THORNTON O'CONNOR
TOWN PLANNING

Volume I – NTS

Volume I

Non-Technical Summary

In respect of a Residential and Commercial Development at

Lands located at Scholarstown Road, Dublin 16

Submitted on Behalf of Ardstone Homes Limited

November 2019

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1.0 INTRODUCTION

1.1 Preamble

This Non-Techncial Summary (NTS) of the subject Environmental Impact Assessment Report (EIAR) is prepared in relation to the subject Strategic Housing Development planning application for lands located to the north of Scholarstown Road incorporating dwellings known as 'Beechpark' and 'Maryfield', Scholarstown Road, Dublin 16, D16 X3X8 and D16 N6V6. This application principally relates to the demolition of all structures at the subject lands and the provision of a residential scheme with residential support facilities and commercial floorspace.

The development description is provided as follows in the Statutory Notices:

> *Ardstone Homes Limited intend to apply to An Bord Pleanála for permission for a strategic housing development at a 5.35 hectare site located north of Scholarstown Road incorporating dwellings known as 'Beechpark' and 'Maryfield', Scholarstown Road, Dublin 16, D16 X3X8 and D16 N6V6. Works are also proposed to Scholarstown Road and Woodfield junction including new traffic signals, the elimination of the left-turn slip-lane into Woodfield off Scholarstown Road, upgraded public lighting and upgraded cycle and pedestrian facilities on an area measuring 0.7 hectares, providing a total application site area of 6.05 hectares.*
>
> *The development will principally consist of: the demolition of all existing structures on site which include a single story dwelling known as 'Beechpark' (172 sq m), a 2 No. storey dwelling known as 'Maryfield' (182 sq m), with associated garage/shed (33.5 sq m) and associated outbuildings (47.1 sq m); and the construction of 590 No. residential units (480 No. Build-to-Rent apartment units and 110 No. Build-to Sell duplex units and apartments), ancillary residential support facilities and commercial floorspace. The total gross floor space of the development is 51,252 sq m over a partial basement of 5,888 sq m (which principally provides car and bicycle parking, plant and bin stores).*
>
> *The 480 No. 'Build-to-Rent' units will be provided in 8 No. blocks as follows: 7 No. blocks ranging in height from part 5 to part 6 No. storeys (Blocks B1 – B5, C1 and C3) and 1 No. block ranging in height from part 4 to part 6 No. storeys (Block C2) and will comprise 246 No. one bed units and 234 No. two bed units. The 110 No. 'Build-to-Sell' units will be provided in 9 No. duplex blocks which will be 3 No. storeys in height (Blocks A1 – A9) and will comprise 55 No. two bed units and 55 No. three bed units.*
>
> *The development will also consist of the provision of a part 1 to part 2 No. storey ancillary amenity block (Block D1) (414 sq m) within the central open space which comprises a gymnasium, lobby, kitchenette and lounge at ground floor level and lounge at first floor level in addition to a roof terrace (facing north, south and west) to serve the Build-to-Rent residents; a 2 No. storey retail/café/restaurant building (Block D2) (657 sq m) comprising 2 No. retail units at ground floor level (328.5 sq m) and a café/restaurant unit at first floor level (328.5 sq m); a creche (438 sq m) within Block C2 at ground floor level; and a management suite (261 sq m) and café/restaurant (288 sq m) within Block C3 at ground floor level.*

The development provides a vehicular access off Scholarstown Road between Blocks C1 and C3 towards the south-east corner of the site; a separate pedestrian access and emergency vehicular access off Scholarstown Road between Blocks A9 and C2 towards the south-west corner of the site; the facilitation of a pedestrian connection from the north-east corner of the subject site to the public open space in Dargle Park; 459 No. car parking spaces (178 No. at basement level and 281 No. at surface level); bicycle parking; bin storage; boundary treatments; private balconies and terraces; hard and soft landscaping; plant; services; sedum roofs; PV panels; substations; lighting; and all other associated site works above and below ground.

1.2 Requirement for this Environmental Impact Assessment Report

The Environmental Impact Assessment (EIA) requirements for certain developments derive from EU Directives. The Council Directive 2014/52/EU amended Directive 2011/92/EU and these requirements are designed to ensure that any project likely to have significant effects on the environment are duly and comprehensively assessed.

The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 have now transposed the 2014 Directive into Irish law.

The preparation of an EIAR is required for the subject proposed development as the scheme falls within the remit of those listed in Schedule 5 (Part 2) of the *Planning and Development Regulations, 2001* (as amended), which sets out the relevant thresholds which require the carrying out of an EIAR. The subject development falls within the threshold of Category 10 (b)(i) as it comprises the '*construction of more than 500 dwelling units'*.

1.3 Purpose of this EIAR

This EIAR has been prepared on behalf of the Applicant, Ardstone Homes Limited, in relation to the subject development of 590 No units and associated commercial facilities. As noted above, the proposed development falls within the remit of Category 10(b)(i) Schedule 5 (Part 2) of the *Planning and Development Regulations, 2001 (as amended*), which states that the carrying out of an EIAR is required when development comprises the '*construction of more than 500 dwelling units*'.

The EIAR has also been prepared having due regard to the Environmental Protection Agency's *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, Draft August 2017* which sets out that:

'*A systematic approach, standard descriptive methods and the use of replicable assessment techniques and standardised impact descriptions must be adopted to ensure that all likely significant effects are adequately considered and clearly communicated.'*

1.4 The Developer

We confirm that our Client, Ardstone Homes Limited, is a subsidiary of the owner of the 5.35 Hectare portion of the subject lands (Ardstone Residential Partners Fund ICAV).

Ardstone Residential Partners Fund ICAV have provided a Letter of Consent for Ardstone Homes Limited to apply for the proposed development at the subject lands.

We advise that a letter of consent has also been received from South Dublin County Council to carry out works to the Scholarstown Road (0.7 Hectares) and a second letter of consent has been received from South Dublin County Council to carry out works to the boundary wall to the north-east of the lands to facilitate a pedestrian connection through the lands to the public open space in Dargle Park.

1.5 EIAR Study Team

This Environmental Impact Assessment Report was prepared by a team of experts as outlined in Table 1.1 and was collated by Thornton O'Connor Town Planning. Each consultant is appropriately qualified and experienced in their respective fields in accordance with Directive 2014/52/EU as outlined in each individual chapter.

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2.0 SITE CHARACTERISTICS AND DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Summary of the Proposed Development

The proposed development comprises the following at this 6.05-hectare site in summary:

- 480 No. Build-to-Rent units (Blocks B1 – B5: 246 No. 1 bed units and 234 No. 2 bed units);
- 110 No. Build-to-Sell units (Blocks A1 – A9: 55 No. 2 bed units and 55 No. 3 bed units);
- Resident amenity building (Block D1 – 414 sq m);
- 2 No. storey retail/café/restaurant building (Block D2 – 657 sq m);
- Café/restaurant within block C3 (288 sq m);
- Management suite within Block C3 (261 sq m);
- Creche within Block C2 (438 sq m);
- Works to Scholarstown Road.

A description of the site area is outlined below:

1. The principal development site area relates to 5.35 Hectares of land located to the north of Scholarstown Road.

2. The second portion of the site area relates to the works proposed to Scholarstown Road which are described in the Statutory Notices as follows:

    - Works are proposed to Scholarstown Road and Woodfield junction including new traffic signals, the elimination of the left-turn slip-lane into Woodfield off Scholarstown Road, upgraded public lighting and upgraded cycle and pedestrian facilities on an area measuring 0.7 hectares

The entire site area including the Scholarstown Road provides an area of 6.05 hectares. We note that the site statistics contained throughout this application are based on the developable site area of 5.35 hectares (such as density, site coverage etc).

Some 3 No. letters of consents are required for the subject development and are included as an Appendix to the Planning Application Form (details below):

1. Ardstone Residential Partners Fund ICAV consent to Ardstone Homes Limited making the application on their lands (5.35 Hectares). Ardstone Homes Limited is a subsidiary of the owner, Ardstone Residential Partners Fund ICAV.

2. South Dublin County Council have provided a letter of consent facilitating the proposed works to the Scholarstown Road (0.7 Hectares).

3. South Dublin County Council have provided a letter of consent allowing the Applicant to provide a pedestrian connection from the subject lands through the boundary wall to the public open space in Dargle Park to the north-east of the site.

2.2 Existing Site Details

2.2.1 Site Location and Description

The subject site contains 2 No. detached residential dwellings, a shed/garage and ancillary outbuildings. The dwellings are not considered to be of any architectural or historic significance that would preclude their demolition as detailed in the Architectural Heritage Chapter (Chapter 6, prepared by Molloy & Associates Architects) of this EIAR. The site is completely underutilised and has significant potential for densification (current density is just 0.37 No. units per hectare). The lands are located c. 500 metres (as the crow flies) from the M50.

The site is currently accessed from the R113 Scholarstown Road to the south via 2 No. entrances to the detached dwellings. Works are also proposed to Scholarstown Road and Woodfield junction including new traffic signals, the elimination of the left-turn slip-lane into Woodfield off Scholarstown Road, upgraded public lighting and upgraded cycle and pedestrian facilities on an area measuring 0.7 hectares, providing a total application site area of 6.05 hectares.

Figure 2.1: Aerial View of Subject Site, Indicative Site Boundary in Red

(Source: Google Maps, Annotated by Thornton O'Connor Town Planning, 2019)

The site is bound by low density residential units to the north and east, primarily two storey semi-detached dwelling houses and by a part three – part four storey 'Ros Mor View' apartment development and detached dwellings including a protected structure to the west. The R113 'Scholarstown Road' is located along the southern boundary. Directly opposite the site on Scholarstown Road is St. Colmcille Community School. The north-east of the site abuts the public open space in Dargle Park which provides an east-west pedestrian connection from Templeroan Road to Knocklyon Road.

The site is located in an area comprising predominately residential development (predominately late 20th century and more recent housing developments). However, the area also contains a mix of other uses such as education facilities and local shops including Knocklyon Shopping Centre (8 No. minute walk from the subject site) which contains a large Supervalu and Lloyds Pharmacy for example. There is also neighbourhood level commercial units located at Orlagh Grove (< 200 metres away) including a Spar convenience store.

In terms of other community facilities, St Colmcille's Church and Pastoral Care Centre, as well as the Knocklyon Community Centre are located to the rear of Knocklyon Shopping Centre.

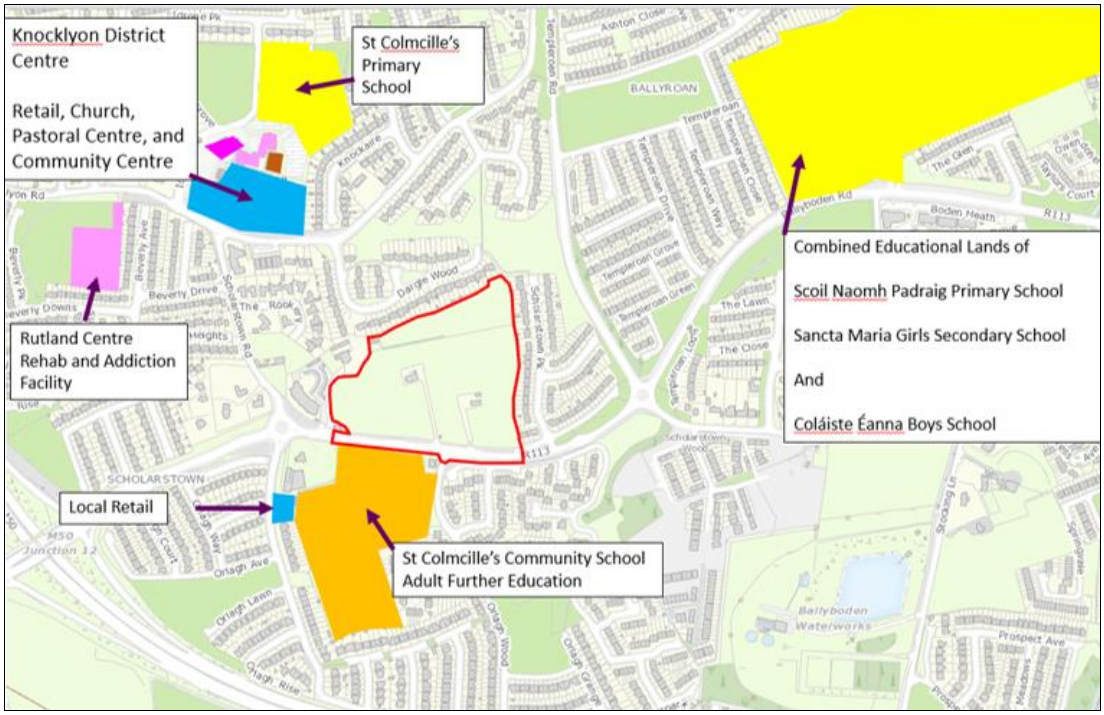

Figure 2.2: Map of the Surrounding Community Infrastructure Including Primary and Secondary Education (in Yellow), Further Education (in Orange), Local Retail (in Blue) and Other Facilities (Pink)

(Source: www.myplan.ie, Annotated by Thornton O'Connor Town Planning, 2019)

2.2.2 Zoning of the Subject Lands

The subject lands are zoned Objective 'RES' in the *South Dublin County Development Plan 2016 – 2022*, where the stated objective aims *'to protect and/or improve residential amenity'* (see Figure 2.3 below).

