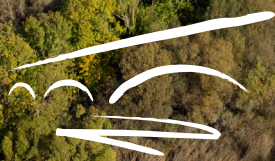


Cleeves Riverside Quarter Mixed Use Development



Comhairle Cathrach
& Contae **Luimnigh**

Limerick City
& County Council

**LIMERICK
TWENTY
THIRTY** DAC

Phase II Residential and Public Realm Works
Environmental Impact Assessment Report

Volume I

Non-Technical Summary



HRA | PLANNING

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1.0 INTRODUCTION

This Environmental Impact Assessment Report (EIAR) has been prepared on behalf of Limerick City Council (LCC) and Limerick Twenty Thirty DAC (LTT) for a significant regeneration project in Limerick City. The project aims to transform the historic Cleeves Riverside Quarter, a brownfield site on the northern bank of the River Shannon, into a vibrant mixed-use area with housing, student accommodation, public spaces, and commercial facilities. The full extent of the planning application site is detailed in Figure 1.1.

The EIAR evaluates how the proposed development might affect the environment. It helps decision-makers understand potential impacts before granting planning permission. The report follows Irish and EU laws and guidelines to ensure a thorough and transparent assessment. The EIAR has been prepared to accompany an application for approval to An Coimisiún Pleanála under Section 175 of the Planning & Development Act 2000 as amended, for the construction of a mixed use development that seeks the regeneration and adaptive reuse of a strategic brownfield site, as part of the Limerick City and County Council 'World Class Waterfront revitalisation and transformation project'.



Figure 1.1 Application Site

The Cleeves Riverside Quarter Illustrative Masterplan – Vision Document was published in October 2023 by LTT. The Masterplan was prepared in response to the requirements for a coordinated and holistic approach to development on the Cleeves Site (5.30 hectares) as acknowledged in the Limerick Development Plan 2022 – 2028². The Masterplan was subject to public consultation and comprised the first step towards development on the site.

The Masterplan provides for the comprehensive regeneration and development of the entire 5.3 hectares site including demolition, repair and reuse of all buildings on site.

The proposed development comprises Phase II, of the overall Masterplan with four phases of development proposed. Phase II will commence subsequent to ongoing emergency stabilisation and repair of the Flaxmill protected structure (Phase I). Phase III is intended to comprise an educational campus, inclusive of the adaptive reuse of the Flaxmill Building as part of that development and will be subject to a future separate application. Phase IV comprising the Shipyard site will be the final phase of development.

1.2 Proposed Development (Phase II)

The application development site as defined in red on the Site Layout Plan (Figure 1.2) comprises only part of the overall Masterplan site. The application site is 5.09 hectares in area. Two structures within the site are designated protected structures; the Flaxmill Building (PS Ref no.264 & NIAH No. 21512053) and the octagonal brick chimney (PS Ref no.265 & NIAH No. 21512059), which are to be retained.

The proposed development includes:

- A. Demolition of a number of structures to facilitate development including (i) Salesians Secondary School and Fernbank House; (ii) 2 no. houses on North Circular Road; (iii) Residual piers from the basin of the reservoir; (iv) Upper Reservoir on Stonetown Terrace comprising 2 no. concrete water tanks, pump house and liquid storage tank; (v) 1960's lean-to building structures adjoining the Cold Store (former Weaving Mill); (vi) remaining fabric of c20th rear lean-to of the Flaxmill Building; (vii) c.1960s office building adjoining the Packing Store and Cheese Plant on North Circular Road; (viii) Cluster of buildings including altered part of the Linen Store, the former Linen Store, Storage Building, and Office/Lab building at O'Callaghan Strand / Stonetown Terrace with partial retention of existing stone wall; (ix) warehouse on the Shipyard site; and (x) partial removal of stone boundary wall defining the Cleeves site adjoining O'Callaghan Strand / Stonetown Terrace and around the Shipyard site.
- B Construction and phased delivery of:
 - i. Residential Development in 4 development 'zones' within the site ranging in height from 3 – 7 storeys (with screened service plant at roof level) comprising; (a) 234 no. residential units; (b) 270 no. student bedspaces with ancillary resident services at ground floor level; (c) 299sqm of commercial floorspace; and (d) a creche. The specific development details of each proposed development zone comprise the following:
 - Salesians Zone – 1 no. building with 2 no. blocks extending to 6 and 7 storeys comprising 146 no. apartments (76 no. 1 bed; and 70 no. 2 bed); a creche; semi basement car and bicycle parking; reception area, plant rooms, and refuse storage, with screened external plant and photovoltaic panels at roof level; 20 no. 3 storey 3 bed triplex units with photovoltaic panels at roof level; and 30 no. car parking spaces for the dedicated use of the adjoining Salesians Primary School.
 - Quarry Zone – 1 no. Purpose Built Student Accommodation (PBSA) building with 3 no. blocks extending to 6 and 7 storeys comprising 270 no. bedspaces with study rooms, shared areas, exercise room, reception area, plant rooms, refuse storage and bicycle parking all at ground floor level and screened external plant and photovoltaic panels at roof level. Provision is made for telecommunication antennae on the roof top of one block. Consent is also sought for use of the PBSA accommodation, outside of student term time, for short-term letting purposes.

- Stonetown Terrace Zone – 1 no. building extending to 4 - 5 storeys comprising 38 no. apartments (6 no. studios; 12 no. 1 beds; and 20 no. 2 beds) with plant rooms and refuse storage at ground level, ancillary infrastructure at basement level at northern end of the block, with screened external plant and photovoltaic panels at roof level; 9 no. 3 storey 3 bed townhouses with photovoltaic panels at roof level; and a dedicated secure bicycle storage facility.
- O'Callaghan Strand Zone – 1 no. building extending to 4 / 5 storeys comprising 21 no. apartments (9 no. 1 bed and 12 no. 2 bed) with an open roof structure accommodating communal open space, plant and photovoltaic panels; and 299qm of commercial ground floorspace intended to accommodate Class 1, Class 2 and / or Class 3 uses, with provision for car parking in the undercroft.
- ii. Dedicated mobility hub with canopy and photovoltaic panels including double stacker bicycle parking; and EV Charging spaces, within the Shipyard Zone. A dedicated pedestrian/cycle link connects North Circular Road with Condell Road. The remaining area of the zone shall accommodate temporary car parking and a temporary external event space to be used on a periodic basis as the need arises, pending future redevelopment proposals as detailed in the Masterplan (Stage IV).
- iii. Extensive provision of Public Realm including creation of the Reservoir/Quarry Park, the Flaxmill Square and the Riverside Corridor. Significant areas of civic and green spaces are provided, incorporating formal and informal play space; nature based SuDs, permeability and access; and a riverside canopy with photovoltaic panels functioning as an outdoor event space and incorporating heritage interpretative panels
- iv. 3 no. dedicated bat houses;
- v. Telecommunication antennae on roof of Block 2A of the PBSA, including (a) 9 no. Support poles to support 2 no. antennae each; (b) 6 no. microwave dishes affixed to the plant screen; and (c) associated telecommunications equipment and cabinets (effectively screened). To facilitate technologically acceptable locations at the time of delivery, a micro-siting allowance of 3m is proposed on the roof top of Block 2A of the PBSA for the infrastructure.
- vi. Provision of vehicular access/egress points including (a) utilisation of existing access points to the Salesians Zone, to the Flaxmill and Quarry Zones and to the Mobility Hub on the Shipyard Site Zone; (ii) reopening an existing (currently blocked) access point off O'Callaghan Strand; (iii) new access points to the proposed undercroft carparking at Salesians from the North Circular Road and at the end of Stonetown Terrace road which provides access to the Stonetown Terrace Zone; and (iv) emergency access only from Stonetown Terrace to the Flaxmill Zone;
- vii. Provision of 30 no. dedicated car parking spaces to serve the Salesians Primary School; and
- viii. All ancillary site development works including (a) water services, foul and surface water drainage and associated connections across the site and serving each development zone; (b) attenuation proposals; (c) raising the level of North Circular Road between Fernhill and O'Callaghan Strand; (d) refuse collection store (e) car and bicycle parking to serve the development; (f) public lighting; (g) all landscaping works.; and (h) temporary construction measures including (i) construction access to the Quarry site including provision of a temporary access across the reservoir; and (ii) temporary use of onsite mobile crusher.

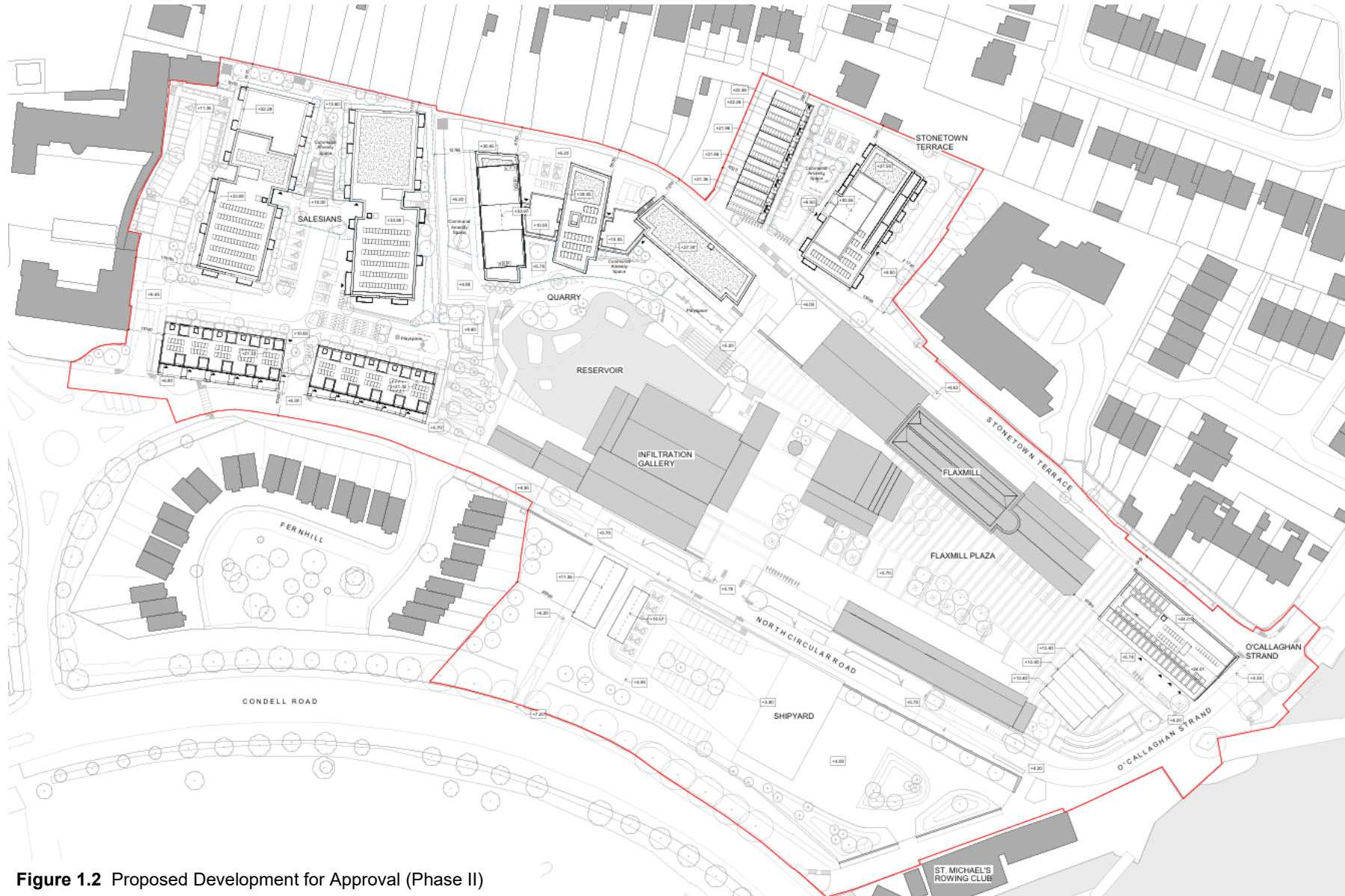


Figure 1.2 Proposed Development for Approval (Phase II)

1.2 Need for Environmental Impact Assessment

Only certain projects require Environmental Impact Assessment (EIA) and these are detailed in the Planning & Development Regulations 2001 as amended. Table 1.1 below clarifies why EIA is required based on the size of the site within a designated business district and the scale of demolition near sensitive environmental areas.

Table 1.1 EIA Threshold Screening	
Paragraph 10 Infrastructure Projects Class (b)(i)	
Threshold	Construction of more than 500 dwelling units
Response	The proposed development comprises 302 no. dwelling units ⁵ and is below the 500 dwelling unit threshold. The development does not exceed the threshold requirement for this class of works.
Paragraph 10 Infrastructure Projects Class (b)(iv)	
Threshold	Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere. (In this paragraph, "business district" means a district within a city or town in which the predominant land use is retail or commercial use).
Response	The application site is 5.09 hectares in area. Whilst the existing predominant land use surrounding the subject site is residential in nature and zoned accordingly, the site itself is of industrial / commercial nature. Of importance, the majority of the site is located within the defined City Centre Area zoning. Further the site is identified as a City Centre Commercial Area (CCCA) where the objective is to support the retention and expansion of a wide range of commercial, cultural, leisure and residential uses in the commercial core area, (apart from comparison retail uses). Having regard to the primary zoning of the land as a 'city centre commercial area' and the objective to provide for a mix of commercial, residential, leisure and cultural uses, which is distinct from the immediate adjoining residential zonings, it is considered that the site falls within a 'business district'. The development exceeds the 2 hectare threshold under Paragraph 10(b)(iv) and mandatory EIA is required.
Paragraph 14 Works of Demolition	
Threshold	Works of demolition carried out in order to facilitate a project listed in Part 1 or Part 2 of this Schedule where such works would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7.
Response	The proposed development comprises extensive demolition in proximity to the River Shannon and other sensitive environmental receptors including consideration of protected species – Lesser Horseshoe Bat. The works of demolition have the potential to have significant effects on the environment and requires mandatory EIA.

The EIAR outlines steps to avoid or reduce negative impacts, such as:

- Careful design and construction practices.
- Monitoring environmental effects during and after construction.
- Preserving heritage buildings and improving biodiversity.

For the avoidance of doubt, all works proposed as part of the application for which planning consent is being sought, and described in the statutory notices, have been subject to environmental assessment which is presented in this EIAR. However, in order to ensure an effective and conclusive environmental assessment consistent with best practice, the assessment of potential effects on the environment also examines the collective cumulative effects of the Phase I works and the remaining masterplan lands which have yet to be advanced for development, insofar as information is available.

1.3 Expert Team

The EIAR was prepared by a multidisciplinary team of qualified professionals in planning, ecology, archaeology, architecture, engineering, and environmental science as detailed in Table 1.2 below.

Table 1.2 EIAR Table of Content & Authors – Competent Experts				
Chapter of EIAR	Author(s)	Company	Subject Area	Qualification
Part A	Mary Hughes	HRA Planning	Non-Technical Summary	BA (Hons) MSc PGDip EIA Mgmt. MIPI
Part B				
Chapter 1.0	Mary Hughes	HRA Planning	Introduction	BA (Hons) MSc PGDip EIA Mgmt. MIPI
Chapter 2.0	Mary Hughes Gary Rowan	HRA Planning	Project Description	BA (Hons) MSc PGDip EIA Mgmt. MIPI Bsc (Hons.), MSc. PGDip, EIA Mgmt. MIPI MRTPI
Chapter 3.0	Mary Hughes	HRA Planning	Project Need & Spatial Planning Policy	BA (Hons) MSc PGDip EIA Mgmt. MIPI
Chapter 4.0	Mary Hughes	HRA Planning	Project Scoping & Engagement	BA (Hons) MSc PGDip EIA Mgmt. MIPI
Chapter 5.0	Mary Hughes Gary Rowan	HRA Planning	Examination of Alternatives	BA (Hons) MSc PGDip EIA Mgmt. MIPI Bsc (Hons.), MSc. PGDip, EIA Mgmt. MIPI MRTPI
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Chapter 7.0	Sara Fissolo Pat Robers	MKO	Biodiversity	BSc Ecology CIEEM B.Sc., MCIEEM
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Chapter 11.0	Catherine McIntyre Deirdre Larkin	AtkinsRealis	Water & Hydrogeology	BSc (Hons) Chemistry PhD Biogeochemistry BSc. (Hons) Geology MSc Applied Hydrogeology IGI PGeo, EurGeol
Chapter 12.0	Dave Kirkwood	Mitchells	The Landscape	BSc Hons, CMLI, MILI, Dip. Env Mgmt
Chapter 13.0	Jennifer Harmon	AWN	Noise & Vibration	BSc, Dip Noise, MIOA
Chapter 14.0	Tanmay Gojamgunde Ciara Nolan	AWN	Air Quality	MSc, BTech BSc, MSc, MIAQM, MIEEnvSc
Chapter 15.0	Tanmay Gojamgunde Ciara Nolan	AWN	Climate	MSc, BTech BSc, MSc, MIAQM, MIEEnvSc
Chapter 16.0	Harshad Joshi	IES	Microclimate – Pedestrian Wind Comfort & Distress	BE (Mech.) MS (Mech. and Aerospace),
Chapter 17.0	Douglas Bell	IES	Microclimate – Sunlight Daylight & Shadow Analysis	BSc (Hons) PGDip
Chapter 18.0	Nicholas Van Den Berg	AtkinsRealis	Material Assets - Traffic & Transport	BSc. Eng, CMIEI
Chapter 19.0	Ewursel Opoku Jenny Snook	AtkinsRealis	Material Assets – Waste Management	BSc. Botany MSc Environmental Monitoring and Management MA Archaeology, MSc Env Sc
Chapter 20.0	Deirdre Larkin Jenny Snook	AtkinsRealis	Material Assets – Utilities	BSc. (Hons) Geology MSc Applied Hydrogeology IGI PGeo, EurGeol MA Archaeology, MSc Env Sc
Chapter 21.0	Pat O'Brien Christine Madden	EOB Engineers Aegis Safety	Risk Management for Major Accidents /Disasters	BE, BSc Env, H dip Geology, LLB BSc, BCom, HDip OSHW
Chapter 22.0	Mary Hughes	HRA Planning	Interaction Between Environmental Factors	BA (Hons) MSc PGDip EIA Mgmt. MIPI
Chapter 23.0	Mary Hughes	HRA Planning	Summary of Mitigation Measures	BA (Hons) MSc PGDip EIA Mgmt. MIPI

2.0 PROJECT CHARACTERISTICS

This chapter outlines the full scope of the proposed development, its design, layout, and how it fits into the broader regeneration of the Cleeves Riverside Quarter in Limerick City; a site which ceased operation as a milk processing facility in 2011. It also describes the site's history, the planned phases of development, and the environmental and infrastructural considerations.

2.1 Masterplan Proposal

The Masterplan Framework facilitates the urban regeneration and renewal of a central, serviced and under-utilised city property. Consistent with the Development Plan objectives the Masterplan seeks to create an improved physical environment and to deliver services and infrastructure that will contribute toward city centre spatial and economic renewal whilst delivering essential housing.

The site is currently a brownfield site, mainly comprising hardstanding and revegetating bare ground, with Salesians school dominating the north western section. The levels within the site vary significantly, sloping from northwest to southeast towards O'Callaghan Strand and the River Shannon. An old quarry is located at the centre of the site, with a reservoir formed from part of the quarry. The site consists of six development zones as detailed in Figure 1.3, including Salesians Zone; Quarry Zone; Stonetown Terrace Zone; Flaxmill Zone / O'Callaghan Strand; St. Michael's Rowing Club / Riverside Zone; and Shipyard Zone. A different approach to development has been adopted for each zone and which shall inform future delivery sequencing.



