

# ENVIRONMENTAL IMPACT ASSESSMENT REPORT

## NON-TECHNICAL SUMMARY

**Proposed Strategic Housing Development  
(Alterations to Phase 1 Residential and  
Proposed Phase 2 Residential Development)**

**AT**

**THE FRASCATI CENTRE,  
FRASCATI ROAD, BLACKROCK, CO. DUBLIN**



In Association with:

Reddy Architecture + Urbanism | AWN Consulting | Brady Shipman Martin | Barrett  
Mahony Consulting Engineers | Courtney Deery Heritage Consultancy |  
Openfield Ecology | BPG3 | NRB Traffic Engineers

**August 2020**

## EIAR Non-Technical Summary

### INTRODUCTION AND METHODOLOGY

This Environmental Impact Assessment Report (EIAR) has been prepared in support of a SHD application for alterations to the Phase 1 permission for 45 no. apartments (Reg. Ref.: D17A/0950 & ABP Ref.: 300745-18- for which construction has commenced), from second to fourth floor level of the rejuvenated Frascati Centre. The proposed development also includes the provision of 57 no. additional apartments, as an extension of the Phase 1 permission, located above the existing / permitted podium car park to the north west of the centre, as a Phase 2 residential development. The subject application therefore relates to a total of 102 no. residential units. The proposed development includes all associated development, including the allocation of 57 no. car parking spaces at lower ground floor level and the provision of 214 no. bicycle parking spaces at lower ground and surface level for the 102 no. residential units.

This document is a summary of the information contained in the EIAR. For detailed information and key mitigation and remedial measures please consult the full EIAR document.

#### Purpose of the EIAR

The objective of this EIAR is to identify and predict the likely environmental impacts of the proposed development; to describe the means and extent by which they can be reduced or ameliorated; to interpret and communicate information about the likely impacts; and to provide an input into the decision making and planning process.

The EIAR is the primary element of the Environmental Impact Assessment (EIA) process and is recognised as a key mechanism in promoting sustainable development, identifying environmental issues, and in ensuring that such issues are properly addressed within the capacity of the planning system.

The objective of this EIAR is to identify and predict the likely environmental impacts of the proposed

#### The Requirement for an EIAR

The requirement for an EIAR for this project has regard to the planning history of the lands, with the rejuvenation project subject to an EIS, Reg. Ref.: D14A/0131, and a subsequent Section 132 request from An Bord Pleanála in respect to the Phase 1 residential development, requesting an EIAR having regard to Class 13(a)(ii), as summarised below:

*“Please submit an EIAR of the effects of the proposed development on the environment, which shall include an assessment of the cumulative impacts of the subject development and the development already authorized on the site under D14A/0134. It is considered that an EIAR is required because the development in question comes within the scope of class 13(a)(ii) of the Planning and Development Regulations 2000 (as amended), as the proposed developments results in an increase in size greater than 25% of the development already authorized and being executed on the site under D14A/0134”*

Class 13(a) states the following:

*“Class 13(a) relates to any change or extension of development already authorised, executed or in the process of being executed (not being a change or extension referred to in Part 1) which would -*

- (i) result in the development being of a class listed in Part 1 or paragraphs 1 to 12 of Part 2 of this Schedule,*
- and*
- (ii) result in an increase in size greater than – 25 per cent, or*  
*- an amount equal to 50 per cent of the appropriate threshold, whichever is the greater”*

As the proposed development comprises alterations to a permitted apartment scheme of 45 units and the provision of 57 new residential units, it is considered that the above applies and an EIAR has been prepared. No increase in shopping centre floor space is proposed as part of this application.

The following components are addressed in the EIAR:

- Introduction and Methodology,
- Project Description and Alternatives Examined,
- Population and Human Health,
- Archaeology and Cultural Heritage,
- Biodiversity,
- Landscape and Visual Impact,
- Land and Soils,
- Water,
- Air Quality and Climate,
- Noise and Vibration,
- Microclimate,
- Daylight and Sunlight,
- Material Assets,
- Interactions of the Foregoing,
- Principle Mitigation and Monitoring Measures,
- Non-Technical Summary.

