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Environmental Impact Assessment Report
Development at Waterford Airport

Volume 2 – Chapter 5 – Population and Human Health

Prepared for: Waterford City & County Council in Partnership with Waterford Regional Airport PLC

Comhairle Cathrach & Contae Phort Láirge
Waterford City & County Council

Waterford Airport
Serving the Southeast for 30 years

Date: **July 2020**

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5. POPULATION, HUMAN HEALTH AND MATERIAL ASSETS

5.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) examines the potential effects of the proposed development at Waterford Airport on Population, Human Health and Material Assets.

There are a number of potential effects from the proposed development on population, human health and material assets. These impacts include noise, visual, air quality and transportation. The potential effect on population and human health with respect to traffic, visual impacts, air quality and noise are addressed separately in Chapters 8, 9, 10, and 11 of Volume 2 of this EIAR. Potential hydrological and water quality impacts are discussed in Chapter 7 and potential impacts to lands, soil and geology are discussed in Chapter 6 of this EIAR.

As noted in the 2017 EPA Draft Guidelines on Information to be contained in Environmental Impact Assessment Reports, "Directive 2011/92/EU, included architectural and archaeological heritage. Directive 2014/52/EU includes those heritage aspects as components of cultural heritage. Material assets can now be taken to mean built services and infrastructure. Traffic is included because in effect traffic consumes roads infrastructure."

Population, health and socio-economics have been assessed as part of this Chapter as well as material assets, to include amenity and land use assets have been considered within this Chapter. Material assets relating to transport infrastructure are dealt with in dedicated chapters of Volume 2 of this EIAR comprising Chapter 8: Roads, Traffic and Transportation. Material assets with respect of natural resources are considered in Chapter 6: Lands, Soil and Geology, Chapter 7 Hydrology and Water Quality, Chapter: 10 Air Quality and Climate, and Chapter 13: Biodiversity. Assets of Archaeological, Architectural, and Cultural Heritage are considered in Chapter 13 of Volume 2 of this EIAR.

This chapter includes a description of the existing environment and the likely effects on population and human health and material assets arising from the proposed development to include:

- Population trends;
- Socio-Economics, Employment and Economic Activity;
- Land Use;
- Infrastructure and Utility Services;
- Tourism, Recreation & Amenity; and
- Human Health including Health and Safety.

5.2 Methodology

5.2.1 Methodology for the Assessment of Population, Land Use, Socio-Economics, Employment and Economic Activity, Transport Network, Recreation, Amenity and Tourism, Human Health and Material Assets.

This chapter of the EIAR regarding population, human health and material assets has been prepared following a review of the National Planning Framework 2040, Southern Regional Spatial and Economic Strategy, the Waterford County Development Plan 2011-2017 (as extended) and the Waterford Regional Airport & Business Park Masterplan 2011.

Socio-economic and demographic data has been sourced from the Central Statistics Office (CSO)'s Census of Ireland records. Demographic information relating to the State, Waterford, and the 'Study Area' (identified by EDs) has been assessed to establish the existing demographic trends. The 'study area' for the population and human health section of this EIAR was defined in terms of Electoral Divisions (EDs) of the immediate area of the airport. The site of the proposed development lies within the EDs of Drumcannon and Kilmacleague. The site location and study area are identified in Figure 5.1 below.

Eircode data (2020) has been assessed to identify any commercial or residential receptors in proximity to the development. This information has furnished the considerations on existing populations within the immediate environs of the proposed development and allows for a comprehensive assessment of the potential effects of the project during construction and operational phases.

The assessment on human health has regard to the Environmental Protection Agency's (EPA US) Human Health Risk Assessment process which provides further information with regard to potential human health impact as outlined in the Irish Environmental Protection Agency (EPA) Consultation Draft of Advice Notes for Preparing Environmental Impact Statement (EPA, 2015).

The EPA's Guidelines on the information to be contained in Environmental Impact Assessment Reports (2017) and the 2015 Advice Notes for Preparing Environmental Impact Statements, have been considered in the preparation of this EIAR.

With regard to Recreation, Amenity and Tourism, Fáilte Ireland published a guideline on tourism and environmental impacts in 2011 entitled 'Guidelines on the Treatment of Tourism in an Environmental Impact Statement'. This document has been considered as recommended by Fáilte Ireland during consultation for the preparation of this EIAR (as further discussed in Chapter 4: Consultation of this EIAR), in the preparation of this chapter and is referred to in Section 5.8 of this chapter.

As outlined in Chapter 4: Consultation of this EIAR, prior to preparing the EIAR, statutory authorities and other relevant bodies were consulted. Key items of relevance to Population and Human Health, as raised by these parties have been addressed and referenced within this Chapter of the EIAR where deemed relevant.

In relation to cumulative impacts for population, human health, and material assets, the potential effect of the proposed development 'in combination' with other proposed or permitted developments (that are yet to be constructed or are currently under construction) coinciding with this project have been assessed. Examples of cumulative projects that have been considered for the assessment of Population and Human Health include a planning search for any major infrastructure projects within the vicinity of the proposed development, development within the immediate environs of the site boundary and/or large residential or commercial developments.

Cumulative projects that have been identified are likely to be completed prior to the commencement of development of the proposal, however, the cumulative impact assessment provides a baseline for which a full environmental assessment of the potential effects arising from the project can be considered comprehensively.

A screening exercise, has been applied to identify the appropriate cumulative schemes for the purpose of assessing the development against population and human health. The following was taken into account:

- Large residential developments, situated within 2 km of the airport boundary (in terms of potential cumulative impacts on population);
- EIA development that is considered to have potential cumulative impacts (to assess population and human health);
- Permitted developments in the immediate environs of the site boundary (to assess for cumulative impacts arising on population and/or human health)

Any cumulative impact projects that fulfilled these criteria and were considered to have an 'in-combination effect' have been assessed in the relevant sections of this chapter.

A desk-based assessment was carried out to assess the proposed development against material assets (infrastructure and utility services).

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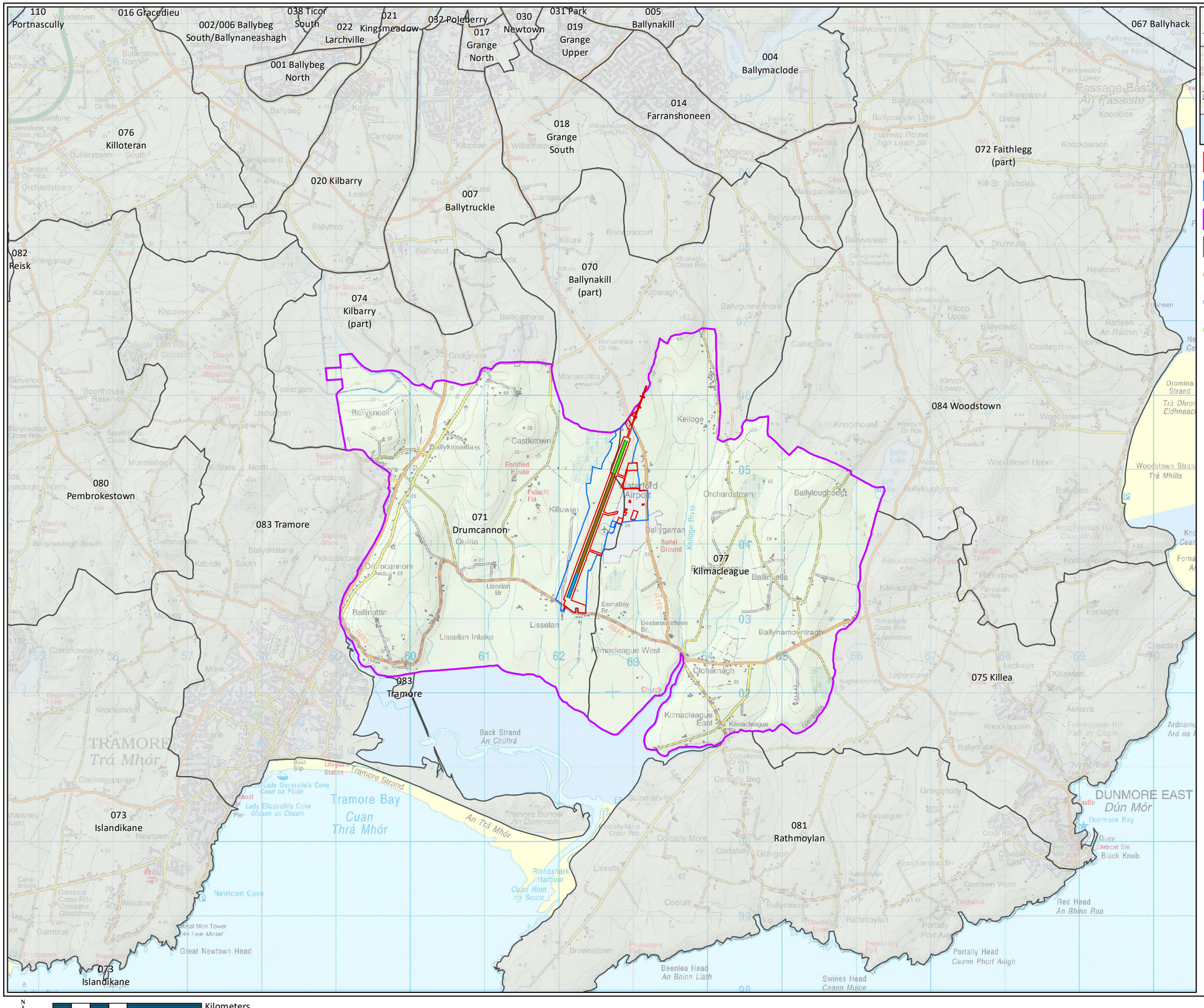

- Site Boundary
- Land under SERA (South East Regional Airport) and Waterford City and Council Ownership
- Study Area
- Electoral Divisions
- Existing Runway
- Permitted South Extension
- Proposed North Extension

0 0.5 1 2 Kilometers

TITLE:	Study Area		
PROJECT:	Waterford Airport Runway Extension		
FIGURE NO:	5.1		
CLIENT:	Waterford Airport		
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5.2.2 Residential Dwellings within the Obstruction Layer Surface (OLS) of the proposed runway extension

Two residential dwellings, adjacent to the north runway extension, are required to be removed from the Obstruction Layer Surface (OLS) of the runway, as part of the operational licencing process for the airport. The licencing process, based on European Aviation Safety Agency (EASA) standards, is undertaken after final design and construction. The dwellings are currently subject to Compulsory Purchase Order under An Bord Pleanala reference PL93 .306324.