Figure 2.1 Development Zones within Overall Masterplan Site

The Masterplan demonstrates the potential of the site to accommodate a mix of uses with a proposed 60% of the site dedicated to commercial / educational floorspace; 30% dedicated to residential use; and 10% dedicated to mixed use purposes. The Masterplan at the time of conception (2023), as detailed in Figure 2.2 below, provided for:

- Creative reuse of buildings of heritage significance including the Flaxmill, Cold Store, Engine House and Infiltration Gallery;
- Demolition of Salesians School and other buildings throughout the site, necessary to facilitate development and enable connectivity and permeability;
- Provision of 275 no. student residential bed spaces on the Quarry Site;
- Provision of between 180 - 220 no. residential units;
- Provision of between 35,000sqm – 36,500sqm of commercial / educational floorspace;
- Provision of between 5,000sqm – 6,500sqm of mixed uses;
- Development of a generous civic plaza in the forecourt of the historic Flaxmill; and
- Development of significant public realm facilitating connectivity and permeability



Figure 2.2 Masterplan Proposal

The Urban Regeneration Development Fund (URDF) funding secured, (€34.5m,) will assist in facilitating enabling works for the Cleaves site, thereby unlocking the site for development. Four phases of development are envisaged in delivering the Masterplan Site.

Phase I – Heritage Works

The Flaxmill requires substantial and expansive repair and renovation to enable reuse. Urgent works are required to the main mill roof and upper storey which necessitates peeling back of modern layers. These works are in keeping with best conservation practice and the Architectural Heritage Protection Guidelines (2011) and are not considered to materially affect the character of the protected structure. Accordingly, they are outside the scope of the application for consent to An Coimisiún Pleanála and are being undertaken under the provisions of Section 179(6)(a) of the Planning &

Development Act 2000 as amended. This EIAR will assess potential cumulative impacts arising from these works.

Phase II - Residential & Public Realm (Subject development proposal)

This application for consent is being advanced for the Residential sites (Salesians Zone, Stonetown Terrace Zone, O'Callaghan Strand which is located within the Flaxmill Zone and the Quarry Zone); and the full Public Realm for the entire site excluding St. Michaels Rowing Club. The commercial buildings proposed for the Shipyard site in the Masterplan are not being advanced at this time. However, a temporary meanwhile use for the Shipyard Zone is proposed. Demolition will be undertaken on site to facilitate the proposed development, including the total demolition of the Salesians School and associated buildings.

Phase III – TUS Campus

This will form a separate planning application and is likely to advance whilst the Phase 2 Residential & Public Realm development (current application) is being assessed. The Flaxmill and associated historical buildings will undergo a change of use, renovation works and be extended to accommodate commercial uses at the ground floor level with educational use at upper floors. Significant new educational buildings are proposed along North Circular Road as detailed in the Masterplan, which will necessitate further demolition of buildings. This development will be assessed as part of the EIAR insofar as possible having regard to the extent of information available at the current time.

Limerick Twenty Thirty and the Technological University of the Shannon (TUS) have entered into a Memorandum of Understanding to deliver the campus with a detailed Feasibility Study already complete. The next stage in the process is Planning Developed Stage: Outline Sketch Scheme Design and it is likely that consent shall be sought for this development in 2026, dependent on funding approval from the Higher Education Authority.

Phase IV – Shipyard Site

The final phase of development will be the Shipyard site which is intended to accommodate significant commercial development, including circa 23,000sqm of commercial floorspace, with significant buildings of up to 8 storeys in height and a landmark building extending towards the river. This part of the overall Masterplan is intended to accommodate most of the minimal car parking provision for the site within an undercroft / basement level. There is no timescale defined for the delivery of this element of the development, but it is likely that detailed design will commence after the consent process associated with the TUS educational campus. In the meantime, temporary 'meanwhile uses' are proposed on the Shipyard site which will be assessed in the EIAR.

2.2 Phase II Application Site

Whilst the area of the proposed development site encompasses most of the Masterplan site, the St. Michael's Rowing Club site adjoining the river's edge, is excluded from the current development proposal, but will be included in Phase IV. Further, within the site not all buildings are proposed to be demolished / constructed or re-used as indicated within the Masterplan. Rather, the focus on this phase of development is to advance residential development in an effective and efficient manner to address the critical shortage of accommodation in the city, whilst ensuring that the development does not compromise the future delivery of Phase III TUS Educational Campus and the remaining Masterplan proposal.

The 5.09 hectare application site is subdivided into two parts by the North Circular Road with O'Callaghan Strand providing a barrier between the site and the river. The site has three access points including two from the North Circular Road and the third from Stonetown Terrace, a cul-de-sac extending from O'Callaghan Strand. The site (river front) adjoins a Natural Heritage Area and the River Shannon Special Area of Conservation. The site is also proximate to the River Shannon Special Protection Area. Two structures within the site are designated protected structures; the Flaxmill Building (PS Ref no.264 & NIAH No. 21512053) and the octagonal brick chimney (PS Ref no.265 & NIAH No. 21512059). Although the site is brownfield in nature and has been effectively abandoned since 2011, there are a number of existing, temporary uses on the site.

2.3 Phase II Proposed Development

As already detailed in Section 1.2, the development comprises demolition of a number of buildings and the construction and phased delivery of residential development within four development 'zones' with blocks of development ranging in height from 3 – 7 storeys (with screened service plant at roof level) comprising; (a) 234 no. residential units; (b) 270 no. student bedspaces with ancillary resident services at ground floor level; (c) 299sqm of commercial floorspace; and (d) a creche. The Site Layout Plan is detailed in Figure 1.2.

The development statistics pertaining to the proposed development are detailed in Table 2.1.

Table 2.1 Development Statistics		
No. of Residential Units	234 no. units	
	Apartments	Townhouses & Triplex Units
	205 no.	29 no.
Unit Mix	Number	Percentage
Studio	6	2.5%
1 bed apartment	97	41.4%
2 bed apartment (3 person)	98	41.8%
2 bed apartment (4 person)	4	1.7%
3 bed townhouses & Triplex Units	29	12.3%
Number of Student Bed Spaces	270 no. bedspaces ²	
Creche Area	373sqm Capacity for 34 no. children	
Commercial Floorspace	299sqm	
Site Area Gross	5.09 hectares gross	
Site Area Net	2.69 hectares ³	
Density	115 units per hectare	
Floor Area to be Demolished	11,000sqm GIA	
Gross Floor Area	33,877sqm	
Building Height	3 - 7 storeys	
Plot Ratio	0.8 (net site area)	
Site Coverage	25% of net site area	
Public Open Space / Public Realm	7,817sqm of public realm (15.3% of total site)	
Communal Open Space	2,419sqm	

A number of design principles have guided the development proposal including:

- Respect for Heritage: Retaining and integrating historic structures.
- Sustainability: Use of green roofs, rain gardens, and energy-efficient systems.
- Connectivity: Improved pedestrian and cycle access, including links to the city centre.
- Community Focus: Public spaces, creche, and flexible event areas.
- Environmental Protection: Measures to manage flood risk, invasive species, and waste

2.3.1 Demolition

Building reuse and retention of historic fabric and features is being led by a conservation philosophy, guiding the retention, consolidation, repair and reuse of the historic structures as part of a multi-phase development spread across phases I, II and III. Demolition is proposed as detailed in Figure 2.2 to enable the regeneration and redevelopment proposal. The buildings identified in red are to be demolished as part of the Phase II proposed development.

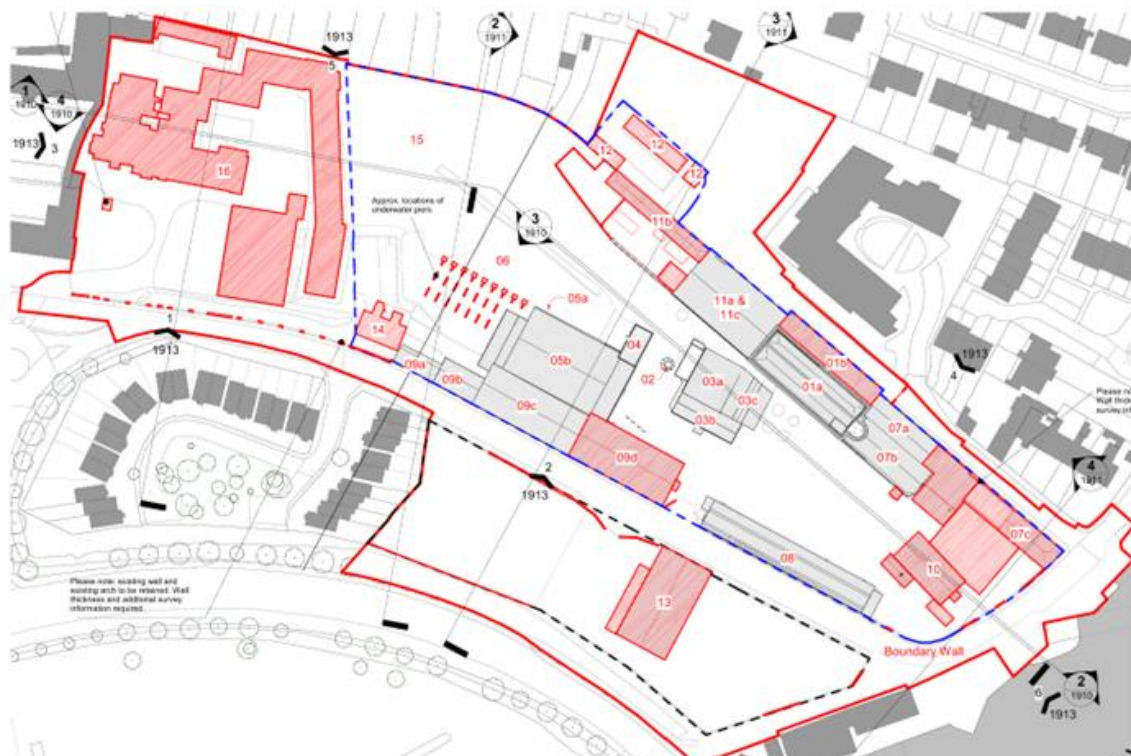


Figure 2.2 Buildings Proposed for Demolition highlighted in Red and those for Retention Highlighted in Grey

2.3.2 Development

Salesians Zone

The totality of the Salesians school and Fernbank House are to be demolished to enable construction of 166 no. new homes for Limerick. The apartments are made up of one-bedroom two-person apartments (46%), two-bedroom four-person apartments (42%) and three-bedroom five-person back-to-back triplexes (12%), with a creche and 1,073sqm of communal open space and car parking. Demolition of the building is necessary to facilitate compact growth and the provision of apartment units in compliance with the Sustainable Urban Housing Design Standards for

New Apartments 2025. It is proposed to undertake Building Recording of Fernbank House only having regard to its historic fabric and to salvage and reuse material on site where feasible and practical

Quarry Zone

Two houses fronting onto North Circular Road are to be demolished to facilitate pedestrian and cycle access to the Cleaves site, and in particular, the public amenity offering provided by the reservoir in the Quarry area. This zone comprises 1 no. Purpose Built Student Accommodation (PBSA) building with 3 no. wings extending to 6 and 7 storeys comprising 270 no. bedspaces and 1,377sqm of communal amenity space, with a finished floor level of 6.2m. Communal spaces include a reception area, space for informal social interactions and meetings, touchdown spaces, spaces for individual and shared study and multipurpose space for small seminars.

Block 2A (west wing) of the PBSA proposes telecommunication antennae and equipment at roof level to mitigate the impact the development will have on the existing poor mobile phone signal in the area and provide both the occupants of the development and the local area with adequate voice and data services to meet modern demands. The proposed development involves the micro-siting of telecommunication antenna by approximately 3 meters on the rooftop of Block 2a of the PBSA. The adjustment is intended to optimise signal coverage and network performance without altering the overall design or height of the installation. The flexibility is required to facilitate technologically acceptable locations at the time of delivery of the infrastructure.

Stonetown Terrace

It is proposed to demolish the Upper Reservoir at Stonetown Terrace (Ref. 12). This includes the two concrete water tanks (approximately 3m deep), pump house and liquid storage tank. This demolition will facilitate the construction of 38 no. apartments and 9 no. three bed townhouses with 380sqm of communal open space and associated car parking.

Further, demolition of a 1960's lean-to building structures adjoining the Cold Store (former Weaving Mill) is proposed. The weaving building is largely derelict and has been the subject of substantial change after 1927. As part of the permeability and urban connectivity strategy the scheme proposes to open up part of the masonry façade to create a pedestrian link, offering connectivity between Stonetown Terrace and the Flaxmill Plaza. This route also allows for emergency vehicle access to the proposed PBSA buildings on the Quarry site. The remaining area of wall will provide a representative samples of surviving elevation.

O'Callaghan Strand Zone

This zone comprises 1 no. building extending to 4 / 5 storeys comprising 21 no. apartments including 9 no. 1 bed and 12 no. 2 bed) units, with a finished floor level of 5.7m. The building has a non-thermal, non-airtight pitched covering over the roof with open air joints in roof panels accommodating communal open space and plant. Commercial floorspace (299sqm) has also been accommodated within the ground floor of the apartment block fronting onto O'Callaghan Strand.

Flaxmill Plaza

The remaining ground floor of the extension to the rear of the Flaxmill building, adjoining Stonetown Terrace is to be demolished to provide for access to the upper site.. Its removal will reveal the currently closed off north elevation of the main mill. The c.1960s reinforced concrete frame office building, which adjoins the Packing Store and Cheese Plant, is also to be demolished. The surviving fragment of an

earlier stone built single storey element (1853 façade) that addresses the North Circular Road is to be retained.

The Flaxmill Plaza is to be developed as a Public Square providing a significant area of civic space fronting the majestic Flaxmill building. Incorporating nature based SuDs, and accommodating permeability and access, the plaza provides an important link connecting the Riverside and the Reservoir. It will incorporate the riverside canopy offering a micro-climatic sheltered location functioning as an outdoor event space.

Shipyard Site

A Mobility Hub is proposed on the Shipyard Site. Whilst a Mobility Hub was proposed on the Shipyard site from the outset in the Masterplan, it did comprise an integral part of the proposed commercial building at basement level. Thus, pending redevelopment proposals for the Shipyard site, it is proposed to locate the Mobility Hub at the western extremity of the site, separated from Fernhill by a flood berm and urban woodland planting.

2.3.3 Construction

Construction is expected to begin in 2027 and take approximately four years dependent on market conditions and funding streams. The development is structured into nine distinct but overlapping stages. Depending on market conditions and delivery mechanisms, some stages may progress more quickly or slightly ahead of others. Maintaining flexibility in the delivery sequence is essential to ensure the development can adapt to changing market conditions. The anticipated sequence of stages is outlined below:

Stage 1: Construction of Bat Houses - A 3-month period is allocated exclusively to this stage to allow bats on-site to adjust to their new accommodation. No other construction activity will overlap with this stage.

Stage 2: Site Demolition and Enabling Works - This stage involves demolishing identified buildings and structures to facilitate development and installing enabling drainage infrastructure across the Flaxmill area. Temporary surface treatments will be applied to support access to the upper-level sites (Salesians and Stonetown). This stage is expected to take 12–15 months.

Stage 3: Flood Protection Works - Raising the North Circular Road and implementing other flood protection measures will occur concurrently with Stage 2 and is expected to take 15 months.

Stage 4: Salesians Zone Development - Construction of apartments and triplex units, along with local public realm and communal open spaces, will begin midway through Stage 2. This stage is expected to take 18–24 months.

Stage 5: Stonetown Terrace Zone Development - This stage will likely begin alongside Stage 4 and take 15–18 months. Given its timeline, Stonetown Terrace is expected to be the first zone ready for occupation.

Stage 6: O'Callaghan Strand Zone Development - Construction of apartments in this zone will begin midway through the Stonetown Terrace works and is expected to take 15 months, likely completing before the Salesians Zone.

Stage 7: Quarry Zone PBSA and Public Realm - This stage includes the construction of Purpose-Built Student Accommodation (PBSA) and associated amenities, as well as public realm improvements around the reservoir. It is expected to take 24 months.

Stage 8: Flaxmill Plaza and Riverside Public Realm - Delivery of Flaxmill Plaza and riverside canopy works is anticipated to take 15 months. This stage will begin after the completion of Stonetown Terrace but before the Salesians Zone is finished. Completion is expected to align with the PBSA.

A Pre-Demolition Waste Audit prepared by AtkinsRealis estimate the total volume of material arising from the demolition of the site is 9503T, comprising 75% precast/panels concrete; 21% brickwork; 3% steel and the remaining comprising PVC window frames, metal corrugated cladding, fluorescent lighting and internal roof lining boards. The Construction and Demolition Resource Waste Management Plan (CDRWMP) and the Circular Economy Plan prepared by ARUP detail the waste management proposals for the site including reclamation and disposal. The on-site reuse of site-won materials will be prioritised, where feasible.

A detailed Construction and Environmental Management Plan (CEMP) accompanies the application for approval. The appointed Contractor shall be obliged to adhere to all measures in the CEMP and to further develop the CEMP with detailed construction measures.

3.0 NEED & SPATIAL PLANNING POLICY

Regeneration of the proposed development site, referenced in local planning documents¹ as 'Cleeves' is promoted at national, regional and local policy level, providing a solid planning framework for its development. The site is prioritised for investment under the Urban Regeneration and Development Fund (URDF), with enabling infrastructure and governance reforms supporting its transformation. There are a number of more strategic and generic policies and objectives influencing the approach to development on the site. The proposed development has been carefully considered and designed in the context of such strategic policy, mindful of environmental and social, obligations and targets.

The proposed development at Cleeves is well-supported by planning policies at all levels. It addresses housing and student accommodation needs, promotes sustainable and compact urban growth, and contributes to climate and biodiversity goals. It is a key part of Limerick's strategy to become a vibrant, sustainable, and inclusive city.

The project supports the **United Nations Sustainable Development Goals 2015**, especially Goal 11: Sustainable Cities and Communities. The development promotes regeneration of a brownfield site into a vibrant mixed-use urban quarter, incorporating public spaces, pedestrian and cycle routes, and heritage conservation (e.g. Flaxmill and chimney) which enhances cultural and community value. The proposed development integrates climate-resilient infrastructure, including nature-based Sustainable Drainage Systems (SuDS), green roofs, and energy-efficient buildings. The use of photovoltaic panels and low-carbon mobility options (EV charging, mobility hub) supports reduced emissions.

¹ Limerick Development Plan 2022 - 2028

The proposed development complies with a number of the NPO's within the **Revised National Planning Framework** with particular regard to development within the existing built up footprint of a settlement. Specifically, the NPF notes that Limerick has the potential to generate and be the focus of significant employment and housing growth to 2040. The NPF identifies key future growth enablers for Limerick including "Implementation of the updated Limerick 2030 economic strategy to create modern, city centre residential, food and beverage, leisure and office accommodation, to reposition the City Centre as the premier regional shopping destination and to deliver a series of transformational city centre commercial and public realm projects". The NPF also acknowledges the demand for student accommodation. It recognizes that student accommodation demand exacerbates the demand pressures on the available supply of rental accommodation in urban areas in particular. It acknowledges that in the years ahead, student accommodation pressures are anticipated to increase. The NPF provides for a number of National Policy Objectives (NPO) which must be adhered to in the advancement of development throughout the State and in the delivery of people, homes and communities. It contains a number of NPO's which clearly support the development and compact growth of a city centre site such as Cleevess. Further, key national policy objectives, including managing the circular economy, the sustainable reuse of materials and resources and the conservation of cultural and natural heritage have all informed the approach to development on the site.

Housing For All - A New Housing Plan for Ireland (HFA) was introduced by the Government in order to achieve a more sustainable housing system with a planning system that is fit for purpose and that will create long term vibrant communities with the necessary supporting infrastructure. The HFA is to be the largest State led building programme and is financed by the largest ever State funding commitment. It is apparent from the HFA plan that high-density housing is to be supported. Housing policy objective 11, no. 11.2 seeks to "*Develop section 28 Guidelines for Planning Authorities on Sustainable and Compact Settlement Guidance (SCSG), including guidance on housing typologies to facilitate innovative approaches to medium and higher densities*". The proposed development provides for 234 no. new residential units and 270 no. new student bedspaces. It will contribute towards the government's target deliverance of housing, achieving compact growth and a high quality, sustainable development in a serviced, city centre location.

