

Limerick WWTP Upgrade and Regional Bioresource Centre

ElAR Chapter 19 - Population and Human Health

June 2026



Formerly JB Barry Partners who became part of Egis in 2023

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Glossary and Defined Terms

Acronym	Description
AA	Appropriate Assessment
AASR	Appropriate Assessment Screening Report
ACP(ABP)	An Coimisiún Pleanála (previously known as An Bord Pleanála)
AD	Anaerobic Digestion
AGS	Aerobic Granular Sludge
AER	Annual Environmental Report
BOD	Biochemical Oxygen Demand
BC	Bioresource Centre
C	Carbon
CAFÉ	Clean Air for Europe Directive
CHP	Combined Heat and Power
DIN	Dissolved Inorganic Nitrogen
ECJ	European Court of Justice
EIAR	Environmental Impact Assessment Report
ELV	Emission Limit Value
EPA	Environmental Protection Agency
ESB	Electrical Supply Board
EU	European Union
FOG	Fats Oils and Grease
FST	Final Settling Tank
GHG	Greenhouse Gas
HGV	Heavy Goods Vehicle
MLPS	Main Lift Pumping Station
MCA	Multi-Criteria Analysis
MRP	Molybdate Reactive Phosphate
IDA	Industrial Development Agency
IFAS	Integrated Fixed-Film Activated Sludge
N	Nitrogen
NDP	National Development Plan
NHA	National Heritage Area
NIS	Natura Impact Statement
NPF	National Planning Framework
NSO	National Strategic Outcomes
NSS	National Spatial Strategy
NWSMP	National Wastewater Sludge Management Plan
P	Phosphorous
PE	Population Equivalent - The amount of wastewater received at a treatment plant (and its design capacity) is measured in units known as population equivalent (or PE). The wastewater received from all sources, e.g. industrial, tourism, commercial, residential, etc., is converted into these units, with one unit of PE representing the wastewater treatment load typically generated by a single person.
PFF	Pass Forward Flow
PFT	Picket Fence Thickener
pNHA	Proposed National Heritage Area

Acronym	Description
SEA	Strategic Environmental Assessment
SBR	Sequencing Batch Reactor
SHC	Sludge Hub Centre
SIA	Stable Isotope Analysis
SID	Strategic Infrastructure Development
Sludge	Solid by-products of wastewater
SPA	Special Protection Area
SS	Suspended Solids
UWWTD	Urban Wastewater Treatment Directive
WFD	Water Framework Directive
WWDA	Wastewater Discharge Authorisation
WWTP	Wastewater Treatment Plant
WSPS	Water Services Policy Statement
ZTV	Zone of Theoretical Visibility
PS	Pumping Station
QI	Qualifying Interest
RAS	Return Activated Sludge
RBC	Regional Bioresource Centre
RSES	Regional Spatial and Economic Strategy
SAC	Special Area of Conservation
TDS	Total Dry Solids
THP	Thermal Hydrolysis Process

Departments and Stakeholders

Acronym (where applicable)	Departments & Stakeholders
ACP(ABP)	An Coimisiún Pleanála (previously known as An Bord Pleanála)
DPER	Department of Public Expenditure and Reform
CACNaT	Department of Climate Action, Communication Networks and Transport
DCCAÉ	Department of Communications, Climate Action and Environment – Changed in 2020
DCHG	Department of Culture, Heritage and the Gaeltacht – Changed in 2020
DoF	Department of Finance
DHPLG	Department of Housing, Planning and Local Government – Changed in 2020
HLGaH	Department of Housing, Local Government and Heritage
EPA	Environmental Protection Agency
GSI	Geological Survey Ireland
GWS	Group Water Schemes
IFI	Inland Fisheries Ireland
IR	Irish Rail (Iarnród Éireann)
UÉ	Uisce Éireann
LCCC	Limerick City & County Council
LA	Local Authority
NMS	National Monuments Service
NPWS	National Parks & Wildlife Service
NRA	National Roads Authority
NTA	National Transport Authority
OPW	Office of Public Works
OSi	Ordnance Survey Ireland
SRA	Southern Regional Assembly

19 POPULATION AND HUMAN HEALTH

19.1 Introduction

19.1.1 Purpose of this Report

This chapter assess the potential impact of the Proposed Development on population and human health including land use, economic activity, employment, settlement and social patterns. The 2014 Environmental Impact Assessment (EIA) Directive (2014/52/EU) has updated the list of topics to be addressed in an Environmental Impact Assessment Report (EIAR) and has replaced 'Human Beings' with 'Population and Human Health'. This Chapter also meets the requirement for assessment of 'population, human health' as per Schedule 6 of the Planning and Development Regulations 2001-2020.

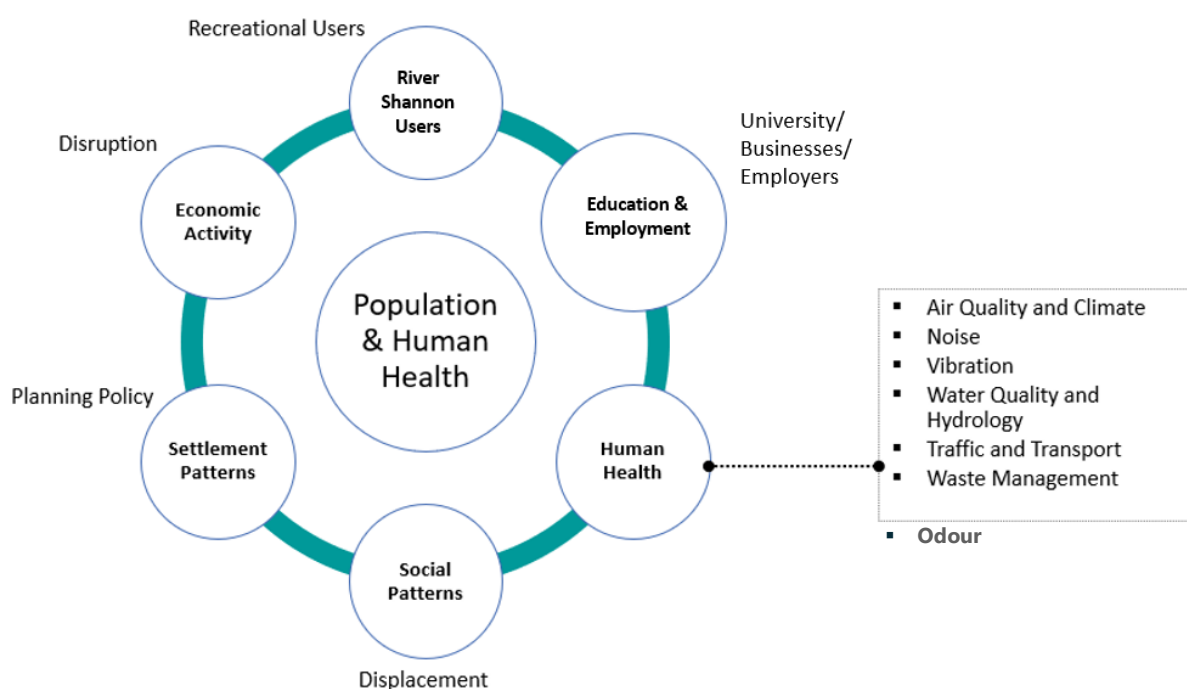


FIGURE 19-1 POTENTIAL IMPACTS IDENTIFIED IN SCOPING DOCUMENT

As noted in Figure 19-1 there are several inter-related environmental topics such as the potential impacts of the proposed development on Water Quality and Hydrology, Air Quality, Climate, Noise and Vibration, Traffic and Transportation Waste Management and odour which are of intrinsic direct and indirect consequence to human health. These are addressed in detail in other Sections of this Volume 2 of the EIAR. While the baseline scenario for these environmental topics is not duplicated in this section, the assessment of impacts on population and human health refers to those environmental topics under which human health effects might occur in line with the EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports.

19.1.2 Outline Project Description

A detailed project description is provided in Chapter 3 (The Proposed Development) in Volume 2 of this EIAR.

19.2 Methodology

The approach to this assessment is summaries below:

- Delineation of the Study Area,

- Description of the current state (baseline) of population and human health within the study area in terms of the following topics. This description is based on data from the Central Statistics Office (CSO), Pobal, Failte Ireland, Regional and Local Planning Policy, Limerick City and County Council and An Coimisiún Pleanála's planning application and appeal databases.
 - Population,
 - Employment and Economic Activity;
 - Social and Settlement Patterns;
 - Human Health, including Health & Safety;
 - Recreational and Amenity.
- Assessment of potential construction and operational impacts on each of these topics, having regard to information contained within the application documents (eg Construction and Environmental Management Plan) and assessment result from other chapters in the EIAR where direct and indirect consequence to population and human health may occur.
- The Assessment includes the identification of a suite of construction and operational mitigation measures, either arising from this assessment or other assessments within the EIAR.
- The residual impact subsequent to the implementation of these measures is assessed.
- Any potential cumulative impacts from other nearby concurrent projects are also assessed.

19.2.1 Study Area

The Proposed Development is located in two sites (Limerick WWTP and Corcanree PS), approximately 3km west of the Limerick City Centre, in the townlands of Ballykeeffe, Corkanree and Courtbrack. The area is bounded to the north by the River Shannon, into which flows the nearby Ballinacurra Creek, and to the south by the Dock Road (R510), which connects with the Limerick South Ring Road (N18) national road and the Limerick Tunnel underneath the River Shannon, to the west of the subject lands.

The lands are within the Tier 1 Limerick City and Suburbs (in Limerick), Mungret and Annacotty settlement, located in the western neighbourhood of 'Ballinacurra, South Circular Road and Dock Road', as indicated in Figure 19-2. The immediate area is characterised by a low population density and predominantly light industrial and commercial uses clustered along Dock Road. This is typified by the presence of Mr Binman, waste management service located immediately to the south-east of the existing Limerick WWTP site and a Lower Tier Seveso Site – Grassland Agro and other light industrial uses in the Corcanree Business Park located c. 250m to the south of the existing Corcanree PS.

There is a Traveller halting site located at the junction of Dock Road and Greenpark Road, c. 300 m from the Corcanree PS. The Limerick Greyhound Stadium is c. 600m to the south and existing residential uses extend beyond that to the south-east towards the city centre. It is notable that planning permission has been granted in the former Greenpark Racecourse site, to the immediate south of the greyhound stadium for 371 no residential units (ref. 21311588), a nursing home (ref. 211222) and a Strategic Housing Development (SHD) for 371 no residential units and creche (ref ABP 311588 amended by LRD 21311588).

Bunlicky Lake, a manmade lake formed historically as a result of clay extraction by the adjacent Irish Cement factory, is in close proximity to the west of the Limerick WWTP site and Spillane's Tower, an historical landmark is to the north of the Corcanree PS. Amenity use in the form of the Baggott Estate Nature Park, is also located to the south-east in Ballinacurra.

The River Shannon is designated both a Special Area of Conservation (Lower River Shannon) and a Special Protected Area (River Shannon and River Fergus estuaries). In addition to its ecological importance, it is a strong focus for recreational and tourist activity in the area. The Westfield's Wetlands, (including Russell Park) on the northern bank of the Shannon is an important wildlife and amenity area.

The wider area has experienced significant population and employment growth over the last 20 years owing to the presence of Raheen Industrial Estate, Limerick Docklands, Limerick University Hospital, Mungret College and Dooradoyle in the vicinity.