Following the demolition of the 2 no. dwellings, it is anticipated that the residents will continue to live in the immediate locality of the airport and as such, no adverse effects on population will occur. In this instance, the land use of the residential lands will change to that of airport use. This will not give rise to any significant adverse effects on land use given the small footprint of the properties. In respect of socio-economics, employment and economic activity, human health, material assets, and recreation, tourism and amenity, there will be no effects arising from the demolition of the two properties.

5.3 Population

5.3.1 Existing Environment

The proposed development site is located in Killowen, Co. Waterford, ca. 5.5km to the north east of Tramore and ca. 7.4km to the north west of Dunmore East in Co. Waterford.

The M9 motorway connects Waterford City to Dublin via Kilkenny and is located approximately 18km to the north of the development site. The N25 national road is located approximately 13km to the north west of the main entrance to Waterford Airport, connecting Cork with Rosslare and travelling along the south coast of Ireland. A series of regional roads provide accessibility to the airport site.

There are 29 no. residential receptors, 34 no. commercial receptors and 4 residential and commercial receptors, within 500m of the airport. A large percentage of commercial receptors are airport related. Within 1km, there is 62 no. residential receptors, 35 no. commercial receptors and 13 receptors of both residential and commercial uses. [1]

Population statistics for the State, Waterford (City and County) and the 'Study Area' (Drumcannon ED and Kilmacleague ED) are set out in Table 5.1 below. Figure 5.2 overleaf identifies the percentage population change of the EDs within the study area. Figure 5.3 presents the receptors within 500m and 1km.

[1] Source: Eircode Postcodes database (2020)

Table 5-1: Population 2006-2016

	Population			% Population Change		
Area	2006	2011	2016	2006-2011	2011-2016	2006-2016
State	4,239,848	4,588,252	4,761,865	8.2%	3.8%	12%
Waterford	107,961	113,795	116,176	5.4%	2.1%	7.6%
Drumcannon ED	338	366	372	8.3%	1.6%	10.1%
Kilmacleague ED	362	405	398	9.9%	-1.7%	9.9%
Study area	700	771	770	10.1%	-0.1%	10%

The data presented in Table 5.1 demonstrates that the population of the study area increased by 10.1% between 2006 and 2011, and decreased by -0.1% between 2011 and 2016, demonstrating an overall increase of 10% over a 10-year period. This largely coincides with population trends across Waterford, with Waterford City and County experiencing an overall increase in population of 7.6% between 2006 and 2016. The population change experienced in Waterford was lower than that of the overall State's growth of 12% between 2006 and 2016. Therefore, whilst the population of both the study area and of Waterford have steadily increased, such figures are not in line with the population trends at State level, which demonstrate a greater percentage increase over a ten-year period across the country.

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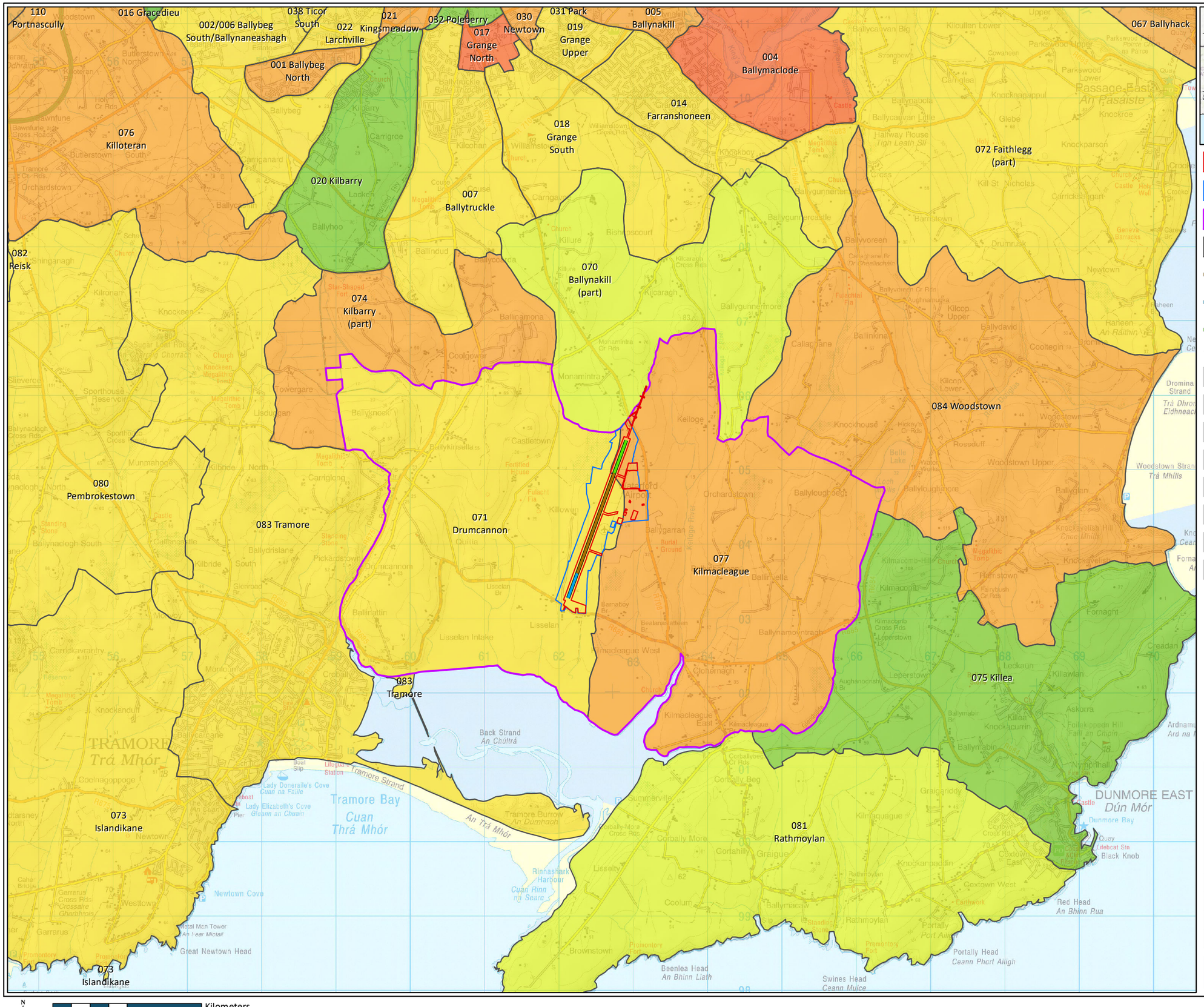

Site Boundary

Land under SERA (South East Regional Airport) and Waterford City and Council Ownership

Study Area

Electoral Divisions

Existing Runway

Permitted South Extension

Proposed North Extension

% Population Change 2011-2016

- 30 - 67.7
- 15 - 30
- 10 - 15
- 5 - 10
- 0. - 5
- -5 - 0
- -10 - -5
- -30.8 - -10

N W E S

0 0.5 1 2 Kilometers

TITLE:	Population Change		
PROJECT:	Waterford Airport Runway Extension		
FIGURE NO:	5.2		
CLIENT:	Waterford Airport		
SCALE:	1:50000	**REVISION:**	0
DATE:	13/05/2020	**PAGE SIZE:**	A3

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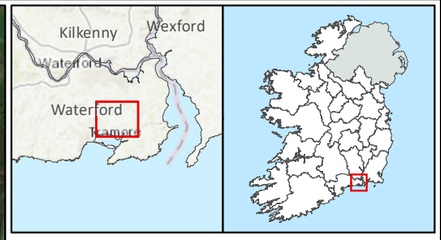

- Residential
- Commercial
- Residential and Commercial
- Unknown
- Site Boundary
- 500m Distance from Site Boundary
- 1km Distance from Site Boundary
- Land under SERA (South East Regional Airport) and Waterford City and Council Ownership

N
W E
S

0 0.5 1 2 Kilometers

TITLE:	Receptors in the Vicinity of the Proposed Development		
PROJECT:	Waterford Airport Runway Extension		
FIGURE NO:	5.3		
CLIENT:	Waterford Airport		
SCALE:	1:20000	**REVISION:**	0
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Population Density

The population densities recorded within the State, Waterford and the Study Area during the 2006, 2011 and 2016 Censes are set out hereunder in Table 5.2. The population density of the study area has increased from 25.5 persons per square kilometre in 2006, to 28 persons in 2016. This figure is significantly lower than the population density of Waterford overall (from 58.1 persons in 2006 to 62.6 persons in 2016), and of the State (increase from 60.3 persons per square kilometre in 2006 to 70 persons in 2016).

Figure 5.4 overleaf demonstrates the population density for the surrounding EDs.

