



Environmental Impact Assessment Report

Volume 1 – EIAR Non-Technical Summary

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Prepared for: Kirkland Investments Ltd.

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1. INTRODUCTION

1.1 Proposed Development

This Non-Technical Summary (NTS) accompanies the Environmental Impact Assessment Report (EIAR) prepared in respect of a proposed Large Residential Development (LRD) at Parkway Valley, Singland, Dublin Road (R445), Limerick, Co. Limerick. The application site extends to approximately 6.18 hectares. The EIAR has been prepared on behalf of Kirkland Investments Limited (hereinafter referred to as 'the Applicant') to accompany a planning application to Limerick City and County Council (LCCC) for the Proposed Development.

1.2 Relevant Legislative Requirement for Environmental Impact Assessment

This EIAR has been prepared in accordance with the most relevant guidance and legislation, including the following:

- ▶ EIA Directive (2011/92/EU) as amended by EIA Directive (2014/52/EU);
- ▶ Planning and Development Act 2000 (as amended), insofar as relevant provisions remain in force;
- ▶ Planning and Development Act 2024 (No. 34 of 2024). A revised consolidated version of the Act is available; however, the Act has not yet been fully commenced;
- ▶ Planning and Development Regulations 2001 (as amended);
- ▶ *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment* (Department of Housing, Planning and Local Government, 2018);
- ▶ *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022);
- ▶ *Environmental Impact Assessment of Projects Guidance on Scoping* (Directive 2011/92/EU as amended) (European Commission, 2017);
- ▶ *Environmental Impact Assessment of Projects Guidance on Screening* (Directive 2011/92/EU as amended) (European Commission, 2017); and
- ▶ *Guidance on the preparation of the Environmental Impact Assessment Report* (European Commission, 2017)

1.3 Format and Structure of this EIAR

This EIAR has been laid out using the grouped format structure, the report examines each environmental factor in a separate chapter (the chapters are listed in Table 1-2 of Chapter 1). These EIAR chapters have been prepared by suitably qualified expert(s) and have considered the construction and operational phases of the Proposed Development under the following headings:

- ▶ Assessment Methodology;
- ▶ Receiving Environment;
- ▶ Characteristics of the Proposed Development;
- ▶ Potential Impacts of the Proposed Development;
- ▶ Mitigation Measures;
- ▶ Monitoring or Reinstatement Measures;
- ▶ Residual Impacts of the Proposed Development; and
- ▶ Cumulative Impacts of the Proposed Development.

1.4 Description Of Effects

The quality, magnitude and duration of potential impacts are defined in accordance with the criteria provided in the *Guidelines on Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022). This criterion is duplicated in Table 1-4. of Chapter 1.

1.5 Additional Assessments

The additional reports and/or assessments required under Legalisation or EU Directives other than the EIA Directive in respect of the Proposed Development are as follows:

- ▶ **Appropriate Assessment Screening Report** and **Natura Impact Statement** has been completed by Moore Group pursuant to the Habitats and Birds Directive (92/43/EEC and 79/409/EEC)
- ▶ **Water Framework Directive Assessment** has been completed by AWN pursuant to the Water Framework Directive (2000/60/EC)
- ▶ **Stage 2 Flood Risk Assessment** has been prepared by Punch Consulting Engineers

Other supplementary reports/assessments prepared to support the EIAR assessments:

- ▶ **Bird and Bat Survey Report** prepared by Éire Ecology
- ▶ **Hydrology and Hydrogeology Risk Assessment** has been prepared by AWN
- ▶ **Resource Waste management Plan** prepared by AWN Consulting
- ▶ **Operational Waste Management Plan** prepared by AWN Consulting
- ▶ **Aviation Glint and Glare Assessment** prepared by Macro Works Ltd.

2. DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Introduction

This chapter presents the description of the Proposed Development comprising information on the site, design, size and other relevant features of the Proposed Development. The scope of this chapter aligns with the relevant legislation and guidance which comprises the following:

- ▶ EIA Directive (2011/92/EU), as amended by the 2014 EIA Directive (2014/52/EU) (herein referred to as the EIA Directive);
- ▶ European Commission 'Environmental Impact Assessment of Projects - Guidance on the preparation of the Environmental Impact Assessment Report' (2017); and
- ▶ EPA 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports' (2022) (herein referred to as the EPA EIAR Guidelines 2022).

This guidance advises that description of the existence of the project should define all aspects of the proposed lifecycle of the facility, including:

- ▶ Description of Construction;
- ▶ Description of Commissioning;
- ▶ Operation of the Project;
- ▶ Changes to the Project; and
- ▶ Description of Other Related Projects.

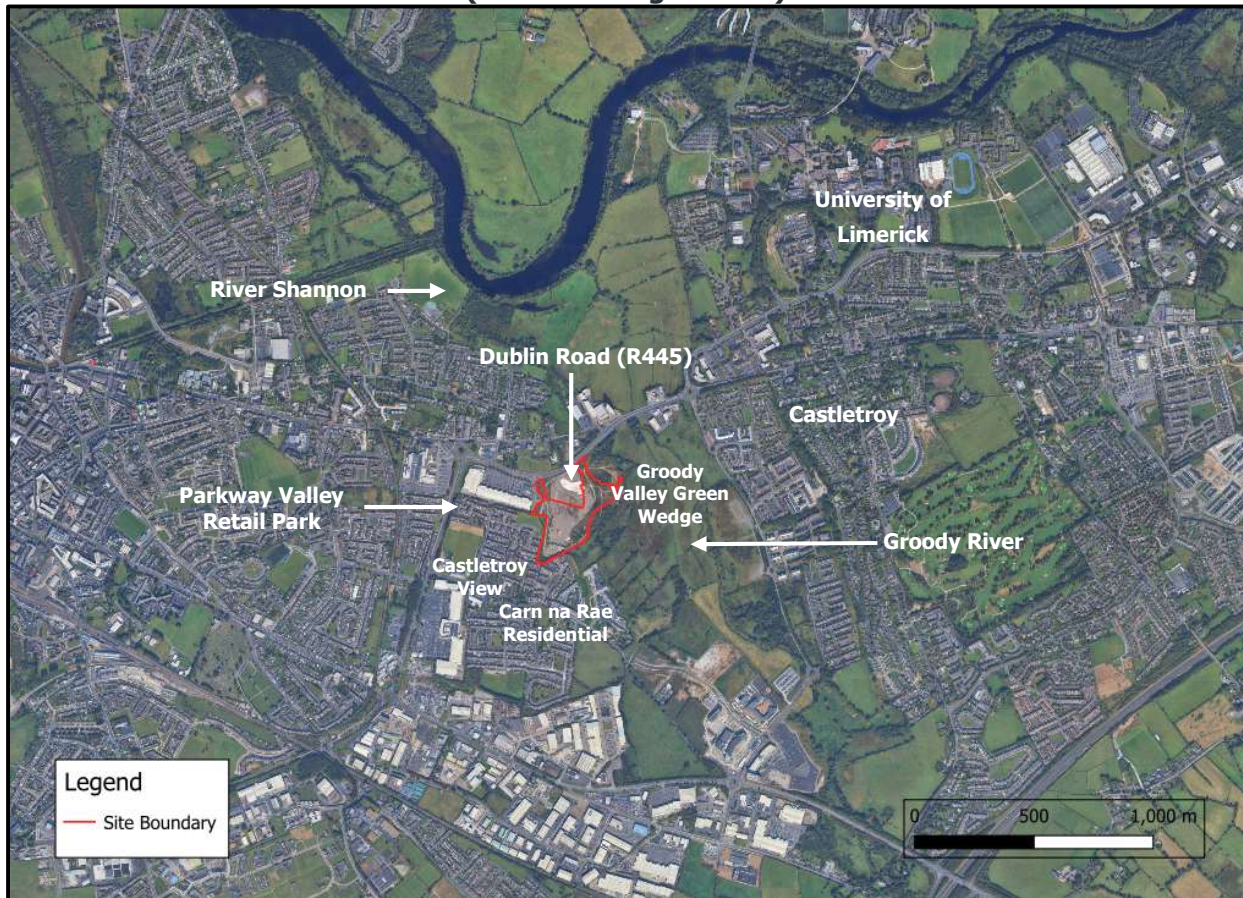
The description is not exhaustive, and as such the EIAR should be read in conjunction with the full application package.

2.2 Description of the Existing Development Site

The Site is the former Horizon Mall site in Singland, 2.5 km east of Limerick City centre. The site was unoccupied by any building structures until 2007, when the Horizon Mall was partially constructed on the site. It was subsequently demolished in 2020, with reinforced concrete walls left in situ. It is understood that much of the material from the demolition was used for backfilling and land raising purposes on the site such that the site is now predominately covered in made ground.

Figure 2-1 below shows the location of the Proposed Development with the indicative red line boundary within the context of the surrounding area (Aerial View).

**Figure 2-1 Proposed Development Lands (indicative red line boundary)
(Source: Google Earth)**



The current site sits at elevations between 5 m and 17 m above ordnance datum (AOD) Malin, with majority of the site generally flat (between 8.4 m and 9.64 m AOD) and falling to the east.

The greenfield lands to the east of the site have been designated as the Groody Valley Green Wedge in the Limerick Development Plan 2022-2028, with the objective to *'preserve and protect the Groody Valley from development.'*

The only existing utility infrastructure on the Site are 110kV High Voltage overhead power lines and pylons which transverse the eastern portion of the site. However, there is power, telecommunications, foul drainage and water supply infrastructure in the immediate vicinity of the Site. There is no existing public storm sewer or surface water network in close proximity to the Proposed Development site. The EPA online mapping shows two unnamed surface watercourses within the Site but these are no longer evident on site. There is an open drain at the eastern boundary of the site connected to Industrial Estate / Galvone Stream which ultimately discharges to the Groody River, approximately 200m east of the site.

2.3 Characteristics of the Proposed Development

2.3.1 Proposed Development Overview

The proposed LRD development comprises five residential apartment blocks with a total of 403 no. residential units, ranging from five to eight storeys in height; a medical centre located at the western edge of the site; a creche located at ground level of Block B; and all associated site works and development including a new site entrance from the Dublin Road (R445) and a proposed nature-based surface water drainage solution within the neighbouring Groody Valley Green Wedge.

Specifically, the LRD development will comprise the following main elements:

- ▶ **Medical Centre:** A c. 3,082 m², five-storey medical centre is proposed to be located at the western extent of the application site.
- ▶ **Creche:** A c. 306 m² creche is proposed on the lower ground floor level of Block B.
- ▶ **Residential Development:** A total of 403 no. units comprising of 246 no. one-bed units and 157 no. two-bed units.

The Proposed Development site layout is shown in Figure 2-2 below.

Figure 2-2 Proposed Site Layout Plan (Source: Extract from Landscape Plan Drawing PAV-JBA-XX-XX-DR-L-0002, JBA, May 2026)



2.3.2 Masterplan Overview

The Proposed Development will be Phase One of a two-phase, mixed-use masterplan for the overall Parkway Valley lands. The Proposed Development comprises residential, community and healthcare infrastructure (medical center and creche) aspects of the masterplan. Phase Two provides for employment and commercial uses, namely a hotel, three office blocks and a life sciences building, on the remainder of the masterplan site.

A proposed variation to the Limerick Development Plan (LDP) 2022 - 2028 (Proposed Variation No. 3) seeks to alter the primary use of the site from employment and enterprise to residential. As a result, the overall masterplan principles have been developed with flexibility to be able to accommodate predominantly commercial as per the masterplan described above or predominantly residential uses in Phase Two. If the variation to the LDP is adopted and the majority of the Site is to be developed for residential use, the future full build out of the masterplan site will incorporate additional residential blocks as well as a hotel.

This EIAR has assessed the cumulative effects of the Proposed Development with Phase Two, taking into account the two options currently proposed for the future build out, in so far as it is feasible based on the design information currently available.

2.3.3 Landscaping and Green Infrastructure

The landscape design for the Proposed Development has been prepared by JBA Consulting. The design of the community and residential spaces have included pedestrian and cycle links, seating, and areas for outdoor exercise, community gardening, and play. Planting proposals have incorporated native species, pollinator-friendly planting, a mix of native and ornamental species, and SuDS features including bioswales and an attenuation pond. The proposals have been designed with respect to the existing biodiversity at the site following consultation with design team ecologists and LCCC. Site-specific measures include the provision of a bat house, swift boxes, an open managed grassland area for bird habitats, and the translocation of existing orchid species at the site.

2.3.4 Site Utilities and Infrastructure

Full details of the site utilities proposals are set out in the Engineering Planning Report prepared by Punch Consulting Engineers.

It is proposed to construct a new watermain to connect to the existing infrastructure along the Dublin Road (R445) at the northern boundary of the site.

A new foul sewer network will be constructed within the site which will convey foul effluent to a proposed pumping station located within the eastern boundary of the site. A rising main will convey the foul effluent from the pumping station across the site to the existing drainage in the Parkway Retail Park which ultimately discharges into a combined sewer on Childers Road. The foul effluent will ultimately discharge to Limerick WWTP, where it will be treated under license.

A Confirmation of Feasibility (COF Ref. DS25006639) was received from Uisce Éireann on 30th October 2025 which confirms the feasibility of the proposed wastewater connections without infrastructure upgrade. The COF confirmed the water supply connection was also feasible but will require upgrade of 57 m of existing watermain from 200 mm to 350 mm, to be funded by the Applicant.