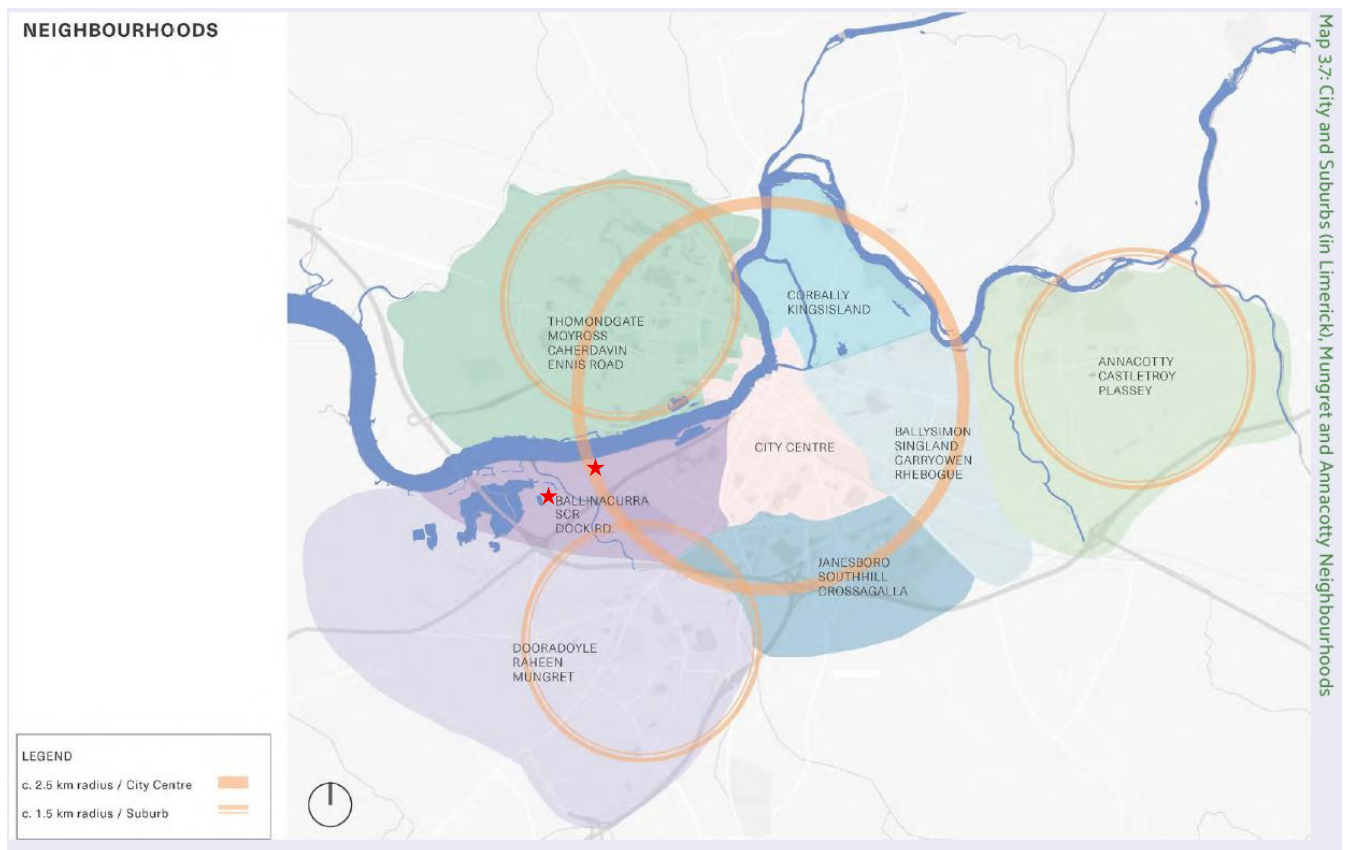


FIGURE 19-2 SUBJECT LANDS IN THE CONTEXT OF LIMERICK CITY AND SUBURBS NEIGHBOURHOODS (BASED ON MAP 3.7 LCDP)

The area immediately across the Shannon to the west of Kilrush remains largely rural in nature, however there are a number of residential developments off the Condell Road, including recent developments in Clonmacken and more established residential areas off the North Circular Road.

The Population and Human Health study area, as defined in Figure 19-3, delineates the population catchment that could potentially be impacted by the construction or operational phases of the proposed works. The population catchment focusses on the population in the immediate area who could potentially be impacted by the proposed development based on proximity, it does not therefore correspond to the wider Limerick City or the Limerick City WWTP agglomeration area which can be discontinuous and spatially dispersed across a wide area.



FIGURE 19-3 STUDY AREA AND CONSTITUENT CSP ELECTORAL DIVISIONS AND SMALL AREAS

The Council's neighbourhood mapping was used as a starting point to define the study area, with the 'Ballinacurra, South Circular Road and Dock Road' neighbourhood identified as representing a key element of the study area. It was noted that the neighbourhood is relatively discrete, with the Shannon acting as a natural boundary to the north, while the N18 road delineates the area to the south and west respectively. The area is primarily formed by the industrial and commercial use build along Dock Road and the residential use along South circular Road.

To facilitate demographic analysis the study area needed to correspond to Central statistics Office (CSO) census data boundaries. The 'Ballinacurra, South Circular Road and Dock Road' neighbourhood could be largely approximated by aggregating the following Electoral Divisions:

- Prospect A
- Prospect B
- Dock A
- Dock B
- Dock C
- Dock D
- Ballinacurra A
- Ballinacurra B

However, the Ballycummin Electoral Division which covers the western portion of the neighbourhood extends significantly further and includes most of the adjacent neighbourhood of 'Dooradoyle, Raheen and Mungret'. This includes substantial areas that would not be potentially impacted by the Proposed Development, therefore, the smaller CSO units, Small Areas, were used to delineate a smaller sub-area. Small Areas are areas of population generally comprising between 80 and 120 dwellings, designed as the lowest level of geography for the compilation of CSO statistics and which nest within Electoral Division boundaries. They were used to include all of the core 'Ballinacurra, South Circular Road and Dock Road' neighbourhood and the northern

portions of Skehacreggaun and Ballykeeffe, north of Father Russel Road, which could reasonable be considered to be included within the study area. This resulted in the inclusion of 8 no. Small Areas:

- 127018028/02
- 127018052 - 127018057
- 127018063

Finally, it was determined that although physically separated by the barrier of the Shannon River, there is also potential for the communities off Condell Road to be impacted in some respects by the proposed development. Therefore, the study area was extended to include the following Electoral Divisions. Again, Small Areas (SA) were used where the more rural Electoral Divisions (ED) was considered too large:

- ED – Castle C
- ED – Castle D
- SA - 127105009



FIGURE 19-4 STUDY AREA IN CONTEXT OF LIMERICK CITY AND SUBURBS (IN LIMERICK), MUNGRETT AND ANNACOTTY – TIER 1 SETTLEMENT

19.2.2 Relevant Legislation, Policy and Guidelines

The European Commission guidance 'Environmental Impact Assessment of Projects, Guidance on the preparation of the Environmental Impact Assessment Report' (European Union, 2017) state the following in respect of "human health":

"Human health is a very broad factor that would be highly Project dependent. The notion of human health should be considered in the context of other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by

changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise or air pollutants) are obvious aspects to study".

This section of the EIAR document has been prepared with reference to the Guidelines on the information to be contained in environmental impact assessment reports, published by the EPA in May 2022. Appraisal Method for the Assessment of Impacts

All impacts or effects are described in following terms as in accordance with the "Description of Effects" outlined in Table 3.4 of the EPA *Guidelines on Information to be Contained in Environmental Impact Assessment Reports 2022*.

Quality: Positive, Neutral, Negative

Significance: Imperceptible, Not Significant, Slight, Moderate, Significant, Very Significant, Profound

Extent and Context: Size of area, population etc.

Probability: Likely, unlikely

Duration: Momentary (seconds to minutes); Brief (less than a day), Temporary <1 yr; Short-term 1-7 yrs, Medium Term 7-15yrs, Long Term 15-60 yrs, Permanent >60 yrs, Reversible (can be undone), Frequency (once, rarely, occasionally, frequently, constantly or hourly, daily, weekly, monthly, annually)

19.2.3 Data Collection and Collation

A desktop study of the following published policy documents and data was undertaken to appraise the location and likely and significant potential impact upon population and human health receptors and to assess population trends in the subject site and in the wider hinterland:

- Central Statistics Office (CSO) Census 2011, 2016 and 2022 data;
- AIRO Census mapping;
- Southern Regional Assembly Regional Spatial and Economic Strategy;
- Limerick Development Plan 2022-2028;
- National Development Plan – First Revision 2025.

This assessment is a study of the potential indirect and direct socio-economic and public health impacts of the construction phase and the operational phases of the development. Effects on receptors were assessed in terms of magnitude, quality, significance and duration.

19.3 Baseline Environment

19.3.1 Current Baseline Environment

The following section contains a description of the current state of the environment (baseline scenario) in relation to population and human health and the possible impacts on these arising from the proposed development, which are not already covered by other disciplines in this EIAR.

19.3.1.1 Population

The 2022 Census population for the study area was 18,066, c. 18% of the population of Limerick City and Suburbs. This represented a substantial increase of 13.9% (2,206 additional residents) on the population in the study area 2016 Census. To put this strong growth in context, the state experienced 8.1% growth, Limerick County and City experienced 7.5% growth and Limerick City and Suburbs (within Limerick) experienced 8.6% growth in the same intercensal period.

TABLE 19-1 ELECTORAL DIVISION POPULATION 1996 – 2022 CENSUS

Area	1996	2002	2006	2011	2016	2022	% Change 1996 - 2022	% Change 2011- 2022	% Change 2016- 2022
Study Area	N/A	N/A	N/A	15,708	15,860	18,066	N/A	15.0%	13.9%
Limerick City & Suburbs (CSO)	79,137	86,998	90,757	91,454	94,192	102,287	29.3%	11.8%	8.6%
County Limerick	165,042	175,304	184,055	191,809	194,899	209,536	26.9%	9.2%	7.5%
State	3,626,087	3,917,203	4,239,848	4,588,252	4,761,865	5,149,139	31.3%	12.2%	8.1%

Looking at historical growth trends, based on Table 19-1 it can be seen that between 1996 and 2022 Limerick City and Suburbs growth, at 29.3%, was roughly in line the national trend of 31.3%. The growth rate of Limerick County as a whole was slightly slower at 26.9%, reflecting the trend towards urbanisation during this period.

Census Small Areas were only introduced in the 2011 Census so historical population data for the study area is not available prior to that. However, between 2011 and 2022 the study area grew by 15%, a considerably higher growth rate than the City and Suburbs, County and state. As noted above in the recent intercensal period the growth rate in the study area has remained strong (13.9% between 2016 and 2022), almost double the Limerick County and City rate of 7.5% and well above well above national and city-wide averages. This focussed growth in the study area reflects recent Council policies supporting compact urban growth, urban renewal, and proximity to employment and education hubs and services.

The Limerick Development Plan 2022 – 2028 Core Strategy envisages further population growth in the plan period of c. 20,955¹ persons (20%) in the Limerick City and Suburban Area and an associated increase of 11,054 in the number of households. This target growth rate if applied to the study area would result in an increase of c. 3,613 additional residents by 2028 and c. 1906 new households.

