2017).

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.

14.4.3 Consultation

In accordance with the Opinion from An Bord Pleanála, issued August 2020, the following architectural heritage related prescribed bodies have been notified of the lodgement of the application:

- Department of Culture, Heritage and the Gaeltacht.
- The Heritage Council.
- An Taisce.

Extensive pre-application consultation meetings were held between the Design Team and Dublin City Council (DCC) during the design development phase and full details are contained in the **Planning Statement** that accompanies this application under separate cover.

Of relevance to this chapter are meetings held on May 15th 2019, February 7th 2020, and March 10th 2020. The Dublin City Council Conservation Officer was present at these meetings and expressed opinions and requested further information regarding the proposed works to the Factory building. DCC made clear from an early stage that the retention of the original fabric of the main Factory building was an objective of the City Council.

The DCC Opinion issued to An Bord Pleanála as part of the pre-application process on the proposed development, dated June 12th 2020, includes no opinion from the Conservation department. The matters raised in the DCC Opinion do not relate to built heritage conservation.

14.5 Baseline Environment

The subject site is largely comprised of modern industrial buildings, with a range of 20th century factory and warehouse structures in varying condition. None of the structures on the subject site are included on the Dublin City Council Record of Protected Structures. The main factory building is included on the National Inventory of Architectural Heritage survey of this area.

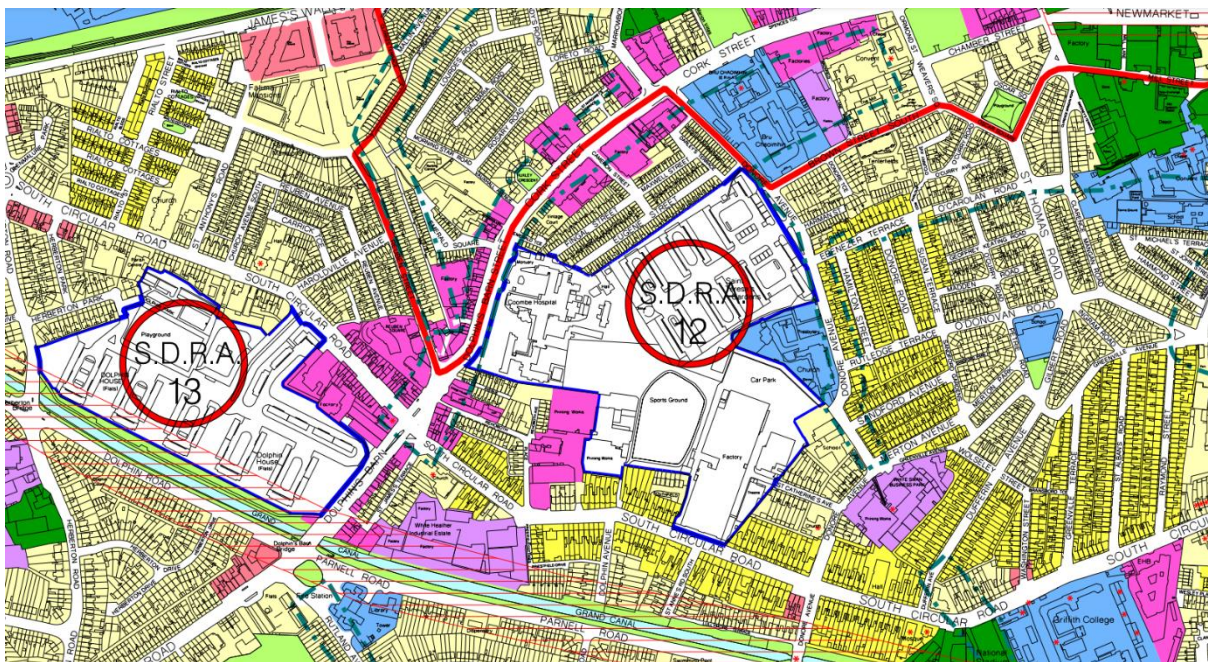


FIGURE 14.1: EXTRACT FROM MAP E OF THE DUBLIN CITY COUNCIL DEVELOPMENT PLAN 2016-2022, SHOWING HERITAGE ASSETS WITHIN THE WIDER SETTING OF THE SUBJECT SITE. PROTECTED STRUCTURES ARE INDICATED BY RED ASTERISKS, RESIDENTIAL CONSERVATION AREAS (Z2) ARE SHADED IN YELLOW, AND CONSERVATION AREAS ARE HATCHED WITH HORIZONTAL RED DASHES.

The subject site is located within a designated Strategic Development and Regeneration Area in the Dublin City Development Plan 2016-22, S.D.R.A. 12: St. Teresa's Gardens and Environs.

Protected Structures within the wider vicinity of the subject site include the Church of St. Catherine and St. James, Donore Avenue (RPS Reg. Ref: 2326), Donore Castle, Donore Avenue (RPS Reg. Ref: 2325), Our Lady of Dolours Church, South Circular Road (RPS Reg. Ref: 1849), the Dublin Mosque and Islamic Information Centre, South Circular Road (RPS Reg. Refs: 1847, 1848), the former Griffith Barracks, South Circular Road (RPS Reg. Ref: 1846) and Brú Chaomhín, Cork Street (RPS Reg. Ref: 2053). These Protected Structures are located at approximately 110m, 155m, 303m, 269m, 295m, 404m, and 410m, respectively.

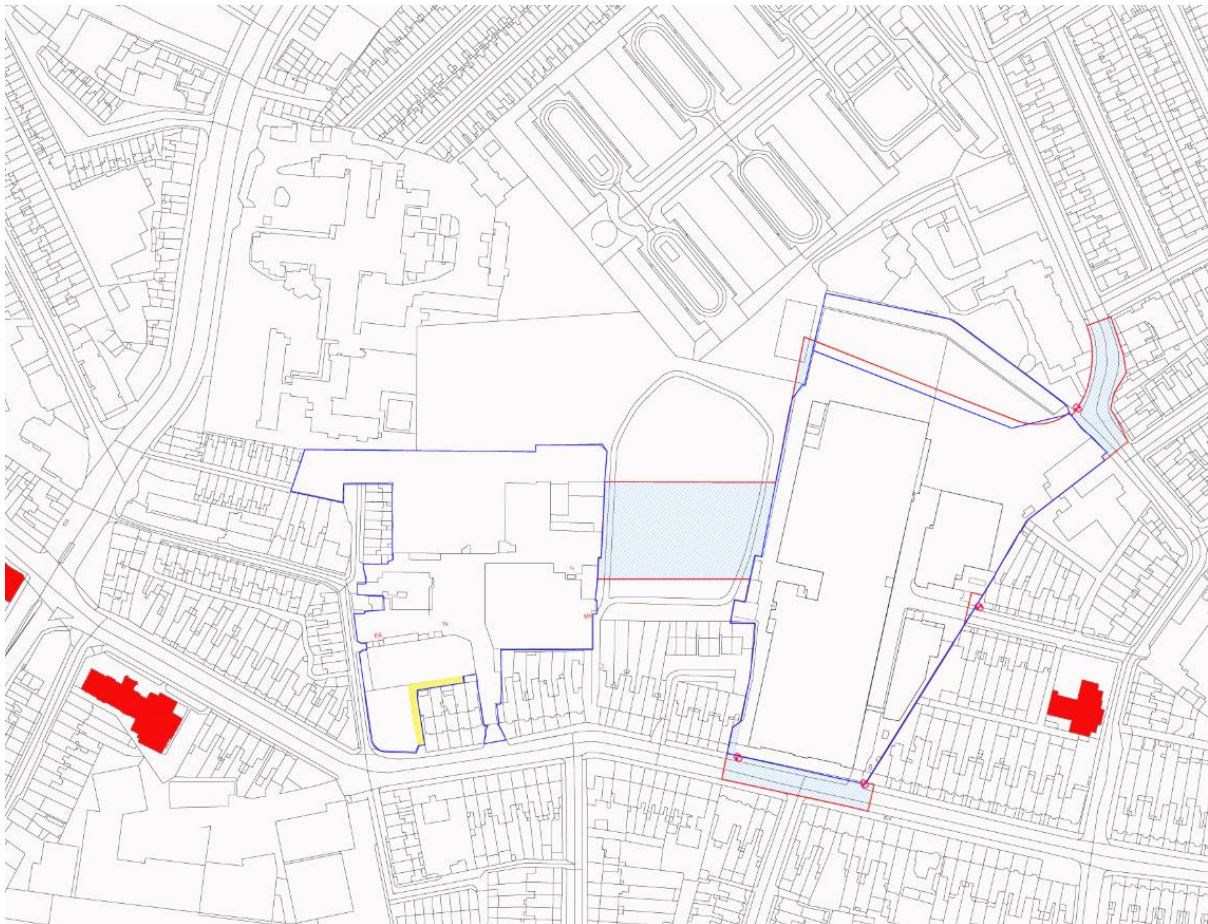


FIGURE 14.2: OVERLAY ON SITE LOCATION MAP, SHOWING THE PROTECTED STRUCTURES (HIGHLIGHTED RED) IN THE IMMEDIATE VICINITY OF THE SITE. PLEASE NOTE THAT FURTHER PROTECTED STRUCTURES ARE LOCATED JUST OUTSIDE OF THIS MAP, AS INDICATED IN FIGURE 14.1 ABOVE.

The neighbouring terraced houses along the South Circular Road and the eastern side of Donore Avenue are zoned Z2 (Residential Conservation Area).

The proposed development is not within the boundaries or sightlines of any of the Key Views and Prospects identified in the Dublin City Development Plan 2016-2022.

14.5.1 Context

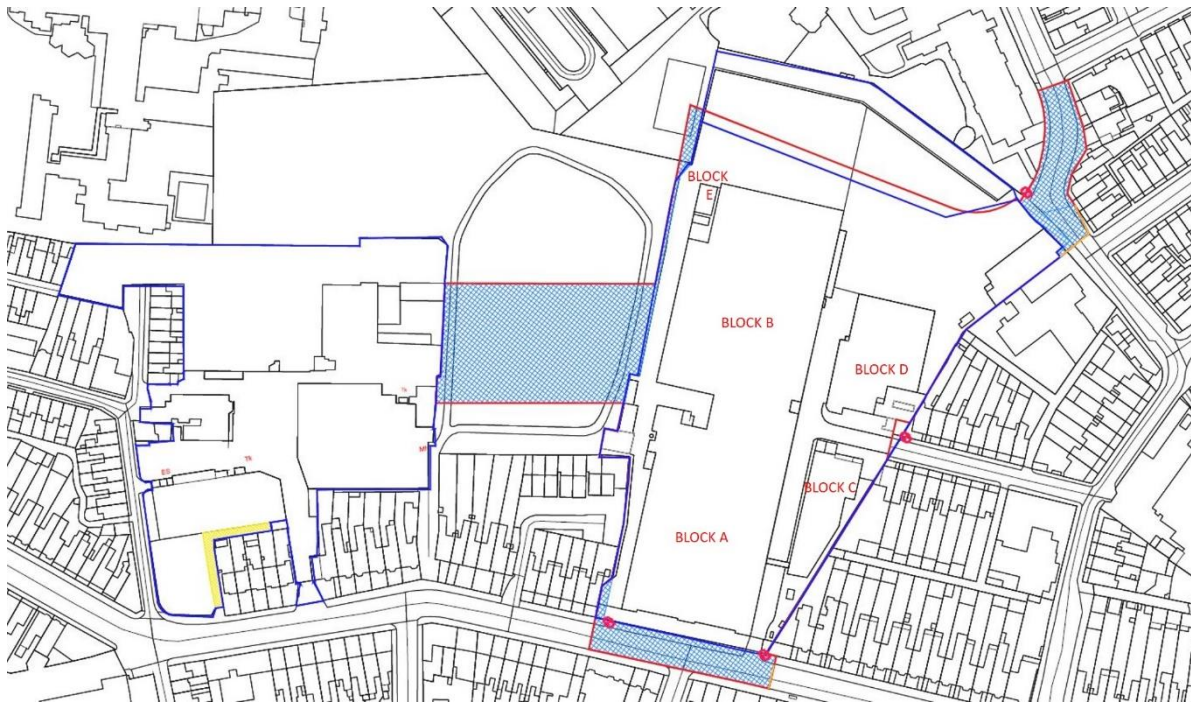


FIGURE 14.3: KEY PLAN IDENTIFYING THE EXISTING BLOCKS ON SITE, OVERLAID ON THE SITE LOCATION MAP, PREPARED BY HENRY J LYONS ARCHITECTS. THE RED LINE INDICATES THE SITE BOUNDARY, AND THE BLUE LINE INDICATES THE APPLICANT'S OWNERSHIP.

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 development of this site as a tobacco factory began in the early 1920s, following the creation of the Irish Free State. An Irish Times newspaper article on September 6th 1923 notes that *"one result of the establishment of the Irish Free State and the exercise of its functions of levying Customs duties has been to give an impetus to the building of tobacco factories in Dublin. Several new buildings are in course of erection, and others are being adapted to the manufacture of this commodity."* One of the new buildings noted in this article is the subject site, originally the tobacco factory for Messrs William Clarke and Son, Ltd. The phased development of the site can be roughly traced through various newspaper articles during the

1920s and 1930s. The full text of these articles is appended in Volume III of the EIAR (Appendix 14.3).



FIGURE 14.4: 1916 AERIAL PHOTOGRAPH OF THE SUBJECT SITE, PRIOR TO THE DEVELOPMENT OF THE TOBACCO FACTORY.

Development of the site commenced in 1923, with the first building on the site, Factory No. 1, being constructed to the northern end of the site, at a distance of 300ft from the South Circular Road. Four cottages were also constructed on the site at this time, to house English foremen who would be brought over to oversee the works. These cottages were in the north-eastern corner of the site, and appear to have survived until the mid-1990s. The architects for the works were Beckett and Harrington, in collaboration with the Engineer's Department of the Imperial Tobacco Company.

Beckett and Harrington was an architectural partnership between George F. Beckett and Cyril A. Harrington, formed in 1918. The practice was the appointed architect to the Munster and Leinster Banking Company, and designed a large number of bank branch buildings throughout the country. The list of their known works on the Dictionary of Irish Architects includes a large number of commercial, banking, and industrial projects, with some houses and other minor alteration works.

A description of the development is provided in the Building News section of the Irish Times, on September 6th 1923:

“One of the most important of the new tobacco factory schemes is that which has been started by Messrs Wm Clarke and Son, Ltd., on a site extending over seven acres on the north side of the South Circular road, near Donore Avenue. Three hundred feet back from the roadway about two hundred workmen are employed in the construction of the No. 1 factory, where Messrs Clarke hope within a short time to have several hundred Dublin workers employed in the manufacture of tobacco. The building covers three-quarters of an acre, is of the single-storey type, with north lights. It is constructed of County Dublin stock brick, has a frontage of 198feet to the South Circular Road, and runs 160ft to the north. It has been placed 300 feet back from the main road, because it is only the first section of a larger scheme of buildings which the firms contemplate, and it is probable that the space between the road and the No.

1 factory will ultimately be occupied by a much more extensive and imposing building than that now in course of erection.

The No. 1 factory, shown in our illustrations, is being constructed by Messrs McLaughlin and Harvey, Ltd., to the designs of Messrs Beckett and Harrington, architects, St. Stephen's Green, whose plans were prepared in collaboration with the Engineer's Department of the Imperial Tobacco Co., Bristol. The cast-iron columns used in the constructional work were supplied by Messrs Tonge and Taggart. The steel principals carrying the roof were the work of Messrs J and C McGloughlin, Ltd., Great Brunswick Street. The factory is being roofed throughout with the well-known fireproof Poilite tiles, and the adjoining houses will be covered with the russet coloured Poilite Pantiles, which will give them a very picturesque appearance. The whole of the roofing is being fixed under the personal supervision of Mr Peter Kearney, 24 Eden Quay, on behalf of the makers. Mr. W. Sinnott Glenn, of 199 Great Brunswick Street, Dublin, secured instructions for the laying of 'Decolite' jointless flooring over the entire concrete surface of the factory floor. The colour will be dull red.

