

## ENVIRONMENTAL IMPACT ASSESSMENT REPORT NON-TECHNICAL SUMMARY



PROPOSED SHD SCHEME ON LANDS KNOWN AS “RB CENTRAL”, ROCKBROOK,  
SANDYFORD BUSINESS DISTRICT, SANDYFORD, DUBLIN 18



### PREPARED FOR:

IRES RESIDENTIAL PROPERTIES  
LTD.

### PREPARED BY:

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## 1.0 INTRODUCTION

### 1.1 Preamble

This Non-Technical Summary (NTS) of the *Environmental Impact Assessment Report* (EIAR) relates to a Planning Application by IRES Residential Properties Ltd. (referred to as the Applicant throughout) for the proposed development of a residential scheme at lands known as “RB Central”, Rockbrook, Carmanhall Road, Sandyford Business District, Sandyford, Dublin 18. The description of the proposed development, as per the Statutory Notices is as follows;

*“IRES Residential Properties Ltd. intend to apply to An Bord Pleanála (the Board) for permission for a strategic housing development with an application site area of c. 2.02 ha (excluding basements), including the extent of Carmanhall Road required for proposed flood mitigation works, on lands forming part of a development generally known as Rockbrook, located at the junction of Blackthorn Drive and Carmanhall Road, Sandyford Business District, Dublin 18, principally bounded by existing mixed use and residential development to the north (Grande Central and South Central); Carmanhall Road to the south; undeveloped lands to the east (known as the Tivway site) and an existing part-constructed office development to the west (The Sentinel).*

*The development, which is known as RB Central with a total gross floor area of c. 41,347 sq m (excluding basements) will consist of 428 no. apartments comprising two blocks arranged around two courtyards ranging in height from five to fourteen storeys (including ground floor mezzanine, all over three existing part-constructed basement levels) comprising 32 no. studio apartments; 122 no. 1 bedroom apartments; 251 no. 2 bedroom apartments and 23 no. 3 bedroom apartments. The development will also include a crèche (486 sq m) with ancillary outdoor play areas; 4 no. ground floor local/neighbourhood retail units (862 sq m); communal community residents’ facilities (934 sq m in total) including a multi-purpose space (184 sq m), laundry and community co-working area (97 sq m) at ground floor level, and residents’ exercise area, break-out/meeting areas, book and media sharing areas, reading/seating areas, play area and TV/games area located at various levels throughout the proposed development (653 sq m); entrance halls; private, communal and public open space provision including balconies, winter gardens and terraces to be provided on all elevations at all levels as required; roof gardens; courtyards; boulevards; urban plaza; amenity lawn and play areas; basement car parking (508 no. spaces in total); 3 no. surface crèche drop-off parking spaces; car club spaces; 593 no. cycle parking spaces (long and short stay spaces including secure stands); motorcycle parking; storage areas; internal roads and pathways; pedestrian access points; hard and soft landscaping, street furniture and boundary treatments; changes in level; services provision and related pipework including diversions; plant (including rooftop plant); electric vehicle charging points; ESB substations and switchrooms; waste management areas; green roofs; attenuation tank; flood mitigation measures to Carmanhall Road including footpath upgrade and flood wall; car park ventilation areas; set-down areas; signage; completion and re-configuration of the existing basement levels including site clearance works and removal of services; public lighting and all site development and excavation works above and below ground. Vehicular access to the site will be from Blackthorn Drive and Carmanhall Road with dedicated bicycle access from Blackthorn Drive.*



*The application contains a statement setting out how the proposal will be consistent with the objectives of the Dun Laoghaire-Rathdown County Development Plan 2016-2022. An Environmental Impact Assessment Report has been prepared in respect of the proposed development. The application, together with the Environmental Impact Assessment Report may be inspected, or purchased at a fee not exceeding the reasonable cost of making a copy, during public opening hours at the offices of An Bord Pleanála and Dun Laoghaire-Rathdown County Council. The application may also be inspected online at the following website set up by the applicant: [www.rbcentralplanning.ie](http://www.rbcentralplanning.ie).”*

The project has been screened for EIA, with the following findings:

- The subject development is not of a type or size that would require mandatory EIA under Annex I.
- With respect to Annex II, the subject proposal would not constitute an “infrastructure project” under Class 10. Given that it does not propose 500 or more dwelling units, it does not require EIA under Class 10(b)(i). However, it would require EIA under Class 10(b)(iv):

*“Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere.”*

Given that the subject site comprises some 2.02 hectares and is located within a business district, it would fall within this class.

## **1.2 Purpose of the Environmental Impact Assessment Report**

In order to ensure that all potential impacts associated with the development proposal are identified and addressed, this EIAR provides a systematic and integrated evaluation of the direct, indirect and secondary effects (positive and negative) of the project on the natural and socio-economic environment.

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

The aim of the EIAR is to:

- Describe the project using information on the site, design and size of the proposed development;
- Identify and predict any impacts on environmental features likely to be affected, having regard to the specific characteristics of the proposed development;



- Describe the measures envisaged in order to avoid, reduce and, where possible, remedy significant adverse effects;
- Provide the data required to identify and assess the main effects which the proposed development is likely to have on the environment and
- Provide a Non-Technical Study of the information.

The preparation of the EIAR has been co-ordinated by Tom Phillips + Associates, Town Planning Consultants,<sup>1</sup> in association with other members of the Project Team.

### 1.3 Scoping of the Environmental Impact Assessment Report

A core objective of this EIAR is to provide the appropriate information and evaluation of the proposed development, having regard to the specific characteristics of the project, the proposed scale of the development and the potential for significant effects arising from the proposed development.

A non-statutory scoping exercise was conducted by TPA for this EIAR to establish what format the EIAR would take and the range and aspects of the environment to be considered. This involved reviewing the following;

- In addition to the Directive, the subject EIAR has been informed by the *Draft Guidelines on The Information To Be Contained In Environmental Impact Assessment Reports* (EPA, August 2017);
- *Environmental Impact Assessment of Projects: Guidance on Screening* (EU, 2017);
- *Environmental Impact Assessment of Projects: Guidance on Scoping* (EU, 2017) and
- *Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report* (EU, 2017).

### 1.4 EIAR Study Team and Guarantee of Competency and Independence

The *Environmental Impact Assessment Report* was completed by a project team led by Tom Phillips + Associates, who also prepared a number of the chapters.

The members of the team and their respective inputs are outlined below in Table 1.1. The EIAR Chapters as set out in Table 1.1 are provided with Appendices for each section provided immediately thereafter.

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In accordance with EIA Directive 2014/52/EU, we confirm that experts involved in the preparation of the EIAR are fully qualified and competent in their respective field. Each has extensive proven expertise in the relevant field concerned, thus ensuring that the information provided herein is complete and of high quality.



<b>Table 1.1: EIA Chapter Headings and Contributors</b>		
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## **1.5 The Developer**

We can confirm that our Client, IRES Residential Properties Ltd., is the Applicant and owner of the lands in respect of this development. Where relevant, letters of consent are enclosed from the other landowners to enable this proposal to proceed.

## **2.0 SITE LOCATION AND CONTEXT**

### **2.1 Location of the Subject Site**

IRES Residential Properties LTD. is seeking permission for residential development on a 2.02 ha site on lands located in the north-western part of the Sandyford Business District. The site, known as “RB Central” at Rockbrook Estate, Sandyford Business District, Dublin 18 is bound to the north and west by Blackthorn Drive and to the east and south by Ballymoss Road and Carmanhall Road, respectively and is approximately 7 km south-east of Dublin City Centre, in the southern suburbs. The site is located in the north western block of the former Sandyford Industrial Estate. Both the north/south and, more recently, the east/west sections of Blackthorn Drive connect further to the south and west with the Drummartin Link Road (R133). This Link Road connects Sandyford to the M50 at Junction 14. At a short distance to the east of the site is the Luas Stillorgan stop (Green Line).

The main body of the site is of rectangular shape and it extends over the western half of the aforementioned block. The remaining portion of the site comprises a strip of land that extends to the east alongside Carmanhall Road. The overall site has an area of 2.02 hectares and it would originally have been subject to gradients that sloped downwards in a northerly direction. The site is partially developed as per a previous ‘parent’ permission (see DLRCC Reg. Ref. D05A/1159; An Bord Pleanála Ref: PL 06D.215205) and subsequent modifications to this permission to provide a multi-storey mixed use development that is complete and operational in the northern portion of the site. The site is principally bounded by the above referened existing mixed use and residential development to the north (Grande Central and South Central) and undeveloped lands to the east (known as the Tivway site) and an existing part-constructed office development to the west (The Sentinel).





Figure 2.1: Site Location and Context, with location indicated with a red star (Source- Google Maps, Annotated by TPA 2019)

This existing development comprises retail, commercial, and residential uses in Blocks denoted as A and D. In the south western corner of the site is Block C, also known as The Sentinel, which is part 6 and part 14 storeys and which has been constructed to floor plate stage only, as outlined in the previous page. A through route for pedestrians has been laid out between Blackthorn Drive (east/west axis) and Carmanhall Road. This route passes between Blocks A and D on an upwards incline, which culminates in a focal point with a sculpture. A further pedestrian route runs to the south of Block D. The current proposal would be sited in the remaining central and eastern portions of the southern half of the site. These portions have been partially developed to provide three basement levels of car parking, which are presently accessed only off Blackthorn Drive (east/west axis). They maintain a frontage along their southern boundary with Carmanhall Road, opposite, which comprises the mixed-use development known as Beacon South Quarter.

The site is zoned Objective MIC in the current Development Plan (see Sandyford Urban Framework Plan (SUF) – Appendix 15) *‘To consolidate and complete the development of the mixed-use inner core to enhance and reinforce sustainable development’* and *‘Residential’* is a permissible use under this objective. The proposed development will consist of 428 no. apartments with related ancillary development (viz. residential amenity uses, creche, local retail etc), designed in a courtyard arrangement ranging in height from 5 no. to 14 no. storeys in line with the relevant height provisions of the Sandyford Urban Framework Plan.

The current proposal would be sited in the remaining central and eastern portions of the southern half of the site. These portions have been partially developed to provide three basement levels of car parking, which are presently accessed only off Blackthorn Drive (east/west axis).



They maintain a frontage along their southern boundary with Carmanhall Road, opposite which is the multi-storey mixed-use development of the Beacon South Quarter.

## 2.2 Permitted Developments in the Surrounding Area

The most relevant aspects of the site's planning history relate to the previously permitted parent permission dating from 2006 relating to the original HKR Architects proposal for the entirety of the former Allegro site and the more recent refusal of permission dating from 2017 (known as the Studio Anyo scheme). The original permission for the lands provided a template for the design and completion of development on this urban block in the form of perimeter blocks arranged around courtyards and boulevard.

This design approach ultimately informed the Sandyford Urban Framework Plan (SUFP) and the parameters established on foot of that initial permission have effectively guided the current proposal.

The Board's assessment of, and subsequent refusal of permission for the Studio Anyo scheme have also significantly guided the planning and design approach to the current scheme. The requirement to ensure that the reasons for refusal have been addressed in full was a paramount concern as the design evolved. Further details are set out below.