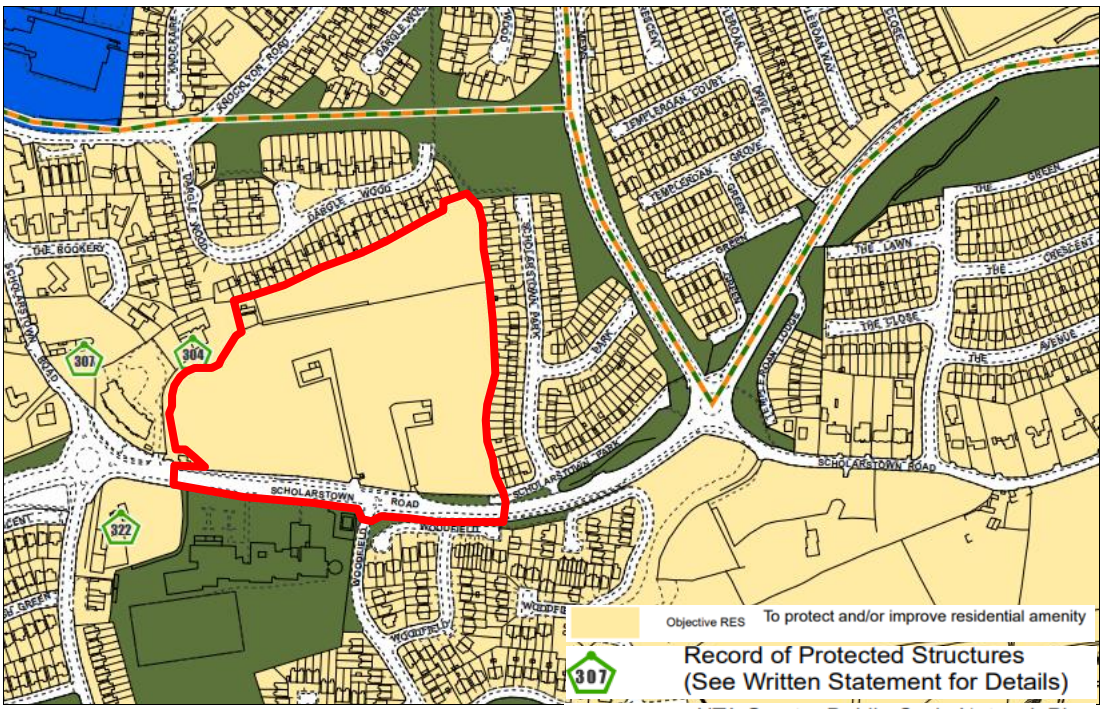

Figure 2.3: Zoning Map with Subject Site

(Source: *South Dublin County Council Development Plan 2016 – 2022*, Map No. 6)

Under this zoning, residential use is permitted in principle. The scheme provides 590 No. apartment units (comprising 480 No. Build-to-Rent units and 110 No. Build-to-Sell units) in lieu of 2 No. detached dwellings (to be demolished) which have no architectural or historical merit and has been designed taking into consideration the amenity of neighbouring residential units and Protected Structures by providing generous setbacks and breaking down the massing into separate forms. We note that café/restaurant and shop-local are open for consideration under the site's zoning objective. Therefore, the development of a residential and commercial scheme is in accordance with the 'RES' zoning objective pertaining to the subject lands.

The *South Dublin County Development Plan 2016 – 2022* identifies sites which have capacity for housing development. The subject site is indicated in the following map as being one of these sites (see Figure 2.4 below):

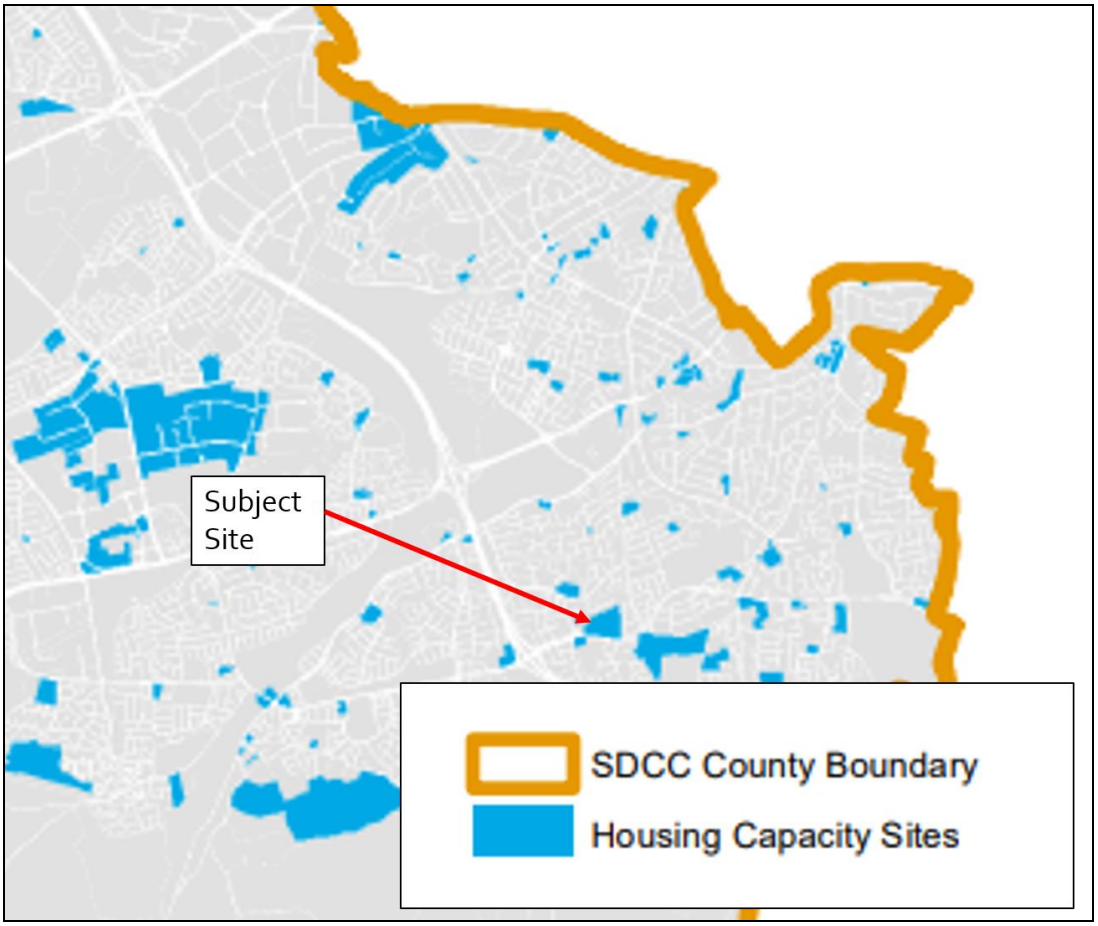

Figure 2.4: Housing Capacity Sites within South Dublin County Council

(Source: Map 1.3 of *South Dublin County Council Development Plan 2016-2022*, Annotated by Thornton O'Connor Town Planning, 2019)

Therefore, it is clear the subject site is suitably designated for residential development and is capable of providing increased heights and density. The site's location close to the urban core, public transport and services and facilities has influenced the scale, height, and massing considered appropriate for the subject site.

2.2.3 Planning History

There is 1 No. live planning application pertaining to the majority of the subject site which relates to demolition and enabling works (see below).

Reg. Ref.	**SD19A/0088**
Date of Application:	15th March 2019
Dev. Description:	Demolition and enabling works on a 5.2 hectare site located north of Scholarstown Road incorporating a dwelling known as 'Beechpark'; demolition of the 172 sq m, single storey dwelling located towards the western portion of the site (known as 'Beechpark') and the diversion of existing private foul drainage network within the boundary of the subject site (maintaining services to existing third party connections).
SDCC Decision	Grant Permission
SDCC Decision Date	9th May 2019
ABP Ref.	ABP-305147-19 (following Third Party Appeals)
ABP Decision Due Date	17th December 2019

We note that significant archaeological works have taken place at the subject site in recent months. It was therefore considered appropriate to apply for demolition and enabling works at the subject site, given that the land has been disturbed to facilitate this archaeological work, in order to ensure that the proposed SHD application would be progressed as soon as possible (if An Bord Pleanála is minded to grant permission for the subject SHD application).

As discussed, the subject lands are appropriately zoned and specifically designated for residential development. Therefore, the provision of 590 No. units (480 No. Build-to-Rent units and 110 No. Build-to-Sell units) with resident support facilities and commercial floorspace (local retail and small-scale café/restaurant units) represents the proper planning and sustainable development of the area. It will be demonstrated throughout this EIAR that no material negative adverse impacts will occur on the residential amenity of the area as a result of the proposed development.

2.2.4 Design, Layout and Height of the Proposed Scheme

The proposed layout of the scheme has been subject to numerous design iterations and therefore we consider that the scheme as proposed is the optimal solution for the lands (see Chapter 3 – Examination of Alternatives).

The proposed layout has appropriately considered the surrounding residential units (to the north, east and west of the lands) by locating the highest forms in the least sensitive positions within the site (centre of the site and fronting Scholarstown Road) and transitioning to 2 and 3 No. storeys around the perimeter of the site adjacent to existing dwellings. Please see Figure 2.5 below:

Figure 2.5: Locations of the Varying Heights Provided Throughout the Scheme (Purple = 2 No. storey, Orange = 3 No. storey and Blue = part 4/5 to 6 No. storey)

(Source: John Fleming Architects, Annotated by Thornton O'Connor Town Planning, 2019)

The placement of the 2 No. storey retail/café/restaurant building and 3 No. storey duplexes and apartments along the perimeter boundaries allows for a gradual transition from the existing 2 No. storey developments to the taller part 4 to part 6 No. storey apartment buildings within the proposed development. It is clear that the scheme layout respects the residential amenity of surrounding properties.

2.2.5 Permeability

In addition to respecting the residential amenity of surrounding properties, a key consideration of the layout was to provide a permeable connection through the site from Scholarstown Road to the public open space in Dargle Park to the north-east of the site. A letter of consent has been received from South Dublin County Council to facilitate this access through the shared party boundary wall (enclosed with planning application form). The provision of this connection will enhance the permeability of the wider area and is considered a significant planning gain for the area.

The National Tranpsort Authority (NTA) Cycle Network Plan and the *South Dublin County Council Development Plan 2016-2022* both indicate an upgraded link to the north of the site running west-east which will provide connections onwards to Dundrum and Dun Laoghaire.

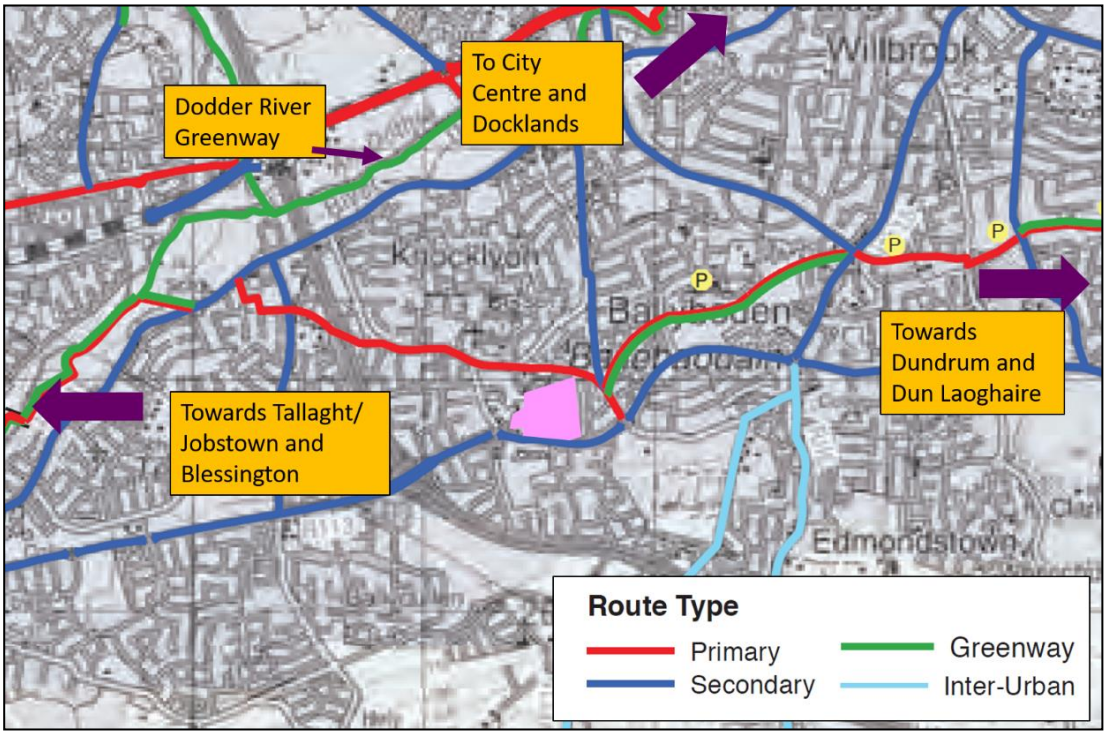

Figure 2.6: Proposed Cycle Network Surrounding Subject Site (Indicative Site Boundary in Pink)

(Source: *Greater Dublin Area Cycle Network Plan (2013)*, Sheet 2 CN2, Annotated by Thornton O'Connor Town Planning, 2019)

2.2.6 Access Arrangements and Parking

As set out in the Infrastructure Design Report prepared by DBFL Consulting Engineers, the proposed development will include the following works along Scholarstown Road (along the southern boundary of the site):

- Works along Scholarstown Road include the formation of site access including upgrade of traffic signals, improvement to pedestrian and cycle facilities and elimination of the left turn slip lane into Woodfield off Scholarstown Road. A letter of consent has been received from South Dublin County Council to carry out works to the Scholarstown Road (attached to the planning application form).

The primary vehicular access to the subject site is provided from the Scholarstown Road. In addition to the primary vehicular access, the following access points have been provided:

- <u>South-western corner of the site</u>

  This access will primarily function as a pedestrian and bicycle access from the subject lands to and from the Scholarstown Road. This access point (which will normally contain bollards) also serves as an alternative access and egress point for Emergency Services and residents should the primary access point become obstructed.

- South-eastern corner of the site

  This access point is located adjacent to blocks D2 and C3 and will facilitate pedestrian and cyclist permeability between the subject lands and Scholarstown Road.