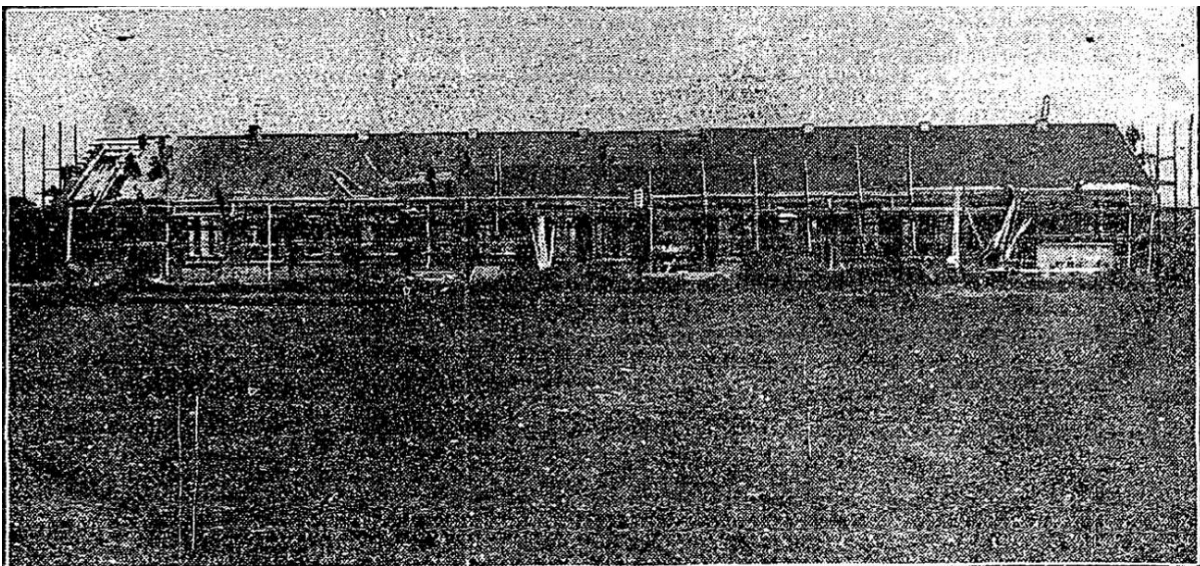


FIGURE 14.5: THE NEW FACTORY AS SEEN FROM THE SOUTH CIRCULAR ROAD", PHOTOGRAPH FROM THE IRISH TIMES, SEPTEMBER 6TH 1923.

Adjacent to the factory four cottages are being constructed for the accommodation of the foremen who are to be brought across the Channel to give the necessary technical instruction to the Dublin workers, it being the intention of the firm to employ local labour for every possible post. Messrs Clarke at present manufacture tobacco in Liverpool, but their scheme provides for the complete removal of all manufacturing from the English City to Dublin and when the entire building scheme at the South Circular road is completed about a thousand people will be employed. The family of Clarke have had a long connection with Ireland, especially in the City and County of Cork, where several members have resided for a considerable period."

A second building, Factory No. 2, was constructed the following year, 1924. This second building comprised a large manufactory area, with a suite of offices to the front, along South Circular Road. A description of the development is provided in the Building News section of the Irish Times, on April 10th 1924:

“Having acquired a site extending over seven acres on the north side of the South Circular road near Dolphin’s Barn, Messrs. William Clarke and Son first erected their No. 1 factory, which is now in full operation. This building was erected some 300 feet back from the main road, leaving space for the erection of a more substantial structure nearer to the South Circular road. Here No. 2 factory is now in course of execution, as shown in the photograph on this page.

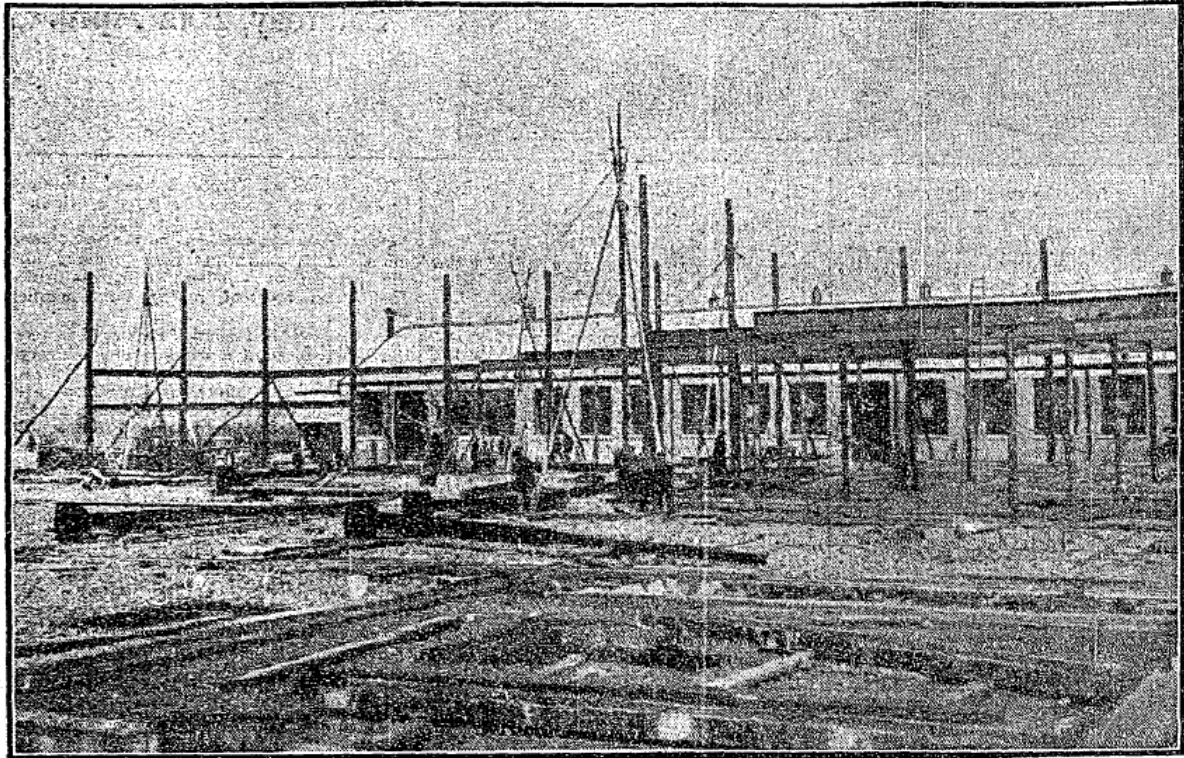


FIGURE 14.6: “THIS VIEW SHOWS THE ERECTION OF THE STEEL STRUCTURE FOR THE NO. 2 FACTORY. NO. 1 FACTORY IS SEEN IN THE BACKGROUND”, PHOTOGRAPH FROM THE IRISH TIMES, APRIL 10TH, 1924.

The factory will be a two-storeyed building, 254 ft. long and 180ft wide. It is to be a steel frame structure with concrete floors, and a flat concrete roof. The enclosing walls will be built of brick, and the windows will have steel sashes. The heavy machinery employed in the manufacture of tobacco will be installed on the ground floor. The building will include a handsome suite of offices, a restaurant for the workers, and a boiler house.

The No. 2 factory has been designed by the Engineers’ Department of the Imperial Tobacco Company, Ltd., Bristol, in collaboration with Messrs Beckett and Harrington, architects, Dublin, and is being carried out under the supervision of Messrs Beckett and Harrington by Messrs McLaughlin and Harvey, Ltd., Dartmouth Works, Dublin.

The No. 1 factory, which has been completed, and in which the process of manufacturing tobacco now gives employment to several hundred people, was also constructed by Messrs McLaughlin and Harvey, Ltd., to the design of Messrs Beckett and Harrington. This building is of the single-storey type, with north-lights. It is constructed of Co. Dublin stock brick, has a frontage of 198 ft., and runs 160 ft. to the north.

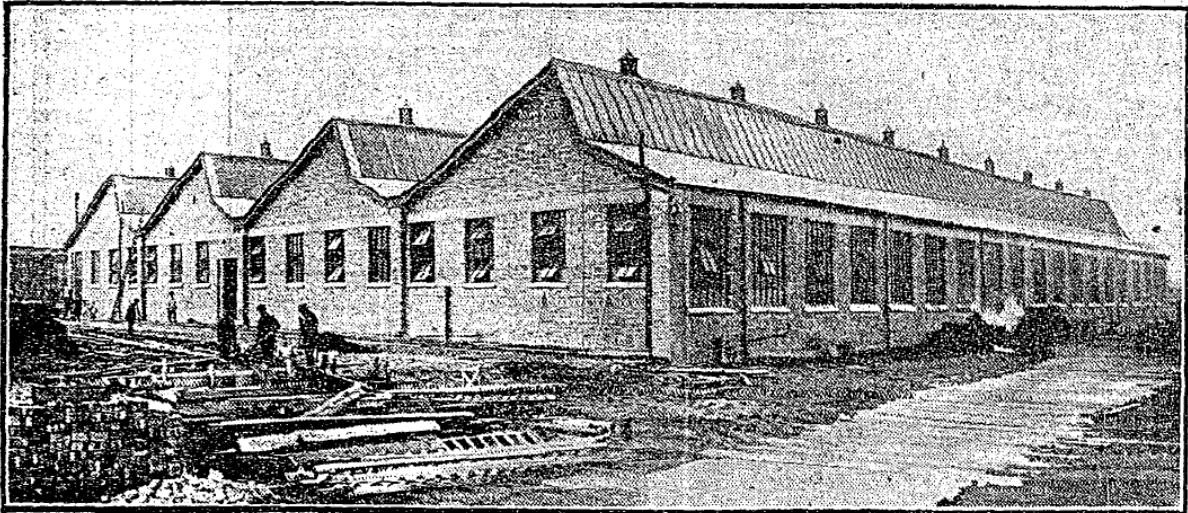


Photo by]

A View of the No. 1 Factory.

[Irish Times.

FIGURE 14.7: "A VIEW OF THE NO. 1 FACTORY", PHOTOGRAPH FROM THE IRISH TIMES, APRIL 10TH, 1924.

The cast iron columns used in this building were supplied by Messrs Tonge and Taggart. The steel principals carrying the roofs were the work of Messrs J. and C. McGloughlin, Ltd., Great Brunswick Street. The factory was roofed with Poillite fire-proof tiles, under the supervision of Mr. Peter Kearney, 24 Eden Quay, Dublin; on behalf of the makers.

Messrs Clarke formerly manufactured tobacco in Liverpool, and when the entire building scheme at the South Circular road is completed a large number of people will be employed. The family of Clarke have had a long connection with Ireland, especially in the city and county of Cork, where several members have resided for a considerable period."

The subject site was originally the premises for tobacco manufacture for the firm Messrs William Clarke and Son, Ltd., a subsidiary group of the Imperial Tobacco Company. The firm of William Clarke and Son was founded in Cork, in 1830. In 1870, the business was transferred to Liverpool, with depots being maintained in Ireland. In 1923, following the formation of the Irish Free State, the Clarke Branch was transferred to Dublin, and its United Kingdom trade was taken over by the Ogden Branch. The Clarke Branch commenced manufacture at its Dolphin's Barn factory in January 1924.

The Engineer's Department of the Imperial Tobacco Company were involved in the design of both No. 1 and No. 2 Factories. Construction was carried out by Messrs McLaughlin and Harvey, and overseen by local architects Beckett and Harrington.

An advert for Clarke's Tobacco from 1927 shows the front offices of the Clarke Tobacco Factory following the completion of the No. 1 Factory, with a two-storey multi-bay façade to South Circular Road.



FIGURE 14.8: ADVERT FROM CONNACHT TRIBUNE, APRIL 16TH 1927: CHIEF CHEROKEE SEES THE FACTORY WHERE CHEROKEE PLUG IS MADE. CLARKE'S TOBACCO FACTORY, DOLPHIN'S BARN, DUBLIN.

The figure below shows the extent of the building following the extension to Factory No. 2, and the construction of the single-storey building to the east of Factory No. 1. Note also the row of semi-detached houses in the bottom right hand corner of the photo, these are the 1923 workers cottages, referred to above. A later 3-storey extension has been constructed between Factory No. 1 and Factory No. 2. A third-storey appears to have been added to the western wing of Factory No. 2.

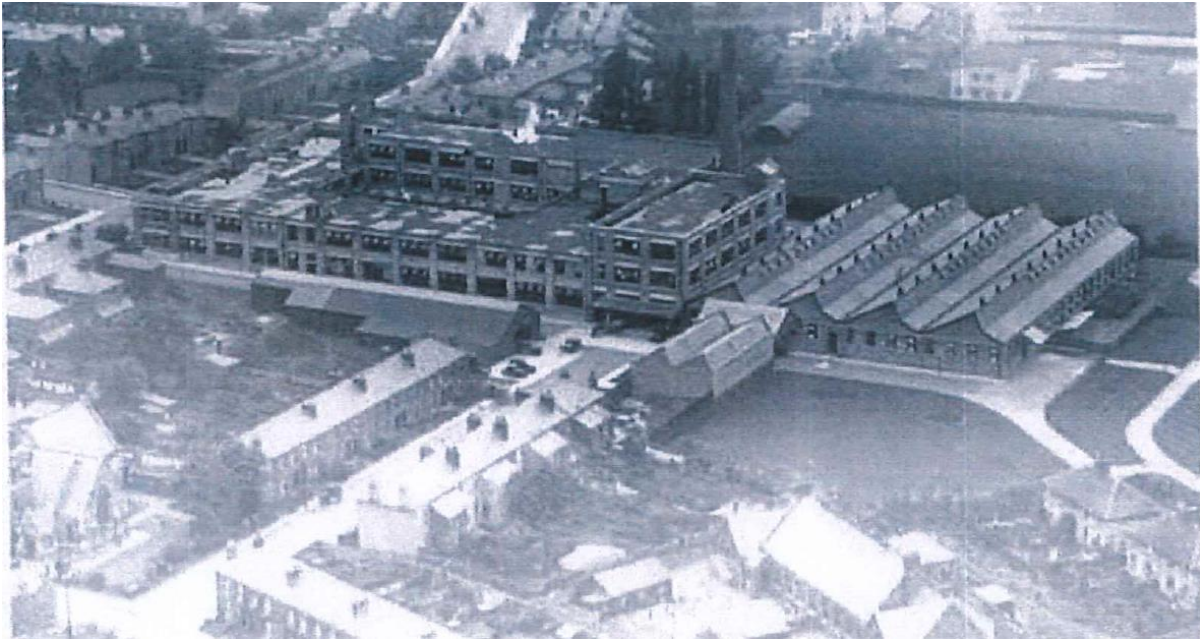


FIGURE 14.9: UNDATED AERIAL PHOTOGRAPH, SHOWING THE FACTORY IN THE MID-LATE 1920S.



FIGURE 14.10: UNDATED PHOTOGRAPH OF THE FRONT FAÇADE ALONG SOUTH CIRCULAR ROAD, SHOWING THE SOUTH AND EAST ELEVATIONS IN THE MID-LATE 1920S. THIS PHOTOGRAPH PRE-DATES THE C. 1929 ADDITION OF THE SECOND FLOOR.

By 1929, the Imperial Tobacco Company decided that the factory should also house another of their tobacco companies, W. D. and H. O. Wills, who moved here from their premises on nearby Marrowbone Lane. It appears that substantial extensions were carried out at this time, including the addition of the second storey to the front elevation.



FIGURE 14.11: UNDATED PHOTOGRAPH, SHOWING THE FACTORY FOLLOWING THE LATE 1920S ADDITION OF THE SECOND FLOOR.

A 1939 Architectural Supplement in the Irish Times, written by architect George Beckett, of Beckett and Harrington, gave an overview of recent factory development and design. In this article, Beckett refers to developments in the design principles, with a shift towards the welfare of the workers within the factories:

“Now we see a better conception of the relation of the worker to the work produced: we see a care for the welfare of the operative that comes from a genuine desire to bring into the life of the workers, through their surroundings, more cheerful conditions. One sees this not only in the actual formation of the buildings themselves, but in the relationship evidently existing between the staff in charge and the hand-workers themselves...”

The provision of adequate facilities for recreations has now become a matter of course in the development of factories of any considerable size. Well laid-out pleasure grounds are becoming fairly common, and factory managers are realising the importance of these amenities, and of keeping them in good order.”

These principles are evident in the design of the subject building, with historic maps and photographs clearly showing recreation/pleasure grounds for the workers at the northern end of the site.

A restaurant and staff canteen were added to the building in 1949, to designs by Beckett and Harrington.

In the 1960s, John Player and Sons and W. D. and H. O. Wills and William Clarke and Sons were combined to form Player and Wills (Ireland) Ltd. It was decided to centralise the offices and manufacturing operations to the larger premises at South Circular Road at this time. This necessitated further extensions to the subject building, and the construction of a new block.

