

3.0 POPULATION AND HUMAN HEALTH

3.1 INTRODUCTION

The 2014 EIA Directive (2014/52/EU) updated the list of topics to be addressed in an EIAR, replacing 'Human Beings' with 'Population and Human Health'. This chapter meets the requirements to assess both effects on human beings under Schedule 6 of the Planning and Development Regulations 2001-2018, and effects on population and human health under the 2014 EIA Directive.

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Population and Human Health comprise an important aspect of the environment to be considered. Any significant impact on the status of human health, which may be potentially caused by a development proposal, must therefore be comprehensively addressed.

Population and Human Health is a broad ranging topic and addresses the existence, activities and wellbeing of people as groups or 'populations'. While most developments by people will affect other people, this EIAR document concentrates on those topics which are manifested in the environment, such as new land uses, more buildings or greater emissions.

3.2 STUDY METHODOLOGY

At the time of writing there is no guidance from the EU Commission on the 2014 EIA Directive to indicate in detail how the new term 'Human Health' should be addressed. The 2017 European Commission Guidance on the preparation of Environmental Impact Assessment Reports (2017) states the following in relation to Population and 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 the 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. In addition, these would concern the commissioning, operation, and decommissioning of a Project in relation to workers on the Project and surrounding population."

This chapter of the EIAR document has been prepared with reference to recent national publications which provide guidance on the 2014 EIA Directive including the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018) and the Draft Guidelines on the information to be contained in environmental impact assessment reports, published by the EPA in August 2017.

The 2018 EIA Guidelines published by the DHPLG state that there is a close interrelationship between the SEA Directive and the 2014 EIA Directive. The Guidelines state that the term 'Human Health' is contained within both of these directives, and that a common interpretation of this term should therefore be applied.

To establish the existing receiving environment / baseline, several site visits were undertaken to appraise the location and likely and significant potential impact upon human receptors. Desk based study of published reference documents such as Central Statistics Office Census data, the ESRI Quarterly

Economic Commentary, the Regional Economic and Spatial Strategy for the Eastern and Midlands Regional Assembly, the Kildare Town LAP 2012-2018, and the Kildare County Development Plan 2017-2023 was also carried out.

It should be noted that there are numerous inter-related environmental topics described throughout this EIAR document which are also of relevance to Population and Human Health. Issues such as the potential likely and significant impacts of the proposed development on landscape and visual impact, biodiversity, archaeology and cultural heritage, air quality and climate, noise and vibration, water, land and soils, material assets including traffic and transport impacts, residential amenity etc. are of intrinsic direct and indirect consequence to human health. For detailed reference to particular environmental topics please refer to the corresponding chapter of the EIAR.

The Draft Guidelines on the information to be contained in environmental impact assessment reports, published by the EPA in 2017 states that *'in an EIAR, the assessment of impacts on population & human health should refer to the assessments of those factors under which human health effects might occur, as addressed elsewhere in the EIAR e.g. under the environmental factors of air, water, soil etc.'*

This chapter of the EIAR document focuses primarily on the potential likely and significant impact on Population, which includes Human Beings, and Human Health in relation to health effects/issues and environmental hazards arising from the other environmental factors. Where there are identified associated and inter-related potential likely and significant impacts which are more comprehensively addressed elsewhere in this EIAR document, these are referred to. The reader is directed to the relevant environmental chapter of this EIAR document for a more detailed assessment.

3.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SITUATION)

3.3.1 Introduction

A description of the relevant aspects of the current state of the environment (baseline scenario) in relation to population and human health is provided below. Specific environmental chapters in this EIAR provide a baseline scenario relevant to the environmental topic being discussed. Therefore, the baseline scenario for separate environmental topics is not duplicated in this section; however, in line with guidance provided by the European Commission, the EPA and the Department, the assessment of impacts on population and human health refers to those environmental topics under which human health effects might occur, e.g. noise, water, air quality etc.

An outline of the likely evolution without implementation of the project as regards natural changes from the baseline scenario is also provided.

The existing environment is considered in this section under the following headings:

- Economic Activity;
- Social Patterns;
- Land-Use and Settlement Patterns;
- Employment;
- Health & Safety; and
- Risk of Major Accidents and Disasters.

