ENVIRONMENTAL IMPACT ASSESSMENT REPORT

VOLUME I NON-TECHNICAL SUMMARY

PROPOSED RESIDENTIAL DEVELOPMENT
AT
CLONBURRIS TILE 2 – CUCS3 & CSWS3
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LIST OF ABBREVIATIONS

AA Appropriate Assessment

ABP An Bord Pleanála

CDP County Development Plan

CMP Construction Management Plan

CA Competent Authority

CSO Central Statistics Office

DAHG Department of Arts, Heritage and the Gealtacht

DCENR Department of Communications, Energy and Natural Resources

DEHLG Department of Housing, Planning and Local Government

EIA Environmental Impact Assessment

EIAR Environmental Impact Assessment Report

EMP Environmental Management Plan

EPA Environmental Protection Agency

ESRI Economic and Social Research Institute

FMP Forest Management Plan

GDP Gross Domestic Product

GSI Geology Survey Ireland

IAA Irish Aviation Association

IEEM Institute of Ecology and Environmental Management

IFI Inland Fisheries Ireland

NHA/pNHA Natural Heritage Area / proposed Natural Heritage Area

NIAH National Archive of Architectural Heritage

NPWS National Parks and Wildlife Service

NRA National Roads Authority

NPF National Planning Framework

OPW Office of Public Works

RMP Record of Monuments and Places

RPG Regional Planning Guidelines

RPS Record of Protected Structures

SAC Special Area of Conservation

SDCC South Dublin County Council

SMR Sites and Monuments Record

SPA Special Protection Area

SUDS Sustainable Drainage System

TMP Traffic Management Plan

WFD Water Framework Directive

GLOSSARY OF TERMS[1]

Alternatives *A description of other options that may have been considered during the conception of a project; these include alternative locations, alternative designs and alternative processes.*

Baseline Scenario *The current state of environmental characteristics – including any evident trends in its status.*

Competent Authority (CA) *The term 'competent authority' means the Minister or public authority to which an EIAR is required to be submitted, i.e. the authority charged with examining an EIAR with a view to issuing a consent to develop or operate.*

Development *A project involving new works [including alteration and/or demolition] or altered patterns of activity.*

'Do-nothing' Scenario *The situation or environment which would exist if a proposed, development, project or process were not carried out. This scenario needs to take account of the continuation or change of current management regimes, as well as the continuation or change of trends currently evident in the environment.*

Effect / Impact *A change resulting from the implementation of a project.*

Environmental Impact Assessment – EIA *The process of examining the anticipated environmental effects of a proposed project – from consideration of environmental aspects at design stage, through consultation and preparation of an Environmental Impact Assessment Report (EIAR), evaluation of the EIAR by a competent authority, and the subsequent decision as to whether the project should be permitted to proceed, encompassing public response to that decision.*

Environmental Impact Assessment Report *– EIAR A report or statement of the effects, if any, that the proposed project, if carried out, would have on the environment. EPA The Environmental Protection Agency.*

Impact / Effect *A change resulting from the implementation of a project*

Impact Avoidance *The modification of project decisions (about site location or design, for example) having regard to predictions about potentially significant environmental effects.*

[1] Selected – From Guidelines on the information to be contained in Environmental Impact Assessment Reports – EPA, May 2022

Infrastructure *The basic structure, framework or system which supports the operation of a project, for example roads and sewers, which are necessary to support development projects.*

Land Use *The human activities which take place within a given area of space.*

Likely Effects (or Likely Impacts) *The effects that are specifically predicted to take place – based on an understanding of the interaction of the proposed project and the receiving environment. (See also Potential Effects and Residual Effects.)*

Methodology *The specific approach or techniques used to analyse impacts or describe environments.*

Mitigation Measures *Measures designed to avoid, prevent or reduce impacts. These measures can mitigate impacts: \ by Avoidance When no impact is caused (often through consideration of alternatives). \ by Prevention When a potential impact is prevented by a measure to avoid the possibility of the impact occurring. \ by Reduction When an impact is lessened.*

Monitoring *The observation, measurement and evaluation of environmental data to follow changes over a period of time, to assess the efficiency of control measures and to record any unforseen effects in order to be able to undertake appropriate remedial action. This is typically a repetitive and continued process carried out during construction, operation or decommissioning of a project.*

Pathway *The route by which an effect is conveyed between a source and a receptor.*

Planning Application Report *Documentation that accompanies the planning application which describes the conformity of the proposal with relevant legislation and planning matters – such as the County, City or Local Area Plans – and sectoral policies, as well as social and economic activity.*

Pollution *Any release to the environment which has a subsequent adverse effect on the environment or man.*

Potential Effect/ Impact *The effect / impact that would occur without mitigation.*

Processes *The activities which take place within a project.*

Project *For the purposes of the Guidelines, the term project is used to encompass all of the various forms of development, works and activity which are subject to EIA requirements, as set out in the relevant legislation and as understood by the Directive.*

Sensitivity *The potential of a receptor to be significantly affected. Significance (of impact) The importance of the outcome of the impact (or the consequence of change) for the receiving environment. Source The activity or place from which an effect originates.*

1.0 INTRODUCTION & METHODOLOGY

1.1 Introduction

This '*Non-Technical Summary'* (NTS) relates the construction of 594 no. apartments, creche (609 sq.m), commercial office floorspace (c. 4,516 sq. m), 4 no. retail units (c. 887.5 sq.m) on a site of c. 5.18 hectares along with public open space of c. 1.42 hectares.

This Volume of the EIAR was prepared by Rory Kunz, BA (MOD), MScERM, MAT&CP, Dip EIA Mgmt., Executive Director with John Spain Associates.

Rory Kunz has a Masters in Environmental Resource Management and a Diploma in EIA Management (both from UCD) as well as a Masters in Town and Country Planning. In addition, Rory is a corporate member of the of the Irish Planning Institute and has 19 years of experience of Environmental Impact Assessment and urban development.

Rory has acted as lead planning consultant on a range of high-quality complex planning applications across the country over an extended period. Rory has wide-ranging experience in the management and review of Environmental Impact Assessment Reports (EIAR) for major residential and mixed-use development and redevelopment projects.

The central purpose of the Environmental Impact Assessment Report (EIAR) is to undertake an appraisal of the likely and significant impacts on the environment of the proposed development in parallel with the project design process, and to document this process in the EIAR. This is then submitted to the competent/ consent authority to enable it assess the likely significant effects of the project on the environment. This assessment will then inform the decision as to whether the development should be permitted to proceed.

A full description of the proposed development lands together with a description of the proposed development is provided in Chapter 2 Volume 2 of the EIAR document.

1.2 Requirement for EIA (Screening)

Screening is the term used to describe the process for determining whether a proposed development requires an EIA by reference to mandatory legislative threshold requirements or by reference to the type and scale of the proposed development and the significance or the environmental sensitivity of the receiving baseline environment.

Article 4(1) of the EIA Directives requires as mandatory the preparation of an EIA for all development projects listed in Annex I of the Directive.

Article 4(2) of the EIA Directives provides EU Member States discretion in determining the need for an EIA on a case-by-case basis for certain classes of project listed in Annex II of the Directives having regard to the overriding consideration that projects likely to have significant effects on the environment should be subject to EIA.

Schedule 5 (Part 2) of the Planning & Development Regulations 2001 (as amended) set mandatory thresholds for each of the projects of a type listed in Annex II of the EIA Directives, which if exceeded will require such a project to be subject to an EIA.

Paragraph 10((b)(i) refers to Infrastructure projects comprising the construction of more than 500 dwelling units. The proposed development which comprises 594 no. dwellings is above the threshold and EIA is required.

1.3 Purpose of This EIAR

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

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

1.4 Information to be contained in a non-technical summary

This Non-Technical Summary (NTS) has been prepared in accordance with *inter alia* the requirements of the EU 2014 EIA Directive, Planning and Development Acts 2000 (as amended) as well as the Planning and Development Regulations, 2001, as amended (in particular by the European Union (Planning & Development) (Environmental Impact Assessment) Regulations 2018 (as amended).

1.5 EIA Process Overview

One of the main purposes of the EIA process is to identify the likely significant impacts on the human environment, the natural environment and on cultural heritage associated with the proposed development, and to determine how to eliminate or minimise these impacts. The EIAR summarises the environmental information collected during the impact assessment of the proposed development.

A new definition of environmental impact assessment is now contained in Section 170A of the Planning and Development Act, 2000, as amended which reflects to the process as described under Article 1(2)(g) 4 of Directive 2014/52/EU and goes on to say that it includes:

(i) an examination, analysis and evaluation, carried out by the planning authority or the Board, as the case may be, in accordance with this Part and regulations made thereunder, that identifies, describes and assesses, in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of the proposed development on the following:
(I) population and human health;
(II) biodiversity, with particular attention to species and habitats protected under the Habitats Directive and the Birds Directive;
(III) land, soil, water, air and climate;
(IV) material assets, cultural heritage and the landscape;
(V) the interaction between the factors mentioned in clauses (I) to (IV), and
(ii) as regards the factors mentioned in subparagraph (i)(I) to (V), such examination, analysis and evaluation of the expected direct and indirect significant effects on the environment derived from the vulnerability of the proposed development to risks of major accidents or disasters, or both major accidents and disasters, that are relevant to that development;
Several interacting steps typify are involve in the various stages of the EIA process, which may be referred to in outline as including:

- Screening;
- Scoping;
- Preparation of EIA Report;
- The examination by the Competent Authority (CA) of the information presented in the environmental impact assessment report;

Screening: Screening is the term used to describe the process for determining whether a proposed development requires an EIA.

Scoping: This stage firstly identifies the extent of the proposed development and associated site, which will be assessed as part of the EIA process, and secondly, it identifies the environmental issues likely to be important during the course of completing the EIA process through consultation with statutory and non-statutory stakeholders. Where relevant, scoping requests were issued and the responses received have been considered as part of the compilation of the EIAR. The content of the EIAR has been informed by national guidelines, guidelines issued by the European Commission and other policy documents which are set out at Section 1.4 of the EIAR. In addition, pre-planning meetings with the various departments of South Dublin County Council.

Preparation of EIAR Report: The main elements in the preparation of an EIA Report relate to the consideration of alternatives, project description, description of the receiving environment, identification and assessment of impacts, monitoring and mitigation proposals.

The examination by the CA of the information presented in the environmental impact assessment report. The planning authority and An Bord Pleanála must consider each application for development consent on its own merits, taking into account all material considerations, including the reasoned conclusion in respect of EIA, before making its decision to grant, with or without conditions, or to refuse consent.

1.6 Format and Structure of The EIAR

1.6.1 EIAR Structure

The structure of the EIAR is laid out in the preface of each volume for clarity. It consists of three volumes as follows:

- Volume I: Non-Technical Summary (this document).
- Volume II: Environmental Impact Assessment Report.
- Volume III: Appendices.

Volume II is the main volume of the EIAR. It provides information on the location and scale of the proposed development, details on design and impacts on the environment (both positive and negative) as a result of the proposed development. Each of the environmental aspects as listed below are examined in terms of the existing or baseline environment, identification of potential construction and operational stage impacts and where necessary proposed mitigation measures are identified. Volume III: Technical Appendices (Volume III contains specialists' technical data and other related reports).