- North-eastern corner of the site

  This connection through the north-eastern boundary of the site to the public open space in Dargle Park will facilitate enhanced permeability through the site which will benefit future residents and the local residents in the wider area. The site layout provides a 3 No. metre shared pedestrian/cycle route through the site from the north-eastern corner to Scholarstown Road. A letter of consent has been received from South Dublin County Council to carry out works to the boundary wall to the north-east of the lands to facilitate a pedestrian connection through the lands to the public open space in Dargle Park (letter of consent attached to the planning application form).

Figure 2.7: Layout of the Scheme Desmonstrating the Proposed Access Points to the Scheme

(Source: John Fleming Architects, 2019)

The Parking Strategy prepared by DBFL Consulting Engineers and enclosed as a separate document details the car parking arrangements for the site. In summary, a total of 459 No. car parking spaces are provided in the proposed scheme (178 No. basement and 281 No. surface) as follows:

Use Type	Total Car Parking Spaces	Basement	Surface
Build-to-Rent	**288**	178 (provision for 50 e-car spaces)	110 (includes 3 No. car share spaces and 15 No. disabled spaces)
Build-to-Sell	**124**		124 (includes 6 No. disabled spaces)
Café/Restaurant	**31**		31 (includes 2 No. disabled spaces)
Retail	**13**		13 (includes 1 No. disabled space)
Crèche	**3**		3 (includes 1 No. disabled space)

Table 2.1: Breakdown of Car Parking in the Scheme

(Source: DBFL Consulting Engineers Parking Strategy)

In addition, some 800 No. bicycle parking spaces have been provided to serve the proposed development. There will be 320 No. long stay bicycle parking spaces provided in the basement of the scheme and 480 No. long and short-term bicycle parking spaces provided at surface level.

2.2.7 Proposed Materials

An Architect's Design Statement has been prepared by John Fleming Architects and is enclosed separately. This Design Statement sets out the following in relation to the proposed façade materials.

The proposed building will be finished with a sympathetic mix of red/ orange brick and buff brick facade with black cantilevered steel balconies. This will be broken up, to soften the massing, by rendered panels and a set-back top floor sitting behind the brick parapets. A high quality, modern brick will be used to give the building longevity and easy maintenance. The front elevation is divided into wings, differentiated with render and brick and glazed stairwells Each apartment will have a steel balcony with railings or a bay window as appropriate. The glazing elements will be a powder coated black aluminium framed window system with glazed spandrel panels. The brick colour of all duplex units is a selected buff brick.

2.2.8 Open Space and Landscaping

The landscaping strategy has been prepared by Mitchells & Associates Landscape Architects and a detailed Landscape Design Report, Landscape Masterplan and Planting Plans are all enclosed as separate documents with the application.

The open space within the scheme is based on the provision of a series of public and communal spaces. The public open space which represents 15% of the developable site area is located as follows:

- North-Eastern Pocket Park: 1,117 sq m
- Central Open Space: 5,035 sq m
- Western Green Space: 1,956 sq m
- **Total** **8,108 sq m**

Figure 2.8: Map Demonstrating the Areas of Public Open Space Provided within the Scheme

(Source: Mitchell & Associates Landscape Architects, 2019)

In addition, there are pockets of outdoor communal open space provided throughout the scheme which represents 8% of the developable site area as follows:

- Communal garden space for Blocks A1 to A4 for those residents: 2,432 sq m
- Communal open space adjacent to apartment blocks C1 and C2: 1,222 sq m
- Communal open space adjacent to block C3: 364 sq m
- **Total** **4,018 sq m**

The communal garden space to the rear of Blocks A1 to A4 has been incorporated to provide a wayleave over a 1200 mm diameter pipe along the eastern boundary.

Figure 2.9: Image Demonstrating the Areas of Outdoor Communal Open Space Provided within the Scheme

(Source: Mitchell & Associates Landscape Architects, 2019)

Details relating to topsoil stripping and storage, hardworks, softworks and planting have been provided in the Landscape Design Report and the drawings where relevant.

We also note that an interpretation panel with information in relation to the archaeological works carried out on site will be provided in the north-eastern pocket park. The trees and bank will also follow the lines of the ring fort in this area. This will provide the general public with details of the history of the site which is considered a positive component of the development.

2.2.9 Provision of Bat Boxes

The report entitled 'A Bat Assessment of Scholarstown Road and an Evaluation for Potential Impacts of the Proposed Housing on the Bat Fauna' enclosed separately sets out that there is no evidence that any structure within the site is in use as bat roosts. The Report ultimately notes that 12 No. bat boxes should be incorporated into the site to provide bat roost

opportunities. Bat boxes have been provided on the southern elevations of Blocks B3, B4 and B5 and on 2 No. trees retained within the scheme in accordance with the recommendations of the Bat Assessment Report. In addition, all mature trees will be checked for the presence of bats prior to felling.

2.2.10 Phasing

The proposed development is planned to be constructed on a phased basis over c. 2.5 No. years. It is estimated that there will be up to 6 No. phases during the construction stage as follows:

1. Commercial units
2. Duplex units
3. Apartment Block Phase 1
4. Apartment Block Phase 2
5. Amenity
6. Site Works

3.0 EXAMINATION OF ALTERNATIVES

3.1 Introduction

Chapter 3 of the EIAR sets out why the final layout was selected and provides details of alternative layouts considered throughout the design process. In addition, this chapter discusses alternative locations, alternative processes and alternative mitigation measures associated with the proposed development.

Annex IV (2) of the amended EIA Directive (2014/52/EU) notes that the following is required in relation to the consideration of alternatives in the preparation of an EIAR:

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

Therefore, the details provided in Chapter 3 are fully in accordance with Annex IV (2) of Directive 2014/52/EU.

3.2 Alternative Layouts

The main alternatives considered in Chapter 3 relates to alternative layouts considered by the Applicant and Design Team throughout the design process (11 No. layouts included in total).

In summary, many of the reasons that early iterations of the scheme layout were not selected are as follows:

- Density considered too low
- Urban edge not provided to Scholarstown Road
- Lack of transition between lower density housing to the proposed scheme

The final layout of the proposed scheme will appropriately assimilate into the surrounding context to provide a sustainable residential and commercial development in close proximity to public transport, services, facilities and employment locations.

The proposed layout of the scheme has fully considered the site's surrounding context by positioning the highest forms (part 4 to part 6 No. storeys) at the least sensitive locations within the site (centre of the site and fronting Scholarstown Road), transitioning to 2 and 3 No. storeys around the perimeter of the site adjacent to existing dwellings.

The density of 110 No. units per hectare is considered appropriate and fully supported by national planning policy and the positioning of 2 No. retail units, 2 No. café/restaurant units and management suite fronting Scholarstown Road will ensure that an active frontage is provided. The link through the site at the north-eastern corner to the public open space in Dargle Park is also considered a significant planning gain as permeability and connectivity will be enhanced for the wider area.

3.3 Alternative Locations

The key vision of the Applicant and the Design Team since the outset of the project has been to develop a high-quality residential scheme on zoned serviced land. It was decided throughout the design stage that an element of commercial floorspace would be required as part of this large residential development to serve the new dwellings and to create legibility for the scheme. Having regard to the zoning objective and 'Housing Capacity' designation pertaining to the subject lands set out in the *South Dublin County Development Plan 2016 - 2022*, alternative locations were not considered.

3.4 Alternative Processes

Given the zoning of the subject site and its designation for residential development, the rationale for the project and the nature of the proposed development, no reasonable alternative processes were studied.

3.5 'Do Nothing Alternative'

If the site remains in its current form (2 No. detached dwellings and outbuildings), this would represent an inefficient use of scarce urban land (density of 0.37 No. dwellings per hectare) within an existing built up residential area, particularly having regard to the zoning of the site and the 'Housing Capacity' designation pertaining to the lands. There is a dearth of large sites such as the subject site within residential areas which are suitable to principally provide residential units.

In addition, the site would not be opened up to the public as the proposed development provides a link between Scholarstown Road and the public open space in Dargle Park to the north-east of the site, therefore the permeability of the area would not be improved if the development does not proceed, which is considered a slight negative impact.

In conclusion, the proposed development will provide much needed housing units in an existing residential area in addition to small scale local services such as the retail units and café/restaurant units. If the development does not proceed this would not represent the sequential development of South Dublin and 590 No. households would not be catered for.

3.6 Cumulative Impacts

Each design iteration comprehensively considered any potential impacts on neighbouring developments, modulating the edges of the scheme to provide an appropriate transition to its direct context. This has resulted in the positioning of the lower scaled elements of the scheme at the northern, eastern and western boundaries of the site ensuring that an appropriate design response has been provided to minimise the cumulative impact of the development with neighbouring developments.

We note that under SDCC Reg. Ref. SD18A/0227 [ABP Ref. ABP-304162-19] permission has recently been granted by An Bord Pleanála for 6 No. dwellings at a site to the northwest of the subject site (known as Mount Michael & Wits End, The Rookery, Scholarstown, Dublin 16). However, having regard to the separation distances provided and the existing buildings

located between the subject site and the development at the Rookery when constructed, it is considered that no cumulative impacts will occur as a result of the proposed development.

3.7 Conclusion

As a result of a detailed design process involving principally 11 No. design iterations, it is considered that the proposed layout is the optimum arrangement in terms of appropriately densifying the subject lands while also protecting the residential amenity of the neighbouring residential properties.

In conclusion, the proposed layout is well considered and includes an appropriate mix of residential dwelling types, support facilities and commercial floorspace. The increased permeability through the site will benefit the wider community and will be a significant planning gain for the area.

4.0 POPULATION AND HUMAN HEALTH

4.1 Population Profile and Housing

Chapter 4 of this EIAR considers any likely impacts that the proposed development may have on population and human health. An analysis of the Census 2016 data was the principal data source in the preparation of this chapter. The site is located within the Ballyboden Electoral Division and data relating to population profile and trends, housing, employment and commuting patterns for example, were studied.

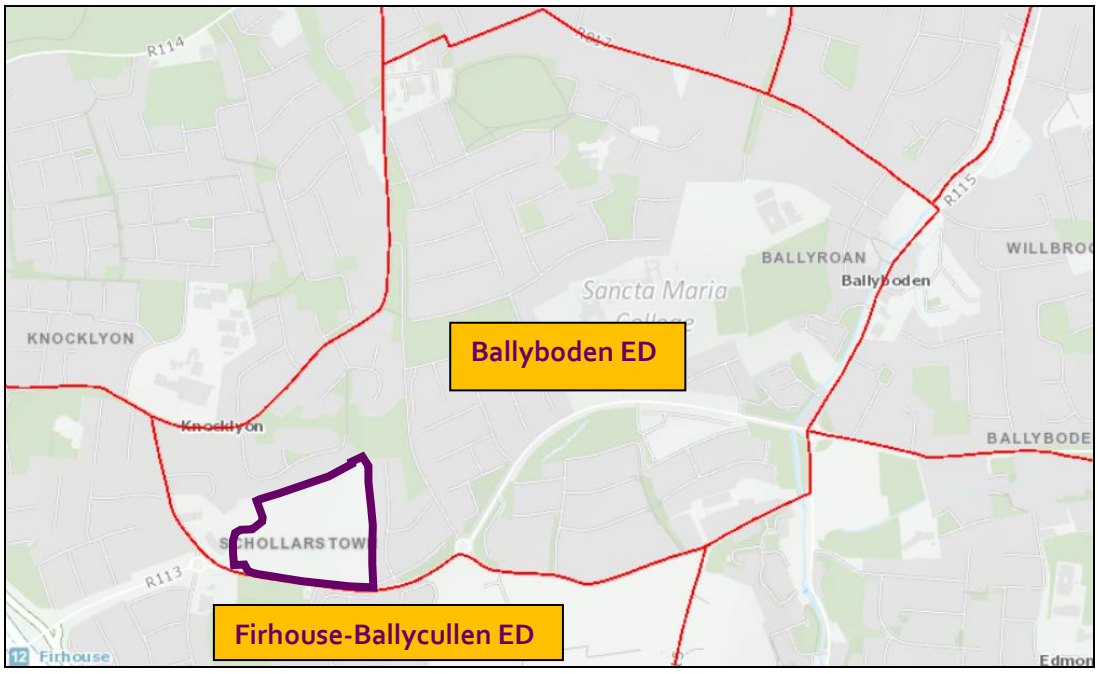

Figure 4.1: Map Demonstrating the Electoral Division of Ballyboden with the Developable Area of the Subject Site Outlined Indicatively in Purple

(Source: Census 2016, Annotated by Thornton O'Connor Town Planning, 2019)

According to the Census 2016, the Ballyboden Electoral Division had a population of 5,028 No. persons. The population of this ED at the time of the Census in 2011 was 5,085 No. persons, therefore there has been a slight decrease in population of 57 No. persons (1% decrease).

The Census data demonstrates that South County Dublin experienced an increase in population from 265,205 No. persons in 2011 to 278,767 No. persons in 2016 (5.1% increase), and the population of Ireland also experienced an increase in population from 4,588,252 No. persons in 2011 to 4,761,865 No. persons in 2016 (3.8% increase).

There are a range of age groups living in the Ballyboden ED according to the 2016 Census. As demonstrated in Table 4.1 below, the highest concentration of persons are of working age between 19 and 64 No. years old (3,226 No. persons or 64% of the ED population), which is higher than the figures for the State (2,872,502 No. persons representing 60.3% of the population) and for County South Dublin (169,174 No. persons or 60.7% of the population).

Due to the high number of persons living in the area who are aged between 19 and 64 No. years old, the Dependency Ratio for the Ballyboden ED is ultimately lower than recorded for the County and the State (Dependency Ratio relates to those not of working age i.e. 0 – 18 years old and 65+).