Table 5-2: Population Density between 2006 – 2016

Area	Population Density (Persons per square kilometre) 2006	Population Density (Persons per square kilometre) 2011	Population Density (Persons per square kilometre) 2016
State	60.3	65.3	70.0
Waterford	58.1	61.3	62.6
Study area	25.5	28	28

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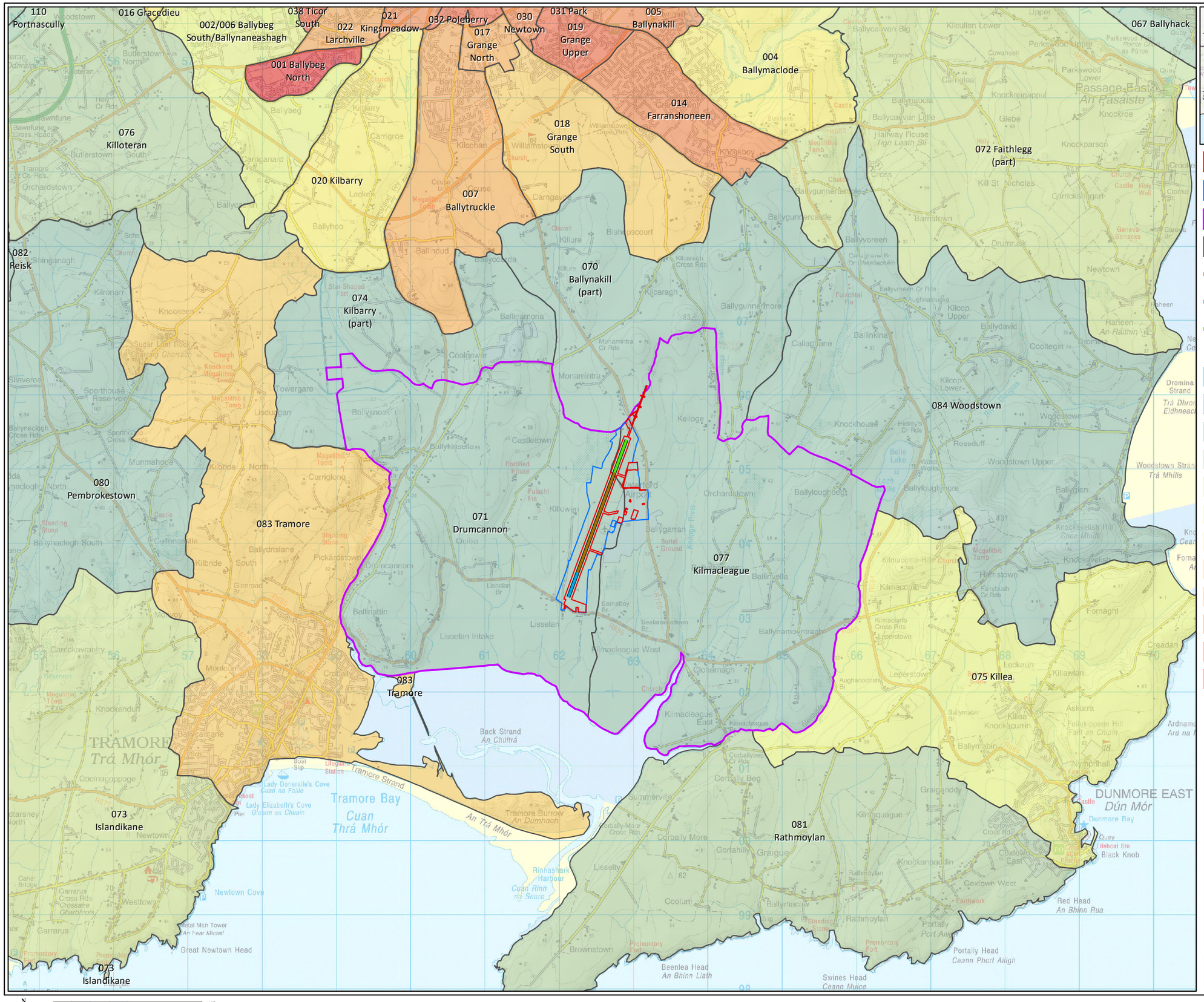

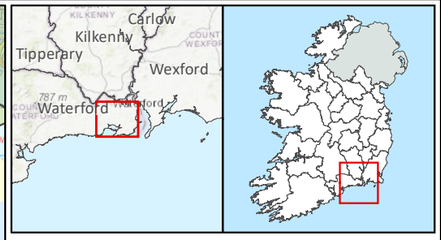

- Site Boundary
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- Proposed North Extension

Population Density 2016 per km

- 1 - 10
- 11 - 25
- 26 - 50
- 51 - 75
- 76 - 100
- 101 - 250
- 251 - 500
- 501 - 1000
- 1001 - 2000
- 2001 - 3000
- 3001 - 4000
- 4001 - 4500

TITLE: Population Density			
PROJECT: Waterford Airport Runway Extension			
FIGURE NO:	5.4		
CLIENT:	Waterford Airport		
SCALE:	1:50000	**REVISION:**	0
DATE:	13/05/2020	**PAGE SIZE:**	A3

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Household Statistics

There are 29 registered residential addresses within 500m of the proposed development, and a further four, of which have commercial uses also. There are 35 receptor points registered for commercial uses only within 500m of the airport.

The number of households and average household size recorded within the State, Waterford and the Study Area (Drumcannon ED and Kilmacleague ED) during the 2011 and 2016 Censes are set out in Table 5.3.

Table 5-3: Number of Households and Average Household Size 2011-2016

Area	2011		2016	
	No. of Households	Avg. Size (persons)	No. of Households	Avg. Size (persons)
State	1,654,208	2.8	1,702,289	2.9
Waterford	42,335	2.7	43,549	2.6
Study area	265	2.9	265	2.9

The total number of households within the study area (EDs) remained at 265 between the 2011 and 2016 Census. There was a 2.87% increase in the number of households in Waterford, and a 2.82% increase in the number of households across the State. Average size of households (in persons) for the Study Area remained at 2.9 persons per household between 2011 and 2016, with average household size (in persons) rising from 2.8 persons to 2.9 between 2011 and 2016 for the State. Average household size (in persons) for Waterford is lower than that of the Study Area or State at 2.7 persons between 2011 and 2016.

Age Structure

The age structure of the Study Area as of 2011 and 2016 is largely in line with that of the national age structure as detailed in Table 5.4 and Table 5.5 below. As of 2011, the study area has a high percentage of population share for persons aged under 14 years of 23% in comparison to the State's figure of 21% and Waterford's figure of 22%. The study area also has a higher percentage share of persons in the 65+ category at 14%, compared to the State average of 12% and the average of Waterford at 13%.

Table 5-4: Percentage Population per Age Category in 2011

Area	Age Category				
	0-14	15-24	25-44	45-64	65+
State	21%	12%	32%	23%	12%
Waterford	22%	12%	29%	24%	13%
Study Area	23%	11%	24%	28%	14%

Table 5-5: Percentage Population per Age Category in 2016

Area	Age Category				
	0-14	15-24	25-44	45-64	65+
State	21%	12%	30%	24%	13%
Waterford	21%	12%	27%	25%	15%
Study Area	21%	13%	22%	28%	15%

In 2016, the age profile of the study area witnessed a fall in persons aged under 14, and an increase in persons aged over 65. Table 5.6 provides the percentage changes of the different age categories between 2011 and 2016 for the State, Waterford and the Study Area.

Table 5-6: Percentage change of population percentages 2011 to 2016

Area	Age Category – Population change 2011 to 2016 as expressed in a percentage				
	0-14	15-24	25-44	45-64	65+
State	0%	0%	-2%	+1%	+1%
Waterford	-1%	0%	-2%	+1%	+2%
Study Area	-2%	+2%	-2%	0%	+1%

As demonstrated in Table 5.6 above, whilst it is unclear to what extent the volatility of migration patterns has impacted population trends, overall, it would appear that the State, Waterford, and the Study Area have a moderately ageing population.

5.3.2 Do Nothing Scenario

In the event that the proposed development does not take place, the airport site will continue to provide its current uses and facilities. Potential population growth, associated with the airport expansion, will not be met resulting from the absence of short-term population increases from potential tourist and commercial opportunities associated with the proposal.

As is the case for aviation development and operations, airports underpin the business and tourist economy by way of facilitating inward and outward movement. This demonstrates that the proposed development at Waterford Airport would undoubtedly have a positive impact on the commercial viability and attractiveness of the South-East region.

In the absence of the proposed development, the current runway will not facilitate executive aircraft types that would permit a wider scope of aircraft to allow outward and inward access for the business and tourist communities. Therefore, in the absence of the proposed development, the indirect, short-term population potential of business and tourist opportunities will not be recognised.

5.3.3 Potential Impacts – Construction

With a population density of 28 persons per square kilometre, the study area can be considered of rural character, in comparison to the State population density of 70 persons per square kilometre, and the Waterford population density of 62.6 (Census, 2016). Therefore, the potential impacts on population associated with the construction phase of development, can be determined to be of low potential for adverse effects to those that may be experienced in an urban centre.

2 no. dwellings will be removed as part of the proposed development. With respect to the average household size of the area of 2.9 persons, this has the potential to displace ca. 5.8 persons. This will cause an imperceptible impact on population trends in the immediate area of the proposed development.

During the construction of the proposed development, construction workers will travel daily to the site from the wider area. The construction phase will have no impact on the permanent population within the Study Area in terms of changes to population trends or density, household size or age structure. There may be a slight increase in population in the immediate study area during construction, associated with the influx in workers to the site to carry out the proposed works.

5.3.4 Potential Impacts – Operation

During the operational phase of the proposed development, it is anticipated that the broader area will experience an increase in visitor numbers by way of enhanced aviation links, contributing to a short-term transient population increase. The projected visitor numbers as considered in Section 5.4 of this chapter, demonstrate that the influx of persons to the South-East through Waterford Airport will provide employment opportunities in the tourist and services sectors during operational phase.

Overall, the proposed development will allow for a retention of existing population numbers in the greater area, by way of economic opportunities, and will also encourage long-term population growth associated with the region's enhanced interconnectivity and subsequent competitiveness.

The existence of the airport in itself causes a negative impact for residential development in the immediate environs. Mitigation measures, as detailed in Chapter 8 Traffic and Transportation, Chapter 9 Landscape and Visual, Chapter 10 Air Quality and Climate and Chapter 11 Noise and Vibration provide further details relating to the potential impact of the proposed development on residential amenity.