The **National Student Accommodation Strategy (NSAS)** published in 2017 points to all current indicators that indicate a significant increase in full time students attending publicly funded Higher Education Institutes (HEI) over the next decade. The Strategy recognises that in order to comprehensively address the shortfall in student accommodation investment is required from both public higher education institutions and private developers. The shortage of student accommodation is happening in the context of the wider housing crisis. There is a need to increase the supply of all types of housing and accommodation, including student accommodation. The proposed development seeks to deliver 270 no. student bedspaces in Limerick to address the shortage identified. A Student Accommodation Demand and Concentration Assessment Report has been prepared under separate cover.

Climate Action Plan 2025 (CAP25) is the third statutory update under the *Climate Action and Low Carbon Development (Amendment) Act 2021*. It aims to reduce greenhouse gas (GHG) emissions by 51% by 2030 (relative to 2018) and achieve climate neutrality by 2050. The plan aligns with legally binding carbon budgets and sectoral emissions ceilings for all sectors, including the built environment and transport. CAP 25 seeks to reduced residential sector emissions target by 40% by 2030 compared

to 2018. To achieve this, the emphasis is on deep retrofitting, energy efficiency, and low-carbon heating systems (e.g., heat pumps). New developments must comply with Nearly Zero Energy Building (NZEB) standards and integrate low-carbon design principles. CAP 25 also promotes circular economy practices in construction, including reuse of materials and minimisation of waste

In compliance with the CAP25 strategy, the proposed development seeks to deliver a low-cost solution for home owners through a number of energy efficient, low emission sustainable solutions. The houses and apartments will be energy efficient and meet current Building Regs and NZEB requirements, achieving a BER A2 for dwellings. The proposed development on a brownfield site, in the city centre, promoting compact urban form and integration with existing public transport networks aligns with CAP25 objectives. Further, the promotion of low-carbon materials, waste minimization promoting the Circular Economy and biodiversity enhancement measures all support Ireland's climate and sustainability goals as set out in CAP 25.

Ireland's 4th National Biodiversity Action Plan (NBAP) 2023–2030 launched in January 2024, outlines a comprehensive strategy to address biodiversity loss and integrate nature conservation into national development. Of relevance to the proposed development, are the targets and actions associated with Objective 2 and 3 on achieving the conservation and restoration needs of environmental designations. The proposed development comprising a city centre regeneration project can significantly contribute to Objective 2 by, amongst other things, transforming the quarry reservoir, an underused urban space, into an urban park, with a focus on restoring habitats in the reservoir and supporting urban biodiversity. Objective 3 seeks to secure nature's contribution to people and focuses on recognising, valuing, and enhancing the benefits that nature provides to individuals and communities. The proposed development enhances access to nature for the new community that will live in Cleeves and for the wider community, providing a new natural, urban park focused around the reservoir.

Heritage Ireland 2030 is a cross-Government Strategic Policy for heritage that sets out a framework for the protection, conservation, promotion and management of Ireland's heritage. It adopts a whole-of-government, cross-sectoral approach, integrating heritage considerations into national and local policy frameworks to ensure long-term sustainability and public engagement. Heritage Ireland 2030 recognises the importance of heritage for its intrinsic value, for economic development, tourism and innovation and the role it plays in individual and societal well-being. The masterplan for the site is based on a conservation led approach. Within this is the recognition that the loss of some fabric holding heritage significance will occur and that this is to be minimised. Change is to be focused in areas of greatest tolerance for change. Typically, this change will focus on areas where the fabric and character of the complex can benefit from interventions that remove elements that erode the legibility of significance. This is the order of change that is necessary to permit the long-term sustainable reuse of the complex.

The ***Regional Spatial and Economic Strategy for the Southern Region 2020 - 2032*** confirms that the city of Limerick is a very important driver of national growth, a key regional centre that requires significant investment and growth. The RSES highlights the need to increase residential density through a range of measures including reductions in vacancy and re-use of existing buildings. A dynamic approach to land-use within the footprint of existing settlements is sought by the RSES in order to maximise the opportunity of urban regeneration and infill sites to contribute to sustainable compact growth and revitalisation of our existing settlements of all scale.

Within the RSES there is a **Metropolitan Area Strategic Plan (MASP)** for Limerick. The MASP supports innovative approaches to securing long term transformational and rejuvenation focused compact city growth, including unlocking the potential of centrally located sites. Implementation of the Limerick 2030 economic strategy is identified as a national enabler to create modern, city centre office accommodation and a series of transformational city centre public realm projects. It specifically identifies Cleeves as one of the key strategic sites which will contribute to the transformation of the city. The Cleeves site in Limerick is identified within the Limerick MASP as a strategic brownfield regeneration opportunity, central to achieving compact urban growth and sustainable development objectives. Its redevelopment is aligned with national policy goals for Transport Orientated Development (TOD), aiming to integrate residential, employment, and amenity uses with high-capacity public transport infrastructure. As part of Limerick's broader city-scale growth strategy, the Cleeves site plays a pivotal role in reversing urban sprawl, enhancing liveability, and contributing to the city's evolution as a regional driver of scale and sustainability.

The **Limerick Development Plan 2022-2028** sets out Limerick City & County Council's policies for the development of Limerick City to 2028 and beyond. The Cleeves site is identified as a key strategic site in the Development Plan, earmarked for redevelopment in Limerick City Centre, and expected to have transformational effects on the revitalisation of the City. It recognises that the key tool for the revitalisation of Limerick is the Limerick 2030 – An Economic and Spatial Plan. The World Class Waterfront development is a key revitalisation and transformation project under the Limerick 2030 Plan. The World Class Waterfront project comprises three elements including the Cleeves Riverside Quarter. The Development Plan acknowledges that the World Class Waterfront project will deliver on the NPF objectives of compact growth, sustainable mobility and placemaking/ public realm, which has the potential to make a transformational difference to Limerick City. In combination, the three elements of the project will facilitate an increase in the population residing and working in the City Centre. The site has two land use zonings afforded to it in the Development Plan. Whilst most of the site is zoned for 'City Centre' mixed uses, Stonetown Terrace is largely zoned for 'Existing Residential Use'.

Cleeves is identified as one of a number of Strategic Employment Locations in the city (Objective ECON O17). In accordance with Objective CGR03 of the Development Plan, a masterplan has been prepared for the site to enable the coherent and sustainable development of the lands. In this regard the developed Masterplan is intended to set out the framework for the sustainable, phased and managed development of Cleeves and provides a practical phasing strategy for the site which can be submitted with the proposed Phase II to demonstrate an integrated and considered approach. The Development Plan focuses delivery of tall buildings in the City Centre, with tall building clusters encouraged on the Cleeves site (Objective CGR O9) having regard to its location at a major crossing point on the River Shannon. The Development Plan acknowledges the Cleeves site as the only major development opportunity on the right bank of the Shannon and should take its essential character as a gateway and vista of and from the City. Further consideration of compliance with the Development Plan and its policies is provided in the Planning Report accompanying the application for consent under separate cover.

The Limerick City and County Council **Climate Action Plan 2024–2029** outlines the council's strategic approach to climate mitigation and adaptation, aiming to reduce greenhouse gas (GHG) emissions by 51% by 2030 (from a 2018 baseline) and to achieve climate neutrality by 2050. It identifies Initiatives such as BusConnects Limerick and expanded cycling infrastructure as being central to reducing

transport-related emissions. The proposed development provides for significant bicycle parking facilities in excess of recommended standards in the Limerick Development Plan and the Sustainable Urban Housing Design Standards for New Apartments 2025 as detailed in Chapter 2.0 Table 2.2. Nature-based solutions, green infrastructure, and biodiversity enhancement are promoted with habitat restoration, and the integration of green spaces into urban planning, all of which have been incorporated into the proposed development. Flood Resilience is addressed through measures such as Sustainable Drainage Systems (SuDS), improved stormwater management, and alignment with the Catchment Flood Risk Assessment and Management (CFRAM) programme. These actions aim to reduce the impact of pluvial and fluvial flooding, which are identified as key risks for Limerick. The Circular Economy and Resource Management theme focuses on waste reduction, sustainable procurement, and community-led environmental initiatives. In advancing the proposed development, the Circular Economy and management of resources has been a key consideration as detailed in the Circular Economy Statement prepared by ARUP and included in the application for consent under separate cover. This is addressed further in this EIAR in Chapter 19.0 Waste Management. The plan also includes a Climate Change Risk Assessment, which identifies key hazards for Limerick, including increased frequency of heavy rainfall, flooding, heatwaves, and droughts. Chapter 21.0 Risk Management for Major Accidents / Disasters considers key hazards for the proposed development.

The proposed development is being delivered within the framework of an overall Vision and specific plan for the spatial and economic development of Limerick City centre comprising the ***Limerick 2030 - An Economic and Spatial Plan for Limerick***. The Plan, prepared by LTT, is a once in a generation plan developed to guide the economic, social and physical renaissance of Limerick City Centre and the wider County/Mid-West Region. An Interim Review and Update of the Limerick 2030 Plan was undertaken in June 2022 by consultants on behalf of LTT. It seeks to complement the original plan's emphasis on transformational sites and projects, as well as capturing emerging projects and opportunity areas. The Interim Review continues to focus on sites within the city centre that have the potential to be transformative in their impact. It continues to promote Cleeves as a key site within the Worldclass Waterfront Transformation Project promoting mixed use compact development and significant public realm enhancement works.

4.0 SCOPING

The purpose of EIA scoping and community engagement undertaken for this project was to obtain valuable information about the local community and environment. This information aids in identifying the likely significant effects of the proposed development on the surrounding environment and community. In addition, this information formed part of the key issues to be considered in the design of the proposed development.

4.1 EIAR Scoping

Whilst formal scoping was not undertaken, statutory authorities with a potential interest in the project were consulted. This comprises informal scoping where the sole intent is to gather as much information as possible relating to the site and development proposal. The project was initially scoped with the applicant and within the design team based on the expertise and past experience of the EIAR contributors for similar projects. Existing structures and features on site and the cultural history of the

site as detailed in Chapter 2.0 and Chapters 8.0 & 9.0 informed the overall approach to development, in tandem with Chapter 7.0 Biodiversity.

The agencies consulted in the scoping exercise were selected from among the statutory consultees listed in Article 121 of the Planning and Development Regulations 2001 (as amended). Contact was made with 20 no. consultees and 9 no. responses were received, including detailed responses from the National Transport Authority, Inland Fisheries, Health Service Executive, Geological Survey of Ireland and Uisce Eireann. Following receipt of submissions a scoping exercise was undertaken and 15 no. environmental aspects were identified to be addressed in the EIAR. These 15 no. environmental aspects comprise individual chapters that make up this volume of the EIAR.

4.2 Engagement & Consultation

Many different groupings were consulted during the masterplan process including neighbouring residents, sports and recreation groups, educational providers and statutory bodies such as the NPWS, OPW and An Taisce and Limerick City & County Council staff including Conservation Officer, Planners and Senior Management across all departmental types.

A total of 11 no. briefings / workshops were held with targeted stakeholders between February and June 2023 during preparation of the Masterplan. Following 2 no. public consultation events in March 2023, a total of 52 no. written submissions were received from members of the public. A number of environmental issues were raised relating to biodiversity, built heritage, material assets and microclimate. All public engagement and submissions received during the masterplanning process are detailed in a Stakeholder Engagement & Public Consultation Statement of Outcomes Report accompanying the development proposal. This report also contains a design team response to all issues raised. The feedback received has informed the second stage of the development process, relating to the preparation of the application for consent and the Environmental Impact Assessment Report (EIAR) for approval to An Coimisiún Pleanála.

A mixture of public consultation and targeted engagement was undertaken during the design of the proposed development. A total of 32 no. written submissions were received from members of the public following the consultation and engagement process and in particular the public engagement sessions on the 4th & 5th June 2025 which had in excess of 160 no. attendees. A majority of the submissions were from neighbouring and adjoining residents. Whilst a number of submissions were supportive of the proposal and requested increased height and density, a majority of submissions raised issues of density, massing, scale, along with lack of facilities and opportunities for active recreation. All public engagement and submissions received during the detailed design process are detailed in a Stakeholder Engagement & Public Consultation Statement of Outcomes Report accompanying the development proposal.

A number of structured meetings were also held with a number of statutory bodies including the Built Heritage Section, Department of Housing Local Government & Heritage; National Parks & Wildlife Service; Southern Regional Assembly; and Office of Public Works.

Overall, the EIA Scoping and engagement with the public and statutory bodies, undertaken from project inception has helped to refine the project design to better integrate with the existing environment and meet the specific requirements of the area.

5.0 EXAMINATION OF ALTERNATIVES

An outline of the main alternatives examined throughout the design and consultation process has been provided. This serves to rationalise the main reasons for choosing the development proposed, taking into account and providing a comparison of the environmental effects. In order to meaningfully consider alternatives relating to the proposed development (Phase II), consideration must be given to the evolution of the overall masterplan for the site. Once this has been considered then the detail of the development proposal can be considered, as it is just part of an overall intended scheme of development.

5.1 'Do Nothing' Alternative

In the event of the 'do-nothing' scenario, the existing Cleeve's site would remain undeveloped. Whilst the two protected structures on site (the Flaxmill and the Chimney) are afforded legal protection to ensure they are not endangered through neglect, damage, or alteration, there is a risk that other buildings of heritage interest in the Cleeves site could fall into further disrepair. Ultimately, a 'do-nothing' scenario was considered to represent an inappropriate, unsustainable and inefficient use of these strategically positioned, zoned, urban lands.

5.2 Alternative Locations

No alternative sites were considered or assessed for the purposes of preparing this EIAR, nor is it considered necessary to do so. Having regard to same and following consideration of environmental and planning factors at a high level, including its established zoning, it was considered that the landholding is an appropriate location for a mixed-use residential development from an environmental perspective. The proposal adopts a plan led approach to development and seeks to provide for much needed housing, in accordance with national, regional and local policy and guidance documents.

5.3 Alternative Processes

The proposed construction works comprise relatively standard building demolition and construction processes. As such there are no specific alternative demolition or construction processes identified in this EIAR. No new, unusual or technically challenging operational techniques are required to ensure the development, as designed, can function as a sustainable community.

5.4 Alternative Designs

The Cleeves site is identified as a key revitalisation and transformation project under the Limerick 2030 Plan. The strategic site, identified in the Development Plan, is earmarked for redevelopment in Limerick City Centre, and is expected to have transformational effects on the revitalisation of the City. The Development Plan recognises that centrally located and strategic brownfield and underutilised lands, such as Cleeves, presents Limerick City with an opportunity to achieve the economic and social objectives associated with the targeted population growth for the city in a sustainable manner.

The key environmental and practical considerations which influenced the design of the proposed development and alternative locations and layouts on the site included the following:

- The protected structures of the Flaxmill and the Chimney are central to the consideration of the development proposal along with the need for the phased stabilisation / restoration and reuse of existing buildings that comprises the industrial heritage that is the Cleeves site.
- Minimise demolition and work with existing buildings where possible.
- The location of development within an industrial heritage site and the need to maintain legibility whilst facilitating compact growth and reuse / regeneration of the site. It is the built and cultural heritage elements of the site that define the identity of the site and underpin the development proposal.
- Protection and preservation of existing natural habitats and species including bats thereby preserving and enhancing biodiversity on the site.
- The need to achieve sustainable densities in accordance with national policy in the National Planning Framework; national guidelines Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities and the objectives of the Limerick Development Plan 202 – 2028 given the location of the subject site within the city centre, proximate to lower density suburban development.
- Protection of the residential amenities of adjoining housing in Clanmaurice Avenue neighbouring the site to the north and Landsdowne Hall neighbouring the site to the north east, in the interest of human health.
- The need to protect and enhance existing landscape features including the reservoir and quarry face, thereby ensuring preservation and enhancement of the amenity and biodiversity of the area.
- The quality of the urban environment to be delivered and the associated impact on human health.
- Management of flood risk on site and the need to integrate flood measures into ongoing study optioneering for the Limerick Flood Relief Scheme.
- Management of water and potential pathways as a receptor for contaminants, particularly having regard to the sites proximity to the Lower River Shannon SAC and River Shannon & River Fergus Estuaries SPA.
- Access, permeability and connectivity internally within the site having regard to significant level changes but also externally to the public, thereby ensuring access to significant public open space and public realm.
- Reduced on site car parking provision to encourage and facilitate modal shift to more sustainable modes of transport, including walking and cycling given the city centre location.
- Phased delivery in the context of an overall masterplan and constructability of future development as phases become occupied.'

Demolition

The evolution of the current design has given significant consideration to the extent of demolition proposed. All buildings and structures were the subject of detailed analysis, as provided for in the Statement of Significance and this informed the significance of the buildings in the context of demolition proposals. Whilst the workshops were originally identified for demolition, on the justification of opening

the Flaxmill Plaza to North Circular Road, upon further review and analysis, demolition could not be justified at this time and the workshops have been retained. Similarly, it was originally proposed to remove the full portion of the boundary wall onto O'Callaghan Strand to link the Flaxmill Plaza with the riverside. Again after further consideration, the proposed was amended to reduce the height of the boundary wall to seating level, thereby ensuring that the legibility of the wall is maintained.

Further to the above detailed consideration was given to the demolition of the semi-detached houses on North Circular Road and Fernhill House. Whilst consideration was given to the retention of the houses, their removal is necessary to facilitate universal access at this location from the application site onto North Circular Road having regard to the difference in levels across the site. Further, the extension of the existing rear gardens, backing onto the reservoir, would impede access to and the adaptive reuse of the reservoir as a significant amenity space for not only the residents of Cleeves but also the wider community. There are significant population and human health benefits, in facilitating direct universal access from the North Circular Road and the Salesians Site to a significant proposed recreational and amenity facility in the Quarry site. Further the provision of universal access ensures direct cycle connectivity can be facilitated to North Circular Road from the Quarry site, promoting modal shift.

Initial consideration was given to the adaptive reuse of Salesians School and Fernbank House. However, early consideration determined that converting the school into housing would present significant challenges due to differing spatial requirements, existing infrastructure, and regulatory hurdles. The Salesian School was designed for a specific educational function, and features large classrooms, a gym, and specialised spaces that do not easily translate to residential layouts. Additionally, adapting the plumbing, electrical systems, and fire safety measures to meet residential building codes can be complex and costly. These challenges, with resulting low density development over four stories only, would not result in an optimum design or density solution for this city centre site. With respect to Fernbank House, every effort has been made to reuse and salvage the internal materials and features from Fernbank House in-situ, as detailed further in Chapter 9.0 Cultural Heritage – Architecture.

Masterplan

In developing the Masterplan for the site, an options appraisal was undertaken at an early stage to determine the best approach to developing the site. The options commenced with consideration of uses, scale, form and layout. A Multi Criteria Analysis (MCA) was conducted on five masterplan options in 2021, across nine key criteria and 23 sub-criteria, using a 0–10 scoring scale. The MCA resulted in two options having the same highest scores. The option chosen provided greater opportunities to maximise residential output and to address the urgent need for housing in Limerick city, including student bedspaces. It was further adapted to provide for greater connectivity and permeability within and through the development zones.

Phase II Detailed Design Considerations

Following selection of the Masterplan option, the Phase II application for approval was updated to incorporate a number of changes and enhanced environmental considerations.

- Phased approach to development to focus on urgent delivery of housing in Limerick City.