This future growth projection is considered conservative, however, in view of the *National Planning Framework First Revision (NPF)* published in 2025 which identifies the need to plan for approximately 50,000 additional households nationally per annum to 2040, aligned to the '50:50 cities' distribution. The Guidelines for Planning Authorities on the implementation of the NPF, specifies that in the case of Limerick City and County this will require an increase in the annual housing target from 2,193 units, as set out in the Limerick Development Plan 2022 – 2028, to 2,599 units to 2034. This increase will result in greater housing pressure in the study area.

TABLE 19-2 PRINCIPAL STATUS OF POPULATION AGED 15 AND OVER - 2022 CENSUS

Area	At Work	Unemployed	Student	Looking After Home	Retired	Unable to Work
Study Area	53.5%	6.4%	13%	5.8%	15%	5.7%
Limerick City and Suburbs (CSO)	51.4%	6.3%	14.5%	5.9%	14.9%	6.3%
State	56%	8%	11%	7%	16%	5%

From Table 19-2 it is evident that the principal status of the study area population is generally in line with citywide and national trends. The percentage of residents 'at work' in the study area (53.5%) is slightly above the city average at 51.4%, while both values are marginally below the national average of 56%. However, the unemployment figures, the percentages of 'retirees' and 'people looking after the home' for both the study area and wider city are also lower than the national average. These differences from the national trends are

¹ Table 2.7 CDP sets 2028 population for Limerick City and Suburbs as 123,242 minus Census 2022 figure of 102,287

accounted for by the higher than average figure in Limerick City for 'students' and 'people unable to work'. 'Students' make up 13% of the study area's population of '15 years old and above', 2% higher than the national average.

However, as Figure 19-5 indicates if we look at Census ED level, this percentage of 'students' ranges from 7.4% to 24.1% across the study area, reflecting a lack of homogeneity within the study area. The higher values indicate the presence of student accommodation, for example on Courtbrack Avenue associated with Mary Immaculate College. The lower values indicate the more settled residential nature of the south-eastern portion of the study area, and the industrial and enterprise nature of the south-western portion of the study area.

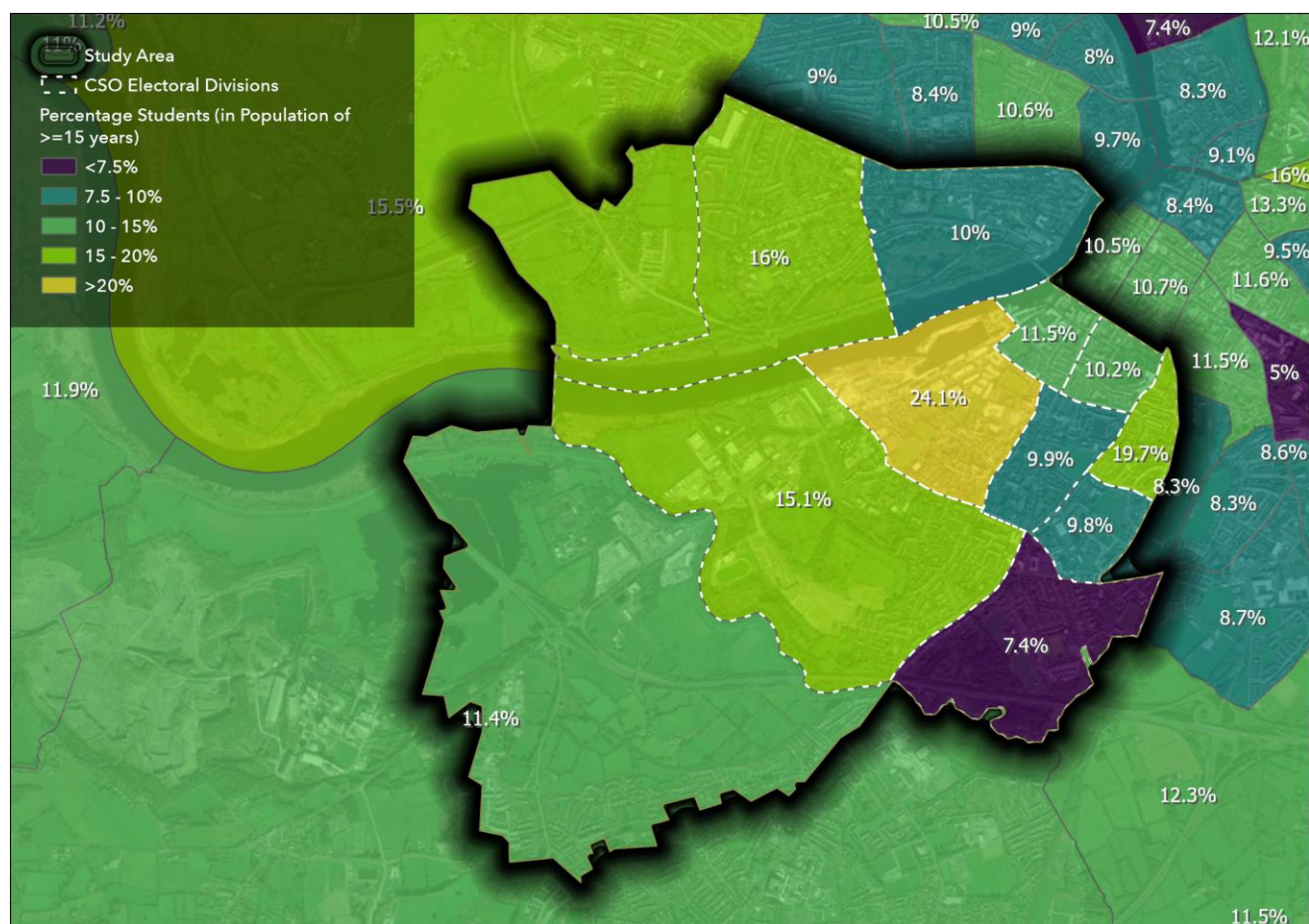


FIGURE 19-5 PERCENTAGE STUDENTS IN POPULATION 15 YEARS AND OLDER IN STUDY AREA (BASED ON 2022 CSO ED DATA)

The summary population statistics in Figure 19-6 point towards a study area population that in terms of family cycle has more families categorised as 'pre-family' or with 'pre-school' children than the city average, and conversely fewer 'adult' children. This pattern is also reflected in the average household size within the study area, which at 2.45 people per household is significantly lower than the city average of 2.62 and the national figure of 2.74. The percentage of one and two person households in the study area is also notably higher than the city average and similarly, the number of three person and larger households is conversely smaller.

The number of apartments and flats in the study area at 34% is significantly higher than the city average of 21%, which may explain the predominance of smaller households in this area.

FIGURE 19-6 SUMMARY POPULATION STATISTICS (BASED ON 2022 CSO ED DATA)

19.3.1.2 Employment and Economic Activity

In 2022 the National Planning Framework First Revision (2025) notes that there were 43,073 resident workers in Limerick City and Suburbs and 49,871 jobs within the city, given ratio of 1.16 jobs for every resident worker. This compares favourably to Dublin City and Suburbs which has a ratio of 0.96 jobs per resident worker and Cork City which has a ratio of 1.11. Limerick City and Suburbs have a track record of performing well in terms of attractiveness to Foreign Direct Investment (FDI), as recognised for three years in a row by the European Cities and Regions of the Future awards, which in 2025 noted it has:

"An historical expertise in engineering and medical device manufacturing, the city has a highly skilled workforce and, unsurprisingly, many US companies choose Limerick as a destination for their foreign investment. Limerick impressed the judges with its FDI strategy on nurturing and growing a local technology ecosystem, focusing on medtech, film tech and fintech."

An Post Geodirectory data indicates there are 692 commercial premises within the study area alone, with retail and retail services predominantly located in the north-east, close to the city centre and enterprise and industrial uses along the Dock Road strategic employment area which runs as a central north-east to south-west spine through the study area (ref Figure 19-7). Critical within this dockland area is the Shannon Foynes Port Company terminal at Ted Russell Dock, a large general cargo port which has almost 1km of quays and handles a range of dry bulk, break bulk and liquid cargoes and has extensive set down and warehousing facilities.

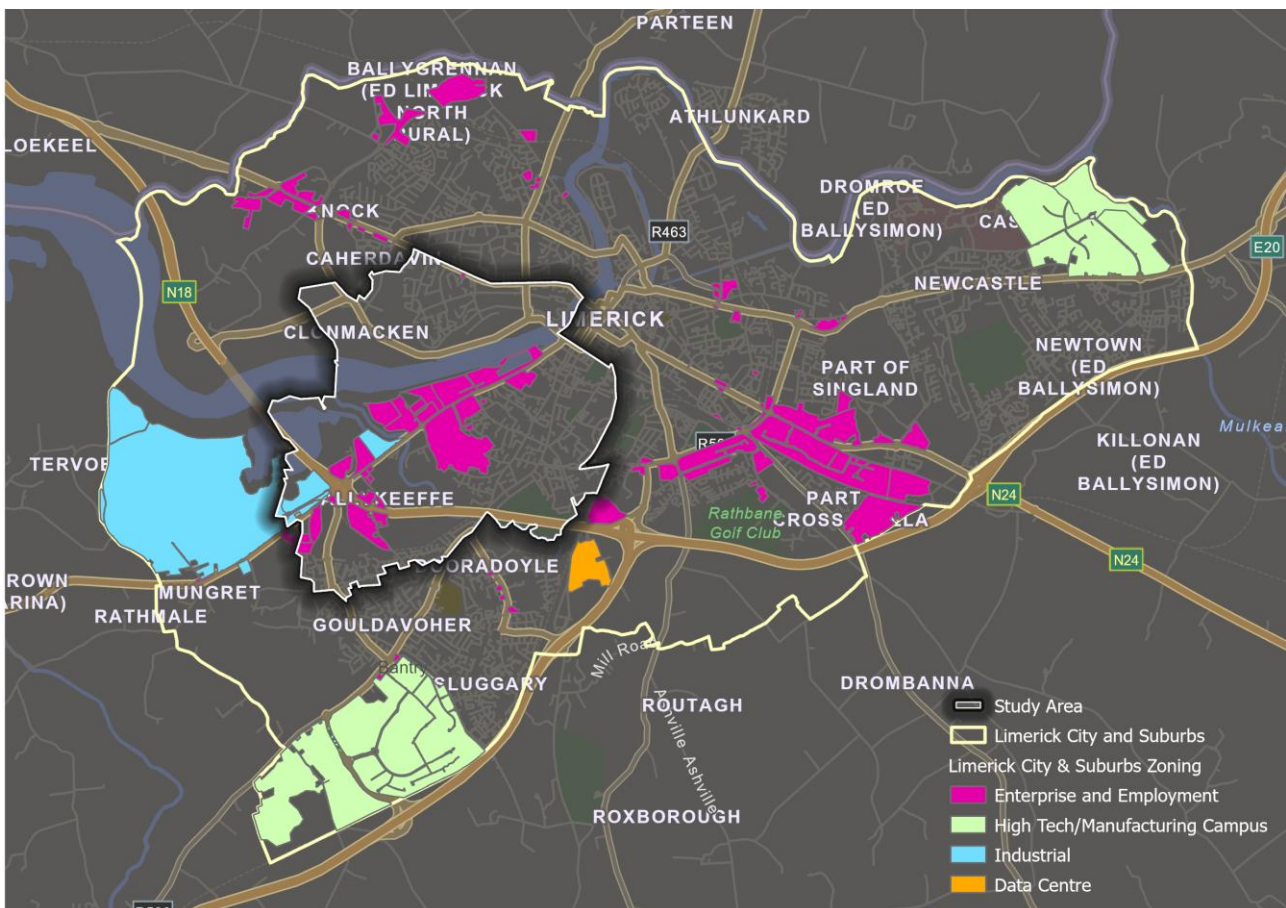


FIGURE 19-7 EMPLOYMENT ZONING WITHIN LIMERICK CITY AND SUBURBS (BASED ON LIMERICK DEVELOPMENT PLAN 2022)

Other significant employment areas within the area include Corcanree Business Park, Mary Immaculate College and Sarsfield Barracks, Jetland Shopping Centre and the adjacent Irish Cement site. The study area is also in proximity to adjacent strategic employment and key commercial areas including:

- University Hospital Limerick,
- The City Centre,
- The Crescent Shopping Centre,

- Raheen Business Park,
- Ballysimon, and
- Galvone Industrial Estate.