3.3.2 Employment and Economic Activity

The CSO's Quarterly National Household Survey for Q1 2019, published in May 2019, identifies that unemployment decreased nationally by 18,600 (-14.0%) in the year to Q1 2019 bringing the total number

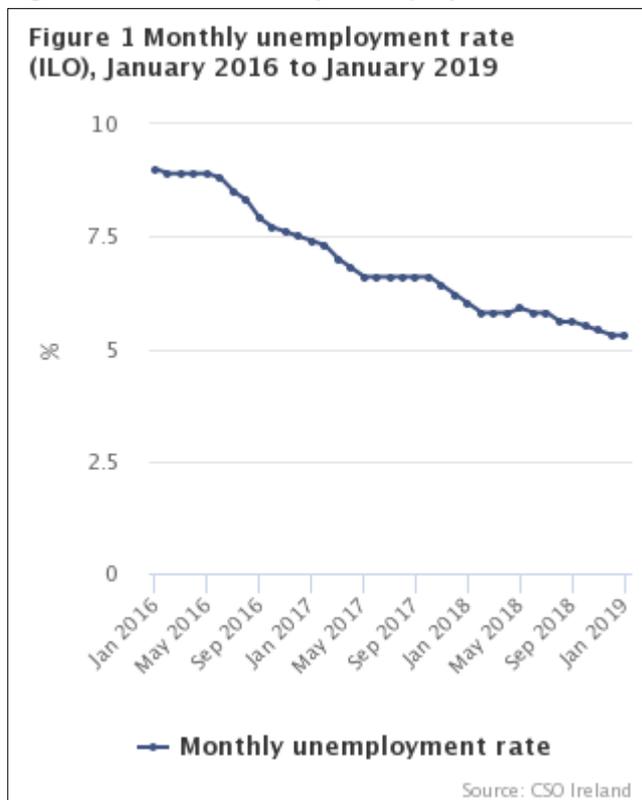
of persons unemployed to 114,400. This is the twentieth seventh quarter in succession where unemployment has declined on an annual basis.

There was an annual increase in employment of 3.7% or 81,200 in the year to the first quarter of 2019, bringing total employment to 2,301,900.

According to the same CSO document, the long-term unemployment rate decreased from 2.1% to 1.7% over the year to Q1 2019. Long-term unemployment accounted for 35.7% of total unemployment in Q1 2019 compared with 37.7% a year earlier and 39.1% in the second quarter of 2017.

The 2016 census showed that County Kildare had an average unemployment rate of 11.4%, below the (2016) national average of 12.9%.

Fig. 3.1: National monthly unemployment rate



Source: CSO

In its quarterly economic commentary published in December 2018, the ESRI forecast that 2019 will see a further fall in unemployment:

'The ESRI's latest Quarterly Economic Commentary states that GDP is expected to grow by 8.2 per cent in 2018, followed by 4.2 per cent growth in 2019. Unemployment is expected to average 5.7 per cent in 2018 before falling to 5.1 per cent in 2019.'

The ESRI forecasts GDP growth of 4.2 per cent in 2019. ESRI's forecasts for 2019 are subject to the technical assumption that the UK's continued membership in the EU will effectively remain in place after March 2019. However, the economy faces an unprecedented degree of uncertainty in 2019; the outcome of the Brexit process, combined with the possibility of increased international trade tensions, could have significant implications for the economy's performance in the new year

In summary, further improvement in the national economy and employment levels is expected in 2019. This is likely to lead to increased demand for new housing, especially in the Greater Dublin Area.

The proposed development will provide significant additional housing, including family housing, in an area of high and growing market demand, at a serviced site well served by public transport. Development will also make a positive contribution to renewal and regeneration in Kildare Town. This will assist in delivering multiple strategic long term growth objectives of both Kildare County Council and the Eastern and Midland Regional Assembly.

3.3.3 Social Patterns

The application site is located within the electoral division (ED) of Kildare, with the administrative area of Kildare County Council. The relevant CSO population statistics are set out in Table 3.1, below. The most recent census of population was undertaken in 2016.

Table 3.1 Population Change at the State, County Kildare and Kildare ED Levels 2011 – 2016

Area	Number of Persons		
	2011	2016	% change 11-16
Ireland - State	4,588,252	4,761,865	3.8
County Kildare	210,312	222,130	5.6
Kildare ED	9,325	9,859	5.7

Source: Central Statistics Office

The CSO data illustrates that the population of the State increased between 2011 and 2016 by 3.8%, bringing its total population to 4,761,865. The rate of growth slowed from 8.1% in the previous census, attributable to the slower economic activity in the early part of the census period. The economy has recovered in recent years with consequent population growth predominantly attributed to natural increase, greater economic activity, increased job opportunities and continued immigration.