It is anticipated that the proposed development will have a long-term, moderate, positive impact on the population trends of the region due to the economic benefits associated with the expansion of the airport facility.

Further consideration of the economic opportunities and indirect effects of such on population are considered in Section 5.4: Socio-economics, Employment and Economic Activity of this Chapter.

5.3.5 Cumulative Impacts

The potential impact of the proposed development 'in combination' with other proposed or permitted developments (that are yet to be constructed or are currently under construction) coinciding with this project have been assessed.

Planning application numbers 17895 and 17896 permit up to 191 residential units at Kilbarry, approximately 4.5km from the proposal site[2]. If permitted, both residential applications will add up to 525 persons to the existing population (based on the State household size average of 2.75 persons per household).

It is not envisaged that there will be any adverse effects arising from the two projects cumulatively on population given the distance between the two projects and the limited opportunities for overlap regarding construction and operational phases.

5.3.6 Mitigation Measures

No mitigation measures will be required with respect to population given that there will be no significant adverse effects on population trends, density, household size, or age structure as a result of the proposed development.

5.3.7 Residual Impacts

Given that no mitigation measures will be implemented and the unlikelihood of any adverse effects arising from the proposed development, any residual effects that arise in respect of the proposed development on population will be imperceptible.

5.4 Socio-Economics, Employment and Economic Activity

Socio-economics refers to the interaction between social and economic factors. Airport related development by its nature can have both economic and social impacts on an area.

5.4.1 Existing Environment

State and Waterford's Economic Status

Live register data provides information relating to the number of people registering for Jobseekers Benefit, Jobseekers Allowance, or for various other statutory entitlements. The figure is useful to gauge unemployment estimations for an area, however, it is noted that the Live Register data accounts for part-time works (working up to three days per week), seasonal works and casual workers who are entitled to Jobseekers Benefit or Jobseekers Allowance and therefore, cannot be relied upon entirely for conclusive employment data.

In month 1 of 2020, there were 183,755 persons recorded on the live register for the State. In Waterford during the same period 12,337 persons were recorded on the live register. The State average for persons recorded on the live register equates to 4% of the population compared to that of Waterford City and County which is averaged at 10.6%, 6.6% above the State average.

The working population is defined as those aged 16 to 64. The basic indicator for employment is the proportion of the working age population aged 15-64 who are employed, Table 5.7 below sets out the percentage of the total population aged 15+ who were in the labour force during the 2016 Census. Table 5.7 also sets out those who were not in the labour force, this includes students, retired people, those unable to work, persons performing home duties etc.

[2] Measurement taken from straight line distance

Table 5-7: Economic Status of the Total Population Aged 15+ in 2016

	Status	State	Waterford	Study Area
% of Population aged 15+ which are:	At work	53%	50%	52%
	First time job seeker	1%	1%	1%
	Unemployed	7%	8%	5%
	Student	11%	11%	12%
	Home duties	8%	8%	10%
	Retired	15%	17%	16%
	Unable to work	4%	5%	4%
	Other	0%	1%	0%

Overall the principle economic status of those working in Waterford (50%) and within the Study Area (52%) is below the National average (53%). Those retired within the study area is however higher than the National (15%) and lower than the Waterford (18%) average, at 16%.

The employment make-up of an area is an important element of its socio-economic profile. The CSO Census of Population 2016 shows that employment within Waterford is weighted towards professional services (25%), commerce and trade (21%), other (18%), manufacturing (16%) and agriculture (6%). Within the study area professional services is the largest industry employer (26%), followed by commerce and trade and manufacturing industries (both at 16%), other (17%) and agriculture (9%).

There are 35 no. registered commercial businesses within the airport area including the airport business park.

Waterford Airport: Economic Status

In terms of the existing data relating to aviation activity at the proposed development site, the highest passenger numbers accounted for at Waterford Airport reached 144,000 with the level of aircraft activity totalling 4,045 international and domestic passenger schedule aircraft movements.

With regards to the make-up of aircraft movements, historically an approximate 80% of airport movements have been made up of smaller general aviation and training aircraft, with business jet aircraft accounting for less than 2% and the remaining share accounted for by helicopter operations. This demonstrates the economic importance of aviation activity for a region, and the opportunities associated with airport development.

5.4.2 Do-Nothing Scenario

In the event that the proposed development does not take place, there will be direct and indirect socio-economic consequences relating to the airport site.

In the do-nothing scenario, the airport will continue to provide its current uses and facilities to the wider region.

In the absence of its expansion, it is envisaged that the economic opportunities associated with the expansion of the airport will not be recognised, resulting in the potential inhibition of the airport's potential economic progress and ability to serve the south east region.

In the absence of the proposed development, and strong regional airport facilities in the South-East region, the economic attractiveness of the region will be affected by way of reduced international connectivity. This in turn would negatively affect the economic profile of the study area, Waterford, and of the South East Region, by way of depleted commercial, tourist and service needs and provisions.

As indicated in the Chapter 3: Policy, national, regional and local policy demonstrates the importance of interconnectivity for international business and tourism in terms of supporting the economy. As such, it is therefore clear that in the absence of the proposed development, policy objectives relating to the economy and tourism will not be met.

The do-nothing scenario will have a long-term negative impact on achieving policy goals to expand the airport and will have a long-term negative impact on achieving economic benefits associated with the airport's expansion.

5.4.3 Potential Impacts – Construction

The construction phase will foresee the temporary increase of employment figures in the construction industry locally. Further indirect employment may arise from the sourcing of materials, aggregates and expertise locally. This will provide the immediate locality and surrounding environs with a slight positive impact on socio-economics and employment by way of increased jobs and associated expenditure relevant to the construction phase.

There is potential for a slight and temporary negative impact on economic activity in the area of the airport due to construction works which are envisaged to last for between 8 and 9 months. This impact is associated with additional traffic in the area due to the construction works.

5.4.4 Potential Impacts – Operation

As set out in Chapter 3: Policy of this EIAR, the Waterford Regional Airport & Business Park Masterplan (2011) acknowledges the role of Waterford Airport for increasing the competitiveness of the South East Region, promoting accessibility and attractiveness of the Region both for business and tourism, improving infrastructure for the South Eastern Region, and providing and promoting industry and inward investment. Through the proposed development, the policy objectives as set out in regional and local planning policy will ensure that the economic and social profile of the South East Region will be strengthened.

During the operational phase of the proposed development, it is envisaged that the employment numbers at the airport at present will be sustained with an opportunity for a slight increase over time as levels of anticipated passenger throughput increases. The attractiveness of Waterford and the South-East region as an economic hub will be indirectly assisted by way of opportunities for enhanced international connectivity, and economic prosperity.

The projected aircraft and anticipated passenger activity for the proposed runway development is summarised in Table 5.8 and Table 5.9 below.

Table 5-8: Aircraft Movements Per Annum - Five Year Projection

	Arrivals	Departures
Year 1	297	297
Year 2	529	529
Year 3	769	769
Year 4	973	973
Year 5	1,120	1,120

Table 5-9: Projected Passenger Movements (Aircraft Type B737)

	Inbound	Outbound	Total Per Annum
Year 1	46,000	46,000	92,000
Year 2	81,500	81,500	163,000
Year 3	119,000	119,000	238,000
Year 4	150,000	150,000	300,000
Year 5	172,500	172,500	345,000

As indicated in Table 5.8 and 5.9 above, the aircraft and passenger movements are anticipated to steadily increase following the completion of works associated with the proposed development. The projections will give rise to positive effects on the social, economic and employment of the area and greater South-Eastern region by way of increased tourism potential, securing the future of a major economic asset for the South East region (Waterford Airport) and through strengthened international connectivity.

Based on anticipated passenger throughput as a result of the proposed runway development, and employment figures retrieved from other Irish regional airports (Knock and Kerry[3]), Table 5.10 below sets out the projected employment figures based on Kerry and Knock Airport's existing direct and indirect employment for 2017 through a calculation of average projected passenger numbers per employee over a five-year period at Waterford Airport.

Table 5-10: Projected direct and indirect employment for the proposed runway development

Year of operation	Direct employment	Indirect employment
Year 1	15	121-122
Year 2	24	194-195
Year 3	32	259-261
Year 4	42-43	341-344
Year 5	56-57	451-455

[3] Ireland West Airport Annual Review 2017 (2018) Note: Figure for Total Employment is a L&RS (Oireachtas Library and Research Service), estimate produced using published methodologies

As indicated above in Table 5.10, it is possible that the direct employment associated with the proposed development will give rise to increased employment opportunities associated with operations at the airport, including further investment in the airport business park. This will contribute positively to the socio-economic profile of Waterford by way of contributing to the growing population and needs for employment bases.

Therefore, it can be considered that the operational phase of the proposed development will give rise to a moderate positive impact on employment opportunities in the region, in line with other operational regional airports in Ireland.

5.4.5 Mitigation Measures

In order to ensure no adverse effect arises from the proposed development on socio-economics, employment or economic activity, a comprehensive construction management plan has been prepared to ensure that the construction phase of the development does not impact on the economic integrity of the existing airport uses or that of the area as a whole. As outlined within the construction management plan and as per Chapter 2: Description of the Development, the construction phase of the proposed development will ensure the continuation of some uses at the airport under strict operational control to ensure safe working practices and to avoid any impacts on the operational use.

5.4.6 Residual Impacts

On the implementation of mitigation measures, the proposed development has the capacity to slightly affect economic activity during construction phase due to the nature of construction works. This residual impact will be temporary. The operational phase will give rise to positive impacts on the socio-economic and employment profile of the area, boosting the economy of the region and providing local jobs. The overall residual impact on the proposed development on socio-economics is considered positive, long-term and significant.

5.5 Human Health

5.5.1 Existing Environment

Human Health in the context of the proposed development can be considered in two sections, these are: Health and Safety, and potential impacts on Human Health relating to the proposed development. The following section is set out in terms of Health and Safety, and Human Health, in order to examine the potential impacts arising from the proposed development.