The expansion of enterprise and industry in these strategic areas is specifically supported by Objective ECON O17 in the Limerick Development Plan 2022 – 2028.

Objective ECON O17 – Strategic Employment Locations City and Suburbs (in Limerick), Mungret and Annacotty

It is an objective of the Council to: a. Promote, facilitate and enable a diverse range of employment opportunities by facilitating appropriate development, improvement and expansion of enterprise and industry on appropriately zoned lands, accessible by public and sustainable modes of transport, subject to compliance with all relevant Development Management Standards and Section 28 Guidance at Strategic Employment Locations and other appropriately zoned locations in a sustainable manner. b. Facilitate and support Limerick City Centre, University Hospital Limerick, Raheen Business Park, the National Technology Park, Higher Education Institutes, Public Hospitals, Dock Road, Northside Business Campus, Opera Centre and Cleaves Site as Strategic Employment Locations, identified in accordance with the Limerick Shannon Metropolitan Area Strategic Plan.

Using the Southern Regional Spatial and Economic Strategy (2020) jobs ratio target of 1.6:1 people per job, the pro rata 2028 population growth target of 3,613 in the study area would give rise to a requirement for 2,258 additional jobs in the study area.

It is also noted that a Lower Tier Seveso Site – Grassland Agro, is located on Dock Road. This has the potential to impact the future development of the study area, having regard to the appropriate safe distances between Seveso sites and residential areas and areas of public use.

In terms of education facilities, the east of the study area is well served and includes: 7 no. primary schools, 5 no. secondary schools, 1 no. special school and 3 no tertiary colleges (ref Figure 19-8).



FIGURE 19-8 EDUCATION FACILITIES IN STUDY AREA

19.3.1.3 Social and Settlement Patterns

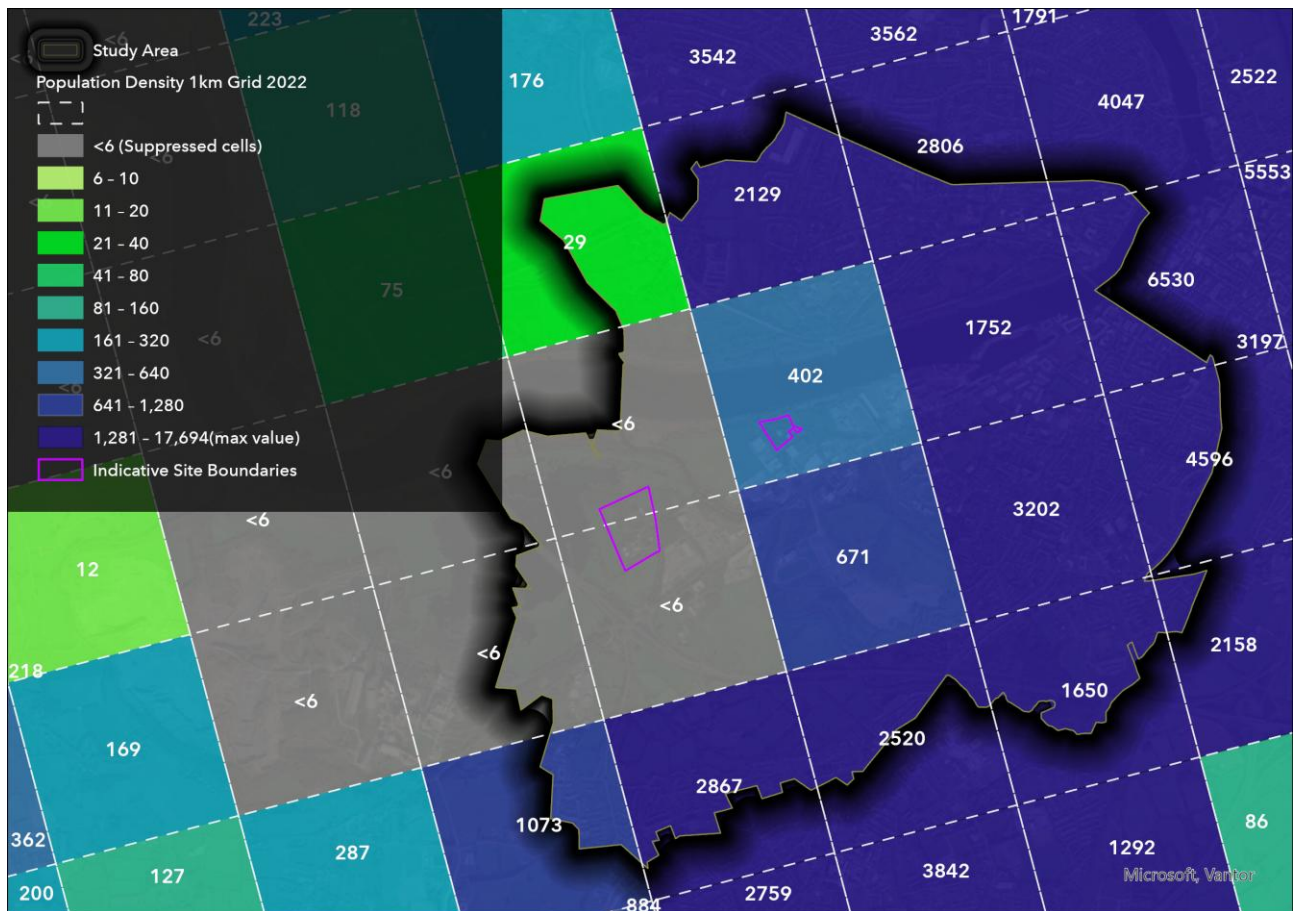


FIGURE 19-9 POPULATION DENSITY BY 1KM GRID SQUARE (CSO 2022) IN THE STUDY AREA

The variety of settlement patterns within the study area is highlighted in Figure 19-9 which shows the 2022 population density in the area. The predominance of enterprise and industrial uses and sparsity of residential dwellings along Dock Road and to the west of the study area is reflected in the low population density figures. The suburban nature of the southern and eastern portions of the study area is reflected in their significantly higher densities.

The CSO residential density mapping clearly reflects the An Post Geodirectory Data shown in Figure 19-10 which highlights that existing residential development is clustered to the north, east and to a lesser extent to the south of the study area. The area in the vicinity of the Proposed Development is uniformly commercial in nature, with the exception of the Traveller Halting Site at the junction of Dock Road and Greenpark Road, c. 300 m from the existing Corcanree PS.

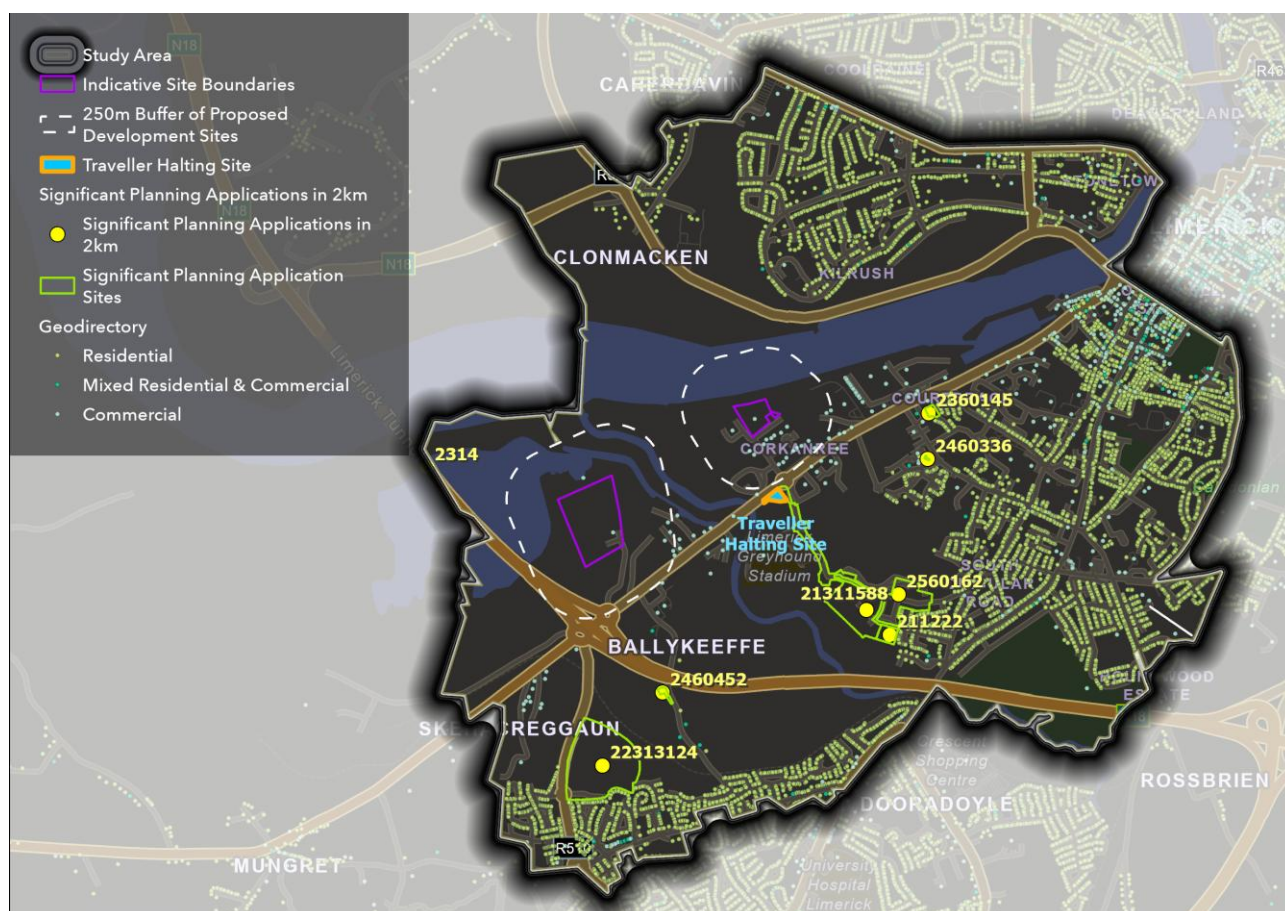


FIGURE 19-10 EXISTING AND SIGNIFICANT PROPOSED RESIDENTIAL DEVELOPMENT IN VICINITY OF PROPOSED DEVELOPMENT

However, a review of the recent planning permissions indicates that there has been significant planning activity in the vicinity of the Proposed Development, predominantly residential. The relevant permissions are listed in Table 19-3, with permission ref. 21311588 currently under construction off Greenpark Road.