The development drainage design has been designed in accordance with the relevant planning guidelines and objectives. It is proposed to construct a new fully separated surface water drainage network and extensive SuDS features including green roofs, permeable paving, bioretention areas, swales, infiltration trenches, tree-pit attenuation and an attenuation pond which together manage, treat and attenuate runoff generated on site prior to discharge. Discharge from the site will be controlled to the greenfield-equivalent

rate via a hydrobrake located upstream of the stormwater outfall, which will convey flows by gravity to the Industrial Estate/Galvone Stream, which discharges to the Groody River, 200m east of the Site boundary.

Electricity and telecommunications infrastructure will be provided via the existing ESB grid network and local EIR and Enet telecommunications infrastructure. New underground ducting will be installed at the Site to facilitate these connections. No gas connections will be required for the Proposed Development.

2.3.5 Transport and Accessibility

The site will be accessible from the Dublin Road (R445) via the roundabout at the entrance to Parkway Retail Park at the north-west corner of the site and via a new site entrance off the Dublin Road (R445). The new entrance will operate as a left in and left out junction arrangement facilitating left-turn ingress and egress movements only.

The proposed development will include a network of internal roads and cycle paths to facilitate safe and convenient movement throughout the site. The layout has been designed to provide a high level of connectivity and to support sustainable modes of travel, including walking and cycling.

A total of 138 car parking spaces are proposed. Of these, 101 spaces will be provided within a lower ground floor car park for residents, with access taken from the internal road network. Surface parking provision will also be provided to serve the creche (8 spaces) and medical centre (29 spaces). Battery electric vehicle charging points shall be provided from the outset for 20% of the residential car parking spaces (i.e. 21 no. EV parking spaces for residents) and 6 no. EV parking for the creche and medical centre. It is proposed to provide a total of 818 no. bicycle parking spaces across the site.

Bus stops within a 5-minute walk of the site are served by several NTA-licenced Limerick City bus routes operated by Transport Infrastructure Ireland (TII). These routes serve additional transport links including Limerick Colbert Train Station. With reference to the Public Transport Capacity Assessment (Punch, 2025), the existing public transport network is considered to have sufficient capacity to accommodate the Proposed Development.

2.4 Description Of Construction

2.4.1 Construction Staffing, Working Hours and Duration

It is estimated that there will be c. 100-150 construction staff at peak construction. Site staff will include; management, engineers, construction crews, supervisors, environment health and safety personal, and maintenance contractors.

It is anticipated that the construction of the Proposed Development will be completed during normal construction hours as set out in planning conditions attached to a grant of permission. However, it may be necessary for some construction operations to be undertaken outside these times, for example, service diversions and connections, concrete finishing and fit-out works. Any such works will be completed with the advance agreement of LCCC. Such occurrences will be kept to a minimum and take place over a short timeframe and as such are unlikely to cause excessive disturbance.

Once the grant of planning is received, it is anticipated the construction activities on site will last c. 36 months.

2.4.2 Establishment of Construction Services

The construction compound is anticipated to be located at the western boundary of the site, near the site entrance at the Parkway Valley Retail Park roundabout. The compound will provide office, portable sanitary facilities, equipment storage, parking etc for contractors for the duration of the works. The construction

compound will be fenced off for health and safety reasons so that access is restricted to authorised personnel only. All areas under construction will be fenced for security and safety purposes and temporary lighting supplied, as necessary.

2.4.3 Construction Techniques and Materials

Construction techniques will include demolition of some of the existing concrete at the site, mechanical excavation, construction of reinforced concrete foundations, structural building framework construction, and building envelope works. Where possible it is proposed to source general construction materials from the local area to minimise transportation distances. Once the main construction works are completed, the development will undergo internal fit-out works which have been included in the construction duration.

Piled foundations will comprise continuous flight auger (CFA) piles to an average depth of approximately 5 m below ground level. The CFA methodology minimises soil collapse, limits groundwater ingress, and reduces disturbance to surrounding ground conditions, ensuring that the contact time between the concrete and any potential groundwater is minimal. This is discussed in further detail in Section 6.4.1.3 of Chapter 6 (Hydrology and Hydrogeology).

A number of cranes may be erected on the project to assist with the superstructure and façade works.

2.4.4 Landscaping and Reinstatement

Once the majority of the construction works are completed the landscaping will be completed in accordance with the specification of the project landscape architect (JBA) and in agreement with LCCC. JBA have provided a landscape plan and strategy for the site which is provided with the planning documentation.

2.4.5 Construction Environmental Management Plan

Punch Consulting Engineers have prepared a Construction Environmental Management Plan (CEMP) to accompany the planning application. It outlines and explains the construction techniques and methodologies which will be implemented during construction of the Proposed Development. The CEMP also includes emergency response procedures in the event of a spill, leak, fire or other environmental incident related to construction. The CEMP incorporates mitigation measures outlined in the EIAR as they relate to the construction phase. It will be updated to include any additional measures required pursuant to planning conditions which may be imposed.

The CEMP will be implemented and adhered to by the Construction Contractor and will be overseen and updated as required by the Project Manager, Environmental Manager and Environmental Clerk of Works, if unforeseen site conditions are encountered. All personnel working on the Site will be trained in the implementation of the procedures.

2.4.6 Resource Waste Management Plan

Chapter 14 contains a detailed description of waste management relating to construction of the Proposed Development. A site-specific Resource Waste Management Plan (RWMP) is included as Appendix 14.1 of this EIAR. This RWMP will be implemented to ensure best practice is followed in the management of waste generated during the construction phase of the Proposed Development.

2.4.7 Potential Impacts and Mitigation Measures During Construction and Commissioning

The main potential impacts during the construction and commissioning phase which require mitigation are:

- ▶ Control of construction of run-off water in terms of silt runoff and dewatering (if required) (see Chapter 5 (Land, Soils and Geology) and Chapter 6 (Hydrogeology and Hydrology) for further information);
- ▶ Impacts on human beings in terms of nuisances relating to the air quality of the environs due to dust and other particulate matter generated (see Chapter 8 (Air Quality) for further information);
- ▶ Potential impacts on the Groody River, Natura 2000 sites (SPA and SAC) linked to the proposed development site (See Chapter 7 (Biodiversity) and the accompanying Appropriate Assessment Screening and Natura Impact Statement included as Appendix 7.2 and 7.3, respectively);
- ▶ Potential Impacts on human beings in terms of nuisances due to plant noise and vibration from equipment (see Chapter 10 (Noise and Vibration) for further information);
- ▶ Potential impacts on Archaeology, Architectural and Cultural Heritage during the excavation works (See Chapter 12 (Archaeological, Architectural and Cultural Heritage));
- ▶ Potential impacts on the road network (due to construction workers and other staff attending site (see Chapter 13 (Traffic and Transportation) for further information); and
- ▶ The generation of construction waste materials generated will be soil from excavation works and litter (see Chapter 14 (Waste Management) for further information).

2.5 Operation Of the Proposed Development

2.5.1 Building Management

The residential blocks will be operated by a Facilities Management Team, who will be responsible for:

- ▶ Management and implementation of the parking and mobility strategy.
- ▶ Management of lease agreements and operational budgeting for the effective management of the common areas.
- ▶ Management of contractors and other requirements of efficient building and estate operation.
- ▶ Co-ordination of stakeholder and community events and engagement.
- ▶ Ensuring that the appropriate standards for resident behavior are upheld, creating a secure and friendly environment.
- ▶ Management of delivery strategies to ensure full access to facilitate deliveries for all stakeholders as required.

Once completed, the creche and medical centre will be occupied by commercial tenants / operators, who will be responsible for the management of parking and mobility strategies, waste management, management of deliveries and contractors, and other operational requirements.

2.5.2 Waste Management

The Operational Waste Management Plan prepared by AWN (Appendix 14.2) provides a strategy for segregation at source, storage and collection of wastes generated within the development during the operational phase including dry mixed recyclables, organic waste, mixed non-recyclable waste, glass, confidential paper, and medical waste, as well as providing a strategy for management of waste batteries, WEEE, printer/toner cartridges, chemicals, textiles, waste cooking oil and furniture.

2.5.3 Sustainability, Energy Efficiency, and Resource Use

The Climate Action Statement (Moloney Fox Consulting Engineers, 2026) sets out the sustainable building practices and technologies incorporated into the Proposed Development design. The Proposed Development has been designed 'Nearly Zero Energy Buildings' standards, or NZEB, which refers to buildings with very low energy requirements, which will be met by mostly renewable energy sources. Sustainable technologies incorporated into the Proposed Development include roof-mounted solar photovoltaic (PV) arrays, electrically driven exhaust air heat pumps (providing ventilation, heating, and hot water), demand-control ventilation, and smart lighting controls.

2.5.4 Potential Impacts During Operation and Mitigation Measures

The main potential impacts during the operational phase which require design and mitigation are:

- ▶ Impacts on human beings in terms of nuisances relating to the air quality of the environs due to dust and other particulate matter generated (see Chapter 8 (Air Quality) for further information);
- ▶ Potential impacts on Natura 2000 sites (SPA and SAC) linked to the proposed development site (See Chapter 7 (Biodiversity) and the accompanying Appropriate Assessment Screening and Natura Impact Statement, included as Appendix 7.2 and 7.3);
- ▶ Impacts on human beings in terms of nuisances due to plant noise and vibration from mechanical and services plant (see Chapter 10 (Noise and Vibration) for further information);
- ▶ Interventions in the visual and landscape environment from the introduction of new buildings and structures (see Chapter 12 (Landscape and Visual Impact) for further information);
- ▶ Effects on the road network due to staff (see Chapter 13 (Traffic and Transportation) for further information); and
- ▶ The management and segregation of operational waste generated (see Chapter 14 (Waste Management) and Appendix 14.2 OWMP for further information).

2.6 Related Future Projects

Uisce Éireann network upgrades to c. 57 m of watermain will be required to facilitate the Proposed Development water mains connection. No other known related projects are required in order to facilitate the proposed development.

2.7 Potential Cumulative Developments

As part of the assessment of the impact of the Proposed Development, account has been taken of relevant related developments that are currently permitted, or under construction within the area surrounding the Proposed Development site. The potential for cumulative impacts arising from these related projects has been addressed within each specialist chapter of this EIAR (Chapters 4 – 15).

3. ALTERNATIVES

3.1 Introduction

The requirement to consider alternatives within an EIAR is set out in Annex IV (2) of the EIA Directive (Directive 2011/92/EU, as amended by Directive 2014/52/EU), and in Schedule 6 of the Planning and Development Regulations, 2001, as amended (“the Regulations”), which states:

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

This chapter, prepared by AWN, provides an outline of the reasonable alternatives examined during the design phase. It sets out the main reasons for choosing the development as proposed, taking into account and providing a comparison on the environmental effects.

3.2 Do Nothing Alternative

The Proposed Development and overall masterplan for the Parkway Valley lands will contribute to the stated policy objectives of the current Limerick Development Plan (LDP) and National Planning Framework, providing a mixture of uses including residential, commercial office spaces, and community/public realm infrastructure at a brownfield site.

A proposed variation to the LDP seeks to alter the primary use of the site from employment and enterprise to residential. As such, the overall masterplan principles have been developed with flexibility to be able to accommodate predominantly commercial or predominantly residential uses in Phase Two.

If the Proposed Development does not proceed, the existing Parkway Valley site would remain as an undeveloped brownfield site, which would result in a neutral impact on the environment. With respect to the site’s zoning for mixed-use development, its identification within the LDP as a strategic opportunity site, and the additional policy objectives outlined above, it is likely that if the Proposed Development does not proceed, the site would be developed for similar uses in the future.

Therefore, opting for the '*do-nothing*' scenario would be underutilising this strategically positioned site, would miss the opportunity to deliver a new high-density residential development and mixed-use amenity, and would contravene existing plans and policies for the Proposed Development site.

3.3 Alternative Project Locations

The current location of the Proposed Development at the Parkway Valley site was decided by a number of preceding plans, policies and circumstances all of which pre-determined that the current location offers the best project location in terms of planning, sustainability and the environment and is in accordance with the relevant policies and objectives of the LDP.

The site chosen is located on an existing brownfield site where the residential developments and commercial interests associated with the Proposed Development masterplan are compatible with the zoning and strategic objectives for the site. The Parkway Valley site has been subject to previous development and demolition and is now considered to be a derelict site and an “eyesore” in the surrounding local area which would benefit from redevelopment.

Within Limerick City, there are limited sites of similar scale zoned for mixed-use development, many of which are already subject to planned or permitted developments. The subject site can be considered to

be the most suitable location for the Proposed Development and additionally would benefit from development.

3.4 Alternative Layout/Design

The project design team undertook a comprehensive design process to determine an effective and efficient masterplan layout for the overall Parkway Valley lands in the first instance and more specifically for the current Phase One LRD application. This had regard to the operation requirements, planning requirements (refer to Section 3-2) and the environmental sensitivities of the site and the surrounding context.

The LDP includes specific objectives for the Parkway Valley Site which guided the design of the proposed layout, including the public realm, architectural design, mix of uses, parking strategy, active travel proposals, site access, and social and community infrastructure.

Several alternative Masterplan layout options were considered. The initial proposals did not incorporate sufficient commercial space to meet the mixed-use requirement for the site, and oriented apartment blocks from north-south. A second Masterplan layout re-oriented the apartment blocks to maximise sunlight and visual amenity and included lower-density housing in the southern portion of the site which was determined to contravene LCCC residential density requirements for the site. The road layout included dead ends and did not prioritize active travel and connectivity within the development site.