1.6.2 EIAR Volume II Structure

The preparation of an EIAR requires the assimilation, co-ordination and presentation of a wide range of relevant information in order to allow for the overall assessment of a proposed development. For clarity and to allow for ease of presentation and consistency when considering the various elements of the proposed development, a systematic structure is used for the main body of this EIAR document. The structure used in this EIAR document is a "*Grouped Format structure".* This structure examines each environmental topic in a separate chapter of this EIAR document. The structure of the EIAR Volume II document is set out in Table 1.1 below.

Table 1.1 – Structure of this EIAR

Chapter	Title
1	Introduction and Methodology
2	Project Description and Alternatives Examined
3	Population and Human Health
4	Biodiversity
5	Land and Soils
6	Water
7	Air Quality and Climate
8	Noise and Vibration
9	Landscape & Visual Impact
10	Material Assets - Traffic
11	Material Assets – Waste Management
12	Material Assets – Utilities
13	Archaeology and Architectural and Cultural Heritage
14	Risk Management for Major Accidents and / or disasters
15	Interactions of the Foregoing
16	Summary of Mitigation and Monitoring Measures

1.7 Availability of EIAR Doc

A copy of this EIAR document and Non-Technical Summary of the EIAR document is available for purchase at the offices of South Dublin County Council at a fee not exceeding the reasonable cost of reproducing the document.

1.8 Statement of Difficulties Encountered

No particular difficulties, such as technical deficiencies or lack of knowledge, were encountered in compiling any of the specified information contained in this statement, such that the prediction of impacts has not been possible. Where any specific difficulties were encountered these are outlined in the relevant chapter of the EIAR.

1.9 Errors

While every effort has been made to ensure that the content of this EIAR document is error free and consistent there may be instances in this document where typographical errors and/or minor inconsistencies do occur. These typographical errors and/or minor inconsistencies are unlikely to have any material impact on the overall findings and assessment contained in this EIAR.

1.10 EIAR Study team

The EIAR was prepared by a study team led by John Spain Associates, who were responsible for the overall management and co-ordination of the document. The EIAR team is set out in Chapter 1 of Volume II of the EIAR.

2.0 PROJECT DESCRIPTION AND ALTERNATIVES EXAMINED

2.1 Description of the Location of the Project

The subject site of circa 5.18 hectares is located in a Strategic Development Zone (SDZ) in Clonburris, to the west of the M50, Co. Dublin. The SDZ lands consist of approximately 280 hectares within the established suburban context of Lucan, Clondalkin and Liffey Valley.

The subject site is the third phase of a multi-phase development intended to deliver a new community of the western edge of Dublin.

Figure 2.1 – Site Location

Source: Altu Architects

Figure 2.2 – Overall Layout

Source: Altu Architects

2.2 Description of the Physical Characteristics of the Whole Proposed Development

2.2.1 Main Characteristics of the Operational phase of the project

The Site Layout Plan (figure 2.4) prepared by ALTU Architects shows the Main Development Area layout in context.

2.2.2 Demolition

There is no demolition of habitable or any other structures relating to the proposed development.

2.3 Information on the site, Design and Size of the proposed development

2.3.1 Summary

Table 2.1 – Summary of Key Site/Development Statistics

Site Area	5.18 ha.
No. of Apartments	594
Density	114 units per hectare
Creche	609 sq. m
Commercial Office Floorspace	4,516 sq. m
4 no. retail/retail service units	887.5 sq. m

Public Open Space	1.42 Hectares Urban Space – 0.52 hectares Eastern Linear Park – 0.72 hectares Main Street Axis 0.18 hectares
Communal Open Space	5,047 (3,674 sq. m required Apartment Guidelines 2020)
Internal Communal Resident Facilities (Multipurpose room, gym, meeting room, concierge	685.6 sq. m
Building Heights	4-7 storeys
Dual Aspect	43%
Car Parking	396
Motorcycle spaces	16
Bicycle Parking	1,232
Total Gross Floor Area (excluding plant, bin, bike stores)	60,097 sq. m

Source: ALTU Schedule of Areas

2.3.1.1 Summary of Apartments

The overall mix across the 2 no. Development Areas is as follows:

Table 2.2 – Overall Dwelling Mix

	1 bedroom	2 bedroom (3 person)	2 bedroom (3 person)	3 bedroom	Overall
Apartments	255	38	36	32	594
Overall Mix	255	38	36	32	594
	42.9%	6.4%	45.3%	5.4%	

Source: ALTU Architects Schedule of Areas

A total of 594 residential units, circa 6,012 sq.m of commercial development, consisting of a creche, office floorspace and retail units have been proposed to meet the requirements of the Planning Scheme.

Table 2.3 – Overall Dwelling Mix – Development Areas CUC-S3 & CWS-S3

	1 bedroom	2 bedroom (3 person)	2 bedroom	3 bedroom	Overall
Apartments (Development Area CUC-S3	239	34	224	32	529
Apartments (Development Area CSW-S3)	16	4	45		65
	255	38	269	32	594

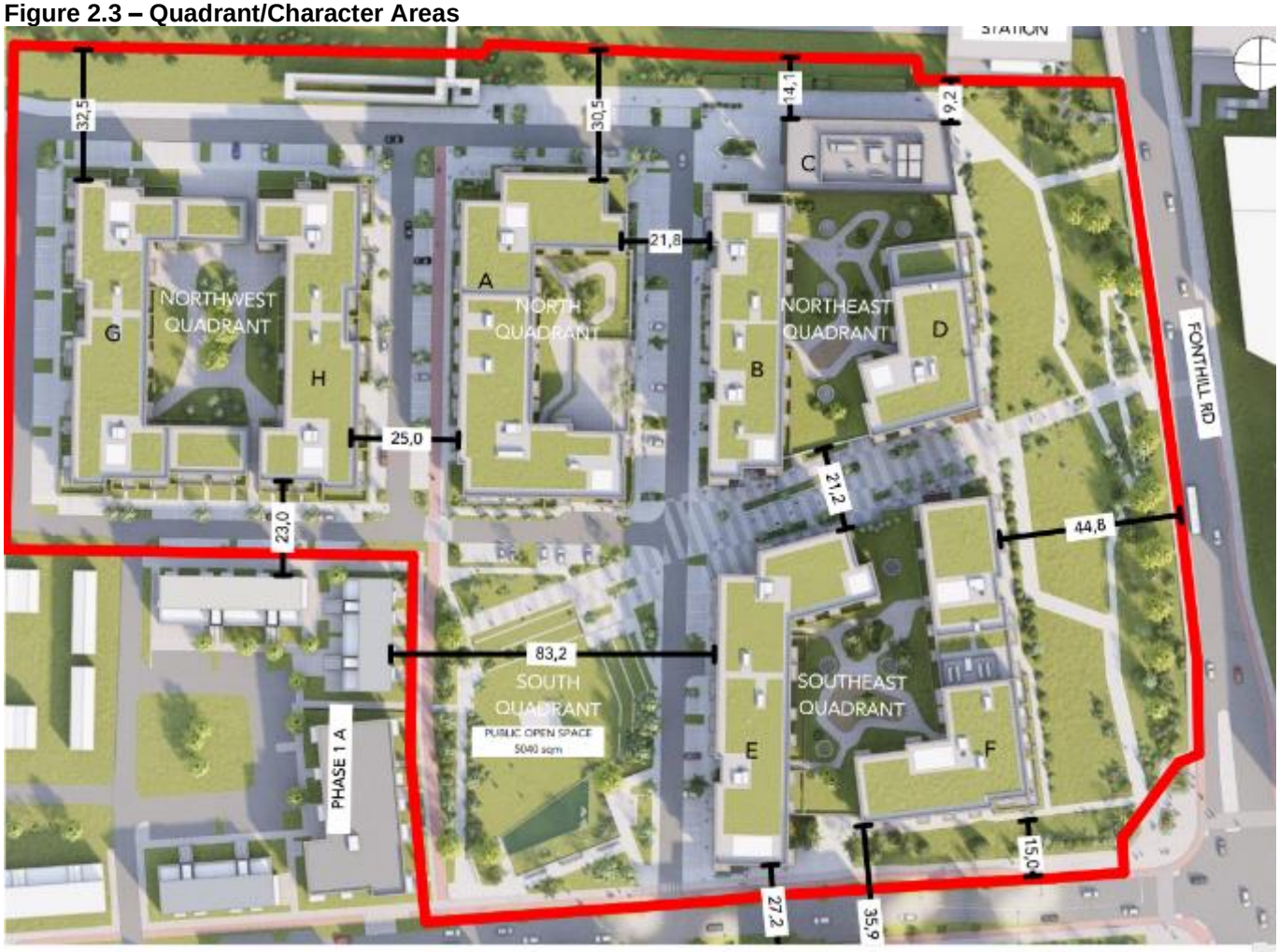
Source: ALTU Architects Schedule of Areas

A wide variety of apartment typologies are included in the proposal, including 1-bed, 2-bed and 3-bed apartments.

To date, across the Clonburris South-West Development Area, some 4.41 hectares of public open space has been permitted under SDCC Reg. Ref. SDZ21A/0022 comprising the local park (c.1.56ha) adjacent to the T3 lands subject of this application, and a portion of the wider Grand Canal Park (c. 2.85ha), totalling 4.41 Hectares, located to the south.

It is also proposed to provide 0.5047 ha. of public open space to include a significant green public urban square and 685.6 sqm of communal open space for residential blocks D and F as part of the residential scheme on the subject lands.

Figure 2.3 – Quadrant/Character Areas



Source: Altu Architects

2.3.2 Character Area 1 - North Quadrant (CUC-S3)

The urban block, comprising a single C shape structure (Block A), enclosing a communal open space at podium level on 3 sides, is located adjacent to development sector CSW-S3 to the west and railway line to the north.

Table 2.4 – North Quadrant (Block A)

	1 bedroom	2 bedroom (3 person)	2 bedroom	3 bedroom	Overall
Block A	36	7	41	12	96

2.3.3 Character Area 2 - Northeast Quadrant (CUC-S3)

This urban block, consisting of 3 distinct structures, again enclosing a communal open space at podium level on all sides. A residential building (Block B) fronting on to Block A, thus enclosing the communal open space in Character Area 1.

Within this character, commercial building (Block C) is appropriately located to the north, adjacent to Clondalkin/Fonthill Road Railway Station to act as a landmark or nodal building. A commercial building has been designed at this location as a landmark building adjacent to the transport hub.

The office floor plate has been designed to the maximum efficiency which also allows for flexibility with subdivision on a floor to floor basis. The main entrance fronts a plaza on the western elevation that includes a vehicle drop of area. A secondary pedestrian entrance is located on the eastern side to facilitate access to the train station.

Building design as opposed to building height is the key determinant in producing an acceptable Landmark Building. Therefore, it should be designed in a manner that is distinctive from surrounding buildings both in terms of architectural treatment and use of materials. The office use is situated in the landmark building adjacent to the railway station in Block C. Architectural diversity and a vibrant mix of finishes, colour and detailing is used to identify the building within the urban centre (CUC-S3).

Figure 2.4 – Block C – Landmark Building

Source: Altu Architects

The window to wall ratio has been carefully considered, especially for the commercial office building. A cement board cladding material has been selected to differentiate the building from the other residential blocks.

Another corner residential building (Block D) in this urban block, providing an edge to Fonthill Road and landscaped pedestrian and cyclist connection over the wayleave from Grand Canal and pedestrian linkage from the urban square.