### ***The Parent Permission - DLRC Reg. Ref. D05A/1159 and ABP Ref. PL 06D.215205***

Permission for the former Allegro/wider "Rockbrook" lands was granted on 7<sup>th</sup> June 2006 and was partially implemented on the site i.e. Blocks A and D have been completed (Grande Central and South Central); Block C has been partially constructed (The Sentinel office building), and the overall basements, including that serving the permitted, but undeveloped, Blocks E and F, has been substantially constructed.

The scheme consisted of a mixed-use development in 6 no. blocks with 847 no. residential units (142 no. one-bed, 621 no. two bed, 76 no. three-bed, and 8 no. four-bed), shops and services/eateries (11,794 sq m), offices (10,761 sq m), and a crèche (374 sq m).

- Block A (situated facing Blackthorn Drive (east/west axis)): 6 – 12 storeys (maximum height 42.18m): 208 no. apartments and shops/services (2,687 sq m),
- Block B (situated internally on the site and adjacent to Blocks A and C): 2 storey restaurant and community building (maximum height 8m),
- Block C (situated facing Blackthorn Drive (north/south axis), the Sentinel Building): 6 – 14 storeys (maximum height 55m): offices (10,761 sq m),
- Block D (situated facing Blackthorn Drive (east/west axis)): 6 – 8 storeys (maximum height 28m): 211 no. apartments and shops/services (3,316 sq m) and crèche,
- Block E (situated facing Carmanhall Road): 7 – 15 storeys (maximum height 49.15m): 229 no. apartments and shops/services (1,751 sq m), and



- Block F (situated facing Carmanhall Road): 7 – 9 storeys (maximum height 31m): 238 no. apartments and shops/services (3,796 sq m).

Blocks E and F essentially comprise the remaining undeveloped part of the site, which is the subject to this application.

### ***Modifications to the Parent Permission of the Wider Rockbrook Block***

A number of amending applications were lodged and granted permission modifying elements of the 'parent' permission as described below.

#### ***Blocks A and D***

- D06A/1704 & PL06D.222779: Block A: This application included the omission of the 10<sup>th</sup> and 11<sup>th</sup> floors and amendments to sections of the 5<sup>th</sup> and 9<sup>th</sup> floors (maximum height 36.1m), and the reduction in apartments from 208 no. to 195 no. units: Permitted and implemented.
- D07A/0069 & PL06D.223245: Block D: This included increase in apartments from 211 to 224: Permitted and implemented.

#### ***Blocks E and F***

- D07A/0822: Block F: This application included alterations to height to facilitate 5– 14 storeys (maximum height 46.5m); the increase in apartments from 238 no. to 323 no. units and amendments to shops/eateries to provide 6 of the former (3,471 sq m) and 2 of the latter (810 sq m): Permitted and implemented as far as podium above basement.
- D07A/1106: Block E: This application included alterations to height to facilitate 8 – 14 storeys (maximum height 48.31m), decrease in apartments from 229 no. to 168 no. units: Permitted and unimplemented.

#### ***Block C (The Sentinel Building)***

- D09A/0117: This application included the modification and retention of a constructed core, omission of entrance reception and the addition of 13 storey glazed corner atrium: Permitted and unimplemented.
- D13A/0457: This application included the increase in floorspace from 13,213 to 13,698 sq m to facilitate eatery and additional offices: Permitted and unimplemented.



- D16A/0991: This application sought to complete the construction of the substantially constructed, but unfinished building known as the Sentinel, including completion of internal configuration of permitted office floor space to comprise 294 no. office suites and 28 no. meeting rooms; the provision of two additional floors (1490 sq m) to the existing 6 storey part of the building adjoining Block A; the provision of the ground floor cafe/restaurant use (198 sq m); new entrance to Blackthorn Drive; elevational amendments. Currently being implemented on site, bringing the Sentinel building to 14 storeys (commercial height).

### **Overall Basement**

- D07A/0975: This included modifications to two basement levels and the addition of a third level resulting in an increase of 75 no. spaces to 1,796: Permitted and partially implemented.

### ***The Refused Studio Anyo Scheme at Rockbrook- DLRCC Reg. Ref. D16A/0697 and ABP Ref. PL 06D.248397***

Permission was refused the Board for 492 no. apartments in 3 no. fourteen storey blocks, including a retail unit, a café, and a crèche in Block 1 with modifications and completion of three basement levels and revised ramp access arrangements, landscaping and all ancillary works on 28<sup>th</sup> September, 2017 for 3 no. reasons. The original scheme sought permission for 492 no. units, which was refused permission by Dun Laoghaire-Rathdown County Council (DLRCC). This decision was appealed by the Applicant whereby the scheme was reduced to 456 no. units for the Board's consideration.

The reasons for refusal, and how these reasons were considered in the design development of this proposed scheme are outlined below. It should be noted that these differ from the reasons for refusal recommended by the Inspector.

#### **Reason No. 1:**

*“Encroachment of proposed Block 1 on existing north/south boulevards and proposed urban plaza (see Dwg 10 SUFP). This compromises the legibility of the boulevard and negates the opportunity of providing a centrally located urban plaza as envisaged in the Sandyford Urban Framework Plan (SUFP).”*

Comment: This reason for refusal derived from the potential impact of the previous development on the existing part-built context of the adjoining lands viz., Blocks A, C and D and the related pedestrian boulevards. The previously proposed Block 1 was deemed to interfere with the boulevards and future provision of a new urban plaza as per the SUFP. This plaza is identified in conceptual form on a number of graphics contained within the SUFP and has been a key consideration in the development of the enclosed Landscape Masterplan and Landscape Design Report, prepared by Murray + Associates.



The proposed scheme also respects and enhances the existing boulevards and facilitates the creation of the central urban plaza. The layout of the development ensures the primacy and legibility of the boulevard is respected and does not encroach on any of the proposed boulevards.

**Reason No. 2:**

This reason can be summarised as follows:

- Monolithic nature of the design of the blocks;
- Scale, bulk and massing;
- Lack of an *'appropriate level of supporting community facilities'*;
- The limited range of apartment sizes and types;
- Non-compliance with the Sustainable Residential Development Guidelines 2009 and related Best Practice Design Manual would fail to provide a high-quality living environment for future residents.

Comment: The previous scheme was considered *'monolithic'* and comprised three large single 14 storey parallel blocks of development. The material differences with the proposed new design proposal are explicitly described and outlined in the accompanying Design Statement prepared by TOT Architects. In summary, however, a modulated proposal comprising two perimeter blocks ranging in height from 5-14 storeys arranged around courtyards ensures that the subject development cannot be considered *'monolithic'*.

The scale, bulk and massing of the previous proposal was also deemed to be unacceptable. (Note, the scheme as assessed by the Board was reduced in scale and height from the 'as submitted' proposal). Thus, the 'as submitted' and Appeal schemes were reviewed. The means by which the scale, bulk and massing of the current application differ are clearly graphically illustrated and described to address this issue in the above referenced Design Statement, prepared by TOT Architects. It is evident, however, that the revised design approach and the introduction of height and scale variations within the proposal ensures that its bulk and mass are not excessive. This is further borne out in the enclosed visual impact assessment, which illustrates views of the development from a wide variety of locations.

The issue of what constitutes an *'appropriate level of supporting community facilities'* was assessed, reviewed and discussed with DLRCC and the Board and is addressed in some detail in this application. As described above, this development will include a crèche (486 sq m) with ancillary outdoor play areas; 4 no. ground floor local/neighbourhood retail units (862 sq m); communal community residents' facilities (934 sq m in total) including a multi-purpose space (184 sq m), laundry and community co-working area (97 sq m) at ground floor level, and residents' exercise area, break-out/meeting areas, book and media sharing areas, reading/seating areas, play area and TV/games area located at various levels throughout the proposed development (653 sq m). This is considered to comprise a very significant level of supporting community facilities (in keeping with the community provision permitted in the adjoining Tivway SHD development as permitted by an Bord Pleanála) for future residents of the proposed development and will greatly enhance the amenity of the proposal. (It should be noted that the original 'parent' permission included a Block B described as a two-storey restaurant (244 sq m) and community building (185 sq m), which is far exceeded by the subject scheme.





The subject development incorporates centrally located public open spaces that equates to 28% of the site area (5,664 sq m). The siting and layout of this open space adheres to the previously permitted parameters as granted permission by both An Bord Pleanála and DLRCC in 2005 (see DLRCC Reg. Ref. D05A/1159; ABP Ref: PL 06D.215205), as well as the recently granted adjoining Tivway scheme.

Having regard to the foregoing, we note that the private open space provision for the proposed apartment units complies with the requirements of the *Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities 2018*. A 486 sq m crèche, catering for 73 no. children has been provided for at ground floor level of the development. A childcare audit of existing vacancies in the vicinity of the site has been completed and is appended to the Statement of Consistency Report.

The issue of the limited range and type of apartments previously proposed has now been addressed through compliance with the 2018 Apartment Guidelines, as outlined in the enclosed Statement of Consistency, where a variety of unit types have been provided. The relevant provisions of the 2009 Guidance and related Design Manual have also addressed in the context of the new scheme, as relevant.

**Reason No. 3:**

This reason for refusal referenced the:

*‘Undue diminution in the availability of light to existing apartments in Blocks A and D, when compared to previously permitted development on the site’;*

Comment: The design, siting, location and layout of the proposed apartments have been assessed by ARC Architectural Consultants, who have concluded that the scheme will not diminish levels of daylight and sunlight serving the existing units in Blocks A and D, particularly when compared to the previously permitted scheme. (The previous scheme relates to the apartment units permitted and built on the site as part of the ‘parent’ development proposed in 2005 – the HKR Architects proposal).

***The Former Aldi Site or “Tivway” (Adjoining Development to the East)***

- D07A/0619: Mixed-use development composed of 6 blocks of 6 – 14 storeys (maximum height 47.5m) over a 3 no. storey basement and incorporating a new pedestrian boulevard and plaza. Unimplemented.
- ABP Reg. Ref. 301428: Strategic housing development consisting of the demolition of all buildings and structures on the site and the construction of a residential development of 460 no. apartments in six 5 no. to 14 no. storey blocks, the provision of ancillary on-site facilities including communal facilities and the construction of a two-level basement car-park. Planning permission was granted for this in late July 2018 by An Bord Pleanála, subject to 29 no. conditions.



A detailed assessment of the scheme was undertaken in relation to potential interactions and impacts on the design development of RB Central. The ABP Inspector notes the following as being the principal issues to be considered in this case:

- Residential Density and Quantum of Development;
- Building Height and Visual Impacts;
- Quality of Residential Development;
- Schools Demand and Childcare Facilities;
- Impacts on Residential Amenities;
- Traffic and Transport;
- Drainage, Flood Risk and Site Services;
- Part V and
- Appropriate Assessment Screening.

We are satisfied that the subject development has addressed the above issues, insofar as these might relate to the current proposal. As described in detail above, the proposed residential density is considered compliant with both the SUFP, Development Plan and National guidance.

PUNCH, Consulting Engineers are satisfied that all storm water details and related site-specific investigations can be provided to the satisfaction of both the Board and DLRCC as required. The scheme has also been designed with DMURS provisions, where applicable, as outlined in the enclosed CST Group.

The proposed development has been designed to facilitate significant pedestrian and cycle connections and linkages to the adjoining lands as discussed with DLRCC and the relevant landowners. No adverse impacts on the residential amenities of adjoining developments will arise on foot of the subject development.