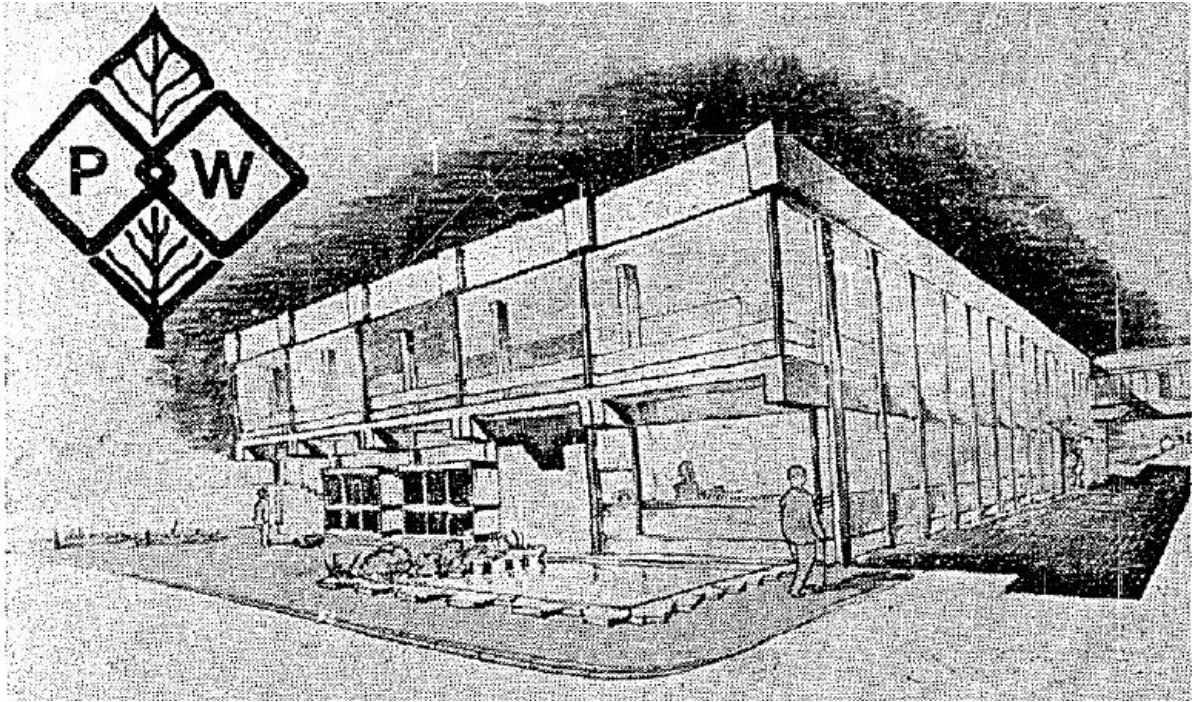


FIGURE 14.12: ARCHITECT'S SKETCH OF THE PROPOSED NEW BUILDING, PUBLISHED IN THE IRISH INDEPENDENT, MARCH 30TH 1967.

Later, undated, works to the factory and site are evidenced by late 20th century mapping. These works largely comprised the construction of large modern warehouse structures towards the northern end of the site. The factory closed in the early 2000s.

The various phases of known development on the factory site throughout its lifetime are illustrated in **Figure 14.13**, below. In this image, Red indicates the original 1923 No. 1 Factory; Green indicates the later 1924 No. 2 Factory; Orange indicates late 1920s additions; Blue indicates 1930s additions; Pink indicates the 1949 restaurant and canteen extension; Turquoise indicates a later warehouse addition, in evidence by 1955; Purple indicates the 1960s building; Yellow indicates later additions, in evidence by 1985. This is based on historic maps, photographs, and descriptions in contemporary newspaper articles.



FIGURE 14.13: OVERLAY ON AERIAL IMAGE FROM GOOGLE MAPS, SHOWING THE PHASED DEVELOPMENT OF THE EXISTING SITE OF THE FORMER PLAYER WILLS FACTORY.

In order to determine the chronology of building on the subject site, a number of historic maps and images were consulted (the relevant plates are included in Appendix 14.1, in Volume III of the EIAR, and should be referred to). These are as follows –

14.5.1.1 1st Edition Ordnance Survey Map, 1838-47



FIGURE 14.14: EXTRACT FROM THE 1838-47 ORDNANCE SURVEY MAP, SHOWING THE SUBJECT SITE IN RED.

The subject site is undeveloped, and appears to be in open fields at this time. A watercourse and row of trees are visible at the northern end of the site. The South Circular Road has been laid out, as has Donore Avenue to the east of the site. There has been very little development along this section of the South Circular Road.

14.5.1.2 Ordnance Survey Map, 1864-66



FIGURE 14.15: EXTRACT FROM THE 1864-66 ORDNANCE SURVEY MAP, SHOWING THE SUBJECT SITE IN RED.

The terrace of houses, Salem Terrace, to the immediate west of the subject site has been laid out by this time. The subject site remains undeveloped.

14.5.1.3 Ordnance Survey Map, 1886-88

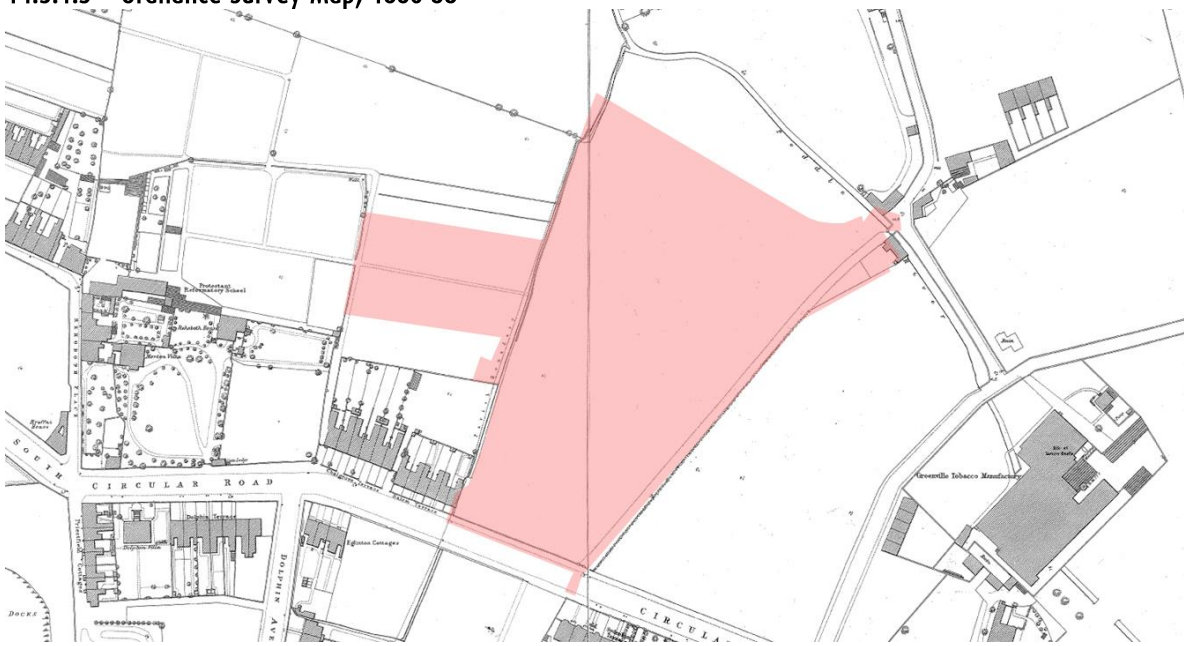


FIGURE 14.16: EXTRACT FROM THE 1886-88 ORDNANCE SURVEY MAP, SHOWING THE SUBJECT SITE IN RED.

There are no alterations to the subject site or its immediate surroundings apparent in this map.

14.5.1.4 Ordnance Survey Map, 1907-09

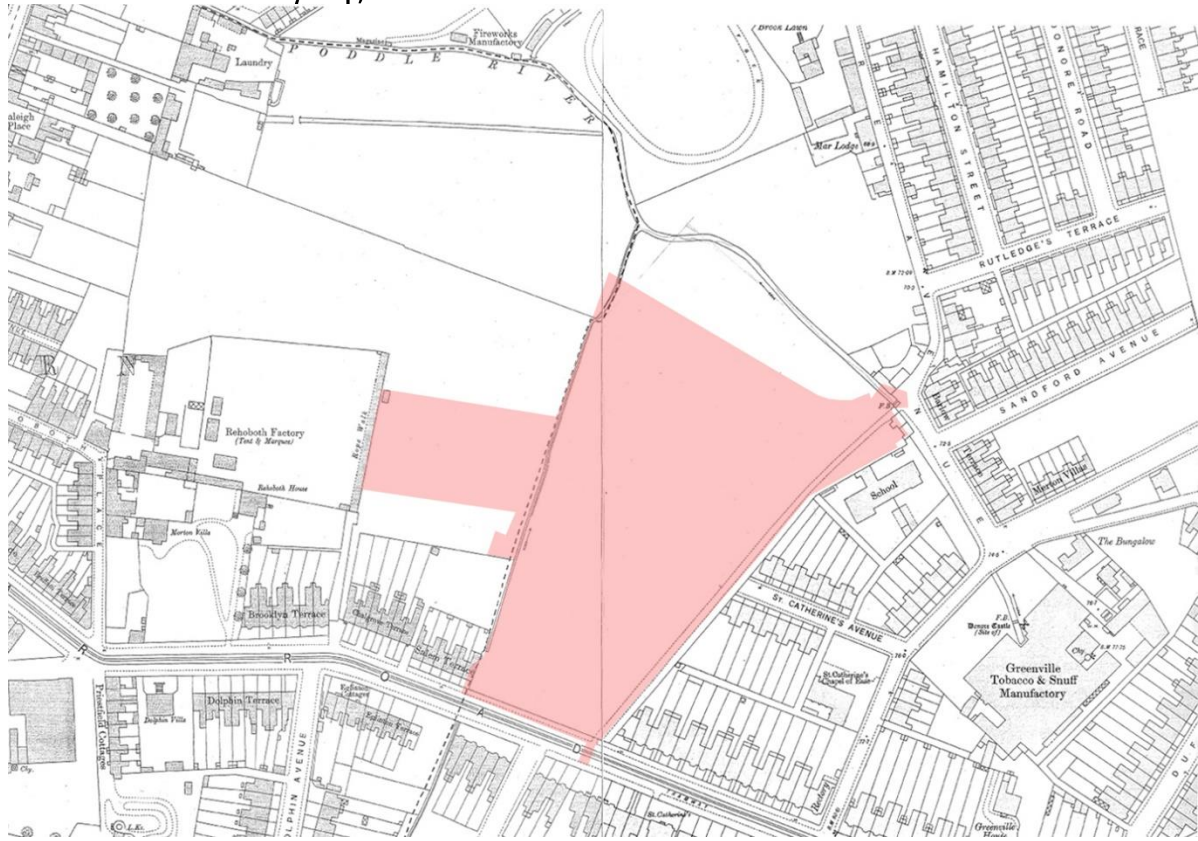


FIGURE 14.17: EXTRACT FROM THE 1907-09 ORDNANCE SURVEY MAP, SHOWING THE SUBJECT SITE IN RED.

There are no alterations to the subject site in this map. The surrounding area has been extensively developed with housing.

14.5.1.5 Ordnance Survey Map, 1927-28

Only partial coverage of the site was available for this edition. The map shows No. 1 Factory to the north, with the later No. 2 Factory to the south, and a gap between the two buildings. It appears that there was some connection between the two buildings. There is a long building to the east of No. 2 Factory, in the location of the later 1960s block. There are two pairs of semi-detached houses to the north-east of the site, near the local school.

14.5.1.6 Ordnance Survey Map, 1943-62

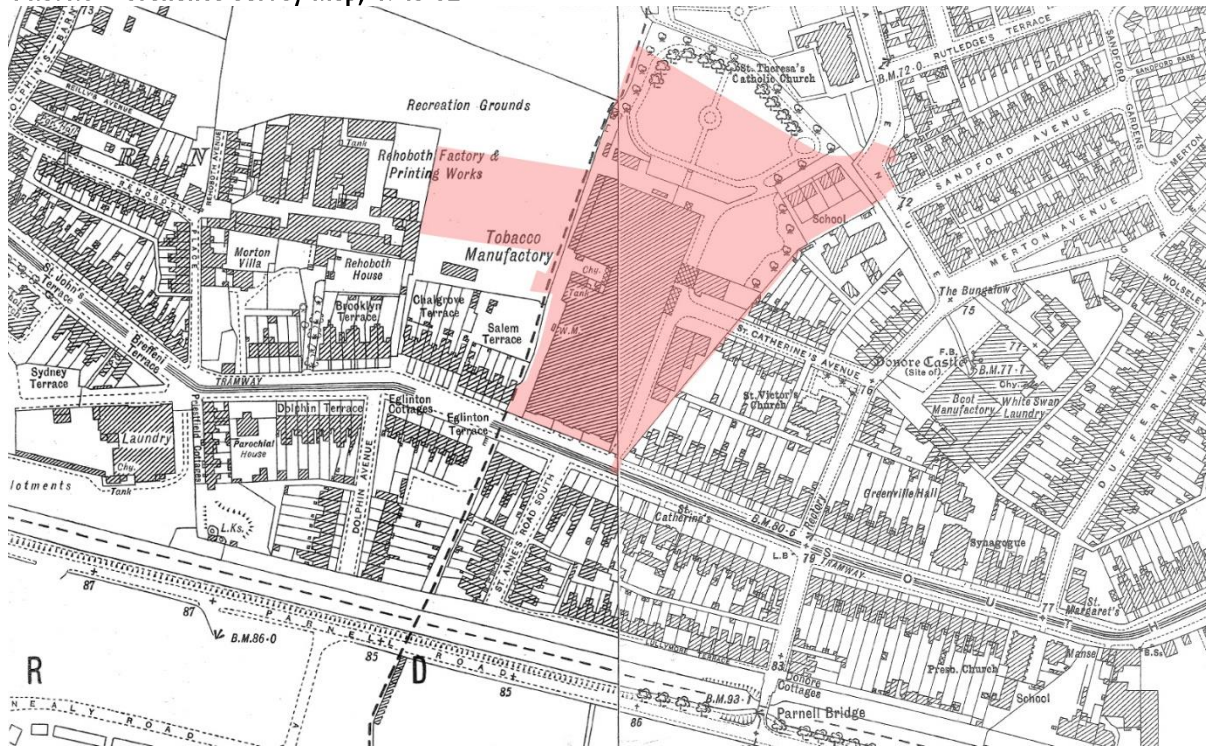


FIGURE 14.18: EXTRACT FROM THE 1943-62 ORDNANCE SURVEY MAP, SHOWING THE SUBJECT SITE IN RED.

An infill building has been constructed between the two factory blocks by this time. A building has been constructed at the northern corner with St. Catherine's Avenue, this appears to be an entrance gate lodge. The footprint of the 1960s block appears to be in evidence at this time. The northern area of the site has been laid out with walkways, to function as a recreation ground.

14.5.1.7 Dublin Corporation Map, 1985

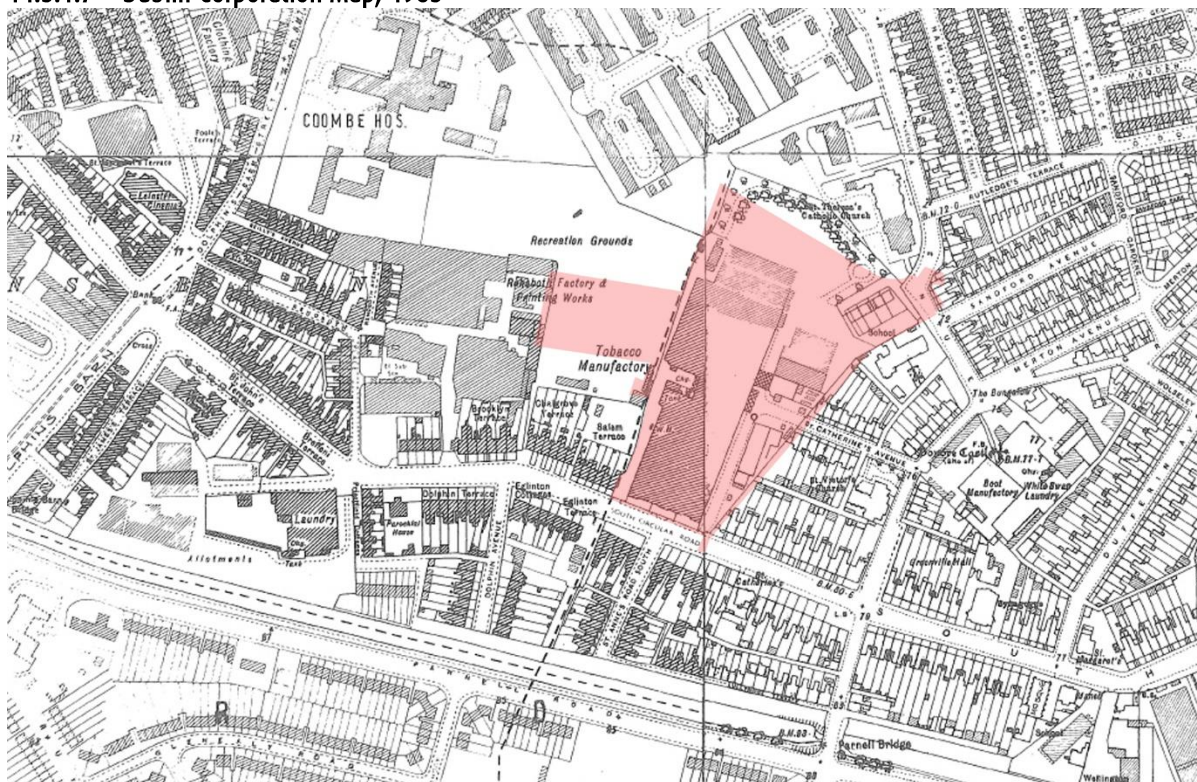


FIGURE 14.19: EXTRACT FROM THE 1985 DUBLIN CORPORATION MAP, SHOWING THE SUBJECT SITE IN RED.

A large extension has been constructed to the north of No. 1 Factory, and two large extensions to the north of the Gate Lodge. The recreation grounds to the north of the site are no longer noted.

14.5.1.8 Current Ordnance Survey Map

The four houses in the north-eastern corner of the site have been demolished. Aerial photography indicates that this occurred in the 1990s. The former recreation area to the north of the site was most recently used as a car park. There are no apparent changes to the footprint of the building.