- Accommodate a diversity of educational uses in an active live/work campus environment. This included consideration of future flexibility to suit the new requirement for teaching and learning environment.
- Incorporation of the Cycle Design Manual 2023 and the more onerous regulations on cycle store layouts.
- Requirement for sprinkler tanks and a second staircase at Salesians.
- Requirement to raise North Circular Road to be reviewed in context of the Limerick Flood Relief Study.
- Car parking strategy to be reviewed in the context of the Sustainable Residential Development and Compact Settlement Guidelines and the proposed Bus Connects Plan.
- Air Source Heat Pumps (ASHP's) introduced at roof level as part of sustainability strategy.
- Greater connectivity and permeability
- Retain existing buildings on Infiltration Gallery, North Circular Road and Shipyard plots until future phase confirmed

A number of site layout and alternative designs were considered during the Phase II design process, with further minor design alterations taking place following receipt of informal consultation opinions from the prescribed bodies and Internal Departments within Limerick City & County Council. Further, the results of technical analysis and surveys presented in the EIAR with respect to in particular Daylight & Sunlight, and Built Heritage resulted in amendments to the development proposal.

No further alternatives to the nature, design and layout of this project have been identified in the preparation of this EIAR, as being required to mitigate or avoid likely significant adverse effects on the environment. The mitigation measures detailed within the EIAR do not require changes to the design and layout of the proposed development. The EIAR provides evidence that the proposed development can be accommodated on the subject site without predicted risk of significant adverse impact on the environment, subject to the identified mitigation measures at construction and operational stages being implemented.

EFFECTS ON THE ENVIRONMENT

Consideration of environmental impacts in the EIAR was based on areas that initial scoping had indicated could be impact upon by the proposed development. These consisted of

- Population & Human Health
- Biodiversity
- Cultural Heritage - Archaeology
- Cultural Heritage - Architecture
- Land, Soils & Geology
- Water & Hydrogeology
- The Landscape
- Noise & Vibration
- Air Quality
- Climate
- Microclimate – Pedestrian Wind Comfort & Distress
- Microclimate – Sunlight Daylight & Shadow Analysis

- Material Assets - Traffic & Transport
- Material Assets – Waste Management
- Material Assets – Utilities
- Risk Management for Major Accidents /Disasters

Each of the above was considered in detail, having regard to both the environment as it currently exists prior to development, the likely impacts of the proposed development, and the means of reducing the impacts of the development when it is in operation.

6.0 POPULATION & HUMAN HEALTH

This chapter examines how the proposed redevelopment of the Cleeves site could affect people living and working in the area, both during construction and once the project is complete. The assessment looks at local population characteristics, housing, health, social services, access to facilities, and the wider community, in line with EPA guidance.

6.1 Methodology

The approach includes developing an understanding of the local area. Census data was studied to learn about who lives nearby—age groups, family types, employment levels, and health status. The focus was on people living within a 10-minute walk of the site, a concept known as the “10-minute neighbourhood.”

Sensitive groups were then identified. These include residents, schoolchildren, healthcare users, and people using local parks and services. The report looks at how these groups might be affected by noise, dust, traffic, and changes to the area, by examining the different project stages including the construction and operational phases. The assessment links with other chapters in the report (e.g., air quality, noise, transport) to get a full picture of how the development might affect human health. The report also looks at whether this project, combined with other developments in the area, could lead to bigger impacts.

6.2 Baseline Context

The site is located in Limerick city centre, within a well-connected neighbourhood that already benefits from strong transport links, a broad mix of social, cultural, and healthcare facilities, and access to extensive open space and leisure amenities. The local population is predominantly young, working-age adults in pre-family households, with relatively few children and a moderate but declining older population. Self-reported health is generally very good, employment levels and deprivation are low. Housing in the area is mainly larger homes, with limited supply of one- and two-bedroom units. This does not match current demographic and market trends, which show increasing demand for smaller units and student accommodation.

6.3 Potential Impacts

Construction phase: Temporary effects are expected, including noise, dust, vibration, traffic disruption, and visual change. Sensitive receptors such as nearby residents, healthcare facilities, and schools may experience slight to moderate negative effects at times. However, best practice

construction management, strict environmental controls, and communication with the public (including Salesians primary school) will ensure these impacts are reduced to acceptable levels and are short-lived.

Operational phase: Long-term effects such as increased demand for housing, services, and changes to the look and feel of the neighbourhood are assessed. The project will deliver 234 no. new homes (mainly smaller units suited to local needs), purpose-built student accommodation, new public open spaces, childcare facilities, and high-quality public realm improvements. These will provide significant, permanent benefits by addressing housing shortages, enhancing local amenities, and supporting compact city-centre growth consistent with spatial development objectives of the Limerick Development Plan 2022-2028. Additional demand on healthcare and education services is expected to be manageable given the level of provision in the area.

Cumulative Effects: Other urban projects are underway or expected in the city centre, but the Cleeves project aligns with the Limerick Development Plan 2022–2028, which has already undergone strategic environmental assessment. No combination of projects is expected to significantly alter the conclusions of this assessment or require alternative mitigation.

6.4 Mitigation & Residual Effects

All mitigation measures are integrated into the design and construction plan. With these in place:

- Construction impacts will be slight, temporary, and well-managed.
- Operation of the project will result in significant long-term benefits through new housing, childcare, public spaces, and improved connectivity.
- No significant adverse residual effects on population or human health are anticipated.

The redevelopment of Cleeves will transform an underutilised city-centre site into a vibrant, accessible, and sustainable urban quarter. While some short-term disruption will occur during construction, these impacts will be carefully managed. In the long term, the project will deliver lasting positive effects on the local population and community wellbeing.

7.0 BIODIVERSITY

This chapter assesses the likely significant effects that the Proposed Development may have on Biodiversity, and sets out the mitigation measures proposed to avoid, reduce or offset any potential significant effects that are identified.

7.1 Methodology

A comprehensive desk study and suite of field surveys were carried out to inform the assessment. Multidisciplinary surveys were started at the site in 2021 and continued until 2025 to maintain an updated ecological baseline of the Application Site.

Dedicated species surveys comprising wintering birds, bats, otter and badger were carried out, during which any incidental records of other species were also recorded. A search for Invasive Alien Species (IAS) listed under the 'First Schedule' of the European Union (Invasive Alien Species) Regulations 2024

(S.I. 374 of 2024) was conducted. The habitats within the Site were the subject of a detailed survey and assessment and habitat mapping. This habitat mapping and assessment was undertaken following the 'A Guide to Habitats in Ireland' (Fossitt, 2000). The multi-disciplinary walkover surveys comprehensively covered the Application Site. These surveys were carried out in accordance with NRA Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes (NRA, 2009).

7.2 Baseline Context

No protected habitats were recorded within the Application Site. The majority of the site comprises of paved surfaces and buildings, categorised as Buildings and Artificial Surfaces (BL3) or Stone Walls (BL1). Areas of Spoil (ED2) and Recolonising Bare Ground (ED2) are present throughout, giving way to Dry Meadows and Grassy Verges (GS2), with the main example of this habitat located to the north of the Application Site.

An invasive species management plan has been developed to treat stands of Japanese Knotweed and Himalayan Knotweed found within the Application Site and eventually remove any contaminated soil off site prior to commencement of works.

No evidence of otter, badger or other protected mammals was recorded within the site, however otter is expected to use the River Shannon. No supporting habitat for wintering birds associated with the nearby SPA was found. An assemblage of common garden birds was recorded within the Application Site, including breeding birds.

A prominent habitat feature of the Application Site is a water Reservoir (FL8) built during the Cleaves Factory operations, which is located in the central section of the Application Site, referred to as the Quarry Site. The reservoir is bordered on three sides by Scrub (WS1). The vegetation growing along the adjacent quarry walls, which are mostly overgrown with ivy and old man's beard, contribute to this scrub habitat but has been classified as Hedgerows (WL1) due to its linearity.

No other aquatic habitats are located within the site. The River Shannon flows adjacent to the eastern boundary Application Site. This area of the Shannon is mapped as Annex I habitats Estuaries (1130) and Tidal mudflats and sandflats (1140) and is part of the Lower River Shannon SAC. The Application Site does not include any habitats associated with the SAC and is confined to the public infrastructure along the riverfront. The River Shannon and River Fergus SPA is also located along the river, 20m downstream from the Application Site boundary.

Supporting habitat for bats was confirmed within the Application Site.

The Quarry Site was assessed as having moderate potential to support foraging and commuting bats, and most of the buildings on the site, which are vacant and in derelict state, provide accessible roosting habitat. An extensive suite of bat surveys was undertaken, and no significant roosts (i.e. hibernacula, maternity colonies) were identified. However, a small soprano pipistrelle roost was found using a crack in the quarry walls, another pipistrelle roost was found in the Salesians school's exterior piping, and evidence of perches/roosts being used by lesser horseshoe bats was found across the site, including within the Cleaves Factory building, with two individuals recorded.

7.3 Potential Impacts

During construction the proposed development has the potential to result in habitat loss and disturbance impacts on bats, birds and otter. The potential for significant effects on aquatic species as a result of degradation in water quality, including otter, is assessed in relation to effects on the aquatic habitat in which they reside. Works around the banks of the reservoir include scrub clearance and landscaping including the construction of boardwalks and seating areas. These works have the potential to result in indirect effects. The impacts on the reservoir include direct habitat loss and, whilst the reservoir was deemed not to have significant fisheries value, potentially direct mortality of fish (roach) that may be present at the time of the works.

The operation of the proposed development will not result in any additional land take or loss of habitats and as such there is no potential for any significant effects in this regard. There could be potential effects on water quality with regards to the aquatic Reservoir habitat located within the Site, and with regards to identified connectivity to the River Shannon.

In relation to designated sites, two nationally designated sites (Fergus Estuary and Inner Shannon, North Shore pNHA [002048], Inner Shannon Estuary - South Shore pNHA [000435]) have been identified as being within the Zone of Influence (Zoi), on a precautionary basis, as they overlap with the SAC and SPA mentioned above. No potential for residual adverse impacts on these pNHAs has been identified following implementation of mitigation measures in relation to potential effects on the River Shannon and aquatic faunal species and therefore no significant effects on the pNHAs are anticipated. An Appropriate Assessment Screening Report and Natura Impact Statement (NIS) accompany this application. This report has been prepared to provide the competent authorities with the information necessary to complete an Appropriate Assessment screening and an Appropriate Assessment for the Proposed Development in compliance with Article 6(3) of the Habitats Directive. The Appropriate Assessment Screening Report identified the potential for significant effect on two European Sites (Lower River Shannon SAC [002165], River Shannon and River Fergus Estuaries SPA [004077]). The NIS concludes that the Proposed Development, individually or in-combination with other plans or projects, will not adversely affect the integrity of any European Site.

7.4 Mitigation & Residual Effects

The proposed development will require the demolition of structures within the site. In addition, most of the existing vegetation will be removed, however the reservoir will be retained as part of the design and remediated. Mitigations are in place to ensure no significant residual impacts on habitats and fauna occur during the construction or operation of the proposed development.

Following the implementation of mitigation no potential for residual adverse impacts on any aquatic receptor has been identified following implementation of mitigation measures. Further no potential for residual significant effects on bats with regard to loss of commuting and foraging habitat, or loss or damage to roosts, have been identified. Mitigation measures include but are not limited to provision of bat sensitive lighting, provision of bat houses, maintenance of existing quarry vegetation for foraging and measures to ensure, retention of roosts along quarry wall and reinstatement of tree canopy.

It is therefore concluded that, provided that the Proposed Development is constructed and operated in accordance with the design, best practice and mitigation that is described within this application, significant residual impacts on biodiversity, flora and fauna will not occur.

8.0 CULTURAL HERITAGE – ARCHAEOLOGY

This chapter examines the potential archaeological and heritage impacts of the proposed application site as part of a phased development proposal for a significant city centre, regeneration area or Masterplan Site (MS). The development site, referred to as Phase II, is part of a much larger city-centre regeneration project called the Masterplan Site (MS). Because archaeology is considered a non-renewable resource – once it is disturbed, it can never be recreated – the assessment takes a careful, methodical approach to identify what might be at risk and how those risks can be managed, with due diligence to archaeology – recorded and potential archaeological resources – with correct implementation of all associated best practise and legislative requirements.

8.1 Methodology

The assessment commenced in early 2025 and looks not only at the immediate Phase II site but also at the wider Masterplan area. This is important because archaeology does not stop at property boundaries. Remains or heritage assets beyond the construction footprint may still be affected by changes to the environment, and the full context of the site helps in understanding its significance.

The assessment followed guidance from national and local agencies, including the Environmental Protection Agency (EPA), the Department of Housing and Local Government, and the Limerick Development Plan (2022–2028). The work combined desk-based research with field surveys.

Desk-based research incorporated:

- Historic maps such as the Down Survey of Ireland and early Ordnance Survey maps.
- Aerial and satellite images spanning several decades, to identify changes in land use.
- Previous archaeological investigations recorded in the Database of Irish Excavations.
- Museum and heritage records from the National Museum of Ireland and the Records of Monuments and Places.
- Built heritage registers, including the Record of Protected Structures and National Inventory of Architectural Heritage.
- Published works and secondary sources on the archaeology and history of Limerick.

Fieldwork involved:

- On-site inspections across both the development site and the wider Masterplan area.
- Compilation of a photographic record.
- Drone perspectives under Irish Aviation Authority licence to gain aerial views, to identify potential anomalies or landscape features not visible from the ground.

This combination of sources provided a picture of both the recorded archaeology and the potential for undiscovered remains.

8.2 Baseline Context

The development site covers a varied and historically rich area along the River Shannon. The site is bounded by major roads, residential areas, and the river itself. Topographically, it rises from about 3 metres above sea level near the rowing club to about 12 metres near the Salesian school. The presence of an old quarry face gives the site a striking artificial feature within this natural gradient.

The River Shannon is the defining element of the landscape. Its meandering course frames the site, creating a low-lying peninsula that has shaped settlement and activity in Limerick for centuries. The river's influence is central not just to the geography but also to the archaeology, since riversides were historically prime locations for prehistoric activity. Limerick is well documented for its significant medieval archaeology, most notably exemplified by King John's Castle, but ranging from wider prehistoric activity through medieval urban development to 19th century industrial and maritime activities. Records show a mix of sites across the city, from burial grounds and defensive works to industrial complexes.

The Cleeves site itself is most strongly linked with industrial heritage, but because of its riverside location there is also potential for earlier remains beneath later construction layers. Previous excavations in other parts of Limerick demonstrate that even where surface features are absent, subsurface deposits can survive. Field inspections and drone surveys did not identify archaeology on the surface within the site, but the potential for subsurface archaeology remains. Construction therefore carries a risk of uncovering previously unrecorded archaeology, which would require appropriate assessment and recording. A case in point is the identification of underground remains of the original 19th century shipyard, which while not part of the application for development, will form a later phase of the masterplan. Ancillary aspects of the proposed development may impact upon this maritime heritage resource and thus has been taken into account.

The chapter also highlights the built heritage that forms part of the site's cultural value. Cleeves Factory Buildings are a reminder of Limerick's industrial era. Even though some are derelict, they tell the story of local economic and social change. The report stresses that development could affect not only the physical fabric of these buildings but also their setting. For example, new construction might alter views, overshadow important features, or disrupt the historic relationship between buildings and the river.

8.3 Potential Impacts

Overall, the archaeological impact assessment provides a balanced picture. While no major surface monuments were found within the site, the area's location, history, and previous records mean there is still a potential for subsurface archaeology. The site also contains significant architectural heritage, from industrial remains to maritime heritage, all of which contribute to the identity of Limerick.

The chapter concludes that the development must proceed with awareness and caution. Impacts may range from moderate to significant, especially if construction affects buried remains or alters the setting of heritage structures.

8.4 Mitigation & Residual Effects

Mitigation measures—such as targeted excavation, preservation in situ, or careful architectural integration—will be implemented. By combining careful planning with heritage protection, the regeneration of this part of Limerick can both respect the past and create opportunities for the future.

9.0 CULTURAL HERITAGE – ARCHITECTURE

The Heritage Chapter focuses on the cultural and architectural heritage of the Cleeves site, including protected structures and those within the curtilage of the early industrial complex. It aims to ensure that heritage assets are protected and enhanced, in line with statutory requirements and best practice guidelines.

9.1 Methodology

The assessment of heritage significance has been informed by both documentary research and physical inspections of the buildings. The area of assessment extended to the wider Masterplan area while allowing for greatest focus on the Phase II site structures. The assessment has carefully considered all structures within the curtilage of the protected main mill building and chimney stack.

A Statement of Significance was prepared to provide an historic analysis and assessment of the heritage significance for each of the structures of the complex. It describes each structure relative to the phasing of the site and its value relative to the protected structures on the Record of Protected Structures (RPS). It is of note that not all the structures and features present on the site inform the special interest of the protected structures. This is an important distinction. Where structures within the curtilage of a protected structure do not positively inform the special interest of that structure, their conservation, preservation and improvement are not necessarily compatible with maintaining the character and interest of the protected structures and therefore warrant a lower level of protection in the context of the assessment.

Where whole structures that hold positive significance are identified for demolition, '*exceptional circumstances*' are demonstrated. Tolerance for demolition will rely upon the extent to which special interest is impacted, and the heritage significance of the complex is affected. There are other structures that hold special interest of which an extent of fabric has been identified for removal. In each of these instances the scope of fabric to be demolished does not constitute the complete demolition of the asset or substantial loss of significance. These are considered within the assessment but are not categorised as complete demolition.

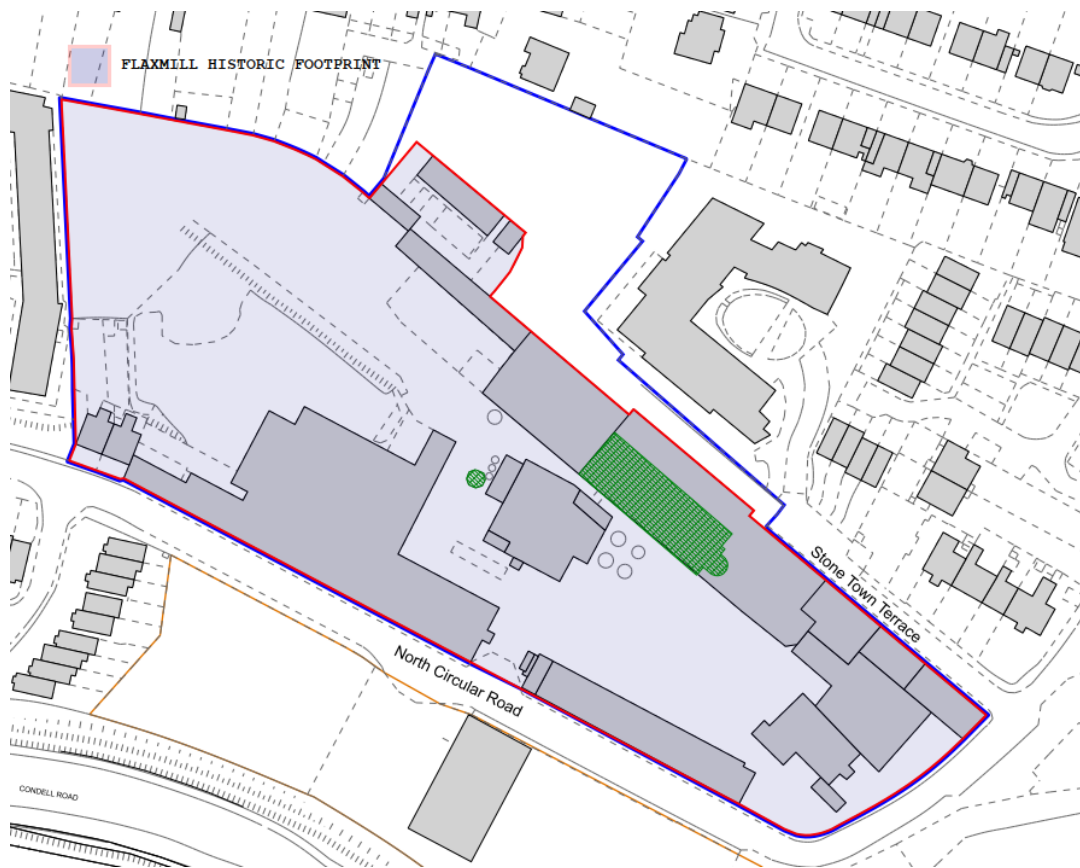


Figure 9.1 - Plan of the Flaxmill complex as exists. Annotated extract from the appendix of the Statement of Significance. Red line infilled with a blue highlight indicates the curtilage of significance of the Main Mill and Chimney Stack.