Growth within County Kildare and the Kildare ED was higher than the national average, with growth rates of 5.6% and 5.7%, respectively.

3.3.4 Land Use and Settlement Patterns

The application site comprises approximately the southern half of the former Magee Barracks site Kildare Town, County Kildare. The site is located within the administrative area of Kildare County Council, and is subject to the land use policies and objectives of the Kildare County Development Plan 2017-2023 and the Kildare Town Local Area Plan 2012-2018. Under the Kildare Town LAP, the entire former barracks site is zoned 'Z' - 'Regeneration of Magee Barracks'.

The site is within c. 750 metres of the centre of Kildare Town and within walking distance of Kildare Train Station. Land use is predominantly residential to the immediate north, east and west of the site, with commercial and community uses to the south, including a supermarket, resource centre and primary care centre. Two existing schools are located to the immediate northwest of the site. A wide range of community facilities (including a library, education centre, community centre and heritage centre) is available in Kildare Town centre. The surrounding physical context does not include any industrial processes (including SEVESO II Directive sites (96/82/EC & 2003/105/EC) that would be likely to result in a risk to human health and safety.

The site is generally open in character and of generally level topography, with land rising gently toward its southern boundary. The site currently consists of a number of vacant military buildings, all of which are in

serious disrepair, areas of hard surfacing formerly used as training grounds / assembly areas and underutilised green-field lands. The former use of the site as a barracks was discontinued in 1998, and the site has remained vacant until the present day.

The site is an appropriate location for a primarily residential infill development catering for a portion of Kildare Town's planned population growth whilst enhancing the town's urban structure and connecting existing residential areas to the north and east with the town centre, rail station and community facilities to the south and west.

The proposed residential and neighbourhood centre development is part of a wider masterplan for the redevelopment for the former Magee Barracks site which will include a Phase 2 residential development, a permitted supermarket and a cancer treatment clinic (currently on appeal to An Bord Pleanala).

3.3.5 Health & Safety

The surrounding context consists of a mix of residential, agricultural, employment, educational and open space public amenity lands. It does not include any man-made industrial processes (including SEVESO II Directive sites (96/82/EC & 2003/105/EC) which might result in a risk to human health and safety.

3.3.6 Risk of Major Accidents and Disasters

The 2018 EIA Guidelines state that an EIAR must include the expected effects arising from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project.

In this respect, taking cognisance of the other chapters contained within this EIAR document, it is not considered that the proposed development site or the existing context presents risks of major accidents or disasters, including external man made or natural disasters.

3.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

Consideration of the characteristics of the proposed development allows for a projection of the level of impact on any particular aspect of the environment that could arise. In this chapter the potential impact on population and human health is assessed.

A full description of the proposed development is provided in Chapter 2. In summary, the proposal is for the demolition of 17 no. disused buildings on site and the construction of a residential development consisting of 375 no. residential units, a neighbourhood centre, internal roads, parking, pedestrian and cycle paths, public open space and all associated site and infrastructural works. Vehicular access to the development will be via Hospital Street.

The proposed development comprises Phase 1 (11.35 ha) of the overall development of the applicant's c. 20.78 ha landholding at this location. The planning application is accompanied by an overall site masterplan drawing indicating permitted and future phases on the remainder of the lands, which include a permitted supermarket, a proposed cancer treatment clinic (proton therapy) (currently on appeal with ABP), and a Phase 2 residential development of c. 250 units, which will be subject to a separate future planning application.

3.5 POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT

3.5.1 Introduction

This section contains an assessment of the potential effects of the proposed development on population and human health. This is provided with reference to both the Characteristics of the Receiving Baseline Environment and Characteristics of the Proposed Development sections. The assessment takes the demolition, construction and operational phases of development into account.

For a more detailed assessment of the specific, direct and indirect, impacts that the proposed development may have during both the construction and operational phases of the proposed development and potential for impacts on local population and human health, please refer to the Landscape and Visual Impact, Land and Soils, Water, Noise and Air Quality Chapters of the EIAR.