Table 2.5 – North East Quadrant (Block B and D)

	1 bedroom	2 bedroom (3 person)	2 bedroom	3 bedroom	Overall
Block B	44	9	19	5	77
Block D	39		32		71
	83	9	51	5	148

Figure 2.5 – Internal Street – Block D

Source: Altu Architects

2.3.4 Character Area 3 - South Quadrant (CUC-S3)

Clonburris Square is well prescribed and conceived in the Planning Scheme. A quality landscape public space with a biodiversity pond is at a prominent location, at the heart of all development sectors in Clonburris, connecting to sectors CSW-S3 and CSW-S4, through CUC-S3 to the transport hub.

2.3.5 Character Area 4 - Southeast Quadrant (CUC-S3)

This urban block, comprising 2 L-Shape structures enclosing a communal open space at podium level, is located at the junction of Fonthill Road and the permitted East West Clonburris Southern Link Street (CSLS), linking to R136.

Table 2.6 – South Quadrant (Blocks E and F)

	1 bedroom	2 bedroom (3 person)	2 bedroom	3 bedroom	Overall
Block E	47	9	39	5	100
Block F	57	9	52	6	124
	104	18	91	11	224

The prominent location of this urban block at the south-eastern side of the main entrance to the scheme together with its proximity to Apartment Block 1 in CSW-C4, has prompted a collaborative design response to reflect the 'gateway' nature and appropriate settings at this location.

Figure 2.6 – Block E

Source: Altu Architects

Block E an east-west facing apartment block, addresses the urban square with height and scale, and one end, signify the pedestrian link to the transport hub and another marking the vehicular entrance to the development.
The majority of retail uses are located at street level on Block E providing a busy and active frontage onto Clonburris Square.

Block F, mirroring its form from CSW-S4, provides a strong urban edge to the east and south. The existence of the gas wayleave and existing change of levels from the permitted junction at Fonthill Road, prompted a design response to increase in building quality and height to address its gateway nature but not competing with the landmark element to the north of the sector adjacent to the station.

A significant break between both blocks E and F on the southern side allows for maximum daylight and sunlight penetration to the communal open space in the middle of the urban block.

2.3.6 Character Area 5 - Northwest Quadrant (CSW-S3)

This urban block comprising 2 mirrored c-shape residential blocks, enclosing a communal open space at street level. This quadrant is a part of CSW-S3 which adjoins CUC-S3 to the east, railway line to the north and CSW-S4 to the south.

Figure 2.7 – Block G - H

Source: Altu Architects

Table 2.7 – South Quadrant (Blocks G and H)

	1 bedroom	2 bedroom (3 person)	2 bedroom	3 bedroom	Overall
Block G	16	4	41	4	65
Block H	16	0	45	0	61
	32	4	86	4	126

2.3.6.1 Communal Open Space

Communal open space is provided within the Development Area consisting of 1,398 sq. m, comprising 1,698 sq.m for the apartments, and 840 sq. m for the duplex units.

2.4 Access and Parking

2.4.1 Vehicle Access

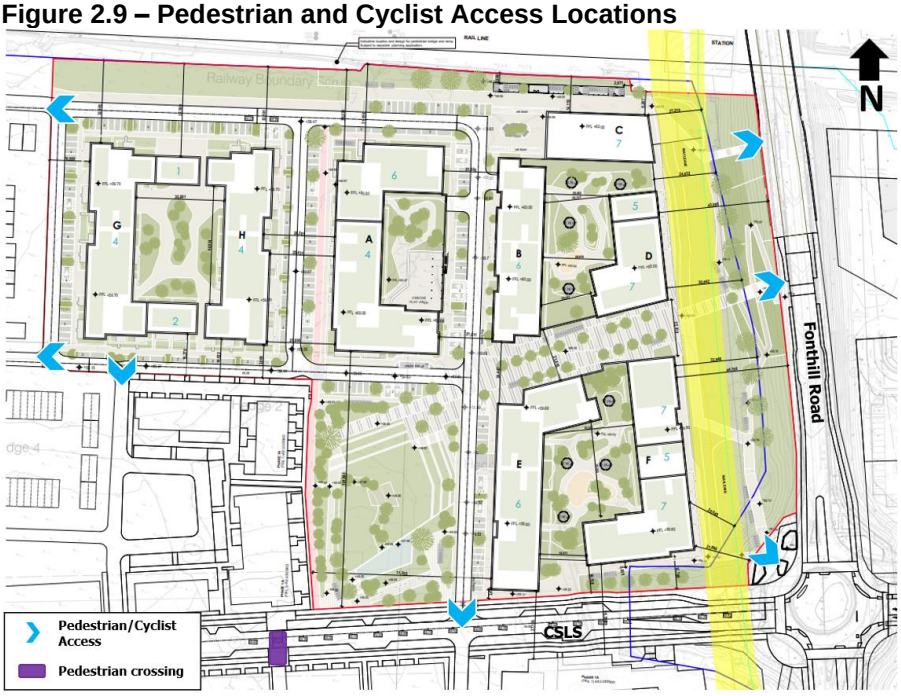
The main vehicular accesses to/from the subject development will be provided via the Clonburris Southern Link Street, as shown below. In addition to this access there will be two vehicular access to proposed developments on the western border of the site. All of the vehicle accesses are in the form of priority junctions.

Figure 2.8 – Vehicle Access Locations

2.4.2 Pedestrian and Cyclist Access

The vehicular accesses will also be accessible to both pedestrian and cyclists. There are three additional pedestrian access points on the eastern boundary of the site as shown below. These non-vehicular access points provide filtered permeability, ensuring shorter walking and cycling distances and increasing the attractiveness of these sustainable modes.

Figure 2.9 – Pedestrian and Cyclist Access Locations



2.4.3 Car Parking

It is proposed that the 594 no. apartments will be provided with 330 no. car parking spaces, (0.56/ unit), 166 no. car parking spaces will be provided undercroft and 101 no. car parking spaces will be provided on the surface. Additionally, 20 no. mobility impaired car parking spaces, 39 no. electric vehicle car parking spaces and 4 no. car sharing car parking spaces will be provided undercroft for the apartments. Additionally, 44 no. car parking spaces are provided for the offices, (32 no. on the surface, 12 no. undercroft including 8 no. electric vehicle car parking spaces), 17 no. car parking spaces are provided for the retail units on the surface and 5 no. car parking spaces are

provided for the creche, (2 no. on the surface and 3 no. undercroft). The proposed development will provide 396 no. car parking spaces in total.

Table 2.8 – Car Parking Provision

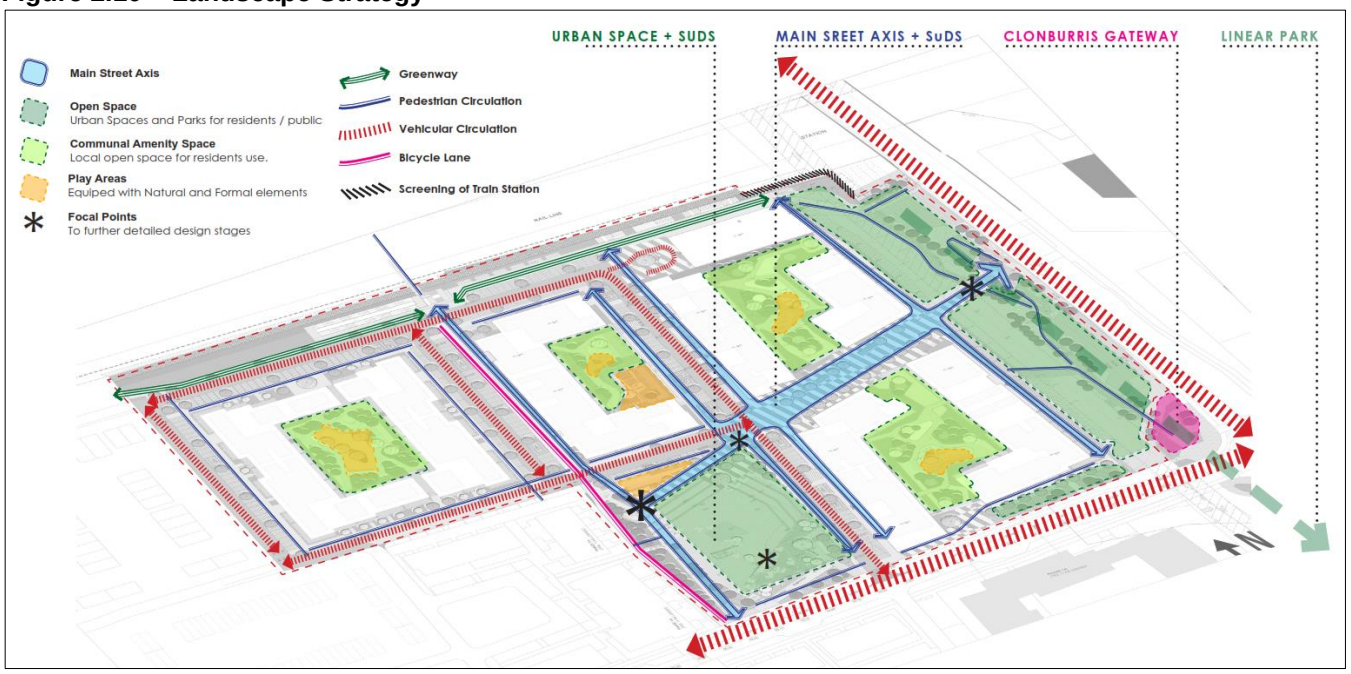
	Surface	Undercroft	Universal Access	Electrical Vehicle	Car Sharing	Total
Office	32	4		8		44
Apartment	101	166	20	39	4	330
Retail	17					17
Creche	2	3				5
Total	152	173	20	47	4	396

Source: Altu Architects

2.5 Landscaping

The Landscape Design Statement prepared by Murray Associates sets out the Landscaping Strategy for the subject lands.

Figure 2.10 – Landscape Strategy



Source: Murray Associates

There are three main public open spaces identified within the T2 Lands. The Urban Space (0.52ha), a portion of the linear park (0.72ha) to the east, both connected by the Main Street Axis, totalling 1.42ha.

Figure 2.11 – Landscape Masterplan

Source: Murray Associates

Figure 2.12 – Main Street Axis

Source Murray Associates

2.5.1 Urban Space

The Urban Space provides a range of robust amenities integrated within the urban centre and becoming its focal point for the SDZ.

A Play Area is positioned to the north-west of the open space. Taking advantage of the level difference, there's amphitheatre-type seating where the design is adapted so that the required volume for the attenuation pond achieved. The space itself acts as a detention basin to cater for the 1:100-year stormwater runoff.

Visible SuDS send a sustainable message to the communities. Permeable pavement is proposed throughout. The grassed area can be reached by ramps to allow for universal access and there's also accessible seating.

Permeable paving is proposed for all pedestrian areas. Green roofs, SuDS tree pits, bioretention swales and planter areas, rain gardens and run off drainage all work together to make full use of the proposed SuDS area - the resulting combined flows are directed to it, where they get collected, going through further attenuation, filtration and infiltration.

Figure 2.13 – Urban Space

Source Murray Associates

2.5.1 Communal Open Space

With reference to Appendix 1 of the Apartment Guidelines 2020, communal open space the proposed development would require a communal open space provision of 3,674 sq. m. The communal open space provided of c. 5,047 sq. m is substantially above the requirements.