Age Group (years)	Ireland 4,761,865 No. persons		County South Dublin 278,767 No. persons		Ballyboden ED 5,028 No. persons	
0-4	331,515	7%	21,733	7.8%	283	5.6%
5-12	548,693	11.52%	34,665	12.44%	476	9.5%
13-18	371,588	7.8%	22,270	8%	381	7.6%
19-24	331,208	7%	19,567	7.02%	486	9.7%
25-39	1,048,831	21.89%	66,588	23.9%	949	18.9%
40-54	983,505	20.65%	54,472	19.5%	1,000	19.9%
55-64	508,958	10.69%	28,547	10.24%	791	15.7%
65+	637,567	13.39%	30,925	11.1%	662	13.1%
Total	4,761,865		278,767		5,028	
Dependency Ratio		**39.7%**		**39.3%**		**35.8%**

Table 4.1: Population Profile of the Ballyboden Electoral Division, County South Dublin and the State

(Source: Census 2016/CSO)

As the highest concentration of the Ballyboden ED population are of working age, the proposed scheme will provide an enhanced choice in tenure in the area, affording greater flexibility to those who may be seeking to rent an apartment in the area or looking to purchase a dwelling. The scheme will also provide the opportunity for those in the retirement age group looking to downsize to smaller unit.

There is a crèche provided within the scheme which will suit families with young children and in addition some 60 No. Part V units are provided which will cater for persons in need of a dwelling as per the social housing list. Therefore, it is clear that the proposed development caters to the housing needs of a wide range of persons as the development will provide a mix of Build-to-Sell and Build-to-Rent unit types comprising 1, 2 and 3 No. bedrooms units.

The Ballyboden ED recorded an average of 3 No. persons per private household in 2016 which is higher than the national state average of 2.7 No. persons and the County South Dublin average of 2.9 No. persons.

The recorded average of 3 No. persons per private household in the Ballyboden ED would suggest that the area most likely consists of low density larger dwellings. This is clear when the number of rooms per household figure is analysed.

As shown below in Figure 4.2, there is a significant concentration of permanent private households with 5 No. rooms or more within the Ballyboden ED (a total of 4,334 No. persons living in a household with 5 No. rooms of more). Consequently, there is a significantly lesser number of households with 1 – 4 No. rooms (a total of 493 No. persons living in a household with 4 No. rooms or less) (see Figure 4.2 below). This total figure below of 1,689 No. households excludes non-permanent private households such as caravans and mobile homes.

Number of rooms	Households	Persons
1 room	3	5
2 rooms	37	77
3 rooms	79	176
4 rooms	89	235
5 rooms	299	800
6 rooms	420	1,230
7 rooms	381	1,232
8 or more rooms	318	1,122
Not stated	63	182
Total	1,689	5,059

Figure 4.2: Permanent Private Households by Number of Rooms for the Ballyboden Electoral Area

(Source: Census 2016)

Therefore, we submit that there is a significant opportunity to densify this area of South Dublin with a mix of 1, 2 and 3 No. bedroom units having regard to lack of such accommodation types in the area (particularly 1 and 2 No. bedroom units) which will cater for the accommodation needs of a wider cohort of persons.

4.2 Employment, Local Services and Facilities

The Census 2016 figures notes that 6.7% of the population of the Ballyboden ED are unemployed. This compares favourably with the national figure of 12.9% when the Census figures are analysed.

The unemployment figures for 2016 for the Ballyboden ED are considered low when compared to the national figure of 12.9% as derived from the Census 2016, reflecting the multitude of employment nodes that are easily accessible to the area. Chapter 4 also sets out the range of bus services available in the area and the wide range of services and facilities available in close proximity to the subject site. The proposed scheme also provides a gymnasium, lounge, kitchenette and roof terrace for the residents of the Build-to-Rent apartments in addition to 2 No. retail units, 2 No. café/restaurant units and a crèche for the use of all residents and existing residents in close proximity to the site if required.

The Schools Demand Assessment enclosed with the application concludes that 4 No. local primary schools recorded decreases over the last 3 No. years therefore indicating an ability

to absorb demand. There is also 1 No. primary school planned to be constructed in the area (Gaelscoil Cnoc Liamha in Knocklyon).

The Assessment also notes that 2 No. local post-primary schools have recorded a decrease in enrolment numbers over the last 3 No. years which also indicates an ability to absorb demand. There is 1 No. post-primary school planned to be constructed locally (Firhouse ET Secondary School). It should be noted that there is an expected lower frequency of children to catered for in the Build-to-Rent element of the scheme (which represents 81% of the units) compared to a similar Build-to-Sell development.

4.3 Potential Impacts of the Proposed Development and Summary of Mitigation Measures Proposed

The development will have a long-term positive impact on population due to the provision of a wide range of dwelling unit types which includes provision for Part V units and will cater for a wide cohort of persons. There will be an increase in employment opportunities for the wider population of the area during the construction stage and we also note that the workers on the site will utilise local shops and business therefore benefiting the local economy. During the operational stage of the development, the commercial elements proposed will provide employment opportunities and the additional residents within the scheme will spend their income in the local area which will benefit the local economy in the long term. The provision of commercial floorspace and high quality landscape public open space within the scheme will significantly enhance the amenity provision in the area providing an attractive environment in an existing built-up area.

If the development does not proceed, there would be an associated negative impact for pedestrians/cyclists in the area as the proposed link through the north-east of the site would not be provided and the permeability/connectivity of the site would not be enhanced.

As associated with all new developments, there will be a slight temporary negative impact on the surrounding area during construction stage arising from construction traffic entering and exiting the site and their associated noise, dust and slight nuisance. However, these issues can be appropriately mitigated as set out in Chapters 11 (Air Quality and Climate), 12 (Noise and Vibration) and 14 (Traffic and Transportation) of this EIAR. The Preliminary Construction Management Plan (PCMP) enclosed separately with this application also notes that a Traffic Management Plan (TMP) will be prepared for the site works which will minimise disruption to the adjacent road network.

The PCMP notes that a large quantum of the on-site employees will arrive in shared transport therefore reducing the potential for associated temporary negative impacts on the surrounding road network. There will be a minor increase in average delay and queuing during the operational stage, however there will be no significant negative impacts on traffic in the area as a result of the proposed development, with the main impacts occurring at the Orlagh Roundabout principally as a result of the NTA considering pedestrian and cycle safety as a priority rather than vehicular capacity. The promotion of sustainable modes of transport from the site during the operational stage will offset the trip generation created by the proposed development. We note that the scheme has been designed in line with the *Design Manual for Urban Roads and Streets (2009).* The mitigation measures proposed during the operational stage include the implementation of the Mobility Management Plan and the Parking Strategy which will encourage the use of sustainable

transport modes which will ultimately negate any potential impacts on the health and safety of the population in relation to traffic safety

Chapter 10 sets out mitigation measures which will ensure that no negative impacts will occur on population and human health in terms of water and hydrology during the construction and operational stage such as a site-specific Construction and Environment Management Plan will be developed and SuDs measures will be implemented for the operation stage of the development.

In relation to air quality and climate, there may be potential for impacts on human health such as dust emissions during construction stage. A Dust Minimisation Plan is proposed to be implemented to minimise such emissions. The predicted impact is long term and neutral with respect to human beings during the operational phase.

In relation to noise and vibration, in the short term the local area will be impacted during the construction period due the influx of construction traffic, noise, vibrations and dust. However, we note that these impacts are temporary and are generally associated with all new developments in residential areas. The Preliminary Construction Management Plan (PCMP) sets out the key control measures for noise and vibration during this phase mitigation measures which will minimise any potential impacts on human health such as limiting hours of site activities that are likely to create high levels of noise and vibration, erection of 2.4 metre hoarding and generally employing best practice noise and vibration control measures (by the contractor) during the construction phase in order to avoid significant impacts at the nearest sensitive building.

The impacts on the population and human beings in relation to landscape and visual impact are fully assessed in Chapter 8. Potential visual impacts during the construction phase are related to temporary works, site activity, and vehicular movement within and around the subject site. The construction impacts will be of short-term duration. The proposed development will undoubtedly change the view of this large site when viewed by the surrounding residents, however the layout of the proposed development has appropriately considered the existing environment. The layout of the proposed development has positioned the highest forms (6 No. storeys) at the least sensitive locations within the site (centre of the site and fronting Scholarstown Road) which transitions to 2 and 3 No. storeys around the perimeter of the site adjacent to existing dwellings. The provision of a pedestrian link through the site in addition to the landscaping proposals including 3 No. large areas of open space will contribute towards the successful integration of the subject development into the surrounding environment.

5.0 ARCHAEOLOGICAL AND CULTURAL HERITAGE

5.1 Introduction

An archaeological, architectural and cultural heritage study was undertaken at the subject site in order to identify and record the location, nature and dimensions of any archaeological or cultural heritage features, fabric or artefacts that may be impacted by the proposed works. This assessment included a desk-based study and site walkover survey. The desktop study collated data from the Record of Monuments and Places (RMP), the Topographical files of the National Museum of Ireland (NMI), cartographic sources, aerial photography, documentary research and relevant on-line databases. In addition to documentary research, site inspection, geophysical survey and test excavation assisted in providing an understanding of the receiving archaeological and cultural heritage environment and potential. Three separate phases of test excavation were undertaken in the course of this project and extensive consultation took place with statutory bodies (DCHG, NMI, County Coroner, An Garda Síochána).

The following factors were identified in the course of assessment:

- The site is large in scale, occupying an development site area of 5.35 hectares (this increases to 6.05 hectares for the works proposed to the external road network along Scholarstown Road).
- There are no recorded monuments located within the footprint of the site.
- No new sites of archaeological potential were recorded in the reviewed cartographic sources located within the footprint of the site.
- No new sites of archaeological potential were recorded in the reviewed aerial photographic sources located within the footprint of the site.
- There are no protected structures located within the footprint of the site.
- There are no stray archaeological objects recorded in Scholarstown townland.
- A previously unrecorded enclosed settlement/cemetery site of early medieval date was found during pre-development archaeological assessments (geophysical survey and Phase I test trenching).
- No new archaeological sites were recorded during Phase II test trenching (in advance of proposed enabling works) or Phase III test trenching (over the remainder of the site).
- The cemetery settlement was fully archaeological excavated under licence from the DCHG in consultation with the NMI.
- Following extensive pre-development assessments, there is low potential for the survival of additional buried archaeological sites or features across the remainder of the site.

5.2 Potential Impacts

One archaeological site (the settlement/cemetery) has been recorded at the northeast corner of the site. The potential impact on archaeological remains at this site from future development works would be direct, negative and permanent. This potential impact has been mitigated by full archaeological excavation of the site under licence to and following consultation with the Department of Culture Heritage and the Gaeltacht (DCHG) in consultation with the NMI. Post excavation works are on-going. Adequate financial

provision has been made available for post-excavation work, the conservation of artefacts and the publication of archaeological excavation results through the excavation licensing system. A preliminary excavation report has been submitted to the DCHG and the NMI. The post-excavation analysis and final excavation report are expected to be completed by February 2020.

There is low potential for the survival of further buried archaeological remains across the remainder of the site.

5.3 Mitigation

Mitigation measures shall be undertaken as directed by the DCHG in compliance with national policy guidelines and statutory provisions for the protection of archaeology and cultural heritage.

5.3.1 Recommended Mitigation Measure 1

It is acknowledged that archaeological excavation of the settlement cemetery is complete and it is recommended that the archaeological post-excavation project is now brought to completion.

5.3.2 Recommended Mitigation Measure 2

Following the full archaeological excavation of the identified archaeological site, all ground disturbance works across the remainder of the development site should be monitored by a suitably qualified archaeologist.

Should archaeological sites or features be recorded during monitoring of groundworks as per Recommended Mitigation Measure 2, further discussion/consultation with the DCHG will be sought to ascertain the appropriate treatment (i.e. preservation by record/preservation in situ) of any additional archaeological remains.

6.0 ARCHITECTURAL HERITAGE

The site's present character is defined by open fields and paddocks pertaining to combined lands within the respective portfolios of a mid-20th century single storey dwelling 'Beechpark' and its neighbouring house, 'Maryfield', a two storey dwelling of the same period. Notwithstanding the tenuous social connection of 'Beechpark' in its capacity as a home of Mr. Liam Cosgrave, a former Taoiseach, the structure's demolition is justifiable given that it does not possess architectural merit, is positioned central to the subject lands and inevitable development of same lands.

The development site thus does not contain structures having architectural heritage significance but shares a boundary to the north with 'Ros Mor', RPS Ref: 304. Mount Michael, The Rookery, Scholarstown Road (RPS 307) is positioned at a distance west from the subject development and on account of its screening by pre-existing development and trees is discounted from the assessment.

A third protected structure, Scholarstown House, (RPS 322) positioned southward on the opposing side of Scholarstown Road, is similarly located at a distance from the subject site and will not be included in the specific impact assessment.

The scope of the architectural heritage assessment reviews aspects of change arising from the proposed development that may physically, visually or morphologically impact its neighbouring protected structure, Ros Mor.

7.0 BIODIVERSITY

A review of the biodiversity of the site was carried out by Openfield Ecological Services and this included a study of existing information from the area and a site survey. A site surveys was carried out on the 5th of February 2019 and the 25th of April 2019. April is within the optimal season for general habitat survey and for surveying breeding birds while February is within the optimal period for large mammals (particularly Badgers).

It was found that the site is not within or adjacent to any area that is designated for nature conservation at a national or international level. There are no plants recorded from the site that are listed as rare or of conservation value. There are no habitats that are examples of those listed on Annex I of the Habitats Directive. Three-Cornered Garlic and Spanish Bluebell are present and these are alien invasive plant species as listed on Schedule 3 of SI No. 477 of 2011. The site can be described as open grassland with areas of bare soil with buildings. A treeline along the southern (Scholarstown Road) boundary, along with individual tall trees are of high local value to biodiversity. Other treelines are predominantly composed of non-native conifers and so are of negligible biodiversity value.