The proposed masterplan layout for the overall Parkway Valley site, which informs the current LRD application, provides an appropriate road layout, maximises the re-use of the existing concrete walls at the site, integrates with the surrounding land uses, and allows for improved public realm and landscaping design. The proposed masterplan layout and this current LRD application layout were further informed by pre-planning meetings with the Planning Department of Limerick County Council on 11th September 2025 and 27th November 2025.

The potential for environmental effects which informed alternative design considerations primarily related to land/soils and waste, noise impact, visual impacts, and ecology. These included:

- ▶ To incorporate as far as possible adaptive re-use of the existing concrete retaining wall, minimising the requirement for excavations, geotechnical works, and generation of waste materials;
- ▶ To maximise the benefit of the existing quiet residential environment surrounding the southern part of the masterplan site by locating the Phase 1 residential development here;
- ▶ To orient residential apartment blocks east-west to maximise daylight/sunlight provision to apartments;
- ▶ To integrate the southern part of the site with the surrounding residential neighbourhoods, to reduce impacts to residential and visual amenity;
- ▶ To provide an efficient internal road layout, prioritising active travel modes within the site; and
- ▶ To preserve and integrate the site with the Groody River Green Wedge to the east of the site, introducing nature-based solution for attenuation storage, new green areas and planting for wildlife.

3.5 Alternative Processes and Technologies

In terms of the Proposed Development processes, the various layout options considered will generally necessitate the same power requirements, and result in the same waste and environmental emissions. The Proposed Development is guided by the Applicant's standard specifications, and the flexibility to select alternative processes is limited for residential developments as opposed to an activity that has more complex equipment and processes.

The Proposed Development is part of a two-phase masterplan for the Parkway Valley site that incorporates a range of best-practice sustainable urban design and planning aspects, including mixed-use development, compact development, active travel components, and placemaking.

The Climate Action Statement (Moloney Fox, 2026) outlines the sustainable technologies incorporated into the building design in order to meet the Nearly Zero Energy Buildings standards. The Proposed Development has also embraced the opportunity to utilise other sustainable measures such as solar PV, SuDS measures (permeable paving materials, green roofs, swales, and an attenuation pond) along with significant planting and enhancement of existing ecological features.

3.6 Alternative Mitigation

The EIA process for the Proposed Development involved a team of specialists, each with expertise in a specific aspect of the environment. For each aspect of the environment, each specialist has considered the existing environment, likely impacts of the Proposed Development and reviewed feasible mitigation measures to identify the most suitable measures appropriate to the environmental setting of the Proposed Development. In making a decision on the most suitable mitigation measure the specialist has considered relevant guidance and legislation.

Where relevant, a comparison of environmental effects was made, and the specialist has reviewed the possible mitigation measures available and considered the use of the mitigation in terms of the likely residual impact on the environment. The four established strategies for mitigation of effects have been considered: avoidance, prevention, reduction and offsetting (not required in this development). Mitigation measures have also been considered based on the effect on quality, duration of impact, probability and significance of effects.

3.7 Conclusions

Based on the assessment of reasonable alternatives (in relation to location, scale, design, technology, mitigation) relevant to the Proposed Development and its specific characteristics as set out in this chapter, the selected site is considered to be a suitable location for the Proposed Development from an environmental, strategic and planning perspective.

In conclusion it is considered that the proposed site has capacity for development and is highly suitable for the Proposed Development.

4. POPULATION AND HUMAN HEALTH

4.1 Introduction

This chapter, prepared by AWN, assesses the likely significant effects of the Proposed Development on population and human health.

In this assessment, 'population' refers to the people and communities who live, work in, use, or may be affected by the Proposed Development and its surroundings. For this Large Residential Development, the relevant population considerations include the baseline demographic profile of the study area, settlement and land use patterns, nearby residential and employment uses, community and social infrastructure, amenity and recreation resources, and the way in which the Proposed Development will contribute to housing supply, local services and local economic activity.

Human health is considered in the context of environmental and amenity pathways which can influence health and wellbeing, including air quality, noise and vibration, water, land contamination, traffic, visual amenity and major accident risk. These pathways are assessed in detail in the relevant technical chapters of the EIAR and are cross referenced in Chapter 4 to provide context for the Planning Authority. This chapter draws those findings together and considers their implications for existing and future residents, workers, service users and visitors.

4.2 Baseline Environment

4.2.1 Population Health Sensitivity

The study area for population statistics comprises the Electoral Divisions (EDs) of Limerick South Rural (which contains the site) and the adjoining EDs of Singland B, Abbey B and Ballysimon, all of which lie within 1 km of the site.

The 2022 Census records population growth across all four EDs between 2016 and 2022. Growth in Singland B and Abbey B was below the national average, while Limerick South Rural and Ballysimon exceeded it. The Pobal HP Deprivation Index (2022) classifies two of the EDs as 'Marginally Above Average' and two as 'Marginally Below Average', indicating overall low to moderate population sensitivity in terms of deprivation. The study area also has a relatively low age dependency ratio, with a higher proportion of working age residents than the national average, and a high proportion of residents (42% to 53%) self reporting their general health as 'Very Good'. The proportion of persons with a disability varies across the EDs but is broadly in line with the national average.

Taking these factors together, the study area is assessed as having Low to Moderate Population Sensitivity. This baseline provides the context for assessing how existing and future population groups in the study area may experience changes in amenity, accessibility, service provision and environmental quality as a result of the Proposed Development.

4.2.2 Location and Character of the Local Environment

A wider area of 2.5 km from the site has been used to inform the baseline description of the local environment. Under the Limerick Development Plan 2022 to 2028, the site is classified as brownfield and zoned for 'Mixed Use', with the objective 'To provide for a mixture of residential and compatible commercial uses.' In terms of sensitivity to dust soiling, there are between 10 and 100 high sensitivity residential properties within 20 m of the site boundary and more than 100 high sensitivity receptors within 250 m.

The site is bounded by the Groody Valley Green Wedge to the east, an enterprise and employment area to the north (beyond the R445), a retail development to the west, and residential areas to the west and south. The nearest residential properties are located along Chesterfield Grove, immediately west of the site.

A range of community and social infrastructure is located in the study area, including primary and secondary schools, childcare facilities, primary care and GP services, dental practices, pharmacies, places of worship, and recreational and sporting facilities. The Social Infrastructure Audit prepared by Tetra Tech (2026) provides a detailed audit of these facilities. There are no Architectural Conservation Areas, Special Areas of Conservation, Protected Structures or National Monuments within the site.

The local environment also includes natural resources that relate to population and human health, including economic resources, recreational and bathing waters and drinking water resources. There are no protected Recreational Waters or Bathing Waterbodies within the study area and no groundwater drinking water protection areas. The site and surrounding area are served by mains water. The Proposed Development is not located within the consultation distance of any Seveso establishment and is at a low risk of flooding, landslides, seismic activity or volcanic activity.

4.3 Potential Impacts of the Proposed Development

4.3.1 Construction Phase

The main potential effects on population and human health during the construction phase relate to environmental pathways (land and water emissions, air quality, noise and vibration, visual amenity and traffic) and to population effects associated with employment, local economic activity and short-term changes in amenity and accessibility for existing residents, businesses and service users.

- ▶ Construction will generate short term employment opportunities and indirect benefits for local support industries and services. The effect on population, in terms of employment and local economic activity, is considered to be **positive, not significant** and **short term**, notwithstanding the temporary amenity effects on nearby receptors described below.
- ▶ During construction of the Proposed Development, there is a risk of accidental pollution incidences to land, soil, geology and hydrogeology from suspended solids, cement/concrete, and hydrocarbons. However, there are no downstream receptors which be impacted and therefore give rise to impacts on population or human health.
- ▶ During construction of the Proposed Development, there is a risk of accidental pollution incidences to hydrology from spillage / leakage of oils and fuels and the use of concrete and cement. Without the consideration and employment of mitigation measures the potential impacts during the construction phase on population and human health due to the potential for soil contamination to occur are **negative, not significant** and **short term**.
- ▶ The key elements of construction of the Proposed Development with potential impacts on populations and human health from air quality and climate impacts are dust soiling effects, dust (PM10 and PM2.5) emissions, engine emissions from construction traffic and changes in traffic flows on nearby road links. In the absence of mitigation, dust effects on local population and human health are predicted to be **short-term, direct, negative, imperceptible and slight**. Construction phase traffic will have a **negative, localised, short-term, and not significant** impact on air quality, and consequently on population and human health.
- ▶ Worst case construction noise levels are predicted to exceed the recommended daytime construction noise limit during the loudest phases of work, principally demolition. The worst-case effect on the local population and human health is therefore predicted to be negative, significant and temporary, reducing to negative, slight to moderate and short term for the other phases of work. Noise effects on the local population and human health from additional construction traffic on local roads are predicted to be negative, imperceptible and short term. Vibration impacts will be required to comply with the limits set out in Chapter 10.

- ▶ The overall construction phase effect of the Proposed Development on the surrounding road network, and consequently on population and human health, is considered to be **not significant to slight, negative and temporary**. There will be no significant disruption to traffic flows on the Dublin Road (R445) or at the Parkway Valley Retail Park roundabout.
- ▶ There is a negligible risk to population and human health from major accident hazards or natural disasters, including seismic activity, volcanic activity, landslides, COMAH/Seveso establishments and flooding. Worker health and safety will be managed in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013. The potential effect on population and human health from major accident hazards or natural disasters during construction is therefore **imperceptible and unlikely**.

4.3.2 Operational Phase

The main potential effects on population and human health during the operational phase relate to housing and service provision, local economic activity, visual amenity, air quality, noise, traffic and major accident risk as follows:

- ▶ The addition of 403 new homes, a creche and a medical centre will positively contribute to the population of the area by increasing housing supply, supporting local service provision and strengthening the viability of existing community and commercial facilities. Residents are also likely to spend a portion of their income locally, supporting the local economy. Adequate provision of high-quality housing is recognised as a key determinant of good population and public health outcomes. The operational phase will result in a **positive, moderate and long-term** effect on population, while also supporting human health and wellbeing through the provision of high-quality homes and convenient access to services in a sustainable urban location.
- ▶ The Proposed Development will transform a disturbed brownfield site into a high-quality residential scheme. Effects on local visual amenity are considered to be **permanent**, ranging from **slight imperceptible neutral to moderate slight positive to moderate negative neutral** across the study area, while landscape effects are considered to be **moderate, positive and long term**. The development will have no perceptible effect on local tourism and a positive effect on local shopping amenities.
- ▶ During operation, the majority of the site will be capped with hardstanding, there will be no bulk storage of chemicals or hazardous substances, and surface water runoff will be managed through a SuDS network. There are no source pathway linkages to recreational waters, bathing waters, drinking water abstractions or groundwater protection zones. Accordingly, there is no potential for significant effects on population or human health from land or water emissions during the operational phase.
- ▶ As outlined in Chapter 8 (Air Quality), a detailed air quality assessment was scoped out for the operational phase of the Proposed Development as per the TII screening criteria. Therefore, the operational phase effect on air quality, and consequently on population and human health as a result of increased traffic is **neutral, long-term, and imperceptible**.
- ▶ The residential element of the development is not expected to generate any significant noise sources beyond those typical of existing residential environments. Operational plant will be designed and attenuated to meet the relevant noise criteria. Predicted changes in traffic related noise on assessed road links are less than 1 dB. The effect of operational noise on population and human health will be **neutral, long term and imperceptible**. There will be no operational vibration sources.
- ▶ The Proposed Development will generate vehicular traffic, but its accessible location supports sustainable travel and there is adequate capacity within the existing public transport network. There is no potential for significant effects on population or human health from additional traffic generation. The effect is characterised as **long term, neutral and not significant**.
- ▶ There is a negligible risk to population and human health from major accident hazards or natural disasters during operation, and the effect is therefore **imperceptible and unlikely**.

4.4 Mitigation and Residual Effects (Post-Mitigation)

4.4.1 Construction Phase

Mitigation measures for population and human health are drawn from the relevant specialist chapters (Chapters 5, 6, 8, 10, 11 and 13) and from the CEMP. Key mitigation and residual effects are as follows:

- ▶ The construction phase residual effect on population, in terms of local employment and economic activity, remains **positive, not significant** and **short term**.
- ▶ Townscape and visual mitigation comprises standard best practice construction measures, including management of construction timing in line with local authority guidance, and the use of site hoarding. Residual construction stage visual effects are at most **moderate, negative** and **short term** during peak construction. Residual townscape effects are **at most negative, moderate** and **short term**. There will be no discernible effect on local tourism or amenities.
- ▶ With the mitigation measures set out in Chapters 5 and 6, and good construction practice, there are no residual effects on population or human health from land or water emissions.
- ▶ Mitigation measures relating to Air Quality will focus on proactive dust and pollutant control to minimise emissions at source during construction. These measures will ensure compliance with EU ambient air quality limits set to protect human health. As a result, the predicted residual impact is **short-term, negative, localised** and **not significant**.
- ▶ Best practice noise and vibration control, restricted working hours, on site monitoring and the application of strict noise limits will minimise effects on nearby noise sensitive receptors. The residual effect of construction noise on population and human health is predicted to be **negative, slight to moderate** and **temporary to short term**.
- ▶ Provided the mitigation measures outlined in Chapter 13 (Traffic and Transportation) are incorporated during the construction phase, including the preparation of a Construction Traffic Management Plan, the residual impact upon the local population from traffic is predicted to be **negative, not significant**, and **short-term**.