TABLE 19-3 SIGNIFICANT PLANNING PERMISSIONS GRANTED IN THE VICINITY OF THE PROPOSED DEVELOPMENT

Planning Ref.	Short Development Description
21222	Development for a nursing home at the former Greenpark Racecourse, Dock Road.
21311588	Construction of 371 residential units, proposed access road and two storey childcare facility
22313124	Construction of 384no. residential units, creche and associated site works
2360145	Construction of a three-storey student accommodation block comprising 22 en-suite bedrooms
2460452	a change of use from residential use to a community care dwelling.
2460336	Change of use to 2 Apartments on top floor of the vacant part of commercial unit.
2560162	a Large-Scale Residential Development (LRD) comprising amendments to a previously permitted Strategic Housing Development (SHD) (An Bord Pleanála Reg. Ref.) 311588-21 for 371 no residential units and creche

Potential future changing settlement patterns are also indicated by the 2023 report the Land Development Agency flagged the Shannon Foynes Port Company owned lands in the Limerick City Docks as a potential future source of 910 – 1200 affordable residential units.

The housing tenure types within the study area are also quite spatially discrete. Private rental housing is predominantly focussed within the city centre and along the South Circular Road. Conversely owner-occupied housing is focussed in the more suburban areas, e.g. around North Circular Road to the north and to the south of Ballincurra Road and Father Russell Road to the south.

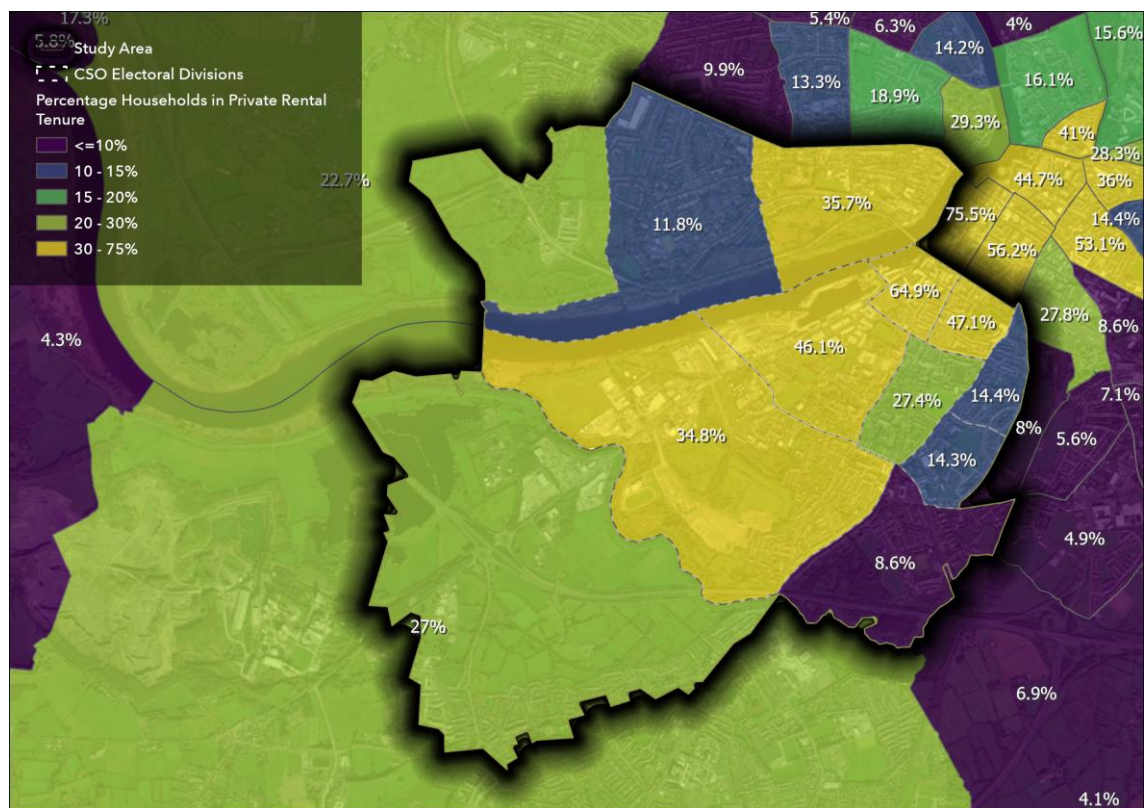


FIGURE 19-11 PERCENTAGE OF HOUSEHOLDS IN PRIVATE RENTAL ACCOMMODATION IN STUDY AREA (BASED ON 2022 CSO ED DATA)

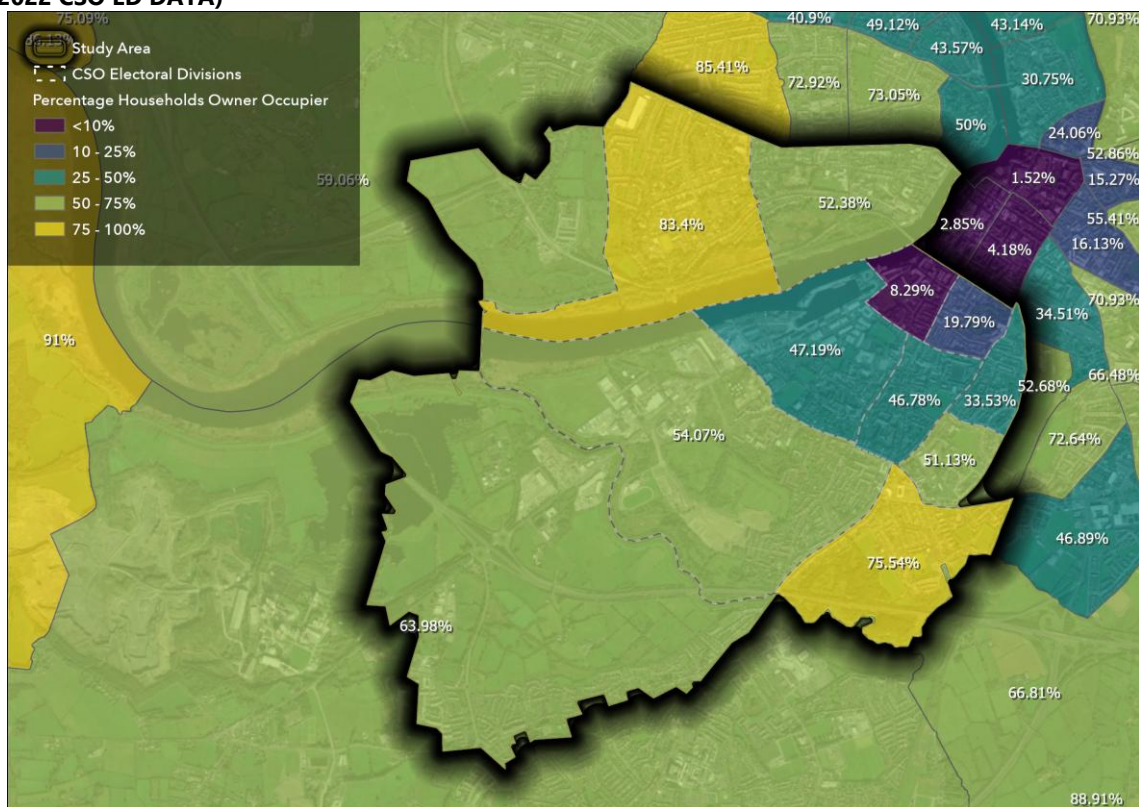


FIGURE 19-12 PERCENTAGE OF HOUSEHOLDS IN PRIVATE OWNERSHIP IN STUDY AREA (BASED ON 2022 CSO ED DATA)

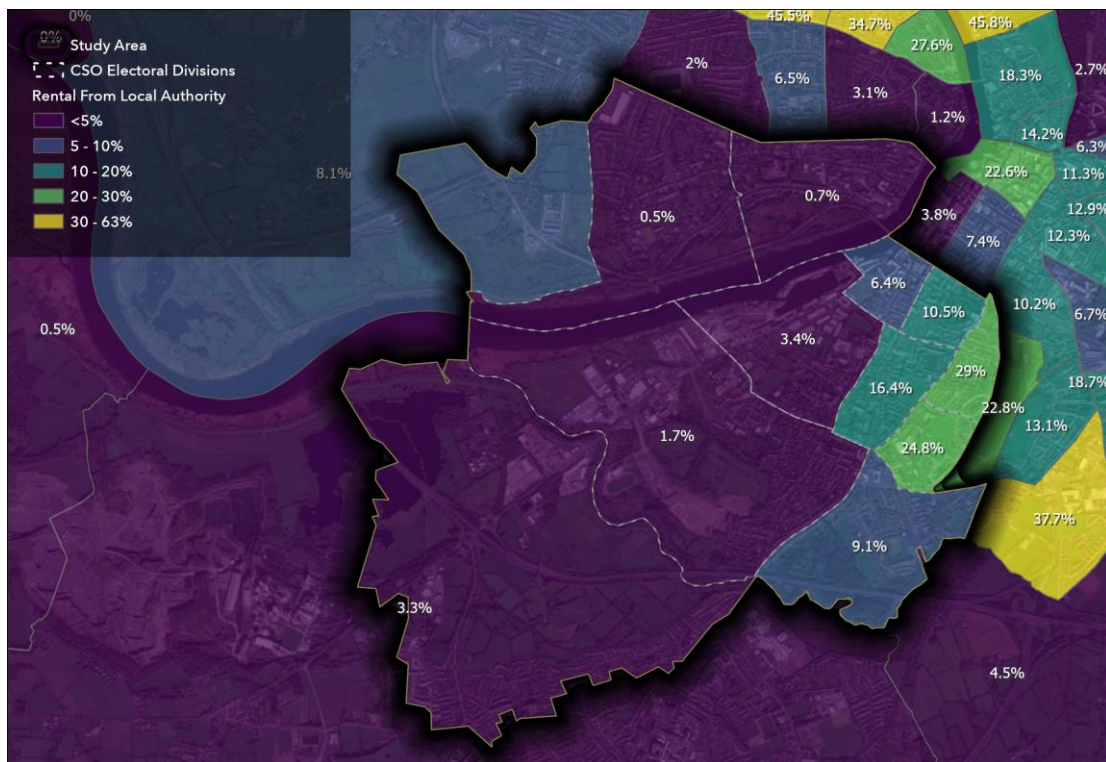


FIGURE 19-13 PERCENTAGE OF HOUSEHOLDS IN LOCAL AUTHORITY RENTAL HOUSING (BASED ON 2022 CSO ED DATA)

Across Limerick City and Suburbs² Local Authority Housing Rental accounts for 10% of all tenure types. In this context Figure 19-13 indicates that the Local Authority Housing tenure type is under-represented across the majority of the study area, where it is significantly below the citywide average percentage. Exception to this area in the south-east of the study area in the Prospect A and B and Dock B and Dock C Census ED areas. This pattern corresponds with the Deprivation Index mapping prepared by Pobal shown in Figure 19-14.



FIGURE 19-14 POBAL DEPRIVATION INDEX BASED ON 2022 CENSUS DATA

² This figure is based on the Census Built-up Area boundary which differs from the Local Authority Limerick City and Suburbs Area.