There are no water courses, ponds, ditches or wetland areas. There was no evidence of Badgers using the site. A dedicated bat survey was carried out during the optimal season in 2019 and this found no evidence of roosting bats, although some large trees have roost potential. Some 12 No. bat boxes have been incorporated within the proposed development (6 No. on trees and 6 No. on elevations of the apartment buildings).

Although approximately 28 No. trees are to be removed due to their poor condition or because their retention is not compatible with the project design, none of these have been assessed as 'high value/quality' by the project arborist. The high-value treeline to the south is to be retained. Good site management practices will ensure that pollution to water courses does not occur during the construction phase. Surface water will be attenuated using sustainable urban drainage systems (SUDS). Pre-connection feedback has been received from Irish Water which advises that a connection to the Irish water network can be facilitated. Additional landscaping will compensate for the loss of habitat that will occur. Standard herbicide will be used to eradicate the stands of Spanish Bluebell and Three-cornered Garlic. With the suggested mitigation in place, the ecological impacts by this proposed development will be neutral. There are no impacts that could affect any area designated for nature conservation.

8.0 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

8.1 Introduction

The LVIA summarises the impact of the proposed development on the landscape character and visual amenity of the current site and on the contiguous area and the site environs. It includes an outline of the methodology utilised to assess the impacts and descriptions of the receiving environment (baseline) and of the potential impacts of the development. Mitigation measures introduced to ameliorate, or offset impacts are considered and the resultant predicted (residual) impacts outlined.

This report should be read with reference to the photomontages, prepared by 3D Design Bureau, which are contained in Appendix 8.1 and also within a separate booklet entitled 'Photomontages, CGIs and Aerials'.

Figure 8.1: Site Location and Context

8.2 Methodology

8.2.1 Introduction

This preliminary assessment was carried out between February and September 2019. Landscape and Visual Impact Assessment (LVIA) includes consideration of two main aspects:

- Landscape Character Impact
- Visual Impact

The standard evaluation methodology used in the preparation of the Landscape and Visual Impact Assessment (LVIA) for Environmental Impact Assessment Reports (EIAR) is utilised.

8.2.3 Selection of Views

In recognition of the sensitivities of this location and to enable a full and detailed assessment of the proposal, a total of 16 No. views were selected for which photomontages have been prepared.

Figure 8.2: Selected Viewpoints (Near)

The views were chosen to represent the greatest likely visual impact from a variety of directions around the site, allowing sufficient distance to see the proposed development within its landscape context.

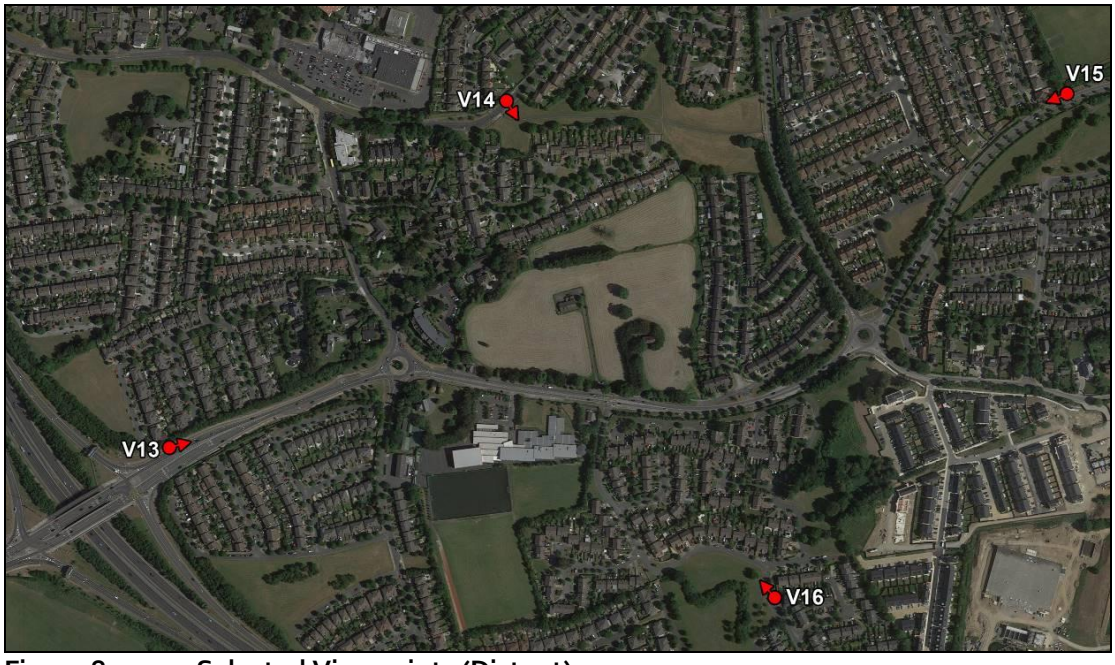

Figure 8.3: Selected Viewpoints (Distant)

In accordance with the guidelines, views from the public domain were given priority, particularly those from main thoroughfares and public places. The Guidelines also require that the proposed development is considered in context and that photomontages illustrate the proposed development with sufficient context for proper assessment.

8.2.4 Methodology for Rating of Impacts

An assessment is made in respect of the significance, scale or magnitude of predicted impacts which is set against an assessment of the quality/sensitivity of the impact.

The quality of impact can be assessed as 'positive' or 'negative' depending on whether the change is considered to improve or reduce the quality of the landscape character or visual environment. The quality of impact may also be assessed as 'neutral' if the quality of the environment is unchanged.

The duration of impact is a third aspect of assessment to be considered and may range from temporary to permanent. In this case, the proposed housing is likely to be long term. The temporary/short term impacts during the construction of the proposed development are also considered.

8.3. Description of Receiving Environment

8.3.1 Site Location and Landscape Context

The site for proposed development occupies lands on the northern edge of the Scholarstown Road, approximately 500 metres east of the M50. The developable site area is essentially a greenfield site of approximately 5.35 Ha. featuring two existing individual dwellings. The site is zoned for residential development and this represents a natural extension of the existing residential development around the site.

8.4. Characteristics of the Proposed Development

8.4.1 Introduction

A comprehensive description of the design for the proposed residential development is contained in the Architect's Design Statement. Please refer also to the design layout drawings and sections included with the application.

8.4.2 Context and Design Characteristics

The designed scheme seeks to harmonise and integrate the development within the existing landscape. The design rationale and details employed seek to mitigate any negative effects on the landscape character and visual amenity of the area by:

- Retaining existing vegetation where possible and introducing appropriate planting to further screen and absorb the buildings over time.
- Including public open spaces within the design which link with and relate appropriately to existing adjacent open spaces.

- Incorporating the development to integrate with the existing adjacent housing and finishing the new buildings primarily in earth tones and natural materials as noted in the architectural design report.

8.5 Potential Impacts of the Proposed Development

A development such as this proposal has the potential to impact significantly upon the landscape and visual aspects of the existing environment in a number of ways, at both construction and operational stages. Effects can be short or long term; temporary or permanent. The purpose of this section of the NTS is to describe the potential effects of such proposed development; upon the visual and landscape aspects of the immediate area, and further afield, where relevant.

8.5.1 Construction Phase

All construction impacts will be temporary, and may include the following:

- Site preparation works and operations (including tree protection measures);
- Site excavations and earthworks;
- Site infrastructure and vehicular access;
- Construction traffic, dust and other emissions;
- Temporary fencing/hoardings;
- Temporary site lighting;
- Temporary site buildings (including office accommodation); and
- Scaffolding.

8.5.2 Operational Phase

The potential impact of the proposed development however, could be negative, particularly if the existing boundary vegetation is damaged or degraded. Many aspects of the proposed scheme design are included specifically to respond to such issues and any associated concerns. The design approach and specific mitigation measures employed to address such sensitive contextual issues and to respect and enhance the local rural environs.

8.5.3 The 'Do Nothing' Approach

If the proposed development were not to proceed, the site would presumably (in terms of its landscape impact), remain in its present form for a period. In such circumstances the current land uses would also presumably continue. All existing boundary hedgerows would continue to grow and mature, subject to their maintenance and management by the adjoining occupiers.

8.6 Mitigation (Remedial/Reductive Measures)

8.6.1 Construction Phase

The planning application includes a Preliminary Construction Management Plan which references the following construction phase mitigation measures as relevant to the assessment of Landscape and Visual impact:

- Site hoarding will be erected to restrict views of the construction activity e.g. standard 2.4m high construction hoarding;
- Establishment of tree protection measures as required (no-dig construction zones, tree protection fencing and existing hedgerow retention). Any trees which are not to be taken down shall remain undisturbed and undamaged;
- Tree protection fences if required are to be constructed in accordance with BS 5837:2012 "Trees in Relation to Design, Demolition and Construction - Recommendations";
- A 'Construction Exclusion Zone' notice shall be placed on tree protection fencing at regular intervals;
- Tree Protection Zones are not to be used for car parking, storage of plant, equipment or materials; and
- A post construction re-assessment of any retained trees shall be carried out.

8.6.2 Operational Phase

The proposed scheme is designed to integrate well within its existing context. This will be accomplished through:

- Establishing an integrated and respectful relationship between the existing housing and the proposed development, incorporating aspects of prevalent built forms, scale, texturing, colour and materials;
- The insertion, positioning and modelling of the built elements, in order to assist in the visual reduction of the apparent mass of buildings – in particular; the siting of the higher 6-storey apartment blocks along the main road and within the central part of the site, coupled with the positioning of the lower 3-storey blocks at the west, north and east site edges, adjacent to existing dwellings;
- Appropriate architectural detailing to assist in the respectful integration of the external building facades – including the modulation of openings and fenestration in a manner that reflects current local proportions and rhythms;
- Rationalisation of all services elements and any other potential visual clutter and its incorporation internally within building envelopes (as far as practically possible);

- Use of appropriate and harmonising colour, tones and materials; and
- The provision, maintenance and management of a sensitively considered soft landscape design for the development, which interacts with Hydrology (SuDS) and Biodiversity, and which assists in the integration and screening of the buildings within the existing landscape.

8.7 Predicted Landscape Character Impact of the Proposed Development

In assessing the landscape character impacts specifically, there are three main inter-related aspects to be addressed in considering the development proposals, namely:

- The perceived character of the existing edge-of-town, agricultural landscape – how it is impacted by the proposal;
- Impacts of the proposed development on social and cultural amenity; and
- The proposed views of the development, relative to the existing site (outlined in Section 8.2) and the associated impact on visual amenity.

8.7.1 Construction Phase

People living in the existing housing estate to the north and east of the site will be impacted negatively to a slight extent by the construction of the proposed development. The construction impacts will be of short-term duration.

8.7.2 Operational Phase

Impact on the perceived character of the area

It is clear that the insertion of any proposed development into this existing open expanse will alter the landscape context of the area to an extent, however for this particular site, existing clear views-in are actually quite limited and this will limit associated impacts.

8.8 Predicted Visual Impact of the Proposed Development

8.8.1 Introduction

The assessment of visual impact is determined through the comparison of 'before' and 'after' photomontages – it is therefore, perhaps, a little less subjective than an assessment of landscape character.

The red line that appears on some of the proposed photomontages indicates the location of the new development in the background, which in such cases is largely screened from view by distance, the intervening built environment, topography or vegetation.

Because the design life of the proposed development is up to 60 years, the duration of predicted visual effects is assessed as long term, as is the case for predicted landscape character impacts.

8.8.2 Assessment of views

Photomontages were prepared for 16 No. views from a range of viewpoints. For each view, the significance/magnitude and quality/sensitivity of the effect are assessed and summarised as follows:

View 1 *- The visual effect from this viewpoint is imperceptible.*

View 2 *- The visual effect from this viewpoint is moderate and neutral.*

View 3 *.- The visual effect from this location will be slight and neutral.*

View 4 *- Visual effect from this viewpoint is slight and neutral.*

View 5 *- The visual effect from this viewpoint is imperceptible.*

View 6 *- The visual effect from this viewpoint is moderate and neutral.*

View 7 *- The visual effect from this location will be slight and positive.*

View 8 *- The visual effect from this location will be slight and neutral.*

View 9 *- The visual effect from this location will be slight and neutral.*

View 10 *- The visual effect from this location will be slight and neutral.*

View 11 *- The visual effect from this location will be moderate and neutral.*

View 12 *- The visual effect from this location will be slight and neutral.*

View 13 *- The visual effect from this location will be imperceptible.*

View 14 *- The visual effect from this location will be imperceptible.*

View 15 *- The visual effect from this location will be imperceptible.*

View 16- *The visual effect from this location will be not significant.*

In summary, the visual effects of the proposed development are markedly reduced primarily because of the limitation placed on building heights in the designed scheme coupled with the screening effect of other built developments in the vicinity and the existing tree lined hedgerows edging the subject site.

The nature and scale of the proposed development are entirely appropriate to the surrounding landscape context. The scheme is well-designed to integrate with its

surroundings and to connect with and improve the existing urban fabric. The open space and outdoor facilities provided are of a high quality and of a type and scale appropriate to the nature of the residential scheme. The proposed planting scheme is of a high quality and will be fundamental to the successful integration and future maturity of the scheme.

9.0 LAND, SOILS AND GEOLOGY

This chapter of the EIAR comprised of an assessment of the likely impact of the proposed development on the soils and the geological environment as well as identifying proposed mitigation measures to minimise any impacts.

In summary, the proposed development ("the site") comprises of 590 No. residential dwellings (480 No. Build-to-Rent Apartments and 110 No. Build-to-Sell Duplexes) on a 6.05 Ha site.

An assessment of the likely impact of the proposed development on soils and the geological environment included a preliminary ground investigation study and review of information available on the Geological Survey of Ireland (IGSL) online mapping service.

Ground conditions at the site, as observed during Preliminary Ground Investigations, are summarised as follows topsoil layer overlying a thin stratum of firm silt/clay with occasional gravel overlying gravelly clay with made ground (comprising of clay with brick and rubble fragments) was observed at 2 trial pit locations adjacent to the site's eastern boundary to a depth of approx. 2.0m. Gravelly clay was observed below made ground at both locations (as described previously);

No Ground water was noted in any of the boreholes or trial pits.