4.4.2 Operational Phase

The mitigation measures to address the potential impacts on Population and Human Health from the operational phase of the Proposed Development and post-mitigation residual effects include:

- ▶ No mitigation is required for businesses and residences during operation. The residual effect on population is **positive, moderate** and **long term**.
- ▶ Landscape and urban design measures are embedded in the scheme design. Residual visual effects remain as assessed in Section 4.3.2, ranging from **slight imperceptible neutral** to **moderate slight positive** to **moderate negative neutral**, with landscape effects of **moderate, positive** and **long term**. Residual effects on local tourism and amenities are positive, not significant and long term.
- ▶ With the SuDS network and design measures in place, there are no residual effects on population or human health from land or water emissions during operation.
- ▶ No site-specific air quality mitigation is required. The residual effect on air quality, and consequently on population and human health, is **long term, neutral** and **imperceptible**.
- ▶ No additional noise mitigation is required beyond the design of operational plant to meet internal noise criteria. The residual effect on population and human health from operational plant and from vehicle movements at offsite noise sensitive locations is **neutral, not significant** and **long term**.
- ▶ The Proposed Development has been designed in accordance with relevant traffic and transport design standards. The residual effect on the surrounding traffic network, and consequently on population and human health, is **long term, neutral** and **imperceptible**.
- ▶ There are no significant residual effects on population or human health from major accident hazards or natural disasters,

4.5 Cumulative Impact of the Proposed Development

4.5.1 Construction Phase

In a worst-case scenario, multiple developments in the area could be developed concurrently or overlap in the construction phase and contribute to additional impacts in terms of traffic, dust, and noise.

Contractors for the Proposed Development will be contractually required to operate in compliance with a project-specific CEMP and Construction Traffic Management Plan which will include the mitigation measures outlined in this EIAR, updated to include any additional measures arising from planning conditions. The construction phase for the overall development of the applicant owned lands would be restricted by the binding limits for noise, dust, and emissions to water.

The implementation of mitigation and monitoring measures detailed in Chapter 6 as well as the compliance of permitted development with their respective planning conditions, will ensure there will be minimal cumulative potential for change in surface water during the construction phase of the Proposed Development. The residual cumulative impact of the Proposed Development in combination with other planned or permitted developments can therefore be considered to be **neutral, imperceptible** and **short-term**.

The implementation of dust mitigation measures outlined in Chapter 8 (Air Quality), as well as the compliance of permitted development with similar measures as set out in their environmental impact assessments and respective planning conditions, will be applied during the construction phase which will avoid significant cumulative effects 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 and the aforementioned developments are deemed **short-term, negative, localised** and **not significant**.

4.5.2 Operational Phase

The potential cumulative impacts of the Proposed Development during the operational phase in terms of air emissions and noise generation in the context of the Permitted Development have been considered in Chapter 8 (Air Quality) and Chapter 10 (Noise and Vibration).

The implementation of design measures detailed in Chapter 6 (Hydrology and Hydrogeology) as well as the compliance of permitted and future development with their respective planning conditions, will ensure there will be minimal potential for cumulative effects on the receiving water environment during the operational phase of the Proposed Development. The residual cumulative impact on hydrology and hydrogeology of the Proposed Development in combination with other planned or permitted developments can therefore be considered to be **neutral, imperceptible** and **long-term**.

As stated in Chapter 11 (Townscape and Visual Impacts), the Proposed Development is part of planned change and is assessed as contributing to the achievement of planning policy. The surrounding urban environment is subject to ongoing planned and permitted development. However, there are no projects of scale identified in the project area which could give rise to any material cumulative effects. Any potential for negative cumulative impacts would be limited to those projects which would contravene planning policy, are out of character, and / or do not contribute to positive placemaking.

With reference to Chapter 13 (Material Assets – Traffic and Transportation), the operational vehicular trip generation of committed developments has been calculated and assessed in Chapter 13, Section 13.9. Adjacent planning consents/applications granted/submitted in the area have been reviewed and none are considered to have a potential significant impact on the traffic assessment for the Proposed Development.

5. LAND, SOILS AND GEOLOGY

5.1 Introduction

This chapter, prepared by AWN, assesses and evaluates the likely significant impacts of the proposed development on the land, soil and geological aspects of the site and surrounding area.

5.2 Baseline Environment

The site of the proposed development comprises existing reinforced concrete (RC) retaining walls, which are to be retained as part of the proposed development, a gravel footprint where a previous development was demolished, and some brownfield areas towards the southern and eastern boundaries. A mixed-used commercial development was partially constructed in 2007 and was demolished in 2020, with RC retaining walls left in situ. The project engineers, Punch Consulting Engineers, have advised that much of the material from the demolished mixed-use commercial development was used for backfilling and land raising purposes on the site.

The site is characterised as artificial surface and heavily vegetated areas. The ground level of the site is elevated above the Groody River floodplain to the east. The current site is generally flat (between 8 m and 10 mAOD) and its slope is falling to the east.

The Teagasc online mapping (2025) for the site indicates that the soils underlying the site and the surrounding area mainly loamy drift and glacial tills with gravel derived from limestone which are slightly cohesive and moderately permeable. The bedrock geology underlying the proposed site and surrounding area is from the Carboniferous age and is described as volcanoclastic rocks. There are several bedrock outcrops in the surrounding area of the site, none of which are within the site boundary.

There are no geological heritage areas within the site boundary, the closest site being 5.2 km from the proposed development site. There are no mineral localities within the site boundary, the closest non-metallic locality is located 560 m from the site boundary, and the closest metallic mineral locality is located 1.2 km from the site boundary. The landslide susceptibility classification of the site ranges between 'Low' and 'Low Inferred'.

5.3 Potential Impacts of the Proposed Development

5.3.1 Construction Phase

In absence of mitigation measures, the construction phase would present potential impacts associated to the following activities:

- ▶ Excavation and infilling.
- ▶ Accidental spills or leaks of hydrocarbons from construction vehicles or alkaline water from cement works.
- ▶ Management of dewatering and rainfall runoff.

Without the consideration and employment of mitigation measures the potential impacts during the construction phase on land, soils and geology are **short term, negative** and **significant**.

5.3.2 Operational Phase

In absence of mitigation measures, the operational phase would present potential impacts associated to the following activities:

- ▶ Accidental leaks of hydrocarbons to surface water drainage from cars in parking areas.

- ▶ Increase in hardstanding.

Without the consideration and employment of mitigation measures the potential impacts during the construction phase on land, soils and geology are **neutral, not-significant** and **long term**.

5.4 Mitigation and Residual Effects (Post-Mitigation)

5.4.1 Construction Phase

In order to reduce impacts on the soils and geological environment, a number of mitigation measures will be adopted as part of the construction works on site including:

- ▶ Control of soil excavation.
- ▶ Control of dewatering process.
- ▶ Regular source of fill and aggregates.
- ▶ Surface water management during construction.
- ▶ Fuel and chemical handling.
- ▶ Implementation of the mitigation measures set out in the EIAR and CEMP.

Refer to Section 5.6.1 of Chapter 5 for a comprehensive description of mitigation measures.

The residual effect on the soils and bedrock during the construction phase is considered to be **neutral, imperceptible** and **short term**, the magnitude of impact is considered **negligible**.

5.4.2 Operational Phase

The proposed development does not require any bulk chemical storage and therefore the potential for soil quality impact is **negligible**. In the event of an accidental leakage of oil, this will be intercepted by the drainage infrastructure proposed.

The proposed surface water drainage system comprises multiple design measures that will be put in place including green roofs, rain gardens, infiltration trenches, engineered swales, tree root systems, permeable paving and an attenuation pond. Therefore, the risk of accidental discharge of hydrocarbons or contamination sources derived from the operational phase has been adequately addressed through design. No further mitigation measures are to be required during the operational phase.

The predicted impact on the soil and geological environment during the operational phase is **neutral, imperceptible** and **long-term**, the magnitude of impact is considered **negligible**.

5.5 Cumulative Impact of the Proposed Development

5.5.1 Construction Phase

The other planned and permitted developments in the area are physically separated from the Proposed Development site and there are no direct land, soils or geological connections between them. Each development is required to comply with the conditions attached to its grant of permission and with the regulations that protect soil and water quality. The cumulative effect on land, soils and geology during construction is therefore considered to be **neutral, imperceptible** and **short term**.

5.5.2 Operational Phase

Once operational, the majority of the site will be covered by buildings, hardstanding and landscaped areas, and surface water will be managed through the integrated SuDS network embedded in the design. The other planned and permitted developments in the area are physically separate from the site, with no land, soils or geological connections between them, and will each operate within their own planning conditions

and the relevant regulatory framework. The cumulative effect on land, soils and geology during operation is therefore considered to be ***neutral, imperceptible*** and ***long term***.

6. HYDROLOGY AND HYDROGEOLOGY

6.1 Introduction

This chapter, prepared by AWN, assesses and evaluates the likely significant effects of the development on the hydrological and hydrogeological aspects of the site and surrounding area. In assessing likely potential and predicted effects, account is taken of both the importance of the attributes and the predicted scale and duration of the likely effects.

A Water Framework Directive (WFD) Assessment was prepared to support the competent authority, in determining if there is a likelihood of significant effects on the Water Framework Directive (WFD) status of the receiving waterbodies as a result of the Proposed Development. (It is included as Appendix 6.3 of Chapter 6 of the EIAR).

A Hydrological and Hydrogeological Qualitative Risk Assessment Report has also been prepared to assess the potential for any likely significant impacts on receiving waters and protected areas during construction or post development once operational, in the absence of taking into account any measures intended to avoid or reduce harmful effects of the proposed project (i.e. standard control measures) which supports the findings of Chapter 6. (It is included as Appendix 6.4 of Chapter 6 of the EIAR).

6.2 Baseline Environment

The Proposed Development site lies within the Shannon[Lower]_SC_090 Sub-Catchment (ID: 25D_9). There are no surface waterbodies within the Site boundary. The Site is indirectly connected to the Groody River surface waterbody which is located approximately 200 m east of the site boundary. Downstream of the Site (1.4 km hydrological distance), the Groody River discharges into the River Shannon (Lower) waterbody (c. 705 m north-east of the site). The River Shannon joins the Limerick Dock WFD Transitional Waterbody approx. 2.97 km downstream of the subject site. The watercourse then merges with the Upper, followed by the Lower Shannon Estuary WFD Transitional Waterbody, prior to ultimately discharging into the Atlantic Ocean via the Lower Shannon Estuary.

The Site will be indirectly connected to these waterbodies and Natura 2000 sites through the surface water drainage network, the foul water drainage network. The surface water drainage network will eventually discharge into the Groody River via an open drain connected to the Industrial Estate/Galvone Stream which discharges into the Groody River, upstream of the abovementioned Natura 2000 sites. The surface water will pass through a number of sustainable urban drainage systems (SuDS) which will provide a level of treatment before entering the above indirect pathway. The foul sewer for the Proposed Development eventually discharges to Limerick Wastewater Treatment Plant (WWTP) for full treatment. The final effluent from Limerick WWTP is discharged into Limerick Dock transitional waterbody. The WWTP operates under an EPA licence with defined emission limit values and compliance conditions to ensure that treated effluent discharges do not compromise the achievement of WFD environmental objectives in the receiving waterbody.

The Groody River has a most recent WFD surface water status (WFD Period: 2019-2024) of 'Moderate' and its current WFD risk score (3rd risk cycle) is under 'Review' due to restoration of the River Blackwater which merges with the Lower River Shannon upstream of the point of murgence with the Groody River.

There is an indirect pathway to Natura 2000 sites via groundwater, however any effects would be very limited due to the localised flow, low permeability and natural attenuation within the ground. The Site is underlain by the Limerick East Groundwater body (GWB) (EU Code: IE_SH_G_138) and a locally important aquifer which is moderately productive, only in local zones. The Limerick East GWB is currently classified by the EPA as having 'Good' WFD water quality status (WFD Period: 2019-2024) and is 'At Risk' (WFD 3rd Cycle) of not achieving good status. This condition is attributed to a 'Good' Quantitative Groundwater

Status and 'Good' Chemical Groundwater Status (Catchments.ie, 2026). The groundwater flows locally towards the surface waterbodies and regionally north-west towards the coast and transitional waterbodies. It is recharged diffusely through soil and outcrops and discharges to the local surface waterbodies.

The aquifer is classified as having 'Moderate' vulnerability across the majority of the site. An area of 'Low' groundwater vulnerability occurs beneath the eastern portion of the site and extends further east. An area of 'High' groundwater vulnerability underlies the south-western and western portions of the site. This classification indicates limited natural protection for the underlying aquifer.

A Site-Specific Flood Risk Assessment (SSFRA), undertaken by Punch Consulting Engineers, shows the site is situated within Flood Zone C (i.e., where the probability of flooding from rivers is less than 0.1% or 1 in 1000), with the exception of small area of the site where the outfall pipe runs from the attenuation pond, to an existing open drain at the eastern boundary which is in Flood Zone A.

6.3 Potential Impacts of the Proposed Development

6.3.1 Construction Phase

In absence of mitigation measures, the construction phase would present potential impacts associated to the following activities:

- ▶ Increased surface run-off and sediment loading in run-off.
- ▶ Accidental spills or leaks of fuel from construction vehicles or alkaline water from cement works impacting run-off.
- ▶ Soil excavation and removal.
- ▶ During excavations for the development, some slight short-term dewatering is expected.

The proposed piling methodology (CFA) forms a sealed, in-situ concrete pile that limits groundwater interaction to a very short period and localised area, meaning any potential effects on groundwater (and therefore downstream Natura 2000 sites) are negligible.

Without the consideration and employment of mitigation measures the potential impacts during the construction phase on surface water and groundwater quality are **negative, slight** and **short term**.