It is necessary to examine each of these sections of the environment with respect to the impacts that the proposed development may have on them.

In addition to the components required under Schedule 5 of the Planning & Development Regulations 2001-2020, this SHD application includes a number of additional standalone reports (such as a Traffic and Transport Report, an Engineering Services Report, a Hydrological Risk Assessment and a more detailed Daylight and Sunlight Assessment), which have helped inform the contents of this EIAR, and which are included as standalone reports with the planning application.

## **PROJECT DESCRIPTION AND ALTERNATIVES EXAMINED**

This section of the EIAR has been prepared by John Spain Associates, Planning & Development Consultants, in association with Reddy Architecture + Urbanism, and provides a description of the proposed development and also explains the evolution of the scheme design through the reasonable alternatives examined.

The application site is located within the Frascati Centre, Frascati Road, Blackrock, Co. Dublin. The construction of the permitted Rejuvenation Project, permitted under Reg. Ref.: D14A/0134 (which was subject to an EIS), as amended, is now substantially complete. Construction on the main structural elements of the Phase 1 residential development, permitted under Reg. Ref.: D17A/0950 & ABP Ref.: 300745-18, commenced in March 2020. The permitted Phase 1 residential development was subject of an EIAR in 2018.

The proposed development, which relates to the front and northern portion of the Frascati Centre seeks permission for alterations to the Phase 1 permission for 45 no. apartments (Reg. Ref.: D17A/0950 & ABP Ref.: 300745-18), from second to fourth floor level of the rejuvenated Frascati Centre. The proposed development also includes the provision of 57 no. additional apartments, as an extension of the Phase 1 permission, located above the permitted podium car park to the north west of the centre, as a Phase 2 residential development. The subject application therefore relates to a total of 102 no. residential units.

The Phase 2 proposal consists of 20 no. studios, 22 no. 1 beds and 15 no. 2 beds (57 no. apartments) in three no. blocks (Block D, E & F), arranged around a central communal courtyard space, above the existing and permitted podium car park to the north west of the centre. Block D is a five storey block, Block E is a part two to part four storey block and Block F is a part two to part three storey block, all above three levels of podium / basement car park. Balconies / winter gardens are provided to all apartments (on the north western, north eastern, south western elevations and into the internal courtyard) and access to the blocks is via stair / lift cores and an external walkway fronting the communal courtyard. A roof terrace is also proposed at fifth floor level of Block E.

The subject lands are primarily zoned for 'District Centre' uses, with a small element of the car park area of the site zoned 'Objective A- Residential' and is located within the core retail area of Blackrock village as defined by the Dun Laoghaire Rathdown County Development Plan 2016–2022. The Frascati Centre is situated on Frascati Road / N31 to the immediate west of Blackrock Village and approximately 8 kilometres south-east of Dublin City Centre. The N11 is located 1.5 kilometres to the west, the M50 is 3.5 kilometres further south-west. Blackrock lies adjacent to the coastline of Dublin Bay, a proposed Natural Heritage Area and Special Protection Area. Blackrock Park, located to the north of the district centre, is a valuable amenity for the area.

Blackrock Dart Station, which is situated centrally within Blackrock village, is situated approximately 300m to the east of the application site. Quality bus routes serve the Frascati Road and Rock Road and also the N11 corridor.

The application site which has an area of 2.67 hectares, is bounded by the Frascati Road to the north-east, residential properties facing onto George's Avenue to the south-east; the rear of residential properties on Frascati Park to the south and south-west; and the rear of Lisalea apartments and associated access road and other residential properties on Mount Merrion Avenue to the north. The established residential properties along Frascati Park and Georges Avenue, to the south and west of the application site, comprise mainly of two storey terraced and semi- detached dwellings.