### 3.0 DESCRIPTION OF PROPOSED DEVELOPMENT

#### 3.1 Introduction

In summary, the project comprises the development of 428 no. residential units, with ancillary floorspace, as follows:

- 32 no. studio apartments;
- 122 no. 1 bed units;
- 251 no. 2 bed units and
- 23 no. 3 bed units.

In addition, a crèche of c. 486 sq m is proposed with associated parking and dedicated outdoor play area. In addition, 4 no. retail units and community facilities are proposed.

The overall site measures 2.02 hectares and, in addition to the lands within the applicant's control, includes the following:

- A section of private land (Sandyford GP Limited- legal owner of the former Aldi site, also known as Tivway, at Carmanhall Road, Sandyford Business District) adjoining to the east;
- A section of Carmanhall Road itself to the south-west and a small section of land on the block fronting the subject development on the other side of Carmanhall Road to the south, which is privately owned (Beacon South Quarter Management Company Ltd.);
- A section of Carmanhall Road itself to the south, including an area of the public foot-path which extends eastwards along the boundary of the Tivway site (Dún Laoghaire-Rathdown County Council).

Letters of consent for the enabling works proposed in these areas are provided with the *SHD Planning Application Form*.

The proposed layout of the development follows the original masterplan initiated by HKR Architects and as permitted by both DLRCC and the Board (DLRCC Reg. Ref. D05A/1159 and ABP Ref. PL 06D.215205), which has been effectively adopted in the Sandyford Urban Framework Plan for this part of the Sandyford Business District. Within the originally permitted masterplan scheme, the subject site contained extensive retail at ground floor level with residential accommodation and communal open space at first floor podium level. The resulting configuration formed a pedestrian street by way of intersecting north / South and East/ West Boulevards.



Murray and Associates, Landscape Architects, have formulated a detailed landscape strategy for the proposed development. This is based on the provision of a sequence of public areas at street level are proposed, which lead onto accessible, semi-enclosed public and communal courtyard spaces. A series of communal landscaped roof terraces are located at varying levels throughout the scheme, creating a more vertical emphasis to the landscape elements within the proposed development.



Figure 3.1- Extract of Landscape Masterplan, prepared by Murray Associates.

### ***Access Arrangements and Parking Provision***

Vehicular access to the site will be from Blackthorn Drive and Carmanhall Road with dedicated bicycle access from Blackthorn Drive. All servicing and traffic arrangements are considered generally acceptable to Dun Laoghaire-Rathdown County Council and the proposed access and internal road layout will also assist in improving the overall cycle and pedestrian permeability through the site and to adjoining sites. The enclosed transport, parking and cycle parking assessment prepared by the CST Group demonstrates that the road network in the area is capable of safely accommodating the traffic generated by the proposal.

The proposal provides car parking for all residential units and surface level drop-off spaces for the proposed crèche. Furthermore, visitor parking spaces have been provided for within the residential element of the proposed scheme and servicing to allow for electric car charging points will also be provided. In addition, motorcycle parking is also facilitated.



Some 508 no. car parking spaces are proposed to serve this development within the re-configured basement levels including visitor parking. All apartments will have 1 no. parking space with the remainder required for visitors and the other proposed uses (see also enclosed Reports prepared by CST Group).

Some 593 no. bicycle parking spaces proposed in the scheme, which constitutes a marginal over provision according to the Development Plan Standards and aligns as per the Standards for Cycle Parking and associated Cycling Facilities for New Developments, January 2018). Long term cycle parking is provided in secure enclosures (see also enclosed Reports and drawings prepared by CST Group and TOT Architects).

### ***Community Uses, Retail and Childcare***

The proposed scheme provides significant new social infrastructure and community uses including a new crèche, multi-purpose community space, laundry, community co-working area, postal depot and a significant quantum of community uses located at various levels throughout the development to further enhance the proposed community use provision in the scheme. In addition, a high-quality landscaping scheme has been developed as part of this development that provides a wide range of new public and communal open spaces; boulevards and play areas, all of which will enhance local amenity provision. A total of 862 sq m of local/neighbourhood retail provision will also be provided, which will enliven and animate the ground floor level of the proposed development.

The issue of what constitutes an ‘appropriate level of supporting community facilities’ was assessed, reviewed and discussed with DLRCC and the Board and is addressed in some detail in this application. As described above, this development will include a crèche (486 sq m) with ancillary outdoor play areas; 4 no. ground floor local/neighbourhood retail units (862 sq m); communal community residents’ facilities (934 sq m in total) including a multi-purpose space (184 sq m), laundry and community co-working area (97 sq m) at ground floor level, and residents’ exercise area, break-out/meeting areas, book and media sharing areas, reading/seating areas, play area and TV/games area located at various levels throughout the proposed development (653 sq m).

This is considered to comprise a very significant level of supporting community facilities (in keeping with the community provision permitted in the adjoining Tivway SHD development as permitted by An Bord Pleanála) for future residents of the proposed development and will greatly enhance the amenity of the proposal. (It should be noted that the original ‘parent’ permission included a Block B described as a two-storey restaurant (244 sq m) and community building (185 sq m), which is far exceeded by the subject scheme.

### ***Social Housing (Part V)***

The proposed development is subject to the requirements of the *Part V of the Planning and Development Act 2000 (as amended)*. Social housing provision requirements have been discussed with the Housing Department in DLRCC. Three options which demonstrate how the Part V requirement may be met are enclosed with the *SHD Application Form*, including locations selected for on-site provision.



### **Unit Mix**

The following unit mix is provided in the proposed development:

<b>Unit Type</b>	<b>No.</b>	<b>% No.</b>
Studio	32	7
One Bed	122	29
Two Bed	251	59
Three Bed	23	5
<b>Total</b>	<b>428</b>	<b>100</b>

**Table 3.1- Breakdown of proposed unit mix.**

### **3.2 Phasing**

It is estimated that the construction programme for the works associated with the proposed works will last in the order of 2.5 to 3 years from the date of commencement. This estimation is based on the typical construction programmes for other similar developments that are currently underway. It is envisaged that construction of the proposed building and external works will be carried out over a single phase. The Main Contractor will be required to prepare a detailed construction programme as part of their tender proposal.

### **3.3 Cumulation with Other Projects**

At the time of writing there are no active development projects on lands contiguous to the subject site. The following project is the only known project with consent in close proximity:

<b>Reg. Ref.</b>	<b>Address</b>	<b>Distance from Subject Site</b>	<b>Description</b>	<b>Grant Date</b>
ABP-301428/18	Former Aldi Site known as Tivway, Carmanhall Road, Sandyford Business District	Adjoining to East	460 no. apartments up to 12 no. storey height	17.07.2018

**Table 3.2- Project with planning permission in the near vicinity to the subject site.**



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## 4.0 EXAMINATION OF ALTERNATIVES

### 4.1 Introduction

The main alternatives studied during the development of the Project comprises alternative design solutions and layouts for a largely residential development at the subject site. Given the zoning of the subject site in the Sandyford Urban Framework Plan, and having regard to the project's objectives, no reasonable alternative locations were considered. Given the zonings of the subject site, the rationale for the project, and the nature of the proposed development, no reasonable alternative processes were studied.

In the event of the 'do-nothing' scenario, the current use of the site is likely to continue, whereby the lands would remain in a state of part completion and abandonment, with continued deterioration likely. Public access to the site would continue to be restricted. Health and safety issues at the site would relate to the existing security and maintenance of a partially constructed basement car park, which would remain unchanged.

The subject site has been zoned to fulfil a specific housing need by 2023 (which has been informed by Regional Planning Guidelines). As such, a do-nothing scenario would mean that this objective of the Development Plan would not be met, and some 428 no. households would remain uncatered for.

If the development did not proceed, there would be a neutral impact on commuting patterns in the area as the proposed development does not provide any additional transport infrastructure services. There may be a slight negative impact on some pedestrian commuters in the "Do Nothing Scenario," as the site will provide additional permeability and access for pedestrian commuters to the Luas stop to the north of the site who will otherwise have to walk around the block.

### 4.2 Main Alternatives Studied

The main alternatives studied during the development of the Project comprises alternative design solutions and layouts for a largely residential development at the subject site (please see main report for alternative design solutions and layouts explored).

The main alternatives studied in respect of the proposal were alternative design layouts, which generally achieved poorer shadowing results and varying percentages of apartments achieving dual aspect requirements.

### 4.4 Conclusion

Having examined various reasonable alternative designs, it is considered that the proposed design is a preferable option in terms of the sustainable development of the subject site insofar as it achieves 428 no. units and a net residential density of 255 no. units per hectare. Further, the inclusion of the increased permeability within the scheme will facilitate sustainable transport modes, whilst also fostering strong connections between the new population on site and the wider community.



The current design achieves a strong mix of unit types, sizes, and designs and has resolved the difficulty of achieving a critical mass of a sustainable residential scheme in an existing high-density, urban location. This is achieved while providing adequate open space, a mix of residential, commercial and community uses and achieving a strong urban edge, as well as passive surveillance.

## **5.0 ARCHAEOLOGICAL, ARCHITECTURAL & CULTURAL HERITAGE**

There are no previously recorded archaeological sites located within the immediate vicinity of the proposed development area. The closest site, which consists of an unclassified castle, is located c. 550m to the east-northeast (DU023-045). A review of the Excavations Bulletin (1970-2017) has shown that no archaeological remains have been identified within the vicinity of the proposed development area, or the wider landscape.

There are no structures or demesne landscapes included on the RPS, NIAH building survey, or NIAH garden survey within a 500 m radius of the site. The closest example for all three is Burton Hall c. 775m to the southeast (RPS: 1610; NIAH Building Survey: 60230013; NIAH Garden Survey: DU-50-O-194261). There are no Architectural Conservation Areas within the study area of the proposed development.

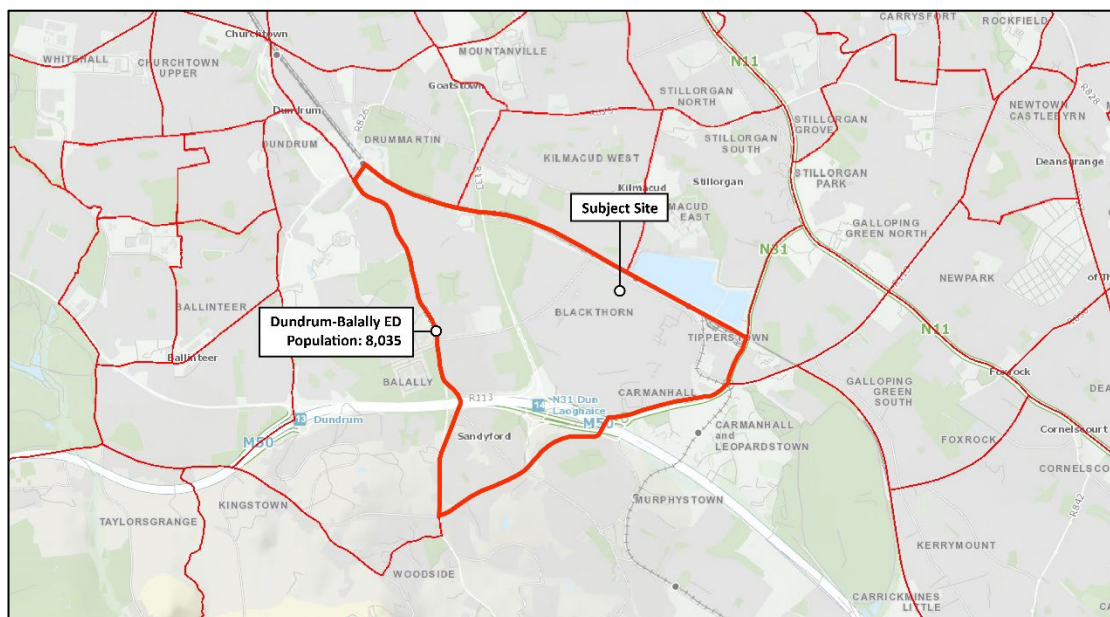
Analysis of the historic mapping shows that the site occupied agricultural land throughout the post medieval period. The aerial photographic coverage of the site shows that it was developed from 1995 onwards, with former buildings demolished sometime around 2008.