The proposed development has the potential to affect humans in a variety of ways. The proposal seeks to increase the airport's annual passenger output, with associated aircraft variations to that of the existing operations, including increased air and associated traffic, and noise effects.

The proposal may also give rise to potential effects on environmental, social and economic conditions relating to the receiving environment. As such, the assessment on human health considered, where possible, the potential impact on human beings in the context of the receiving environmental conditions, profile and distribution of impacts.

The Irish Aviation Authority (IAA) has published a number of documents that set out objectives relating to aviation safety for the State. Such documents include the State Safety Plan 2017-2020, State Safety Programme of Ireland (2015) and the IAA Annual Safety Performance Review 2017. These documents have been examined to determine the existing safety principles and protocol for aviation and also, to assess the potential effects arising from the proposed development on human health.

5.5.1.1 Health and Safety

Health and safety issues in the existing environment relate to potential health and safety hazards associated with the existing aviation and other associated activity. As with all airports, Waterford Airport adopts all necessary precautionary measures and protocols to ensure the safety of people. Airfield operations are governed by rigorous safety regimes and licensing protocols and therefore, risk of accident or disaster relating to aviation activity is considered negligible.

With respect of aircraft accident risk, it should be noted that the number of aircraft accidents worldwide is extremely low in comparison to other modes of transport. Public Safety Zones (PSZ's) are areas of land at the end of airport runways within which development is restricted in order to control the number of people on the ground at risk in the event of an aircraft accident. The basic objective of PSZ's is that there should be no increase in the number of people living, working or congregating in airport PSZ's and that over time that number should be reduced.

In terms of the baseline data for national aviation incidents and accidents according to the Review of Aviation Safety Performance in Ireland (2017), the following is noted:

Between 2013 and 2017, fixed-wing aircraft were involved in 21 incidents, five of which occurred in 2017. 76 serious incidents occurred between this period, of which 10 occurred in 2017. Commercial Air Transport were involved in 7 non-fatal accidents and 16 serious incidents between 2013 and 2017 at aerodromes licensed for public use in Ireland, of which 1 non-fatal accident occurred in 2017 and 4 serious incidents occurring in 2017. For Irish commercial helicopters, the sector experienced a fatal accident and 2 non-fatal accidents during 2017.

A summary of aviation incident types is provided for in Figure 5.5 below:

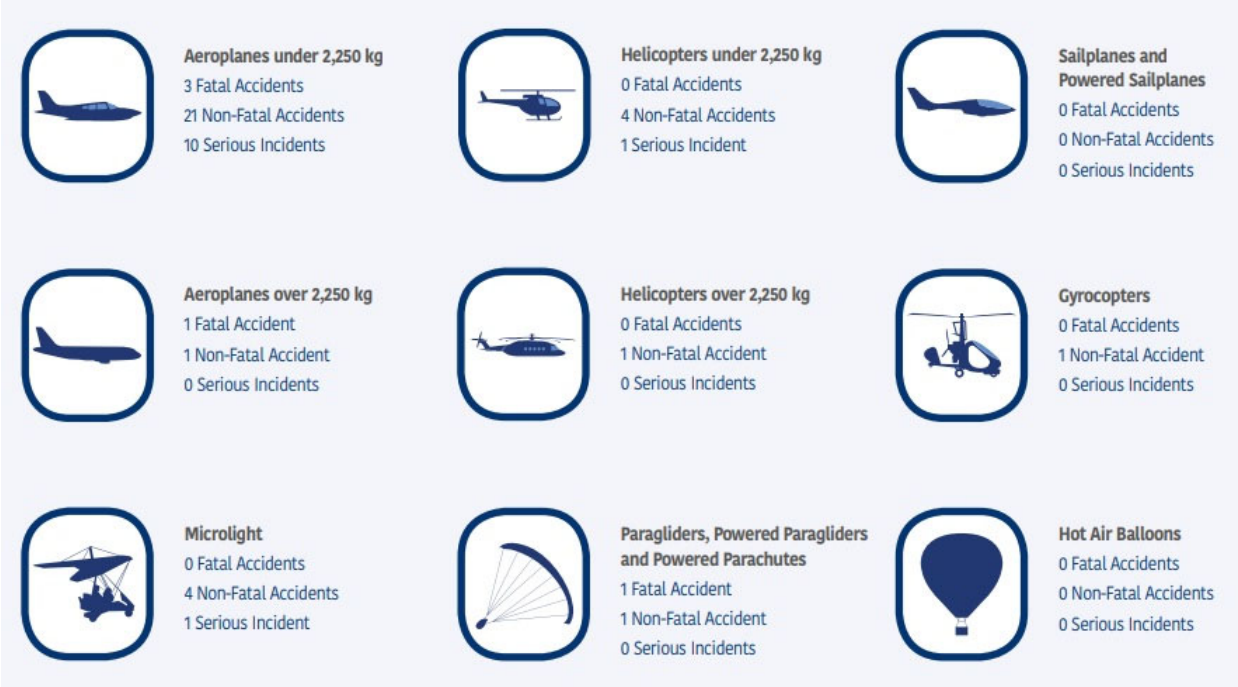


Figure 5-5: Summary of accidents and incidents for Irish Aviation in 2017 (Review of Irish Aviation Safety Performance in Ireland, 2017)

Emergency procedures at Waterford Airport are guided by its Emergency Plan which complies with IAA and EASA requirements and is validated by the IAA licencing. This outlines safety actions to be undertaken for aircraft and ground incidents, including security threats. The document is a protected document and controlled for use by the Regulator and Emergency Services.

5.5.1.2 Human Health

Human health risk in relation to this assessment refers to the nature and possibility for adverse health effects on humans.

Human health risks associated with the existing environment relates primarily to the existing airport and aviation related activities. Details relating to the existing and potential impact of dust, traffic and noise on human health are included in Chapter 8, 9 and 10 respectively.

In the context of existing human health, The Department of Health (2016) have published a report entitled 'Health in Ireland, Key Trends 2016' which provides statistics relating to human health in Ireland over the last 10 years. Generally speaking, Ireland has a high level of health as demonstrated in self-evaluation statistics included in Census data (see Table 5.11 below). Approximately 92% of the responses recorded for the Study Area in 2016 indicated that they had very good or good health which is above the State response (87%) and Waterford's average (87%) for 2016.

Table 5-11: Population by general health 2016

General Health	Study Area 2016	Waterford 2016	State 2016
Very good	65%	59%	59%
Good	27%	28%	28%
Fair	6%	8%	8%
Bad	1%	1%	1%
Very bad	0%	0%	0%
Not stated	1%	3%	3%

In relation to specific implications for human health arising from airport-led development, noise and vibration is often cited as one such impact. Existing operations as detailed in Chapter 11: Noise and Vibration, the airport operates under various abatement procedures and time restrictions to ensure no adverse effects arise from aircraft movements. This sets the baseline for which noise and vibration can be managed in accordance with best practice aviation operations.

5.5.2 Do Nothing Scenario

In the event that the proposed development does not go ahead, the potential impacts relating to the airport on human health will remain as existing for operations at the airport.

As such, no adverse effects are envisaged in the event that the proposed development does not go ahead with respect of human health or health and safety.

5.5.3 Potential Impacts – Construction

5.5.3.1 Health and Safety

The airport development will be designed, constructed and operated in accordance with best practice and in particular with the following in consideration:

- Safety, Health & Welfare at Work (Construction) Regulations 2013;
- Safety, Health & Welfare at Work Act 2005;
- Safety, Health & Welfare at Work (General Applications) Regulations 2007.

Aspects of the development that may present health and safety issues, are as follows:

- potential impact on general site health and safety;
- potential traffic safety impacts;
- potential general airport operations safety impacts (e.g. slip/trip, moving vehicles, vehicle collisions, falling from heights etc.);
- potential for the operations at the airport to come into contact with the construction phase.

Aviation specific health and safety will be followed, in accordance with requirements for airport developments as follows:

The designs for runway, taxiway and apron areas will be completed by Leading Edge Aviation Planning Professional (LEAPP), a global aviation planning and management consulting company. The designs will be approved by the Irish Aviation Authority and the associated works will be certified by the appropriate authority prior to operations.

In the absence of mitigation measures, there is potential for the public to come into contact with operations traffic travelling to and from the site of the proposed airport development, as is possible for the existing aviation operations and as is common for construction sites. Such negatives effects include:

- Delay and disruption to road users and airport passengers;
- Road safety issues in the absence of mitigation measures including good traffic management practices
- Damage to roads without the correct reinstatement;
- Inappropriate parking of construction vehicles along the route of the works;
- Soiling of the public road leading to a general lack of cleanliness and poor skid resistance on roads.

As such, if unmitigated, there is potential for temporary slight negative impacts to health and safety as a result of construction activities.

The construction management plan provides for appropriate mitigation measures and safety protocol to minimise the potential for such effects occurring. Such mitigation measures include: following best practice, standard procedure, and adherence to aviation and construction legislation and guidance; monitoring of dust and dirt.

5.5.3.2 Human Health

During the construction phase of the proposed development, exposure to air pollution including dust and noise can arise in the absence of appropriate mitigation measures as is the case for most standard construction sites. As set out in Chapter 10: Air Quality and Climate, these impacts are considered short term, slight adverse impacts and will be confined to the construction phase.

Details relating to the potential impacts of traffic, air quality and noise on human health are included in Chapters 8, 10 and 11 respectively.

5.5.4 Potential Impacts – Operation

5.5.4.1 Health & Safety

Airport development has the capacity to alter air quality within its receiving environment as a result of aircraft emissions and general airport related activity pollutants. This can in turn give rise to a change in air quality at sensitive locations. Airport development can also give rise to a change in the noise environment due to airport / aircraft related noise. Changes to road safety may also arise during the operational phase of the airport as it is probable that road capacity and usage will increase. Details relating to the potential impacts relating to traffic, air quality and noise on human health are included in Chapters 8, 10 and 11 respectively.