The structures and features have been grouped to support the assessment process. The assessment divides the development site and heritage receptors (the receiving environment):

GROUP	Summary Description	
Group 1	Formal Heritage Designations <i>Protected Structures on the Record of Protected Structures</i>	Former Cleeves Factory Chimney Stack
Groups 2 to 7	Curtilage Structures <i>Structures / features with heritage connection to the protected structures</i>	2 – Linen Store 3 – Boundary Wall 4 – Quarry, Reservoir & Infiltration Gallery - <i>Buildings Addressing North Circular Road</i> 5 – Cheese Plant, Long building, warehouse and office 6 – Semi-detached houses, Office and Laboratory - <i>Buildings Identified for Demolition</i> 7 - Upper Reservoir
Groups 8 & 9	Informal Heritage Consideration <i>Structures not on the RPS or NIAH</i>	8 - Former Salesians Secondary School 9 – Former Shipyard Site, Boundary Wall and Warehouse
Groups 10 to 12	National Inventory of Architectural Heritage – <i>Heritage near the site</i>	Heritage Structures within 350m of the site.

9.2 Baseline Context

The former Cleeves factory site has a long history of industrial use, primarily arising from flax processing and includes structures and features from 1833 up to the early 21st century. The historical development of the site is well-documented, providing context for its current significance. The presence of an old quarry and reservoir basin characterises the rear of the site and creates a landscape feature. The change in level between the mill complex and the adjacent former school site acts as a natural distinction between the two areas.

The application site is historically significant, featuring a mix of early industrial and more modern structures. Key features include the former Mill Complex, former Shipyard, and former Salesians Secondary School. The site is characterized by its rich industrial heritage and its proximity to the river. The mill complex is a key heritage asset, reflecting the industrial heritage of the area. The site is of regional significance and has two protected structures present, the main mill and chimney stack, as identified in green in Figure 9.1.

'Curtilage' is a heritage term that refers to the land immediately surrounding the protected structures of the main mill and chimney stack. The curtilage of Cleeves is outlined in red in Figure 9.1 and does not encompass the entirety of the application site. Structures such as sheds and warehouses associated with the operation of the mill are deemed within the curtilage of the protected structures. The former Salesians secondary school and former Shipyard site are outside the curtilage. On the application site, the curtilage structures of interest contribute to the overall heritage significance, providing context and informing the interest in the main heritage assets (protected structures).

9.3 Potential Impacts

The proposed development (Phase II) includes the mill complex and adjoining land. Several of the buildings within the mill complex are identified for demolition. The protected structures comprising the Flaxmill and the chimney are not being demolished. Of the buildings being demolished (refer to Figure 2.2), two of these are noted to hold positive heritage significance, including the pair of semi-detached houses and Office & Laboratory building. Other structures identified for complete demolition are mid and late twentieth century structures that are not defined as informing the heritage interest of the site. The main mill, cold store and cheese plant are described as subject to changes that will entail the removal of parts of the building, the fabric of which dates to the mid and late twentieth century. There are also proposals to adapt the boundary wall to improve access and accessibility.

A concise summary of the proposals affecting the historic structures is listed below:

Groups 2 - 7

2 - Linen Store – Redevelopment with retention of the external street facing facades as part of a new building is assessed to cause a moderate level of negative impact.

3 – Boundary Wall - Redevelopment of the mill yard to create 'Flaxmill Square' include changes to the southeast boundary wall to raise the level to address flood risk and open up the site. While it results in the removal of historic fabric, the reuse of the space is positive and greatly improves access to and appreciation of the sites heritage.

4 - Quarry, Reservoir & Infiltration Gallery - New development in the quarry will include three new buildings and the transformation of the reservoir as a space for public engagement at the waters edge.

This will be one of a series of landscape spaces across the scheme. The reuse use of the quarry and reservoir, is positive, bringing people closer to built heritage. The Infiltration Gallery will not be impacted.

5 - Cheese Plant, Long building, warehouse and office – These are to be left largely unchanged. A 1960s reinforced concrete structure that sits in this range has been identified for demolition. Its removal will not negatively impact the heritage significance of the mill complex.

6 - Semi-detached houses, Office and Laboratory – Both of these structures hold positive heritage significance. They have been identified for demolition to enable the broader redevelopment of the site. As they hold positive significance, exceptional circumstances must be considered to justify their loss. The location of the structures constrains future development. The Office and Lab obscure access into the site from the east. While the demolition of whole structures such as this is not typically desirable, the building is of low quality, and its removal will not unduly erode the sites heritage interest.

The semi-detached houses are of greater interest. Their removal will give rise to negative impact on heritage significance. They are a part of the wider complex and not the core reason for its designation. Mitigation measures will be implemented to ensure that they are preserved by record.

7 – Upper Reservoir – This is a mid-twentieth century structure that does not inform the sites heritage significance. Its demolition will not erode the site heritage interest.

Group 8 & 9

Groups 8 and 9 are not within the curtilage of the mill site and does not contain structures on the Record of Protected Structures.

8 – Former Salesians Secondary School –The school included an earlier structure called Fernbank House. This was built c.1880. The redevelopment of the building and expansion of the school from the 1920s to the 1990s extensively eroded the original buildings legibility and resulted in the removal of much of the historic features. The proposed demolition of the site to make way for new residential development will not result in an impact on heritage significance.

9 – Former Shipyard Site, Boundary Wall and Warehouse – The proposed reuse of the site will enable public access and key facilities to support the use of the site as a gateway to the city. Some changes are proposed to the historic boundary wall. These are described in positive heritage terms with retention and repair central to the reuse of this site. The reuse of the site will not result in a negative impact on heritage significance.

Group 10 -12

10 – Heritage in the wider setting – Historic structures in the broader setting were also considered. Impact was assessed relative to the visual impact that would arise from the buildings in their setting. On the whole, the site was noted to be concealed when viewed from the north and west. The changes when viewed from the east and southwest were not considered to be out of keeping with the pattern of development and as such would not give rise to negative impact.

Construction Phase: The re-development of the site will require activity that is disruptive and impactful. This will result in noise, dust and increased traffic. The protected structures and heritage buildings will be at risk due to construction activity. This will be short-term until the building works are complete. Sensible mitigation measures will be put in place to minimise the risks to the protected structures.

Operational Phase: The change of use and reactivation of the site will result in very positive outcomes for heritage. The presence of new residence and some commercial activity set around a shared landscape that is defined by the language of the millscape will be positive and will greatly enhance appreciation of the heritage assets.

Cumulative Impacts: The development of the site will result in permanent changes to the setting of the mill complex and the loss of two buildings that hold positive heritage significance. This will result in negative impacts. However, the reuse of the site will unlock its potential to become a publicly accessible environment and will facilitate future development in accordance with the proposed Masterplan. The changes are substantially positive and will greatly enhance the sites use and future potential. The outcome will offer significant positive outcomes for the sites heritage significance and interest.

The do-nothing scenario highlights the risks of not proceeding with the development, including the potential for permanent loss and deterioration of heritage assets. This scenario underscores the importance of proactive management and development to preserve the site's heritage value.

9.4 Mitigation & Residual Effects

While the overarching assessment is positive there are aspects of the development proposals that warrant mitigation to mitigate the impact to heritage. These will include:

- Conservation led approach – the involvement of conservation professionals
- Building Recording and Salvage – the development of the current record informed by ongoing recording as the structures are taken down. Where historic materials are worth salvaging, they will be carefully removed, catalogued and set aside for reuse. Fabric from the mill complex will be reused in the repair works.
- Technical Design – Where historic structures are reused or adapted the proposals will be further developed to ensure the minimal loss of historic fabric. As buildings are opened up care will be taken to evolve the designs for reuse to maximise the retention of the historic fabric.

The assessment of historic records, mapping, site inspections, and documentary sources has provided a reliable foundation for evaluating the heritage significance of the application site. The phased approach to development, with embedded mitigation measures, ensures the long-term protection and enhancement of key heritage assets. The designs provide for the retention of historic fabric where possible and offers clear description of demolition and of retention and reuse.

Following consideration of the residual effects (post mitigation) it is concluded that the Proposed Development will not result in any significant, negative effects on any of the protected structures. Provided that the Proposed Development is constructed and operated in accordance with the design and mitigation described within this application, significant individual or cumulative negative effects on cultural heritage will not occur. In conclusion of the assessment the Proposed Development will give rise to significant positive outcomes for cultural heritage.

10.0 LAND SOILS & GEOLOGY

This chapter describes the type of land, soils, and geology likely to be encountered beneath and in the general area of the proposed development near the Shannon River, Limerick City, Co. Limerick. This chapter addresses the potential impact of the proposed development on land, soils and geology together with the mitigation measures that will be employed to eliminate or reduce any potential impacts.

10.1 Methodology

The methodology adopted to complete the land, soils and geology assessment presented in the EIAR, included:

- Desk-based study including a review of available historical and relevant ground investigation information (detailed further below);
- Site walkover survey on 27th March 2025 by an experienced Geo-environmental Consultant;
- Review and evaluation of 61no. environmental soil analytical results, and ground gas monitoring data by an experienced Geoscientist; and,
- Desk based review of information from a list of accredited sources.

10.2 Baseline Context

Historic land-use at the site was greenfield before being developed during the 1850s, for various uses including a linen factory, quarry and the Cleeve's Condensed Milk factory, which was built, ca. 1860. In the late-19th century, the site and buildings were used for a variety of purposes. Salesian's School in the northwest of the site was established in 1924. Industrial site use, including milk processing, continued onsite until 2011, when all site activities ceased. The original topography of the site had a slight gradient from north-west to south-east and a steeper gradient from north to south sloping towards the River Shannon.

The Application Site is brownfield consisting of disused industrial buildings constructed during the 19th and 20th centuries in the central portion of the site, the Salesian's School buildings in the western portion of the site, car parking facilities to the south, and St. Michael's Rowing Club boathouse along the eastern site boundary. There is a disused, flooded quarry pit in the centre of the site (referred to as 'the reservoir'). Ground levels range from 1.5m AOD (disused quarry at centre of site) to 14m AOD along the north-west and north of the site.

The site is generally underlain by made ground, glacial till, and clay/ silt/ sand/ gravel. Bedrock is present at depths ranging from ca. 0.7m (Salesians School Site) to ca. 14.5 meters below ground level (mbgl) (Stonetown Terrace site) at various locations across the Masterplan Site. Bedrock generally comprises strong to very strong Limestone bedrock of the Carboniferous limestone formations typical of the region.

As expected of a brownfield site with a history of industrial landuse, contaminated land (primarily comprising made ground) has been identified beneath the site. Contaminated soils (i.e. Asbestos Containing Material, metals, Polycyclic Aromatic Hydrocarbons, and Total Petroleum Hydrocarbons) have been identified beneath the proposed Stonetown Terrace Building, O'Callaghan Strand Building, Flax Mill site (PBSA / Quarry Building) and the Shipyard site.

10.3 Potential Impacts

Construction

During the demolition works, ca. 9,605 tonnes of Construction & Demolition (C&D) material will be generated with the largest material streams being steel, brickwork and concrete, consistent with the composition of the existing building fabric.

During the construction works (enabling works), It is provisionally estimated that ca. 46,100 m³ (or 98,120 tonnes) of excavated material will be generated. Made ground is unlikely to be suitable for reuse, therefore ca. 26,800 m³ (or 50,920 tonnes) will require off-site disposal to licensed facilities (including removal of identified contaminated soil). The remaining 19,300 m³ (or 47,200 tonnes) of excavated subsoils and rock are likely to be suitable for reuse on site to in line with circular economy principles. Bedrock will be encountered in localised areas during piling or excavation as part of the proposed foundation works. Excavated rock will also be crushed on site using a mobile crusher, to facilitate reuse within the development.

Proposed demolition works, and stripping of made ground and subsoil during the demolition and construction phase will be carried out in a controlled staged manner (in accordance with the CEMP submitted as part of this planning application) and stockpiles of materials will be suitably protected to minimise the impact on land, soils and geology. These works could result in dust generation.

There is potential for exposure of onsite workers and visitors via. asbestos fibres during demolition works, and potentially contaminated dust / vapors and soil (including asbestos), released by the construction works.

There could be an impact on land, soils and geology (including onsite exposed bedrock via. former quarry / onsite reservoir) from potential fuel leaks during refueling or maintenance of vehicles. Temporary onsite groundwater and gas monitoring wells could provide a conduit for potential contamination of soils and bedrock.

However, the employment of good construction management practices, and mitigation and monitoring measures (as set out in Chapter 10, Volume 2 – EIAR) will serve to minimise any risk of pollution to geology and soils from construction activities.

The area is zoned for residential and commercial development with existing housing / commercial land use within the immediate vicinity of the Site. Therefore, the proposed land use is consistent with existing and emerging trends, and the proposed regeneration of an existing brownfield site (including site remediation) will have a positive impact on land.

Operation

Potential human health impacts via. contaminated soil (made ground and subsoils) during the operational stage have been identified.

Potential impacts to onsite soil and bedrock during the operational stage have been identified, in particular the risk of spillages and leakage of fuel including diesel storage for onsite emergency generators.

However, the employment of mitigation measures (as set out in Chapter 10, Volume 2 – EIAR) will ensure that potential impacts on infrastructure do not occur during the operational phase.

As noted previously, the proposed land use is consistent with existing and emerging trends, and the proposed regeneration of an existing brownfield site (including site remediation) will have a positive impact on land.

10.4 Mitigation & Residual Effects

The proposed development will not have a significant residual negative impact on land, soils and geology (and associated human health) given the mitigation measures proposed, during the detailed design, demolition and construction and operational phases of the development. In addition, no likely significant negative effects with respect to land, soils and geology, have been identified when considered cumulatively with other projects and developments within the region.

11.0 WATER & HYDROGEOLOGY

This chapter addresses hydrology (i.e. surface water) and hydrogeology (i.e. groundwater) in the vicinity of the Masterplan Site, the potential impacts of the proposed development (including potential flood risk) and mitigation where required.

11.1 Methodology

The methodology adopted to complete the hydrology and hydrogeology assessment presented in the EIAR, included:

- Desk-based study including review of available historical information and reports
- Site walkover surveys carried out on 27th March, and 24th July 2025.
- Groundwater and surface water investigation works (including sampling and monitoring) undertaken by Priority Geotechnical Ltd.; and
- Desk based review of information from a list of accredited sources.

11.2 Baseline Context

Groundwater flow follows topography in the vicinity of the proposed development, in a general southerly direction, with some groundwater flow to the south-east, and to the south-west, before discharging directly to the River Shannon SAC, with groundwater discharging to the Westfield Wetlands, along the western portion of the site.

There is a disused quarry excavation at the centre of the site, referred to as the Reservoir, which was historically used for water storage. The onsite reservoir currently discharges to the River Shannon via a historic outfall pipe.

The nearest designated European, Natural Heritage and Proposed Natural Heritage Sites are identified as follows:

- Lower River Shannon SAC (site code 002165) adjacent to the site boundary. Note the Westfields Wetlands are located 35 m from the site and are included within this designation.
- River Shannon & River Fergus Estuaries SPA (site code 004077 – ca. 20m from site).

- Fergus Estuary and Inner Shannon, North Shore (site code 002048) adjacent to the site boundary.
- Inner Shannon Estuary - South Shore (site code 000435) – ca. 0.6 km from site.
- Knockalisheen Marsh (site code 002001) – ca. 1.5 km from site.

Immediately adjacent to the site is the Limerick Dock Transitional Waterbody which flows from Shannon Lower to Upper Shannon Estuary. There are also two rivers located in the general vicinity of the proposed development. The North Ballycannon River which flows into the Limerick Dock transitional waterbody, approximately 2.5 km west of the site; and the Crompaun East River, approximately 3.4 km northwest of the site which flows to the Upper Shannon Estuary.

The Limerick Dock transitional waterbody has been designated a Heavily Modified Water Body (HMWB) due to the presence of extensive port facilities, and embankments that have severely altered the natural shape (straightening) of the channel, changed the river banks, altered and deepened the channel and changed the hydromorphological functioning (change in sediment flow and deposition) of the river channel. The Limerick Dock waterbody was classified as being of “poor” ecological potential in the latest Water Framework Directive (WFD) cycle on the basis of monitoring. The Shannon Lower waterbody (located ca. 7km upstream of the proposed development) was classified as having “moderate” ecological status in the latest WFD cycle on the basis of modelling. The North Ballycannon River was classified as having “good” ecological status in the latest WFD cycle, while the Crompaun East River was classified as “poor” on the basis of monitoring.

Westfields Wetland is part of Lower River Shannon SAC. As part of the Westfields Wetland Management Plan (2023), a water quality sampling campaign was undertaken in 2020. In general, water quality was found to be relatively good in terms of Biochemical Oxygen Demand (BOD) and microbiology. However, elevated nutrients (ammonia and phosphorus) were found at several locations.

Site specific water quality monitoring has been carried out (Priority Geotechnical Ltd., 2025), during May and July 2025, comprising groundwater sampling from selected representative monitoring boreholes, the onsite reservoir (SW01), and nearby surface water in the River Shannon (at key locations upstream, and downstream of the site, as well as at the discharge outfall from site to the River Shannon). The majority of results were below the relevant water quality statutory thresholds. However, there were exceedances observed for BOD for five of the six surface water samples taken from the River Shannon during the sampling event on 8th July 2025. Hexavalent chromium is also present at slightly elevated levels at the outfall monitoring location.

The primary superficial (Quaternary) sediments underlying the site and surrounding area comprise Urban sediments and Bedrock outcrop or subcrop (Rck). Estuarine silts and clays are present along the River Shannon, which borders the Proposed Development. This was verified during onsite Ground Investigation works, which confirmed the site is underlain by made ground, glacial deposits (sandy gravelly clay) and strong to very strong limestone Bedrock, of the Visean Limestones (undifferentiated) and Carboniferous limestone Formations. This bedrock is classified as a Locally Important Aquifer (Lm, i.e. bedrock which is generally moderately productive).

Groundwater vulnerability is an indication of how easily the aquifer can become contaminated by human activity. Groundwater vulnerability (in the bedrock aquifer) rating is predominantly ‘High’, with areas

of 'Extreme' and 'Rock at or near surface' identified in the vicinity of the onsite former quarry (with exposed rock faces), referred to as 'the reservoir'. There are no karst features located within the site of the proposed development.

Measured groundwater levels during 4no. monitoring events (carried out between May to July 2025) were variable across the site, ranging from 2.18 to 7.39 m BGL. Continuous groundwater level monitoring was carried out for a period of 3no. months (between May 2025 and August 2025) at 4no. key locations (BH308 – located within the Stonetown Terrace zone, BH311 – located within the Shipyard zone, BH314 – located within the proposed PBSA zone, and at the onsite Reservoir, SW01). The results show a maximum tidal groundwater range of 1.7m at BH311, located closest to the River Shannon, as expected. The onsite Reservoir, which is connected directly to the River Shannon via a discharge pipe, showed a maximum tidal water level range of 0.7m.

Groundwater flow is expected to follow topography in a general southerly direction, with some groundwater flow to the south-east, and to the south-west, before discharging directly to the River Shannon SAC, with groundwater discharging to the Westfield Wetlands, along the western portion of the site.