A field inspection of the site revealed that the site consists of a concrete slab that forms the roof of a multi-storey, unused car park which has been constructed below ground level. No features or deposits of archaeological significance were noted during the inspection.

## **6.0 POPULATION AND HUMAN HEALTH**

In order to assess the likely significant impacts of the proposed development on population and human health, an analysis of recent Census data was undertaken. Data relating to the economic, demographic and social characteristics of the Electoral District within which the subject site is located - Dundrum-Balally, were examined.





**Figure 6.1- Boundary of Dundrum-Balally ED and indicative location of subject site. (Source: 2016 CSO - SAPMAP, annotated by TPA 2018.)**

The subject site is located within the Electoral Division of Dundrum-Balally (ED No. 05037), had a population of 8,035 no. persons at the time of the 2016 Census. This represents a population increase of 13.9% (986 no. persons) from the 2011 Census figure.

The population growth rate of this electoral division is significantly higher than that recorded in the county of Dún Laoghaire-Rathdown for the same period, which grew by 5.7% and considerably higher than the national increase of 3.8% during this time.

Area	2011	2016	% Change
Ireland	4,588,252	4,757,976	+ 3.8%
Dún Laoghaire-Rathdown County (DLRC)	206,261	218,018	+ 5.7%
Dundrum-Balally Electoral Division	7,049	8,035	+ 13.9%

**Table 6.1- Population Trends at local, county and national levels. (Source: 2011 and 2016 CSO).**

Approximately 68% of the population of the Dundrum-Balally Electoral Division was of working age (19-64 years) at the time of the 2016 Census, which is slightly higher than the c. 60% recorded for the county and state. With respect to this, the Dependency Ratio for the area (i.e. those not in the workforce – aged 0-18 or over 65) is lower than the county and national figures at 32% of the population.



Age Cohort (Total Persons)	% Population in each Age Cohort by Area					
	Ireland <i>4,761,865 Persons</i>		DLRC <i>218,018 Persons</i>		Dundrum-Balally <i>8,035 Persons</i>	
0-4 years	331,515	7.0 %	13,810	6.3 %	560	7.0 %
5-12 years	548,693	11.5 %	21,302	9.8 %	642	8.0 %
13-18 years	371,588	7.8 %	15,651	7.2 %	399	5.0 %
19-24 years	276,856	7.0 %	19,088	8.8 %	679	8.5 %
25-44 years	1,406,291	29.5 %	61,495	28.2 %	3,389	42.2 %
45-64 years	1,135,003	23.8 %	52,003	23.9 %	1,388	17.3 %
65-69 years	211,236	4.4 %	9,765	4.5 %	308	3.8 %
70+ years	426,331	9.0 %	24,904	11.4 %	670	8.3 %
<b>Dependency Ratio</b>	-	<b>39.7%</b>	-	<b>39.2%</b>	-	<b>32.1%</b>

Table 6.2- Breakdown of population by age group (Source: 2016 CSO)

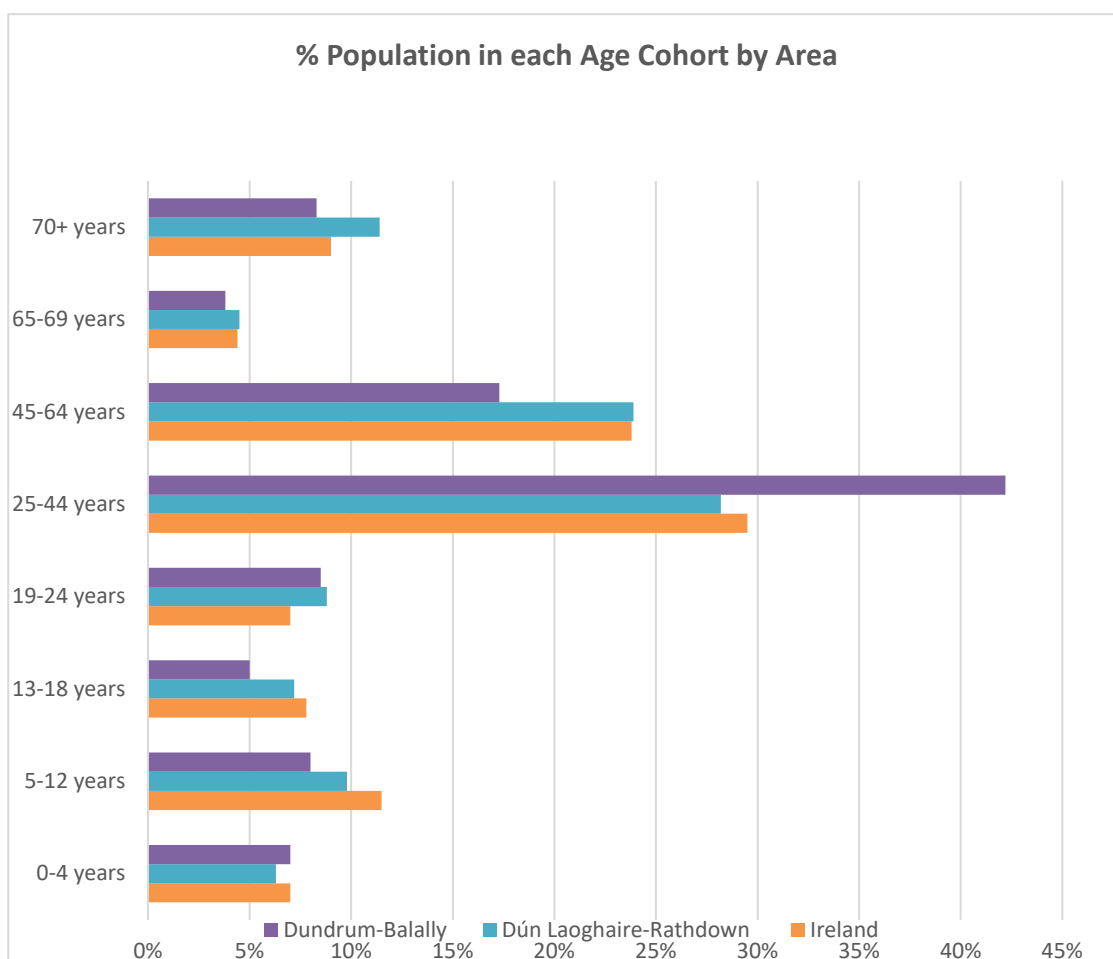


Figure 6.2- Visualization of percentage of population in each age group at national, county and local levels. (Source: 2016 CSO).

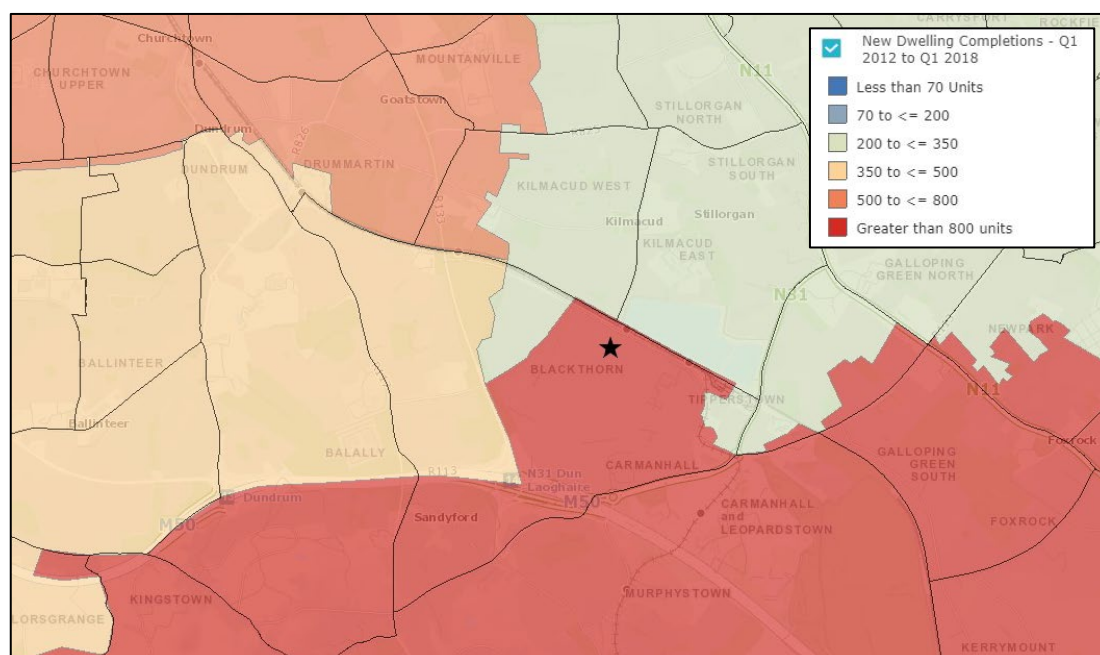


The Economic and Social Research Institute (ESRI) (2016) also forecasts that these sustained levels of growth will lead to an increase in demand for housing from the current level of 23,000 units per annum to just over 30,000 per annum in 2024<sup>2</sup>. The number of households in the Dundrum-Balally ED grew nearly 15% from 2011 to 2017, a rate significantly higher than the county and national rates for the same period (see Table 6.3).

Area	2011	2016	% Change 2011-2016
Ireland	1,654,208	1,702,289	2.9%
DLRC	75,819	78,601	3.7%
Dundrum-Balally ED	2,716	3,119	14.8%

**Table 6.3- Number of Households and Household Growth Rates (Source: CSO 2016).**

Housing completions in Dublin 18, where the subject site is located, were also significantly higher than average for the Greater Dublin Area, with more than 1,200 dwellings completed from Q1 2012 to Q1 2018 (see Figure 6.4).



**Figure 6.4- House Completions, 2012 to Q1 2018, indicative location of subject site shown with black star. (Source: Dublin Housing Observatory, accessed and annotated by TPA - September 2018).**

The addition of these proposed units will contribute to the housing unit target outlined in the Dún Laoghaire-Rathdown County Development Plan 2016 - 2022, which states that a net requirement of approximately 30,800 no. new units are required over the lifetime of the plan. This equates to an average requirement of approximately 3,080 no. new residential units per annum 2022.