The WFD Assessment (Appendix 6.3) indicates that there is no potential for adverse or minor temporary/long-term or localised effects on the Groody River or River Shannon (Lower) or the Limerick Dock transitional waterbody. The potential impact is **neutral, imperceptible**, and **short-term**.

6.3.2 Operational Phase

In absence of mitigation measures, the operational phase would present potential impacts associated to the following activities:

- ▶ Increase in hardstanding.
- ▶ Accidental leaks of hydrocarbons to surface water drainage from cars in parking areas.
- ▶ Increase in foul loading.

In the absence of mitigation measures (or design measures) the potential impacts during the operational phase are **negative, slight** to **significant**, and **long-term**.

6.4 Mitigation and Residual Effects (Post-Mitigation)

6.4.1 Construction Phase

In order to reduce impacts on the hydrological and hydrogeological environment, a number of mitigation measures will be adopted as part of the construction works on site.

- ▶ Control of dewatering process.
- ▶ Surface water management during construction.
- ▶ Fuel and chemical handling.
- ▶ Implementation of the mitigation measures set out in the EIAR via a Construction & Environmental Management Plan (CEMP).

The implementation of the comprehensive suite of mitigation and monitoring measures detailed in Section 6.6.1 and 6.7.1 of Chapter 6, will ensure that the potential impacts on surface water and groundwater quality and flow during the construction phase are adequately mitigated. There will be no change to overall quality and flow within the hydrological and hydrogeological regime as a result of construction.

The residual effect on surface water and groundwater quality during the construction phase is considered to be **neutral, imperceptible** and **short-term**.

The residual effect on Water Framework Directive status during the construction phase is considered to be **neutral, imperceptible** and **short-term**.

6.4.2 Operational Phase

The proposed development does not require any bulk chemical storage and therefore the potential for surface water or groundwater quality impact is **negligible**. In the event of an accidental leakage of oil, this will be intercepted by the drainage infrastructure proposed.

The proposed surface water drainage system comprises multiple design measures that will be put in place including green roofs, rain gardens, infiltration trenches, engineered swales, tree root systems, permeable paving and an attenuation pond. Therefore, the risk of accidental discharge of hydrocarbons or contamination sources derived from the operational phase has been adequately addressed through design. No further mitigation measures are to be required during the operational phase.

The residual effect on surface water and groundwater quality, flow and quantity during the operational phase is considered to be **neutral, imperceptible** and **long-term**.

6.5 Cumulative Impact of the Proposed Development

6.5.1 Construction Phase

The implementation of mitigation and monitoring measures detailed in Section 6.6.1 and 6.7.1 of Chapter 6; as well as the compliance of the permitted/planned developments (Table 6-4 of Chapter 6) and any future permitted developments with their respective planning conditions, will ensure there will be minimal cumulative potential for change to the hydrological and hydrogeological environment during the construction phase of the Proposed Development.

It is also acknowledged that the works contractors for other planned or permitted developments will be obliged to ensure that measures are in place to protect soil and water quality in compliance with legislative standards for receiving water quality (European Communities Environmental Objectives (Groundwater) Regulations (S.I. 9 of 2010 and S.I. 266 of 2016)).

The residual cumulative impact of the Proposed Development in combination with other planned or permitted developments can therefore be considered to be ***neutral, imperceptible*** and ***short-term***.

6.5.2 Operational Phase

Taking account of the embedded design measures, the SuDS strategy, the regulatory framework governing other developments in the sub-catchment, and the documented capacity of the receiving wastewater infrastructure, the Proposed Development will not contribute to any significant cumulative deterioration of the hydrological and hydrogeological environment, nor will it prevent the attainment of the WFD objectives or the objectives of the third cycle River Basin Management Plan (Water Action Plan 2024).

Residual cumulative effect on the hydrological and hydrogeological environment during the operational phase is considered to be ***neutral, imperceptible*** and ***long-term***.

7. BIODIVERSITY

7.1 Introduction

This chapter, prepared by Moore Group, provides an assessment of the effects of the Proposed Development on the ecological environment, i.e., Biodiversity, flora and fauna. The assessment involved desk and field studies by qualified and experienced ecologists, over multiple survey seasons.

The methodology for evaluation of the development area and determination of the potential effects on the flora and fauna of the area is based on the following guidelines and publications:

- ▶ Guidance document on Article 6(4) of the Habitats Directive 92/43/EEC (EC, 2007);
- ▶ Guidance document on the strict protection of animal species of Community interest under the Habitats Directive (EC, 2021);
- ▶ Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DEHLG, December 2009, Rev 2010);
- ▶ EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022);
- ▶ Best Practice Guidance for Habitat Survey and Mapping (Heritage Council, 2011);
- ▶ Ecological Surveying Techniques for Protected Flora & Fauna (NRA, 2008);
- ▶ Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009); and
- ▶ Guidelines for Ecological Impact Assessment in the UK And Ireland Terrestrial, Freshwater, Coastal and Marine Version 1.3 - Updated September 2024 (CIEEM, 2024).

7.2 Baseline Environment

The Proposed Development site comprises the footprint of a now demolished, partly constructed structure. Some concrete surfaces remain with adjacent large areas of scrub, bare and recolonising ground with smaller areas of dry grassland and reed swamp. There is some connectivity to nearby drainage ditches.

The Proposed Development is situated on a largely brownfield site in the eastern suburbs of Limerick City. The Groody River, which joins the River Shannon to the north, flows past approximately 200m to the east. The nearest European sites to the Proposed Development, and the only sites considered to lie within its potential Zone of Influence are the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA.

There were no recorded signs of badgers or otters at the site. Surveys reveal the site is unsuitable for roosting bats but is used for feeding purposes by several bat species. The site is of low ecological value for birds, except for Lapwing, for which the site is of county importance (increasing to regional importance during the winter season). The site is also of value to Oystercatcher where low numbers were observed in the winter of 2025.

There were no high impact invasive species recorded in the Proposed Development areas. There are no rare or protected habitats recorded in the study area inside the proposed development boundary. The development area may be considered of Low Local Ecological Value.

There is no direct source pathway linkage between the Proposed Development site and any Natura 2000 sites. There is indirect source pathway linkage from the Proposed Development through the surface water, which discharges to the Industrial Estate/Galvone Stream before discharging to the Groody River and ultimately the River Shannon. There is an indirect pathway to Natura 2000 sites via groundwater, however any effects would be very limited due to the localised flow, low permeability and natural attenuation within the ground.

7.3 Potential Impacts of the Proposed Development

7.3.1 Construction Phase

The potential impacts of the Proposed Development construction phase are as follows:

- ▶ There will be a loss of small, scattered areas of dry grasslands. Given the scale of these habitats, and the proposed landscaping, effects on local ecology are predicted to be **negative** and **slight** for the construction phase.
- ▶ There will be a loss of associated woodland fringe scrub on the Proposed Development site. The potential effects on local ecology are **negative** and **imperceptible** for the construction phase.
- ▶ Recolonising bare ground is of low ecological value. The potential effects on local ecology are **neutral** and **imperceptible** for the construction phase.
- ▶ Buildings and artificial surfaces are of low ecological value. The potential effects on local ecology are **neutral** and **imperceptible** for the construction phase.
- ▶ There were no badgers recorded on site and there are no predicted negative effects on badgers during the construction phase.
- ▶ There were no otters recorded on site and there are no predicted negative effects on otters during the construction phase.
- ▶ Potential effects on bat populations are reiterated from the Éire Ecology Bird and Bat Survey Report in Appendix 7.1. Overall, no likely significant effects at a local level are predicted.
- ▶ There are no significant impacts to wintering lapwings and oystercatcher bird species predicted during the construction phase.

7.3.2 Operational Phase

The Overall site development will result in a **short-term, neutral** modification of habitats which have already been modified by development of the site.

A landscape plan (JBA, 2026) will be implemented as part of the Proposed Development. Planting will be undertaken in compliance with the Biodiversity Nett Gain requirements of the Limerick Development Plan.

Overall site development will result in a neutral modification of habitats of light industrial nature. The potential effects on fauna in the absence of mitigation would be **negative** and **long term** for the operational phase.

7.4 Mitigation and Residual Effects (Post-Mitigation)

7.4.1 Construction Phase

In line with standard engineering design to comply with the Surface Water Regulations, the construction of the Proposed Development will be subject to specific construction management measures as set out in the Construction Environmental Management Plan (CEMP) to avoid direct and indirect impacts on the water courses which drain the site. Key mitigation measures for the protection of biodiversity are set out as follows:

- ▶ Potential impacts on birds will be avoided by cutting of vegetation outside the bird nesting season March 1 to August 31.
- ▶ There are no mitigation measures proposed for badgers.
- ▶ There are no mitigation measures proposed for otters.
- ▶ The following 'Bat-sensitive lighting' design principles will apply to temporary lighting during the construction of the Proposed Development:
 - If lighting is required near site boundaries, the lighting poles will be installed on the boundary and will face inwards (i.e. towards the centre of the site). This will ensure that lighting is not directed outside the site boundaries.

- All lights around the site boundary will be fitted with directional hoods and/or luminaires to direct the light downwards onto targeted areas and to prevent unnecessary light-spill.
- The intensity of lighting will be kept to the minimum level required for safety and security.
- Low-UV LEDs or low / high pressure sodium lamps will be the preferred bulb type, as they have least adverse effect on bats. Mercury, metal halide or high-UV LED bulbs will not be used.

With the implementation of these mitigations, the proposed development will have ***negligible negative*** impacts on the local bird and bat populations.

7.4.2 Operational Phase

Figure 7-1 of the Bird and Bat Report shows the location of the site, situated close to the Groody River valley, a strip of grassland potentially used by Lesser Horseshoe bats flying north-south from the Clare to Limerick ranges. Static surveys confirmed the presence of the species albeit in very low numbers. Mitigation measures incorporated into the Proposed Development design include:

- ▶ The provision of a bat-friendly lighting design incorporating ecologist input to reduce light spill from the site.
- ▶ The creation of a dark-zone above 6m to benefit existing bat populations.
- ▶ Installation of a bat house within the dark zone
- ▶ Provision of a wildlife pond for use by bat species and bird life.
- ▶ Provision of landscaping features including an internal green corridor between residential blocks and green roofs.
- ▶ Provision of a managed grassland area for lapwing.
- ▶ Installation of swift boxes.

With the employment of the above mitigation measures with regard to local biodiversity, the Proposed Development will have a ***positive*** and ***long-term*** effect on biodiversity

7.5 Cumulative Impact of the Proposed Development

The proposed development and the permitted are primarily located on brownfield land. Construction will incur loss of biodiversity but landscaping at perimeters and replacement planting in compliance with the overall biodiversity management plans will result in protecting ecological corridors and providing new habitat.

A review of planning permissions within 1km of the Proposed Development is presented in Appendix 2.1. The listed developments have been granted permission in most cases with conditions relating to sustainable development by the consenting authority in compliance with the relevant Local Authority Development Plan and in compliance with the Local Authority requirement for regard to the Habitats Directive. The development cannot have received planning permission without having met the consenting authority requirement in this regard. Any new applications for the Proposed Development area will be assessed on a case by case basis initially by LCCC which will determine the requirement for Ecological Impact Assessment and/or AA Screening as per the requirements of Article 6(3) of the Habitats Directive.

There are no predicted in-combination effects given that the Proposed Development would not have any adverse effects on the distant coastal European sites considered in the assessment, nor will it have any significant effects on Biodiversity.

With the employment of appropriate mitigation measures with regard to local biodiversity, the cumulative effect during operation is considered to be ***neutral, imperceptible*** and ***long-term*** during construction and operation.

8. AIR QUALITY

8.1 Introduction

This chapter, prepared by AWN, assesses the potential air quality impacts associated with the Proposed Development. The air quality assessment has focused on potential construction dust emissions and impacts to nearby sensitive receptors such as residential properties, schools, hospitals, etc. and potential vehicle emissions from traffic accessing the site for construction works and during operation.

8.2 Baseline Environment

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}) in the study area are generally well below the current National and European Union (EU) ambient air quality standards.

8.3 Potential Impacts of the Proposed Development

8.3.1 Construction Phase

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 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 **temporary, negative** and **slight** impacts to air quality, which may potentially be significant. However, with best practice mitigation in place no significant effects are expected.

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 2025 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 been scoped out, and the construction stage traffic emissions will have a **negative, short-term, localised** and **not significant** impact on air quality.

8.3.2 Operational Phase

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 have a **neutral, long-term** and **imperceptible** impact on air quality.

8.4 Mitigation and Residual Effects (Post-Mitigation)

8.4.1 Construction Phase

Detailed dust mitigation measures are outlined within Section 8.6.1 of Chapter 8 to ensure that no significant impacts as a result of construction dust emissions occurs at nearby sensitive receptors. Once these 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 residual effects to air quality during the construction of the Proposed Development are considered **short-term, negative, localised** and **not significant** in EIA terms, posing no nuisance at nearby sensitive receptors (such as local residences).

8.4.2 Operational Phase

No site-specific mitigation measures are proposed for the operational phase of the development as no significant impacts are predicted. Therefore, the residual air quality effects are predicted to be **long-term, neutral** and **imperceptible**.

8.5 Cumulative Effects of the Proposed Development

8.5.1 Construction Phase

There is the potential for cumulative effects 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.

The dust mitigation measures outlined in Section 8.6.1 of Chapter 8 will be applied during the construction phase which will avoid significant cumulative effects on air quality. With appropriate mitigation measures in place, the predicted cumulative effect on air quality associated with the construction phase of the Proposed Development is deemed **short-term, negative, localised** and **not significant**.