Review of GSI's online mapping service ("Bedrock Geology") generally describes geology in the vicinity of the site as "Deep Marine: Slate, Schist & minor greywacke" (although a small area adjacent to the site's northern boundary is described as "Marine basinal facies; Dark-grey argillacerous & cherty limestone & shale"). GSI have classified the site's groundwater vulnerability as "Low" and have classified underlying aquifers as "Locally Important".

Site development works will include stripping of topsoil, excavation of subsoil layers (to allow road construction, foundation excavation, basement excavation for underground carpark, drainage and utility installation and provision of underground attenuation of surface water) and importation of fill (structural fill beneath houses, driveways and to roadways).

Potential impacts during the construction phase include exposure of the underlying subsoil layers to the effects of weather and construction traffic resulting in erosion and generation of sediment laden runoff. Accidental spills and leaks during construction activities may result in contamination of the soils underlying the site.

In order to mitigate impacts noted above stripping of topsoil will be carried out in a controlled and carefully managed way and coordinated with the proposed staging for the development. Disturbed subsoil layers will be stabilised as soon as practicable (i.e. minimise the duration that subsoil layers are exposed to weather effects). Measures will also be implemented to capture and treat sediment laden surface water runoff (e.g. sediment retention ponds and surface water inlet protection).

Regarding construction traffic, earthworks plant and vehicles delivering construction materials to site will be confined to predetermined haul routes around the site.

Vehicle wheel wash facilities will be installed in the vicinity of any site entrances and road sweeping along Scholarstown Road and dust suppression implemented as necessary.

In order to mitigate against spillages contaminating underlying soils, all oils, fuels, paints and other chemicals will be stored in a secure bunded hardstand area. Refuelling and servicing of construction machinery will take place in a designated hardstand area (when not possible to carry out such activities off site).

All temporary construction compounds are to be removed upon completion of the construction phase. Such areas are to be reinstated in accordance with the landscape architects plan and engineer's drawings.

All construction waste and / or scrapped building materials are to be removed from site on completion of the construction phase.

Implementation of the measures outlined in Chapter 9 of this EIAR and the Preliminary Construction Management Plan will ensure that the potential impacts of the proposed development on soils and the geological environment do not occur during the construction phase.

10.0 WATER-HYDROLOGY

This chapter of the EIAR comprises of an assessment of the likely impact of the proposed development on the surrounding surface water and hydrogeological environments (including flood risk, surface water drainage, foul drainage and water supply) as well as identifying proposed mitigation measures to minimise any impacts.

In summary, the proposed development ("the site") comprises of 590 No. residential dwellings (480 No. Build-to-Rent Apartments and 110 No. Build-to-Sell Duplexes) on a 6.05 Ha site.

Assessment of the likely impact of the proposed development on the surrounding surface water and hydrogeological environments included site inspection / walkover, review of topographic survey information, review of Irish Water network plans, ground investigations, review of information available on the Environmental Protection Agency (EPA) online mapping service, review of information available on the Geological Survey of Ireland (GSI) online mapping service, review of OPW National Flood Hazard Mapping and CFRAM Studies, consultation with South Dublin County Council's Water Services Section and consultation with Irish Water.

As part of assessing the likely impact of the proposed development, surface water runoff, foul drainage discharge and water usage calculations were carried out in accordance with the Greater Dublin Strategic Drainage Study (GDSDS) and methods outlined in Irish Water's Pre-Connection Enquiry Application (water demand and foul drainage discharge).

An existing 1200 mm diameter surface water drain runs along the site's eastern boundary, out-falling towards the site's north-eastern corner. As the site generally falls from south-west to north-east, the existing 1200 mm diameter surface water drain noted above will provide a suitable surface water outfall for the proposed development. The existing 1200 mm diameter surface water drain noted above ultimately discharges to the River Dodder.

GSI's Groundwater Data Viewer classifies the bedrock aquifer underlying the site as "Locally Important Aquifer – Bedrock which is Moderately Productive only in Local Zones". GSI also classify the site's groundwater vulnerability as "Low".

A flood hazard assessment has been undertaken by reviewing information from the Office of Public Works (OPW), National Flood Hazard Mapping (www.floods.ie) and the Eastern CFRAM Study. This assessment has been carried out in accordance with the procedures for a "Flood Risk Assessment" as outlined in the OPW's Guidelines for Planning Authorities – The Planning System and Flood Management (November 2009). Following the Flood Risk Assessment, it was determined that the site is located in Flood Zone C as defined by the Guidelines i.e. the proposed development is appropriate for the site's flood zone category.

Existing public foul drainage infrastructure is located to the north-east of the site. Pre-connection enquiry feedback has been received from Irish Water which advises that new connections to the existing network are feasible subject to network upgrade (upgrade project is scheduled to be completed in 2021).

Part of this upgrade project includes construction of a 450mm diameter foul sewer through the proposed development. DBFL and Irish Water have co-ordinated the route of the proposed 450mm diameter foul sewer with the proposed site layout. Irish Water's proposed

450mm diameter foul sewer will provide a suitable foul drainage outfall for the proposed development.

An existing 1200mm diameter surface water drain runs along the site's eastern boundary (falling towards the site's north-east corner). This surface water drain ultimately discharges to the River Dodder. It is proposed to discharge attenuated flows from the site to this existing 1200mm diameter surface water drain.

An existing 6" cast iron watermain runs along the northern side of Scholarstown Road (immediately adjacent to the site's southern boundary). A 300mm diameter ductile iron watermain is also located adjacent to the south-east corner of the site. Irish Water have confirmed that new connections to the existing network are feasible subject to network upgrade (i.e. upsizing the existing 6" cast iron watermain noted above to 200mm diameter for approximately 395m).

Potential impacts that may arise during the construction phase include, surface water runoff becoming polluted by construction activities, accidental spills and leaks associated with storage of oils and fuels, leaks from construction machinery and spillage during refuelling and maintenance, concrete runoff (particularly discharge of wash water from concrete trucks), improper discharge of foul drainage from contractor's compound and cross contamination of potable water supply to construction compound.

In order to mitigate construction phase impacts a site-specific Construction and Environment Management Plan will be developed and implemented during the construction phase. Site inductions will include reference to the procedures and best practice which will be outlined in the Construction and Environment Management Plan.

Oil, fuel etc. storage areas are to be decommissioned on completion of the construction phase. Any remaining liquids are to be removed from site and disposed of at an appropriate licenced facility. South Dublin County Council's Environmental Control Section is to be notified of the proposed destination for disposal of any liquid fuels.

Potential operational phase impacts include increased impermeable surface area potentially increasing surface water runoff and accidental hydrocarbon leaks with subsequent discharge into piped surface water drainage network. In order to mitigate operational phase impacts surface water runoff from the site will be attenuated to the greenfield runoff rate as outlined in the Greater Dublin Strategic Drainage Study (GDSDS). Methodologies such as permeable paving, green roofs and discharge of surface water via a fuel / oil separator are being implemented as part of a SuDS surface water treatment train approach.

Proposed mitigation measures to address residual flood risks include maintenance of the drainage system on a regular basis to reduce the risk of a blockage and in the event of storms exceeding the 1% AEP design capacity of the attenuation system, possible overland flow routing towards open space areas should not to be blocked.

Implementation of the measures outlined in Chapter 10 of this EIAR and the Preliminary Construction Management Plan will ensure that the potential impacts of the proposed development on the surrounding surface water and hydrogeological environments do not occur during the construction phase

11.0 AIR QUALITY AND CLIMATE

AWN Consulting Limited has been commissioned to conduct an assessment of the likely impact on air quality and climate associated with the proposed development at Scholarstown Road, Dublin 16.

In terms of the existing air quality environment, data available from similar environments indicates that levels of nitrogen dioxide, carbon monoxide, particulate matter less than 10 microns and less than 2.5 microns and benzene are generally well below the National and European Union (EU) ambient air quality standards.

Impacts to air quality and climate can occur during both the construction and operational phases of the proposed development. With regard to the construction stage the greatest potential for air quality impacts is from fugitive dust emissions impacting nearby sensitive receptors. Impacts to climate can occur as a result of vehicle and machinery emissions. In terms of the operational stage air quality and climate impacts will predominantly occur as a result of the change in traffic flows in the local areas associated with the proposed development.

Any potential dust impacts can be mitigated through the use of best practice and minimisation measures which are outlined in Chapter 11. Therefore, dust impacts will be short-term and not significant at all nearby sensitive receptors. It is predicted that impacts to climate will be short-term and imperceptible during the construction stage due to the duration and nature of the works.

The local air quality modelling assessment concluded that levels of traffic-derived air pollutants resulting from the development will not exceed the ambient air quality standards either with or without the proposed development in place. Using the assessment criteria outlined in Transport Infrastructure Ireland's guidance document 'Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes' the impact of the development in terms of PM10, PM2.5, CO, NO_2 and benzene is negative, long-and term but overall imperceptible. The proposed development is not predicted to significantly impact regional air quality and climate during the operational stage. Increases in traffic derived levels of NOX, VOCs and CO_2 have been assessed against Ireland's obligations under the EU Targets and emissions ceilings set out by Directive (EU) 2016/2284 "On the Reduction of National Emissions of Certain Atmospheric Pollutants and Amending Directive 2003/35/EC and Repealing Directive 2001/81/EC". Impacts to regional air quality and climate are deemed imperceptible and long-term with regard to NOX, VOCs and CO_2 emissions.

As the National and EU standards for air quality are based on the protection of human health, and concentrations of pollutants for both the construction and operational stages of the proposed development are predicted to be significantly below these standards, the impact to human health is predicted to be negative but overall imperceptible in the short and long term.

No significant impacts to either air quality or climate are predicted during the construction or operational phases of the proposed development.

12.0 NOISE AND VIBRATION

12.1 Introduction

Chapter 12 of the EIAR provides information on the assessment of noise and vibration impacts on the surrounding environment during both the construction and operational phases of the proposed mixed use development at Scholarstown Road, Dublin 16.

When considering the potential impacts, the key sources will relate to the short-medium term construction phase and the long-term impacts associated with the development as a whole once operational.

12.2 Methodology

The study has been undertaken using the following methodology:

- A baseline noise survey has been undertaken within and in the vicinity of the site to determine the existing noise climate;
- A review of the most applicable standards and guidelines has been conducted in order to set a range of acceptable noise and vibration criteria for the construction and operational phases of the proposed development;
- Predictive calculations have been performed to assess the potential impacts associated with the construction and operation of the development at the most sensitive locations surrounding the development site;
- A schedule of mitigation measures has been proposed to reduce, where necessary, the identified potential impacts relating to noise and vibration from the proposed development.

12.3 Receiving Environment

The proposed development is located within a greenfield site located off Scholarstown Road, Dublin 16. The site is bound by residential dwellings to the north, east and western boundaries. Scholarstown Road bounds the south of the site with Knocklyon St Colmcilles Community School beyond. The residents along the perimeter boundaries and the school to the south are the closest noise sensitive locations to the development site.

The baseline environment in the vicinity of the development site is found to be typical of a suburban environment where road traffic, localised vehicle and pedestrian activities and environmental sources including bird song and leaf rustle are the main contributors to the prevailing noise environment. Highest noise levels were measured outside residential properties to the south east which are sited in close proximity to Scholarstown Road.

12.4 Construction Phase Impacts

A variety of items of plant will be in use for the purposes site clearance, demolition and construction. The type and number of equipment will vary between the varying construction phases depending on the phasing of the works. There will be vehicular

movements to and from the site that will make use of existing roads. Due to the nature of these activities, there is potential for the generation of elevated levels of noise.

Indicative noise levels have been calculated for the construction phase to assess the likely significant impacts during this phase at the nearest noise sensitive locations. Highest noise levels are calculated at a distance of 30m representative of the closest residential dwellings to the north of the development site when demolition works are taking place. The calculations have indicated the recommended daytime construction noise limit has the potential to be exceeded if a number of construction activities are taking place at this distance in the absence of mitigation.

Given the variation of on-site activities and number of plant items during any one phase and the likelihood of works operating along the closest boundaries for a limited duration of the works, the calculated noise levels in the EIAR are considered to present a worst-case scenario. When works are occurring at distances of 65m and beyond from the works boundary, construction noise levels are reduced to within the recommended noise criteria.

The calculated noise levels indicate that during the main construction phase, activities can operate within the relevant construction noise criteria included within the EIAR at the closest off-site noise sensitive locations. The potential impact during this phase will be moderate to significant, with negative short-term effects on a small number of noise sensitive locations.

Best practice noise and vibration control measures will be employed by the contractor during the construction phase in order to avoid significant noise and vibration impacts at the nearest sensitive buildings. The best practice measures set out in BS 5228 Code of practice for noise and vibration control on construction and open sites (2009 + A1 2014) Parts 1 and 2 will be complied with which are set out in the EIAR chapter.

The application of binding noise limits, hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact will have a negative, moderate to and short-term impact on the surrounding environment.

12.5 Operational Phase Impacts

Once operational, the predicted change noise levels associated with additional traffic is predicted to be of imperceptible impact along the existing road network. In the context of the existing noise environment, the overall contribution of induced traffic is determined to be an imperceptible impact of long-term, neutral effect.

Noise levels associated with any mechanical and electrical plant required to service the development buildings will operate well within the adopted day and night-time noise limits at the nearest noise sensitive properties taking into account the site layout, distance to nearest off site noise sensitive locations and the development type which is largely residential. Any plant associated with retail units or apartment buildings units will be controlled to ensure adverse noise impacts are avoided at off-site noise sensitive locations, in accordance with BS 4142 (2014). Assuming the operational noise levels do not exceed the

adopted design goals included within the EIAR, the resultant residual noise impact from this source will be of neutral, minor, long term impact.

The likely impact associated with on-site activities associated with the proposed development will be not-significant with long term neutral effects.