### Alternatives Examined

This chapter also analyses different Options which were considered as the scheme progressed and the key considerations and amendments to the design having regard to the key environmental issues.

## **POPULATION AND HUMAN HEALTH**

The 2014 EIA Directive (2014/52/EU) has updated the list of topics to be addressed in an EIAR and has replaced 'Human Beings' with 'Population and Human Health'.

Population (human beings) and Human Health is a broad ranging topic and addresses the existence, activities and wellbeing of people as groups or 'populations'. While most developments by people will affect other people, this EIAR document concentrates on those topics which are manifested in the environment, such as new land uses, more buildings or greater emissions.

- Economic Activity;
- Social Patterns;
- Land-Use & Settlement Patterns;
- Employment; and
- Health & Safety.

The proposed development is not likely to result in any significant adverse effects on population and human health. The positive impacts of the proposed residential development at the Frascati Centre include *inter alia* a significant positive economic impact during both the construction and operational phases of the proposed development, along with positive impacts on the land use and settlement patterns, employment, and social patterns.

The implementation of the range of remedial and mitigation measures included throughout this EIAR document will have the impact of limiting any likely adverse environmental impacts of the construction and operational phase of the proposed development on population and human health.

## **ARCHAEOLOGY**

The main purpose of the archaeology and cultural heritage chapter of the EIAR is to identify the potential significance and the sensitivity of the existing cultural heritage environment with respect to the proposed development and in turn to evaluate the likely impacts of the proposed development on this environment. The appraisal was based on a desk study and field inspection of the application area and its environs.

There are no recorded archaeological monuments within the proposed development area and no stray artefacts were recorded from the study area by the National Museum of Ireland. The field inspection did

not identify any features of archaeological potential within the proposed development lands and no additional features of archaeological potential were noted from the desk study or during the site inspection.

There are no protected structures (RPS) or Architectural Conservation Areas within the ownership boundary of the Frascati Centre. The development lies in close proximity to the Protected Structures on Mount Merrion Avenue and on Georges Avenue. The development lies in close proximity to the Protected Structures on Mount Merrion Avenue and on Georges Avenue. While none of the structures will be directly impacted by the proposed scheme there will be a visual change to the streetscape in the vicinity of the site. The visual change is demonstrated in the photomontages accompanying the EIAR (see LVIA Chapter 6). Principally, the vista along the very straight Mount Merrion Avenue will not be impacted by the proposed development. Glimpses of the upper storeys of the proposed development will only be seen where there is a break in the terraces at the lower eastern end of the Avenue (as shown in the photomontage View 7), the proposed development will not be dominant in these views and will be below the roof-lines in the background of the view. This is because the proposed development is in a topographically lower area). The most open view of the new development from Mount Merrion Avenue will be the passing view available at its junction with the Frascati Road, between 3-31 Mount Merrion Avenue and Saint Andrew's Presbyterian Church. The in-combination view of these structures at this location show the full height of the development in the background, whilst large in scale, the proposed development is in the background of the view and does not compete with the building line or presence of the terrace or the church (Photomontage View 6) nor does it distract considerably from either. The full height of the proposed development will be viewed to the rear of 3-31 Mount Merrion and along Frascati Park. This view does not contribute to the 19th century character or significance of Mount Merrion Avenue. The views from the rear of the terrace will change. This view was substantially altered in the past by the development of Lisalea apartments and by the existing shopping complex, it is not a view that contributes to or supports the special character or protected structure status of the terrace.

Photomontage View 10 on Georges Avenue and View 11 (midway between the protected structures No. 66 and 73) on the same avenue, shows that the proposed residential development will be just visible over the rooftops. The new development at Enterprise House is shown as a building with a larger foot print and larger scale. The southern side of Georges Avenue is represented by a diversity and contrast in architectural styles from different eras, a change in the view at the northern end of George Avenue and the Frascati Road is not a sensitive one and will not negatively affect the architectural heritage values of the three protected structures located along the Avenue.