8.5.2 Operational phase

Operational phase direct impacts on air quality associated with the Proposed Development and cumulative traffic emissions are predicted to be **long-term, direct, neutral** and **imperceptible** with regards to air quality.

Overall, no significant cumulative effects to air quality are predicted during the construction or operational phases of the Proposed Development.

9. CLIMATE

9.1 Introduction

This chapter, prepared by AWN, assesses the potential climate impacts associated with the Proposed Development. The climate assessment is divided into two distinct sections – a greenhouse gas assessment (GHGA) and a climate change risk assessment (CCRA).

- ▶ Greenhouse Gas Emissions Assessment (GHGA) – Quantifies the GHG emissions from a project over its lifetime. The assessment compares these emissions to relevant carbon budgets, targets and policy to contextualise magnitude.
- ▶ Climate Change Risk Assessment (CCRA) – Identifies the impact of a changing climate on a project and receiving environment. The assessment considers a projects vulnerability to climate change and identifies adaptation measures to increase project resilience.

9.2 Baseline Environment

9.2.1 GHGA

Baseline data indicates that Ireland has exceeded, without the use of flexibilities, its 2024 annual limit set under EU's Effort Sharing Decision (ESD) (EU 2018/842) by 1.03 MtCO_{2e}. However, the 2024 emissions represent the second consecutive year in which Ireland's emission were below (-4.2%) 1990 levels. Data for 2025 and the results of the first carbon budget period (2021- 2025) are expected to be published in late 2026.

9.2.2 CCRA

The region of the Proposed Development has a temperate, oceanic climate, resulting in mild winters and relatively cooler summers when compared with continental Europe.

9.3 Potential Impacts of the Proposed Development

9.3.1 GHGA

Construction Phase

The construction phase of the Proposed Development is predicted to result in 31,503 tCO_{2e}. The majority of GHG emissions are from the embodied carbon within construction materials (87%) such as concrete and steel. Other contributions are from Construction Energy (6%) and Material Transport (5%).

Operational Phase

Operational phase GHG emissions are from maintenance, waste disposal and waste transport. Traffic emissions were scoped out in line with Chapter 13 (Traffic and Transport). Total operational phase GHG emissions across the 60-year lifespan of the Proposed Development will be 7,104 tCO_{2e}.

The estimated total GHG emissions (construction and operational) annualised over the Proposed Development lifespan are a small fraction of the national sectoral budgets and existing baseline total.

Nevertheless, in accordance with the EPA Guidelines (EPA, 2022), a negative contribution of GHG emissions to the national sectoral budgets equates to an impact of GHG emissions during the construction phase of a **direct** impact due to its presence, that is **long-term** due to the nature of GHG emissions and their atmospheric lifetime and **negative** due to the emission of GHGs. As the Proposed Development

marginally impedes the trajectory to carbon neutrality, the impact on the climate is **moderate**, which overall, is considered to be **significant** in EIA terms.

Similarly, during the operational phase, in accordance with the EPA Guidelines (EPA, 2022), a negative contribution of GHG emissions to the national sectoral budgets equates to an impact of GHG emissions of a **direct** impact due to its presence, that is **long-term** due to the nature of GHG emissions and their atmospheric lifetime and **negative** due to the emission of GHGs. As the Proposed Development marginally impedes the trajectory to carbon neutrality, the impact on the climate is **moderate**, which overall, is considered to be **significant** in EIA terms.

9.3.2 CCRA

Construction Phase

Whilst the development is likely to be exposed to potential weather extremes due to climate change during the construction phase, the potential length of the construction phase and its transient nature means that a detailed CCRA of this phase is scoped out.

Operational Phase

Following an initial climate hazard screening, flooding, extreme temperatures and extreme wind were scoped in as potential climate hazards. A climate vulnerability assessment for the Proposed Development demonstrated it has low and medium vulnerabilities to the identified climate hazards. Health and wellbeing of the users of the Proposed Development, the communal gardens and critical systems are the most vulnerable to the physical hazards.

In the absence of design mitigation, there is a medium risk to the Proposed Development as a result of climate change. In accordance with the EPA Guidelines (EPA, 2022), the significance of effect of the impacts to the Proposed Development as a result of climate change are **direct** as climate extremes have a direct physical effect on buildings and infrastructure, **long-term** due to the response times of the climate in relation to changes in anthropogenic emissions, **negative** as climate extremes have been shown to damage or adversely affect infrastructure, and **moderate** due to the medium vulnerability of the Proposed Development to the effects of climate change, which is overall **significant** in EIA terms.

9.4 Mitigation and Residual Effects (Post-Mitigation)

9.4.1 GHGA

Construction Phase

The Design Team intend to mitigate GHG emissions during the construction phase by re-using materials which are already in situ on the brownfield site. Further, designs have considered ways to reduce excavation requirements which will reduce material transport and site energy use and therefore associated GHG emissions. HVO fuelled vehicles and plant will be used throughout the construction period which attracts a lower carbon emissions factor than petrol and diesel. The HVO will be sustainably sourced as set out in Section 9.6.1.

Best practice measures during the construction phase are set out in Section 9.6 of Chapter 9 and will be adhered to onsite to ensure there are no significant impacts as a result of the construction works.

Once these mitigation measures are implemented the impacts to climate are considered to have a **direct** impact due to its presence, that is **long-term** due to the nature of GHG emissions and their atmospheric lifetime, **negative** due to the emission of GHGs and **slight** based on the reduced contribution of GHG

emissions to Irelands national trajectory to net zero, due to the outlined mitigation measures. Overall, the impact on the climate is considered to be **not significant** in EIA terms.

Operational Phase

With reference to the Climate Action Statement (Moloney Fox Consulting Engineers, 2025), sustainable building practices and technologies have been incorporated into the Proposed Development design to reduce the impact on climate wherever possible as set out in Section 9.6.2 of Chapter 9. Sustainable technologies, renewable energy and sustainable design features are incorporated into the design of the Proposed Development to reduce operational GHG emissions.

Once these mitigation measures are implemented the impacts to climate are considered to have a **direct** impact due to its presence, that is **long-term** due to the nature of GHG emissions and their atmospheric lifetime, **negative** due to the emission of GHGs and **slight** based on the reduced contribution of GHG emissions to Irelands national trajectory to net zero, due to the outlined mitigation measures. Overall, the impact on the climate is considered to be **not significant** in EIA terms.

9.4.2 CCRA

With design mitigation in place, there are no residual risks to the Proposed Development as a result of climate change. In accordance with the EPA Guidelines (EPA, 2022), the significance of effect of the impacts to the Proposed Development as a result of climate change are **direct** as climate extremes have a direct physical effect on buildings and infrastructure, **long-term** due to the response times of the climate in relation to changes in anthropogenic emissions, **negative** as climate extremes have been shown to damage or adversely affect infrastructure, and **not significant** due to the low vulnerability of the Proposed Development to the effects of climate change once mitigation measures have been embedded, which is overall **not significant** in EIA terms.

9.5 Cumulative Impact of the Proposed Development

In accordance with guidance from the ISEP (2022) and TII (2022) the climate is not constrained by project, regional or national boundaries and therefore the GHG assessment has been presented in the context of the national and sectoral carbon budgets for the whole of Ireland and the ability of the Proposed Development to assist or impede the national relevant targets. Given the contribution of such targets to the global efforts to reduce the impact of society upon the climate the assessment is considered to be inherently cumulative.

In light of this, the residual cumulative impact of the Proposed Development in relation to GHG emissions is considered **direct, long-term, negative** and **slight**, which is overall **not significant** in EIA terms.

10. NOISE AND VIBRATION

10.1 Introduction

This chapter, prepared by Dalton Acoustics, includes a comprehensive description of the existing ambient noise climate in the vicinity of the subject site. It provides an assessment of the potential noise and vibration impacts arising from the Proposed Development during both the short-term construction phase and the long-term operational phase. The assessment considers the potential effects on the surrounding environment as well as on the development itself.

10.2 Baseline Environment

The baseline environment was quantified referencing environmental noise surveys conducted by Dalton Acoustics. The baseline noise surveys established that the noise environment was dominated by noise from the retail park and busy roadways adjoining the site. Traffic noise from the Dublin Road (R445) is the main noise source that is incident across the site's curtilage. Acoustic measurement at the nearest dwelling locations to the Dublin Road (R445) have provided daytime noise levels average 53 to 55 decibels. Similarly measured night-time levels drop to 46 to 48 decibels. The site exhibits a low-to-medium noise risk based on published relevant acoustic guidance.

10.3 Potential Impacts of the Proposed Development

10.3.1 Construction Phase

Construction noise impacts will vary at various receivers throughout the construction phase of the Proposed Development. Heavy construction machinery may generate localised high noise increases. Heavy construction equipment such as rock breakers typically cause the highest acoustic impact. Without mitigation, the worst-case effect of the construction phase will result in a **significant** impact at the nearest noise-sensitive receptors.

Similarly, excavation and heavy goods vehicles may cause slight ground vibration at times. However, it is considered that structural damage to nearby properties remains highly unlikely.

10.3.2 Operational Phase

The key noise impacts relating to the operational phase of the Proposed Development will relate to:

- ▶ Mechanical Plant and Services
- ▶ Additional Traffic on Public Roads

Additional traffic increases associated with the development will result in a noise increase of less than 1 decibel. Such a minor change is considered as completely imperceptible to humans. Mechanical plant associated with the apartment blocks is typically limited to heating and ventilation systems. Such associated plant items are integrated within the dwelling developments construction and designed to avoid disturbance to the residential developments within the Proposed Development. Without mitigation measures, the predicted noise impact is **neutral, imperceptible, and long-term**.

10.4 Mitigation and Residual Effects (Post-Mitigation)

10.4.1 Construction Phase

Mitigation measures to be implemented during the construction phase are discussed within the full EIAR, these measures include but are not limited to:

- ▶ Use and selection of quiet equipment options;
- ▶ All equipment to be properly maintained;
- ▶ Silencers to be used on all plant and machinery where possible;
- ▶ Controlling noise at its source;
- ▶ Limiting the hours of high noise or vibration processes;
- ▶ Continuous noise and vibration monitoring to be employed on site;
- ▶ Installation of screening barriers; and
- ▶ Regular communication with the local community.

During the project's construction phase, some nearby residential properties may occasionally experience temporary noise disturbances caused by on-site operations and vehicle movements to and from the site. Through enforcement of strict noise limits, monitoring on site, the restriction of working hours, and application of the above listed mitigation strategies, the worst-case residual noise impact will be to be **short-term** and / or **temporary**, ranging from **slight** to **moderate**.

10.4.2 Operational Phase

Mitigation measures to be implemented during the operational phase are discussed within the full EIAR. These measures mainly relate to the selection of quiet plant appropriate for dwelling properties, which will be compliant with the noise criteria outlined in Section 10.5.2.3 of Chapter 10. The residual operational noise impact in relation to the mechanical plant and services noise will be **neutral, imperceptible** and **long term**.

The residual impact of operational traffic on the surrounding road will be **neutral, imperceptible**, and **long-term**.

Chapter 10 of the EIAR includes an Inward Impact Assessment undertaken by Dalton Acoustics in Section 10.6.2.3. The Inward Impact Assessment takes into account the surrounding noise environment likely to affect the Proposed Development.

10.5 Cumulative Impact of the Proposed Development

10.5.1 Construction Phase

Cumulative noise impacts in relation to construction noise are unlikely to occur due to the location and scale of the Proposed Development. Due to the distance from the Proposed Development and considering the existing soundscape of this urban location, cumulative noise emissions from these nearby sites may blend into the background.

With standard mitigation measures in place, such as controlling working hours, using well-maintained equipment, and managing construction traffic, any cumulative impacts during this phase are expected to remain limited and **not significant**.

10.5.2 Operational Phase

The operational noise limits set within the EIAR are designed to avoid any significant increase in the prevailing background noise environment. There is not expected to be a cumulative effect in relation to either operational mechanical plant noise or road traffic noise during the operational phase of the Proposed

Development. The Proposed Development does not include any potential sources of notable vibration generation. In-combination noise and vibration effects are considered to be ***not significant***.

11. LANDSCAPE AND VISUAL IMPACT

11.1 Introduction

The Townscape and Visual Impact Assessment (TVIA), prepared by Macro Works Ltd., describes the townscape context of the Proposed Development and assesses the likely townscape and visual impacts of the scheme on the receiving environment. Although closely linked, townscape and visual impacts are assessed separately.

Townscape effects relate to how the proposal changes the built environment and its character, including buildings, spaces, and their relationships. **Visual effects** relate to how views and visual amenity experienced by people are altered.

The receiving environment is characterised by a mix of residential, commercial, and infrastructure uses, together with open land associated with the Groody Valley. The site itself is currently vacant and underutilised, detracting from the character of the area and lacking a clear sense of place. Views of the site are generally limited to the immediate surroundings, typically within 500 m, due to existing buildings and vegetation.

11.2 Townscape Effects

During the construction phase, temporary impacts will arise from building activities, including machinery, cranes, and increased movement. These will result in noticeable but short-term visual disturbance in the immediate area. Such effects are typical of urban construction projects and are not considered significant in the long term.

Once completed, the development will introduce a more intensive built form into the area, including buildings that are taller than the immediate surroundings. This will result in noticeable changes to views in nearby locations. However, the scheme has been carefully designed with variation in height, form, materials, and layout to reduce visual impact and integrate positively with the surrounding environment.

The completed development is considered to have a **positive** effect on the townscape. It will replace a vacant site with a coherent and well-designed urban development, improve connections through the site, and contribute to a stronger sense of place at an important gateway into Limerick. Public realm enhancements and landscaping will further support this outcome.