13.0 MATERIAL ASSETS – WASTE MANAGEMENT

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 South Dublin 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 C&D 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. 51,000 m^3 soil, stone, gravel and clay. It is anticipated that c.30,000 m^3 of excavated material will need to be removed offsite, however it is envisaged that c.10,000 m^3 of topsoil and c.11,000 m^3 of subsoil will be reused onsite. Excavated material which is to be taken offsite will be taken 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 13.1) 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 commercial tenants. Dedicated communal waste storage areas have been allocated throughout the development for residents. The waste storage areas have been appropriately sized to accommodate the estimated waste arisings in both apartments and shared residential areas. The commercial tenants will have dedicated waste storage areas allocated within the development and can be viewed on the drawings submitted with the application. 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 11 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.

14.0 MATERIAL ASSETS – TRAFFIC AND TRANSPORTATION

This chapter of the EIAR assesses the likely impact of the proposed development on the transportation network and identifies proposed mitigation measures to minimise any identified impacts.

In summary, the proposed development ("the site") comprises of 590 No. residential dwellings (480 No. Build-to-Rent Apartments and 110 No. Build-to-Sell Duplexes) on a 6.05 Ha site.

The proposed development will also include the following associated engineering infrastructure:

- Upgrade of existing traffic signals on Scholarstown Road to facilitate the primary vehicle access to the site (including provision of formal signalised crossings for the benefit of both pedestrians and cyclists).
- Upgrading existing pedestrian and cycle facilities along Scholarstown Road.
- Provision of internal site roads including associated footpaths.
- Provision of surface water drainage, foul drainage and water supply infrastructure.

The existing road network has a speed limit of 50kph. The M50 motorway is located 550m west of the proposed development. There are existing pedestrian and cycle facilities on Scholarstown Road.

For public transport, Dublin Bus operates the number 15 and 15B close to the proposed development site. These services run frequently every day.

The proposed development provides car parking and cycle parking spaces and will have good facilities for pedestrians through the site.

Traffic surveys were undertaken for a number of junctions surrounding the development. An impact assessment was done on these junctions to determine what effect the development would have on them. The majority of these junctions did not require further assessment. The proposed site access junction was assessed in further detail with the results showing that the junction operates within capacity.

The Scholarstown Road/Orlagh Grove roundabout was also assessed in further detail. This roundabout showed traffic capacity issues in the existing scenario and also showed traffic capacity issues in the proposed scenarios with the development in place. This analysis showed that for the 2021 Opening Year for the Do Nothing scenario and Do Something scenario, there is a minor increase in average delay and queueing due to the proposed development. For the 2026 and 2036 Design Year scenarios, the roundabout continues to operate over capacity for both the Do Nothing and Do Something scenarios. The high demand of pedestrian and cycle movements through the roundabout also contributes to the reduction in traffic capacity.

This roundabout was recently redeveloped in order to improve facilities for pedestrians and cyclists around the roundabout with pedestrian and cycle safety taking priority over traffic capacity.

A Traffic Management Plan (TMP) will be prepared for the site works in accordance with the principles outlined below and shall comply at all times with the requirements of:

- Department of Transport Traffic Signs Manual 2010 – Chapter 8 Temporary Traffic Measures and Signs for Roadworks
- Department of Transport Guidance for the Control and Management of Traffic at Road Works (2010)
- Any additional requirements detailed in the Design Manual for Roads and Bridges (DMRB) & Design Manual for Urban Roads & Streets (DMURS)

All construction related parking will be provided on site. Construction traffic will consist of the following categories:

- Private vehicles owned and driven by site staff and management;
- Construction vehicles e.g. excavation plant, dump trucks (including trucks for delivery of imported fill to site;
- Materials delivery vehicles involved in site development works.

It is anticipated that the generation of HGVs during the construction period will be evenly spread throughout the day and as such will not impact significantly during the peak traffic periods.

Truck wheel washes will be installed at construction entrances and any specific recommendations with regard to construction traffic management made by South Dublin County Council will be adhered to.

Works are proposed along Scholarstown Road (formation of site access including upgrade of existing traffic signals and improvement to pedestrian and cycle facilities). The contractor shall prepare a detailed traffic management plan for works at these interfaces with the existing road network and obtain all required road opening licenses from South Dublin County Council.

A Mobility Management Plan has been prepared for both residents and staff within the development in order to guide the delivery and management of co-ordinated initiatives post construction. The MMP ultimately seeks to encourage sustainable travel practices for all journeys to and from the proposed development.

A Parking Strategy has been prepared as part of this development. This document presents the rationale for the quantum of vehicular parking as well as cycle parking that is being proposed as part of this development. It sets out the management measures that will be deployed to allocate the use and control of parking provision at the proposed development.

15.0 MATERIAL ASSETS – SITE SERVICES

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 minimise any impacts. The material assets considered in this chapter of the EIAR include Power, Gas and Telecommunications.

In summary, the proposed development ("the site") comprises of 590 No. residential dwellings (480 No. Build-to-Rent Apartments and 110 No. Build-to-Sell Duplexes) on a 6.05 Ha site.

Assessment of the likely impact of the proposed development on existing utility services in the vicinity of the site included a desktop review of ESB's Networks Utility Plans, Gas Networks Ireland's Service Plans and Eir's E-Maps. A GPR Utility Survey has also been carried out along Scholarstown Road.

An existing LV overhead line and an existing MV/LV underground cable run along the southern boundary of the site.

An existing gas distribution pipeline runs along the southern boundary of the site (in the footpath / verge area adjacent to Scholarstown Road). A gas transmission heavy wall pipeline also runs along Scholarstown Road.

Telecommunications infrastructure is located along Scholarstown Road to the south of the site.

The existing infrastructure noted above will provide electrical, gas and telecommunication connections for the proposed development.

There is potential interruption to ESB's network, Gas Networks Ireland's infrastructure and Eir's infrastructure while carrying out road works along the Scholarstown Road (e.g. during formation of site access junction) and while carrying out works to provide service connections to the proposed development.

A GPR utility survey has been carried out along Scholarstown Road to confirm the location of the power, gas and telecommunication infrastructure. This survey is to be supplemented with slit trench investigations as required by the contractor in advance of commencing works along Scholarstown Road.

Reinstatement of any excavations, trenches etc. relating to the provision of electrical, gas and telecommunications connections is to be carried out in accordance with the relevant utility provider's requirements.

Implementation of mitigation measures outlined in Chapter 15 of this EIAR and the Preliminary Construction Management Plan will ensure that the potential impacts of the proposed development on site services do not occur during the construction phase.

16.0 INTERACTIONS

16.1 Introduction

Chapter 16 of this EIAR outlines the most significant interactions associated with the proposed development. Table 16.1 provides a matrix which summarises the significant interactions associated with the proposed development.

16.2 Description of Significant Interactions

16.2.1 Interactions between Population and Air Quality/Climate

Interactions between population and air quality/climate are discussed in Chapter 4 and 11. The main interactions are predicated to arise during construction stage as there will be dust emissions associated with the construction of the proposed development. Mitigation measures such as a dust minimisation plan (outlined in Appendix 11.3) will minimise dust emissions during construction stage and ensure that no significant adverse impacts will occur on population and human health. The mitigation measures that will be put in place at the proposed development will ensure that the impact of the proposed development complies with all ambient air quality legislative limits and therefore the predicted impact is long term and neutral with respect to human beings.

16.2.2 Interactions between Population and Noise/Vibration

Interactions between population and noise/vibration are discussed in Chapter 4 and 12. Best practice noise and vibration control measures will be employed by the contractor during the construction phase in order to avoid significant impacts at the nearest sensitive buildings. During the operational stage, the predicted noise level associated with additional traffic is predicted to be of insignificant impact along the existing road network. In the context of the existing noise environment, the overall contribution of traffic is not considered to pose any significant impact to nearby residential locations. It can be concluded that, once operational, the predicted change in noise levels associated with additional traffic is predicted to be of imperceptible impact along the existing road network.

16.2.3 Interactions between Population and Traffic

The scheme will be developed in line with the Traffic and Transport chapter (Chapter 14 of this EIAR) and the separately enclosed Preliminary Construction Management Plan (PCMP) to ensure any impacts on local traffic is minimised during the construction stage. The PCMP notes that a large quantum of the on-site employees will arrive in shared transport therefore reducing the potential for associated temporary negative impacts on the surrounding road network.

As the development proposes some 590 No. residential units and associated (albeit) reduced car-parking, there will be additional traffic movements at the site and in the vicinity, which will have a minor negative impact on the existing population. However, the promotion of sustainable modes of transport from the site during the operational stage will significantly mitigate against any potential impacts that may arise on traffic in the area.

If the development does not proceed at the subject lands, there would be a potential negative impact for pedestrians in the local area as the significantly enhanced pedestrian permeability through the site would not be provided.

16.2.4 Interactions between Population and Landscape and Visual Impact

Chapter 8 provides a Landscape and Visual Impact Assessment prepared by Mitchell and Associates Landscape Architects. The chapter notes that people living in the existing housing estate to the north and east of the site will be impacted negatively to a slight extent by the construction of the proposed development. The construction impacts will be of short-term duration. Mitigation measures such as the provision of site hoarding will be erected to restrict views of the construction activity e.g. standard 2.4m high construction hoarding. The impacts during the construction stage will be of short-term duration and are associated with any new development proposals.

During the operational stage the LVIA notes that the insertion of any proposed development into this existing open expanse will alter the landscape context of the area to an extent, however for this particular site, existing clear views in are actually quite limited and this will limit associated impacts.

The visual effects of the proposed development are markedly reduced primarily because of the limitation placed on building heights in the designed scheme coupled with the screening effect of other built developments in the vicinity and the existing tree lined hedgerows edging the subject site.

The nature and scale of the proposed development are entirely appropriate to the surrounding landscape context. The scheme is well-designed to integrate with its surroundings and to connect with and improve the existing urban fabric. The open space and outdoor facilities provided are of a high quality and of a type and scale appropriate to the nature of the residential scheme. The proposed planting scheme is of a high quality and will be fundamental to the successful integration and future maturity of the scheme. The provision of high-quality landscape public open space will ensure a positive living environment is provided for the population within the proposed development.

16.2.5 Interactions between Population and Archaeology

The archaeology works which have taken place at the subject site in advance of the subject planning application have been detailed in Chapter 5 of this EIAR.

The excavation of these archaeological features will ensure that they are made available to the general public, allowing a greater understanding of our archaeological heritage.

16.2.6 Interactions between Population, Biodiversity and Water-Hydrology

As set out in Chapter 7, the inclusion of SUDs measures within the surface water attenuation systems will ensure that no negative effects occur to water quality and therefore there will be no negative impacts on population and human health in relation to water quality.

16.2.7 Interactions between Biodiversity and Landscape

The landscaping strategy includes new planting which will provide habitat for birds, invertebrates and other common wildlife which is a benefit for the local environment.

16.2.8 Interactions between Biodiversity and Land, Soils and Geology

Removal of the existing topsoil layer will be required across the site as well as removal of some trees, vegetation etc. Some existing trees and planting will be removed as part of the proposed development however this has been supplemented to ensure a positive living environment is proposed on the lands once the development is complete.

16.2.9 Interactions between Land, Soils and Geology, Traffic and Noise/Vibration

Delivery of materials to the subject lands will provide increased traffic on the surrounding road network. There will be a level of construction related noise and vibration during the construction of the development on the lands. However, mitigation works outlined in Chapter 9 such as the provision of vehicle wheel wash facilities will be installed in the vicinity of site entrances and road sweeping will be implemented as necessary in order to maintain the road network in the vicinity of the site.

Mitigation measures proposed such as the above will ensure that the potential impacts of the proposed development on soils and the geological environment do not occur during the construction phase. There are no predicted impacts arising from the operational phase on lands/soils and geology as a result of traffic.

16.2.10 Interactions between Land, Soils and Geology and Water-Hydrology

Stripping of topsoil will result in exposure of the underlying subsoil layers to the effects of weather and construction traffic and may result in subsoil erosion and generation of sediment laden surface water runoff. Chapter 9 sets out that the stripping of topsoil will be carried out in a controlled and carefully managed way and coordinated with the proposed staging for the development. Surface water runoff from areas stripped of topsoil will be directed to on-site settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate. Mitigation measures proposed such as the above will ensure that the potential impacts of the proposed development on soils and the geological environment do not occur during the construction phase.

16.2.11 Interactions between Land, Soils and Geology and Waste

Oil, fuel etc. storage areas are to be decommissioned on completion of the construction phase. Any remaining liquids are to be removed from site and disposed of at an appropriate licenced facility. The management of waste during the construction phase in accordance with the Construction and Demolition Waste Management Plan will meet the requirements

of regional and national waste legislation and promote the management of waste in line with the priorities of the waste hierarchy.

16.2.12 Interactions between Land, Soils and Geology and Air Quality

As set out in Chapter 9, dust generation can occur during extended dry weather periods as a result of construction traffic. Dust suppression measures (e.g. dampening down) will be implemented as necessary during dry periods). Chapter 11 notes that with the appropriate mitigation measures to prevent fugitive dust emissions, it is predicted that there will be no significant interactions between air quality and land, soils and geology.

16.2.13 Interactions between Air Quality and Traffic

Chapters 11 and 14 outline interactions between air quality and traffic. Interactions between air quality and traffic can be significant with increased traffic movements and reduced engine efficiency, i.e. due to congestion, the emissions of vehicles increase. The impacts of the proposed development on air quality are assessed by reviewing the change in annual average daily traffic on roads close to the site. Chapter 11 concludes that the impact of the interactions between traffic and air quality are considered to be not significant in the case of the subject development.