2.6 Services

The proposed site will benefit from trunk infrastructure proposed as part of the Clonburris Infrastructure Development for which planning has been granted in August 2021 under planning reference SDZ20A/0021. The CSLS includes trunk road, drainage, watermain and utility infrastructure to serve the Clonburris Strategic Development Zone lands to the south of the Kildare/Cork Railway Line which includes the subject site.

2.6.1 Foul Sewer

A Water and Wastewater Design Report has been prepared by DBFL for the overall Clonburris SDZ. As part of the CSLS application, a trunk foul sewer is to be constructed within the CSLS. It is proposed that the wastewater generated from the new houses and apartments for this application will be collected by new gravity sewers that discharges to the trunk sewer within the new Link Road. Foul water from Blocks G and H will drain west through the Clonburris Phase T3 and then discharge into the CSLS trunk sewer. This in turn discharges to a future Irish Water pumping station adjacent to the R113 Fonthill Road. This future pumping station and its rising main connection to the existing 9B trunk sewer on Fonthill Road is being delivered by Irish Water as part of the Irish Water Clonburris Local Infrastructure Housing Activation Fund (LIHAF) Scheme. The pump station is currently at planning application stage with SDCC under planning reference SDZ21A/0006.

2.6.2 Water Supply

The Water and Wastewater Design Report prepared by DBFL sets out a strategy for the water infrastructure to be constructed as part of the Joint Infrastructure Works (JIW) for the overall Clonburris SDZ. 200mm, 300mm and 400mm internal diameter trunk watermains are proposed to supply the site in order to satisfy the water requirement of the SDZ lands. DBFL have further developed the water supply strategy within the SDZ planning scheme through consultation with Irish Water and the preparation of preliminary watermain layouts. A number of trunk watermains are proposed along the main Arterial and Link Streets as shown in Figure 12.8. Water supply to the new houses and apartments in this application will be provided via new mains located with the footpaths of the proposed development which will feed from the new 400mm trunk main to be installed within the new Clonburris Southern Link Street to be constructed as part of the overall Clonburris SDZ.

2.7 Construction Management Strategy

2.7.1 Introduction

It is envisaged that the development of the lands will occur for up to approximately 3-4 years having regard to the nature of the project and the need for flexibility to respond to market demand. A Preliminary Construction Management Plan has been prepared by DBFL and is included with the application. The CMP will be developed and agreed between the contractor and South Dublin County Council prior to commencement of development. The contractor shall also incorporate all mitigation measures outlined in the EIAR.

2.7.2 Working Hours

For the duration of the proposed infrastructure works, the maximum working hours shall be 07:00 to 19:00 Monday to Friday (excluding bank holidays) and 09:00 to 13:00 Saturdays, subject to the restrictions imposed by the local authority. No working will be allowed on Sundays and Public Holidays. Subject to the agreement of the local authority, out of hours working may be required for water main connections, foul drainage connections etc.

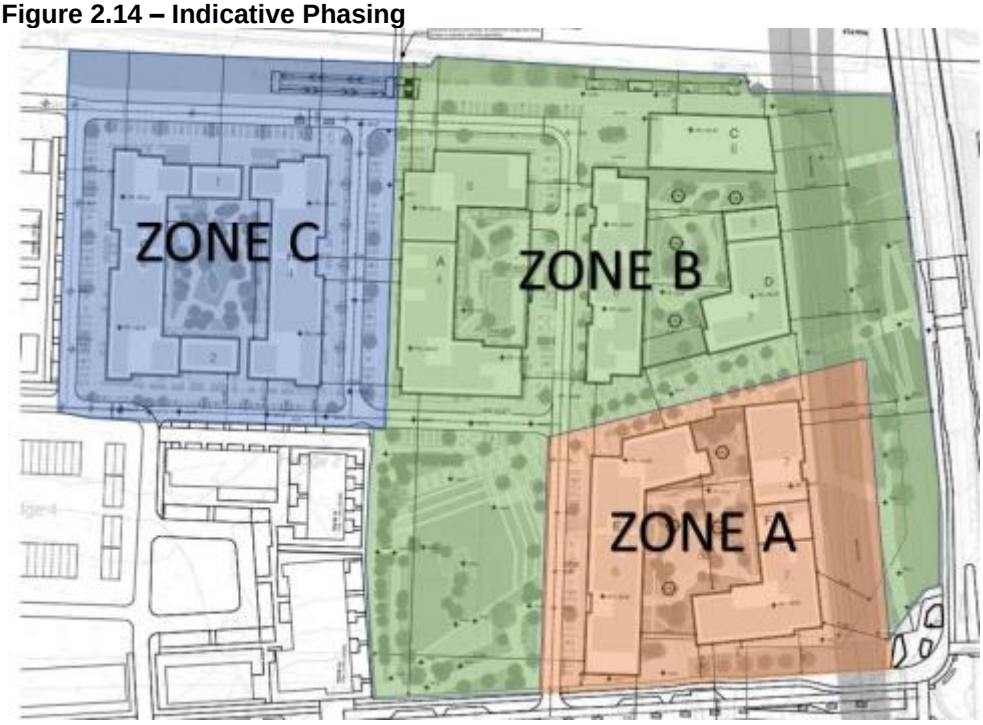
2.7.3 Traffic and Transportation

A construction stage Traffic Management Plan (TMP) will be prepared for the works by the main contractor. The principal objective of the TMP is to ensure that the impacts of all building activities generated during the construction of the proposed development upon both the public (off-site) and internal (on-site) workers environments, are fully considered and proactively managed / programmed respecting key stakeholders thereby ensuring that both the public's and construction workers safety is maintained at all time, disruptions minimised and undertaken within a controlled hazard free / minimised environment.

2.7.4 Construction Phasing

The project is currently at planning stage and subject to approval. It is estimated that the works would be tendered in the third quarter of 2023 with commencement expected in the fourth quarter of 2023. The development would have an estimated site program of 36-48 months, depending on phasing. The preliminary phasing plan is indicated.

Figure 2.14 – Indicative Phasing



However, the project may be constructed over in a number of phases for commercial reasons. The exact number of phases and the make-up of each will be subject to market conditions and commercial considerations at the time.

2.8 Direct and Indirect Effects Resulting from Use of Natural Resources

Details of significant direct and indirect effects arising from the proposed development are outlined in Chapters 3-15 which deal with *'Aspects of the Environment Considered'*. No significant adverse impact is predicted to arise from the use of natural resources.

2.9 Direct and Indirect Effects Resulting From Emission of Pollutants, Creation of Nuisances and Elimination of Waste

Details of emissions arising from the development together with any direct and indirect effects resulting from same have been comprehensively assessed and are outlined in the relevant in Chapters 3-15 which deal with '*Aspects of the Environment Considered'*. There will be no significant direct or indirect effects arising from these sources.

2.10 Forecasting Methods Used for Environmental Effects

The methods employed to forecast the effects on the various aspects of the environment are standard techniques used by each of the particular individual disciplines. The general format followed was to identify the receiving environment, to add to that a projection of the *"loading"* placed on the various aspects of the environment by the development, to put forward amelioration measures, to lessen or remove an impact and thereby arrive at net predicted impact.

2.13 Alternatives Considered

Chapter 2 of the EIAR (volume II) also includes a summary of alternatives which were considered for the proposed development of the subject lands. These options were considered as the scheme progressed and the key

considerations and amendments to the design having regard to the key environmental issues pertaining to the lands are summarised in this section of the EIAR.

2.13.1 Do-nothing Alternative

A *"do-nothing*" scenario was considered to represent an inappropriate unsustainable and inefficient use of these serviced residential zoned lands within the SDZ.

2.13.2 Alternative Designs

The project architects undertook an extensive appraisal to determine the appropriate scale, massing and layout of the proposed development. We refer the Planning Authority to the Architectural Design Statement prepared by ALTU Architects.

The analysis includes an assessment of:

- The characteristics of the subject site and wider environs
- Site constraints such as high-pressure gas pipeline & the railway line to the north.
- The provisions of the Clonburris Planning Scheme which provides a range of design standards and objectives uses, masterplan form, and a range of building heights.

The key environmental and practical considerations which have influenced the design of the proposed development and the alternative layouts on the subject lands have been influenced by the following:

- The need to achieve an appropriate density in the context of the Sustainable Residential Development in Urban Areas Guidelines for Planning Authorities (2009) having regard to the location of the site within the Clonburris Planning Scheme.
- Transition in scale between proposed buildings on site.
- Building heights proposed and compliance with the Planning Scheme.
- The need to ensure any residential development provides a good mix of housing typologies which meet current market demand and which are deliverable in the short to medium term.
- Interface of proposed buildings and constructed roads to ensure as much passive surveillance as possible for animation and security.
- Building heights proposed in compliance with the Planning Scheme 2019.
- The need to provide a sustainable level of housing provision on the residential zoned lands.
- The need to deliver good quality open space in appropriate locations with a clear hierarchy as set out in the Clonburris Planning Scheme
- Protection of existing trees and hedgerows where possible,

The final layout proposed is not considered to give rise to any significant adverse environmental impacts. Mitigation measures to be implemented at construction and operational phases of the project are summarised in Chapter 16 (Summary of Mitigation and Monitoring Measures).

2.13.3 Final Layout Alternative

With regard to the submitted layout, the iterative process set out above, which included alternative site layouts that were considered with the objective of submitting an overall high-quality designed scheme which has undergone a robust consideration of relevant alternatives in reference to the comparison of environmental effects and meets the requirements of the EIA Directive, based on the multidisciplinary review across all environmental topics.

3.0 NON TECHNICAL SUMMARY OF EIAR CHAPTERS

3.1 Population and Human Health

It should be noted that there are numerous inter-related environmental topics described throughout this EIAR document which are also of relevance to Population and Human Health. Issues such as the potential likely and significant impacts of the proposed development on landscape and visual impact, biodiversity, archaeology, architectural and cultural heritage, air quality and climate, noise and vibration, water, land and soils, material assets including traffic and transport impacts, residential amenity etc. are of intrinsic direct and indirect consequence to human health. The specific chapters of the EIAR (4-15) assess the environmental topics outlined in the EIA Directive.

The subject site is located in the south-eastern section of Clonburris SDZ (Strategic Development Zone) and forms a section of the Clonburris Character Area within the Clonburris SDZ. The Clonburris SDZ Planning Scheme comprises 280 hectares and is located to the west of Dublin City Centre and the M50 - within the triangle between Lucan, Clondalkin and Liffey Valley.

The subject site is located in the CUCS3 and CSW-S3 Development Areas of the Planning Scheme 2019. The subject lands comprise an undeveloped, greenfield site of c. 5.18 hectares and is situated to the north of the Grand Canal and to the west of the Fonthill Road (R113).

3.1.1 Potential Construction and Operational Phase Impacts

The construction phase of the proposed development is likely to result in a positive net improvement in economic activity in the area of the proposed development site, particularly in the construction sector and in associated and secondary building services industries. The sector has grown strongly in recent years and this development will help to further enhance growth and reduce the increasing pressure on the housing market.

The construction phase of the proposed development will primarily consist of site clearance, excavation and construction works, which will be largely confined to the proposed development site (including haul routes). Notwithstanding the implementation of remedial and mitigation measures there will be some minor temporary residual impacts on population (human beings) and human health most likely with respect to nuisance caused by construction activities, predominantly related to noise and traffic as detailed in chapters, 8 and 10.