Chapter 2: Description of the Development sets out the potential risk of major accidents and/or natural disasters, including climate change relating to the proposed development. As noted in Chapter 2, airport operations are guided by precautionary rules in order to ensure the safety of operations. Waterford Airport is governed by a safety regime, as set out by the Irish Aviation Authority (IAA), in line with the requirements of the European Aviation Safety Authority (EASA).

With regard to other potential major accidents and/or disasters, like all modern airports Waterford Airport operates to very stringent standards of safety and security in accordance with Irish and European regulations. These stringent safety and security standards will be maintained as requirement by national and European regulations. The airport will require adherence to airport design standards and provision of specified operational safety procedures to achieve licensing from the IAA in advance of commencing operations.

Bird collision risk mitigation measures currently in place for the existing airport will be retained in order to reduce bird strike hazards.

In conclusion, the risk of 'major accidents and/or disasters' occurring at the airport in the operational phases is negligible subject to achievement of required safety standards and licencing from the Irish Aviation Authority.

5.5.4.2 Human Health

Those residing in residential dwellings located in proximity to the proposed development may experience noise and air quality impacts relating to the operational works.

Further details of these impacts are included in Chapter 8: Traffic and Transportation, Chapter 10: Air Quality & Climate and Chapter 11: Noise and Vibration. In respect of air pollution and potential impacts arising from air pollutants relating to the proposed development, evidence suggests that transport-related emissions can have a potential impact on health, however, these emissions are considered to be neutral/imperceptible, as described in Chapter 10: Air Quality and Climate.

5.5.5 Cumulative Impacts

No cumulative effects have been identified to have any significant 'in combination' impact arising from the proposed development in conjunction with another permitted or under construction project in relation to human health.

A solar farm (planning local authority reference: 17/113, An Bord Pleanála reference: PL 93.248487), permitted to the north east of the site has been identified as part of the cumulative projects assessment and was considered in the context of potential cumulative effects. The permitted solar farm is envisaged to have a 4-month construction period, with operational visits of up to one trip per three months.

In the event that the proposed development and permitted solar farm are constructed at the same time, it is unlikely that the potential effects arising (in particular in relation to construction related traffic) will give rise to any significant adverse effects on the local road, and therefore, the cumulative effect can be considered imperceptible.

It is anticipated that the construction works of the terminal building will overlap other construction works on site. The cumulative impact will not give rise to any adverse cumulative impacts on human health as both construction operations will follow a construction management plan. The cumulative impact will therefore be imperceptible.

5.5.6 Mitigation Measures

5.5.6.1 Health and Safety

Construction and operations of the proposed development at Waterford Airport will follow best practice, coupled with adherence to the legislative and guidance documents as published in order to mitigate against any potential effects arising from the proposed development. These key legislative and guidance documents include:

- Regulation (EC) No 216/2008 of 20/02/2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/E
- State Safety Programme of Ireland, Irish Aviation Authority (January, 2015) as defined by the International Civil Aviation Organization (ICAO)
- 1998 Air Navigation and Transport Act
- A National Aviation Policy for Ireland, August 2015: Department of Transport, Tourism and Sport.
- Safety, Health & Welfare at Work (Construction) Regulations 2013;
- Safety, Health & Welfare at Work Act 2005;
- Safety, Health & Welfare at Work (General Applications) Regulations 2007.
- Runway Safety Programme - Global Runway Safety Action Plan (2017), International Civil Aviation Organization
- International Civil Aviation Organization (ICAO) – Global Aviation Safety Plan 2017-2019 (GASP)

Airports are required by the International Civil Aviation Organisation (ICAO) to manage bird hazard. This is most commonly done through the management of the environment within the vicinity the airport so as to minimise the attraction of birds. Common bird management procedures include appropriate airport landscaping and design, playing of audio distress calls, monitoring and driving along the runway.

Bird collision risk mitigation measures, currently in place for the existing airport, will be retained in order to reduce bird strike hazards. Any further mitigation measures required by the licensing authority, IAA, will be implemented as mandated.

5.5.6.2 Human Health

The risks associated with the proposed development relate to noise and vibrations, air quality, and traffic impacts. Mitigation measures regarding human health in relation to these areas are considered in Chapter 8: Traffic and Transportation, Chapter 10: Air Quality and Climate and Chapter 11: Noise and Vibrations of this EIAR.

5.5.7 Residual Impacts

Once mitigation measures are implemented, issues regarding health and safety, and human health will be reduced significantly for the construction and operational phases of the proposed development. Health and safety and human health impacts will be similar to those that exist for other airport facilities of similar size and operations to that of Waterford Airport.

Adherence to Irish Aviation Authority and aviation legislation will be ensured and traffic and transportation safety measures implemented to prevent negative effects arising in the context of human health.

The residual effects arising from the proposed development on health and safety will be 'temporary' and 'slight' during construction, with effects during operations expected to be 'long-term' and 'slight' in significance.

5.6 Land Use

This section assesses the compatibility of the proposed use with the current land use at the proposal site. The determination of potential effects on the existing land use is assessed for the construction and operational phases of the proposed development. The zoning objectives for the existing lands is also taken into consideration in the assessment of the proposed development's potential impacts on its receiving environment as set out in Chapter 3: Policy of this EIAR.

5.6.1 Existing Environment

The predominant land use within the site area, as determined using the CORINE 2018 land cover data, is defined as 124 – Airport. There is also fragments of 231 Pastures and 312 Coniferous forest within and around the site boundary. The site is zoned as 'airport area' and 'airfield reserve area' according to the zoning objectives set out within the Waterford County Development Plan 2011-2017 as set out in Figure 5.6.

The CORINE 2018 land cover dataset is presented in Figure 5.7.

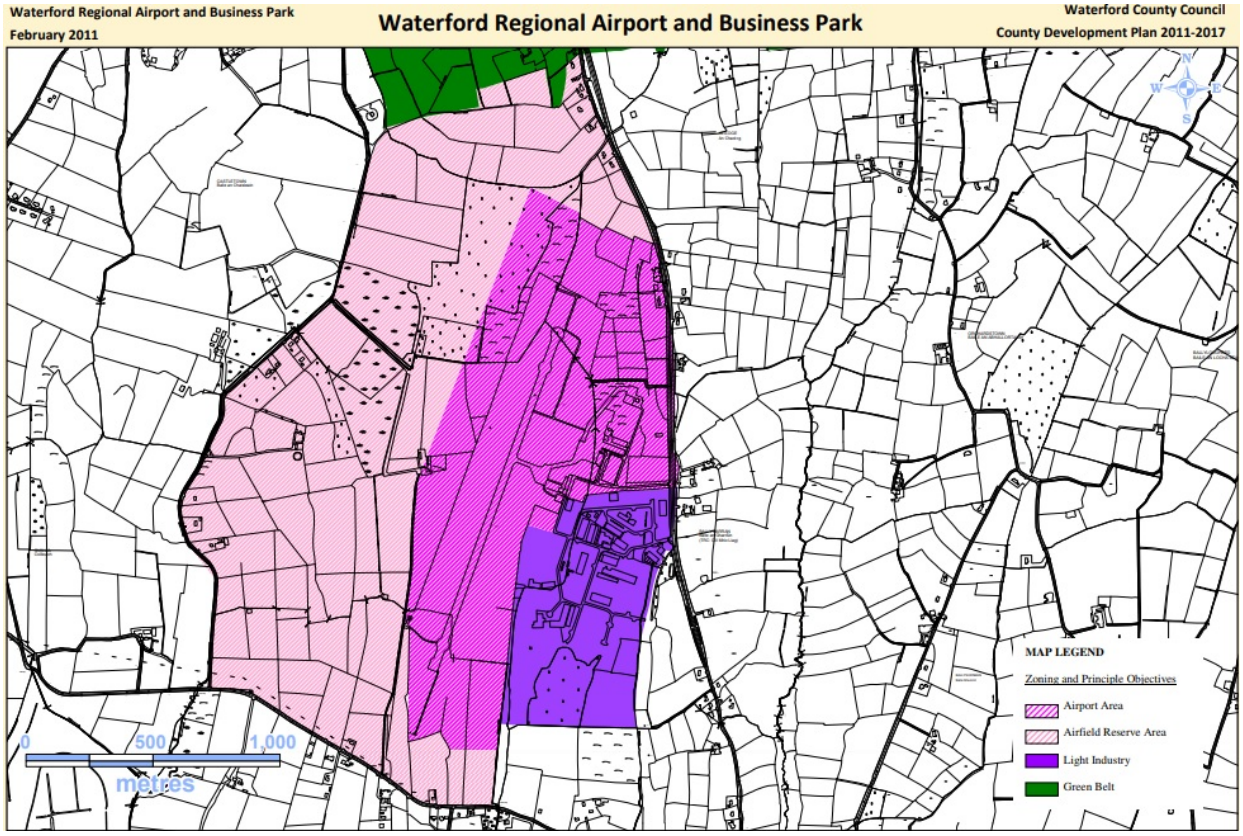


Figure 5-6: Waterford County Development Plan 2011-2017 zoning objectives for Waterford Regional Airport and Business Park

5.6.2 Do Nothing Scenario

In the event that the proposed development is not carried out, the lands will remain as existing.