16.3 Cumulative Impacts

At the time of writing this Environmental Impact Assessment Report, it appears that there are no significant projects in the vicinity of the site seeking planning permission. We note that under SDCC Reg. Ref. SD18A/0227 [ABP Ref. ABP-304162-19], permission has recently been granted by An Bord Pleanála for 6 No. dwellings at a site to the northwest of the subject site (known as Mount Michael & Wits End, The Rookery, Scholarstown, Dublin 16). However, having regard to the separation distances provided and the existing buildings located between the subject site and the development at the Rookery when constructed, it is considered that no cumulative impacts will occur as a result of the proposed development.

There has been one other development project in the vicinity of the subject site in recent years, 'Scholarstown Wood' which was granted under SDCC Reg. Ref. SD15A/0017 [ABP Ref. PL06S.244732] (as amended). This development is located c. 550 No. metres from the subject site and has been reviewed and included within the traffic analysis for the Traffic and Transport Assessment. This application was granted in 2015 and has been incorporated into the TTA assessment as a 'committed development' with traffic generated from this proposed development applied to the base road network within the traffic excel model.

Any future development in the vicinity of the subject site would have to similarly undergo Traffic and Transport assessments to assess the potential cumulative impacts to the transport network.

Therefore, it is not proposed to include any specific measures for monitoring or mitigation to be undertaken in relation to cumulative impacts.

Interactions →	Population and Human Health	Archaeology	Architectural Heritage	Biodiversity	Landscape and Visual Impact	Land, Soils and Geology	Water-Hydrology	Air Quality and Climate	Noise and Vibration	Waste Management	Traffic and Transport	Site Services
Population and Human Health		✓		✓	✓		✓	✓	✓		✓	
Archaeology												
Architectural Heritage												
Biodiversity					✓	✓	✓					
Landscape and Visual Impact												
Land, Soils and Geology							✓	✓	✓	✓	✓	
Water-Hydrology												
Air Quality and Climate											✓	
Noise and Vibration											✓	
Waste Management												
Traffic and Transport												
Site Services												

17.0 MITIGATION AND MONITORING

A summary of mitigation measures and monitoring proposed throughout this Environmental Impact Assessment Report is set out in this section. We note that this is a summary of measures proposed and further detail should be sought in each individual chapter.

Chapter 4: Population and Human Health

- Implementation of a Dust Minimisation Plan, a Mobility Management Plan and Parking Strategy.
- The Contractor shall be responsible for overall management of the site for the duration of the proposed works and must progress their works with reasonable skill, care, diligence and to proactively manage the works in a manner most likely to ensure the safety and welfare of those carrying out construction works.
- The Contractor shall comply with all relevant Statutory requirements such as the 2005 Safety Health and Welfare at Work Act, The Construction Regulations (SI 291 of 2013), the General Application Regulations (SI 299 of2007), etc. (and any amendments thereof). In addition, the Contractor shall comply with all the reasonable safety requirements of the Client, the Project Supervisor for the Design Process and the Project Supervisor for the Construction Stage.
- A large quantum of the on-site employees will arrive in shared transport during construction therefore reducing the potential for associated temporary negative impacts on the surrounding road network.

Chapter 5: Archaeological and Cultural Heritage

- Mitigation measures shall be undertaken as directed by the DCHG in compliance with national policy guidelines and statutory provisions for the protection of archaeology and cultural heritage.
- It is acknowledged that archaeological excavation of the settlement cemetery is complete, and it is recommended that the archaeological post-excavation analysis and report preparation currently underway is brought to completion.
- Following mitigation of any impacts to the identified archaeological site, all ground disturbance works across the remainder of the development site should be monitored by a suitably qualified archaeologist. In the event that archaeological material is recorded during monitoring, further discussion/consultation with the DCHG should be sought in order to ascertain the appropriate treatment (i.e. preservation by record/preservation in situ) of any additional archaeological remains. Should the DCHG recommend preservation by record/full archaeological excavation, this work should be undertaken under the appropriate license.

Chapter 6: Architectural Heritage

- Avoidance of damage to the entrance, avenue and all lands pertaining to the protected structure Ros Mor will be included in a protection plan forming part of a detailed construction management plan.

- Remedial measures to supplement existing fencing to the shared boundary between Ros Mor and the subject development site will ensure that the characteristics of the boundary condition are restored to their present character on completion of the development. These will include protection of mature trees and planting during the construction phase that contribute to the sylvan character of the protected fabric of Ros Mor, which will be unaffected by the consolidation of fenced boundaries.

Chapter 7: Biodiversity

- If possible, site clearance works should proceed outside the nesting season, i.e. from September to February inclusive. If this is not possible, vegetation must first be inspected by a suitably qualified ecologist. If a bird nest is encountered then works must stop, until such time as nesting has ceased. Otherwise, a derogation licence must be sought from the NPWS to allow the destruction of the nest.

- All mature trees shall be checked for the presence of bats prior to felling. All the mature trees within the site shall be examined for the presence of bats prior to felling by a bat specialist. Should bats be noted in any tree, it is a protected structure and a derogation must be sought.

- As part of the post-construction phase, 12 No. artificial bat roosting boxes are to be installed at suitable locations (6 No. on trees and 6 No. on apartment buildings).

- Construction management should follow guidance from Inland Fisheries Ireland (2016).

- A Management Plan has been prepared by Invasive Plant Solutions regarding the patch of Three-Cornered Garlic and Spanish Bluebell which recommends that the area be cordoned off, not disturbed in any way and that spraying with herbicide occurs in Spring 2020 when the plant is in growth phase.

Chapter 8: Landscape and Visual Impact

- Site hoarding will be erected to restrict views of the construction activity e.g. standard 2.4 metres high construction hoarding.

- Establishment of tree protection measures as required (no-dig construction zones, tree protection fencing and existing hedgerow retention). Any trees which are not to be taken down shall remain undisturbed and undamaged.

- Tree protection fences if required are to be constructed in accordance with BS 5837:2012 "Trees in Relation to Design, Demolition and Construction - Recommendations".

- A 'Construction Exclusion Zone' notice shall be placed on tree protection fencing at regular intervals.

- Tree Protection Zones are not to be used for car parking, storage of plant, equipment or materials.

- A post construction re-assessment of any retained trees shall be carried out.

- At the operational stage, the provision, maintenance and management of a sensitively considered soft landscape design for the development which interacts with Hydrology (SuDS) and Biodiversity and the positioning of the built elements (e.g. lowest forms in most sensitive locations), assists in the integration and screening of the buildings within the existing landscape

- Effective tree and hedgerow protection measures must be established in advance of construction work commencing and an approved system of monitoring the on-going health and vigour of both existing and proposed planting will be necessary which will involve significant input from professionals.

- The monitoring of the planting performance and suitably appropriate responses to ensure same will be essential to the success of the development as proposed.

Chapter 9: Land, Soils and Geology

- Stripping of topsoil will be carried out in a controlled and carefully managed way and coordinated with the proposed staging for the development.

- Excavation of existing subsoil layers has been minimised.

- Topsoil and subsoil stockpiles will be protected for the duration of the works (and will be located separately).

- Surface water runoff from areas stripped of topsoil will be directed to on-site settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge of surface water at a controlled rate.

- Importation of fill to site will be required. No large or long-term stockpiles of fill material will be held on the site. At any time, the extent of fill material held on site will be limited to that needed in the immediate vicinity of the active work area.

- Earthworks plant and vehicles delivering construction materials to site will be confined to predetermined haul routes around the site.

- Vehicle wheel wash facilities will be installed in the vicinity of any site entrances and road sweeping implemented as necessary in order to maintain the road network in the immediate vicinity of the site.

- Dust suppression measures (e.g. dampening down) will be implemented as necessary during dry periods.

- In order to mitigate against spillages contaminating underlying soils, all oils, fuels, paints and other chemicals will be stored in a secure bunded hardstand area.

- Refuelling and servicing of construction machinery will take place in a designated hardstand area which is also remote from any surface water inlets (when not possible to carry out such activities off site).

- Monitoring will include the adherence to the Preliminary Construction Management Plan and monitoring works during construction phase. No monitoring is proposed on completion of the construction phase.

Chapter 10: Water-Hydrology

- A site-specific Construction and Environment Management Plan will be developed and implemented during the construction phase.

- Surface water runoff from areas stripped of topsoil and surface water collected in excavations will be directed to on-site settlement ponds where measures will be implemented to capture and treat sediment laden runoff prior to discharge to the surface water network at a controlled rate. Weather conditions and typical seasonal weather variations will also be taken account of when planning stripping of topsoil and excavations with an objective of minimising soil erosion.

- All oils, fuels, paints and other chemicals should be stored in a secure bunded hardstand area.

- Concrete batching will take place off site and wash down and wash out of concrete trucks will take place off site.

- Permeable paving proposed in on street parking.

- A contract will be entered into with a suitably qualified contractor from maintenance of the attenuation system, Hydrobrake and full retention fuel / oil separator.

- Monitoring will include:

    - Adherence to Outline Construction Management Plan.
    - Inspection of fuel / oil storage areas.
    - Monitoring cleanliness of adjacent road network, implementation of dust suppression and vehicle wheel wash facilities.
    - Monitoring sediment control measures (sediment retention ponds, surface water inlet protection etc.).
    - Monitoring of discharge from sediment retention ponds (e.g. pH, sediment content.
    - An inspection and maintenance contract are to be implemented in relation to the proposed Class 1 full retention fuel / oil separators for the operational stage.

Chapter 11: Air Quality and Climate

- A Dust Minimisation Plan will be formulated for the construction phase of the project and will include measures such as:

    - Sweeping hard surface roads.
    - Watering any road which has the potential to give rise to fugitive dust.
    - Vehicles exiting the site to make use of a wheel wash facility.

- Erection of hoarding or screens during construction.

- Monitoring of construction dust deposition at these nearby sensitive receptors during the construction phase of the proposed development is recommended. Monitoring can be carried out using the Bergerhoff method in accordance with the requirements of the German Standard VDI 2119.

Chapter 12: Noise and Vibration

- Best practice noise and vibration control measures will be employed by the contractor during the construction phase in order to avoid significant impacts at the nearest sensitive buildings.

- Mitigation will include:

  - selection of quiet plant;
  - noise control at source;
  - screening; and
  - liaison with the public.

During construction, the contractor will be required to undertake regular noise monitoring at locations representative of the closest sensitive locations to ensure the relevant criteria are not exceeded. Any noise complaints will be logged and followed up in a prompt fashion by the liaison officer.

Chapter 13: Material Assets - Waste Management

- A project specific Construction & Demolition Waste Management Plan (C&D WMP) and Operational Waste Management Plan (OWMP) have been prepared for the proposed development.

- Adherence to the high-level strategy presented in this C&D WMP will ensure effective waste management and minimisation, reuse, recycling, recovery and disposal of waste material generated during the demolition, excavation and construction phases of the proposed development.

- Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site.

- During construction, on-site segregation of waste materials will be carried out, left over materials shall be reused where possible and all construction staff will be provided with training regarding the waste management procedures for example.

- The management of waste during the construction phase should be monitored to ensure compliance with relevant local authority requirements, and effective implementation of the C&D WMP including maintenance of waste documentation. The C&D WMP specifies the need for a waste manager to appointed who will have

responsibility to monitor the actual waste volumes being generated and to ensure that contractors and sub-contractors are segregating waste as required.

- During the operation stage, the implementation of the OWMP will ensure a high level of recycling, reuse and recovery at the development. All recyclable materials will be segregated at source to reduce waste contractor costs and ensure maximum diversion of materials from landfill.

- All recyclable materials will be segregated at source to reduce waste contractor costs and ensure maximum diversion of materials from landfill.

- On-site segregation of waste materials will be carried out during operation stage, in addition to providing colour coded bins and ensure that all waste collected will be reused, recycled or recovered where possible.

- The management of waste during the operational phase should be monitored to ensure effective implementation of the OWMP by the building management company and the nominated waste contractor(s).

Chapter 14: Material Assets - Traffic and Transportation

- A Traffic Management Plan (TMP) will be prepared for the site works.

- All construction related parking will be provided on site. It is anticipated that the generation of HGVs during the construction period will be evenly spread throughout the day and as such will not impact significantly during the peak traffic periods.

- Truck wheel washes will be installed at construction entrances and any specific recommendations with regard to construction traffic management made by South Dublin County Council will be adhered to.

- A Mobility Management Plan (MMP) and Parking Strategy document have been prepared by DBFL Consulting Engineers. These documents will help encourage the use of sustainable transport modes as a means of accessing the development rather than a reliance on the private vehicle.

- The upgraded facilities and proposed walking and cycle routes through the site will provide safe and attractive routes for residents and will encourage the use of more sustainable modes of travel.

Chapter 15: Material Assets - Site Services

- Provision of connections to the existing electricity, gas and telecommunications networks are to be coordinated with the relevant utility provider and carried out by approved contractors.

Cumulative Impacts

- It is not proposed to include any specific measures for monitoring or mitigation to be undertaken in relation to cumulative impacts as the neighbouring

development 'Scholarstown Wood' located c.500 No. metres from the site, which was granted under SDCC Reg. Ref. SD15A/0017 [ABP Ref. PL06S.244732] (and amended) has been reviewed and included within the traffic analysis for the Traffic and Transport Assessment. This application was granted in 2015 and has been incorporated into the TTA assessment as a 'committed development' with traffic generated from this proposed development applied to the base road network within the traffic excel model.

Any future development in the vicinity of the subject site would have to similarly undergo Traffic and Transport assessments to assess the potential cumulative impacts to the transport network.

We note that under SDCC Reg. Ref. SD18A/0227 [ABP Ref. ABP-304162-19], permission has recently been granted by An Bord Pleanála for 6 No. dwellings at a site to the northwest of the subject site (known as Mount Michael & Wits End, The Rookery, Scholarstown, Dublin 16). However, having regard to the separation distances provided and the existing buildings located between the subject site and the development at the Rookery when constructed, it is considered that no cumulative impacts will occur as a result of the proposed development.

18.0 DIFFICULTIES ENCOUNTERED

There have been no significant difficulties encountered during the preparation and compilation of this Environmental Impact Assessment Report.

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