It is anticipated that subject to the careful implementation of the remedial and mitigation measures proposed throughout this EIAR document, and as controlled through the Construction and Environmental Management Plan any adverse likely and significant environmental impacts will be avoided. The overall predicted likely impact of the construction phase will be short-term not significant, and neutral. A CEMP (with the mitigation contained in this EIAR) will be developed by the contractor and submitted to the Local Authority.

The proposed development will result in a generally positive alteration to the existing undeveloped site in terms of the provision of residential, retail and office units to serve the growing residential and working population of the area in accordance with the objectives of the South Dublin County Council Development Plan and the Clonburris Planning Scheme 2019. Positive impacts on population and human health will include health benefits associated with the provision of a significant quantity of open space, pedestrian and cyclist/green routes, a highly permeable layout which will connect to adjacent development areas within the Planning Scheme. The provision of creche and employment facilities on site enhances the quality of the development and helps to create sustainable communities.

The implementation of the range of remedial and mitigation measures included throughout this EIAR document is likely to have the impact of limiting any adverse significant and likely environmental impacts of the operational phase of the proposed development on population and human health (as set out in relevant chapters land and soils, water and hydrology, air quality and climate, noise and vibration, traffic, and risk management).

The cumulative impact of the proposed development, along with other permitted and existing developments in the vicinity, will be a further increase in the population of the wider area. The cumulative impact of the proposed development, along with other permitted and existing developments in the vicinity, will be a further increase in the population of the wider area. This will have a moderate positive long-term impact on the population in the immediate area of the SDZ, and a slight positive long term impact in the wider area of Clondalkin.

3.2 Biodiversity

The desktop study has provided information about the existing environment in the area, within which the proposed development is located. The mammal species recorded have widespread range and distributions in Ireland and are likely to be recorded frequently throughout Ireland. Bat records within 10km of the proposed development site revealed that the wider area has been studied for bats and that a number of common species have been recorded.

No designated European Sites are judged to be within the likely zone of impact, which are fully considered in the AA Screening Report prepared for the Proposed Development.

The proposed development is located within close proximity to the Grand Canal pNHA (located approximately 300m to the south of the T3 Site). The potential for deterioration in water quality during the construction phase via the existing drainage ditch network has been identified as a potential pathway for effect on this nationally designated site, due to its close proximity.

The desk study identified that a variety of protected faunal species are known to occur within the survey area, including bats, otter and badger. The mammal species recorded during the desk study informed the survey methodologies undertaken during the site visits. The mammal species recorded within the relevant area have widespread range and distributions in Ireland and are likely to be recorded frequently throughout Ireland (Marnell et al, 2009[2]). The site is not located within a freshwater pearl mussel 'sensitive area'. The desk study also provided useful information to inform the ecological surveys undertaken on site as well as the identification of pathways for potential impact on sensitive ecological receptors.

The Site is proposed as T2 of the development of the wider Clonburris scheme. A dedicated multi-disciplinary walkover survey of the area within and in the vicinity of the proposed development was undertaken on the 24th of June 2022. The habitats recorded during the site visit are described below. A total of nine habitats were recorded within the Site as follows:

- Dry meadows and grassy verges (GS2)
- Wet grassland (GS4)
- Scrub (WS1)
- Stone walls (BL1)
- Hedgerows (WL1)
- Treeline (WL2)
- Spoil and bare ground (ED2)
- Recolonising bare ground (ED3)
- Drainage Ditches (FW4)

Grassland Habitats

The majority of the habitat within the proposed development site comprised formerly agricultural grassland that had not been recently managed through grazing; this habitat was classified as **Dry meadows and grassy verges**

Hedgerows/ Treelines

A network of Hedgerows (WL1) is present within the wider Site, and part of this wider hedgerow network occurs within the T2 Site and at its northern boundary

Drainage Ditches

Drainage ditches were present in association with the hedgerows within the Site. These were dry in the southern part of the site, but had standing water within the northern area and along the northern site boundary. In areas where conditions were wetter, flora associated with the ditches,

[2]Marnell, F., Kingston, N. & Looney, D. (2009) Ireland Red List No. 3: Terrestrial Mammals, National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.

Bird species recorded within or immediately adjacent to the proposed development during the ecological walkover surveys comprised of a variety of common bird species. All the bird species recorded during the survey are common and widespread in the wider area.

A wintering bird assessment of the lands within the wider Clonburris SDZ zone, including the Grand Canal, was carried out by Scott Cawley (see Appendix C 2 Volume III of this EIAR). It should be noted that as the surveys covered the full SDZ including the Grand Canal, the majority of the species outlined above were not recorded within the proposed development area; common gull, herring gull, lesser black-backed gull, buzzard, meadow pipit, starling and goldcrest (single records of each species) were recorded within the T2 site.

A Barn Owl Survey Report for the wider Clonburris SDZ was prepared by Scott Cawley and is provided Appendix C 3 Volume III of this EIAR. As described in the report, "Barn owl were not observed foraging within the Clonburris SDZ lands during any survey dates between October 2020 and June 2021.

No buildings are present within the T2 Site. No trees within the T2 site were judged to be suitable for roosting bats (see also Section 3.1 and 5.1 of the Bat Assessment (Appendix C 1 Volume III of this EIAR).

No amphibians or reptiles were recorded during the survey. Some suitable terrestrial and aquatic habitat for amphibians was present in the form of the vegetated drainage ditches and the longer grassland within the Site.

Fox paths, scat and foraging evidence was recorded throughout the Site but no earths were present. No evidence of badger (i.e. setts, prints, foraging signs etc) or Irish hare i.e. droppings, were recorded within the study area.

Details of the mitigation proposed to ensure that no residual impacts will occur upon any Key Ecological Receptors as a result of the proposed development within Chapter 16 of this EIAR.

Taking the above information into consideration and having regard to the precautionary principle, it is considered that the proposed development will not result in the loss of habitats or species of high ecological significance and will not have any significant effects on the ecology of the wider area.

The potential residual impacts on ecological receptors will not be significant and no potential for the proposed development to contribute to any cumulative impacts on biodiversity when considered in-combination with other plans and projects was identified.

Provided that the development is constructed in accordance with the design and best practice that is described within this application, significant residual effects on biodiversity are not anticipated at any geographic scale.

3.3 Land and Soils

The existing site is predominately greenfield. Overall, the topography of the site is relatively flat. Much of the primary road network bounding the site is situated at a significantly higher level. A number of drainage ditches are located throughout the site. There are 2no. local high points on site.

Topsoil was encountered in all the exploratory holes and was present to a maximum depth of 0.30m below ground level. The results showed a brown slightly sandy gravelly topsoil. No rock outcrops were visible during the site visit. The rotary core boreholes recovered Weak to Medium strong to very strong dark grey fine to medium grained laminated Limestone interbedded with weak black fine grained laminated Mudstone.

Limestone bedrock underlies the entire site. The bedrock is described in geological mapping as a Dark Limestone & Shale and is part of a formation known as the Lucan Formation.

No existing areas of contaminated ground have been identified within the subject site. Environmental testing carried out as part of ground investigations indicate that soils would be classed as inert under the EPA Waste acceptance Criteria.

It is anticipated that the main construction activities impacting soils and geology will comprise the following:

- Removal of topsoil and subsoil to allow road construction, foundation excavation, services installation.
- Construction of the main access routes into the development.

- Installation of main underground services and utilities to serve the site.
- Construction of the surface water storage systems (underground and overground).
- Construction of podiums for the apartment buildings.

Excavated topsoil and subsoil material will be reused where possible to ensure no unnecessary disposal of excavated materials occurs

The proposed development will alter the current land use from vacant land to residential development. creche and public open space and landscape areas. The impact on land, soil, geology, and hydrogeology from accidental spillages of fuel and lubricants used during the construction phase of the development is predicted to be minimal when stored and used in a responsible manner. After implementation of the mitigation measures recommended above for the construction phase, the proposed development will not give rise to any significant long term adverse impact.

Implementation of the measures outlined in Section 5.6 will ensure that the potential impacts of the development on soils and the geological environment are minimised during the construction phase and that any residual impacts will be short term, and imperceptible.

Residual Impacts from earthworks haulage and the risk of contamination of groundwater are deemed to be of minor risk. The residual impacts for a residential housing development, creche and open space are deemed to be imperceptible post construction (during the operational phase).
Implementation of the mitigation measures outlined above will ensure that potential significant effects of the proposed development on land, soils and geology do not occur during the construction phase and that any residual effects will be short term and not significant.

3.4 Water

The existing site is predominately greenfield. Overall, the topography of the site is relatively flat. Much of the primary road network bounding the site is situated at a significantly higher level. A number of drainage ditches are located throughout the site. There are 2no. local high points on site.

The overall Clonburris SDZ is within the River Liffey Catchment. The study area affects two primary hydrological sub-catchments, the Griffeen & the Camac. The subject site for this development is located within the “Camac” sub catchment (*EPA Ref:* IE_EA_09C020500*)*. The Grand Canal is located to the south of the subject site.

Groundwater was encountered at a depth of 2m during the Preliminary Ground Investigations for the overall Clonburris SDZ.

Historical flood maps/data indicate there are no recorded flood events within the proposed site boundary. There are to recorded recurring flood events within 1km of the proposed site.

Existing surface water run-off generated on site discharges towards the east via the existing drainage ditches. The function of these ditches by the new surface water network for the development. Surface water run-off from the new roads, footpaths and buildings will be collected in a new gravity network within the roads and footpaths of the new development.

The key objectives of the drainage strategy are as follows:

- Provide adequate infrastructure to discharge surface water generated on site to the trunk surface water sewer constructed as part of the greater SDZ.
- Minimise the risk of flooding of the development and avoid a flood risk increase upstream or downstream of the site.
- Provide an allowance for the effects of climate change.
- Implement a treatment train of Sustainable Drainage Systems (SuDS) measures within the drainage network to improve water quality prior to discharge to receiving watercourses.
- Establish the key infrastructural requirements required to implement the surface water management measures set out by the SWMP.

Through the implementing the proposed construction and operational phase mitigation measures in Volume II of the EIAR that the significance of the identified impacts will be reduce to a “Not significant” residual impact on the identified hydrological/ hydrogeological receptors.

3.5 Air Quality and Climate

The development area is located within a zone which includes sources of existing transportation related air emissions principally from local road and rail infrastructure and sources of domestic building heating. The Grange Castle Business Park is located c. 2km west of the site.

The general area surrounding the subject site is currently comprised of undeveloped lands and residential estates and local transport infrastructure.

The nearest representative meteorological station to the subject site at Clonburris is at Casement Aerodrome which is located approximately 3km south of the site and as such, long-term measurements of wind speed/direction, rainfall and air temperature for this location are representative of prevailing conditions experienced at the subject site.

Precipitation data from the Casement Aerodrome meteorological station for the period 2018-2021 indicates a mean annual total of about 754 mm. This is within the expected range for most of the eastern half of the Ireland which has between 750 mm and 1000 mm of rainfall in the year.

The annual mean temperature at Casement Aerodrome meteorological station for the period 2018-2021 is 9.6ºC.

Wind is of key importance for both the generation and dispersal of air pollutants. Meteorological data for Casement Aerodrome indicates that the prevailing wind direction is from the West and Southwest. The mean annual wind speed in the local area between 2015-2021 is 5.5 m/s.

The existing ambient air quality at and in the vicinity of the site is typical of an urbanised location and as such, domestic and commercial heating sources and road traffic are identified as the dominant contributors of hydrocarbon, combustion gases and particulate emissions to ambient air quality.