11.3 Visual Effects

Visual impacts will vary depending on the viewpoint. Within nearby residential areas, there will be **moderate** changes due to reduced openness and increased building presence. In most other locations, including major roads, effects will be **slight** or **negligible**. At greater distances, the development will form a small part of the wider cityscape.

11.4 Mitigation Measures

Mitigation measures are embedded within the design of the scheme and include architectural variation, high-quality materials, landscaping, and improved permeability. No additional mitigation measures are considered necessary beyond standard construction management practices.

11.5 Cumulative Effects

The assessment also considers cumulative effects arising from other planned developments in the area, particularly the wider masterplan for the full build out of the Site. Together, these developments will contribute to a more urban and consolidated character along this part of the city. These changes are consistent with planning policy and are not considered to give rise to significant adverse effects.

11.6 Conclusion

Overall, the development is expected to result in a positive transformation of the site. While some localised and moderate visual impacts will occur, these are limited in extent and are balanced by the long-term benefits of regenerating a prominent brownfield site and enhancing the character and identity of this important gateway location.

12. ARCHAEOLOGY, ARCHITECTURAL AND CULTURAL HERITAGE

12.1 Introduction

This chapter, prepared by Aegis Archaeology, assesses the predicted impacts of the Proposed Development on archaeological, architectural and cultural heritage.

12.2 Baseline Environment

There are no archaeological monuments, as listed in the Record of Monuments and Places (RMP) and the Sites and Monuments Record (SMR), within the site. The closest Recorded Monument is approximately 40m from the site boundary. It is the site of a small archaeological excavation of a pit (LI005-107----_ which was fully excavated at that time under excavation licence.

The Site has previously been stripped of topsoil, and a development partially constructed on the site in 2007, under a separate grant of planning. No archaeological measures were requested under that grant of planning. Analysis of aerial photographs show that topsoil was stripped from almost the entire site, but no construction occurred on the eastern and northeastern side. Therefore, while topsoil has been stripped at the eastern and northeastern side, it still has the potential to contain small archaeological features.

No previous unrecorded archaeological features or previous archaeological investigations have been noted during the desktop study for the subject site. The closest Protected Structures are in excess of 400m from the subject site. No other sites or structures of archaeological, architectural, or cultural heritage significance were noted within the development area or its immediate environs.

12.3 Potential Impacts of the Proposed Development

12.3.1 Construction Phase

There will be no effects, direct or indirect, on recorded archaeological monuments or architectural heritage.

A potential direct effect on the archaeological resource lies in the uncovering of sub-surface archaeological features during groundworks associated with the Proposed Development and related infrastructure within the eastern and northeastern side of the site. However, this side of the site has been disturbed during the previous construction phase, and so there is only a small chance of previously unrecorded small isolated archaeological features being uncovered.

Should previously unknown archaeological features be present within the site, the Proposed Development will have a **direct, negative, permanent** and **profound** or **very significant** effect on such remains. The effect on archaeological heritage will need to be mitigated at construction phase.

12.3.2 Operational Phase

There will be no effect on archaeological and cultural heritage during the operational phase.

12.4 Mitigation and Residual Effects (Post-Mitigation)

12.4.1 Construction Phase

To mitigate against the potential impacts of the Proposed Development on previously unknown archaeological heritage:

- ▶ Archaeological monitoring at construction phase of the area of the site outside of the previously partially constructed building. Should any further archaeological features, deposits or artefacts be identified

during the course of the development, works in that area should be halted and the appropriate authorities informed. The archaeological remains will be preserved in situ or by record (excavation) following consultation with the National Monuments Service.

- ▶ A report is required to be compiled on completion of archaeological monitoring, and any archaeological excavation (if necessary) and will be submitted to the relevant authorities.

Should these mitigation measures be implemented, there will be no residual construction-phase impacts to archaeological, architectural or cultural heritage.

Please note that the recommendations given here are subject to the approval of the National Monuments Service, Department of Housing, Local Government and Heritage.

12.4.2 Operational Phase

No mitigation measures are required for archaeological, architectural and cultural heritage during the operational phase of the Proposed Development. There are no residual impacts associated with the operational phase.

12.5 Cumulative Impact of the Proposed Development

Cumulative effects include the combined effects of multiple developments or activities on a range of receptors, in this case, archaeological monuments and architectural/cultural heritage sites.

There are no significant cumulative effects on the archaeological and cultural heritage resource of the area as a result of the Proposed Development. There are no predicted effects on the known archaeological and architectural features of the site and the surrounding area.

Subject to the implementation of the appropriate mitigation measures during the construction phase, it is predicted that there will be no residual effects on the archaeological, architectural and cultural heritage and therefore no possibility of cumulative effects in combination with other plans or projects.

13. MATERIAL ASSETS – TRAFFIC AND TRANSPORTATION

13.1 Introduction

This chapter, prepared by Punch Consulting Engineers, assesses the impact of the Proposed Development on the surrounding road network and transport infrastructure. The assessment is not only relating to the potential impact of traffic anticipated from the Proposed Development but also provides a cumulative effect of the projected increase in traffic in the area from the future build out of the entire masterplan site.

Site visits were made at various dates in 2025 and 2026 to review the character and issues associated with the surrounding road network. Traffic and public transport surveys were undertaken on the surrounding road network. A Quality Audit (including a Stage 1 Road Safety Audit) was also completed.

13.2 Baseline Environment

A junction capacity analysis of the existing 2025 traffic flows was carried out and found that Junctions 2 and 3, located at the Parkway Retail Park, are operating within normal design thresholds. The Parkway and Groody Roundabouts on the Dublin Road (R445) are already performing at or above the design threshold during the peak times assessed. It is considered that in urban areas a certain level of congestion is to be expected during peak times.

Pedestrian infrastructure in the area is generally good and offer safe pedestrian movement between the retail, residential, and institutional areas surrounding the Site.

Dedicated cycle facilities are limited along the Dublin Road (R445), however, the National Transport Authority (NTA) published LSMATS to set out the framework for the delivery of the transport system developments.

The Site is well served by the existing bus network with 3 no. Bus Éireann routes passing the Site along the Dublin Road (R445). There are also plans for BusConnects Limerick to expand on these existing services. The public transport capacity survey concluded that there is a high capacity and frequency of buses at these locations.

13.3 Potential Impacts of the Proposed Development

13.3.1 Construction Phase

Construction traffic travelling to the Site will use the Parkway Retail Park roundabout to the west and the new site entrance on the Dublin Road (R445) for access.

The traffic volume associated with the construction phase is not considered to be excessive when compared to the baseline traffic volumes carried out in September 2025 and will be spread out over the duration of the construction period of the Proposed Development.

The Proposed Development will have a potential impact ranging from **negative slight temporary**, during peak construction, and expected to reduce to **negative short-term not-significant** impact to local traffic during the construction phase.

13.3.2 Operational Phase

The convenient accessible location of the Site supports sustainable transport usage and will therefore not generate high levels of vehicular traffic in the area.

The results of the public transport capacity occupancy survey were compared to the potential future additional commuters using the service from the Proposed Development. It was found that there is adequate capacity within the existing services to accommodate the Proposed Development.

From the traffic modelling results we conclude that the surrounding road network and adjacent existing junctions/roundabouts will have little comparable impact on the current operational capacity of the surrounding network of roads and junctions. Furthermore, the planned BusConnects service to the area will further enhance the availability of public transport services.

Overall, at operational phase, there is potential to be a ***long-term neutral not significant*** impact on the surrounding roads as a result of the Proposed Development.

13.4 Mitigation and Residual Effects (Post-Mitigation)

13.4.1 Construction Phase

The appointed Contractor shall prepare a Construction Transport Management Plan (CTMP) prior to the commencement of development. The contractor will be obliged to appoint a traffic liaison officer/traffic manager. Construction vehicle movements will be minimised.

Given the short-term nature of the traffic increase, with the mitigation measures in place, the construction phase traffic impact is expected to be not ***significant, negative and short-term***.

13.4.2 Operational Phase

The design, construction and operation of site access, internal roads and associated infrastructure in accordance with relevant design standards (including DMURS, LDP (2022-2028) and the Cycle Design Manual) ensure the safe and efficient accommodation of development-generated traffic and will minimise potential impacts on the surrounding road network during the operational phase.

13.5 Cumulative Impacts of the Proposed Development

Adjacent planning consents/applications granted/submitted in the area have been reviewed and none are considered to have a potential significant impact on the traffic assessment for the Proposed Development.

In assessing the traffic impacts of the Proposed Development, consideration was also given to the overall masterplan for the remaining zoned area of the subject site. The masterplan provides for two potential options for the future building out of the remainder of the site with the office development option being the most onerous considered. The traffic modelling found that the surrounding road network and adjacent existing junctions/roundabouts was still within an acceptable operational capacity design threshold.

14. MATERIAL ASSETS – WASTE MANAGEMENT

14.1 Introduction

This chapter, prepared by AWN, evaluates the likely impacts, if any, which the Proposed Development may have on Material Assets related to waste management. The receiving environment is defined by LCCC, which regulates waste management activities in line with national and regional policy. Waste will arise during the excavation, demolition and construction phases, as well as once the Proposed Development is operational.

14.2 Baseline Environment

The receiving environment for waste management is governed by LCCC, which implements waste policy in accordance with the *National Waste Management Plan for a Circular Economy (NWMPCE) 2024–2030* and the *Waste Action Plan for a Circular Economy*. The *NWMPCE* aims for zero waste growth per person during the plan period, with particular focus on non-household waste streams, including construction and demolition (C&D) waste.

The *Limerick Development Plan 2022 – 2028 (2022)* reflects these circular-economy principles and sets local policy objectives for waste prevention, segregation and resource efficiency.

LCC no longer operates municipal landfills. Waste generated in the region is managed through licensed, permitted, and registered facilities across Limerick and the wider southern region, soil recovery sites, inert C&D waste facilities, municipal recovery facilities, transfer stations and material recovery facilities. Availability of these facilities varies depending on contractor selection, haul distance and real-time intake capacity. Final selection of waste contractors and facilities will be based on proximity, capacity, competency, and serviceability.

14.3 Potential Impacts of the Proposed Development

14.3.1 Construction Phase

During the construction phase the mismanagement of waste, including improper storage of excavated soil, inadequate handling of hazardous waste, insufficient segregation of C&D materials, or the use of non-permitted waste contractors, could lead to negative impacts such as littering, unnecessary diversion of recyclable waste to landfill, runoff contamination and illegal dumping. In the absence of mitigation, the effect on the local and regional environment is likely to be **short-term, significant** and **negative**.

14.3.2 Operational Phase

The potential impacts on the environment during the operational phase of the Proposed Development would be caused by improper, or lack of waste management. If waste is not segregated, recyclable materials could be unnecessarily sent to landfills, representing a diversion from the waste hierarchy. In the absence of mitigation, the effect on the local and regional environment is likely to be **long-term, moderate** to **significant** and **negative**.

14.4 Mitigation and Residual Effects (Post-Mitigation)

14.4.1 Construction Phase

During the construction phase, the Proposed Development will generate typical construction and demolition (C&D) waste materials, including excavated soil and stone, concrete, metals, timber, plasterboard, glass, packaging, and municipal waste from site staff. These materials will be segregated

on-site into appropriate skips and containers within designated waste storage areas and removed from site by suitably permitted waste contractors to authorised waste facilities. Accurate waste records will be maintained, and all waste leaving the site will be documented with copies of relevant dockets retained.

The main contractor will appoint a Resource Manager (RM) to oversee waste management activities and ensure compliance with the site-specific Resource and Waste Management Plan (RWMP) and included as part of this submission as Appendix 14.1. All construction staff will receive training on waste segregation and handling procedures.

A carefully planned approach to waste management and adherence to the RWMP and mitigation measures outlined in Chapter 14 will ensure that the effect on the environment during construction is **short-term, neutral** and **imperceptible**.

14.4.2 Operational Phase

During the operational phase, waste will be generated by the commercial tenants and residents. Dedicated Waste Storage Areas (WSAs) have been allocated for the development for use by the tenants and residents. The WSAs have been appropriately sized to accommodate the estimated waste arisings from the development. The WSA has been allocated to ensure a convenient and efficient management strategy with source segregation a priority. Waste will be collected from the WSA and from staging/collections points, depending on arrangement, by permitted waste contractors and removed off-site for re-use, recycling, recovery and/or disposal.

An Operational Waste Management Plan has been prepared and included as part of this submission as Appendix 14.2. This OWMP provides a strategy for segregation (at source), storage and collection of wastes generated within the development during the operational phase including dry mixed recyclables, organic waste, glass, mixed non-recyclables, medical waste, garden/green waste, batteries, waste electrical equipment, printer cartridges, chemicals, lightbulbs, textiles, cooking oil, furniture and abandoned bicycles.

Provided the mitigation measures outlined in the OWMP and in Chapter 14 are implemented and a high rate of reuse, recycling and recovery is achieved, the predicted effect of the operational phase on the environment will be **long-term, neutral** and **imperceptible**.

14.5 Cumulative Impact of the Proposed Development

14.5.1 Construction Phase

Overlapping construction periods could lead to combined increases in excavation spoil, construction and demolition (C&D) waste and packaging waste entering regional waste facilities. However, licensed soil recovery facilities, inert C&D sites, and material recovery facilities across Limerick and the wider Southern Region provide sufficient capacity. Other developments in the area will be required to manage their waste in compliance with national and local legislation, policies and plans, which ensure proper segregation, reuse and recycling of materials. Accordingly, the cumulative effect will be **short-term, not significant** and **neutral**.