<sup>2</sup> ESRI (2016) *Ireland's Economic Outlook: Perspectives and Policy Challenges*





The subject site is located in the area of ‘serviced lands’, 410 hectares of lands earmarked under the Development Plan for approximately 18,000 new infill units in 2016 – 2022, which also specifies the following in Policy ST2:

*“It is Council policy to actively support sustainable modes of transport and ensure that land use and zoning are fully integrated with the provision and development of high public quality transportation systems.”*

The proposed development will provide housing for a potential number of approximately 1,379 no. persons, when using the metrics provided in the Housing Quality Assessment. Given the multitude of large employment centres within close proximity to the site, the existence of significant transport infrastructure providing access to other it is likely that future residents of the scheme would work within close proximity to nearby employment centres. The multiplier effect arising from these additional residents using local services and purchasing goods at local businesses will also lead to an increase in employment in those businesses, which meet this demand.

The proposed crèche at the subject site would accommodate approximately 73 no. children, upon completion. Given the ratio requirements set out in Schedule 6 (Part 1) of the Childcare Act, the proposed crèche could potentially employ approximately 19 no. persons. In addition, it is envisaged that 4 no. of maintenance and security personnel will be employed in the development. Depending on the nature of the tenants that will occupy the 4 no. retail units, it is expected that 8 – 20 no. retail staff will be employed, further expanding employment opportunities in the local area. With respect to traffic safety, the development has been designed in accordance with the principles and standards of the Design Manual for Urban Roads and Streets (2009), which ‘designs in’ road safety.

At the construction phase of the development, a Construction Management Plan will be implemented in order to minimise the impact of an increase in commuter numbers. At the operational stage of the development, the design approach to access and layout ensures a high degree of connectivity; particularly in terms of sustainable transport modes via the proposed link to the nearby Luas stop.

The inclusion of landscaped public open space, community facilities, 4 no. retail units and a crèche will significantly impact the social amenities of the town in a positive manner. This will be a significant positive impact of both existing residents in the area and future residents.

During the construction phase, the legal duties under the Construction Regulations (*Safety, Health and Welfare at Work (Construction) Regulations 2013*<sup>3</sup>) will be adhered to.

In accordance with these duties, a Project Supervisor Design Process (PSDP) will be appointed by the relevant contractor to co-ordinate the design effort and minimise the construction risks during the design period. In addition, a Project Supervisor - Construction Stage (PSCS) will be appointed to coordinate and supervise all safety aspects of the project.

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<sup>3</sup> Health and Safety Authority (2017): [http://www.hsa.ie/eng/Your\\_Industry/Construction/Construction\\_Duty\\_Holders/](http://www.hsa.ie/eng/Your_Industry/Construction/Construction_Duty_Holders/)



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

At operational phase, proposed mitigation measures at the design stage are envisioned to reduce the risks associated with traffic safety. With respect to traffic safety, the development has been designed in accordance with the principles and standards of the *Design Manual for Urban Roads and Streets (2009)*, which 'designs in' road safety. Evidence of DMURS informed design within the proposed scheme include the provision of traffic calming and control measures.

## 7.0 BIODIVERSITY

The assessment takes account of international and national legislation relating to biodiversity, and local authority policies relating to biodiversity. The assessment is based on the results of a desk study and field surveys undertaken in 2018. It has also been informed by prior field surveys undertaken by Scott Cawley in 2017 for applications at the adjacent site. The desk study included a search of datasets held by the National Parks and Wildlife Service (NPWS), and National Biodiversity Data Centre (NBDC) as well as examination of information compiled for previous planning applications within lands and adjacent lands. Field surveys, undertaken in September 2018, included habitat and invasive species surveys, and surveys for rare and protected fauna species and birds. Consultations were made to the NPWS.

The lands do not overlap within any designated sites (i.e. Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or proposed Natural Heritage Areas). 10 European sites lie within the vicinity of the proposed site, with the closest being South Dublin Bay SAC (000210) and South Dublin Bay and River Tolka Estuary SPA (004024), both of which lie 3.4km north of proposed development site. The subject lands are hydrologically connected to these European sites via the surface and foul water networks. They are also connected to additional downstream European sites within Dublin Bay, which have been designated for their coastal and marine habitats and wetland bird species. With regards to nationally protected sites, pNHAs within Dublin Bay, are hydrologically connected to the subject lands for the same reasons outlined above for European sites which overlap with them. It has been concluded, for the reasons outlined above that the possibility of significant effects on protected sites, either alone or in-combination with other plans and projects, in the absence of mitigation cannot be excluded. For this reason, a Natura Impact Statement has been prepared for the proposed development.

No notable or protected flora species occur within the subject lands. Similarly, no habitats of ecological value were identified within or adjacent to the subject lands. The subject lands are dominated by areas of hard-standing and artificial surfaces. Smaller areas of recolonising bare ground, amenity grassland, low-value treelines and hedgerows are also present. The habitats within the proposed development site are assessed as being local (lower value) ecological value and are not considered to be key ecological receptors (KERs).



In terms of protected fauna, the lands are not considered to be suitable for roosting bats species, given the lack of suitable roosting features and given the industrial nature of the surrounding environment. No signs of any protected mammal species including badger *Meles meles* or otter *Lutra lutra* were found during surveys of the lands. The subject lands were noted to contain a small number of common bird species which are found in a range of habitats in Ireland, including in urban and suburban areas. No breeding birds were noted to be using the subject lands and no nesting birds were observed within the proposed development site. A precautionary approach has been taken, assuming birds could nest within the subject lands.

Significant effects are predicted to arise at the construction phase of the proposed development from the potential generation and mobilisation of silts, sediments and other pollutants to the local surface water network. Disturbance impacts to breeding birds, during construction have been considered, but are not predicted to be significant. Operational phase impacts are predicted from surface and foul water run-off from the proposed development site.

With regards to habitats, no significant impacts are predicted during the construction phase of the proposed development in the absence of mitigation. Similarly, no significant effects are predicted to arise with regards to fauna, from loss of suitable habitat or from direct disturbance/ mortality during the construction phase of the proposed development. As a precautionary approach, measures have been proposed to prevent mortality to breeding birds during construction. No significant operational impacts are predicted on either habitats or fauna within the subject lands.

Following an examination, analysis and evaluation of the relevant information including, in particular, the nature of the proposed development and the relationship between the proposed development site and downstream European Sites and, applying the precautionary principle, it is the professional opinion of the authors of this report that there will be no adverse effect on the integrity of any European sites. The only potentially significant risks to European sites (in the absence of mitigation) arise from potential construction and operation related surface water discharges. However, with the full implementation of the measures outlined in this NIS these risks will be mitigated. Consequently, there will be no risk of adverse effects on Qualifying Interest habitats or species, nor the attainment of specific conservation objectives, either alone or in-combination with other plans or projects, for any European sites.

## **8.0 LAND AND SOILS**

The existing land and soils situation is comprised of a basement within the existing ground profile. The pre-development soil comprised ground comprises made ground overlaying glacial limestone till.

Small quantities of soil will need to be removed to enable the development. This will primarily comprise new foundations, minor amount of basement completion, attenuation tank construction, and services works. The impact of this is managed by reinstating appropriately on completion of works. All areas will be finished as either part of the proposed building, external pavement, or external landscape. The impact of temporary construction impacts, such as oil leaks and construction traffic movements over soil, will be managed by careful monitoring and protection measures being implemented to protect the soil.



## 9.0 LANDSCAPE AND VISUAL IMPACT

### *Existing Landscape*

In landscape terms, the Sandyford area can be described as an urban area with a tightening urban fabric, a perception supported by the Sandyford Urban Framework Plan. The surrounding blocks have mid to high-rise residential and commercial building making up the character of the area, with this proposed site being one of the largest vacant undeveloped sites in the Sandyford Business District. In the wider context, the Sandyford Business Estate is surrounded by low-density residential, a few of which have partial/oblique potential views of the development.

### *Existing Views*

In visual terms, the surrounding developments and the density of the Sandyford Business Park restrict the views into the site. The main views into the site are from the adjacent development and range from direct to oblique views. The site can also be seen from points in the neighbourhood, primarily from the multi-story hotel and suites building on Ballymoss Road. Glimpsed views are also available from the adjacent junctions on Carmanhall road, including Blackthorn Drive, Corrig Road, and Ballymoss Road, although the sensitivity of these views is considered low, as it is primarily passing views from vehicles that are under consideration. In regard to the surrounding neighbourhood, possible views from outside the Sandyford Business Estate are mostly screened by the height of the adjacent buildings and the urban density.

### *Mitigation*

Landscape works are proposed to reduce and offset any impacts generated due to the proposed development, where possible. The creation of new public space and the planting of substantial numbers of new trees and other plantings will enhance the overall appearance of the new development.

The proposed mitigation measures are as follows:

- Street trees along the road and textured planting along the foot of the building;
- The diagonal pedestrian path which is a direct path to the Luas stop, delineated with shaded pavers and planting along edges;
- Communal play area for the block on north site of development, with plantings along the edge of the play area and the building;
- Open courtyard and communal open spaces with play and unprogrammed space;
- Several pedestrian paths from the street through the public amenity spaces and between developments to the adjacent existing developments and neighbourhood and
- Communal terraces for the residents of the proposed development on the 6th and 9th floor.



The proposed mitigation plantings are as follows:

- Approximately 125 no. new trees planted within the development;
- Approximately 3,400 sqm. of planting at ground level and
- Approximately 1,400 sqm of planting on communal terraces

Mitigation measures are shown on the submitted landscape drawings. At the time of planting the trees will be at least 3.0m in height. The trees will reach a mature height of at least 7 to 15 metres, dependant on species, within 10 to 15 years.

During the construction phase, site hoarding will be erected to restrict views of the site during construction. Hours of construction activity will also be restricted in accordance with local authority guidance.

## 9.1 Impacts

### *Landscape*

The proposed development would overall have a moderately positive effect on the landscape, particularly considering the existing vacant site is not fitting with the area's context or urban character. These predicted effects are mitigated by the potential quality of the public realm, the cohesive land use and pattern that would result. These new spaces, landscape features and distinctiveness introduced by the proposed development with its associated landscape spaces and planting interventions.

### *Visual*

The predicted visual impacts of the development are assessed on the proposed landscape measures being established for 10 years, enabling the planting to reach early mature stages. During construction, there will be a change to the landscape and there will be moderately negative visual impacts for residents and visitors to the areas adjacent to the site associated with construction activity.

When evaluating the visual effects on the site the context of the previously planned and partially constructed development, the zoning, and the existing urban fabric were considered. Due to the density of the Sandyford Business Park, the adjacent developments have the most direct views into the site and will be moderately negatively affected. These effects are mitigated due to the proposed development creating a cohesive streetscape and positive urban edge.

From the surrounding neighbourhood, there are only partial views of the proposed development which range from no impact to slightly -moderately positively affected. There are some points in the surrounding neighbourhood which are slightly negatively affected, but these views will lose visibility of the site once the adjacent developments, which are currently being developed, are completed.