The construction phase of the development has the potential to generate short term fugitive dust emissions during ground preparation and enabling works and from general site construction activities, however, these emissions will be controlled by appropriate mitigation techniques and through the implementation of a construction phase air quality management and monitoring plan throughout the duration of the construction phase to ensure that existing adjacent residential properties and lands will not be adversely impacted by a deterioration in air quality associated with the construction phase.

The operational phase of the development will see the operation of modern, well insulated thermally efficient buildings in which energy efficiency shall be achieved by implementing sustainable features into the building design.

National air quality standards shall not be adversely affected as a result of the short-term construction phase or the operational phase, thus ensuring that the potential for adverse impacts on human health is negligible.

It is predicted that the construction phase of the development will not generate air emissions that would have an adverse impact on local ambient air quality or on local human health or on the local micro-climate or the wider macro-climate.

The sustainable features that are incorporated into the design of all residential units will ensure that the operational phase of the development will not have an adverse impact on human health, local air quality or on local or global climate patterns. The residential units will be designed to ensure that they can withstand the potential changes in climate which may generate more extreme and prolonged meteorological events in the future.

Motor vehicles are a major source of atmospheric emissions which contribute to climate change, however, vehicle exhaust emissions generated from vehicles associated with the development will have a negligible impact on the macro-climate given modern technological developments in cleaner and more efficient vehicle engines. Current trends suggest that vehicle manufacturers are ceasing the manufacture of large diesel engines for private cars and instead adopting hybrid engine and all electric technologies which will contribute to the reduction of engine exhaust emissions including particulate matter, Nitrogen Oxides, Sulphur Dioxide, Carbon Dioxide and Carbon Monoxide.

To further reduce the climatic impact of the operational phase of the development, electric vehicle charging points shall be installed in dedicated parking spaces and cycle parking shall be provided to facilitate residents who own electric vehicles and to encourage other residents to purchase electric vehicles.

The scheme has been designed to provide thermally efficient buildings which will reduce the consumption of fossil fuels within each individual dwelling. This will reduce the impact the operational phase of the development will have on the micro and macro climate. In particular, there will be no “traditional” passive air vents in the apartments which are thermally inefficient. Combined Heat and Power Units, Exhaust Air Heat Pumps, Solar Photovoltaics, Air Source Heat Pumps and Variable Refrigerant Flow Systems are options to be incorporated into the design of all units. These efficient energy reducing systems together with thermally rated window sets will reduce the potential future impacts that the external climate will have in terms of wind and changing temperatures on the internal environment within the residential units.

The thermal efficiency of the buildings will ensure that the development will be sustainable and will be protected against the impacts of future climate change which may include storm events and prolonged colder periods during the winter season. These factors will contribute to reducing the impact the operational development has on the local and global climate which will ultimately contribute in a positive manner in reducing the impact on local and further afield human health.

3.6 Noise and Vibration

The baseline noise environment in the vicinity of the proposed development site has been defined by field surveys conducted during September 2022. Sound level measurements were conducted in appropriate weather conditions when there was no precipitation and when mean windspeeds were <5m/sec and when Irish Rail timetable were operating normally.

The Cork-Dublin Rail Line and the Fonthill Road are the principal existing ambient noise sources that impact the subject site.

Rail traffic noise associated with the Dublin Cork Rail Line which runs along the northern site boundary has been assessed with regard to the EPA’s Round 3 Rail Noise Mapping of this line. Rail noise dominates the northern site boundary during the daytime and nightime periods albeit on a non-continuous basis.

This is further confirmed by attended noise surveys conducted at the northern site boundary.

Local road traffic noise associated with the Fonthill Road which runs adjacent to the eastern site boundary has been assessed with regard to the EPA’s Round 3 Road Noise Mapping of this road. Road traffic noise dominates the eastern site boundary during the daytime and nightime periods.

This is further confirmed by attended noise surveys conducted at the eastern site boundary.

Short term noise exposure during the construction phase must be managed and controlled to acceptable levels. There are a number of existing residential noise sensitive receptors located in proximity to the development site boundaries. It is fundamental that the proposed development or any aspect of the proposed development must not adversely impact the existing noise levels experienced at these receptors over the long term.

The operation of the proposed development will not include any commercial or retail activities and noise associated with its operation will be limited to normal domestic activities.

The impact of the construction phase will result in an increase in daytime noise levels at the closest receptors to the site. With mitigation measures in place, it is predicted that the guideline construction noise limit of 70dB(A) $_{\text{LAeq, 1-hour}}$ can be complied with.

Site activities, in particular ground clearance will not generate perceptible vibration at the closest residential receptors located to the south or southeast of the site. It is predicted that vibration levels associated with construction activities at the closest receptors to the site will not exceed 15 mm/sec PPV. Human response to groundbourne vibrations will be perceptible at levels between 0.14 to 1.0 mm/sec PPV.

The operational phase of the development will not adversely impact the existing noise climate at local receptors.

The operational phase of the development will not generate ground borne vibration levels.

The cumulative noise and vibration impacts associated with the proposed development and future local developments will not result in an increased impact on the closest receptors to the proposed development site.

3.7 Landscape and Visual

The proposed development site consists of approx. 5.18 hectares of former agricultural lands with associated hedgerow and drainage features within the wider SDZ lands described in Section 9.4.1 above. The boundaries of the site itself are clearly defined by the Fonthill Road R113 to the east and by the Dublin-Cork railway line to the north while the south and the west site boundary lines are arbitrary and not defined by existing field patterns. The not yet operational Clondalkin Fonthill Railway station building west of the Fonthill Road R113 is located on the north-east corner, immediately outside the proposed development site.

This south-east area of the SDZ in which the site is located has a very similar setting and character than the entire SDZ lands which consists of former agricultural fields and hedgerows in a traditional pattern albeit now disused.

The defining features of the proposed development site are the Dublin-Cork railway line to the immediate north and the Fonthill Road R133 to the immediate east. A public car parking area of approx. 1 hectare size is located directly opposite to the proposed development site, east of the R113. A round-about provides access to the car park and forms the south-east corner of the proposed development site. The proposed development site boundary is approx. 220m north of the Grand Canal and approx. 1.40km east of the Outer Ring Road R136.

The site is relatively flat overall, with gentle undulations over the extent of the entire SDZ lands within which the application lands sit. Level differences are marginal and occur naturally along the hedgerow lines. Drainage ditches are associated with the hedgerows. The SDZ lands fall slightly along drainage lines parallel to the railway corridor.

The fields between the hedgerows formerly in pasture / agricultural use have become partially overgrown by native shrubs and vegetation spreading from the adjacent hedgerows. The hedgerows are mature and full generally with few taller individual or tree groups. Newer tree and shrub planting occurs near new transport infrastructure works along the railway line and along the R113 and R136 roads.

The site and wider SDZ lands are now a collection of neglected and partly overgrown agricultural fields defined by surrounding roads / transport routes and existing suburbs. They have little amenity or visual value. Their character is really urban fringe and lands in transition and their future value set out in the SDZ as high quality urban/ residential areas.

The surrounding residential suburbs, making up the receiving environment, have developed over a period of 60 years with varying character and quality. In general they are laid out around new road infrastructure that is often wide, lacks scale and context, and is to a low density. Design of the buildings is functional and the associated streetscapes and landscapes underdeveloped although maturing.

The proposed development site falls within the *LCA 5 – Urban South Dublin* where the landscape value and landscape sensitivity are not specified. The character of these lands is highly variable from sensitive heritage landscapes and villages to old style industrial and urban sprawl and fringe urban areas.

The Clonburris Planning Scheme lands (in which the proposed development site is located) is an area of and south of the SDZ boundaries, with more mature residential areas of Clondalkin to the east. The SDZ lands have been in neglect for a number of years and with the surrounding areas very much reflect and urban fringe environment in transition.

The proposed development site and its receiving environment were described in Section 9.4 above. They contain few valued elements, features or characteristics with the exception of the archaeological feature identified on site, local hedgerows and trees and the nearby Grand Canal pNHA and corridor.

The land is zoned as part of the Clonburris SDZ lands. The SDZ Planning Scheme provides a vision for the immediate environs and site. The Planning Scheme lands have a mix of residential, mixed-use, educational and open space land use. Presently, most of the SDZ lands are undeveloped however many tiles / development areas are either under design development and/ or in the planning process. Therefore, the area as whole is in transition.

Therefore, the **landscape sensitivity** of the receiving environment is classified as **'Low'** - *Areas where the landscape has few valued elements, features or characteristics and the character is weak. The character of the landscape is such that it has capacity for change; where development would make no significant change or would make a positive change. Such landscapes are generally unrecognised in policy and where the principle management objective is to facilitate change through development, repair, restoration or enhancement.*

Given the planning policy for the area, development of this site is inevitable, and it is considered likely that any proposed viable development will give rise to impacts of a similar nature. While the intensification of land use, as it changes from now neglected farmland into a residential development is a change that cannot be mitigated, the proposals reflect best practice in residential area layout, reflect the concepts in the wider masterplan and will consolidate the urban area here with an overall beneficial effect locally and to the wider surrounding area.

Residual Impacts have not been identified during the preparation of the landscape and visual impact assessment chapter.

Table 3.1 – Summary of Impacts and Effects on the Landscape

VP	Receptor and Views	Viewpoint Sensitivity	Magnitude of Change	Significance / Term / Quality of Impact		
				Short	**Medium**	**Long**
1	Ninth Lock Road /Thomas Omer Way junction looking south	Medium	**Medium** – Considerable visibility in the background and minor alteration of visual amenity or overall character	Moderate	Moderate	Moderate
				Beneficial	Beneficial	Beneficial
2	Clondalkin Fonthill railway station / R113 looking south-west	Medium	**High** - Considerable visibility in the midground and alteration of visual amenity or overall character	Significant	Significant	Significant
				Beneficial	Beneficial	Beneficial
3	Fonthill Road R113 between railway station and roundabout looking west	Medium	**High** - Considerable visibility in the midground and alteration of visual amenity or overall character	Significant	Significant	Significant
				Neutral	Neutral	Neutral
4	Fonthill Road R113 junction with proposed link street looking north-west	Medium	**Very High** - Full visibility in the entire view and change of visual amenity or overall character	Very Significant-Significant	Very Significant-Significant	Very Significant-Significant
				Beneficial	Beneficial	Beneficial
5	Fonthill Road R113 bridge crossing Grand Canal looking north-north-west	Medium	**High** - Full visibility in the background and minor alteration of visual amenity or overall character	Significant	Significant	Significant
				Beneficial	Beneficial	Beneficial
6	Grand Canal Greenway at Fonthill Road R113 bridge looking north-north-west	High	**Low** - Partly visible intrusion of the background	Moderate-Slight	Moderate-Slight	Moderate-Slight
				Neutral	Neutral	Neutral
7	Walking / Cycling ramp to Greenway looking north-north-west	High	**Medium** - Considerable visibility in the background and minor alteration of visual amenity or overall character	Significant	Significant	Significant
				Neutral	Neutral	Neutral