The only surviving architectural fragments associated with Frascati House are granite gate piers that once flanked the northern pedestrian entrance to the existing shopping centre along with a later plaque commemorating Lord Edward Fitzgerald. These are being retained on site for safe keeping during construction and will be reinstated at the new plaza / landscaped area along the Frascati Road frontage in accordance with the requirements of Condition 3 of the parent permission. They will provide a brief historical context of Frascati House and its association with Lord Edward Fitzgerald.

## **BIODIVERSITY**

An assessment of the biodiversity present on the proposed development site was undertaken by Openfield Ecological Services. The proposed development site is not within or directly adjacent to any area designated for nature conservation. The closest designated sites are the South Dublin Bay cSAC/pNHA (216) and the South Dublin and River Tolka Estuary SPA (4024). These are both located c. 0.3km to the east and downstream of the subject lands, and potentially linked to them via the Priory Stream which flows under the subject lands, and discharges into both European Sites downstream.

Habitats recorded during a site visit in October 2018 and February 2020 were entirely composed of hard surfacing with minimal cover of vegetation. These habitats are of negligible biodiversity value. Fauna surveys included bat surveys of the site in 2011 and 2013. There are no suitably bat roosting spaces while the features on the site do not provide resources for foraging bats. There are no alien invasive species on the site.

The proposed development is not predicted to have any significant negative effects to biodiversity. An analysis of the potential impacts to Natura 2000 sites in Dublin Bay found that significance adverse effects to these intertidal habitats and species were not likely to occur.

## LANDSCAPE AND VISUAL IMPACT

The Frascati Shopping Centre site is part of an established and continually evolving urban locality, west of the original core of Blackrock Village but nonetheless connected, and including shopping centres, commercial and residential development, and roads and streets. The original shopping centre was centrally located within the site and surrounded by circulation roads and car parking. More recently, the centre has been the subject of substantial transformation with construction of the permitted Rejuvenation Scheme now almost complete. Additionally, redevelopment and modernisation of the Blackrock Shopping Centre on the village side of the Frascati Road is at an advanced stage of construction, and Enterprise House has been redeveloped.

The northern, western and southern boundaries of the site/shopping centre are enclosed by residential properties off Mount Merrion Avenue, Frascati Park and George's Avenue, respectively. Lisalea apartments overlook the northern carpark from the outside the northeast corner of the site.

The eastern side of the site is defined by the Frascati Road, which, up until recent years, presented strongly as a vehicle priority and dominated roadway that had the physical and perceived effect of severing the Frascati Centre from the Blackrock Centre and Village on the eastern side of the road. Upgrade works to the road have substantially improved the pedestrian, cycle and public transport offer of the roadway, and with high quality pedestrian crossings, there is a stronger sense of connection between both sides of the road. Taken together with development of the Rejuvenation Scheme, and substantial redevelopment of the eastern side of the road, the Frascati Road is developing more of a street-like character, with stronger built frontage and animation along the street.

As an established shopping centre with surrounding carparks, and with the Rejuvenation Scheme almost complete, the site itself is not particularly sensitive to development. Similarly with ongoing redevelopment on the eastern side of the Frascati Road, the Frascati is not considered sensitive to development. The development site does have important urban street frontage to the Frascati Road, and existing mature trees located along the western and southern boundaries of the site help protect adjoining residential character of peripheral streets and are important in providing visual screening from properties into the site area. It is noted that there is a permitted residential development as an extension over the Rejuvenation Scheme. The currently proposed development includes modifications that are principally internal, to the permitted Phase 1 development, as well as Phase 2 which is to be located in the northern part of the site over the existing and permitted podium carpark structure.

Therefore particular landscape / townscape sensitivity relates to:

- the presence of adjoining residential properties to the north, west and south, including potential visual impact from same;
- the existing mature trees located along the southern and western boundaries of the site, and
- the character of the Frascati Road, and extending to Rock Road.