Views from outside the Sandyford Business Estate, the proposed building will blend into the existing skyline of the Sandyford Business Estates. This is keeping with existing and emerging trends of the urban Sandyford area. The effect of the proposed development will be slight and neutral to these distant viewpoints

## 10.0 MICROCLIMATE – Daylight and Sunlight

A three-dimensional digital model of the proposed development, the parent permission and of existing buildings in the area was constructed by ARC Consultants based on drawings and three-dimensional models supplied by the Design Team; and with reference to on-site, satellite and aerial photography and to the online planning register, where relevant. For the purposes of the assessment of potential cumulative impacts (see Section 10.4.3 of the EIAR), it was assumed that the recently granted Tivway development (ABP Reference: TC 06D.TC0009) had been constructed on the site to the east. Using the digital model, shadows were cast by ARC at several times of the day at the summer and winter solstices, and at the equinox. An equinox occurs twice a year- the March or vernal equinox (typically in or around the 20<sup>th</sup> to 21<sup>st</sup> March) and the September or autumnal equinox (typically in or around the 21<sup>st</sup> to 23<sup>rd</sup> September). For the purposes of this analysis and with reference to the BRE Guide, shadows were cast at several times of the day on 21<sup>st</sup> March.

The potential impact of the construction phase of the proposed development on sunlight access is likely to be, initially, lesser than the impact of the completed development. As the proposed development nears completion, the impact of the emerging structure is likely to be similar in all material respects to that of the completed structure. It is noted that temporary structures and machinery (e.g. hoarding, scaffolding, cranes, etc.) will also cast shadows, although any additional impacts arising from temporary structures or machinery are likely to be temporary and minor.

The statistics of Met Eireann, the Irish Meteorological Service, indicate that the sunniest months in Ireland are May and June. During December, Dublin receives a mean daily duration of 1.7 hours of sunlight out of a potential 7.4 hours sunlight each day (i.e., only 22% of potential sunlight hours). This can be compared with a mean daily duration of 6.4 hours of sunlight out of a potential 16.7 hours each day received by Dublin during June (i.e., 38% of potential sunlight hours). Therefore, impacts caused by overshadowing are generally most noticeable during the summer months and least noticeable during the winter months. Due to the low angle of the sun in mid-winter, the shadow environment in all urban and suburban areas is generally dense throughout winter.

In assessing the impact of a development on sunlight access, the comments of PJ Littlefair in *Site layout planning for daylight and sunlight: a guide to good practice* (the BRE Guide) should be taken into consideration. The BRE Guide states that “*it must be borne in mind that nearly all structures will create areas of new shadow, and some degree of transient overshadowing of a space is to be expected.*”

Having regard to the shape, layout and orientation of the application site, the potential of development on the application site to result in overshadowing of lands outside the application site is largely limited to the Rockbrook lands.



Due to existing and permitted intervening development, the construction of the proposed development is unlikely to result in a material change to the shadow environment of other buildings at Carmanhall Road, Blackthorn Drive and beyond.

Given that the application site is now vacant, there is a potential for shadows cast by the proposed development to result in a considerable change in the existing shadow environment of the Rockbrook lands. However, it is likely that additional overshadowing of nearby buildings on the Rockbrook lands will be materially similar to or lesser than that which would have occurred if the development previously permitted on the application had been constructed (DLRCC Reg. Ref. D05A/1159; An Bord Pleanála Ref. PL06D.215205). Specifically, ARC's analysis did not indicate that the proposed development had the potential to result in *"an undue diminution in the availability of light to the existing apartments to the north, Blocks A and D, as compared to the previously approved development on this site"*, as had been the concern of An Bord Pleanála in relation to the development for which permission was sought on the site in 2016 (DLRCC Reg. Ref. D16A/0697; ABP Ref. PL06D.248397).

Similarly, there is a potential for the construction of the proposed development to result in a material improvement over the shadow environment of the vacant Tivway lands to the east over what was originally permitted under DLRCC Reg. Ref. D05A/1159; An Bord Pleanála Ref. PL06D.215205. The layout of the development now proposed presents a large communal open space onto the adjoining Tivway lands to the east (i.e. rather than the north-south block permitted at the eastern edge of the Rockbrook lands under the 2005 scheme).

ARC's analysis, therefore, indicates that the potential impact of the proposed development is likely to be consistent with emerging trends for development in the area or "moderate" in extent.

## 11.0 HYDOLOGY AND HYDROGEOLOGY

There are existing public foul sewerage and watermains adjacent to the development. There are no watercourses in the immediate vicinity of the development. Flood maps have demonstrated that the proposed development is within the flood zone of the Carysfort Maretimo stream. The impact of foul and potable water demand is managed by ensuring Irish Water can accommodate the additional flows. Irish water has advised that there is capacity within their networks to take the proposed additional foul and water demand without necessary upgrade to their networks.

The impact of surface water is managed with:

- A proposed attenuation tank and hydrobrake to reduce the surface water runoff from the development to a greenfield equivalent rate and
- SUDS measures are to improve the surface water quality.

The impact of flooding adjacent to the development is managed by designing the development, such to prevent flood waters affecting habitable areas as well as the basement.





## 12.0 AIR QUALITY AND CLIMATE

### 12.1 Construction Phase

#### *Air Quality*

The greatest potential impact on air quality during the construction phase of the proposed development is from construction dust emissions and the potential for nuisance dust and PM10/PM2.5 emissions (Table 12.6 of the EIAR). While construction dust tends to be deposited within 200m of a construction site, the majority of the deposition occurs within the first 50m. There are a small number of high sensitivity receptors, predominantly residential properties in proximity to the site boundary. Due to the nature of the area sensitive residential receptors are greater than 200m from construction areas. Any impacts can be easily mitigated and with mitigation measures in place it is predicted that potential impacts are short term and negligible.

#### *Climate*

There is the potential for a number of greenhouse gas emissions to the atmosphere during the construction phase of the development. Construction vehicles, generators etc., may give rise to CO<sub>2</sub> and N<sub>2</sub>O emissions. However, due to the scale of the project it is predicted that the construction phase GHG impacts will be negligible and short-term.

#### *Human Health*

Best practice mitigation measures are proposed for the 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 which are based on the protection of human health. Therefore, the impact of construction of the proposed development is likely to be short-term and imperceptible with respect to human health.

### 12.2 Operational Phase

#### *Local Air Quality*

The results of the air dispersion modelling study indicate that the residual impacts of the proposed development on air quality and climate are predicted to be imperceptible with respect to the operational phase local air quality assessment for the long and short term.

The receptors modelled represent the worst-case locations close to the proposed development and were chosen due to their close proximity (within 200 m) to the road links impacted by the proposed development. The worst-case traffic data used in this assessment is shown in Table 12.7 of the EIAR. The proposed development is in a mainly commercial area, with some residential receptors. The closest residential receptors which have the potential to be impacted by increased AADT are located on the Beacon South Quarter development.





Two sensitive receptors in the vicinity of the proposed development have been assessed. Sensitive receptors have been chosen as they have the potential to be adversely impacted by the development, these receptors are shown in Table 12.8 of the EIAR. The road assessed has been chosen as it will have the most significant operational traffic impact due to the proposed development.

### ***Regional Air Quality***

The regional impact of the proposed development on emissions of NO<sub>x</sub> and VOCs has been assessed using the procedures of Transport Infrastructure Ireland (TII, 2011) and the UK Department for Environment, Food and Rural Affairs (UK DEFRA 2016). The results (see Table 12.17 of the EIAR) show that the likely impact of the proposed development on Ireland's obligations under the Targets set out by Directive EU 2016/2284 "*On the reduction of national emissions of certain atmospheric pollutants and amending Directive 2003/35/EC*" are imperceptible and long-term. For the post development year, the predicted impact of the changes in AADT is to increase NO<sub>x</sub> levels by 0.000376% of the NO<sub>x</sub> emissions ceiling and increase VOC levels by 0.0001158% of the VOC emissions ceiling.

Therefore, the likely overall magnitude of the changes on air quality in the operational stage is imperceptible, long-term and not significant.

### ***Climate Impacts***

The impact of the proposed development on emissions of CO<sub>2</sub> impacting climate were also assessed using the Design Manual for Roads and Bridges screening model (see Table 12.17 of the EIAR). The results show that the impact of the proposed development in the post development year will be to increase CO<sub>2</sub> emissions by 0.0002657% of Ireland's EU 2020 Target. Thus, the impact of the proposed development on national greenhouse gas emissions will be insignificant in terms of Ireland's obligations under the EU 2020 Target.

Therefore, the likely overall magnitude of the changes on climate in the operational stage is imperceptible, long-term and not significant.

### ***Human Health Impacts***

Air dispersion modelling of operational traffic emissions was undertaken to assess the impact of the development with reference to EU ambient air quality standards which are based on the protection of human health. As demonstrated by the modelling results, emissions as a result of the proposed development are compliant with all National and EU ambient air quality limit values and, therefore, will not result in a significant impact on human health.



### 13.0 MICRCLIMATE- WIND

This chapter of the Environmental Impact Assessment Report (EIAR) and is prepared by RWDI. It assesses the potential impacts and associated likely effects of the proposed development on the local wind microclimate at the Site and within the surrounding area. It considers the potential effects of wind upon pedestrian comfort and pedestrian safety (of the general public passing the application site, as well as future occupants of the Proposed Development) and strong winds which, if they were to occur, would affect pedestrian safety.

This EIAR chapter sets out the methods used to assess the potential effects; the baseline conditions currently existing at the Site and its immediate surrounds (off-site locations); and likely impacts on the wind microclimate of the completed Proposed Development.

The assessment quantifies the expected wind microclimate in pedestrian areas at ground, and balcony levels. The measured wind speed statistics are benchmarked against comfort criteria to determine the suitability of the proposed development for different pedestrian activities. The existing (baseline) conditions at the application site and its surrounds, as well as those for the proposed development are assessed. Strong winds are also considered. Results for the winter season are presented, as well as results for the summer when amenity spaces are more likely to be used frequently.

Meteorological data for Dublin Airport shows the prevailing wind direction throughout the year is from the west-southwest with a secondary peak for south-easterly winds. The background wind environment is generally windy (compared to other large cities such as London, for example) which leads to a particularly uncomfortable environment in the existing (baseline) scenario.

The baseline results (existing Site with existing surrounding buildings and no landscaping) showed windy conditions throughout the Site and surrounding area. There were particularly windy conditions at the south west corner of the Site, as well as uncomfortable conditions on and off-site. In addition to uncomfortable winds, strong winds were also measured which represents a safety concern.

The windier conditions show that these uncomfortable conditions to the south-west already exist, and are not caused by the Proposed Development.

The inclusion of the Proposed Development generally improved wind conditions throughout the Site by providing additional shelter. Locations to the south-west (on and off-site) saw calmer wind conditions with the Proposed Development in situ (however, these locations still remained windier than desired for the intended use).

Although most locations had calmer conditions, some areas did have an increase in wind speeds due to the Proposed Development (without landscaping); including areas on the road directly south of the Proposed Development. These areas require wind mitigation which is provided by the landscaping scheme and developed measures listed in section 13.5 of the EIAR. On-Site, several entrances and roof/balcony level amenity spaces were also too windy for the intended use, and require mitigation measures.



## 14.0 ROADS, TRAFFIC AND TRANSPORTATION

The proposed predominantly residential scheme supersedes previously approved development at this site made under applications DLRCC Reg. Ref. D05A/1159 and subsequently DLRCC Reg. Ref. D07A/0975 which were partially completed. Road improvements works required under those applications in order to ameliorate the impact of the scheme were previously completed. The development under those proposals was accounted for within the overall traffic model for Sandyford Business District (since it was assumed that those schemes would have been completed), which subsequently gave the terms of reference for the Sandyford Urban Framework Plan for future development within the district.