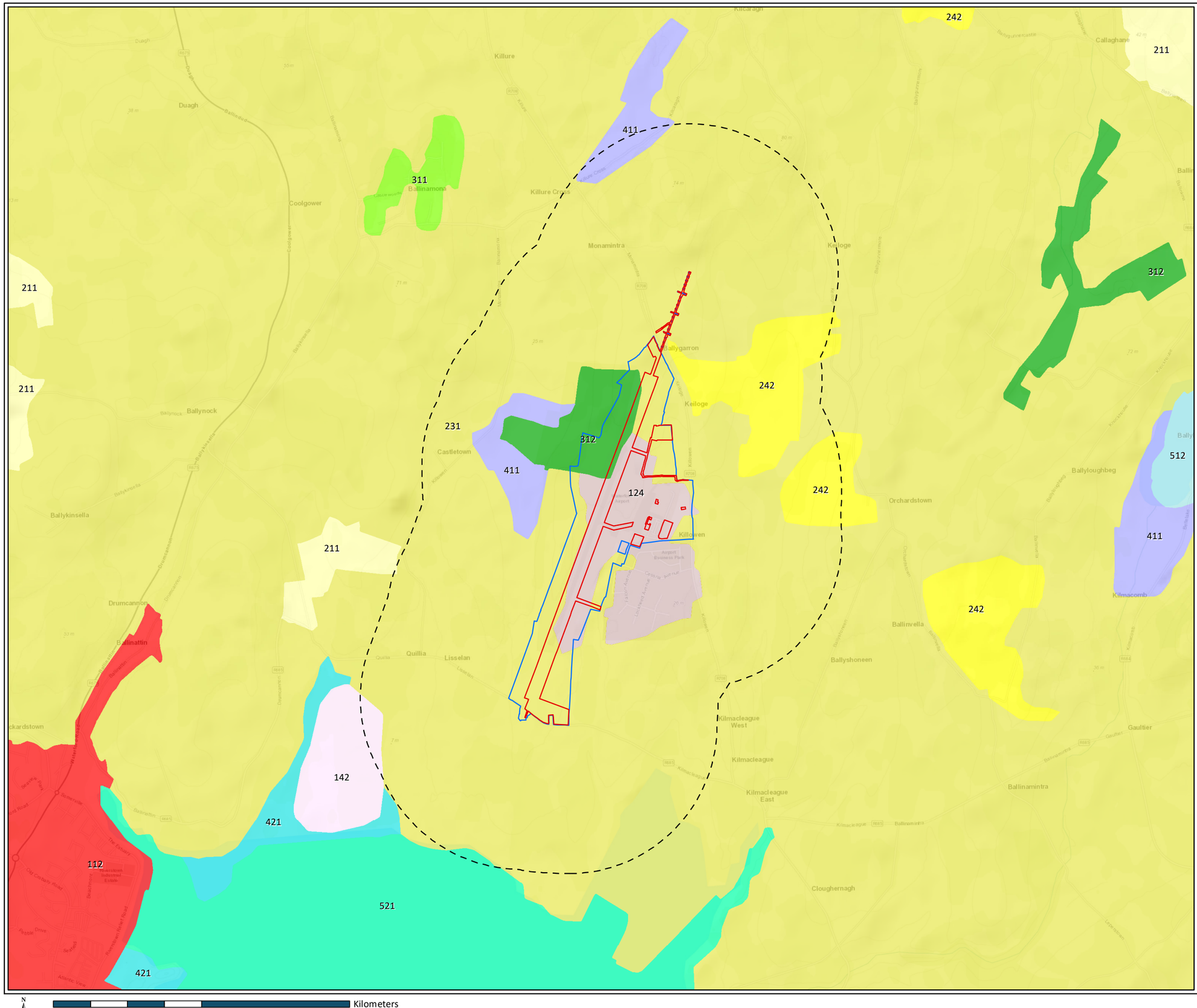
As such, no adverse effects will occur in the do-nothing scenario with respect of land use.

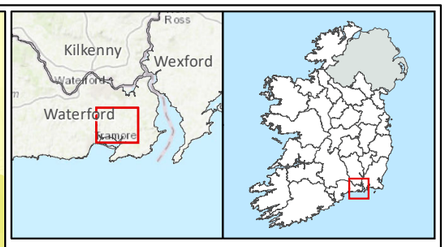
5.6.3 Potential Impacts – Construction

The construction phase of the project will see the construction of a runway extension, widening of the entire runway and taxi-way, extension to existing car park area, re-alignment of security fencing, new navigation lighting, provision of water storage tank, alteration to drainage system and demolition of 2 no. dwellings. The project will also include the extension of the terminal building, upgrade of waste-water treatment plant and the provision of a set-down area for public transport.

The construction works will see the disruption of the existing land use within the site boundary where works are proposed. The potential construction impacts will see soil excavations, ground works, hardstanding areas and other typical site construction works. Minor impacts to agricultural use and the northern extent of the site will occur during the construction phase as the navigation lights are put in place, however, this will be a temporary impact and agricultural practice can continue on the lands following construction.

Path: R:\Map Production\2020\P20-004\Workspace\EIAR\P20-004_GIS_Fig5-7_CORINELandCover_A3.mxd





- Site Boundary
- Land under SERA (South East Regional Airport) and Waterford City and Council Ownership
- 1km Distance from Airport

CORINE Land Cover 2018

- 112 Discontinuous urban fabric
- 124 Airports
- 142 Sport and leisure facilities
- 211 Non-irrigated land
- 231 Pastures
- 242 Complex cultivation patterns
- 311 Broad-leaved forest
- 312 Coniferous forest
- 411 Inland marshes
- 421 Salt Marshes
- 512 Water bodies
- 521 Coastal lagoons

N W E S

0 0.5 1 2 Kilometers

TITLE:	CORINE Land Cover within and adjacent to the Site		
PROJECT:	Waterford Airport Runway Extension		
FIGURE NO:	5.7		
CLIENT:	Waterford Airport		
SCALE:	1:25000	**REVISION:**	0
DATE:	13/05/2020	**PAGE SIZE:**	A3

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5.6.4 Potential Impacts – Operation

During the operational phase of the proposed development, the existing land use will see an extension of aviation related land use activity arising from the construction of the proposed works and the enhanced aviation operations. The demolition of 2 no. dwellings to the north of the runway will result in a permanent change of use from residential to airport related use. Land use on adjacent lands where navigation lights will be placed can continue once construction is complete. The operational impact on land use as a result of the proposed development is considered long-term slight/imperceptible.

5.6.5 Cumulative Impacts

No cumulative effects have been identified to have any significant 'in combination' impact arising from the proposed development in conjunction with another permitted or under construction project.

5.6.6 Mitigation Measures

The proposed development will alter the land use of undeveloped land where proposed works will take place for use for aviation operations. Mitigation measures for land use are primarily related to preliminary design stage, which has allowed for the prevention of unnecessary or inappropriate ground works or land use alterations to occur. Further details in respect of the alternatives and preliminary design stage are considered in Chapter 14: Alternatives of this EIAR.

5.6.7 Residual Impacts

Residual impacts associated with land use, as a result of the proposed development will include the demolition of 2 no. dwellings to allow for safe aircraft manoeuvres. The impact of the loss of two no. dwellings is considered permanent and imperceptible. The replacement of grassland with hardstanding runway will have a permanent and imperceptible impact on land use within airport lands. This is considered imperceptible due to the lands designation as airfield reserve area and its ongoing use to accommodate air traffic activity. The placing of navigation lighting on adjacent agricultural lands will have a slight and long-term impact on land use, however, agricultural practices can continue on these lands.

5.7 Material Assets: Infrastructure and Utility Services;

The following section assesses the potential impact of the proposed development on the material assets of the receiving environment during the construction and operational phases of the proposed development.

The material assets that have been considered include:

- Electricity
- Telecommunications
- Gas
- Water supply
- Infrastructure Sewerage

As noted in Chapter 4: Consultation, consultation responses were sought from key material asset stakeholders in order to inform the environmental impact assessment. Key material asset consultees included:

- Waterford City & County Council Environment Department
- Waterford City & County Council Roads, Water & Environment
- Commission for Regulation of Utilities
- Transport Infrastructure Ireland
- Office of Public Works
- Irish Water

Consultation responses have informed the infrastructure and utility services section where applicable.

5.7.1 Existing Environment

In the context of the receiving environment, the following service providers and details were identified:

5.7.1.1 Electricity

EirGrid, ESB Networks and ESBI provide the existing electricity supply to the receiving environment. There are ESB lines traversing the southern end of the site boundary. There is no substation located within the site boundary.

5.7.1.2 Telecommunications

The primary telecommunication operators that provide services to the receiving environment include Éir, Vodafone Ireland, Three Ireland and Virgin Media. There is a Vodafone mast located adjacent to the eastern site boundary (WT0047) and a further Vodafone mast located c. 300m from the eastern boundary (WD04970). Two telecommunication links traverse the site.

5.7.1.3 Gas

Gas Networks Ireland (GNI) manage the transmission and distribution of gas within the receiving environment. No major gas pipeline is located in proximity to the proposed development.

5.7.1.4 Water supply

Irish Water manage the water supply and resource of the receiving environment. A consultation response was received from Irish Water on the 6th of July, 2018 noting no objections to the proposed development.

5.7.1.5 Infrastructure Sewerage

Irish Water provide for the management of large public based infrastructure sewerage networks. No public sewers traverse the airport. As part of the proposed project, an upgrade to the existing waste water treatment plant is proposed, this will not affect capacity or operations of public sewer network. A consultation response was received from Irish Water on the 6th of July, 2018 noting no objections to the proposed development.

5.7.2 Do Nothing Scenario

In the event that the proposed development does not go ahead, the infrastructure and utility services (electricity, telecommunications, gas, water supply, and infrastructure sewerage) will remain as existing.

No mitigation measures will be required in the event that no development takes place.

5.7.3 Potential Impacts – Construction

5.7.3.1 Electricity

No conflict is anticipated to arise with respect of existing electrical infrastructure during the construction phase of the proposed development.

The proposed development will see the laying of electric and fibre optic cables for the new airfield ground lighting system. Overhead ESB lines on the southern end of the site will be buried.

This modification has been assessed and it is considered that no adverse environmental effect will arise during the construction phase relating to the laying of cables with respect of material assets.

5.7.3.2 Telecommunications

Given that there is no telecommunication infrastructure located within the site boundary, and that existing operations at the airport have not given rise to any adverse effects on telecommunications within the receiving environment, it is not anticipated that any adverse effects will arise as a result of the construction of the proposed development.