14.5.2 Operational Phase

There are existing residential and commercial developments close by, along with the multiple planned and permitted developments. All of the current and potential developments will generate similar waste types during their operational phases. Authorised waste contractors will be required to collect waste materials segregated, at a minimum, into recyclables, organic waste and non-recyclables. An increased density of development in the area is likely to improve the efficiency of waste collections in the area.

Appendix 2.1 summarises other permitted developments considered in this assessment. Given the availability of licensed municipal, recycling and specialist waste facilities in the Southern Region, and the requirement for all developments to manage waste in accordance with national and local legislation, cumulative operational effects will be ***long-term, imperceptible*** and ***neutral***.

15. MATERIAL ASSETS – UTILITIES

15.1 Introduction

This chapter, prepared by AWN, evaluates the potential impacts that the Proposed Development may have on a range of Material Assets specifically utilities, which have not already been addressed elsewhere in this EIAR. The potential impacts, if any, are assessed in terms of the following:

- ▶ Land Use, Property, and Access.
- ▶ Power and Electrical Supply.
- ▶ Telecommunications.
- ▶ Surface water infrastructure.
- ▶ Foul drainage infrastructure; and
- ▶ Potable Water infrastructure.

The assessment of impact on utilities is considered with respect to the availability and capacity within the utility network(s) and consultation with Uisce Éireann, ESB Networks and telecommunication companies (EIR and Enet).

15.2 Baseline Environment

15.2.1 Land Use, Property, and Access

The site was unoccupied until 2007, when a shopping centre, referred to as Horizon Mall, was partially constructed on the site. It was subsequently demolished in 2020, with reinforced concrete retaining walls left in situ. It is understood that much of the material from the demolition was used for backfilling and land raising purposes such that the Site is now predominantly covered in made ground.

The majority of the site is in the ownership of the Applicant, extending beyond the ownership boundary just onto the Dublin Road (R445) to facilitate establishing a new site access.

The Proposed Development has frontage on the Dublin Road (R445) to the north. The site is currently accessible from the Parkway Valley Roundabout, associated with the Parkway Retail Park, at the western boundary of the site. The Site is located in an accessible location and is well connected to public transport links. It is served by existing bus network with 3 no. Bus Éireann routes passing the Site along the Dublin Road (R445) which provide services to Limerick City Centre and major locations. There are also existing facilities for active travel modes (walking and cycling) in the vicinity of the Site.

15.2.2 Existing Utility Infrastructure

There is no evidence of existing utility infrastructure on the Site with the exception of 110kV High Voltage overhead power lines and pylons which transverse the eastern portion of the Site.

There is existing ESB Network medium voltage infrastructure in the local area, comprising a 10/20kV underground network lines. Existing EIR and Enet telecommunications infrastructure currently runs underground along the footpath northern Site boundary along the Dublin Road (R445).

Uisce Éireann records indicate the following water supply and drainage infrastructure in close proximity to the Site:

- ▶ A 300mm diameter watermain which runs along the northern Site boundary in the Dublin Road (R445).
- ▶ An existing foul sewer in the Parkway Retail Park which ultimately discharges into a combined sewer on Childers Road.

- ▶ Evidence of existing stormwater sewers in the residential development to the west of the site and 200m northwest of the site, with no recorded evidence of surface water sewers in the Dublin Road (R445)

The EPA online mapping tool shows 2 no. unnamed surface watercourses within the Proposed Development Site boundary; however, these were not evident during site walkovers. There is an open drain outside the eastern site boundary connected to Industrial Estate/Galvone Stream which ultimately discharges to the Groody River. The Groody River, a tributary of the Shannon (Lower), is located c. 200 m to the east of the site and flows in a northerly direction.

The Utility Report prepared by Moloney Fox Consulting Engineers (May 2026) and the Engineering Planning Report prepared by Punch Consulting Engineers (May 2026), which accompanies the planning application provided further detail on the existing and proposed utility infrastructure.

15.3 Potential Impacts of the Proposed Development

15.3.1 Construction Phase

The potential impact associated with land use, property, and access for the construction phase will be, **negative, not significant, and short term.**

The electrical demand associated with construction activities will be limited in scale and is not anticipated to give rise to any perceptible effects on the capacity or reliability of the local electricity supply network. Any excavations within the vicinity of existing electrical services will be carried out in consultation with ESB Networks to ensure there is no impact on existing users. The potential impact associated with power and electrical supply for the construction phase in the absence of mitigation measures will be a **negative, not significant, and short term.**

The connection into the EIR and Enet telecommunications network will be undertaken by suitably qualified and authorised personnel. These works will be carried out in a manner that is safe, and which minimises interruptions of service which might affect residents and businesses, and adjacent developments. The potential impact on telecommunications infrastructure during the construction phase in the absence of mitigation measures is **neutral, not significant, and short term.**

The employment of good construction management practices and full adherence to the mitigation measures set out in Chapter 6 (Hydrology and Hydrogeology) and the Construction & Environmental Management Plan (CEMP) will minimise the risk of pollution of soil, storm water run-off, or groundwater. Aggregate materials such as sands and gravels will be stored in clearly marked receptacles in a secure compound area within the contractors' compound on site. There is no likely impact on surface water infrastructure as a result. The potential impact on surface water networks during the construction phase in the absence of mitigation measures is **negative, slight, and short term.**

All works on the foul drainage network for the permanent connections will be carried out by a suitably qualified contractor in conjunction with Uisce Eireann. The potential impact on foul drainage for the construction phase is **negative, imperceptible, and short term.**

The water demand during the construction phase will not be significant enough to affect existing pressures. The potential impact on potable water supplies and infrastructure during the construction phase is **negative, imperceptible, and short term.**

15.3.2 Operational Phase

During the operational phase the Proposed Development is not anticipated to generate significant air (including odour), noise, water emissions or traffic impacts during normal operating conditions; these have been discussed further in the respective EIAR chapters. The Proposed Development is consistent with the zoning of these lands. The overall potential impact associated with land use, property, and access during the operational phase will be **localised neutral, not significant, and long term.**

During the operational phase, maintenance of utilities infrastructure on the site will be carried out in accordance with the relevant requirements of the various utilities' providers / authorities. As such, no significant impacts on services or utilities themselves are predicted to occur as a result of the operational phase. ESB have confirmed the feasibility of the proposal in terms of electrical demand. Solar PV will be installed on the roofs of the apartment blocks. The PV will reduce demand on the mains network. A Glint and Glare Assessment was carried out by Macro Works Ltd. to assess the potential impact from the proposed solar PV panels on receptors at Coonagh Airfield and University Hospital Limerick. From the analysis and discussions contained herein, it is considered that there will not be any significant nuisance effects from glint and glare on these receptors as a result of the proposed roof-mounted solar PV panels. The Glint and Glare report, prepared by Macro Works Ltd. is included as Appendix 15.1 of this EIAR. Based on these discussions on availability of supply, there is a **neutral, imperceptible, and long-term** effect on electrical supply during the operational phase of the Proposed Development.

The operational phase demand associated with the Proposed Development is not expected to give rise to any material effects on telecommunications infrastructure. The likely impact is therefore assessed as **neutral, imperceptible and long-term.**

During operation, the primary risk of water quality impact is surface water runoff from roads and car parking areas which can potentially contain elevated levels of contaminants such as hydrocarbons. With proposed drainage design including extensive SuDS features, the potential impacts during the operational phase on surface water quality are considered to be **neutral, imperceptible, and long-term.**

A Confirmation of Feasibility (COF) from Uisce Éireann was received in October 2025 (COF Ref. DS25006639) noting that a wastewater connection is feasible without any infrastructure upgrade. Foul drainage will ultimately be discharged to Limerick WWTP, which following treatment, discharges into Limerick Dock transitional waterbody. Based on available data, Limerick WWTP has adequate operational capacity to accommodate the additional flows generated by the Proposed Development. The WWTP operates under an EPA licence with defined emission limit values and compliance conditions to ensure that treated effluent discharges do not compromise the achievement of Water Framework Directive environmental objectives in the receiving waterbody. Considering the design of the wastewater infrastructure on and off site, the impact is expected to be **neutral, imperceptible, and long-term.**

A Confirmation of Feasibility from Uisce Éireann was received in October 2025 noting that a water supply connection is feasible subject to upgrades required to be funded by the Applicant. Based on the feasibility of connection issued by Uisce Éireann, the potential impact on potable water infrastructure for the operational phase is **neutral, imperceptible, and long term.**

15.4 Mitigation and Residual Effects (Post-Mitigation)

15.4.1 Construction Phase

Consultation with LCCC, Uisce Éireann, ESB Networks, EIR and Enet and other relevant service providers within the locality and compliance with any requirements or guidelines they may have will ensure a smooth construction schedule without disruption to local and business community.

Prior to commencing any construction activities, the contractor shall conduct a comprehensive utility locating survey using advanced technologies such as ground-penetrating radar (GPR) and electromagnetic induction methods.

The CEMP outlines construction techniques and methodologies which will be implemented during construction of the Proposed Development. The mitigation measures set out in this EIAR and the CEMP will be implemented and adhered to by the construction contractor and will be overseen and updated as required if site conditions change by the Project Manager, Environmental Manager, Resource Manager and Ecological Clerk of Works where relevant. All personnel working on the Site will be trained in the implementation of the procedures.

15.4.2 Operational Phase

As previously stated, a COF was received from Uisce Éireann on 30th October 2025 which confirms the feasibility of the proposed wastewater connections without infrastructure upgrade by Uisce Éireann. The COF confirmed the water supply connection was feasible subject to upgrades of 57 m of existing watermain from 200 mm to 350 mm, to be funded by the Applicant.

The Proposed Development stormwater drainage network design includes SuDS measures designed to ensure the stormwater leaving the site is of a suitable quality. All metering will be provided in accordance with Uisce Éireann requirements.

Any necessary maintenance or upgrades of on-site utilities infrastructure during the operational phase of the Proposed Development will be carried out in accordance with the specifications of the relevant service providers and facilitated by facilities management.

15.5 Monitoring Or Reinstatement Measures

No additional monitoring or reinstatement is required.

15.6 Residual Effects of the Proposed Development

15.6.1 Construction Phase

The works contractor will be obliged to put best practice measures in place and work in accordance with the CEMP. The implementation of mitigation measures within each chapter of this EIAR and measures detailed in Section 15.6.1 of Chapter 15 of the EIAR will ensure that the residual impacts on the material assets considered in this chapter during the construction phase will be ***neutral, not significant, and short term.***

15.6.2 Operational Phase

The Proposed Development requires electrical power, water supply and connection to the stormwater and foul water networks, respectively. The implementation of mitigation measures within each chapter of this EIAR and detailed in Section 15.4.2 of Chapter 15 of the EIAR will ensure that the residual impacts on the material assets considered in this chapter during the operational phase will be ***neutral, imperceptible, and long-term.***

15.7 Cumulative Impact of the Proposed Development

15.7.1 Construction Phase

The Proposed Development entails minimal use of public material assets (utilities) during construction therefore there is limited opportunity for the causation of cumulative impacts during the construction phase of the Proposed Development in combination with other planned or permitted developments.

The implementation of mitigation measures during construction works as well as the compliance of adjacent development with their respective agreement with network providers (Uisce Éireann, ESB Networks, EIR and Enet) means that the Proposed Development in combination with other exiting and permitted development is not likely to result in prolonged utility disruption; notable extra demand on a utility; or medium-term disruption to a significant piece of infrastructure. It is unlikely that there will be significant cumulative effects with other planned or permitted developments (as described in Chapter 2).

The residual cumulative effects on the material assets during the construction phase for the Proposed Development will be ***negative, not significant, and short-term.***

15.7.2 Operational Phase

The Proposed Development and all permitted developments considered are required to engage with Uisce Éireann, ESB Networks, EIR and Enet to ensure that there is sufficient capacity to cater for the increase in water, wastewater, electricity and telecommunication requirements. No significant supply constraints have been identified for development at this location. These National Authorities in considering future connections, take into consideration the environmental impacts of planned developments within the wider network. In developing long-term plans for security of supply, these National Authorities for water and energy supply are required to develop resources in compliance with sustainable environmental planning. Therefore, the Proposed Development in combination with other exiting and permitted development is not likely to result in prolonged utility disruption; notable extra demand on a utility; or medium-term disruption to a significant piece of infrastructure. As such, there will therefore be no significant effects on material assets to the wider economy or environment. Based on the above, it is predicted that the cumulative effects of the Proposed Development with other permitted, planned, and existing developments is, ***neutral, imperceptible, and long-term*** and during the operational phase.

16. INTERACTIONS

This chapter of the EIAR identifies, describes and assesses the potential interactions and inter-relationships between the environmental factors addressed in the preceding chapters, for both the construction and operational phases of the Proposed Development.

Directive 2011/92/EU, as amended by Directive 2014/52/EU, and section 171A of the Planning and Development Act, as amended, both provide that an EIA shall identify, describe and assess in an appropriate manner, in the light of each individual case, the interaction between the following factors:

- ▶ human beings, fauna and flora population and human health;
- ▶ biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;
- ▶ land, soil, water, air and climate and landscape;
- ▶ material assets, cultural heritage and the landscape.

In summary, the interactions between the environmental factors and impacts discussed in this EIAR have been assessed and the majority of interactions are neutral or negative interactions. Negative interactions are generally associated with the construction phase and will be short term in nature. There are some long-term positive interactions associated with the operation of the Proposed Development.

There are no significant negative impacts predicted from the interactions of the constituent elements of the Proposed Development when viewed in the light of their associated mitigation measures.