This traffic assessment compares the impact of the proposed development with that of the previous schemes to demonstrate the relative impact on the environs with respect to traffic and transportation and also evaluate the impact of the scheme on a number of junctions in the vicinity of the development. This approach has been agreed with DLRCC. We note that the recent previous planning assessment of the DLRCC Reg. Ref. D16A/0697 scheme by DLRCC and ABP with respect to traffic and transportation issues did not feature in the reasons for refusal.

The rationale with respect to allocation of the various types of parking are similar to those previously proposed. The short-term retail, restaurant and crèche parking will be accommodated at the Basement -1 level. Long stay residential and office parking will be provided at Basement -2 and -3 levels.

The Basement -1 floor level will be accessed and egressed via Blackthorn Drive to the north of the site, whilst Basement -2 and -3 will be accessed via Carmanhall Road to the south of the site. Provision has been made to enable emergency alternative movement of cars via the respective accesses via locked gateway at level -1 basement level.

The commercial car parking at Basement -1 level will operate as a pay and display in order to restrict parking to short term only. It is proposed that a barrier-controlled access system will be implemented on completion of the RB Central scheme, with pay stations located within the Basement -1 level. The system will be managed by a contractor. Access to the residential and office parking areas at Basement -2 and -3 levels will be restricted to residents and office use only via a proprietary fob system as is currently employed for the residential on the site in order to control access and provide security.

### Construction Phase

The volumes of traffic that will be generated during the construction phase of the development will be small in comparison to the traffic volumes generated by the operation of the development during the peak hour periods. A quantitative analysis for the construction stage would yield lower ratio of flow to capacity results than the design year.



The construction stage therefore does not require quantitative traffic analysis, however in order to minimise disruption due to construction wheel washing facilities will be installed at the site access during the construction stage to reduce the amount of dirt and debris carried on to the public roadway during any excavation operations etc.

### **Operational Phase**

The overall impact of this development will be less than that which formed the previous planning applications on the site. As the generated traffic from that proposal was accounted for in the proposals for local road improvements as well as the overall traffic model for Sandyford District it would be expected that the proposed development works will result in under capacity on the road network

## **15.0 NOISE AND VIBRATION**

This chapter of the EIAR has been prepared to assess the potential noise and vibration impact of the proposed development in the context of current relevant standards and guidance, and identifies any requirements or possibilities for mitigation. Where relevant, the potential cumulative impact of the development has been assessed

In terms of the noise exposure of construction workers and potential hearing damage that may be caused due to exposure to high levels of noise, the Safety, Health and Welfare at Work (General Application) Regulations 2007 (Statutory Instrument No. 299 of 2007) provides guidance in terms of allowable workplace noise exposure levels for employees. The Regulations specify two noise Action Levels at which the employer is legally obliged to reduce the risk of exposure to noise. The appointed contractor will be required to comply with the Regulations and provide appropriate noise exposure mitigation measures where necessary. The noise exposure level to off-site receptors during the construction phase will be below the lower Action Level and therefore the risk of noise exposure resulting in potential hearing damage to off-site receptors is minimal.

During the construction phase the main site activities will include, site clearance, groundworks, building construction, internal road construction and landscaping. Potential impacts arising during the construction phase will be short term in duration. The appointed contractor will be required to monitor levels of noise and vibration during critical construction periods at nearby sensitive locations and/or development site boundaries. During the construction phase of the project there will be some impact on nearby residential properties due to noise emissions from site traffic and other 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.

During the operational phase of the development, no significant sources of noise or vibration associated with the development are anticipated. The primary source of outward noise in the operational context relates to any changes in traffic flows along the local road network and any noise emissions associated with mechanical services plant. Potential impacts arising during the operational phase will be long term in duration.



No significant noise impacts are expected from the operational phase of the proposed development. As such, there is no anticipated risk of long-term exposure to noise on human health resulting from the proposed development.

Noise calculations have estimated the resultant noise level at the nearby apartments comply with the daytime criterion but do not comply with the design target for night-time operation. Noise mitigation measures are therefore required to reduce plant noise emissions to nearby dwellings. Recommendations for mitigation are provided in Section 15.6.2 of the EIAR. There are no anticipated cumulative impacts in relation to the operational phase of the proposed development.

## 16.0 MATERIAL ASSETS- WASTE

AWN Consulting Ltd. carried out an assessment of the potential impacts associated with waste management during the construction and operational phases of the proposed development. The receiving environment is largely defined by Dún Laoghaire-Rathdown County Council as the local authority responsible for setting and administering waste management activities in the area through regional and development zone specific policies and regulations.

During the demolition and construction phases, typical construction and demolition waste materials will be generated which will be source segregated on-site into appropriate skips/containers, where practical and removed from site by suitably permitted waste contractors to authorised waste facilities. Where possible, materials will be reused on-site to minimise raw material consumption. Source segregation of waste materials will improve the re-use opportunities of recyclable materials off-site. Completion of the basement and construction of new foundations, the installation of underground services and attenuation tank will require the excavation of c. 1,200m<sup>3</sup> made ground and subsoil. It is anticipated that there will be no opportunities for reuse of this material onsite and it will require removal for offsite reuse, recovery, recycling and/or disposal.

A carefully planned approach to waste management and adherence to the site-specific Construction and Demolition Waste Management Plan (Appendix 16.1) during the construction phase will ensure that the effect on the environment will be short-term, neutral and imperceptible.

During the operation phase, waste will be generated from the residents as well as the retail and crèche tenants. A dedicated communal waste storage area has been allocated for the residents on basement Level -02. The waste storage area has been appropriately sized to accommodate the estimated waste arisings. The retail and crèche tenants will have dedicated waste storage areas within their units. The waste storage areas have been allocated to ensure a convenient and efficient management strategy with source segregation a priority. Waste will be collected from the designated waste collection areas by permitted waste contractors and removed off-site for re-use, recycling, recovery and/or disposal.



An Operational Waste Management Plan has been prepared which provides a strategy for segregation (at source), storage and collection of wastes generated within the development during the operational phase including dry mixed recyclables, organic waste, mixed non-recyclable waste and glass as well as providing a strategy for management of waste batteries, WEEE, printer/toner cartridges, chemicals, textiles, waste cooking oil and furniture (Appendix 13.2). The Plan complies with all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the development.

Provided the mitigation measures outlined in Chapter 16 are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be long-term, neutral and imperceptible.

## **17.0 MATERIAL ASSETS- FOUL AND SURFACE WATER**

There are existing public foul sewerage and watermains adjacent to the development. A new foul sewer connection, watermain connection, and surface sewer connection is proposed to connect to this existing adjacent infrastructure. A watermain is to be relocated within Carmanhall Road, to provide space for the proposed attenuation tank.

A new attenuation tank, on site inground drainage and basement drainage is proposed with the private development site. The principal impact from the developed would be that there are additional public and private drainage services in the ground. Proposed drainage assets will need to be co-ordinated with existing and proposed electrical and communications services to ensure all required clearances are provided.

## **18.0 MATERIAL ASSETS- SITE SERVICES (COMMUNICATIONS, ELECTRICITY AND GAS)**

This chapter of the EIAR comprises of an assessment of the likely impact of the proposed development on existing utility services in the vicinity of the site as well as identifying proposed mitigation measures to minimize any impacts. The site services considered in this chapter of the EIAR include electricity, gas and telecommunications.

An assessment of the likely impact of the proposed development on existing utility services in the vicinity of the site included a desktop review of the following information:

- ESB Network Utility Plans;
- Gas Networks Ireland Service Plans;
- EIR E-Maps;
- Virgin Media Service Plan.

An existing medium pressure distribution pipeline is shown running along the site's western boundary on Blackthorn Drive and an existing Medium/Low pressure distribution pipeline with the existing basement. A connection will be made to the existing service within the basement, therefore there will be no disruption to the Gas Networks supply.



Electricity supply for the proposed development will be taken from the existing ESB Network located to the south of the site. The existing ESB infrastructure (in ground ducting) located on Carmanhall road shall be diverted to facilitate the installation of the new attenuation tank being installed to serve the new project. There is potential interruption to ESB's infrastructure while carrying out road works along Carmanhall road to provide service connections to the proposed development.

EIR's and Virgin Media's existing network is indicated on Carmanhall road. A new feed will be taken from this existing supply and will enter the site on the southern boundary. The existing EIR infrastructure (in ground ducting) located on Carmanhall road shall be diverted to facilitate the installation of the new attenuation tank being installed to serve the new project and therefore there is potential disruption to existing service. There is no expected disruption to Virgin Medias service.

All connections and diversions to the existing gas, electricity and telecommunications networks will be coordinated with the relevant utility provider and carried out by approved contractors.

## **19.0 INTERACTIONS AND CUMULATIVE IMPACTS**

It is noted that all aspects of the environment are likely to interact to some extent and to various degrees of complexity. The likely significant interactions between factors arising from the proposed development are set out in the matrix provided as Table 19.1 below.



Table 19.1: Matrix of Interactions Between Environmental Factors

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





### 19.1 Interactions between Population and Traffic

The interaction between population and traffic has been discussed in Chapter 6 and 14. The positive nature of the proposed development in terms of its location in a centre of employment, and therefore the associated increase in sustainable commuter trips in the area, would be lost in a “Do Nothing” scenario. If the development did not proceed, there would be a neutral impact on commuting patterns in the wider area, as the proposed development does not provide any additional transport infrastructure services. There may be a slight negative impact on some pedestrian commuters in the “Do Nothing” Scenario, as the site will provide additional permeability and access for pedestrian commuters to the Luas stop to the north of the site who will otherwise have to walk around the block.

During the construction phase the site will be accessed via Carmanhall Road. Additionally, the fact that the works for the basement construction will be utilising the same footprint as for the previously granted permission will reduce the need for excavation and disposal.

An Outline Construction Management Plan is required in accordance with Dún Laoghaire-Rathdown *County Development Plan 2016-2022*, a preliminary version of which is included in with the application. The Plan includes a section which covers the Preliminary Traffic Management Plan. Further information on this is outlined in Chapter 14 of this *EIAR - Roads, Traffic and Transportation*. At the construction phase of the development, the Construction Management Plan will be implemented in order to minimise the impact of an increase in commuter numbers.

Owing to the large number of employment centres in the Dublin area, and the site’s location at the edge of the Sandyford Business District, it is likely that internal commuter flows within Sandyford arising from the subject proposal is likely to increase. However, the site is within a short walking distance of both Luas and bus services and the provision of pedestrian and cyclist links directly to the these would likely foster a trend towards more sustainable commuting patterns locally.

### 19.2 Interactions between Population, Air Quality and Climate

The interaction between Population and Air Quality has been discussed in Chapter 12. The main emissions to the atmosphere will be dust generated during the construction stage. The mitigation measures that will be employed during construction, which will ensure no significant adverse impacts arising from interactions between population and air quality.