14.5.2 Character

The subject site is comprised of five buildings, as illustrated in the Key Plan, **Figure 14.3**, included at the start of section **14.5.1**, above.

A full internal and external photographic record is included in Volume III of the EIAR (Appendices 14.5 and 14.6), this should be read alongside this section.

14.5.2.1 Block A

This Block is comprised of two distinct sections: Factory No. 2, the three-storey block surrounding the central covered courtyard, and the Front Offices.



FIGURE 14.20: OBLIQUE VIEW ALONG SOUTHERN (FRONT) AND EASTERN ELEVATION OF BLOCK A.

The subject building is a three-storey multiple bay industrial building, constructed in yellow brick. There is some stonework and rendered decorative elements to the front façade, included a central breakfront and string course to second floor level. There is a later third floor extension, located in the north-eastern section of the building. The original multi-pane steel windows are arranged in groups of three. Some original windows have been replaced by modern metal, timber and uPVC windows (See the Window Schedule, Appendix 14.9 in Volume III) for further detail.

The building is arranged around a central courtyard, covered at ground floor level. There is a flat roof to the building, with some small structures constructed at roof level. There are decorative cast-iron gates to either side of the front façade.

The interiors of the factory building are typically large open-plan spaces. There are few surviving details of any architectural interest. A high level of water ingress, particularly to the front section along South Circular Road, has caused a significant level of damage to the joinery details. Internally, the steel structure survives. Historic internal photos show the former machinery that was located in these open-plan areas.

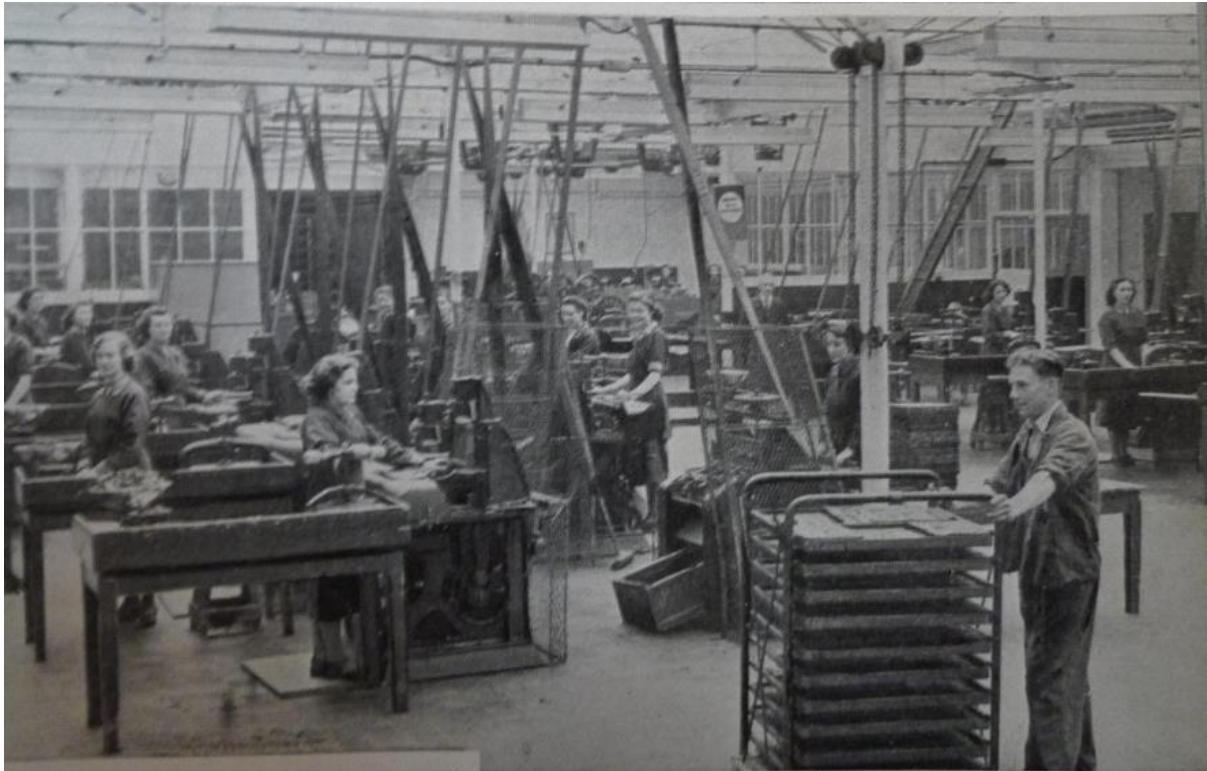


FIGURE 14.21: 1920s INTERNAL PHOTOGRAPH SHOWING THE MANUFACTURE OF CLARKE'S TOBACCO IN THE SUBJECT BUILDING.

Ground Floor Level

Room G1:

This room is the side entrance hall, located between the original rear wall of Block A and the later three-storey extension to the north. There are multi-pane steel windows to the southern wall, and timber windows to the northern wall. There are external doors to both the eastern and western ends. The southern wall to the original building is in brickwork, with the later northern wall being comprised of timber panelling and blockwork. There are exposed steel beams and suspended services at the ceiling.

Room G2:

This room is an internal circulation space within the original footprint of Block A. The walls are painted brickwork.

Room G3:

This room is located within the original footprint of Block A. There are multi-pane steel windows on the northern wall, the original rear wall to Block A. There are exposed steel beams and suspended services at the ceiling. The walls are painted brickwork.

Room G4:

This room is the rear stairhall within the original footprint of Block A. There is a concrete staircase with ornamental wrought-iron bannisters. There are exposed steel beams and suspended services at the ceiling.

Room G5:

This room is located within the original footprint of Block A. There are tall banks of timber pigeon-holes filling this room. There are exposed steel beams and suspended services at the ceiling. The walls are painted brickwork.

Room G6:

This room is an internal circulation space within the original footprint of Block A. There are clerestory windows to the walls. There are exposed steel beams and suspended services at the ceiling. The walls are painted brickwork.

Room G7:

This room is located within the original footprint of Block A. It is an open plan space with some steel columns and screen walls. There are exposed steel beams and suspended services at the ceiling. The walls are painted brickwork.

Room G8:

This room is located within the original covered courtyard space within Block A. There is a steel pitched roof structure with painted/covered glass. The timber partitions and windows have been painted.

Room G8A:

This room is a modern construction within the original covered courtyard of Block A. There is a modern timber ceiling and modern partition walls.

Room G9:

This room is located within the original footprint of Block A. There is a large brick elevator shaft. There are exposed steel beams and suspended services at the ceiling. The walls are painted brickwork. There are original multi-pane steel windows on the western wall. The room is open-plan and connects to Room G8 directly through large opes. There are slender steel columns to this room.

Room G10:

This room is located within the original covered courtyard at the centre of Block A. The space is open-plan with the steel beams and columns visually prominent. The steel roof structure houses opening window sections. The partition walls to the west appear to be a non-original intervention. There are large opes to the south and east, supported by concrete columns.

Room G11:

This room is located within the original footprint of Block A. The room is an open plan space with steel beams and columns. There are original multi-pane steel windows on the eastern wall. The walls are painted brickwork. There are large opes to Room G10 to the western side of the room, supported by concrete beams and columns.

Room G12:

This room is located within the original footprint of Block A. The room is an open plan space with steel beams and columns. The walls are painted brickwork. There are large opes to Room G10 to the western side of the room, supported by concrete beams and columns.

Room G13:

This room is located within the original footprint of Block A. The room is an open plan space with steel beams and columns. The walls are painted brickwork. There are large opens to Room G10 to the southern side of the room, supported by concrete beams and columns.

Room G14:

This room is located within the original footprint of Block A. The room is an open plan space with steel beams and columns. The walls are painted brickwork. There are original multi-pane steel windows on the northern wall, which was the original rear wall of Block A.

Room G15:

This room is located within the original footprint of Block A. There are modern lightweight partition walls subdividing the space. There are multi-pane steel windows on the northern and eastern walls. The walls are painted brickwork. The northern wall of this room is the original rear wall of Block A.

Room G16:

This room is located within the Front Offices section at the southern end of Block A. This room is a secondary stairhall containing concrete stairs. There are double-doors on the external wall. The walls are painted brick.

Room G17:

This room is located within the Front Offices section at the southern end of Block A. There is a timber picture rail with clerestory windows above. The door to the Factory section of Block A is flanked by side-lights and timber panelling.

Room G18:

This room is an internal circulation space within the Front Offices section at the southern end of Block A. There are moulded timber skirting boards, door architraves and a moulded timber picture rail, with clerestory windows above.

Room G19:

This room is located within the Front Offices section at the southern end of Block A. There is a timber picture rail on all walls. There is a multi-pane steel window on the external wall.

Room G20:

This room is located within the Front Offices section at the southern end of Block A. There is a multi-pane steel window and a modern window on the external wall. There is a large downstand beam in the centre of the room.

Room G21:

This room is located within the Front Offices section at the southern end of Block A. The room is an open plan space with steel beams and columns. The walls are painted brickwork. There are boarded up windows on the eastern wall.

Room G22:

This room is located within the Front Offices section at the southern end of Block A. The original multi-pane steel windows on the southern wall have been covered up.

Room G23:

This room is located within the Front Offices section at the southern end of Block A. The room is formed with modern partition walls.

Room G24:

This room is located within the Front Offices section at the southern end of Block A. The original windows have been boarded up. There is a modern door ope in the western wall.

Room G25:

This room is an internal circulation space within the Front Offices section at the southern end of Block A. There are moulded timber skirting boards, door architraves and a moulded timber picture rail.

Room G26:

This room is located within the Front Offices section at the southern end of Block A. The room is the entrance hall and contains a carved timber staircase to the upper levels of the Front Offices. There is an arched ope to the stairhall. There is timber panelling to the entrance porch and timber surrounds to the corridors to the East and West.

Room G27:

This room is located within the Front Offices section at the southern end of Block A. The windows on the southern wall have been boarded up.

Room G28:

This room is the entrance porch to the Front Offices section at the southern end of Block A. There is timber panelling with glazed upper sections to all sides.

Room G29:

This room is located within the Front Offices section at the southern end of Block A. It is directly to the west of the entrance porch. The narrow window on the southern wall has been boarded up.

Room G30:

This room is a stairhall within the Front Offices section at the southern end of Block A. The room contains concrete stairs. There are double-doors on the western wall. The walls are painted brick.

Room G31:

This room is located within the Front Offices section at the southern end of Block A. There is a modern window on the western wall.

Room G32:

This room is located within the Front Offices section at the southern end of Block A. The room contains a modern kitchen.

Room G33:

This room is located within the Front Offices section at the southern end of Block A. There are large downstand beams to the ceiling.

Room G34:

This room is located within the Front Offices section at the southern end of Block A. The three windows on the southern wall have been boarded up. There are large downstand beams to the ceiling. There is a modern pair of double-doors on the eastern wall.

Room G35:

This room is located within the Front Offices section at the southern end of Block A. The three windows on the southern wall have been boarded up. There are large downstand beams to the ceiling. There is a modern pair of double-doors and modern clerestory windows on the eastern wall.

Room G36:

This room is located within the Front Offices section at the southern end of Block A. The two windows on the southern wall have been boarded up. There are two modern windows and a door open on the northern wall.

Room G37:

This room is located within the Front Offices section at the southern end of Block A. There are two modern windows on the southern wall.

Room G38:

This room is located within the late 1920s northern extension to Block A. There are modern timber partitions creating a TV set. The room is an open plan space, with exposed steel beams and columns. The room retains some original multi-pane steel windows.

Room G39:

This room is located within the late 1920s northern extension to Block A. The room has been altered in modern times to resemble a shop as part of a TV set. There are modern windows and a modern door on the eastern wall.

Room G40:

This room is located within the late 1920s northern extension to Block A. The room is an open plan space with exposed steel beams and columns. There is a large roller door on the western wall. There are multi-pane steel windows, most of which have been covered up, on both the north and south walls.

First Floor Level

It appears that there has been a significant level of intervention to the Front Offices section at this level, with numerous modern partitions subdividing the original rooms. Many of the partition walls are inappropriately placed and do not align with the structural grid and rhythm of windows on the front façade.

Room F1:

This room is a stairhall within the Front Offices section at the southern end of Block A. The room contains concrete stairs. The walls are painted brick. There is a multi-pane steel window on the western wall.

Room F2:

This room is the western end of the main circulation corridor within the Front Offices section at the southern end of Block A. There are moulded timber skirting boards, door architraves and a moulded timber picture rail. There is a multi-pane window on the western wall.

Room F3:

This room is located within the Front Offices section at the southern end of Block A. There are modern windows on the southern and western walls. There is a fireplace in the south-western corner of the room.

Room F4:

This room is located within the Front Offices section at the southern end of Block A. There are two modern windows on the southern wall of this room. There is a fireplace between the two windows.

Room F5:

This room is located within the Front Offices section at the southern end of Block A. There are two modern windows on the southern wall.

Room F6:

This room is located within the Front Offices section at the southern end of Block A. There are three modern windows on the southern wall.

Room F7:

This room is located within the Front Offices section at the southern end of Block A. There are two modern windows on the southern wall. There is a fireplace in the south-western corner.

Room F8:

This room is the first floor stair landing within the Front Offices section at the southern end of Block A. It is centrally located along the main circulation corridor. The timber staircase and bannisters continue from Ground Floor to Second Floor. There is an elevator shaft here.

Room F9:

This room is located within the Front Offices section at the southern end of Block A. There is a modern window on the southern wall.

Room F10:

This room is located within the Front Offices section at the southern end of Block A. There is a modern window on the southern wall and a fireplace in the south-eastern wall.

Room F11:

This room is located within the Front Offices section at the southern end of Block A. There are two modern windows on the southern wall of this room. There is a fireplace in the south-western corner.

Room F12:

This room is located within the Front Offices section at the southern end of Block A. There is a modern window on the southern wall.

Room F13:

This room is located within the Front Offices section at the southern end of Block A. There are

three modern windows on the southern wall.

Room F14:

This room is the eastern of the main circulation corridor within the Front Offices section at the southern end of Block A. There are moulded timber skirting boards, door architraves and a moulded timber picture rail.

Room F15:

This room is located within the Front Offices section at the southern end of Block A. There are four multi-pane steel windows on the southern wall of this room.

Room F16:

This room is located within the Front Offices section at the southern end of Block A. There is a modern window on the eastern wall.

Room F17:

This room is an open plan space within the main factory block. There are modern and original windows along the eastern, western and northern walls. The steel beams and columns are exposed. There are suspended services at ceiling level. The floor is timber, with some surviving metal plates indicating the former location of machinery.

Room F18:

This room is an open plan space within the main factory block. There are modern windows along the northern wall. The steel beams and columns are exposed. There are suspended services at ceiling level.

Room F19:

This room is an open plan space within the main factory block. There are modern and original windows along the eastern and western walls. The steel beams and columns are exposed. There are suspended services at ceiling level. The floor is timber.

Room F20:

This room is an open plan space within the main factory block. There are modern and original windows along the eastern and western walls. The steel beams and columns are exposed. There are suspended services at ceiling level. The floor is timber.

Room F21:

This room is an open plan space within the main factory block. There are modern and original windows along the eastern, western and northern walls. The steel beams and columns are exposed. There are suspended services at ceiling level. The floor is timber. There are lightweight partitions forming office spaces along the northern wall.

Room F22:

This room contains modern WCs. There are windows on the southern wall, facing into the courtyard.

Room F23:

This room contains modern WCs. There are windows on the southern wall, facing into the courtyard.

Room F24:

This room is a modern circulation space connecting the rear staircase to the factory floor.

Second Floor Level

This room is a later addition to the original Block A, dating from the 1930s. The floor follows the same general design and lay-out as the earlier two storeys. It appears that there has been significant internal intervention in modern times, with modern offices constructed on the former factory floor, and rearrangement of the partition walls in the Front Offices.

Room S1:

This room contains the secondary concrete staircase. There are ornamental wrought-iron bannisters to the staircase. The space is top-lit.

Room S2:

This room is a modern circulation space connecting the rear staircase to the factory floor.

Room S3:

This room is located off Room S2. There are no distinguishing features.

Room S4:

This room is an open plan space within the main factory block. There are modern and original windows along the eastern wall. The steel beams and columns are exposed. There are suspended services at ceiling level. The floor is timber.

Room S5:

This room is formed by modern lightweight partitions. There are multi-pane steel windows on the eastern wall.

Room S6:

This room is formed by modern lightweight partitions. There are multi-pane steel windows on the eastern and northern walls.

Room S7:

This room is a circulation corridor formed by modern lightweight partitions.

Room S8:

This room is formed by modern lightweight partitions. There are modern windows on the eastern wall.

Room S9:

This room is formed by modern lightweight partitions. There are modern windows on the eastern wall.

Room S10:

This room is formed by modern lightweight partitions. There are modern windows on the eastern wall.

Room S11:

This room is formed by modern lightweight partitions. There are modern windows on the eastern wall.

Room S12:

This room is formed by modern lightweight partitions. There are modern windows on the eastern wall.

Room S13:

This room is formed by modern lightweight partitions. There are modern windows on the eastern wall.

Room S14:

This room is a circulation corridor formed by modern lightweight partitions.