A series of Photomontages were prepared in order to illustrate the physical and visual nature of the existing and proposed development. These are included as Appendix 67.1 in the main body of the EIAR.

Views from the Frascati Road and George's Avenue from the southeast will not be altered from that of the previously permitted Phase 1 development as the modifications proposed do not alter the footprint or height of the permitted, and are principally internal. The mature trees around the site boundary provide visual screening and separation between the site and the private properties, and these are retained as with the previously permitted Phase 1 development. The balconies facing Frascati Road are however proposed as winter gardens incorporating openable glass screens, such that the elevation will change according to how occupants choose how to use the winter gardens in varying weather conditions.

Rock Hill currently has a view into some of the northern part of the site, including the existing podium carpark that is set back from the shopping centre redevelopment and the Lisalea apartment building. The proposed modified Phase 1 will be visible in a similar manner to the permitted Phase 1 over the shopping centre, and the proposed Phase 2 will be located over the podium carpark. Phase 1 and 2 will read together, and will the Lisalea apartment, establishing a continuous finer grained residential character along Frascati Road.

Approaching from the northwest along Rock Road, the proposed development, Phase 1 and Phase 2, will represent further intensification of the regeneration and expansion of Blackrock, with parts of the development being visible over and beyond the Lisalea apartments and shopping centre, but consistent with the overall intensification of development in the area.

At Frascati Park, and in particular at the northern end where there is a private access road to the Lisalea apartments and where it joins Mount Merrion Avenue, there is a break in the building line that defines the street elsewhere resulting in localised and more open views into the development site. It is noted that the mature trees that are a feature of the south eastern and southern western site boundary do not exist in this location, facilitating greater visibility into the site area from this part of Frascati Park. Phase 2 will be more apparent at this location, however, the architectural design and massing proposes building around three sides of a podium courtyard, stepping down from five storeys of residential accommodation adjoining the shopping centre to four storeys facing Frascati Road, and to three storeys facing private properties along Mount Merrion Avenue and Frascati Park. The open side of the courtyard faces Frascati Park. A row of parking spaces at the site boundary are to be given over to landscaping so as to introduce strong tree planting along the boundary that will be similar to the boundary planting elsewhere in the site, and will provide visual screen and a sense of separation between the established residences and the new apartment development. Additionally, the podium courtyard will have a strong landscape edge facing Frascati Park, and the end walls of the blocks facing Frascati Park will incorporate continuous planter boxes at each floor level with trailing and climbing plants establishing a green wall to soften the appearance of the development.

The terraced properties along Mount Merrion Avenue, and the adjoining Lisalea apartments, have more open views into the development site. The fine grained nature of the proposed development, and the architectural design including height, setback distances, and the orientation and positioning of windows, minimises impacts on existing residential amenity.

Mount Merrion Avenue is characterised by its linear form, and the street corridor is substantially contained by both building forms and mature landscaping, focussed on the distinctive spire of St. Andrew's Church, and leading to Dublin Bay visible at the end of the street. At the junction of Frascati Park, the absence of building form along Frascati Park permits localised visibility into the northern part of the site, and Phase 2 will be partially visible in a similar manner to that described above from the northern section of Frascati Park itself. Elsewhere however, localised gaps in roof profiles and landscaping only permit occasional limited glimpse views beyond the immediate streetscape, and such glimpse views of the development will not detract from the overall street character of Mount Merrion Avenue.

The design of the proposed development is informed by existing sensitive features, including the amenity of adjoining residential properties, the mature trees, and the objective for their protection and retention. The development further delivers on the aims for rejuvenation of the centre, strengthening the mixed use profile and sustainable use of the site, and for enhancing the sense of connectivity to the original village core of Blackrock.