VP	Receptor and Views	Viewpoint Sensitivity	Magnitude of Change	Significance / Term / Quality of Impact		
				Short	Medium	Long
8	Bawnogue Road residential estate looking north-north-east	High	**Negligible** - Barely visible intrusion of the background	Slight-Not Significant	Slight-Not Significant	Slight-Not Significant
				Neutral	Neutral	Neutral
9	Grand Canal Greenway at Omer Lock House looking north-east	High	**Low** - Partly visible intrusion of the background	Moderate-Slight	Moderate-Slight	Moderate-Slight
				Neutral	Neutral	Neutral
10	Grand Canal Greenway at resting place looking east-north-east	High	Not visible	No effects		
11	Melrose Road residential estate looking east-north-east	High	Not visible	No effects		
12	Grand Canal Greenway at resting place looking east-north-east	High	Not visible	No effects		
13	Grand Canal Greenway at Outer Ring Road R136 bridge looking east-north-east	High	Not visible	No effects		
14	Outer Ring Road R136 bridge crossing Grand Canal looking east-north-east	High	**Low** - Partly visible intrusion of the background	Moderate-Slight	Moderate-Slight	Moderate-Slight
				Neutral	Neutral	Neutral
15	Kishoge railway station / R136 looking east	Medium	**Low** - Partly visible intrusion of the background	Slight	Slight	Slight
				Neutral	Neutral	Neutral
16	Kishoge and Griffeen Community College looking east-south-east	Medium	Not visible	No effects		
17	Tor An Rí Lane residential estate looking south-east	High	Not visible	No effects		

VP	Receptor and Views	Viewpoint Sensitivity	Magnitude of Change	Significance / Term / Quality of Impact		
				Short	Medium	Long
18	Cappagh-more residential estate looking north-west	High	**Low** - Barely visible intrusion of the background	Moderate-Slight	Moderate-Slight	Moderate-Slight
				Neutral	Neutral	Neutral
19	Ninth Lock Road looking west	Medium	**Medium** - Considerable visibility in the background and minor alteration of visual amenity or overall character	Moderate	Moderate	Moderate
				Neutral	Neutral	Neutral

3.8 Material Assets – Traffic

The subject site is located within the Clonburris Strategic Development Zone lands. The subject site is bounded to the east by the R113 Fonthill Road North and to the north by the Kildare railway line. The site is bounded by the granted Phase 1A development (SDZ21/0021) to the west and south.

The SDZ is located to the west of Dublin City Centre and the M50. It is conveniently positioned between Lucan to the north-west, Clondalkin to the south-east and Liffey Valley to the north-east. The lands are intersected in an east-west orientation by the Kildare railway line and by the Grand Canal to the south.

Clonburris is located c. 13 km to the west of Dublin City Centre and is well connected to the National Road Network, served by several key strategic routes. The Clonburris SDZ boundary is broadly bounded by the Arterial corridors of Adamstown Avenue and Thomas Omer Way to the north, Ninth Lock Road to the east, the Arterial corridor of Newcastle Road to the west, the Grand Canal to the south.

The proposed development is situated adjacent to the south of the Dublin to Kildare/Cork main railway line, which provides local commuter services. At the northeast boundary of the subject site lies the Clondalkin-Fonthill station. This station is served by commuter services to Heuston Station as well as Drumcondra, Dublin Connolly, Tara Street, Dublin Pearse and Grand Canal Dock, via the Phoenix Park Tunnel. Intercity trains do not serve this station.

The Clonburris Southern Link Street Scheme was granted planning permission by South Dublin County Council in August 2021 (under SDZ20A/0021). The proposed scheme forms part of the Clonburris SDZ Planning Scheme (2019) as road infrastructure to support the development of SDZ lands in conjunction with the Clonburris Northern Link Street. The Clonburris Southern Link Street will allow the southern lands of the SDZ to be opened up for development and allowing access for the road network for future residents. The Link Street will form the southern boundary of the project site.

The Clonburris SDZ Strategy outlines two orbital bus services operating from Tallaght to Blanchardstown, serving the Clonburris SDZ. These Orbital routes would tie into the BusConnects Plans and the GDA Greater Dublin Area Transport Strategy 2016-2035. It must be noted that these services have not been finalised and may be subject to change based on further design and planning undertaken by the NTA and SDCC. The two services include:

- Core Orbital Service operating North – South on the Fonthill Road North (R113) with an indicative headway of 5 minutes; and
- Secondary Orbital Service serving Liffey Valley to Tallaght via Lucan and Grange Castle Road (R136) with an indicative headway of 15 minutes.

The main vehicular accesses to/from the subject development will be provided via the Clonburris Southern Link Street. In addition to this access there will be two vehicular access to proposed developments on the western border of the site. All of the vehicle accesses are in the form of priority junctions.

It is proposed that the 594 no. apartments will be provided with 330 no. car parking spaces, (0.56/ unit), 166 no. car parking spaces will be provided undercroft and 101 no. car parking spaces will be provided on the surface. Additionally, 20 no. mobility impaired car parking spaces, 39 no. electric vehicle car parking spaces and 4 no. car sharing car parking spaces will be provided undercroft for the apartments. Additionally, 44 no. car parking spaces are provided for the offices, (32 no. on the surface, 12 no. undercroft including 8 no. electric vehicle car parking

spaces), 17 no. car parking spaces are provided for the retail units on the surface and 5 no. car parking spaces are provided for the creche, (2 no. on the surface and 3 no. undercroft). The proposed development will provide 396 no. car parking spaces in total.

The development proposes to provide a total of 1232 cycle parking spaces with 1024 of these proposed as long term parking for the residents and an additional 208 proposed as short term stay. The level of cycle parking spaces is proposed to encourage positive modal shift towards a more sustainable mode of travel. Moreover, future residents of the subject site will also be able to benefit from pedestrian/cycle facilities along most of the roads to/from the proposed development.

All construction activities on-site will be governed by a Construction Traffic Management Plan (CTMP), the details of which will be agreed in full with South Dublin County Council prior to the commencement of construction activities on site. Preliminary details of the CTMP are outlined within the Construction and Environmental Management Plan. The principal objective of the CTMP is to ensure that the impacts of all building activities generated during the construction of the proposed development upon both the public (off-site) and internal (on-site) workers environments, are fully considered and proactively managed / programmed respecting key stakeholders thereby ensuring that both the public's and construction workers safety is maintained at all times, disruptions minimised and undertaken within a controlled hazard free / minimised environment. The impact of the construction period will be temporary in nature. Both the CTMP and the CEMP will contain the mitigation measures included in this EIAR.

Provided the above remedial or reductive measures and management procedures are incorporated during the construction phase, the residual impact on the local receiving environment will be temporary in nature and neutral in terms of quality and effect.

The operational assessment of the local road network has been undertaken using the Transport Research Laboratory (TRL) computer package TRANSYT for two signal-controlled junctions.

The evaluation of the operational performance of the key off site junctions following the implementation of the proposed mixed-use scheme is summarised below for the Do Nothing (DN) and two Do Something (DS) scenarios.

TRANSYT assessment for Junction 2 shows an oversaturated performance during the morning peak hour in the DN and DS scenarios, and within capacity in the evening peak time. However, the impact of the development is an increase of 5% in capacity in the evening, and no increase in the morning. This means that the network is over capacity regardless of the Proposed Development. This result is expected and consistent with the Traffic & Transport Assessment of the Southern Link Street – Clonburris SDZ, prepared by DBFL Consulting Engineers. This document showed an oversaturated network for Opening Year and Future Horizon Year, similar to results obtained above. It is important to note that the analysis has assumed the pedestrian stage will be called during every cycle. As such the TRANSYT analysis represents a worst-case scenario, with the junctions performing better than the TRANSYT results indicate. Additionally, the area will be served with high frequency bus & rail services, high quality cycle infrastructure and new road developments.

For Junction 3, the analysis shows a network performance within capacity during all scenarios. The impact of the Proposed Development is again minimal, with an increase of capacity of 3% in the evening peak hour in 2040, and 6% in the morning peak hour in 2040.

3.9 Material Assets – Waste Management

Section 12.11.4 (iv) of the South Dublin County Development Plan 2022-2028 requires construction and demolition waste management plans should be submitted as part of development proposals.

The South Dublin County Council Development Plan 2022-2028 has a Waste Management Strategy, the purpose of which is to promote and facilitate best practice in prevention, re-use, recovery, recycling and disposal of all waste produced in the County.

The existing site is currently an undeveloped greenfield area. The local South Dublin Area has various construction, commercial and domestic waste services providers who shall service the construction and operational phases of the development.

The Construction and Operational Waste Management Plans prepared as part of the application shall be implemented throughout the construction phase and operational stage of the development to ensure the following:

- That all site activities are effectively managed to minimise the generation of waste and to maximise the opportunities for on-site reuse and recycling of waste materials.

- To ensure that all waste materials generated by site activities are removed from site by appropriately permitted waste haulage contractors and that all wastes are disposed of at approved waste licensed / permitted facilities in compliance with the Waste Management Act 1996 and all associated Waste Management Regulations.

- The Operational Phase Waste Management Plan, a copy of which accompanies this application, for the development which will ensure that users of the development are provided with sufficient facilities to store, segregate and recycle waste.

The predicted effects are negative, not significant, regional, likely in the short term, and negative, not significant, regional, likely in the long term.

3.10 Material Assets – Utilities

The topography of the subject site is reasonably flat. Much of the primary road network bounding the site is situated at a significantly higher level. Site levels outside road embankments and watercourses generally range between 58m – 62m. There are a number of existing drainage ditches located throughout the subject site. These ditches are noted to generally have extremely flat or inconsistent gradients and are poorly maintained appearing to discharge beneath the R113 to the east.

The lands east of the R113 and south of the railway, drain to the south-east to existing stormwater networks on Ninth Lock Road. The drainage run continues south on Ninth Lock Road where it splits into parallel runs along Station Road which later merge and discharge to an open watercourse within the industrial estate and eventually discharge to the Camac River. A canal overflow channel runs alongside the canal towpath north of the canal before re-entering the canal downstream, it does not appear that local drainage connects to this overflow channel.

According to wastewater drainage records from Irish Water, there is an existing network of three 600mm foul sewers located to the south of the Grand Canal, to the south of the subject site. There is a network of existing 225mm foul sewers to the south-east of the subject site within the Cappaghmore development which cross under the canal and discharge to a 900mm diameter sewer to the south.

There is an existing 600mm watermain running adjacent to Fonthill Road at the bottom of the road embankment on the west side of the R113.

ESB Networks have been contacted and an existing ESB network map for the area surrounding the proposed development has been obtained, refer to Appendix C Volume III of the EIAR. There are existing ESB Networks (ESBN) infrastructure within the site in the form of Medium Voltage overhead power lines which traverse south east corner of the site.

Eir and Virgin Media have been contacted and the existing network maps for the area surrounding the proposed development have been obtained, refer to Volume III of the EIAR.

Gas Networks Ireland (GNI) have been contacted and an existing gas network map for the area surrounding the proposed development has been obtained, refer to Volume III of the EIAR. There are existing gas transmission line which runs parallel to R113 in the form of High Pressure (70bar) mains pipework.

Implementation of the measures outlined in Section 12.6 will ensure that the potential effects of the proposed development on infrastructure, services and public utilities do not occur during the construction phase and that any residual effects will be short term and not significant.

As surface water drainage, foul water drainage, watermain and utilities design has been carried out in accordance with the relevant guidelines, there are no predicted significant negative residual effects on the drainage and water supply arising from the operational phase. All utilities ducting and diversions will be carried out as per the supplier instructions, therefore no predicted residual effects are expected from the operational phase.