Regional baseline groundwater quality within the general vicinity of the Site, is of 'Good' status for the 2016 to 2021 period. Groundwater sampling was carried out at key monitoring locations in May and July 2025, with elevated levels of the following parameters identified: pH, chloride, phosphate, sulphate, manganese, ammoniacal nitrogen, and polycyclic aromatic hydrocarbons (PAH).

No groundwater abstraction wells or springs are known to be present within the Site boundary, and there are no group water scheme or public water supply abstraction points, or designated group water scheme or public water supply Source Protection Areas within the vicinity of the Site.

11.3 Potential Impacts

Given the nature and location of the proposed development, there will be no impact on regional or local groundwater resources or on surface water flows in the River Shannon SAC. The focus of this assessment is therefore on potential groundwater, surface water and transitional water quality impacts that may be associated with the proposed development.

During the demolition and construction phase there is potential for degradation in groundwater, surface water and transitional water quality resulting from potential pollution caused by construction activities, and via temporary flood risk during these works. This could result in significant to moderate negative impacts to groundwater, surface water and transitional water quality.

During the operational phase groundwater, surface water and transitional waters may be at risk of becoming impacted through occasional fuel / oil leaks; unplanned events (onsite fuel / oil spill, fire water arising from a property fire); or routine site maintenance; and subsequent storm water discharge. This could result in significant to slight negative impacts to groundwater, surface water and transitional water quality.

11.4 Mitigation & Residual Effects

Mitigation measures will be implemented during both the demolition and construction phase, and operational phase to avoid these potential effects. Site specific mitigation measures are detailed within Chapter 11, Volume 2 of the EIAR. A monitoring programme during demolition and construction phase, and operational phase will be implemented.

Taking account of proposed mitigation measures, no significant adverse impacts are anticipated to the receiving water environment arising from the proposed development during the demolition and construction, or operational phases. No human health risks as a result of groundwater or surface water impacts are likely to occur.

A standalone Flood Risk Assessment (FRA) has been prepared and submitted with this planning application. The overall finding from the FRA, is that identified potential flood risks are sufficiently addressed, and states the following;

- The main risk of flooding to the site is tidal (high tides and tidal surges) from the River Shannon. Part of the site lies in areas of high to moderate risk of flooding (Flood Zones A or B). The Shipyard site and part of the Flaxmill site (Infiltration Galleries) are at high risk of tidal flooding (0.5% Annual Exceedance Probability AEP), parts of the Quarry site are at moderate risk of flooding (0.1% AEP) and the rest (majority) of the site is at low risk (<0.1% AEP). These areas correspond to Flood Zones A, B and C respectively.
- The site is at low risk of fluvial flooding from the River Shannon in the absence of a high tidal boundary. The Stonetown Terrace, Salesian and Quarry sites could potentially be at risk of flooding from overland flows originating from the adjacent residential development to the north.
- Groundwater levels within the site generally exhibit no substantive correlation with the tidal signal and the water levels in the reservoir (which themselves are correlated to the tidal signal). The exception to this is at a well location within made ground in very close proximity to the reservoir at the Quarry site, where the testing results showed that the groundwater levels are more closely related to the water levels in the reservoir (and by default, correlated to the tidal signal, noting the reservoir levels do exhibit a tidal influence, albeit a muted correlation i.e. as these levels are still well below the corresponding tide levels). Overall the risk of groundwater flooding is deemed low, particularly once the connectivity of the reservoir to the river is established and mitigated.
- Survey investigations have confirmed that the reservoir within the Quarry site discharges to the River Shannon. It is evident from initial surveys that the flow and volumes passing through the network and reservoir are low and the tidal signal is muted, indicating a lower risk from tidal flooding. Upon completion of the network assessment, measures will be implemented to prevent backflow through the system. This shall include the strategic installation of non-return valves and/or decommissioning of redundant pipework.
- Highly vulnerable uses such as residential properties shall where possible be in areas at lower risk of flooding or raised upper levels. Residential areas have been located at Salesian site (low), Stonetown Terrace (low) and Quarry site (moderate). Residential plots are also proposed at the upper levels at the O'Callaghan Strand site
- Flood Protection Level: Development to be protected against the 1 in 200-year tidal event with allowance for climate change and a suitable freeboard.
- Climate Change Allowance: +500mm for less vulnerable uses and +1000mm for highly vulnerable. Freeboard Allowance: +500mm

- Minimum Recommended Finished Floor Levels: Lower allowance (commercial uses): 5.7m AOD; Higher allowance (residential/habitable spaces): 6.2m AOD
- Flood resilient and resistant construction can be used to achieve the required protection, if raising of flood levels is not practically achievable.
- Safe access and egress to be provided from all buildings for emergency vehicles. The Plan proposes that North Circular Road (NCR) be raised above 5.7m AOD to provide safe access and egress.
- There is a risk of overland flows entering the Salesians, Quarry and Stonetown Terrace sites from the north during a significant rainfall event. A new perimeter drain (open or piped) can intercept any offsite overland flows from adjacent properties to the north of the site to safely divert the flow away from the properties.

To mitigate flood risk (or unacceptable residual flood risk) during the demolition and construction period, the contractor will employ the mitigation measures as detailed within Chapter 11, Volume 2 of the EIAR, including the preparation of a Flood Emergency Response Plan for Construction Phase.

In summary, there are no anticipated significant residual adverse effects, or significant cumulative effects to groundwater, surface water or transitional waters, provided mitigation measures proposed during the demolition and construction, and operational phases are implemented.

12.0 THE LANDSCAPE

This section undertakes an assessment of the likely landscape and visual impact associated with the proposed development located on the former Cleeves industrial site on the north bank of the River Shannon. The overall masterplan within which this current application sits, provides the broader, future planned development context for the proposed development.

12.1 Methodology

The assessment of potential landscape effects involves (a) classifying the sensitivity of the receiving environment (i.e., the nature of receptors), and (b) identifying and classifying the magnitude of landscape change (i.e., the nature of the effect), which would result from the proposed development. These factors are combined to arrive at a classification of significance of the landscape effects.

The assessment of visual effects involves identifying a number of key viewpoints and assessing the impact of the proposed development from those viewpoints. The primary method adopted for the assessment of visual effects relies largely on a comparative visual technique, whereby accurate verified views (photomontages), incorporating the proposed development are compared to the existing corresponding baseline photograph so that an assessment of effects can be made. Twenty three different viewpoints were selected for analysis in accordance with the 'Guidelines for Landscape and Visual Impact Assessment', prepared by the Landscape Institute and the Institute of Environmental Assessment, published by Routledge, 3rd Edition 2013.

12.2 Baseline Context

The assessment of landscape and visual impact involves consideration of the proposed development in both its existing context and its future built context, i.e., with reference to the cumulative effects of the

broader planned Masterplan scheme. The immediate physical context for the proposed development is a mix of local scale landscape elements which represent a series of industrial uses stretching back to the mid-19th Century and which now largely supplant any former natural landscape features. The subject site stretches back from the river at St. Michael's Rowing Club to the Salesians Primary School. The site is an amalgam of distinct zones, each of which is proposed for discrete aspects of development within this current planning application, roughly as per Stages 4-9 (inc.) outlined above. These development zones reflect their underlying landscape qualities and differ from one another in terms of landform, elevation, exposure/enclosure, historical development, vegetation, built forms etc. The initial development on the site was largely industrial development dating back to the mid-19th Century, save for the Shipyard site which pre-dates it. This is located at the northern end of Shannon Bridge where the topography creates a contrast between the higher, built section of the city northeast of the bridge and the low lying wetlands southwest of it. The site itself is presented at two basic levels; from the river's edge up and into the quarry, the site rises very gradually and is broadly set at a lower elevation. To the west and north of this, the quarry face creates a sharp change in elevation, whereby the Stonetown Terrace and Salesians zones sit approx. 2 to 9 metres above this lower level. To the north and west of these, the existing adjacent residential area along Clanmaurice Avenue sits at an approximately contiguous level.

This landscape configuration creates potentially significant and/or sensitive views from four main areas, as follows:

1. the river's edge and the low-lying wetlands south of the site;
2. the quays along the south bank, all the way from Steamboat Quay up to Honan's Quay;
3. a number of individual locations within the Medieval and Georgian cores to the north-east and east;
4. a localised residential area immediately north of the site.

12.3 Potential Impacts

Construction Phase

Potential impacts during the construction phase are related to works which are temporary or short term in nature, including site activity, and vehicular movement within and around the subject site. Vehicular movement may increase in the immediate area, and temporary vertical elements such as cranes, scaffolding, site fencing, gates, plant and machinery etc., will be required and put in place.

Landscape sensitivity is low-medium. The magnitude of landscape change is high. The potential impacts of the construction on the landscape are expected to be **moderate** to **high-moderate** and **negative** but will also be **temporary** or **short-term**.

Visual sensitivity is medium. The magnitude of visual change is high. The potential impacts of the construction on the visual environment will be **high-moderate** and **negative** but will also be **temporary** or **short-term**.

Phased construction effects will be created through the 9-phase structure envisaged for the construction of the proposed development, whereby the main building works progress eastwards and southwards towards the river. Consequently, the impacts created will largely be experienced in similar sequence.

The construction of the later Masterplan proposals will extend the period of construction operations

within the local area, beyond those estimated for the construction of the proposed development under Phase II (the current planning application). This will create a sense of there being a greater period with the potential for disruption and change as well as the common negative effects related to construction operations.

Operational Phase

Whilst the proposed development represents a change in the nature of the existing site from industrial to primarily residential uses, where a concomitant increase in building scale, height and density is proposed, the prevailing landscape in this local area is already one of buildings of varying scales, all within a broader developing context of emerging and planned change. The assimilation of the proposed scheme into the broader built landscape and into the existing community is therefore already partially facilitated. There is also a high potential for increased positive social contact and diversity within the existing local community as a result of the proposed development being realised and occupied. The increased building scale and height proposed in the new development represent a degree of divergence from most of the existing lower scale residential development around the site, predominantly to the north and west, however the proposed scale and height accords with the Building Height Strategy for this area of the city and does not diverge from the prevailing norm for taller buildings in the city centre zone of which this is part.

Landscape sensitivity in this case is broadly considered to be low-medium. The magnitude of landscape change is high. The potential operational impacts on the landscape would therefore be expected to be **moderate to high-moderate**, but they are also likely to be **positive**. Given the expected lifespan of the buildings, they will also be **long term** or **permanent**.

In terms of potential visual impacts, whilst the proposed building types are not uncharacteristic within the broader context, there is a clear change of building scale between what is currently there and what is proposed. Given the relatively flat and gently sloping topography in and around the site respectively, the greater scale and height of the proposed buildings does make it potentially more visible from greater distance. The proposed development would, therefore, be expected to be more visibly prominent within the immediate area and beyond. It should increase the greater apparent scale to the built townscape on the north bank of the river and add greater mass to the city generally, especially when viewed from the bridges and along the river corridor. Whilst the sensitivities of those living close to the site, especially along Clanmaurice Avenue to the north, may have been raised by the proposed insertion of taller buildings on the subject site, the prospect of an appropriate and manageable future for this site offers significant improvement on the persistent degradation and dereliction which has characterised this part of the city for many years. The potential for increased positive visual impact as experienced by people visiting, living in, or using these areas for social and/or recreational purposes, could also be considered in some instances to be moderately high. The level of any visual impact on those existing neighbouring residents can also be mitigated somewhat by well-considered and sensitive design.

Visual sensitivity in this case is broadly considered to be medium. The magnitude of change in the visual environment is assessed as high. The potential operational impacts on the landscape would therefore be expected to be **high-moderate**, but they are also likely to be broadly **neutral** or **positive**. Given the expected lifespan of the development, they will also be **long term** or **permanent**. This assessment would appear to be broadly supported by the assessment of the selected views as set out in Section 12.5.3.3 of the 'Landscape' Chapter.

The viewpoints for the preparation of photomontages were selected primarily from the four main areas identified and listed in 12.2 above, from which there is most potential for significant and/or sensitive views. In summary, of the 25 selected views, the impacts of 6 are assessed as imperceptible. Of the remaining 19, 4 are high-moderate, 3 are moderate, 5 are moderate-slight and 7 are slight. In terms of quality, 13 are assessed as neutral (i.e., the change does not affect the quality of the view) and 6 are assessed as positive (i.e., the change is considered to improve the quality of the view). None are assessed as negative, where the change would have been considered to reduce the quality of the view.

Whilst parts of the future projects in the Masterplan are potentially taller buildings than those in the proposed development, and may themselves create significant effects, they cannot (and do not) form part of this assessment. In terms of additional effects caused by the proposed (Phase II) development when considered in conjunction with these other later developments, the buildings proposed with greater height and scale in the future Masterplan proposals may have the effect of screening all or part of the proposed development when viewed from various viewpoints around the site, thereby reducing its potential visual impact. The later Masterplan proposals may also create the effect of reducing the apparent comparative scale of the proposed development, and therefore, reduce the apparent comparative visual impact of the development proposed under the current (Phase II) application, when viewed from a variety of viewpoints.

12.4 Mitigation and Residual Effects

Mitigation measures to be implemented during the construction phase include:

- Site hoarding which shall be erected to screen views of construction activities;
- Vegetation protection measures, particularly around the quarry walls, will be installed to ensure that vegetation to be retained is fully protected during the construction process;
- The CEMP which accompanies the application for approval shall continue to be developed by the contractor to include the control of construction activity, traffic, materials storage and lighting with due consideration for neighbouring residences and surrounding area.

Following mitigation, it is anticipated that the residual landscape effects of the construction phase will be reduced to moderate-slight and negative, but also temporary or short term. The residual visual effects will be reduced slightly to moderate to high-moderate and negative, but these will also be temporary or short term.

The level of potential impact from the operational stage will be mitigated by the well-considered design. Additional mitigation measures will however be implemented during the operational phase and these include:

- Periodic vegetation surveys shall be undertaken to ensure the continued sustainability of vegetation on site;
- The implementation and monitoring of a landscape management plan shall be undertaken for the full duration of the defects liability period to ensure successful establishment of the proposed planting scheme and trees.

Following mitigation, whilst the additional measures are considered positive in their effect, they are insufficient to create a change to the assessment category found in the assessment of likely effects undertaken in Section 12.5.3, therefore it is anticipated that the residual landscape effects of the operational phase will remain moderate to high-moderate and positive and they will also be long term

or permanent. The residual visual effects will also remain high-moderate and generally neutral or positive. They will also be long term or permanent.

13.0 NOISE & VIBRATION

This chapter of the EIAR provides information on the assessment of noise and vibration impacts on the surrounding environment of the proposed development comprising Phase II of the Cleeves Masterplan Site during both the construction and operational phases of the development.

13.1 Methodology

The following approach was undertaken to assess the potential noise and vibration impact.

- A review of the applicable standards and guidelines has been conducted in order to set a range of acceptable noise and vibration criteria for the construction and operational phases of the proposed development;
- A desktop review of published noise maps for road traffic in the vicinity of the proposed development has been undertaken to characterise the long-term traffic noise levels in the area and incident on the Phase II application and the overall masterplan sites;
- An environmental noise survey has been undertaken within and in the vicinity of the proposed development to characterise the existing baseline noise environment.
- Predictive calculations have been performed to estimate the likely noise emissions during the construction phase of the proposed development at the nearest Noise Sensitive Locations (NSLs) to the site;
- Predictive calculations have been performed to assess the potential impacts associated with the operation of the development at NSLs surrounding the development site;
- An assessment has been completed of potential cumulative impacts that may arise as a result of the proposed development and other existing or proposed plans and projects;
- A schedule of mitigation measures has been proposed, where relevant, to control the noise and vibration emissions associated with both the construction and operational phases of the proposed development; and
- The inward effect of noise from the surrounding environment into the proposed residential buildings has also been assessed to determine the potential requirements for noise mitigation, to ensure a suitable internal noise environment for residential amenity.

13.2 Baseline Context

The area around the site is generally suburban, with typical background noise coming mainly from road traffic along the surrounding road network including the North Circular Road and O'Callaghan Strand. Traffic noise levels are not significant across the masterplan site due to the set back distances and screening provided by the existing structures. There are no notable sources of vibration in the surrounding environment.

13.3 Potential Impacts

Construction

The construction phase will involve various activities including demolition, excavation, piling, building works, landscaping, and fit out. The plant and equipment required during these phases will generate high levels of noise at the closest NSLs. Vibration may be perceptible at the closest occupied buildings including the Salesians Primary School during the rock excavation phase. There are no significant impacts expected to any of the surrounding structures across the site during the construction phase.

Construction noise calculations have been performed representing predicted noise levels associated with the key construction stages proposed. The results of the assessment have determined that during the early stages involving demolition and rock excavation, construction impacts will be moderate to significant and temporary to short-term in nature at the closest NSLs. During the remaining phases during building construction works and other less intrusive phases, the construction works will operate within the construction noise thresholds adopted for the project at the nearest NSLs

Vibration impacts during the construction phase of the proposed development will be controlled so as not to exceed the vibration limits for building response set out in Chapter 13.

Operation

Traffic flows as a result of the development along the surrounding road network have been assessed in terms of their noise impact and the resultant effect is determined to be not significant. Mechanical equipment such as heat pumps located mostly on rooftops of the apartment buildings will be controlled via acoustic screens and operational noise limits set at the closest NSLs. Public spaces may occasionally have amplified music or gatherings, but controls will be put in place to keep noise within acceptable limits as per those set out in Chapter 13. There is no vibration sources associated with the operational phase.

An inward noise impact has been undertaken to determine the requirement of any acoustic measures required to control sources of inward noise at the proposed residential buildings within the proposed development. The assessment has determined the prevailing noise environment is sufficiently low across the majority of the applicant site such that no specific control measures are required for the residential buildings to or the external amenity areas.

13.4 Mitigation & Residual Effects

Mitigation measures will be implemented during the construction phase in accordance with BS 5228 Parts 1 and 2 (2014 + A1 2019) which are discussed within Chapter 13 and included within the CEMP. These measures include:

- Selection of quiet plant;
- Control of noise at source;
- Screening;
- Hours of work;
- Liaison with the public, and;
- Monitoring.

An acoustic specification for the glazing to living rooms and bedrooms for the southern façade of townhouses within the Salesians site facing onto North Circular Road and the eastern façade of the Apartment building facing onto O'Callaghan Strand has been included in Chapter 13. This specification is also called up for the upper floors of the apartment buildings across the development site to ensure plant noise levels are acceptable within the development apartments during all operational scenarios

14.0 AIR QUALITY

The air quality assessment has focussed on the potential construction dust emissions and impacts to nearby sensitive receptors such as residential properties, schools and health centres and the potential vehicle emissions from traffic accessing the site for construction works and during operation.

14.1 Methodology

A number of principal guidance and best practice documents were complied with for the assessment of potential impacts on air quality including

- Guidance on the Assessment of Dust from Demolition and Construction v2.2 (Institute of Air Quality Management [IAQM] (hereafter referred to as the IAQM Guidelines) (IAQM, 2024);
- A Guide To The Assessment Of Air Quality Impacts On Designated Nature Conservation Sites (Version 1.1) (IAQM, 2020); and
- PE-ENV-01106: Air Quality Assessment of Specified Infrastructure Projects (Transport Infrastructure Ireland [TII], 2022).

To reduce the risk to health from poor air quality, national and European statutory bodies have set limit values in ambient air for a range of air pollutants. These limit values or '*Air Quality Standards*' are health or environmental-based levels for which additional factors may be considered. For example, natural background levels, environmental conditions and socio-economic factors may all play a part in the limit value which is set. Air quality significance criteria are assessed on the basis of compliance with the appropriate standards or limit values.

14.2 Baseline Context

The air quality in the Limerick area is generally good, with concentrations of the key pollutants generally well below the current limit values set out in Annex I of Directive (EU) 2024/2881. Baseline data and data available from similar environments indicates that levels of nitrogen dioxide (NO₂), particulate matter less than 10 microns (PM₁₀) and particulate matter less than 2.5 microns (PM_{2.5}) are usual for sites similar to the application site. They are generally well below the current National and European Union (EU) ambient air quality standards.