## **LAND AND SOILS**

This chapter of the EIAR has been prepared by Barrett Mahony Consulting Engineers and assesses the impacts of the proposed alterations to the Phase 1 residential development and the proposed Phase 2 residential development at the Frascati Centre, Blackrock. The assessment assesses the impact in tandem with the current development on site (the completion of the Rejuvenation project and the construction of the structural elements of the permitted Phase 1 residential development), on the land and soils on the site and in the surrounding area.

This chapter is informed by the 2015 geotechnical site investigation, which is appended to the chapter. The potential impacts on the land & soils during the construction and operational phases of the development are assessed and a series of mitigation and monitoring measures are recommended. The construction of the permitted Phase 1 residential development on site, has as of now, August 2020, reached a point where any further impact on land and soils will be minimal (the alterations proposed do not have the potential to impact on land and soils). This chapter does not envisage any long-term adverse impacts on the land and soils as a result of the currently in construction Phase 1 and proposed Phase 2 apartments, which are to be constructed on top of the existing car park, provided the mitigation and monitoring measures are adhered to.

## **WATER**

This chapter of the EIAR has been prepared by Barrett Mahony Consulting Engineers and assesses the impacts of the proposed alterations to the Phase 1 residential development and the proposed Phase 2 residential development at the Frascati Centre, Blackrock. The assessment assesses the impact in tandem with the current development on site (the completion of the Rejuvenation project and the construction of the structural elements of the permitted Phase 1 residential development), on the water supply network, surface water drainage network & foul water drainage network on the site and in the surrounding area.

The potential impacts on water related assets during the construction and operational phases of the development are assessed and a series of mitigation and monitoring measures are recommended. The construction of the Phase 1 residential development on site, has as of now, August 2020, reached a point where any further impact on water related assets will be minimal (the alterations proposed do not have the potential to impact on water). This chapter does not envisage any long-term adverse impacts on the water related assets as a result of the currently in construction Phase 1 and proposed Phase 2 apartments, which are to be constructed on top of the existing car park, provided the mitigation and monitoring measures are adhered to.

## **AIR QUALITY & CLIMATE**

In terms of the existing air quality environment, data available from similar environments indicates that levels of nitrogen dioxide (NO<sub>2</sub>), particulate matter less than 10 microns and particulate matter less than 2.5 microns (PM<sub>10</sub>/PM<sub>2.5</sub>) are, generally, well within the National and European Union (EU) ambient air quality standards.

The existing climate baseline can be determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions and compliance with European Union's Effort Sharing Decision "EU 2020 Strategy" (Decision 406/2009/EC). The EPA state that Ireland had total GHG emissions of 60.93 Mt CO<sub>2</sub>eq in 2018. This is 5.59 Mt CO<sub>2</sub>eq higher than Ireland's annual target for emissions in 2018. Emissions are predicted to continue to exceed the targets in future years, therefore, reduction measures are required in all sectors.

An assessment of the potential dust impacts as a result of the construction phase of the proposed development was carried out based on the UK Institute of Air Quality Management (IAQM) guidance. This established the sensitivity of the area to impacts from construction dust in terms of dust soiling of property and human health effects. The sensitivity of the area was combined with the dust emission magnitude for the site under two distinct categories: construction and trackout (movement of vehicles) in order to determine the mitigation measures necessary to avoid significant dust impacts. Once mitigation measures are implemented the impacts to air quality during the construction of the proposed development are considered, *short-term* and *not significant*, posing no nuisance at nearby sensitive receptors.

The best practice dust mitigation measures that will be put in place during construction of the proposed development will ensure that the impact of the development complies with all EU ambient air quality legislative limit values which are based on the protection of human health. Therefore, the impact of construction of the proposed development is likely to be *short-term* and *imperceptible* with respect to human health.

Based on the scale and temporary nature of the construction works, the potential impact on climate change and transboundary pollution from the construction of the proposed development is deemed to be *short-term*, *neutral* and *imperceptible* in relation to Ireland's obligations under the EU 2020 target.