Room S15:

This room is a secondary stair hall. The stairs are concrete and the walls are painted brickwork. There is a window on the eastern wall.

Room S16:

This room is a circulation corridor formed by modern lightweight partitions.

Room S17:

This room is formed by modern lightweight partitions. There are modern windows on the eastern wall.

Room S18:

This room is formed by modern lightweight partitions. There are modern windows on the eastern wall.

Room S19:

This room is formed by modern lightweight partitions. There are modern windows on the eastern wall.

Room S20:

This room is a circulation corridor formed by modern lightweight partitions.

Room S21:

This room is the eastern end of the central circulation corridor within the Front Offices section at the southern end of Block A. There are modern windows in the partition walls to the south.

Room S22:

This room is located within the Front Offices section at the southern end of Block A. There are modern windows on the eastern and southern walls.

Room S23:

This room is located within the Front Offices section at the southern end of Block A. There are modern windows on the southern wall. There are internal windows in the modern partition walls to the north and west.

Room S24:

This room is the stair hall at second floor level. The room is centrally located along the circulation corridor. The timber detailing continues from first floor level. There is a roof-light over this space.

Room S25:

This room is the western end of the central circulation corridor within the Front Offices section at the southern end of Block A. There are modern windows in the partition walls to the south. There is a window on the western wall.

Room S26:

This room is located within the Front Offices section at the southern end of Block A. There are modern windows on the southern wall. There are internal windows in the modern partition walls to the north, east and west.

Room S27:

This room is located within the Front Offices section at the southern end of Block A. There are modern windows on the southern wall. There are internal windows in the modern partition walls to the north, east and west.

Room S28:

This room is located within the Front Offices section at the southern end of Block A. There are modern windows on the southern wall. There are internal windows in the modern partition walls to the north, east and west.

Room S29:

This room is located within the Front Offices section at the southern end of Block A. There are modern windows on the southern wall. There are internal windows in the modern partition walls to the north, east and west.

Room S30:

This room is an open plan space within the main factory block. There are modern and original windows along the northern wall. The steels beams and columns are exposed. There are suspended services at ceiling level. The floor is timber.

Room S31:

This room is an open plan space within the main factory block. There are modern and original windows along the eastern and western walls. The steels beams and columns are exposed. There are suspended services at ceiling level. The floor is timber. There are modern lightweight partition walls to the north.

Room S32:

This room is an open plan space within the main factory block. There are modern and original windows along the eastern wall. The steels beams and columns are exposed. There are suspended services at ceiling level. The floor is timber. There are modern offices to the west.

Room S33:

This room is a circulation corridor formed by modern lightweight partitions.

Room S34:

This room is formed by modern lightweight partitions. There are modern windows on the western wall.

Room S35:

This room is formed by modern lightweight partitions. There is a skylight to this room.

Room S36:

This room is formed by modern lightweight partitions. There are modern windows on the western wall.

Room S37:

This room is formed by modern lightweight partitions. There are modern windows on the western wall.

Room S38:

This room is an open plan space within the main factory block. There are modern and original windows along the eastern and western walls. The steels beams and columns are exposed. There are suspended services at ceiling level. The floor is timber. There are modern offices to the north.

Room S39:

This room is an open plan space within the main factory block. There are modern and original windows along the northern and western walls. The steels beams and columns are exposed. There are suspended services at ceiling level. The floor is timber.

Room S40:

This room is an open plan space within the main factory block. There are modern and original windows along the western wall. The steels beams and columns are exposed. There are suspended services at ceiling level. The floor is timber. There are modern offices to the east.

Third Floor Level

This floor is a later addition, dating to c. 1949. This extension contains the factory restaurant, including the canteen, kitchens and ancillary rooms.

Room T1:

This room is a circulation corridor at third floor level. It also contains the concrete staircase, continued from second floor level. There are steel multi-pane windows along the eastern wall.

Room T2:

This room is an open plan space. The steels beams and columns are exposed. There are suspended services at ceiling level. There are modern windows along the western wall.

Room T3:

This room is an open plan space. The steels beams and columns are exposed. There are suspended services at ceiling level. There are modern windows along the western wall. The room retains kitchen equipment.

Room T4:

This room is an open plan space. The steels beams and columns are exposed. There is a large central roof lantern. There are suspended services at ceiling level. There are multi-pane steel windows along the northern and southern walls.

Room T5:

This room is an open plan space. The steels beams and columns are exposed. There are suspended services at ceiling level. There are multi-pane steel windows along the eastern wall.

Room T6:

This room is a small storage room. There is a window at high level on the western wall.

Room T7:

This room is a stair hall for the rear stairs. The concrete stairs and wrought-iron bannisters continue from second floor level. There are multi-pane steel windows and a door on the western wall. There is a roof-light over this space.

Room T8:

This room is an office space. There are multi-pane steel windows on eastern and southern walls. There is a brick fireplace on the southern wall.

Room T9:

This room is an office space. There is a bay window on the southern wall, partially boarded up.

Room T10:

This room is a circulation space at third floor level.

Room T11:

This room is a storage space at third floor level. There are windows on the western wall.

Room T12:

This room is a circulation space at third floor level.

Room T13:

This glazed corridor is a later addition to the roof level.

Room T14:

This room is a later addition to the roof level, housing a lobby to the elevator from the Front Offices.

14.5.2.2 Block B



FIGURE 14.22: 1955 AERIAL PHOTOGRAPH SHOWING BLOCK B. NPA MOR1190.

This Block is to the rear of Block A, and comprises the original Factory No. 1 block, constructed c. 1923. The block was originally a five bay structure, as visible in the figure above. The building is an open-plan steel frame saw-tooth roof structure with north lights. The walls appear to be Dolphin's Barn brick. Modern industrial entrances have been constructed to the building.



FIGURE 14.23: OBLIQUE VIEW ALONG THE EASTERN ELEVATION OF BLOCK B, LOOKING NORTH TOWARDS THE LATER EXTENSION.

A large single-bay warehouse structure was constructed against the northern edge of the original structure in the mid/late 20th century, and is in evidence by the 1985 OS Map. There was previously an entrance to the Factory on this elevation.

Internally, the Block is comprised of a two large open-plan spaces, with exposed steel beams and columns. A brick wall with large opes marks the original extent of Block B. Some original multi-pane steel windows survive along this wall. There are various opes containing windows, doors and roller shutters. The steel roof structure supporting the saw-tooth roof above survives intact.

14.5.2.3 Block C



FIGURE 14.24: PHOTO OF MAIN ENTRANCE TO BLOCK C, ON NORTHERN ELEVATION. NOTE THAT THE 'GARDA' SIGN DATES FROM THE USE OF THE SITE AS A SET FOR A TV SHOW.

This building is a 1960s office block, incorporating a large room previously used as a theatre. The interior is largely comprised of lightweight partitions forming offices. There is an air bridge connecting the building into Block A.

Internally, the building is largely comprised of modern offices with modern windows and lightweight partition walls. There is a large sports hall at first floor level. The interiors are not considered to be of any architectural, artistic or other interest.

14.5.2.4 Block D



FIGURE 14.25: VIEW OF SOUTHERN ELEVATION OF BLOCK D. THE BUILDING WAS USED AS PART OF A TV SET IN RECENT YEARS.

This block is comprised of three different phases of construction, as illustrated in the fabric chronology diagram of the wider site.

Section A: The earliest section is to the south, a single-storey double-pitch block with a curved bay to the south-west. This section appears to have been constructed in the late 1920s or early 1930s.

Section B: The second phase of development is the central section of the building. This single storey warehouse building appears to have been constructed between 1936 and 1955.

Section C: The final phase of development is to the north. This warehouse building appears to have been constructed between 1955 and 1985.

These three phases are illustrated in the figure below, with Sections A, B and C highlighted in Green, Blue and Red, respectively.

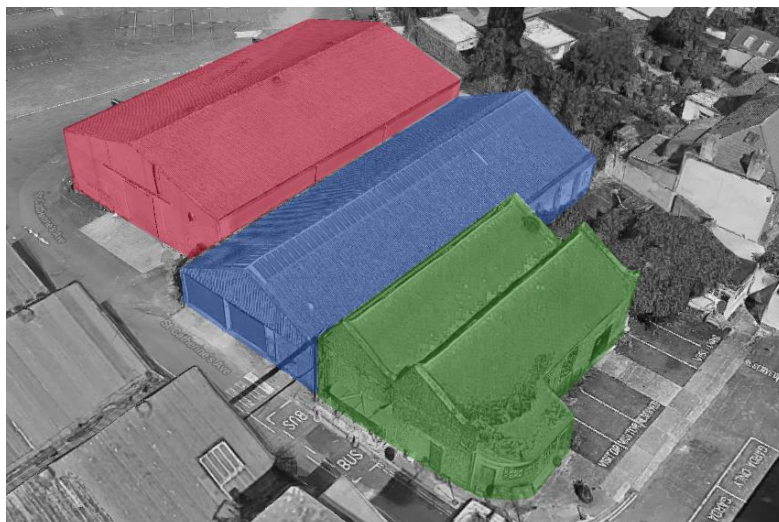


FIGURE 14.26: OVERLAY OVER AERIAL IMAGERY FROM GOOGLE MAPS, SHOWING THE PHASES OF DEVELOPMENT OF THE SUBJECT BUILDING.

It appears that the subject building was constructed shortly after the completion of Factory No. 2, the main factory building along South Circular Road, in the late 1920s. An extract from the 1927 Ordnance Survey map shows the two factory buildings at this time, with Factory No. 1 to the north at the right-hand-side of the image, and Factory No. 2 to its immediate south. The exit from the factory along St. Catherine's Avenue appears to the west of the site by this time.

An undated aerial photograph of the site illustrates the next phase of development of the factory, with the three-storey infill section between Factory No. 1 and Factory No. 2 appearing by this time. Section A of the subject building has been constructed at this time, along with a pitched roof structure over the roadway between the building and Factory No. 1. It appears that Section A and the three-storey infill section may have been constructed at the same time. The photo appears to date from the late 1920s or early 1930s.

The 1936 Ordnance Survey Map shows the original footprint of Section A of the subject building. The curved bay to the south-western corner is clearly visible in this map. The pitched roof shelter over the roadway is also visible. Section B, a single-storey warehouse building, has been constructed by the time of a later 1955 aerial photo. A small kiosk appears has been constructed at the entrance gate from St. Catherine's Avenue by this time.

It appears that the curved form of the south-western bay of Section A is to facilitate the turning of cars and vans to turn the corner from the rear of the site to the exit on St. Catherine's Avenue.



FIGURE 14.27: EXTRACT FROM 1955 AERIAL PHOTO, NATIONAL LIBRARY NPA MOR0906.

Section C appears to have been constructed by this time. It is a second single-storey warehouse, adjoining the existing warehouse (Section B). A number of small ancillary structures also appear to have been constructed in the immediate vicinity of Sections A and B. These structures are no longer extant on the site today.

Internally, there are no features of any particular significance. The original windows and steel structure to Section A are of some interest.

14.5.2.5 Block E

This is a single-storey single-room red brick block to the north-western corner of Block B. It appears to date from the mid-20th century, as it does not appear on the 1943 OS Map but is visible in 1955 Aerial photos. The original use of this building is not known.



FIGURE 14.28: 1955 AERIAL PHOTOGRAPH SHOWING BLOCK E, WITH BLOCK B TO THE RIGHT-HAND-SIDE. NLI MOR1190.

There is a single large ope on the western wall, and the building has a pitched slate roof. Access to the interior of the building was not available during the preparation of the report. The immediate setting and context of this block was radically altered by the late 20th century construction of the large warehouse extension to the north of Block B.



FIGURE 14.29: OBLIQUE VIEW OF THE NORTHERN AND WESTERN ELEVATIONS OF BLOCK E.

14.5.3 Significance

None of the buildings 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 Block A was given a rating of 'Regional' significance. Despite this rating of Regional Significance, the structure does not appear to have been included on the list of Ministerial Recommendations. Nonetheless, this report finds that Block A is of architectural, historic, social and artistic significance, and is worthy of retention. The remaining blocks are not considered to be of sufficient significance to warrant their retention, as detailed below.

The Planning and Development Act (2000) 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 has been analysed under each of these headings, in accordance with the DoCHG *Architectural Heritage Protection Guidelines* (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 A

The subject building is a former industrial building, and was developed and extended over a series of phases, in response to the requirements of the industry. It should be noted that many of the early phases of developments were overseen by the same architectural firm, Beckett and Harrington. This has resulted in an overall harmonious character to the altered Block A, particularly with regard to the front elevation along South Circular Road. The side and rear elevations do not display the same level of architectural harmony.

Inappropriate later interventions, including the modern warehouses to the northern end of the Factory Building and the Single-Storey building, as well as the replacement of the original

multi-pane steel windows with modern UPVC windows detracts from the character of the building.

The NIAH Appraisal of the building reads:

“Built to designs by Beckett & Harrington for W.D. and H.O. Wills in 1935, this building remained in use as a tobacco factory until 2005. Its form, scale and design make it an imposing presence on South Circular Road, and its obviously industrial function creates a striking contrast to the predominantly domestic architecture of the street. One of the rare surviving examples of the Art Deco style in Dublin, the render consoles and frieze are typical features of this style. A modernist influence can be seen in the expansive glazing to the front, and a strong sense of symmetry is created by projecting end-bays and a central breakfront. Cast-iron gate screens flanking the building are of technical and aesthetic interest, adding to the overall character of the composition.”

Externally, the replacement of a number of the original steel windows with modern uPVC windows detracts from the character of the building.

The contribution of the subject building to the character of its setting along South Circular Road. Although the industrial building is not in keeping with the earlier residential character of the street, it functions as a landmark building within the streetscape.

Internally, there are minimal features of significance. The timber stairs and panelling to the entrance hall of the Front Offices are of some interest. The remainder of the building was in industrial use, and has no internal features of note.

Block B

The subject building is an early 1920s industrial structure. The building appears to have undergone internal alterations and was extended to the north in the late-20th century. The primary original elevations, i.e. the South and North elevations, have been lost due to later developments on the site. This has reduced the architectural significance of the building. The remaining eastern and western elevations, and roof structure, are considered to be of some architectural interest.

The building is largely invisible from the surrounding area, and has no presence on the streetscape of either Donore Avenue or the South Circular Road. The building therefore cannot be considered to contribute to the architectural character of the area.

The subject building does not meet the criteria for inscribing on the Record of Protected Structures.

- a) *The subject building is not considered to be an exemplar of good quality architectural design;*
- b) *While the subject building is known to have been designed by architectural practice Beckett and Harrington, it is considered that the building has been altered from its original form and lost significant architectural features to the extent that it cannot be considered to be an exemplar of this practice’s work.*
- c) *The subject building is not an exemplar of a building type, plan-form, style or styles of any period or the harmonious interrelationship of differing styles within one structure;*

- d) *The subject building does not make a significant 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) *The subject building does not have an interior that is well designed, rich in decoration, complex or spatially pleasing.*

Block C

This building is a 1960s office block by an unknown architect. It is not considered to be of particular architectural quality or significance. The building does not contribute to the character of the surrounding area and is largely invisible from the streetscape.

The subject building does not meet the criteria for inscribing on the Record of Protected Structures.

- f) *The subject building is not considered to be an exemplar of good quality architectural design;*
- g) *The subject building is not the work of a known and distinguished architect, engineer, designer or craftsman;*
- h) *The subject building is not an exemplar of a building type, plan-form, style or styles of any period or the harmonious interrelationship of differing styles within one structure;*
- i) *The subject building does not make a significant contribution to its setting, such as a streetscape or a group of structures in an urban area, or the landscape in a rural area;*
- j) *The subject building does not have an interior that is well designed, rich in decoration, complex or spatially pleasing.*

Block D

This building appears to have been constructed shortly after the construction of Blocks A and B, and it is in keeping with the architectural style and materiality of the site. The small scale of the subject building contrasts the larger industrial structures on site. The building cannot be considered to contribute to the streetscape of St. Catherine's Avenue. The building is considered to be of minimal architectural significance.

The subject building does not meet the criteria for inscribing on the Record of Protected Structures.

- k) *The subject building is not considered to be an exemplar of good quality architectural design;*
- l) *The subject building is not the work of a known and distinguished architect, engineer, designer or craftsman;*
- m) *The subject building is not an exemplar of a building type, plan-form, style or styles of any period or the harmonious interrelationship of differing styles within one structure;*
- n) *The subject building does not make a significant contribution to its setting, such as a streetscape or a group of structures in an urban area, or the landscape in a rural area;*
- o) *The subject building does not have an interior that is well designed, rich in decoration, complex or spatially pleasing.*

Block E

This building is a later addition to the site and clashes with the materiality of the earlier yellow-brick structures. The building cannot be considered to be of any particular architectural significance in and of itself, and does not contribute to the character of the wider area.

The subject building does not meet the criteria for inscribing on the Record of Protected Structures.