### 19.3 Interactions between Population, Landscape and Visual Impact

Chapter 9 of this EIAR sets out the Landscape and Visual Impact Assessment. Predicted landscape impacts at construction stage are likely to be as per the potential impacts discussed in Section 9.7.1. Any new development will require site hoarding. Due to the site hoarding currently being the existing site condition on the boundaries, the development will have a neutral visual impact on adjacent developments, until the development progress over the height of the hoarding.



As the proposed development will be higher than the hoarding, the predicted visual effects will remain largely unchanged from the potential impacts. The construction phase will have a moderately negative impact on the adjacent developments and Carmanhall Road, due to the proximity of the development. This, however, will only occur during the construction period and is to be expected in the development of zoned urban land. The landscape effects of the proposed development would overall be moderately positive, particularly considering the existing vacant site in the area's context or urban character.

In the medium to long-term, the landscape effects due to the completed development would overall be moderate and positive, due to the conversion of the site from a vacant and closed space to public and integrated. In the longer term, the assessment concludes that the proposed development will continue to fit into the landscape and visual character of the area.

Landscape works are proposed to reduce and offset any effects generated due to the proposed development, where possible. The planting of substantial numbers of new trees and plantings will enhance the overall appearance of the new development. Specifically, there is a net gain of c. 125 new trees planted within the site and approximately 3,400 sqm of new planting at ground level.

While the effects on views persist, the tree and shrub planting will increase the visual quality of the site. Future visitors to the development will perceive the development in positive terms due to the context and the quality of the public realm and proposed buildings. A landscape management plan accompanies the planning application. Prior to completion of the landscape works, a competent landscape contractor will be engaged and a detailed maintenance plan, scope of operation and methodology will be put in place.

#### **19.4 Interaction between Population and Hydrology**

The use of public water and wastewater would be advantageous to population and human health, as outlined in Chapter 11.

#### **19.5 Interactions between Noise, Traffic and Population**

There is the potential for Noise and Vibration arising from the subject scheme to interact with other aspects of the environment, particularly Traffic, Population and Human Health. It is considered, however, that the implementation of the mitigation measures described above will neutralise the potential for interactions between these aspects of the environment.

#### **19.6 Interactions between Air Quality and Traffic**

The interaction between air quality and traffic is outlined in Chapters 12 and 14, which finds that increased traffic volumes generated by the proposal on the surrounding network will decrease air quality to a certain extent during the operational phase, but that overall – relative to baseline levels, that impact will be negligible, long-term, and imperceptible.



### **19.7 Interactions between Biodiversity and Landscape**

The long-term effects of the proposed development will have a positive effect on the areas, through the increase of tree canopy and vegetation, both at the ground level and at the courtyard terraces level. Further consultation with the Ecological Consultant will take place at detailed design, implementation and monitoring stages to ensure adherence to best practice and sound ecological principles.

### **19.8 Interactions between Land, Soils and Traffic**

Construction traffic will be in have an impact on the land and soils, as well as on the traffic on the local road network. There is no anticipated cumulative effect.

### **19.9 Interactions between Land, Soil, Water and Hydrology**

Any environmentally damaging fluids that might infiltrate the soil will have an effect on the surrounding hydrological network. However, mitigation measures are proposed to reduce the likelihood of this eventuality. This is discussed further in the Chapter 11.

### **19.10 Interactions between Land and Soils and Noise and Vibration**

Construction traffic will be in have an impact on the land and soils as well as on the noise on the local environment, as outlined in Chapter 9.

### **19.11 Interactions between Land, Soils and Air Quality**

Construction traffic will have an impact on the land and soils as well as on the air quality (from dust) on the local environment, as outlined in Chapter 9.

### **19.12 Interaction between Site Services and Hydrology**

The hydrological requirement of the proposed scheme will in part prescribe the site services that are required for the development. This is outlined in greater detail in Chapters 11 and 17.

### **19.13 Interaction between Hydrology and Biodiversity**

The surface water mitigation measures outlined in this report would be advantageous to biodiversity, as they are an improvement from the existing, partially constructed basement car park. There is no anticipated cumulative effect.



#### **19.14 Interaction between Hydrology and Site Services**

The Drainage and Water Supply requirement of the development is primarily prescribed by the hydrological requirement for the development. The flows associated with the development are described in greater detail in Chapter 11.

#### **19.15 Interaction between Site Services, Land and Soils**

Trench excavations to facilitate site service installation will result in exposure of subsoils to potential erosion and subsequent sediment generation. Mitigation measures are outlined in Chapter 8 Land & Soils (i.e. service trenches to be backfilled as soon as practicable to minimise potential erosion of subsoils).

Other development in the vicinity of the site (e.g. the adjoining site, known as the Tivway site) are likely to have similar impacts during the construction phase in relation to Material Assets – Site Services. Should the construction phase of the developments noted above coincide with development of the site, potential cumulative impacts are not anticipated once similar ameliorative, remedial and reductive measures are implemented.

#### **19.16 Cumulative Impact**

The cumulative effects with other existing and/or approved projects in the area have also been considered to determine whether these could be sufficient to generate impacts of significance on the environment. Any predicted specific cumulative impacts are outlined in the various EIAR chapters, and tend to be temporary; related to the construction period; and manageable by way of mitigation. No significant interactions are envisaged in terms of interactions arising from cumulative impacts.

Within the urban block of this development, there is one completed development, one under construction (The Sentinel Building), and one with planning approval (Tivway). After the completion of the above proposed adjacent developments, the effect on some views will change. For example, once Tivway is completed, this proposed development will not be visible from St Raphaela's Road and Corring Road.

These cumulative effects were considered in the evaluation of near and distant viewsheds and fitting with the existing character and planning objectives of the Sandyford Business District. Future or alternative developments adjacent or near the site will further affect the area, potential through the altering of the skyline from distant viewpoints. No cumulation with projects of any size. The site itself relatively self-contained.

#### **19.17 'Do Nothing' Scenario**

If the proposed project does not proceed, there will be no cumulative impacts arising.



### 19.18 Mitigation And Monitoring Measures

It is not proposed that any mitigation or monitoring will be undertaken specifically for cumulative impacts.

## 20.0 MITIGATION AND MONITORING MEASURES

This is not an exhaustive list and mitigation and monitoring measures are outlined in great detail in the various chapters of the EIAR. In summary, the following are examples of mitigation and monitoring measures which are proposed to ensure that any identified potential significant impact is avoided or reduced to an acceptable level both during construction and in the operational phase:

- At the construction phase of the development, a *Construction Management Plan* will be implemented in order to minimise the impact of an increase in commuter numbers;
- During the construction phase, the legal duties under the Construction Regulations (*Safety, Health and Welfare at Work (Construction) Regulations (2013)*) will be adhered to;
- The following mitigation measures, as outlined in Chapter 7, are proposed to comply with legislation protecting birds and their nests:
  - **BBM1:** In order to avoid disturbance of breeding birds, their nests, eggs and/or their unflown young, all works involving the demolition of buildings and/or the removal of trees or hedgerows will be undertaken outside of the nesting season (1<sup>st</sup> March to 31<sup>st</sup> August inclusive).

*Or where this seasonal restriction cannot be observed then:*

- **BBM2:** A breeding bird survey will be undertaken during the appropriate survey season (between early March and late June) by an ecologist with experience undertaking breeding bird surveys in order to assess whether birds are nesting within the subject lands. Should nesting birds be encountered during surveys, demolition of buildings and/or removal of trees or hedgerows will be delayed until after the nesting season (1<sup>st</sup> March to 31<sup>st</sup> August inclusive);
- Any temporary storage of soil required will be carefully managed in such a way as to prevent any potential negative impact on the receiving environment; the material will also be stored away from any surface water drains. Movement of material will be minimised in order to reduce degradation of soil structure and generation of dust;
- All excavated materials will be visually assessed for signs of possible contamination, such as staining or strong odours. Should any unusual staining or odour be noticed, samples of this soil will be analysed for the presence of possible contaminants in order to ensure that historical pollution of the soil has not occurred at the proposed development site;



- Construction traffic can be controlled through the use of stabilisation of soils to mitigate any significant effect on the ground. Works will need to be undertaken in accordance with DLRCC council requirements;
- To minimise any impact on the underlying subsurface strata from material spillages, all oils, solvents and paints used during construction will be stored within temporary bunded areas;
- Potentially contaminated groundwater and polluted surface water generated during construction activities will not be discharged directly to ground or surface drainage;
- The planting works will be undertaken in the planting season after completion of the main civil engineering and building work;
- Prior to completion of the landscape works, a competent landscape contractor will be engaged and a detailed maintenance plan, scope of operation and methodology will be put in place;
- The development is designed to prevent flood waters from affecting habitable areas, basements and other associated areas. Appropriate protection has also been provided to adjacent areas to prevent flooding of habitable areas, basements and other associated areas;
- In order to minimise dust emissions during construction, a series of mitigation measures have been prepared in the form of a dust minimisation plan;
  - Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic;
  - Furthermore, 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 using site roads will have their speed restricted, and this speed restriction must be enforced rigidly. On any un-surfaced site road, this will be 20 km ph, and on hard surfaced roads as site management dictates;
  - Vehicles delivering material with dust potential (soil, aggregates) will be enclosed or covered with tarpaulin at all times to restrict the escape of dust;
  - 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.
- An Outline Construction Management Plan is required in accordance with County Development Plan 2016-2022, a preliminary version of which is set out as part of the planning pack. The Plan includes a section which covers the Preliminary Traffic Management Plan;
- The draft Travel Plan will also form part of the Construction Traffic Management Plan and will be agreed with DLRCC prior to commencement of works on site;
- Limiting the hours during which site activities likely to create high levels of noise or vibration are permitted;
- Monitoring levels of noise and vibration during critical periods and at sensitive locations;
- Maintaining site access roads even so as to mitigate the potential for vibration from lorries;
- Establishing channels of communication between the contractor/developer, Local Authority and residents,
- Appointing a site representative responsible for matters relating to noise and vibration;
- Calculations indicate that noise mitigation will be required to the 12th floor external plant area, to reduce noise emissions during night-time plant operation. An acoustic louvre is therefore proposed for the 12th floor external plant, with a minimum 'Insertion Loss,' as specified in Table 15.17. The calculated residual noise level at the nearby apartments comply with both the daytime and night-time design targets;
- The management of waste during the construction phase should be monitored to ensure compliance with relevant local authority requirements, and effective implementation of the Construction and Demolition Waste Management Plan (CDWMP) including maintenance of waste documentation;
- The management of waste during the operational phase should be monitored to ensure effective implementation of the Operational Waste Management Plan (OWMP) by the building management company and the nominated waste contractor(s) and
- Construction should be monitored to ensure compliance with relevant local authority requirements, and health and safety legislation. The operational phase of public works should be monitored by the local authority responsible for the respective asset.





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## 21.0 DIFFICULTIES ENCOUNTERED

In general, no significant difficulties, in terms of technical deficiencies or lack of sources of information, were encountered in compiling the specified information contained in the Statement.

References to published sources of information are acknowledged in the text. In addition, studies commissioned specifically for the purposes of this Environmental Impact Assessment Report are also referenced. A list of all consultants involved in the compilation of information for this EIAR is provided in Chapter 1.

As the proposed development will not require the use of natural resources that are in short supply, nor will the development result in the emission of pollutants that will create nuisance or hazard, the matters referred to in *Schedule 6 (2)(c) of the Planning and Development Regulations, 2001-2013* do not apply.

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