19.3.1.4 Human Health including Health & Safety

Health, as defined by the World Health Organization (WHO), is 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'. The Healthy Ireland Framework 2019-2025 defines health as 'everyone achieving his or her potential to enjoy complete physical, mental and social wellbeing. Healthy people contribute to the health and quality of the society in which they live, work and play'. This Framework also states that health is much more than an absence of disease or disability, and that individual health, and the health of a country, affects the quality of everyone's living experience. Human health has the potential to be impacted upon by environmental factors such as air, water or soil through which contaminants could accumulate and have potential to cause harm through contact with human beings. This section of the EIAR focuses primarily on the potential likely and significant impact on Population and Human Health in relation to health effects/issues and environmental hazards from the other environmental factors and interactions that potentially may occur.

An assessment has been undertaken on potential risks or nuisances that may be caused to human beings during the construction and operational phases. The findings of the EIAR chapters in relation to Air Quality, Climate, Water, Traffic and Transportation, Land and Soil, Noise and Vibration and Odour have been reviewed and potential impacts on human health considered as part of this assessment.

19.3.1.5 Recreation and Amenity

The study area includes a number of attractions that serve the resident population and draw recreation and amenity users from other areas.



FIGURE 19-15 RECREATION AND AMENITY FACILITIES IN THE STUDY AREA

- The River Shannon is designated both a Special Area of Conservation (Lower River Shannon) and a Special Protected Area (River Shannon and River Fergus estuaries). Its waters travers the north of the study area and are the focus of recreational uses including angling, rowing, canoeing, kayaking, paddle boarding and boating, swimming and other activities.
- To the north-west of the study area is Bunlicky Lake, a manmade lake formed historically as a result of clay extraction by the adjacent cement factory use. It has been undisturbed for decades and it and its associated wetlands are now home to a rich diversity of wildlife species and habitat and of particular interest to bird watchers.
- Spillane's Tower is a local historic landmark, dating from the Nineteenth Century, located on the south bank of the River Shannon in Limerick, near the Dock Road / Corcanree Business Park. It forms a feature of historical interest on riverside walks along the Shannon.
- The Westfield's Wetlands, (including the wetlands, a wildflower meadow, riverside walkways and cycle paths and Russell Park) is a 15-minute walk from the city centre on the northern bank of the Shannon off Condell Road. It is an important nature reserve and amenity area, that serves the local residents and the wider city's population. The adjacent Eighteen Century Barrington's Pier provides scenic views upriver to Limerick City.
- Baggot Estate Nature Park (Portland Park) is a key urban green space in the south-east of the study area, located c. 2 km south-west of Limerick city centre. The park is c. 11.5 hectares in area and has a woodland character with a number of open glades. The woodland, which originally dates from the early 1900's is utilised as a public amenity, nature park and urban forest.
- Limerick City and County Council have appointed a multidisciplinary team to progress the development of the Limerick Blue Green Ring Masterplan. This Masterplan proposes an integrated network of blue (water) and green (land) spaces and walking routes, connecting the city centre and its neighbourhoods, and forming a circuitous route around Limerick City. The proposed ring includes several features within the study area including the River Shannon, Bunlicky Wetlands, Westfields Wetlands, the Baggot Estate and Ballinacurra Creek. The latter flows through the study area into the Shannon River to the north.
- The Limerick Greyhound Stadium is c. 1km to the headquarters for Greyhound Racing Ireland. It has a capacity of over 2,000 attendees. The overall attendance figure for 2024 was 17,885 people. It operates in the evenings every Saturday and the last Friday of each month.
- The People's Park is an historic formal garden part of the planned Georgian Pery Square, located along the eastern boundary of the study area. It is an urban green space, with mature landscaping, in the centre of Limerick City. It includes landscaped gardens, historic monuments and a Victorian bandstand, a modern playground and a number of walkways and picnic areas. It remains open until 9pm in Spring and Summer and until dusk in Autumn and Winter.
- Two additional areas of public open space within the eastern portion of the study area include:
 - Barracks Field/Sarsfield Park - open space adjacent Sarsfield Barracks informally used for recreation by local clubs/groups and community recreation.
 - Clarina Park - public open space adjacent to Clarina Ave. used for informal recreation by residents.
- There is a cluster of sports facilities to the south-east of the study area, including the Ballinacurra GAA Club, the Catholic Institute Athletics Club and Young Munster Rugby Football Club (Tom Clifford Park). Details of the events and held in these locations are provided in Table 19-4.

TABLE 19-4 SPORTING FACILITIES WITHIN STUDY AREA

Sport Facility	Typical Weekly Training Sessions and Weekly Fixture
Ballinacurra GAA Club	Youth Training - Tuesday 6.30 start Adult Training – Tuesday and Friday. 7.00 – 8.00 start on Tuesday and 6.30 start on Fridays. Competitive Fixture Saturday/Sunday. Other fundraising and community events also held at this location.
Catholic Institute Athletics Club	Youth Training – weekends or weekday evenings

Sport Facility	Typical Weekly Training Sessions and Weekly Fixture
	Club Nights – one or two evenings a week. Adult Group Runs – midweek and weekend Social Events – weekends
Young Munster Rugby Football Club	Youth & Mini Rugby Sessions – Saturday morning or early evenings during season. Senior Men's Training - Regular training sessions throughout the week (usually Tuesday & Thursday evenings). Girls' & Women's Rugby - Weekly training and development sessions are held (times vary - usually Tuesday & Thursday evenings)) Competitive Fixture Saturday afternoons Occasional Coffee Mornings and Race Nights and Fundraisers

The potential for these uses to be impacted during the construction and operation phase of the Proposed Development phase will be reviewed.

19.4 Potential Impacts

This section provides a description of the specific, direct and indirect, impacts that the proposed development may have during both the construction and operational phases focusing on health issues and environmental hazards arising from the other environmental factors.

19.4.1 Do-nothing scenario

In accordance with EC Guidance and after reviewing the baseline data, the 'do nothing' scenario (i.e. if nothing is done) has the potential to adversely impact water quality in the adjacent River Shannon, with consequent human health, wellbeing and commercial impacts.

As noted in the 'Need for the Scheme', set out in Chapter 1, the existing plant is currently operating at the limitations of its design capacity and needs to be upgraded to cater for these population growth projections, while also ensuring that the plant can cater for existing and future industrial committed loads. In addition, Uisce Éireann have a policy commitment to provide a 20% headroom on domestic, non-domestic and institutional loadings. Without intervention, the WWTP will become overloaded in the coming years which would cause severe deterioration in the quality of the final effluent discharge, and there would be subsequent negative effects on the receiving water quality in the Shannon Estuary and SAC habitats. It would also act as a significant constraint to the delivery of new housing to support the National Planning Framework First Revision target of 40% population growth in Limerick City and Suburbs between 2022 and 2040 (44,000 additional people), which would undermine both national growth and balanced regional development. Further enterprise and employment growth in the city would also be stymied if the status quo remains as there would not be sufficient wastewater treatment capacity to support it.

In addition to these loading constraints, the existing plant, which has been in operation since the early 2000s, is aging, with several items of equipment key to the treatment process in need of refurbishment or replacement. The existing stormwater storage tank does not have sufficient capacity resulting in a storm water overflows (SWO) spill frequency in breach of the Urban Wastewater Treatment Directive (UWWTD) and latest Uisce Éireann Technical Standards. In the absence of the Proposed Development the annual rate of spills to the Shannon Estuary will remain non-compliant and may deteriorate further. This non-compliance may result in the European Commission initiating an infringement procedure under EU law, with a potential resultant financial impact on the wider population.

Should the Proposed Development not proceed the existing Sludge Hub Centre at the WWTP will continue to accept imported sludge from Castletroy WWTP and smaller plants serving Limerick towns and villages. However, the planned development of a Regional Bioresource Centre to serve the south-west will not proceed and the National Wastewater Sludge Management Plan (NWSMP) key objective to deliver a sustainable and

standardised approach for wastewater sludge management will not be met. This will have knock-on impacts for the population of the region in terms of a reduction in sustainable energy production and inefficient waste management.

Given the above, if the proposed project does not proceed, water quality in the future may be impacted and future working and resident populations will be uncatered for. As such, there are health, economic and social impacts arising from the 'do-nothing' scenario. This situation is likely to exacerbate over time with a potential, in the longer-term, for significant effects on the existing population's health to develop. Similarly, if future planned housing and employment growth in the area is curtailed by the lack of capacity at the WwTP, this is likely to result in a significant effect on the well-being of the population of the area due to lack of housing availability, unemployment or unsustainable commuting patterns. Recreational use of the River Shannon and indirectly the Westfield's and Bunlicky Wetlands, adjacent to the overloaded WwTP may also potentially be impacted in the 'do-nothing' scenario by consequent water quality issues. The attractiveness and usability of the element of the proposed Limerick Blue Green Ring in the vicinity of the WWTP may also be impacted.

Should the Proposed Development not proceed, the likely effect of the 'do nothing' scenario' would be a significant, long-term negative effect on population and human health arising from the on-going operation of the existing plant.

19.4.2 Construction Phase

19.4.2.1 Population

As indicated in the Population Density Map in Figure 19-9 the area in the vicinity of the Proposed Development is currently predominantly in commercial use and relatively sparsely populated, with no dwellings within c. 600m of the existing Limerick WWTP site, and 300m of the existing Corcanree PS. As set out in Section 19.3.1.3, the traditional purely commercial character of this portion of the study area may in the future evolve in response to national compact settlement objectives into a more mixed-use neighbourhood. However, it is envisaged that by 2031, the anticipated completion date of the construction works that this immediate area will remain predominantly commercial in nature.

The construction phase of the proposed development will not have a significant direct impact on the population numbers within the study area. It is expected that the construction workforce will travel from existing places of residence to the construction site rather than reside in the immediate environs of the site.

Potential positive benefits to the community are anticipated in terms of a boost to local employment during the construction phase, and to the economic activity of local convenience businesses along Dock Road from the temporary daytime presence of this workforce.

There is potential for disruption to the local population arising from construction traffic. Increased road traffic and the potential for disruption to all modes of travel and access in the vicinity of the works due to closures and diversions could cause disturbance to the local working population and the relatively small residential population of the area. Chapter 6 of this EIAR –Traffic and Transportation estimates that the proposed development will give rise to a worst-case scenario during the concreting of stormwater storage tanks phase of 50 HGV trips per day to each of the two Proposed Development sites, with an additional 8 HGV trip per day to both sites for on-going daily operations during the construction phase. In addition, it is estimated that 40 construction staff will be based at each of the sites during construction and it has been conservatively estimated that all staffs will arrive on site in single occupancy vehicles, generating a total worse case estimate of 44 construction worker trips for both AM and PM peak hour trips separately.

The incoming and outgoing construction traffic from the Corcanree Pump Station Site will only traverse the western section of Dock Road between the site and the junctions with the N18, R510 and N69. Similarly, the haul route for construction traffic from the Limerick WWTP site will utilise the local access road and travel westwards to the N18 Slip Road. The avoidance of construction traffic movement along the eastern section of Dock Road aims to mitigate any potential impact on the operation of Mary Immaculate College, the commercial/employment uses along the eastern section of Dock Road and the City Centre. Section 6.5.8.3 in Chapter 6 (Traffic and Transport) assesses the impact of the construction traffic on the main traffic junctions in

the vicinity of the Proposed Development and concludes that overall, it will result in a slight negative short-term impact on the surrounding road network. However, in the context of the existing and planned resident population in the vicinity of the Proposed Development, which is clustered around the junction of Dock Road and the Access Road to Corcanree Business Park / Access Road to Limerick Greyhound Stadium Roundabout, Chapter 6 concludes that this junction will continue to operate within its normal design threshold in both morning and evening peak flows during the construction phase and the construction traffic will have minimal impact on the traffic flows at this junction.