14.3 Potential Impacts

Construction

An assessment of the potential dust impacts as a result of the construction phase of the proposed development was carried out based on the UK Institute for Air Quality Management 2024 guidance document '*Guidance on the Assessment of Dust from Demolition and Construction*'. This established the sensitivity of the area to impacts from construction dust in terms of dust soiling of property and human health effects and dust-related ecological effects. The surrounding area was assessed as being

of high sensitivity to dust soiling, low sensitivity to dust-related human health effects and high sensitivity to dust-related ecology impacts.

The sensitivity of the area was combined with the dust emission magnitude for the site under four distinct categories: demolition, earthworks, construction and trackout (movement of vehicles) to determine the mitigation measures necessary to avoid significant dust impacts. It was determined that there is a high risk of dust related impacts associated with the proposed development. In the absence of mitigation there is the potential for slight impacts to air quality.

In addition, construction phase traffic emissions have the potential to impact air quality, particularly due to the increase in the number of HGVs accessing the site. Construction stage traffic did not meet the scoping criteria for a detailed modelling assessment outlined in Transport Infrastructure Ireland's 2022 guidance document '*Air Quality Assessment of Specified Infrastructure Projects – PE-ENV-01106*'. As a result, a detailed air assessment of construction stage traffic emissions has not been undertaken and the construction stage traffic emissions will be negligible and not significant impact in EIA terms.

There is the potential for cumulative impacts to air quality should the construction phase of the proposed development coincide with that of other developments within 500 m of the site. A review of proposed/permitted developments in the vicinity of the site was undertaken.

Operation

Operational phase traffic has the potential to impact air quality due to vehicle exhaust emissions as a result of the increased number of vehicles accessing the site. The change in traffic associated with the operational phase of the proposed development did not meet the PE-ENV-01106 criteria requiring a detailed air dispersion modelling assessment. Therefore, it can be determined that during the operational phase, the proposed development will not result in a significant impact on air quality.

Operational phase direct impacts on air quality associated with the proposed development and cumulative traffic emissions are predicted to be negligible. Overall, no significant cumulative impacts to air quality are predicted during the construction or operational phases of the proposed development.

14.4 Mitigation & Residual Effects

Detailed dust mitigation measures are provided to ensure that no significant impacts as a result of construction dust emissions occurs at nearby sensitive receptors. Once these best practice mitigation measures, derived from the Institute for Air Quality Management 2024 guidance '*Guidance on the Assessment of Dust from Demolition and Construction*' as well as other relevant dust management guidance, are implemented the impacts to air quality during the construction of the proposed development will not be significant in EIA terms, posing no nuisance at nearby sensitive receptors (such as local residences).

Dust mitigation measures are proposed which will be applied during the construction phase which will avoid significant cumulative impacts on air quality. With appropriate mitigation measures in place, the predicted cumulative impacts on air quality associated with the construction phase of the proposed development will not be significant.

Monitoring of the dust mitigation measures will be undertaken to ensure that the dust mitigation measures are working satisfactorily.

15.0 CLIMATE

The Climate impact assessment assessed the potential greenhouse gas emissions during the construction and operational phases of the development and assessed the vulnerability of the project to climate change, including considerations for increased rainfall and other projected climate impacts.

15.1 Methodology

The climate baseline is first established with reference to EPA data on annual GHG emissions

The calculation of the construction stage embodied carbon using the TII Online Carbon Tool .Embodied carbon refers to the sum of the carbon needed to produce a good or service. It incorporates the energy needed in the mining or processing of raw materials, the manufacturing of products and the delivery of these products to site.

For the building elements of the proposed development, the OneClick LCA 3D Designer tool was utilised. It allows users to assess the carbon impact of buildings at various stages of design. The tool includes a detailed product and material list based on Irish materials as well as materials from the UK and Europe. Because the proposed development will not result in a significant increase in traffic once the development becomes operational and there is no proposed change to the roads or traffic speeds., there are no significant traffic emissions.

15.2 Baseline Context

The existing climate baseline can be determined by reference to data from the EPA on Ireland's total greenhouse gas (GHG) emissions and alignment with Ireland's 2030 sectoral emissions ceilings and carbon budgets. The EPA state that Ireland had total GHG emissions of 57.6 Mt CO₂e in 2024. This is 1.03 Mt CO₂e higher than Ireland's annual target for emissions in 2024. EPA projections indicate that Ireland has used 82.5% of the 295 Mt CO₂e Carbon Budget for the five-year period 2021-2025. This leaves 17.5% of the budget available for 2025, requiring a substantial 10.3% annual emissions reduction for 2025 to stay within budget.

15.3 Potential Impacts

The potential impacts on climate have been assessed in two distinct ways – a greenhouse gas assessment (GHGA) and a climate change risk assessment (CCRA). The GHGA quantifies the GHG emissions from a project over its lifetime and compares these emissions to relevant carbon budgets, targets and policy to contextualise magnitude. The CCRA considers a projects vulnerability to climate change and identifies adaptation measures to increase project resilience.

The impact of the construction and operation of the proposed development on Ireland's total national greenhouse gas emission is compared to Ireland's 2024 total greenhouse gas emissions, the relevant sectoral emissions ceilings and 2030 carbon budgets. Any adverse impacts are predicted to primarily occur during the construction phase, with the dominant sources of greenhouse gas emissions as a result of the development due to the embodied carbon associated with the building materials for the proposed development.

Construction

Calculation of the GHG emissions associated with the construction of the proposed development was calculated using information from the OneClick LCA 3D Carbon Designer tool and the online Transport Infrastructure Ireland Carbon Tool. The GHG emissions associated with the proposed development are predicted to be a small fraction of Ireland's 2030 carbon budget of 27.7 MtCO₂e and a small fraction of the relevant sectoral 2030 emissions ceilings. The proposed development will incorporate some mitigation measures which will reduce climate impacts during construction and once the development is operational. At a minimum these include the Nearly Zero Energy Building (NZEB) compliance and targeting a Building Energy Ratio (BER) in line with the NZEB requirements.

Operation

GHG emissions during the operational phase due to road traffic were assessed using the Transport Infrastructure Ireland (TII) 2022 guidance "*PE-ENV-01104: Climate Guidance for National Roads, Light Rail and Rural Cycleways (Offline & Greenways) – Overarching Technical Document*". It was concluded that traffic related CO₂e emissions will not have a significant impact on climate due to the low-level changes in traffic volumes and thus, emissions.

The level of mitigation proposed for the development has been taken into account when determining the significance of the proposed development's GHG emissions. Based on the carbon emissions intensity and proposed mitigation measures, it can be concluded that the proposed development is aligned with Ireland's GHG trajectory to net zero by 2050. Therefore, according to the TII significance criteria, the significance of the GHG emissions during the construction and operational phase is minor and not significant.. The proposed development has mitigated some GHG impacts where possible.

An analysis was conducted to consider the vulnerability of the proposed development to climate change, This involves an analysis of the sensitivity and exposure of the development to future climate hazards which together provide a measure of vulnerability. The hazards assessed included flooding (coastal, pluvial, fluvial); extreme heat; extreme cold; drought; extreme wind; lightning, hail and fog; wildfire and landslides. The proposed development is predicted to have at most low vulnerabilities to the various climate hazards and therefore climate change risk is considered not significant.

Overall, no significant impacts to climate are predicted during the construction or operational phases of the proposed development.

15.4 Mitigation & Residual Effects

A number of mitigation measures have been incorporated into the design of the proposed development. The development will be in compliance with the requirements of the Near Zero Energy Building (NZEB) Standards and will achieve a Building Energy Rating (BER) in line with the NZEB requirements. Additionally, other measures have also been incorporated into the design of the proposed development to mitigate the impacts of future climate change. To address future climate change risks, the design includes mitigation measures such as adequate drainage systems to manage a 20% increase in rainfall.

A number of best practice mitigation measures are proposed for the construction phase of the proposed development to ensure that impacts to climate are minimised.

The impact to climate as a result of a proposed development must be assessed as a whole for all phases. The proposed development will result in some impacts to climate through the release of GHGs. The proposed development has proposed some best practice mitigation measures and is committing to reducing climate impacts where feasible. Once mitigation measures are put in place, the effect of the proposed development in relation to GHG emissions is considered not significant in EIA terms.

In relation to climate change vulnerability, it has been assessed that there are no significant risks to the proposed development as a result of climate change.

16.0 MICROCLIMATE – PEDESTRIAN WIND COMFORT & DISTRESS

This chapter undertakes an analysis to study the potential impact of wind around the Application Site. The study was conducted to assess the suitability of external comfort, ensuring amenity spaces are optimally designed and located to maximise their function throughout the year, including alleviating the effects of wind flow around nearby high-rise buildings.

16.1 Methodology

The analysis utilised Lawson's Pedestrian Comfort and Safety criteria to evaluate the suitability of various locations on the site for their intended purposes. The criteria assess activities in terms of 'sitting', 'standing', 'leisure walking', and 'business walking'. The first two categories are aimed at locations such as amenity spaces, including balconies, terraces, communal gardens, and outdoor open spaces. The latter criteria are applied to courtyard pathways, exercise tracks, and thoroughfare paths for accessing various buildings on the site. These various criteria suggest that the site be designed in such a way that the wind is not allowed to reach speeds exceeding about 4m/s for 'sitting' to 10m/s for 'business walking', for more than 95% of the year.

The safety criteria test the possibility of local winds exceeding 15m/s and 20m/s, at which point they can start affecting people who are standing. The lower speed threshold applies to children and individuals with disabilities or impairments. The upper speed threshold is for the general population.

16.2 Baseline Context

The closest weather station is located at Shannon Airport, about 20km away, situated west of the Application Site. Shannon Airport weather data are used for the analysis, as they are closer to the site.

Limerick exhibits predominantly south-westerly and westerly winds. The median wind speed for Limerick is more than 5m/s, i.e. for 50% of the year, the wind speed exceeds 5m/s. Therefore, from the outset, the challenge, from a wind comfort perspective, is to reduce wind speeds in amenity spaces to one-tenth of their frequency of occurrence above 5m/s.

16.3 Potential Impacts

Construction

The simulation for the construction phase was not carried out. Hoardings 2m to 3m high will be installed around the site during construction. These hoardings will be obstruct the wind to protect the workers from any adverse effects of winds at ground level.

Operation

In general, the amenity spaces are fully compliant with Lawson's Pedestrian Comfort and Safety Criteria. The wind speed is generally lower than 4m/s and 6m/s for more than 95% of the year as per the criteria's requirement.

The riverfront and the podium on the quarry showed limited compliance with the requirements of Lawson's Sitting Comfort Criterion. The local air speed is likely to exceed 4m/s for up to 50% of the year at these locations. These spaces are affected due to the prevailing winds.

When comparing the results for these locations to Lawson's Standing Comfort Criterion results, they demonstrate excellent compliance, that is, the local air speed does not exceed 6 m/s for more than 5% of the year.. Of the 20% of the year when the local air speed exceeds 4m/s, three-quarters of that collective time (i.e. 15% of the year), it does not exceed 6m/s. The local air speed in these spaces will be less than 4 m/s for 80% of the year and between 4 and 6 m/s for 15% of the year.

Any exceedance noted can be considered very marginal, and it will not lead to an environment which is unpleasant to use. The local air speed is only going to be greater than a gentle breeze, but frequently less than a moderate breeze. Such conditions are unlikely to affect the usability of this space for personal recreation.

The majority of this space is designed for the standing and walking activities, for which the results are excellent and fully meet the requirements of Lawson's Standing and Walking Comfort Criteria.

16.4 Mitigation & Residual Effects

Therefore, any noted exceedance can be considered very marginal and subject to individual preferences. It will not create an environment that is unpleasant to use. The environment in these locations will be typical of and consistent with that of any other location on and around buildings of a similar scale and design in the Limerick area. Mitigation is not required.

17.0 MICROCLIMATE – SUNLIGHT DAYLIGHT & SHADOW ANALYSIS

This chapter analyses the daylight and sunlight impact to the existing surrounding dwellings and within the development itself arising from the Proposed Development. The focus of the study considers

- **Shadow Analysis** - Assessed using shadow images cast at key times throughout the year, i.e. March 21st, June 21st and December 21st to determine if any overshadowing impact occurs and to what extent to any existing neighbouring dwellings in accordance with the BRE Guide (3rd Edition).
- **Sunlight to Amenity Spaces** - Assessed using annual Solar Exposure calculations to determine any impact to existing amenities and the sunlight received and also to assess the proposed developments amenity spaces to derive how much sunlight they can expect to receive in accordance with the BRE Guide (3rd Edition).
- **Sunlight to Existing Buildings** - Assessed using the Annual Probable Sunlight Hours (APSH) method in accordance with the Guide (3rd Edition) - to determine any impact to sunlight received to the existing neighbouring building main living areas.

- **Daylight to Existing Buildings** - Assessed using the Vertical Sky Component (VSC) method in accordance with the BRE Guide (3rd Edition) – to determine any impact to existing daylight received to the existing building neighbouring the site.

17.1 Methodology

The report has been prepared in accordance with the standards set out in the Design Standards for Apartments, Guidelines for Planning Authorities 2025 and the Sustainable Residential Development and Compact Settlements Guidelines 2024.

With regards to daylighting, all methodologies have been employed for completeness to ensure appropriate and reasonable regard has been taken to address all assessments under all of the different standards. For clarity these standards are listed below followed by a summary of each assessment type and which standard is applicable to each:

- BRE Guide –3rd Edition of BR 209 BRE Site Layout Planning for Daylight and Sunlight
- BS EN 17037-2018+A1-2021 – Daylight in Buildings - This is the UK implementation of the European EN 17037-2018+A1-2021 standard. It supersedes BS 8206-2:2008 which is withdrawn in the UK. The BS EN standard includes a National Annex which addresses daylight requirements specific to dwellings which is notable as Ireland's climate matches closely with the UK.
- IS EN 17037-2018+A1-2021 – Daylight in Buildings - This is the Irish implementation of the European EN 17037-2018+A1-2021 standard – This has been included for completeness but does not have requirements specific to dwellings.

As the BRE Guidance has specific terminology relating to daylight and sunlight impact classification, the following terminology is used in the chapter.

Impact	Description
Negligible adverse impact	• <i>Loss of light well within guidelines, or</i> • <i>only a small number of windows losing light (within the guidelines) or</i> • <i>limited area of open space losing light (within the guidelines)</i>
Minor adverse impact (a)	• <i>Loss of light only just within guidelines and</i> ○ <i>a larger number of windows are affected or</i> ○ <i>larger area of open space is affected (within the guidelines)</i>
Minor adverse impact (b)	• <i>only a small number of windows or limited open space areas are affected</i> • <i>the loss of light is only marginally outside the guidelines</i> • <i>an affected room has other sources of skylight or sunlight</i> • <i>the affected building or open space only has a low-level requirement for skylight or sunlight</i> • <i>there are particular reasons why an alternative, less stringent, guideline should be applied</i>
Major adverse impact	• <i>large number of windows or large open space areas are affected</i> • <i>the loss of light is substantially outside the guidelines</i> • <i>all the windows in a particular property are affected</i> • <i>the affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight (living rooms / playground)</i>

17.2 Baseline Context

To help understand the potential impact to surrounding buildings, potential sensitive receptors were identified. To the north are detached and semidetached dwellings on Clanmaurice Avenue and Strandville Gardens. Situated to the east of the development site are the Lansdowne Hall apartments and the terraced housing on Stone Town Terrace. To the south are dwellings at Fernhill and to the west the Salesian Primary School.

To note, the four terraced dwellings, Rosehill 21-24 have not been assessed as there are no changes to massing that would directly impact these properties nor have the neighbouring garages and shed.

17.3 Potential Impacts

The impact studies have presented some impact on the surrounding residential properties, as expected when introducing a high density development in an urban scenario. This outcome aligns with standard expectations for urban regeneration projects where existing low-density or undeveloped sites are transformed to meet contemporary housing demands

Sunlight to Existing Amenity Space

On March 21st, the existing amenity spaces will receive similar levels of sunlight with the proposed development in place when compared to the existing situation. In all cases the results comply with the recommendations in the BRE Guide outlined above and therefore there will be a negligible impact to the neighbour's sunlight.

Sunlight to Existing Buildings (APSH)

The assessment considers existing dwellings sunlight and tests if the Annual Probable Sunlight Hours (APSH) results for the living room windows (existing properties) are greater than 25% annual and 5% winter sunlight or are greater than 0.8 times their former value with the proposed development in place or the reduction in sunlight across the year is less than 4% with the proposed development in place.

When compared to the existing undeveloped site, 100% of the tested points (22no.) meet the BRE recommended values. These results highlight that the proposed development will have minimal impact to the sunlight received to these existing neighbouring properties. Overall the impact to the existing adjacent properties sunlight will be negligible. .

Daylight to Existing Buildings (VSC)

The assessment considers the proposed development and tests if the Vertical Sky Component (VSC) results are greater than 27% or not less than 0.8 times the value of the existing undeveloped nature of the site. When compared to the existing undeveloped nature of the site, of the 226 no. points tested, 94% (212 points) have a Proposed VSC value greater than 27% or not less than 0.8 times their former value compared to the Existing Scheme, thus complying with the BRE Guidelines.

Seven windows below recommendation are located on the Salesians Primary School. Three of these windows are above 26% and only marginally outside the recommended value of 27%. The remaining 4 are windows to the same hall space within the School which is also lit from an array of windows on the other side of the hall

Five windows below recommendation are located on the Lansdowne Hall apartments. Two of the windows are to bedrooms and are above 25% and marginally outside recommendations and therefore there will be a minor adverse impact to these windows. The remaining three windows below recommendations have values between 18% and 21% and are located on living spaces with large floor to ceiling glass onto an outdoor balcony area.

The remaining two windows below recommendations are located on properties on Stone Town Terrace. Both windows have percentages of 18% and 25% and are marginally outside the recommended of 80% of the existing value. In addition to this both windows are larger than a conventional window and have floor to ceiling glass in place. As noted in the BRE guide (as per Section 2.1.6), adequate daylight should still be expected given the presence of larger than conventional windows.

The daylight and sunlight assessments have shown that 94% of the existing properties comply with the BRE Guide (3rd Edition) and those properties that have results below the recommendations (14 of 226) are only marginally outside the recommendations with larger windows in place and therefore there will continue to be a negligible impact as a result of the proposed development.

17.4 Mitigation & Residual Effects

Negligible impact is expected in relation to daylight and sunlight access experienced by the future inhabitants of the proposed development and to the existing inhabitants of the adjacent neighbouring buildings. No remedial or mitigation measures are considered to be required, therefore, there will be no residual impacts during the operational stage in respect of daylight and sunlight for properties.

18.0 MATERIAL ASSETS - TRAFFIC & TRANSPORT

This document outlines the transport considerations associated with the proposed development, including a review of the existing transport context, a description of the transport proposals for the proposed development and an assessment of the impact of those proposals.

18.1 Methodology

The assessment methodology for the traffic related impact is based on the following methodology:

- Undertake a review of current planning policies and objectives, existing public transport services, walking and cycling network and existing roads infrastructure;
- Undertake site visits to review current traffic conditions and to make observations on same. Identify key junctions where traffic count survey information is required;
- Undertake a review of current transport policies, plans and strategy to identify future short, medium and long term transport proposals which may have a material impact on the travel behaviour associated with the proposed development;
- Review the proposed development in terms of provision for access by walking, cycling, public transport and car;
- Undertake an assessment of the likely modal share, trip generation, assignment and distribution having regard to existing and potential future traffic patterns on the local road network;
- Identify proposed junction works on the local road network in terms of new junctions, improvements for pedestrians, cyclists and traffic at existing junctions;

- Undertake an assessment of the key junctions during the operational base year, opening year, opening year plus five and opening year plus fifteen assessment years for both 'without development' and 'with development' scenarios in order to determine future operation and any necessary mitigation measures required; and,
- Undertake an assessment of the potential traffic generation during the construction phase and assess the percentage traffic impact likely to occur and to identify any appropriate mitigation.