Potential impacts to air quality and climate during the operational phase of the proposed development would be as a result of increased traffic volumes on the local road network. The changes in traffic flows were assessed against the UK Design Manual for Roads and Bridges (DMRB) screening criteria for an air quality and climate assessments. As the changes in traffic did not meet the screening criteria no air quality or climate assessment was required, and it can be determined that the operational phase of the proposed development will have an *imperceptible*, *neutral* and *long-term* impact on air quality and climate.

A dust minimisation plan will be implemented during the construction phase of the proposed development to ensure that no significant dust nuisance occurs outside the site boundary. No mitigation is required during operation.

## **NOISE & VIBRATION**

The existing noise climate in the vicinity of the development site is determined to be typical of a suburban area. Prevailing noise levels are primarily due to local road traffic movements with contribution from operational activities from the existing Frascati Centre including plant noise emissions and on-site vehicle movements and service areas.

The potential noise & vibration impacts on the surrounding environment has been assessed for the short-term construction phase and the longer-term impact of the operational phase. Subject to good working practice during the construction phase and not exceeding the limits proposed within the EIAR, the noise and vibration impact will be of major intermittent to moderate short term impact.

During the operational phase, the potential noise sources associated with the proposed alterations to Phase 1 and the Phase 2 residential scheme has been assessed. This included an assessment of road traffic to and from the development, car parking and a review of any potential operational mechanical plant. The assessment has indicated that due to the site layout and the nature of the development at hand, there are no significant noise sources associated with the proposed development that would result in an increase of the existing noise climate at the nearest noise sensitive locations. Noise levels during the operation of the Phase 1 and Phase 2 residential scheme are determined to nominally remain unchanged when compared to the existing scenario and are within the recommended noise criterion for day and night-time periods.

## **MICROCLIMATE**

This Chapter assess the Microclimate impacts, with a specific focus on wind-speed, using a qualitative assessment methodology to undertake a risk assessment of the potential risks of elevated wind-speed associated with the proposed residential development at the Frascati Centre.

The aim of the assessment was to determine if there was considered to be a risk of elevated wind-speeds occurring at ground level as a result of the proposed residential development. The proposed residential development is still considerably less than 10 storeys and is not classed as a high building and the separation between buildings is such that the risk of elevated windspeeds occurring at ground level is considered extremely unlikely. It can be concluded that the proposed residential development at the Frascati Centre is therefore not a high building and that its shape will not lead to a significant acceleration of wind-speeds.

The cumulative impact of the proposed development with other developments in the area was also examined. It was concluded that the proposed development would have no significant impact on windspeeds in the area.

## **DAYLIGHT & SUNLIGHT**

The assessment of daylight considers two principal questions. In the first case consideration is given to the effect that the proposed development would have on the light levels available to neighbouring properties. Further to this the assessment considers the levels of daylight amenity which would be provided within the accommodation which is being proposed as part of this development.

As mandated in Irish planning policy all assessments have been carried out with regard to the methods outlined in the BRE (Building Research Establishment) guide 'Site layout planning for daylight and sunlight - A guide to good practice' 2nd Edition and BS 8206-2: 2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylighting', British Standards Institute, 2008.

The impact that the proposed development would have on baseline conditions has been assessed with regard to three separate studies including Study A, Study B and Study C. The results of these studies indicate that the minimum levels of skylight and sunlight access recommended in relevant guidelines would be satisfied in most cases.

Study A assessed the impact that the proposed development would have on the levels of skylight access which would be available to neighbouring accommodation. The results of this assessment indicate that skylight access levels, with the proposed development in place, would comply with advisory targets in the majority of cases. Where it has not been possible to demonstrate full compliance with advisory minimums for skylight access it has been possible to determine that the impacts in question would still fall within tolerable bounds.

Study B assessed the impact that the proposed development would have on the levels of sunlight available to neighbouring accommodation. The results of this assessment indicate that substantial levels of compliance with advisory minimums would be achieved. In the small number of cases where it has not been possible to demonstrate full compliance with advisory minimums the magnitude of the departures registering are found to be modest.