3.11 Archaeology, Architecture and Cultural Heritage

The proposed development is located within the townland of Cappagh, Parish of Clondalkin, and Barony of Uppercross, County Dublin. The proposed development area comprises parts of three fields, north of the Grand Canal. There is one recorded monument partially located within the proposed development area. This consists of an enclosure (DU017-036), and the geophysical survey indicates potentially 75 percent of the feature is located within the development area. It should be noted that this site does not possess any upstanding remains and was identified as a site of potential from aerial photographs dating to 1971 (SMR file).

A geophysical survey was conducted within the accessible portions of the proposed development area in June 2022 (Dowling 2022, Licence 22R0200) as part of a preliminary archaeological investigation of the Cappagh area (Figure 13.4). The geophysical survey was focused on five separate fields and covered an area of approximately 8ha in total size. The investigation revealed several features of potential archaeological significance, including what may be the remains of a small, sub-circular enclosure, which may correspond to enclosure DU017-036. This feature appears to be bisected, east to west, by a possible ditch and is conceivably associated with several possible pits/spreads mapped in the surrounding area. Evidence for former agriculture was also detected.

Archaeological testing of the geophysical anomalies was carried out by Fergal Murtagh of IAC Archaeology in the proposed development areas and the adjacent Tile 3, during November 2022. Test trenching was conducted under licence 22E0719, as issued by the DoHLGH. A total of six trenches were excavated in Tile 2, with an additional six trenches excavated in Tile 3 to the immediate west. There are no protected structures located within the proposed development area, although three structures are located within c. 250m. All three of these features are also listed in the NIAH Survey and relate to the Grand Canal, located c. 205m south. There are no specific cultural heritage sites recorded within the proposed development area or surrounding study area.

A geophysical survey was conducted within part of the proposed development area in June 2022. The investigation revealed several potential features of archaeological significance, including what may be the remains of a small, sub-circular enclosure at the approximate location of recorded enclosure DU017-036. This feature appears to be bisected, east to west, by a possible ditch and is conceivably associated with several possible pits/spreads mapped in the surrounding area. Evidence for former agriculture was also detected.

Archaeological testing was carried out within the proposed development area and within adjacent lands to the immediate west (Tile 3), during November 2022. The trenches targeted the geophysical anomalies. Six trenches were excavated within the proposed development area two of the trenches targeted the more definitive geophysical anomalies potentially associated with enclosure DU017-036. A shallow ditch was revealed in each trench that may relate to the enclosure. The ditches were less than 0.5m in depth and as such, if these features relate to an enclosure, it is likely it has been subject to truncation.

Ground disturbances associated with the construction of the proposed development have the potential to have a direct negative impact on the recorded enclosure site (DU017-036) and any archaeological features that may exist beneath the current ground level with no surface expression (and outside of the footprint of the excavated test trenches). Impacts, prior to the application of mitigation, have the potential to range from moderate to very significant negative, dependant on the nature, extent and significance of the remains that are encountered. It is noted that the potential remains of the enclosure identified during archaeological testing indicate that the site may have been subject to truncation in the past, based on the shallow depths encountered.

Whilst it is acknowledged that preservation in-situ is the best manner in which to conserve the archaeological resource, the preservation in situ of enclosure DU017-036, within the urban core of Clonburris would lead to an unstainable form of development located adjacent to the Fonthill Train Station. This would be contrary to the key structuring principles of the Planning Scheme in terms of layout/design objectives, which the applicant is required to adhere to. The preservation of the remains in situ would lead to a substandard and suboptimal form of development in the SDZ area.

As such enclosure DU017-036 will be preserved by record (archaeological excavation), prior to the commencement of construction. This work will be carried out under licence from the DoHLGH and full provision for the excavation of the site will be made available by the applicant – both during the course of fieldwork and during the post excavation process.

In addition, all topsoil stripping associated with the proposed development will be subject to archaeological monitoring. This work will be carried out by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works further archaeological mitigation may be required, such as

preservation in-situ or by record. Any further mitigation will require approval from the National Monuments Service of the DoHLGH.

3.12 Risk Management

The 2014 EIA Directive (2014/52/EU) has updated the list of topics to be addressed in an EIAR and has included 'Risk Management' as a new chapter to be addressed. Article 3 of the new EIA Directive requires that the EIA shall identify, describe and assess in the appropriate manner, the direct and indirect significant effects on population and human health, biodiversity, land, soil, water, air and climate, material assets, cultural heritage, and landscape deriving from (amongst other things) the *"vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned"*

It is considered that the main risks associated with the proposed development will arise during the construction phase. The construction phase of the proposed development may give rise to short-term impacts associated with construction traffic, migration of surface contaminants, dust, noise and littering. Secondary impacts may include resulting increased traffic arising from hauling building materials to and from the proposed development site which are likely to affect population and human health distant from the proposed development site, including adjacent to aggregate sources and landfill sites.

There may be certain times when access from this location is constrained due to works as part of the CSLS, for example during works to modify the existing roundabout to a signalised junction. Therefore alternative routes to access the site are provided via haul routes from the west. The haul routes initially follow the route of the permitted CSLS from the R136 before diverging to provide a route to both the northern and southern development parcels. This results in potential risk of collision between vehicles involved in the two developments. The routes are generally designed to follow the future road network identified in the SDZ to minimise environmental impacts.

Through the implementation of mitigation measures, there are no identified incidents or examples of major accidents and or natural disasters that present a sufficient combination of risk and consequence that would likely lead to significant residual impacts or environmental effects. No residual impacts arise from the construction phase.

3.13 Direct and Indirect Effects Resulting from Use of Natural Resources

Details of significant direct and indirect effects arising from the proposed development are outlined in Chapters 6-15 which deal with 'Aspects of the Environment Considered'. No significant adverse impact is predicted to arise from the use of natural resources.

3.14 Direct and Indirect Effects Resulting from Emission of Pollutants, Creation of Nuisances and Elimination of Waste

Details of emissions arising from the development together with any direct and indirect effects resulting from same have been comprehensively assessed and are outlined in the relevant in Chapters 6-16 which deal with *'Aspects of the Environment Considered'.* There will be no significant direct or indirect effects arising from these sources.

3.15 Forecasting Methods Used for Environmental Effects

The methods employed to forecast the effects on the various aspects of the environment are standard techniques used by each of the particular individual disciplines. The general format followed was to identify the receiving environment, to add to that a projection of the "*loading*" placed on the various aspects of the environment by the development, to put forward amelioration measures, to lessen or remove an impact and thereby arrive at net predicted impact.

3.16 Technical Difficulties Encountered in compiling any specified information

No particular difficulties, such as technical deficiencies or lack of knowledge, were encountered in compiling any of the specified information contained in this report such as that a prediction of impact has not been possible.

4.0 CUMULATIVE IMPACTS

The EIAR where relevant the EIAR also takes account of other development within the area. These impacts have been addressed in the relevant chapters of the EIAR.

To determine traffic impacts in Chapter 10 the traffic generated by the proposed development is combined with the baseline traffic generated by the traffic on the road network in the area. The potential traffic impacts from other developments were also considered in the assessment (e.g. adjacent to the north).

For the noise impact assessment in Chapter 8 the potential noise emissions arising from the proposed development during construction and operation are combined (using cumulative AADT figures from Traffic chapter) with background noise levels (predominantly road traffic) were assessed.

Should any other developments be under construction or planned in the vicinity of the site, potential cumulative impacts are not anticipated once similar mitigation measures are implemented. A planning application for Clonburris Southern Link Street [CSLS] (ref SDZ20A/0021) is currently under construction. The proposed development is adjacent to the CSLS and Phase 1A (Tile 1) and is intended to connect to roads and services provided as part of the CSLS development. Should this scheme be granted it is anticipated that construction phase of the Link Street may overlap with construction of the proposed development. The CSLS application included an EIAR as part of its planning application and has identified similar mitigation measures therefore no significant potential cumulative impacts are not anticipated.

Other projects in the wider Clonburris SDZ comprise:

SDZ21A/0022 Phase 1A (Tile 1) – 569 No. Units, Creche, Innovation Hub Open Space.
SD228/0001 - Part 8 Development (Canal Extension Area) 118 no. units (to the south of Grand Canal)
SD228/0003 - Part 8 Development 263 no. units within Kishogue South West
SDZ22A/0010 – 294 dwellings, creche and retail unit -Further Information lodged on the 28th of November 2022.
SDZ22A/0011 Primary School, 16 no. classrooms, general purpose hall and ancillary elements – granted 26th September 2022.
SDZ21A/0006 - Wastewater pumping station granted permission 8th November 2022.
Green Pedestrian and Cycle Route along Grand Canal from 12th Lock to Inchicore (Application no. SDZ078/0012)
SDZ22A/0017 Tile 3 application 158 no. dwellings lodged 2nd December 2022.

Cumulative impacts to land and soil, during construction and demolition processes are associated with spillage and leakage of oils and fuels and disturbance of land. Individual impacts from the Proposed Development are generally considered to be negligible to medium impacts to a low to medium sensitivity environment and the significance of the impacts has been assessed as imperceptible to moderate. Mitigation measures proposed to manage and control potential impacts during construction of the Proposed Development will reduce the magnitude and significance of impacts from these developments to a minimum.

Each of the relevant specialists has considered the potential for cumulative impact in preparing their assessments. While there is the potential for negative impacts to occur during the construction stage of the scheme, with the implementation of the appropriate mitigation outlined in the EIAR, the residual cumulative impact is not considered to be significant.

There will be some short term impacts during the construction phase as the pipes are laid, particularly in respect of traffic management with regards to sensitive receptors. This may cause local short term inconvenience and disturbance to residents and business in the vicinity of the works. However the works would normally be undertaken in sections on a phased/rolling programme so that the number of persons experiencing local inconveniences at any one time is kept to a minimum.

5.0 INTERACTIONS BETWEEN ENVIRONMENTAL FACTORS

Chapter 15 of the EIAR (Volume II) provides detail on the interaction and interdependencies in the existing environment. John Spain Associates in preparing and co-ordinating this EIAR ensured that each of the specialist consultants liaised with each other and dealt with the likely interactions between effects predicted as a result of the proposed development during the preparation of the proposals for the subject site and this ensures that mitigation measures are incorporated into the design process. This approach is considered to meet with the requirements of Part X of the Planning and Development Act 2000, as amended, and Part 10, and schedules 5, 6 and 7 of the

Planning and Development Regulations 2001 (as amended). The detail in relation to interactions between environmental factors is covered in each chapter of the EIAR.

In addition to the individual assessments of impacts on human beings, fauna and flora, soil, water, air, climate factors, the landscape and material assets, including architectural, archaeological and cultural heritage, the inter-relationships between these factors was also taken into account as part of the EIAR scoping and impact assessment. Where the potential exists for interaction between two or more environmental topics, the relevant specialists have taken these potential interactions into account when making their assessment and, where possible, complementary mitigation measures have been proposed. These are set out in Chapter 15 of the EIAR (Volume II).

The relevant consultants liaised with each other and the project architects, engineers and landscape architects where necessary to review the proposed scheme and incorporate suitable mitigation measures where necessary. As demonstrated throughout this EIAR, most inter-relationships are neutral in impact when the mitigation measures proposed are incorporated into the design, construction or operation of the proposed development.

6.0 SUMMARY OF EIA MITIGATION AND MONITORING MEASURES

Chapter 16 of the EIAR (Volume II) provides a summary of all the mitigation and monitoring measures proposed throughout the EIAR document for ease of reference for South Dublin County Council and all other interested parties.