- p) The subject building is not considered to be an exemplar of good quality architectural design;*
- q) The subject building is not the work of a known and distinguished architect, engineer, designer or craftsman;*
- r) The subject building is not an exemplar of a building type, plan-form, style or styles of any period or the harmonious interrelationship of differing styles within one structure;*
- s) The subject building does not make a significant contribution to its setting, such as a streetscape or a group of structures in an urban area, or the landscape in a rural area;*
- t) The subject building does not have an interior that is well designed, rich in decoration, complex or spatially pleasing.*

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 construction and development of the site as a tobacco factory in the early years of the Irish Free State is part of a wider, national history of this period. Rowley notes in "Art and Architecture of Ireland" that:

"The policy of protectionism, though successful in generating employment, had restricted the growth of Irish manufacturers. British and other foreign companies were often allowed to establish factories in Ireland to preserve their Irish sales. The mid-century period was marked by such compromised and cautious industrialisation: to the core food and drink products were added nylon, cotton, footwear, tobacco and small-scale technological and pharmaceutical

goods, all housed in individual factory buildings, thus pushing the development of the building type.”

Block A

The subject building can be considered to be of some historic significance, due to its place within this history of the Irish nation. It should be noted, however, that the high level of alterations from its original form, the construction of late 20th century warehouses, and the loss of significant original features, such as cottages for foremen and pleasure grounds for staff, detract from the character of the building, and its historic significance.

The subject building cannot be considered to be an intact example of factory development in the early years of the Irish Free State, and can be ascribed a minor level of historic significance only.

Block B

Similarly to Block A, this building is considered to be of historic interest as an early Irish Free State tobacco factory. However, the level of alteration and intervention to the building are such that it cannot be considered to be an intact example of a 1920s tobacco factory.

Block C

This building dates from the 1960s and cannot be considered to be of any particular historic significance.

Block D

This building is an ancillary structure to the original factory blocks and its original use is not known. It cannot be considered to be of any particular historic significance.

Block E

This building is a mid-20th century ancillary structure. Its original use is not known. It cannot be considered to be of any particular historic significance.

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.

The subject building is a 20th century industrial building which utilises mass-produced materials and has a functional design with minimal decoration. The building was constructed over a series of phases, expanding to meet the demands of the factory, as outlined above. It is difficult to consider this building to be of special artistic interest.

However, features such as the wrought-iron gates to the South Circular Road, and internal fixtures such as the cast-metal covers of service boxes (Block A) are considered to be of artistic interest.

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.*

The subject building cannot be considered to be of any particular cultural significance.

The structures on the proposed development site are not considered to have acquired cultural significance with the passing of time, have no known literary or cinematic associations of significance, and do not illustrate the development of society.

14.5.3.5 Archaeological

The structures on site are not considered to be of archaeological significance. Please see Chapter 13 for a detailed assessment of the archaeological heritage of the site.

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.’*

The NIAH survey of the Block A considered it to be of social significance. This is likely due to the fact that the factory employed thousands of local Dublin people over the many years of its operation. This intangible dimension of the structure’s significance was diminished when the manufacture of tobacco ceased at the premises.

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 or structures on the subject site could be considered to be of any particular technical significance in accordance with the DoCHG guidance. There is no evidence of surviving internal mechanical fixtures, plant or machinery which could be considered to be of technical or industrial interest.



FIGURE 14.30: PHOTOGRAPH FROM IRISH PHOTO ARCHIVE, SHOWING THE INTERNAL FACTORY FLOOR, IN FACTORY NO. 2. NONE OF THE MACHINERY INVOLVED IN THE PRODUCTION OF TOBACCO REMAINS ON SITE TODAY.

The ICOMOS-TICCH *Dublin Principles for Conservation of Industrial Heritage* notes that “*their heritage value may be greatly jeopardised or reduced if machinery or other significant components are removed, or if subsidiary elements which form part of a while site are destroyed.*”

Please see the Industrial Heritage Assessment of the site, prepared by IAC Archaeology, in Volume III (Appendix 14.10).

14.5.4 Sensitivity

No buildings on the subject site were considered by Dublin City Council to be of sufficient significance to warrant inclusion on the Record of Protected Structures. . Further, the National Inventory of Architectural Heritage survey of the area did not identify any structure on site, apart from the Block A, as being of any particular significance. It is considered that Block A is of primary significance, largely on architectural, historic and social grounds. Some features in Block A and in its immediate setting are of artistic interest. The significance of Block A is largely based on its external appearance, and its visual prominence on the South Circular Road. The front façade is of primary significance, with the more decorative front three bays of the side elevations also considered to be of significance.

Block B is considered to be of secondary significance, on architectural and historic grounds. This significance is diminished by the loss of the original primary facades of the building, and of all internal machinery etc.

Blocks C, D and E are not considered to be of any particular significance under any headings.

14.6 Do Nothing Scenario

The subject site is presently vacant and has not been in use for some time. The buildings are generally in a deteriorated condition, with significant levels of water ingress to Block A in particular. It is likely that the condition will continue to deteriorate.

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.

The restoration of use to the building is of critical importance to the factory building. It has clearly suffered from being unoccupied for some time and the proposals will restore welcome activity and presence to South Circular Road and to the eastern side (facing St. Catherine's Avenue) also. The proposed mix of uses is appropriate and will allow for a variety of volumes to be incorporated within the factory building envelope.

14.7 Difficulties Encountered

Scant archival material relating directly to the subject site was available during the preparation of this assessment. This created difficulties in determining a detailed history of the development and growth of the site. The chronological development of the site included in this assessment could only be traced using historic maps, early-mid 20th century aerial photographs and references in newspapers and journals of the period. Efforts were made to gain access to the archives of the Imperial Tobacco Company, to no avail.

Access to the interior of Block E was not available during the preparation of this chapter.

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

Likely Significant Effect: In the absence of any mitigation efforts, the demolition of the buildings on site will result in the loss of surviving historic architectural features and fabric from Blocks B, D and E, and from the demolished areas of Block A.

Quality: Negative.

Significance: Significant.

Extent: Local.

Context: This effect will conform to established conditions as the condition of the blocks 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.

Likely Significant Effect: In the absence of any mitigation efforts, the loss of Block B, considered to be of some architectural and historic significance, will detract from the character and significance of the site.

Quality: Negative.

Significance: Significant.

Extent: Regional.

Context: This effect will conform to established conditions as the condition of the blocks 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

Likely Significant Effect: In the absence of mitigation efforts, the refurbishment of Block A may result in the loss of historic features and fabric of significance.

Quality: Negative.

Significance: Significant.

Extent: Local.

Context: This effect will conform to established conditions as the condition of the blocks 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.

Likely Significant Effect: In the absence of mitigation efforts, the construction of a new two-storey extension on the second floor of Block A has the potential to have a visual impact on the front façade of the building and its contribution to the streetscape of the South Circular Road.

Quality: Negative.

Significance: Significant.

Extent: Regional.

Context: This effect will conform to established conditions as there are currently small-scale non-original extensions at roof level.

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Worst-Case.

Likely Significant Effect: In the absence of mitigation efforts, the construction of a new two-storey extension on the second floor of Block A has the potential to have a deleterious impact on the structural integrity and stability of the existing building.

Quality: Negative.

Significance: Significant.

Extent: Regional.

Context: This effect will conform to established conditions as the condition of the building is deteriorating gradually due to ongoing vacancy.

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 conservation works to the historic fabric of Block A and reinstatement of multi-pane steel windows will enhance the architectural character of the structure.

Quality: Positive.

Significance: Significant.

Extent: Regional.

Context: This effect will contrast with established conditions as the condition of the block is currently deteriorating due to years of dereliction.

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Synergistic.

14.8.3 Operational Phase

The proposed development includes the construction of some tall multi-storey mixed use blocks. This will contrast with the existing residential conservation area, which is largely comprised of two-storey terraced red-brick houses. Some of the Protected Structures within the vicinity of the site are taller landmark buildings, including the Our Lady of Dolours Church, Dolphin's Barn, and the Church of St. Catherine and St. James, Donore Avenue.

Likely Significant Effect: In the absence of mitigation efforts, the proposed new high-rise elements of the 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: In the absence of mitigation efforts, the proposed new high-rise elements of the development may have a visual impact on the views of/from the neighbouring Protected Structures, including 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 Masterplan document, that accompanies this application under separate cover, includes a proposal for the redevelopment of the neighbouring former Bailey Gibson site, permitted by ABP, and proposals for the lands under the control of Dublin City Council. 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 reuse and redevelopment of the sites will have a positive impact on the character, with the significant architectural heritage structure of Block A, the former Player Wills factory, being retained as a significant landmark within the streetscape of the South Circular Road.

It should be noted that none of the sites within the Masterplan are currently in use. Development of the Masterplan area 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 Masterplan.

Within the wider area, Dolphin's Barn, Corks 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 permitted Bailey Gibson and the future development of the wider masterplan lands, is in keeping with this existing trend.

Effect: In the absence of mitigation efforts, the proposed new high-rise developments 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
The demolition of the buildings on site will result in the loss of surviving historic architectural features and fabric from Blocks B and E, and from the demolished areas of Block A.	Negative	Significant	Local	Likely	Permanent	Worst-Case
The loss of Block B will detract from the character and significance of the site.	Negative	Significant	Regional	Likely	Permanent	Worst-case
The refurbishment of Block A may result in the loss of historic features and fabric of significance.	Negative	Significant	Local	Likely	Permanent	Worst-case
The construction of a new two-storey extension on the second floor of Block A has the potential to have a visual impact on the front façade of the building.	Negative	Significant	Regional	Likely	Permanent	Worst-case
In the absence of mitigation efforts, the construction of a new two-storey extension on the second floor of Block A has the potential to have a deleterious impact on the structural integrity and stability of the existing building.	Negative	Significant	Regional	Likely	Permanent	Worst-Case
The proposed conservation and reinstatement works to the historic fabric of Block A will enhance the architectural character of the structure.	Positive	Significant	Regional	Likely	Permanent	Cumulative

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 high-rise 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 high-rise 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 high-rise developments 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. Discussions about the proposal were held with the Dublin City Council conservation office at an early design development stage. The design responds to the particular conditions of the subject site and mitigates any negative cultural heritage impacts through the retention of significant fabric and features, and the siting of new build elements to the rear of the primary façade of Block A (proposed block PW1).

The removal of inappropriate later interventions and the proposed conservation of the historic fabric will have a positive impact on the cultural heritage of Block A, and will enhance the contribution of the structure to the character of the area.

The proposed material palette of the new build elements within the site has been carefully considered and selected so as to reflect the industrial heritage character of the site. The material palette of various colours of brick, juxtaposed with metalwork detailing, references the materiality of the existing factory buildings on site. This ensures that the proposed new structures will be in keeping with the architectural character of the main Factory block.

14.9.1.1 Proposed Works to Block A

Block A has been altered significantly from its original form, but is considered to be of significance in architectural, historic, artistic and social terms. The building's industrial form and relationship to the street is inappropriate to its urban setting. The front (south) façade can only be considered as having very limited interest in terms of its use of materials but even this must be measured against the radical alterations to that façade.

The limited architectural significance of the building has been established to a large extent by the previous direction of An Bord Pleanála which accepted the principle of development to its rear and the introduction of an ope for access through the façade's central breakfront (DCC Reg. Ref: 3130/06, ABP Ref: PL29S.221190). It should be noted that significant additional fabric is proposed for retention in this proposal compared with earlier sketch proposals, which followed the direction of the previous ABP decision more closely.

It should be noted that permission to demolish a similar style industrial structure (Twilfit House, also designed originally by Beckett and Harrington) was granted by Dublin City Council, Reg. Ref: 4110/17. This grant was conditional on the completion of a full record of the structure in accordance with Historic England's publication *Understanding Historic Buildings: A Guide to Good Recording Practice*. A full record of the structures on site, in accordance with this publication, will be carried out prior to any proposed demolitions if required. A full keyed photographic survey of all buildings on site has been carried out, and is appended below (access to Block E, a single-room structure, was not possible during the preparation of this report). This is in line with Section 16.10.17 of the Dublin City Development Plan 2016-2022, 'Retention and Re-Use of Older Buildings of Significance which are not Protected':

"Where the planning authority accepts the principle of demolition a detailed written and photographic inventory of the building shall be required for record purposes."

Partial Demolition of Block A

The design decision to demolish areas of Block A was carefully considered following an architectural heritage appraisal of the building. The removal of non-original and less coherent elements to the side and rear of the site cannot be considered to comprise any loss of architectural significance and will allow the most significant 1924 phase of building to become more apparent along with the 1930s second floor extension. The area of primary significance of the building, i.e. the front façade, will be retained and the building will retain its visual prominence along the streetscape of the South Circular Road.

Conservation Works to the Fabric and Reinstatement of Multi-Pane Steel Windows

The restoration of the brick, stone and concrete fabric to the façades and the front setting will enhance the external character of the factory building and streetscape to the South Circular Road. These works will be carried out in accordance with the outline conservation specification (see Appendix 14.7 in Volume III of the EIAR). Similarly, the design proposal includes for the reinstatement of the original multi-pane steel windows to the front façade and front bays on the side elevations (see Appendix 14.9 in Volume III of the EIAR for further detail). These works will have a positive impact on the character of the structure.

The proposed reinstatement of multi-pane steel windows to the front and side elevations of Block A will have a positive impact on the architectural character of the building, both internally and externally, and on its contribution to the character of the streetscape of the South Circular Road.

The proposed lowering of cills in some locations at Ground Floor Level will have a positive impact on the character and usability of the internal spaces, and will be in keeping with the architectural character of the façade. The works will utilise existing window openings, ensuring that the rhythm of the façade is retained.

Internal Works

The factory building contains very little fabric of interest and comprises a series of very basic volumes which lack architectural interest. There is a significant presence of asbestos with many other elements such as the timber floors decaying from the building unoccupied for a number of years.

It is proposed to remove the existing timber staircase from the interior of Block A at all levels. This timber staircase is decaying from years of vacancy and is structurally unsound. The stairs are not considered to be of particular architectural or artistic significance, with very simple carved details. It is not clear if the stairs are original, and it appears that the staircase may have been constructed at the same time as the late 1920s second floor extension. The removal of the stairs is necessary to enable circulation through the building, as its present location blocks off the factory floor area from the main entrance. It is not considered that the loss of the stairs will detract from the architectural significance of the building. A full drawn and photographic record of the stairs will be prepared for record purposes.

The structural grid of columns and beams is visible in many areas and is proposed to be retained and reused within the proposal. The interventions required to create the new subdivisions and volumes associated with the proposed uses will be in keeping with the variety of subdivision that exists at present. A large number of larger volumes will be required by the proposals at ground floor level and to the front Office block facing onto the South Circular Road.

The retention of the courtyard to the centre of the building is welcome also and will retain the logic of the building footprint and layout on the site. A section of the original pitched glazed roof structure will be conserved and retained. This will ensure that the architectural character of the space is maintained.

The design proposal for the interior of the building, and in particular the ground floor area, will be in keeping with the existing architectural character of the structure.

In general, the services installation strategy will be to re-use existing service runs where possible, and to leave services exposed generally, so that the existing steel structure will be visible and the industrial architectural character of the interior will be retained.

Extension at Roof Level

The design decision to demolish and replace the later third floor (i.e. Level 04 (ground + 3 levels) additions is considered to be an appropriate intervention. The new volume will be set back from the front facade, ensuring that the existing façade retains its legibility and primacy along South Circular Road. The original parapets will be retained and the new volume will not be visible from the immediate front setting of the building. The taller (9-storey) portion of the new extension to Block A will be located to the rear of the building, minimising its visual impact on the front façade.

Proposed New Structural Interventions at Second and Third Floor Levels

Structural interventions will be undertaken to the existing 20th century steel structure at second roof level extension. The works will consist of the replacement of the existing steel structure to these areas and the construction of a new steel structure and composite metal slab. The detail of the structural investigations and interventions is outlined in Barrett Mahony Consulting Engineers Report (included as Appendix 14.11, in Volume III of the EIAR). An extract from this report describes the recommended structural interventions:

“Considering the extremely poor quality of the existing roof slab, and low capacity of the supporting steel structure at level 2, it is recommended that the third floor structure, including the columns from Level 2 up, be replaced with a new structural steel and composite metal slab (approximately 110mm thick). This new structure would be designed so as to be suitable to transfer the loads from the new structure above to the existing structure below. The façade, and the perimeter columns within the façade build up, would be protected and retained. Temporary works would be required during the construction works of the new third floor.”

The replacement of the existing steel structure at second and third floor levels is considered a necessary and appropriate intervention. Structural investigations have shown that the existing structure is of insufficient strength and quality to support the proposed new extension and therefore a new structural system will be required. The existing steel structure at second and third floor levels is non-original, as these two areas are later additions to the original factory building. The replacement of the existing steel structure to these areas will enable the retention and continued use of the original steel structure at ground and first floor levels.

14.9.1.2 Visual Impact of Development

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 Photomontages, see the documentation prepared by Model Works 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.

Images have been prepared to assess the impact of the development at the Player Wills site, and to assess the cumulative impact of the Masterplan. In these images, blue lines indicate the subject proposed development, green lines indicate the permitted Bailey Gibson SHD and red lines illustrate the balance of the Masterplan lands (not part of this application).



FIGURE 14.31: 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.

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.

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.

Neighbouring Protected Structures

Photomontages to assess the impact of the proposed development, and the cumulative impact of the development of the full Masterplan on all Protected Structures within the wider setting have been prepared by Model Works.