Chapter 8 of this EIAR considers that there is potential for a nuisance impact on the local population arising from dust emissions during construction. Chapter 8 notes that the impact to air quality from construction phase activities is assessed at sensitive receptors within 250 m of the development boundary. As indicated in Figure 19-10 there are no residents within 250m of the proposed development therefore the potential for nuisance is considered low. With dust mitigation measures in place no significant impacts are envisaged at nearby sensitive receptors.

As stated in Chapter 10 of this EIAR – Noise and Vibration, there is the potential for nearby population disturbance resulting from temporary and intermittent increases in noise levels during the construction phase of the Proposed Development. This could potentially arise from HGV movements, excavator, loader and concrete mixer sources and piling. The worst-case assessment of construction noise from the Proposed Development carried out in Chapter 10 indicates however that there will be no exceedance of the daytime construction noise limit of 65 dB $L_{Aeq,T}$ at the noise sensitive receivers in the area. It also concludes that the vibration impact from piling can be classified as an impact of ‘negligible’ significance.

Chapter 7 – *Odour* considers any construction impacts on the population in terms of odour nuisance will be either brief or Temporary and all potential effects are assessed as Imperceptible or Not Significant.

Overall, in the absence of mitigation there is the potential for a negligible - slight, short-term negative effect on population arising from nuisance or disturbance during the construction phase.

19.4.2.2 Employment and Economic Activity

The construction phase of the proposed development is envisaged to commence in 2028, with all works completed in 2031 and will generate construction employment directly on-site, amounting to some 80 persons at any one period during this phase. In addition, it is anticipated that it will also benefit support industries such as building and plant supply services, professional and technical professions, logistical support companies, traffic management companies etc. There will also be some potential for positive indirect benefits for local businesses catering for the needs of the construction workforce. These beneficial impacts on economic activity will be largely temporary and confined to the construction period. *This is considered to be a moderate, short-term positive effect.*

Conversely there is potential for temporary disruptions to the operation of Mary Immaculate College, the employment uses along Dock Road and the City Centre and the schools and further education cluster located along South Circular Road and Ballincurra Road/O’Connell Avenue (ref Figure 19-8). In the absence of mitigation, the proposed development could have an impact on the economic and education activity of the surrounding area during the construction phase due to the associated nuisance of increased traffic and the potential for disruption to all modes of travel and access in the vicinity of the works due to temporary road, footpath, cycle lane closures and diversions. However as noted in Chapter 6 – Traffic and Transportation, as the construction traffic will be largely focussed the western section of Dock Road, any potential impact on the operation of the schools and colleges will be minimal. Similarly, Section 6.5.8.3 assesses the impact of the construction traffic on the main traffic junctions in the vicinity of the Proposed Development as slight. Alongside this there is potential for impacts from construction dust and noise. None of the education establishments are within 250m of the Proposed Development therefore the worst-case sensitivity of these establishment in term of human health is considered low. While Figure 19-10 indicates some of the employment premises are within 250m of the Proposed Development, Chapter 8 notes that commercial properties and places of work are regarded to be of medium sensitivity and as all these premises are more

than 20m from the proposed development Table 8-4 determines that the sensitivity of the area to dust soiling effects on people and property would be low.

Overall, in the absence of mitigation there is the potential for a negligible - slight, short-term negative effect on existing employment and economic activity arising from the construction phase.

19.4.2.3 Social and Settlement Patterns

No impact is envisaged on settlement patterns during the construction phase. As already identified in relation to population, there is potential for social patterns to be impacted by nuisance and disturbance arising from construction traffic, dust emissions, noise and vibrations.

Therefore Overall, in the absence of mitigation there is the potential for a negligible short-term negative effect on social patterns arising from the construction phase.

19.4.2.4 Human Health including Health & Safety

The potential risks or nuisances that may be caused to the population and human health during the construction phase have been assessed in other sections of this report along with corresponding mitigation measures considering air quality, water quality, traffic, noise, and vibration. These are summarised below and also Table 19-5:

- There is potential for traffic emissions, primarily in the form of NO₂, to impact air quality in the short-term over the construction phase, particularly due to the increase in HGVs accessing the site. This has the potential to temporarily affect respiratory health of nearby residents. However, Chapter 8 concludes that the construction traffic from the proposed development will have an imperceptible negative, localised and short-term impact on the local air quality.
- Potential negative impacts on human health could primarily occur as a result of construction dust through the release of PM10 and PM2.5 emissions. Chapter 8 – Air Quality concludes that in terms of dust related human health impacts, in the absence of mitigation there is the potential for negligible to slight ('low-risk'), negative, short-term impacts to human health as a result of the proposed development.
- The construction phase Green-house Gas (GHG) emissions are estimated to be miniscule in terms of national targets (0.02% of the Energy Industries budget and 0.03% of the 2030 Transport budget) and considered not significant.
- Chapter 7 concludes that the construction phase will not give rise to any significant odour impacts. If any such impacts do occur these will be either brief or temporary.
- Chapter 10 – Noise and Vibration notes that the construction phase will include a wide range of activities and noise sources, including consideration of construction traffic, from which there is potential for noise impacts to occur in relation to noise sensitive receptors in the vicinity, such as residents, workers at the nearby commercial premises, workers and attendees at the educational establishments in the area and recreational amenity users in the area. However, the 'worst-case' assessment indicates that there will be no exceedance of the construction noise levels limit of 65 dB LAeq, at any of the nearest noise sensitive locations. The Construction Phase noise impact is therefore predicted to be a Negative, Slight, Short-Term impact. Vibration levels associated with construction activity at the nearest receptors are considered to be negligible.
- Chapter 6 - Traffic and Transport considers that road safety issues arising from increased traffic on the access road Dock Road particularly with regard to cyclists and pedestrians need to be considered. Increased HGV traffic on the roads may elevate road safety risks for the local community. This is included in the construction risk register in Chapter 20. A Construction Traffic Management Plan will be prepared and updated by the Contractor throughout the construction phase to addresses this item. Appropriate signage will inform road users of the ongoing construction works. Dedicated haulage routes and access points will be agreed with the Planning Authority.
- Chapter 16 notes that during the construction phase there is potential to generate short-term impacts on receiving waters, primarily through the network of drains from the Limerick WWTP site that discharge to Bunlicky Lake and the proximity of the proposed storm tank construction works at Corcanree PS to the Shannon Estuary channel. This is included in the construction risk register in Chapter 20. In the absence of mitigation this has the potential to have a short-term significant indirect impact, to varying degrees, on

the recreational and sports users. With appropriate mitigation, Chapter 16 concludes any potential effects would be short-term, negative and not significant.

- The construction risk register in Chapter 20 includes flooding of the WwTP site during the construction phase, considering potential for extreme weather events. This has the potential to impact on human health as a consequence of contamination of the nearby waterbodies (ie the Shannon River, Bunlicky Lake and the Ballinacurra Creek). Chapter 20 considers any these events to be unlikely and low risk.

Overall, in the absence of mitigation there is the potential for a negligible - slight, short-term negative effect on human health during the construction phase.

19.4.2.5 Recreation and Amenity

There are significant social and recreational uses in proximity to the Proposed Development associated with the Shannon River and the other elements of the planned Limerick Blue Green Ring Masterplan (ie Bunlicky Lake and Wetlands, Westfields Wetlands, the Baggot Estate and Ballinacurra Creek). However, as the proposed works will be confined to within the site boundary and all existing boundary vegetation is expected to be retained, Chapter 15 – *Landscape and Visual* anticipates that the Proposed Development will remain largely screened by existing mature vegetation surrounding both sites as well as by the existing buildings within the sites, with limited visual impact confined to glimpsed views from the riverside walk by the Corcanree PS. Chapter 15 concludes that the effect on the landscape character during the construction phased will be moderate, temporary and negative within 0.5km of the site, reducing at distances beyond this to slight and imperceptible.

Similarly, Chapter 11 – Archaeology, Architectural and Cultural Heritage notes there might be a slight visual impact from the Proposed Development on Spillane's Tower (RPS ID 3258; NIAH Reg. No. 21527001), however, given the presence of the already operating Corkanree PS and the tree cover present, it concludes that the effect will be negligible.

19.4.2.6 Summary of Construction Impacts

A summary of the potential construction impacts by topic, as assessed in this section and as identified as interactions in other chapters is provided in Table 19-5.

TABLE 19-5 SUMMARY OF CONSTRUCTION IMPACTS

Population & Human Health	Impacts Without Mitigation
Population	
• Population	Negligible - slight, short-term negative
• Employment & Economic Activity	Negligible - slight, short-term negative
• Social and Settlement Patterns	Negligible, short-term negative
• Recreation and Amenity	Negligible, slight, short-term, negative
Human Health –including Health & Safety	
• Air Quality –traffic emissions	Negative, imperceptible, localised, short-term
• Air Quality –dust emissions	Negative, slight, localised, short-term
• Climate	Negative, not significant, long-term
• Odour	Negative, imperceptible or not significant, Temporary
• Noise – construction including construction traffic	Negative, slight, short-term
• Vibration	Negative, imperceptible, short-term
• Road Safety	Negative, slight, short-term

Population & Human Health	Impacts Without Mitigation
Water Quality	Negative, indirect, slight, short-term
Major Accidents & Disasters	Negative, slight, short-term

19.4.3 Operational Phase

19.4.3.1 Population

As Chapter 1 sets out – the existing plant is operating at the limit of its design capacity and without the Proposed Development will become overloaded with potential consequence impacts on the water quality in the vicinity. The resolution of these potential issues at the operational phase of the upgraded facility, will have knock-on impacts on community wellbeing. While the increase in final effluent flow arising from the increase in wastewater volumes will result in *a long-term imperceptible/neutral effect on the water quality of the Shannon River*, the proposed stormwater management improvement will result in *a 'long term, significant, positive impact on receiving water quality*.

The First Revision of the NPF, sets a minimum growth target for Limerick City and Suburbs to reach 150,000 people by 2040. This represents an anticipated increase of approximately 44,000–48,000 people from the 2022 Census population of 102,287. The Proposed Development will support this growth by, at the outset extending the existing WWTP from 130,000 PE to 285,000 PE, to cater for the +10-year population growth projections.

This growth will have direct positive impacts on the population of the study area, in terms of population numbers but also in terms of health and wellbeing. *The proposed development will therefore result in a long-term significant positive effect on the population of the area.*

19.4.3.2 Employment and Economic Activity

During the operational phase, the improvement in wastewater capacity from the current 130,000 PE to the proposed 285,000 PE, will also allow for commensurate employment growth, and includes a future industrial committed load of 27,500 PE.

This will facilitate the further growth in the employment hubs in the study area, including the strategic employment area along Dock Road, Sarsfield Barracks, Jetland Shopping Centre and the adjacent Irish Cement site. The WWTP agglomeration also includes adjacent strategic employment and key commercial areas including:

- University Hospital Limerick,
- The City Centre,
- The Crescent Shopping Centre,
- Raheen Business Park,
- Ballysimon, and
- Galvone Industrial Estate.

The proposed development will therefore result in a long-term significant positive effect on the employment and economic activity of the area.