18.2 Baseline Context

The site is located in Limerick city centre, with good pedestrian and cycle connectivity and access to good public transport.

A number of urban design principles were established from the outset in the Cleaves Masterplan Vision document, including principles to support and encourage sustainable mobility patterns among its residents and visitors. The design of the proposed development aligns with this principle by prioritising pedestrian and cycling permeability between the site and the city centre and within the development itself.

Vehicular movements within the proposed development will be restricted to certain areas to support sustainable mobility and placemaking. The roads surrounding the proposed development, North Circular Road, O'Callaghan Strand and Stonetown Terrace, will be traffic calmed and designed to have pedestrian and cyclist priority. Limited car parking provision will be provided to encourage residents and visitors to travel to/from the site via active travel and public transport. Pedestrians and cyclists will be provided with as many access points as possible to support connectivity to/from the proposed development, as well as permeability through the proposed development

North Circular Road will be designed to operate as a shared space. A narrow vehicle circulation area (between 4.8 and 5.2m wide) will encourage low speeds and help to create an environment where pedestrians and cyclists have priority. Pedestrian comfort zones will be provided to enable the safe circulation of pedestrians at all times. Strategic positioning of landscape features will contribute to traffic calming and to the character of the street. Three laybys will be provided along the road to ensure the operational needs of the development are met. Stonetown Terrace currently operates as a shared space, however this will be enhanced through careful landscape design.

18.3 Potential Impacts

Construction

Due to the complexity of the site and separate zones to be built, the construction activities will be phased, with the intensity of trips being limited at any given time. It has been robustly assumed that during construction of any one zone, there will be no more than 20 additional construction vehicular trips per hour (10 in / 10 out).

To assess the impact of traffic generated during the construction of the proposed development, the construction trip generation was compared against the existing traffic flows on the Salesians roundabout. The construction traffic uplift results in a 2% increase in flows through the Salesians roundabout during the AM and PM peak periods. This is a marginal uplift, especially considering the

robust trip generation assumption and the temporary nature of construction traffic. Hence, the impact of the construction trips can be considered “not-significant”

Operation

The impact of traffic generated by the proposed development has also been assessed using the residential and visitor vehicular trip generation and the baseline traffic flows on the surrounding road network. Given that the baseline traffic on the surrounding road network includes traffic generated by the Euro Car Parks which will be closed as part of the proposed development, an assessment of the net change in traffic volumes has been carried out.

During the AM and PM peak periods, the existing Euro Car Parks generates 62 trips and 51 trips, respectively, whereas the proposed development is anticipated to generate 32 vehicles in the AM peak and 37 vehicles in the PM peak. This represents an overall decrease in traffic on the road network surrounding the site during peak times. It is estimated that the reduction in traffic flows generated by the development at the Salesians roundabout will be as significant as 21 vehicles in the AM and 2 vehicles in the PM. This change in traffic corresponds to a reduction of 2% when considering the total traffic volumes at the roundabout during the AM peak and a reduction of 1% in total traffic volumes during the PM peak. Therefore, the impact of the operational trips can be considered “imperceptible”.

The impact of traffic generated by the full Masterplan (Phase I – IV) has been assessed by adding the trip generation associated with Phase I, III & IV of the Masterplan to the proposed development operational trip generation and comparing that to the baseline traffic flows at the Salesians roundabout.

Trip distribution has been derived from the observed traffic to/from the Euro Car Parks. Existing traffic analysis indicates that 81% and 76% of vehicles accessing the Euro Car Parks during AM and PM peak times, respectively, travel through the Salesians roundabout. Applying these percentages to the trip generation associated with the full Masterplan allows for an understanding of the change in traffic volumes through this roundabout when the full Masterplan is implemented.

It is estimated that the total increase in traffic flows generated by the development at the Salesians roundabout will be 45 vehicles in the AM and 42 vehicles in the PM. This change in traffic corresponds to a 4% increase in total traffic volumes during the AM and PM peaks as compared to baseline traffic flows.

For the purposes of this assessment, Salesians Roundabout can be considered to be sensitive and subject to the 5% threshold. The additional trips due to full masterplan is less than 5% of the baseline traffic. Hence, the junction was not considered for the further analysis and the impact of the full masterplan trips can be considered “not-significant”.

18.4 Mitigation & Residual Effects

From a construction traffic perspective, it is considered that the level of traffic impact during the construction stage is of an acceptable level in the short term. Given that the construction traffic generation was considered robust, and still only results in a 2% increase - the impact of the construction trips can be considered “not-significant”.

During the operational phase, traffic is anticipated to decrease which results in the impact being considered as “imperceptible”.

Cumulatively, for the entire masterplan, traffic generation levels are still considered low (less than the assessment threshold of 5%) and therefore are anticipated to be “not significant”.

Overall, given that the development has been designed with active travel principles and private vehicle reduction in mind – the proposed development is not anticipated to have a significant impact on the surrounding road network. The development will encourage sustainable mobility patterns among its residents and visitors, ensuring long term success.

19.0 MATERIAL ASSETS – WASTE MANAGEMENT

This chapter focuses specifically on Waste Management. The assessment covers the demolition, construction, and operational phases, evaluating how waste will be managed throughout the lifecycle of the project. The study area comprises all areas within the Proposed development boundary and a wider regional study area comprising relevant infrastructure and waste management facilities that may support or be impacted by the development.

19.1 Methodology

Waste management in Ireland is governed by a comprehensive framework of EU, national, regional, and local legislation and policy, which defines how waste materials must be managed, transported, and treated.

The cornerstone of Irish waste legislation is the Waste Management Act 1996 (as amended), which establishes the legal obligations for waste producers, collectors, and treatment facilities. Central to this is the waste hierarchy, which sets out a preferred order for managing waste to include prevention, reuse, recycling, recovery and disposal. This hierarchy promotes sustainable resource use and minimization of environmental impacts and its principles have been applied to the proposal development.

19.2 Baseline Context

The proposed development site has a well-established industrial history and includes several notable historic structures, such as the landmark brick chimney and the Flax Mill building. The site is divided into six distinct areas, including the former Cleeves factory, the Shipyard site, and the Salesians site. Currently, the area is considered a brownfield site, with a mix of hardstanding surfaces and patches of bare ground that are gradually revegetating. Environmental investigations have identified varying levels of contamination across the site. While most of the material present is suitable for disposal at an inert landfill, some samples revealed the presence of hazardous substances that will require appropriate management during the construction phase.

The proposed development will be carefully designed and managed to reduce waste generation across all phases of the project and to support circular economy principles. This approach aims to minimize

resource use, promote reuse and recycling, and ensure that materials are handled in a way that maximizes environmental sustainability throughout construction and operation phases respectively.

18.3 Potential Impacts

Waste produced during the construction phase will be handled in line with the project specific Construction and Demolition Resource Waste Management Plan (CDRWMP), which accompanies this planning application. A variety of waste types expected include demolition materials such as concrete, brickwork, asbestos and steel; non- native soils; mixed construction and demolition waste; wood and timber; metals; paper, plastics, and packaging; as well as general office and canteen waste. Some waste may also include soiled materials like used paper, cardboard, plastics, and plasterboard. All waste generated during the construction phase will be managed in accordance with relevant waste management legislation, environmental regulations, regional waste policies, and best practice guidance. As with any construction project, there is potential for nuisance issues such as dust or waste materials affecting nearby receptors. To address this, appropriate mitigation measures will be put in place to reduce the risk of such impacts and protect the surrounding environment.

The appointed contractor will be responsible for tracking, auditing, and documenting all waste generated during the construction phase of the development. Waste records will be maintained onsite for the duration of the works and will be available for review by the Client, the Employer's Representative, and relevant statutory bodies, including Limerick City and County Council (LCCC) and the Environmental Protection Agency (EPA), as required.

During the operational phase, the development has been designed to include appropriate waste storage facilities tailored to the different types of proposed uses. Primary waste streams will include municipal, recyclable, and organic waste. Occasionally, residents may also produce other waste types such as electrical items (WEEE), batteries, fluorescent tubes, furniture, chemicals, and textiles. Waste generated onsite will be segregated into various waste streams and collected by licensed waste service providers in accordance with national regulations. Collection will occur fortnightly for townhouses and triplex units and weekly for apartments and commercial units. All waste will be transported to authorized disposal or recovery facilities in full compliance with environmental standards and relevant legislation, including the Waste Management Acts of 1996, 2001, and 2003, and subsequent amendments. Communal waste collection areas will be clearly marked, secure, well-lit, and properly drained, ensuring safe and convenient access for residents and waste contractors.

19.4 Mitigation & Residual Effects

Mitigation measures will be implemented to manage any potential impacts. Given the nature and location of the proposed development, and the mitigation and monitoring measures proposed no significant residual impacts are expected in relation to waste management.

20.0 MATERIAL ASSETS – UTILITIES

This chapter assesses the material assets serving the proposed development specifically in relation to existing and proposed built services including foul sewerage, surface water drainage, lighting, water supply, gas, electricity, and telecommunications utilities.

20.1 Methodology

A number of sources have been used to collate information on built services within the general area of the site, including available utility information and maps received from Uisce Éireann (UÉ) and Limerick City and County Council (LCCC). Additional data was sourced from Precision Utility Mapping, 2021. Site specific surveys were also undertaken to inform this chapter including an Asbestos Survey Report from Phoenix Environmental Safety Ltd, 2024 and Independent Site Management (ISM), 2025 Report.

This information has been supplemented by observations recorded during site walkover surveys, and pre-application consultation with UÉ, ESB Networks and LCCC.

20.2 Baseline Context

Consultation with relevant bodies has been undertaken to determine existing utilities present in the vicinity of the site.

There is an existing 150mm surface water pipe from the Salesians site that is discharging directly to the combined sewer on NCR via a 300mm internal combined drainage network. There is an existing 225mm Surface Water Sewer serving the apartments at the top of Stonetown Terrace.

There is a 400mm surface water outfall (discharge) via an existing pipe at the Shannon River's north bank from the Flaxmill site. CCTV survey shows that there are a series of pipes that link the Shannon River to the onsite Reservoir via this feature. The flap-gate at the reservoir no longer works and thus allows water to enter in either side of the pipe depending on the resultant water level in the Shannon River (i.e. allows discharge of water from the onsite reservoir directly to the River Shannon and, depending on hydraulic levels, allows ingress of water from the River Shannon directly to the reservoir). A 225 mm diameter discharge pipe is proposed to be laid horizontally from the existing attenuation reservoir (former quarry with exposed bedrock) to the newly constructed final manhole, with an invert level of +1.00 m ODM. The pipe has been sized to significantly restrict outflow from the reservoir, ensuring controlled discharge to the River Shannon during 1:100 year storm event.

The Metropolitan Area Network (MAN) is currently routed across the Shannon Bridge and on Shelbourne Road. There is a spur serving the old Salesians secondary school, which is part of the overall site. There is also an extensive telecoms duct network available on North Circular Road and O'Callaghan Strand.

There are three active substations in the vicinity of the site, including the Salesians substation, Fernhill substation and the Stonetown Terrace substation. The existing Lansdowne substation in the Flaxmill is not showing as active (ARUP 2024), as per information received from ESB and as noted from the ESB Capacity Map. The Fernhill substation has limited capacity available.

For the proposed development which includes carpark lighting and EV charging only on the Shipyard Site, supply will be from Fernhill substation to a new metered supply on the Shipyard site. A new substation has been provided at the Stonetown Terrace Apartments which also caters for the townhouses. The Salesians substation will be decommissioned and an allowance made to divert the supply. New substations are proposed as part of the development proposal to service the site. The estimated maximum demand for the proposed development is in the region of 2.7MVA.

There is a 125mm diameter (Low Pressure) Gas main located on O'Callaghan Strand and NCR with a spur located on Stonetown Terrace. The nearest Medium Pressure line is at the Sarsfield Bridge at the other end of O'Callaghan Strand.

There is an existing public street lighting network along NCR, O'Callaghan Strand and the R464. There is also currently public lighting within the existing Euro Car Park and Salesian Primary School. The overarching principle of the lighting design strategy is to create a safe night-time environment, ensuring no undue harm to neighbouring residents, and including bat friendly lighting.

20.3 Potential Impacts

Uisce Éireann has confirmed that the foul network has sufficient capacity for the proposed development, and that the water supply network has sufficient capacity to meet the foul and water supply requirements of the proposed development, once operational. All foul water, storm water and water main services will be installed and commissioned within the proposed development in accordance with all Uisce Éireann requirements and standard best practice guidelines. No significant impacts have been identified.

All power, telecommunications networks and street lighting will be installed and commissioned within the proposed development in accordance with the relevant service providers guidelines and requirements and standard best practice guidelines. No significant impacts have been identified.

Accordingly, no potential impacts are likely to occur during the operational phase. Further when considered with other developments in the area and with the Masterplan, cumulative effects are not likely to be significant.

20.4 Mitigation & Residual Effects

Based on the proposed engineering design, which has been developed in consultation with the engineering and water services section of Limerick City and County Council and other key stakeholders including Uisce Eireann, given the phased nature of the proposed development, along with proposed mitigation measures no residual significant impacts are anticipated with regards to existing or proposed utilities associated with the proposed development.

21.0 RISK MANAGEMENT FOR MAJOR ACCIDENTS /DISASTERS

This chapter assesses the potential vulnerability of the project to major accidents or disasters and its potential to cause such events, ensuring compliance with EU and national legislation.

21.1 Methodology

A risk analysis-based methodology that covers the identification, likelihood and consequence of major accidents and / or disasters has been used for this assessment, including design risk review workshops, ongoing risk analysis and the preparation and tracking of issues recorded in the project wide risk register.

Risks with medium to high significance are further examined and mitigated.

A number of other assessments also deal with the risk of accidents and natural disasters outside the EIA process. These include the Construction Environmental Management Plan (CEMP) and the Flood Risk Assessment (FRA) which are submitted with the planning application, under separate cover.

21.2 Baseline Context

The application site has particular characteristics that inform the specific approach that needs to be taken to risk management. These characteristics include

- Site topography.
- The extent of demolitions.
- Flooding risk from the River Shannon.
- Nearby Seveso site.
- Character of area and what is around it in terms of the built environment.

The site is currently a brownfield site, mainly comprising of hardstanding and revegetating bare ground, with the Salesians school dominating the northwestern section. The levels within the site vary significantly, sloping from northwest to southeast towards O'Callaghan Strand and the River Shannon. An old quarry is located at the centre of the site, with a reservoir formed from part of the quarry.

21.3 Potential Impacts

The design of the proposed development has evolved through comprehensive design iteration, with particular emphasis on avoiding or reducing the potential for environmental impacts, where practicable, whilst ensuring the objectives of the overall development are attained.

The design of the proposed development has been developed in compliance with the relevant design standards which include provisions to reduce the likelihood of risk events occurring (e.g. structures have been designed to avoid the risk of collapse, drainage systems have been designed to cater for increased rainfall events etc.).

Key risks during construction include traffic accidents, structural damage, pollution, flooding, chemical exposure, risk to heritage structures, and pollution control and these were all considered and measured in the risk register.

Operational risks are generally low due to design and mitigation measures. The proximity to a Seveso site (a hazardous chemical establishment) was considered but found not to pose significant risk.

Adherence to safety standards will ensure that risks remain as low as reasonably practicable.

21.4 Mitigation & Residual Effects

Mitigation strategies include adherence to best practices, preparation of detailed management plans such as the Construction Environmental Management Plan (CEMP), and emergency response plans. Overall, the chapter concludes that with the proposed design, mitigation, and management measures, the risk of major accidents or disasters during both construction and operation phases is low.

No cumulative significant risks from nearby developments were identified.

22.0 INTERACTION BETWEEN ENVIRONMENTAL FACTORS

All environmental factors are inter-related and this chapter cross references the individual environmental assessment reports undertaken, including the proposed mitigation measures. In practice many impacts have slight or subtle interactions with other disciplines. This chapter highlights those interactions which are considered to potentially be of a significant nature.

22.1 Methodology

The preparation and coordination of this EIAR ensured that each of the specialist consultants liaised with each other on an ongoing basis and dealt with the likely interactions between effects predicted as a result of the proposed development. This process ensured that appropriate mitigation measures are incorporated into the design process.

22.2 Interactions

The primary direct interactions meaning those interactions which could have likely significant effects, can be summarised as follows:

- Population & Human Health with Biodiversity, Land Soils & Geology, Water & Hydrogeology, Microclimate – Daylight & Sunlight and Pedestrian Wind Comfort & Distress, Traffic & Transport, Waste Management, Landscape, Noise, Air Quality, Climate and Utilities;
- Biodiversity with Population & Human Health, Land Soils & Geology, Water & Hydrogeology, Landscape, Air Quality, Noise, Microclimate-Daylight & Sunlight, and Utilities – Built Services
- Cultural Heritage – Archaeology with Cultural Heritage – Architecture, Land Soils & Geology and Landscape;
- Cultural Heritage – Architecture with Archaeology, Water & Hydrogeology, Landscape, Vibration and Micro Climate – Pedestrian Wind Comfort & Distress;
- Land Soils & Geology with Population & Human Health, Biodiversity, Air Quality & Climate, Water & Hydrogeology, and Waste Management;
- Water & Hydrogeology with Population & Human Health, Biodiversity, Land Soils & Geology, Air Quality, Utilities and Waste Management;
- Landscape with Biodiversity, Cultural Heritage - Architecture, and Microclimate – Pedestrian Wind Comfort & Distress and Daylight & Sunlight;
- Noise & Vibration with Population & Human Health, Biodiversity, Cultural Heritage – Architecture, Land Soils & Geology, Traffic & Transport, and Waste Management;
- Air Quality with Climate, Population & Human Health, Biodiversity, Land Soils & Geology, Water & Hydrogeology, and Traffic & Transport;
- Climate with Population & Human Health, Land Soils & Geology, , Microclimate Daylight & Sunlight; Air Quality, Utilities, Waste Management and Traffic & Transport;
- Microclimate – Pedestrian Wind Comfort & Distress with Landscape and Cultural Heritage – Architecture;
- Microclimate – Sunlight Daylight & Shadow Analysis –Population & Human Health, Biodiversity, Cultural Heritage – Architecture, Landscape and Climate;

- Traffic & Transport – Population & Human Health, Climate, Air Quality and Noise;
- Waste Management with Population & Human Health, Land Soils & Geology, Water & Hydrogeology, Noise, and Climate;
- Utilities & Built Services with Population & Human Health, Biodiversity, Water & Hydrogeology, and Climate

22.3 Mitigation & Residual Effects

While many inter-relationships and inter-actions have been identified, it is anticipated that the mitigation measures included in the proposed development (and outlined in the other relevant sections of the EIAR) will minimise or off-set potential for significant effects. With mitigation measures in place, no significant residual negative impacts are predicted

The proposed development has the potential to impact on various environmental aspects, with interactions and inter-relationships between these aspects as described above. The EIAR has considered these interactions and inter-relationships throughout the appraisal, firstly through the design and layout of the proposed developments, to avoid impacts where possible, and also in the definition of suitable mitigation measures to minimise the impacts.

23.0 SUMMARY OF MITIGATION MEASURES

A summary of mitigation measures is proposed as detailed in Chapters 6.0 to 21.0. The appointed contractor will be required to adhere to the mitigation contained in the EIAR for the protection of the environment and to ensure sustainable development.

A number of mitigation measures have been incorporated into the design proposal, following an iterative assessment during the design stage. These mitigatory measures have shaped the design of the scheme; the approach to development; the juxtaposition of the buildings; and the nature and extent of the landscape strategy.

The design rationale and detail employed seeks to mitigate potential negative effects on a series of environmental factors and considerations.