FIGURE 14.32 BASELINE AND PROPOSED (CUMULATIVE) MASTERPLAN 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. It is clear from the Photomontages prepared by ModelWorks that, while the proposed new development will be visible from this viewpoint, the visual impact of the proposed redevelopment on the setting and character of this Protected Structure has been minimised by the siting of the new build elements at an appropriate distance from this Protected Structure.

Similarly, whilst the redevelopment of the Bailey Gibson (permitted) and the DCC lands (subject to a future application) are also visible from this viewpoint the greater distance between these structures and the Protected Structure are such that the cumulative visual impact will not have an overbearing effect on the Protected Structure.

The Protected Structure will retain its visual prominence along this section of Donore Avenue.



FIGURE 14.33 BASELINE AND PROPOSED VIEW OF THE CHURCH OF OUR LADY OF DOLOURS, DOLPHIN'S BARN. IMAGE PREPARED BY MODELWORKS.

The Church of Our Lady of Dolours, Dolphin's Barn, is a Protected Structure in the wider setting of the subject site. The proposed redevelopment of the Player Wills site will have minimal visual impact on this view towards the Church, being barely visible above the roofline of the neighbouring shops at the South Circular Road. The proposed new buildings cannot be considered to negatively impact the setting of this Protected Structure.

Similarly, the remaining buildings within the Masterplan are considered to have minimal visual impact on the character and setting of the Church of Our Lady of Dolours, Dolphin's Barn.



FIGURE 14.34 BASELINE AND PROPOSED MASTERPLAN VIEW OF BRÚ CHAOIMHÍN, CORK STREET. IMAGE PREPARED BY MODELWORKS.

Brú Chaoimhín, at the junction of Cork Street and Donore Avenue, is a Protected Structure within the wider setting of the subject site. The CGI photomontages clearly illustrate that the

proposed works at Player Wills will have no visual impact on the character or setting of this Protected Structure.

Similarly, the proposed redevelopment of the Masterplan site will not be visible from the front setting of this building. The proposed development therefore cannot be considered to have any visual impact on this significant landmark Protected Structure within the wider setting.



FIGURE 14.35 BASELINE AND PROPOSED MASTERPLAN VIEW OF GRIFFITH COLLEGE, SOUTH CIRCULAR ROAD. IMAGE PREPARED BY MODELWORKS.

The Griffith College campus, South Circular Road, comprises a number of Protected Structures. It is clear that the proposed redevelopment at Player Wills will have no visual impact on the character or setting of the college buildings.

Similarly, the redevelopment of the Masterplan 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.



FIGURE 14.36 BASELINE AND PROPOSED MASTERPLAN VIEW LOOKING WEST ALONG SOUTH CIRCULAR ROAD, PAST THE FRONT FACADE OF THE DUBLIN MOSQUE. IMAGE PREPARED BY MODELWORKS.

The Dublin Mosque, South Circular Road, is a Protected Structure within the wider setting of the subject site. The CGI photomontages show that the proposed redevelopment will not be visible from this viewpoint. This is due to the taller blocks of the development being located to the centre of the site, minimising the visual impact of these blocks on the surrounding context. This ensures that the height of the proposed new blocks does not affect the character of the low-rise residential conservation area along the South Circular Area.

Similarly, the redevelopment of the Masterplan lands will not be visible from this viewpoint. The development will therefore have no impact on the character or setting of this Protected Structures.

Residential Conservation Areas



FIGURE 14.37 EXISTING VIEW OF RESIDENTIAL CONSERVATION AREA ALONG SOUTH CIRCULAR ROAD. IMAGE PREPARED BY MODELWORKS.

The context of the existing residential conservation area (Z2 zoning) along the South Circular Road was given consideration in the design of the height, massing and materiality of the proposed new development. Taller blocks are set back from the road, with lower blocks scaling down to 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 14.38 VERIFIED CGI VIEW SHOWING THE PROPOSED VIEW ALONG SOUTH CIRCULAR ROAD FOLLOWING THE DEVELOPMENT OF THE SUBJECT PROPOSAL. 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 existing historic factory block will retain its presence within the streetscape, and the roof-level extension to this block will be stepped back from the façade so as to minimise its visual impact.



FIGURE 14.39 CGI VIEW SHOWING THE PROPOSED VIEW ALONG THE SOUTH CIRCULAR ROAD FOLLOWING THE CONSTRUCTION OF THE MASTERPLAN DEVELOPMENT AT THE NEIGHBOURING PLAYER WILLS SITE AND DCC LANDS. IMAGE PREPARED BY MODELWORKS.

The CGI Photomontage view showing the impact of the full development according to the Masterplan illustrates the cumulative impact of the development on the character of the residential conservation area along the South Circular Road. The proposed development will have low visual impact on the character of the residential conservation area. The proposed new blocks in the Masterplan development will have some visual impact on the streetscape rising above the ridges at some points, but it is considered that this impact will not be overbearing and will have minimal impact on the character of the streetscape. This is due to the taller blocks of the development being located to the centre of the site, minimising the visual impact of these blocks on the surrounding context. This ensures that the height of the proposed new blocks will not unduly affect the character of the low-rise residential conservation area along the South Circular Area.



FIGURE 14.40 BASELINE AND PROPOSED MASTERPLAN VIEWS ALONG SOUTH CIRCULAR ROAD, PREPARED BY MODELWORKS

The proposed development will have low visual impact on the character of the residential conservation area along this section of South Circular Road. The proposed new blocks will have some visual impact on the streetscape, however it is considered that this impact will not be overbearing and will not detract from the character of the streetscape. This is due to the taller blocks of the development being located to the centre of the site, minimising the visual impact of these blocks on the surrounding context. This ensures that the height of the proposed new blocks does not affect the character of the low-rise residential conservation area along the South Circular Area.



FIGURE 14.41 BASELINE AND PROPOSED VIEWS LOOKING SOUTH TOWARDS THE MASTERPLAN SITE FROM RUTLEDGE TERRACE, WITH THE SIDE ELEVATION OF ST. TERESA’S CHURCH AT THE END OF THE STREET. IMAGES PREPARED BY MODELWORKS.

CGI Photomontage views from within the residential conservation area to the east of the Masterplan site, at Rutledge Terrace, illustrate that the proposed development at Player Wills will have some visual impact on the streetscape here. The tallest proposed block in the Player Wills development will be visible above the Church, along with some of the proposed blocks on the DCC lands. The cumulative visual impact of the development of the Masterplan lands is not considered to be detrimental to the character of this residential conservation area, as the proposed blocks are at an appropriate distance from the streetscape.

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 Model Works, 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.

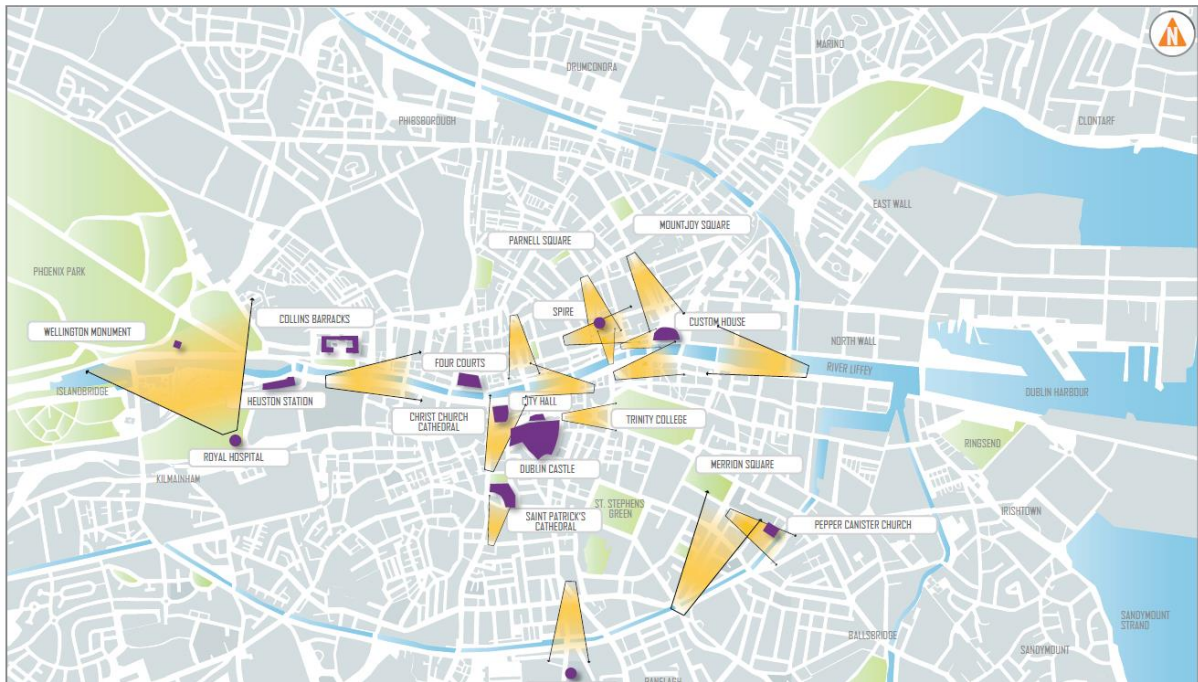


FIGURE 14.42 DIAGRAM FROM DCC DEVELOPMENT PLAN 2016-22 SHOWING 'KEY VIEWS AND PROSPECTS (INDICATIVE)', CHAPTER 4.

CGI Photomontages were prepared in order to assess the potential visual impact of the proposed Masterplan development on the following structures:

- Christchurch Cathedral
- St. Patrick's Cathedral
- Dublin Castle
- Trinity College Dublin
- Royal Hospital Kilmainham

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

Architectural features of interest and surviving historic fabric, as detailed below and in the Salvage Schedule (Appendix 14.8, included in Volume III of the EIAR), will be carefully taken down and salvaged prior to the demolition works. The re-use of this fabric within the proposed scheme will be considered, and any items not feasible for re-use within the site will be salvaged off site. This will ensure that significant features are not lost as part of the proposed development and that the loss of historic fabric is minimised.

It is proposed to salvage fabric and features of architectural heritage interest within the site. Where possible, these will be re-used within the proposed development. Where there reuse within the proposed development is not feasible, the fabric and features will be salvaged off-site.

The historic architectural features and fabric to be salvaged are as follows:

1. Intact historic brickwork from the areas of the building to be demolished, which is suitable for re-use.
2. A section of the roof structure to the internal courtyard of Block A will be salvaged, repaired and reinstated.
3. Original front entrance door.
4. Historic timber balustrade to the front staircase, where sections of the staircase are to be demolished (Room G.26).
5. Intact historic internal joinery which is suitable for re-use, including doors, architraves, skirting and timber panelling etc.
6. Historic steel industrial doors, internally and externally.
7. Historic steel multi-pane windows (see separate Window Schedule for further detail).
8. Historic cast-iron rainwater goods throughout, including hoppers, downpipes, brackets and straps.
9. Historic wrought-iron railings and gates to the South Circular Road.
10. Intact historic cast-iron radiators which are suitable for re-use.
11. Historic decorative cast-metal covers for service boxes.
12. Historic timber storage units (Room G.5).

Please see the outline method statement for the salvaging of the historic fabric included in Volume III of the EIAR (Appendix 14.8).

A full photographic survey of the site has been carried out, and is included in Volume III of the EIAR in the form of a photographic record (Appendices 14.5 and 14.6).

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.

14.11 Residual Impact Assessment

14.11.1 Demolition Phase

14.11.1.1 Proposed demolition of Blocks B, C, D and E

The design decision to demolish Blocks B, C, D and E was carefully considered following an architectural heritage appraisal of all buildings on site. The proposed re-development of the site incorporates the retention of Block A, the most significant structure on site, and is considered to be a sensitive and well-considered response to the existing site conditions. It is not considered that the demolition of any of these blocks will be detrimental to the character of the primary structure, Block A, nor will the demolition have any visual impact on views of the front façade to the South Circular Road, the primary significance of Block A.

As detailed above, Blocks B, C, D and E are considered to be of little or no significance. Given the level of intervention to the historic structures and the modern provenance of Blocks C and E, it is not considered that the demolition of these blocks will have a detrimental impact on the character of the site. It is considered that the demolition of Block C in particular will enhance the legibility and character of the immediate setting of Block A.

A full photographic record of the blocks to be demolished has been carried out (it should be noted that internal access to Block E was not available during the preparation of this report). 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 Blocks B and 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 architectural heritage impact of the demolition of each block is considered in greater detail below. These assessments informed design decisions in the development of the subject scheme as part of the incorporated design mitigation.

Block B

This Block is the original factory building, pre-dating Block A. It is therefore considered to be of some historic significance. However, later interventions have resulted in the loss of the original northern entrance front, and in the loss of the original southern elevation. The original setting of the Block, with its formal gardens to the north, and houses for workers, has been lost, and the character of the site obliterated by the creation of a large surface car-park over the entirety of the northern section of the site. Internally, the structure retains no industrial plant or machinery.

The large single-volume open-plan space is incompatible with the proposed new use and the redevelopment of the site. The demolition of this structure is therefore necessary for the proposed redevelopment and re-use of the site. Historic fabric and features of interest will be salvaged, as detailed below. This will ensure minimal loss of historic fabric. A full photographic record and measured survey of the building has been carried out for record purposes.

Block B is largely invisible from the surrounding area and cannot be considered to have any particular presence within the streetscapes of Donore Avenue, St. Catherine's Avenue or the South Circular Road. The demolition of this building therefore cannot be considered to detract from the character of the wider context and is considered to be an acceptable intervention.

Block C

This Block is the c. 1960s office block, constructed following the amalgamation of the Players and the WD HO Wills cigarette manufacturers. The architect for the works is not known. The building is not considered to be of any particular architectural, or other, significance, and is largely invisible from the surrounding streetscapes of the South Circular Road and St. Catherine's Avenue. The building is quite insular in nature, with its primary façade facing into the site, and little regard given to its externally facing elevations.

The building is out of keeping with the original architectural style, materiality and character of the site. It is considered that the subject block is detrimental to the character of Block A, with particular regard to the eastern elevation of Block A and views to the building from St. Catherine's Avenue. It is considered that the demolition of this structure will therefore have a positive impact on the character of the immediate context of Block A.

Internally, the building is of no architectural, or other significance. The subject building is not considered to contribute to the architectural character of the subject site or the surrounding area, and its demolition is considered to be an acceptable intervention.

Block D

The subject building appears to have been constructed at approximately the same time as the earliest phases of development of the site, and is in keeping with the architectural style and material palette of the original buildings. However, the scale of this building is out of keeping with the mammoth industrial scale of the site and the original use of this building is not known. There are no surviving internal features of interest, and the external form has been radically altered by later extensions to the North. The building is therefore considered to be of minimal significance within the site.

The small scale and irregular curved form of Block D does not lend itself easily to re-use within the proposed redevelopment, and the demolition of the building is necessary in order to facilitate vehicular access to the site via St. Catherine's Avenue.

Original fabric and any features of interest will be salvaged so as to minimise loss of historic fabric. A full photographic record of the existing building has been carried out.

The demolition of this block is therefore considered to be an acceptable intervention.

Block E

This block appears to have been constructed in the mid-20th century, some time after the original phases of development of the site. It is a single-storey single-room red-brick structure, whose original purpose is unknown. The material palette of the building, and its relatively small

scale are out of keeping with the architectural and industrial character of the site. The setting of the subject block was radically altered by the late 20th century northern extension to Block B.

The subject building is not considered to be of any particular architectural, historic or other significance in and of itself, and cannot be considered to contribute to the character of the subject site. The demolition of the building therefore cannot be considered to constitute any particular loss of architectural heritage and is an acceptable intervention.

14.11.1.2 Summary

The salvaging of architectural features of interest will ensure minimal loss of historic features and fabric of interest. See Appendix 14.8 in Volume III of the EIAR for further detail on the features and fabric to be salvaged. Where possible, the salvaged features and fabric will be reused within the new design.

Effect: Minimal loss of surviving historic architectural features and fabric from Blocks B, D and E, and from the demolished areas of Block A.

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.

As detailed above, Block B is not considered to be of sufficient architectural, historic or other significance to be inscribed on the Record of Protected Structures. Its limited cultural heritage significance does not warrant the retention of this large structure. A full photographic survey of the building has been carried out which will serve for record purposes.

Effect: Loss of architectural heritage interest of Block B.

Quality: Neutral.

Significance: Not significant.

Extent: Regional.

Context: This effect will conform to established conditions as the condition of the blocks 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: Residual.

14.11.2 Construction Phase

The salvaging of architectural features of interest from the interiors of Block A will ensure minimal loss of historic features and fabric of interest. See Appendix 14.8 in Volume III of the EIAR for further detail on the features and fabric to be salvaged. Where possible, the salvaged features and fabric will be reused within the new design.

Effect: Minimised loss of architectural fabric and features from the interiors of Block A.

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.

The impact of the proposed new roof-level extension on the architectural heritage character of the front façade of the factory has been mitigated through various design decisions, including the stepping back of the new extension from the front façade. The resulting visual impact of the proposed extension can be seen in the photomontages prepared by ModelWorks. These images clearly illustrate how the design of the proposed roof-level extension mitigates and minimises the impact on the significance of the front façade and contribution to the streetscape of the South Circular Road, Donore Avenue and the wider area.