19.4.3.3 Social and Settlement Patterns

Settlement patterns are likely to be positively impacted for the area by the ability to implement the planned housing growth outlined in Limerick Development Plan and the First Revision to the NPF. It is also likely that increased local employment and university expansion may result in a greater demand for housing and visitor accommodation in the area, which is in line with national, regional and local policies in relation to sustainable compact and consolidated growth and the co-location of housing with employment hubs. It is envisaged that the proposed development would potentially result in *a moderate, long-term positive effect*.

Social patterns are also likely to be positively impacted by the project as improvements to water quality would positively impact on the recreational development of the area. This will permit the continued successful operation and future expansion of water-based and riverside recreational uses. It is envisaged that the proposed development would potentially result in a *moderate, long-term positive effect*.

Chapter 15 – Landscape and Visual considers that the proposed development is of a similar form, scale and layout to the existing WwTP, will be screened by the existing vegetation and will not change the fabric of the existing landscape. Therefore, a *permanent, imperceptible, negative effect*, is expected.

19.4.3.4 Human Health including Health & Safety

The potential risks or nuisances that may be caused to human beings during the operation phase have been assessed in other sections of this report considering air quality, water quality, traffic, noise, and vibration. These are summarised below and also in 17.6.

- Chapter 8 – *Air Quality* determines that the operation of both the existing WwTP and the proposed upgrades will have no significant impact on local air quality as there are no significant sources of air pollutants involved. Chapter 8 notes that the traffic associated with the operational development will not exceed the TII scoping criteria for a detailed assessment, therefore it can be determined that the operational phase emissions will have a long-term, direct, localised, negative and imperceptible impact on air quality.
- Chapter 9 – *Climate* - In view of the size and scale of the Proposed Development, GHG emissions from operational road traffic and space heating of buildings are considered to be direct, long-term, negative and not significant.
- Chapter 10 – *Noise and Vibration* also notes that as there will be no significant increase in operational traffic, a negligible change in noise impacts is expected. Until final design stage a detailed noise prediction from the upgraded plant is not possible, however, a worst-case operational noise level increase of 3 dB(A) from the Limerick WWTP & Corcanree PS sites has been assessed. Chapter 10 concludes that there would be no significant noise level change resulting from the Proposed Development. Therefore, any potential impact on human health would not be significant. Chapter 10 also concludes that the Proposed Development does not have potential to give rise to a perceptible vibration impact at any of the nearest noise sensitive receivers.
- Chapter 6 - *Traffic and Transportation* considers that the operational phase of the Proposed Development will not result in any additional trip per day generation compared to those generated by the existing Limerick WWTP and Corcanree Pump Station. Therefore, it is envisaged that no significant impacts on human health in terms of traffic emissions or road safety will arise during the operational phase.
- Chapter 16 - *Water* envisages that while there will be an increase in the volume of treated effluent from the upgraded WWTP, the quality of the effluent will be improved. In addition, the additional storage capacity and improved control of flows between the pumping station and WWTP will significantly enhance the system's resilience during peak storm events and reduce the potential for untreated discharges to the Shannon Estuary. These two factors will result in significant improvements in receiving water quality during the operational phase of the Proposed Development, with resulting benefits for human health.
- The risk register in Chapter 20 scoped in potential operational risks to human health arising from an accident at the nearby Grassland Agro Limited Seveso site, flooding of parts of the WwTP site, taking into account potential for extreme weather events, equipment / power failure /damage or human negligence resulting in contamination of ground or surface water or fire /explosion. These all have the potential to impact on human health. The Stage 3 assessment however considers that the risk category of these events is low and appropriate management procedures are already in place to address these events with no additional mitigation required.

19.4.3.5 Summary of Operational Impacts

A summary of the potential operational impacts by topic, as assessed in this section and as identified as interactions in other chapters is provided in Table 19-6.

TABLE 19-6 SUMMARY OF OPERATIONAL IMPACTS

Population & Human Health	Impacts Without Mitigation
Population	
• Population	positive, significant, long-term
• Employment and Economic Activity	positive, significant, long-term
• Social and Settlement Patterns	positive, significant, long-term
• Recreation and Amenity	neutral, imperceptible, long-term
Human Health including Health & Safety	
• Air Quality –traffic emissions	negative, not significant, localised, direct, long-term
• Climate	negative, not significant, long-term
• Odour	negative, imperceptible or not significant, short-term
• Noise	negative negligible, long-term
• Vibration	No impact
• Road Safety	negative, imperceptible, long-term
• Water Quality	neutral, imperceptible, long-term
• Major Accidents & Disasters	unlikely/very unlikely and of moderate significance

19.5 Mitigation Measures

It has been determined that there are likely to be potential impacts on population and human health principally during the construction phase of the scheme. Therefore, these aspects are considered further in the EIAR, and the following mitigation measures have been identified.

19.5.1 Construction Phase

In terms of management and control of air quality and fugitive dust emissions, Chapter 8 (Air Quality) outlines a suite of dust mitigation measures. The key identified aspects have been incorporated into the Construction Environmental Management Plan (CEMP) prepared in respect of the Proposed Development (ref. Appendix 4.1 in Volume 4 of this EIAR).

As indicated in Chapter 1 (Introduction), early consultation has been established with local residents, workers in the area, recreational and other users in the form of a 4-week public consultation which commenced on the 3rd November 2025. Communication in the form of email and a letter drop were used sent to statutory and non-statutory stakeholders and Elected Representatives. Information was also included on the UÉ website and Newsletter. This consultation is required to minimise any impacts on the proposed development on these stakeholders. While it is noted that as all works are confined within the site boundary and envisaged direct impacts on these stakeholders are considered to be minimal, the timeframe of the proposed works in general and specific works impacting indirectly on recreational uses will be communicated to ensure that any impacts from these works are minimised.

A preliminary Traffic Management Plan will be prepared by the design team in consultation with Limerick Council and other stakeholders. This will co-ordinate the management of vehicular, pedestrian and cyclist traffic adjacent to the site including road closures and diversions, to mitigate any traffic congestion or road safety impacts which may arise for road and pavement users. It will propose signage and manning the hazard spots during busy periods with close liaison proposed with stakeholders throughout the construction phase.

All construction traffic shall only travel to and from the site along the eastern section of Dock Road, to minimise any potential for temporary disruptions to the operation of education and businesses in the vicinity. Where possible abnormal load movements, on receipt of a permit from the council, will be restricted to off peak times.

Construction staff parking will not be permitted on the public road network. Restrictions to the movement of tracked vehicles and haul loads shall apply, in conjunction with the use of wheel washers and water bowsers to prevent migration of detritus and dust built-up on public roads.

Chapter 10 (Noise and Vibration) includes a comprehensive suite of construction noise mitigation measures with best practice being adopted to monitor and limit the hours when high noise levels are permitted; restrict construction traffic speeds, establish channels of communication with stakeholders; train construction staff in noise minimisation, select and locate plant to minimise noise levels.

Chapter 13 (Biodiversity Terrestrial) notes that existing mature vegetation critically screens views towards the Proposed Development. No vegetation removal is anticipated for the Proposed Development at Limerick WWTP. However, some vegetation will be removed at Corcanree PS to accommodate the proposed works. To mitigate this, additional screening planting is proposed at Corcanree PS. Temporary hoardings will be put in place on the edge of the construction zone for both sites.

Chapter 16 (Water) notes that construction will be managed under a Construction Environmental Management Plan (CEMP), which sets out all measures to protect water quality, manage runoff and dewatering, control sediment, and prevent accidental spills. All of which could impact either directly or indirectly on human health.

The monitoring measures outlined in Chapter 6 to 18 and 20 will be undertaken during the construction phase and will identify any issues arising during this phase of the proposed development.

19.5.2 Operational Phase

Overall, it has been determined that it is unlikely that there will be many potential negative impacts on population and human health during the operational phase of the scheme, conversely it is considered it will have significant positive impact on the area and the community. Therefore, mitigation measures have not generally been deemed necessary during the operational phase of the proposed development.

Chapter 20 notes that the on-site Risk Management Plan and the maintenance programme at the site will be updated and implemented to ensure an effective response to MANDs.

Chapter 10 notes that a noise monitoring programme will be carried out to ensure that levels are in compliance with the noise limits for the site according to all relevant legislation including S.I. No. 787/2005 - European Communities (Waste Water Treatment) (Prevention of Odours and Noise) Regulations 2005.

Chapter 7 states that continuous odour monitors will be installed and the performance of the Odour Control Units will be monitored regularly. Independent performance checks will be carried out by an ISO17025 accredited testing laboratory at quarterly intervals during the first two years of operation to verify the effectiveness of control measures and ongoing compliance with the required performance standards.

Chapter 16 notes that measures will be implemented to maintain water quality including: monitoring effluent quality, managing stormwater efficiently, inspecting and maintaining drainage systems, flood risk management, chemical management, routine monitoring and training.

19.6 Residual Impacts

19.6.1 Construction Phase

Once the mitigation measures as proposed are implemented no residual significant impacts are expected to arise as a result of the construction of the Proposed Development. However, the overall proposed development will result in a *slight, negative and short-term impact in relation to traffic* and a *temporary, moderate, negative landscape and visual impact within 0.5km* during the construction phase. Chapter 8 considers that the predicted residual, dust-related, human health impact of the construction phase of the proposed development is short-term, direct, localised, negative and not significant.

19.6.2 Operational Phase

Once the mitigation measures as proposed are implemented, no residual significant negative impacts are expected to arise as a result of the operation of the proposed development. Chapter 16 states in relation to water that there will be a positive residual impact on receiving waters in the Shannon Estuary, an indirectly on human health, through reduced stormwater spills, improved effluent quality, and enhanced management of site drainage through Sustainable Drainage Systems (SuDS).

Chapter 9 concludes that the proposed development will result in *a negligible to minor long-term* noise reduction. In terms of odour, Chapter 7 assesses there will be no significant residual effects on population and human health arising from odour during the operation phase.

Chapter 15 notes that the proposed upgrade is expected to have a permanent, slight, negative landscape and visual impact within 0.5km during the construction phase, reducing to negligible at distances beyond that. However, it considers that the proposed development will also have a positive impact on the landscape character along the River Shannon by improving the quality of the vegetation and provided amenity.

19.7 Cumulative Impacts and Interactions

19.7.1 Construction Phase

The potential environmental effects of the Proposed Development have not been assessed in isolation and a review of other relevant permitted or proposed projects in the vicinity of the site was undertaken. Recent significant planning permissions in the vicinity are listed in Table 19-3 which may result in cumulative environmental impacts.

However, with the implementation of the CEMP and appropriate mitigation it is considered that this project does not have the potential to result in cumulative impacts with regards to Population and Human Health.

19.7.2 Operational Phase

As above, it is considered that there are no projects or plans identified in proximity that have the potential to result in cumulative impacts with regards to Population and Human Health.

19.8 Difficulties encountered in Compiling Information

There were no difficulties encountered in compiling the Population and Human Health Impact Assessment.

19.9 References

Central Statistics Office (CSO) Census 2011, 2016 and 2022 data;

AIRO Census mapping;

Southern Regional Assembly Regional Spatial and Economic Strategy;

Limerick Development Plan 2022-2028;

National Development Plan – First Revision 2025.

'Environmental Impact Assessment of Projects, Guidance on the preparation of the Environmental Impact Assessment Report' (European Union, 2017)

EPA guidance 2022

The Healthy Ireland Framework 2019-2025



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