5.7.3.3 Gas

No gas distribution or transmission mains have been identified within the vicinity of the proposed development. Therefore, no conflict with the operations of Gas Networks Ireland (GNI) will occur during the construction phase of the project.

5.7.3.4 Water supply

The proposed development will see alterations to drainage systems. Details of potential impacts arising during the construction of the project are provided for in Chapter 7: Hydrology and Water Quality. Mitigation measures relating to the construction phase of development will ensure that the proposed development will have a 'slight impact' to the receiving hydrological environment as detailed in Chapter 7.

5.7.3.5 Infrastructure Sewerage

As part of the proposed project, it is proposed to upgrade the existing waste water treatment plant. No impacts to public sewer networks are anticipated.

5.7.4 Potential Impacts – Operation

5.7.4.1 Electricity

The proposed development involves the laying of electric and fibre optic cables for the new airfield ground lighting system. Overhead ESB lines on the southern end of the site will also be buried.

This will give rise to a benefit to the existing materials assets, in particular, electrical material assets, by way of enhancement to the existing electrical infrastructure which will have an indirect, positive impact on the economics and functioning of the airport. There will be no operational impacts associated with the buried ESB lines during operational phase regarding material assets.

5.7.4.2 Telecommunications

No telecommunications infrastructure is located within the site boundary. No adverse effects are anticipated to occur to any telecommunication infrastructure located within the immediate environment, including two Vodafone masts during the operational phase of the proposed development.

5.7.4.3 Gas

No gas distribution or transmission mains have been identified within the vicinity of the proposed development. As such, no conflict with the operations of Gas Networks Ireland will occur during the operational phase of the proposed development.

5.7.4.4 Water supply

The proposed development will see alterations to drainage systems. Details of potential impacts arising during the construction of the project are provided for in Chapter 7: Hydrology and Water Quality. Mitigation measures relating to the operational phase of development will ensure that the proposed development will have a 'slight impact' to the receiving hydrological environment as detailed in Chapter 7.

5.7.4.5 Infrastructure Sewerage

The operational phase will include the use of an upgraded wastewater treatment plant. This will provide appropriate levels of treatment, consistent with regulations and guidelines. No impact is envisaged to other existing sewerage assets in the area.

5.7.5 Cumulative Impacts

No cumulative effects have been identified to have any significant 'in combination' impact arising from the proposed development in conjunction with another permitted or under construction project with respect of infrastructure and utility services.

5.7.6 Mitigation Measures

No mitigation measures will be required with respect to infrastructure and utility services given that there will be no adverse effects on electricity, telecommunications, gas, water supply or infrastructure sewerage as a result of the proposed development.

5.7.7 Residual Impacts

Given that no mitigation measures will be implemented and the unlikelihood of any adverse effects arising from the proposed development, any residual effects that arise in respect of the proposed development on infrastructure and utility services will be imperceptible.

5.8 Recreation, Tourism and Amenity

5.8.1 Existing Environment

Tourism is one of the major contributors to the national economy and is a significant source of full time and seasonal employment. In 2018 overseas tourist visits to Ireland grew by 6.5% to 9.6 million. The total tourism industry in Ireland was estimated to make up to €9.4 billion in 2018.

Regional Tourism performance figures for 2018 have been made available by Fáilte Ireland. As demonstrated in Table 5.11 below, tourist numbers for the South-Eastern region totalled 1,028,000 overseas visitors in 2018. Tourist revenue accounted for €261 million for overseas tourists. Northern Ireland tourist figures totalled 22,000 tourists in 2018 with €8 million in revenue generated from Northern Ireland visitors.

Table 5-12: South East Regional Performance (Tourists in 2018)

Region		Britain	Mainland Europe	North America	Other Areas	All Overseas	Northern Ireland	Domestic Trips
South East	Tourists (000s)	296	358	296	78	1,028	22	1,683
	Tourist Revenue (€mn)	83	86	70	22	261	8	304

The Waterford County Development Plan 2011-2017 (as extended) sets out the importance of tourism to the county and for the South-East region as a whole. Tourism makes up a considerable contribution to the south-eastern region's economy. Tourism and recreational amenities located in the region include:

- Waterford City which is located approximately 5.5km north of the site and is considered Ireland's oldest city with some of the best Viking and medieval attractions in the country.
- Woodstown Strand, located 6.5km east of the proposed development site provides recreational amenity and tourism to the region.
- Tramore, situated 5km west of the airport is a popular summer resort which caters for up to 40,000 visitors per day in the summer season.
- Little Island, 5.7km north of the proposed development site is an island that is home to Waterford Castle and golf course.
- Waterford Greenway is a recreational amenity and tourist attraction which follows the old railway line from Waterford City to Dungarvan, 46km in length off-road cycling and walking trail.
- Waterford Nature Park, approximately 8km from the site is a 150 acre park, with 2km walkway, located on the Tramore Road.
- House of Waterford Crystal, is located 5.5km from the subject site in the heart of Waterford City, it provides an attractive tourism amenity to the South-East and is an important historic amenity to Waterford.
- The Copper Coast UNESCO Global Geopark is located approximately 25km from Waterford Airport, between Dungarvan and Tramore. The Copper Coast extends 25km along the coastline and is a valuable recreational amenity for the region.

There are other tourist and recreational amenities associated with the region that give rise to its tourist values. These can be considered to contribute to what is a viable tourist sector for the South East Region.

5.8.2 Do Nothing Scenario

In the do-nothing scenario, the airport will continue to provide its current uses and facilities to the South-East Region.

As is the case for aviation development and operations, airports underpin the business and tourist economy by way of facilitating inward and outward movement. This demonstrates that the proposed development at Waterford Airport would undoubtedly have a positive impact on the commercial viability and attractiveness of the South-East region.

In the absence of the proposed development, the current runway will not facilitate executive aircraft types that would permit a wider scope of aircraft to allow outward and inward access for the business and tourist communities.

The study area and greater South-East Region will be at risk of being bypassed by potential tourists who visit Ireland due to a lack of connectivity. In the absence of strong aviation connectivity, Waterford and the South-East region may struggle to attract new tourism as it will be considered at a disadvantage to other regions that are connected by aviation linkages to other places.

5.8.3 Potential Impacts – Construction

During the construction phase for the proposed development there is potential for temporary negative impacts on amenity in the vicinity of the site due to noise and dust nuisance and due to construction traffic. Mitigation measures, as outlined in Chapters 8, 10 and 11 of this document will be deployed in order to minimise these potential negative impacts.

5.8.4 Potential Impacts – Operation

The Department of Transport, Tourism and Sport's policy statement *People, Place and Policy – Growing Tourism to 2025* (March 2015) notes that:

> *"Local Authorities, have long recognised the important contribution of tourism to their local areas. They provide infrastructure and environmental management that is essential for a fully-functioning economy like the provision of roads and the provision of recreation and amenity facilities, with consequent benefits for both locals and visitors".*

Overall, it is anticipated that Waterford Airport will have a direct, positive impact on recreation, amenity and tourism as it facilities enhanced accessibility to the region. It is expected that by year five of operation, the proposed development will provide for 172,500 inbound flights per annum. This will provide a significant tourism gateway for the region and is likely to act as a steppingstone towards a greater prosperity in the tourism and recreation industries. It is expected that the proposed development will have a long-term significant positive impact on recreation and tourism in the South East Region as a whole.

It is unlikely that the proposed development will impact negatively on any recreation and amenity features in the surrounding area.

5.8.5 Cumulative Impacts

No cumulative effects have been identified to have any significant 'in combination' impact arising from the proposed development in conjunction with another permitted or under construction project with respect of recreation, tourism and amenity.

5.8.6 Mitigation Measures

The proposed development will provide for an enhancement of the airport for aviation operations. Mitigation measures primarily related to site selection and preliminary design stage. These are considered in Chapter 14: Alternatives of this EIAR.

5.8.7 Residual Impacts

Once mitigation measures and appropriate design measures are incorporated into the design and operations of the proposed development, there will be no significant negative residual effects arising from the project on recreation, amenity and tourism. A long-term moderate positive residual impact is likely to occur due to renewed international air traffic links to the region which will likely boost tourism in the south eastern region, in line with passenger projections for the proposed development.

5.9 Conclusion

The receiving environment of the proposed development relating to population, land use, socio-economics, local employment & economic activity, recreation, amenity and tourism, human health and material assets has been assessed.

The proposed development will directly and positively affect the human environment through the provision of temporary and permanent employment associated with the construction and operational phases respectively. The proposed development will also give rise to significantly enhanced tourist opportunities for the region by way of aviation access. This will have direct and indirect positive impacts on the economy.

No adverse effects have been identified in respect of population, socio-economic activity, land use, human health and material assets, as noted in the respective sections detailed above.

Potential effects on the local environment associated with noise, air quality, visual impact and water quality during the construction and operational phases of the proposed development are discussed in Chapter 10: Air and Climate, Chapter 8: Traffic and Transportation, Chapter 11: Noise and Vibration, Chapter 7: Hydrology and Water Quality and Chapter 9: Landscape and Visual Impact Assessment.

5.10 References

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2. A National Aviation Policy for Ireland, August 2015: Department of Transport, Tourism and Sport
3. Central Statistics Office, Census 2006, 2011, 2016
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6. International Civil Aviation Organization (ICAO) – Global Aviation Safety Plan 2017-2019 (GASP)
7. Regulation (EC) No 216/2008 of 20/02/2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/E
8. Runway Safety Programme - Global Runway Safety Action Plan (2017), International Civil Aviation Organization
9. Safety, Health & Welfare at Work (Construction) Regulations 2013
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16. Southern Regional Assembly, Regional Spatial & Economic Strategy (2020)
17. The Department of Transport, Tourism and Sport, 2015. Policy statement: People, Place and Policy – Growing Tourism to 2025 (March 2015)
18. Waterford Council, 2011. Waterford County Development Plan 2011-2017 (as extended)
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