Effect: Visual impact of the proposed new two-storey extension on the second floor of Block A on the front façade of the building and its contribution to the streetscape of the South Circular Road.

Quality: Neutral.

Significance: Not significant.

Extent: Regional.

Context: This effect will conform to established conditions as there are currently small-scale non-original extensions at roof level.

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Residual.

Extensive conservation works are proposed to the surviving historic fabric and features of the factory building as part of the proposed development. These works will enhance the architectural character and significance of Block A, and the contribution of the structure to the streetscape of the South Circular Road and the character of the wider area.

Effect: The proposed conservation works to the historic fabric of Block A and reinstatement of multi-pane steel windows will enhance the architectural character of the structure.

Quality: Positive.

Significance: Significant.

Extent: Regional.

Context: This effect will contrast with established conditions as the condition of the block is currently deteriorating due to years of dereliction.

Probability: This is a likely effect.

Duration/Frequency: This is a permanent and constant effect.

Type of Effect: Residual.

The proposed replacement of the steel structure at second and third floor levels with a new steel structure and composite metal slab is a necessary intervention. The loss of the historic structural elements in these areas is not considered to be significant, as these are later additions to the original factory building.

Effect: Structural interventions at second floor level will ensure the structural stability of the existing Factory Block A.

Quality: Neutral.

Significance: Not significant.

Extent: Regional.

Context: Not unique.
Probability: This is a likely effect.
Duration/Frequency: This is a permanent and constant effect.
Type of Effect: Residual.

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.

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.

Effect: The visual impact of the new high-rise development on the character of the neighbouring residential conservation area along South Circular Road.

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 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.

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 photomontages prepared by ModelWorks clearly illustrate the visual impact which the subject development, the development of the wider Masterplan 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, it is considered that the impact will not be over-bearing 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 architecturally significant factory block, its large site, and the adjoining vacant DCC and Bailey Gibson 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 Masterplan 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 surviving historic architectural features and fabric from Blocks B, D and E, and from the demolished areas of Block A.	Neutral	Not significant	Local	This is a likely effect.	This is a permanent and constant effect.	Residual.
Loss of architectural heritage interest of Block B.	Neutral	Not significant	Regional	This is a likely effect.	This is a permanent and constant effect.	Residual.
Minimised loss of architectural fabric and features from the interiors of Block A.	Neutral	Not significant	Local	This is a likely effect.	This is a permanent and constant effect.	Residual.
Structural interventions at second floor level will ensure the structural stability of the existing Factory Block A.	Neutral	Not significant	Regional	This is a likely effect.	This is a permanent and constant effect.	Residual.
Visual impact of the proposed new two-storey extension on the second floor of Block A on the front façade of the building and its contribution to the streetscape of the South Circular Road.	Neutral	Not significant	Regional	This is a likely effect.	This is a permanent and constant effect.	Residual.
The proposed conservation works to the historic fabric of Block A and reinstatement of multi-pane steel windows will enhance the architectural character of the structure.	Positive	Significant	Regional	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 high-rise 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 Blocks B, D and E, and from the demolished areas of Block A.	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.
Loss of architectural heritage interest of Block B.	A full photographic and drawn record has been made.	N/A
Minimised loss of architectural fabric and features from the interiors of Block A.	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.
In the absence of mitigation efforts, the construction of a new two-storey extension on the second floor of Block A may have a deleterious impact on the structural integrity and stability of the existing building.	New structural interventions will be carried out at second floor level to ensure structural stability of the existing building.	Works to be carried out in accordance with the Method Statement and supervised by a Conservation Architect.
Visual impact of the proposed new two-storey extension on the second floor of Block A on the front façade of the building and its contribution to the streetscape of the South Circular Road.	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.	N/A
The proposed conservation works to the historic fabric of Block A and reinstatement of multi-pane steel windows will enhance the architectural character of the structure.	N/A	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, with the exception of Block A, are not considered to be of sufficient interest to warrant retention within the proposal.

Block A has been altered significantly from its original form, but is considered to be of significance in architectural, historic, artistic and social terms. The building's industrial form and relationship to the street is inappropriate to its urban setting. The front (south) façade can only be considered as having very limited interest in terms of its use of materials but even this must be measured against the radical alterations to that façade.

The subject building was constructed over a series of phases during the first decade of the Irish Free State, and has been further altered throughout the 20th and 21st century. We do not agree with the NIAH assessment of the building as being of Regional significance under the categories of architectural, historic, social and artistic significance. The building has architectural interest, largely limited to the front section of the building and its landmark status along the South Circular Road, and artistic interest can be ascribed to some removable features within the site only. Quite correctly, the structure was not included in the list of Ministerial Recommendations arising from the NIAH survey.

The subject proposal involves the demolition of Blocks B, C, D and E. These are the blocks on site which are considered to be of little or no significance, as detailed above, due to the extensive alterations to Blocks B and D, the modern provenance of Blocks C and E, and the fact that these buildings make no contribution to the character of the streetscape or of the surrounding area. A full photographic record of these buildings (with the exception of Block E) has been carried out and appended below.

Fabric of architectural or historic interest from Blocks B and D, and from areas of Block A, 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 roof-level extension to Block A will be set back from the front façade of the structure, ensuring minimal visual impact on views from the streetscape and front setting. The taller element of the extension will be located at the rear of the structure, minimising the visual impact of the intervention on the front façade.

The proposed new build elements within the site are located towards the centre of the site, thereby minimising their visual impact on the front façade of Block A, 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

- *'Architectural Heritage Protection: Guidelines for Planners'*. 2011.
- *'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

- 14.1 Historic Map Extracts
- 14.2 Historic Photographs and Images
- 14.3 Historic Newspaper Extracts
- 14.4 Key Plans
- 14.5 Photographic Record – External
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- 14.7 Outline Conservation Method Statement
- 14.8 Salvage Schedule and Method Statement
- 14.9 Block A Windows –Schedule of Works and Key Elevations
- 14.10 Industrial Heritage Assessment at the Player Wills Site, prepared by IAC Archaeology
- 14.11 Structural Investigations Summary Report on Factory Block, prepared by Barrett Mahony

CHAPTER 15

INTERACTIONS OF

THE FOREGOING

VOLUME II

ENVIRONMENTAL IMPACT ASSESSMENT REPORT



DECEMBER 2020

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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 Paula Galvin of McCutcheon Halley Planning Consultants with input from the lead author of each assessment.

15.2 Population and 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:** 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.

During the operational phase the potential interactions are;

- **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;

- **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.
- **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 and 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 and 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.

No operational interactions were identified.

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 refurbishment of Block A may result in the loss of historic features and fabric of significance. The construction of a new two-storey extension on

the second floor of Block A may have a visual impact on the front façade of the PW1 building and its contribution to the streetscape of the South Circular Road.

During the operational phase the potential interactions are;

- **Landscape and Visual:** The proposed new high-rise elements of the 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 Our Lady of Dolours Church and St. Catherine and St. James's Church.

The impact of the proposed development on the architectural heritage character of the wider setting during the operational phase has been mitigated through various design decisions, including the re-use of the Player Wills Factory Building fronting out onto South Circular Road, material palette chosen, 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. With mitigation measures in place, the effect is not significant and there will be no likely significant residual impact from the proposed development.

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 and Visual	✓	✓					x	x	x	x	x	x	✓	x	✓	x	x	x	x	x	x	✓
Material Assets- Traffic	x	x	x	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
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
Biodiversity	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	x
Air Quality & Climate	✓	✓	x	x	✓	✓	x	✓	x	x	x	x	x	x	x	x	x		x	x	x	x
Archaeological and Cultural Heritage	x	x	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	x	x
	Con. - Construction Phase Op. - Operational Phase ✓ - Potential Significant Interaction ✗ - 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



DECEMBER 2020

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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.

Aspect	Incorporated Design Mitigation
Population & Human Health	<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 compliance with Building Regulations.
Landscape & Visual	<ul style="list-style-type: none"> • None Proposed
Material Assets- Traffic & Transport	<ul style="list-style-type: none"> • Parking ratio of 0.28 car parking spaces and 1.3 bicycle spaces per unit 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.

TABLE 16-1 INCORPORATED DESIGN MITIGATION

Aspect	Incorporated Design Mitigation
Material Assets- Built Services	<ul style="list-style-type: none"> • All new-build service infrastructure is to be designed in accordance with the relevant service provider and asset owner's code of practice. • The development will be constructed to the Near Zero Energy Building standard with improved thermal performance and incorporation of renewable technology which shall reduce demand on infrastructure. • It is noted that the proposed development includes 81 no. car parking spaces in the basement of PW2 for future residential development within the wider Masterplan area and lands contiguous with SDRA 12, that will be subject to a separate application for permission. It is noted that while residential parking is incidental to the primary purpose of the building, in this case, the proposed 81 no. spaces are included to serve a future development proposal and as such constitute 'other use' for the purpose of this SHD application, as they are not associated with the residential use proposed in this application. The proposed inclusion of these 81 no. car parking spaces does not assume that any future application for permission will be successful. The 81 no. car parking spaces will not be set out or used in the absence of a separate grant of planning permission for future residential development. Accordingly, an alternative use in the form of storage receptacles for this area is proposed (in the event that a future grant of planning permission for residential development is not forthcoming). In this event, the applicant would be satisfied to accept a condition requiring that the 81 no. spaces together with the circulation area would be used as storage ancillary to the proposed residential development in the event that a planning permission for future residential development is not granted before the expiration of the subject planning permission.
Land & Soils	<ul style="list-style-type: none"> • The proposed design involves the removal of soils and bedrock in the northern 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	<ul style="list-style-type: none"> • The proposed design involves the removal of soils and bedrock which will require dewatering on the east of the site where the basement is 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.

TABLE 16-1 INCORPORATED DESIGN MITIGATION, CONTD.

Aspect	Incorporated Design Mitigation
Biodiversity	<ul style="list-style-type: none"> • Incorporation of a comprehensive landscape design which adopts a biodiversity-focused planting approach. • 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.
Noise & Vibration	<ul style="list-style-type: none"> • None Proposed
Air Quality & Climate	<ul style="list-style-type: none"> • Incorporation of design measures as outlined in the Energy and Sustainability Report will reduce the impact on climate where possible. This shall include: <ul style="list-style-type: none"> - Achieving a high BER rating and compliance with the requirements of the Near Zero Energy Building Standards; - Use of natural ventilation, heat pumps, PV solar panels and minimisation of heat loss; and - The provision of electric car charging points and accessible public transport links.
Cultural Heritage	<ul style="list-style-type: none"> • None Proposed.
Built Heritage	<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. • The design responds to the particular conditions of the subject site and mitigates any negative cultural heritage impacts through the retention of significant fabric and features, and the siting of new build elements to the rear of the primary façade of Block A.

TABLE 16-1 INCORPORATED DESIGN MITIGATION, CONTD.

Aspect	Demolition & Construction Phase Mitigation
Population & Human Health	<ul style="list-style-type: none"> • Preparation of a Construction and Environmental Management Plan (CEMP) and Construction & Demolition & Waste Management Plan (CDWMP). 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	<ul style="list-style-type: none"> • An expedient construction programme will help to remove visual impacts arising from the construction phase as quickly as possible. • Where practicable, contractor's compounds, site offices and parking areas will be positioned to minimise overlooking from nearby streets and dwellings. • Installation and good maintenance of perimeter hoardings along site boundaries. • Appropriate positioning of tower cranes and removal of same from the site at the earliest opportunity. • Where practicable, completion of buildings at site perimeters first to provide screening to ongoing construction works elsewhere within the site. • A vehicle management strategy will be implemented, to minimise visual impacts and other impacts on neighbouring streets and residents
Material Assets- Traffic & Transport	<ul style="list-style-type: none"> • Preparation of a preliminary Construction Traffic Management Plan (CTMP) and Construction Management Plan (CMP) including a plan for scheduling and management of construction traffic to be prepared by the lead contractor appointed for the construction of the development.
Material Assets- Built Services	<ul style="list-style-type: none"> • Preparation of a Construction Management Plan (CMP). • 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. • Pressure testing prior to connection to public network. • Protection in place of all underground services for which diversions are not required. • 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.

TABLE 16-2 DEMOLITION & CONSTRUCTION PHASE MITIGATION MEASURES

Aspect	Demolition & Construction Phase Mitigation
Land & Soils	<ul style="list-style-type: none"> • Removal of all potentially contaminating liquids in the existing site buildings and their disposal in accordance with the requirements identified in the CMP. • 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. • 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. • 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"> - Batching / mixing activities shall be located in contained areas; - Pouring of materials carried out in dry weather; - Monitoring of pumped concrete to ensure no accidental discharge; - Excess concrete will not be discharged to ground; - No hosing into the ground surface of spills of such materials; and - Washout from mixing plant or concrete trucks will not be permitted on site.

TABLE 16-2 DEMOLITION & CONSTRUCTION PHASE MITIGATION MEASURES, CONTD.

Aspect	Demolition & Construction Phase Mitigation
Water & Hydrology	<ul style="list-style-type: none"> • 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 CMP requirements. • Regular maintenance of construction and demolition plant and storage of all fuel oils for plant in bunded storage areas. • Excavation/stripping of soil/made ground only when necessary to prevent sediment run off and leaching. • Excavated soils will be temporarily stockpiled to minimise effects of weathering. Careful management when re-working material to minimise ground water infiltration and generation of runoff. • In relation to the preparation, pouring and management of concrete and cementitious materials and the interaction of these materials with water: <ul style="list-style-type: none"> - Batching / mixing activities shall be located in contained areas; - Pouring of materials carried out in dry weather; - Monitoring of pumped concrete to ensure no accidental discharge; - Excess concrete will not be discharged to ground; - No hosing into the ground surface of spills of such materials; and - Washout from mixing plant or concrete trucks will not be permitted on 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	<ul style="list-style-type: none"> • None proposed in relation to Designated Conservation Areas (DCAs) as none will be impacted by the proposed development. • 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 will be no surface water related impacts on biodiversity as a result of the proposed development

TABLE 16-2 DEMOLITION & CONSTRUCTION PHASE MITIGATION MEASURES, CONTD.

Aspect	Demolition & Construction Phase Mitigation
Noise & Vibration	<ul style="list-style-type: none"> • 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. • Application of sound reduction methods where removal of source of noise is not viable or practicable. • Liaison between the contractor/developer and residents. • 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	<ul style="list-style-type: none"> • The pro-active control of fugitive dust to ensure the prevention of significant emissions. • 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.
Cultural Heritage	<ul style="list-style-type: none"> • All ground disturbances associated with the proposed development, including site investigations, will be monitored by a suitably qualified archaeologist under licence from the National Monuments Service of the Department of Culture, Heritage, and the Gaeltacht. • Full provision will be made by the client, 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 (DoCHG)
Built Heritage	<ul style="list-style-type: none"> • Significant architectural features will be carefully removed and salvaged during the demolition phase. • A full photographic and drawn record has been made. • Significant architectural features will be carefully removed and salvaged during the demolition phase. • New structural interventions will be carried out at second floor level to ensure structural stability of the existing building. • 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 16-2 DEMOLITION & CONSTRUCTION PHASE MITIGATION MEASURES, CONTD.

Aspect	Operational Mitigation
Population & Human Health	<ul style="list-style-type: none"> • None proposed.
Landscape & Visual	<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 the Masterplan; - A sensitive approach has been taken to 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. - 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	<ul style="list-style-type: none"> • Implementation of a Mobility management Plan (MMP) which is intended to reduce the need for car travel.
Material Assets- Built Services	<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 will be low due to the exhaust air heat pump systems proposed to heat apartments which do not require gas. • Design and construction of required telecommunication services infrastructure and electrical services in accordance with the relevant guidelines.
Land & Soils	<ul style="list-style-type: none"> • Incorporation of SuDs into the surface water management system. These shall include green roofs, blue roofs, tree pits, attenuation storage and oil interceptors in parking areas to prevent the discharge of oily run-off to ground or surface water courses. • Hard paving across the site in building walkways and parking areas to minimise the risk of oil spills or leaks from cars or trucks to ground. • Soft landscaping will incorporate clean topsoils and planting will enhance the quality of the soil environment.

TABLE 16-3 OPERATIONAL MITIGATION

Aspect	Operational Mitigation
Water & Hydrology	<ul style="list-style-type: none"> • Incorporation of SuDs measures including green roofs, blue roofs, tree pits, attenuation storage and oil receptors in parking areas.
Biodiversity	<ul style="list-style-type: none"> • None proposed.
Noise & Vibration	<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 considered: <ul style="list-style-type: none"> - Noise levels at the façade of the noise-sensitive location do not exceed the criteria - Use of perimeter plant screens where required for roof top plant areas; - Location of delivery areas are well-screened from the surrounding area. - Regular maintenance.
Air Quality & Climate	<ul style="list-style-type: none"> • None proposed.
Cultural Heritage	<ul style="list-style-type: none"> • None proposed.
Built Heritage	<ul style="list-style-type: none"> • Visual impact assessments have been carried out at design stage to minimise visual impact on the architectural heritage character of the wider area. • Visual impact assessments have been carried out at design stage to minimise visual impact on the architectural heritage character of the wider area.

TABLE 16-3 OPERATIONAL MITIGATION, CONTD.