Study C assessed the impact that the proposed development would have on the levels of sunlight available to a number of neighbouring recreation areas. In this case full compliance with BRE guidelines has been demonstrated in all cases. It follows that no significant loss of sunlight amenity can be reasonably anticipated for any of the gardens located in the immediate neighbourhood of the proposed development.

The adequacy of daylight levels within the proposed development has been assessed with regard to an additional three studies including Study D, Study E and Study F. The results of these studies indicate that acceptable levels of daylight amenity would be provided within this development.

Study D assessed the level of skylight amenity which the accommodation proposed within this development would be capable of receiving. The results of this study demonstrate that advisory minimums would be satisfied in most cases (a compliance rate of 93% is predicted). Having regard to this finding it is reasonable to conclude that the potential for acceptable levels of internal skylight amenity would be provided within this development.

Study E assessed the levels of sunlight amenity which would be available to the accommodation which is being proposed as part of this development. The results of this study indicate that acceptable levels of sunlight access would be provided within the development and that this is particularly true when the aggregate contribution of unique sunlight hours, registering on all of the windows in each unit, is accounted for. While lower levels of sunlight access are identified within Phase 1 by comparison to Phase 2, it is also clear that the views over Dublin Bay which are available from Phase 1 accommodation represent a compensating factor.

Study F assessed the levels of sunlight amenity which would be available to the principal outdoor recreation spaces which are being proposed as part of this development. The result of this study demonstrates that full compliance with guideline recommendations would be achieved in all cases; it follows that good levels of outdoor sunlight amenity can be anticipated.

When assessed in the round, and in relation to the other factors which contribute to the proper planning and sustainable development of this area, it is possible to conclude that acceptable levels of daylight amenity would be provided within this development and that acceptable levels of daylight would remain available to neighbouring properties.

## **MATERIAL ASSETS**

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

In accordance with the 2017 Draft EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, "*Material assets can now be taken to mean built services and infrastructure*". Material assets of a natural origin are dealt with comprehensively within the other chapters of the Environmental Impact Assessment Report.

This chapter considers the key aspects relating to material assets of a human origin of the proposed development site and the surrounding area, namely traffic infrastructure, potable water supply, wastewater discharge, electricity and gas supply.

The Material Assets chapter describes existing services to the application site and describes the predicted impacts which the development may have on these services and recommends mitigation measures, with reference to accompanying chapters and separate standalone application reports, in particular the Transportation Assessment Report.

The proposed development will have a positive impact on the existing urban environment by creating high quality residential units to respond to current housing need and to cater for the needs of a growing population on district centre zoned lands, immediately adjacent to a high-quality public transport corridor. This chapter concludes that there is unlikely to be any significant adverse impacts on material assets as a result of the proposed development during the construction or operational phase of the development.

### **INTERACTIONS BETWEEN ENVIRONMENTAL FACTORS**

The purpose of this chapter of the EIAR is to draw attention to significant interaction and interdependencies in the existing environment. John Spain Associates in preparing and co-ordinating this EIAR ensured that each of the specialist consultants liaised with each other and dealt with the likely interactions between effects predicted as a result of the proposed development during the preparation of the proposals for the subject site and this ensures that mitigation measures are incorporated into the design process. This approach is considered to meet with the requirements of Part X of the Planning and Development Act 2000, as amended, and Part 10, and schedules 5, 6 and 7 of the Planning and Development Regulations 2001-2020. The detail in relation to interactions between environmental factors is covered in each chapter of the EIAR. The detail in relation to interactions between environmental factors is covered in each chapter of the EIAR.

### **SUMMARY OF EIA MITIGATION AND MONITORING MEASURES**

This chapter provides a summary of all the design, construction and operation mitigation measures proposed throughout the EIAR document for ease of reference for the consent authority and all other interested parties.