As stated, guidance documents from the EPA, the European Commission, and the Department of Housing, Planning and Local Government outline that the assessment of impacts on population and human health should focus on health issues and environmental hazards arising from the other environmental factors, and does not require a wider consideration of human health effects which do not relate to the factors identified in the EIA Directive.

This section addresses the socio-economic and employment impacts of the proposed development. For a more detailed assessment of potential impacts associated with other environmental factors, please refer to specific chapters of the EIAR which assess the environmental topics outlined in the EIA Directive.

3.5.2 Employment and Economic Activity

Construction Phase

The construction of the proposed development is likely have a positive direct effect on local employment and economic activity, particularly in the construction sector. The construction phase will also have positive indirect effects on employment and economic activity in associated and secondary building services industries, e.g. quarrying, building supplies, retail and technical professions. These positive effects will be temporary (3-5 years in duration) but will contribute to the overall viability of the local construction sector and associated industries and services during the period. Further positive cumulative employment and economic effects will result from the wider Magee Barracks regeneration proposals.

Operational Phase

The proposed development will deliver 375 no. residential units, 3 no. retail units, a café unit (including gallery / exhibition area) and a childcare facility. The resultant increase in population will assist with the delivery of critical mass to support a wider range of businesses, services, public transport and employment opportunities in Kildare Town. The proposed retail units, café and childcare facility will generate permanent employment opportunities. Further positive cumulative employment and economic effects will result from the wider Magee Barracks regeneration proposals, which include approximately 250 no. residential units, a supermarket and cancer treatment clinic.

3.5.3 Social Patterns

Construction Phase

The construction of the proposed development is unlikely to have any significant effect on the size of the local population or its socio-economic profile.

Operational Phase

The proposed development will provide significant additional housing, including family housing, in the area of high and growing market demand, at a location well served by public transport. Increasing the population of Kildare Town will assist with the delivery of critical mass to support a wider range of community services and facilities, including public transport. New residents are likely to benefit from the wide range of community facilities available within walking distance of the site, and existing residents are likely to benefit from new community facilities to be delivered as part of the proposed development.

Further positive cumulative effects will result from the wider Magee Barracks regeneration proposals, which include approximately 250 no. residential units, a supermarket and a cancer treatment clinic.

3.5.4 Land-Use and Settlement Patterns

Construction Phase

As outlined in Chapter 2 of this EIAR, the entire former Magee Barracks site is zoned for regeneration (which includes residential development) under the Kildare Town Local Area Plan 2012-2018, which was itself subject to the SEA process. As such, the site is considered suitable for construction activities to provide a development that will cater for a portion of the town's planned population growth whilst contributing to its renewal and regeneration.

During the design process for the proposed development several iterations of the site layout and alternative designs were considered. This EIAR demonstrates that, with recommended effect mitigation measures in place, the subject site and surrounding area have the environmental capacity to accommodate the construction of the proposed development and wider Magee Barracks regeneration proposals without any significant risk of impact upon environmental sensitivities due to the site location.

Operational Phase

The proposed development will cater for a portion of Kildare Town's planned population growth, enhance its urban structure and built fabric and provide new connections between existing residential areas to the north and east and the town centre, rail station and community facilities to the south and west. New residents are likely to benefit from the wide range of community facilities available within walking distance of the site, and existing residents are likely to benefit from new community facilities to be delivered as part of the proposed development, including significant quantities of public open space.

3.5.5 Flood Risk and Water Quality

Construction Phase

Surface water drainage during construction will be via a temporary site drainage system operated under licence from Kildare County Council.

Chapter 9 of this EIAR assesses the risk of groundwater contamination during construction and recommends mitigation measures to ensure that risks are appropriately mitigated.

With these mitigation measures in place, no adverse effects on human health from water pollution during construction are anticipated.

Operational Phase

The proposed development is not located within an area at risk of fluvial flooding. No risk of fluvial flooding is anticipated. The risk of groundwater flooding is low.

The proposed surface water drainage system has been designed in accordance with current best practice, therefore no risk from surface water flooding or flooding of the combined sewer network is anticipated.

Irish Water has confirmed that the local sewerage network will have capacity to cater for the proposed development and therefore no risk to human health from sewer flooding / river pollution is anticipated.

3.5.6 Air Quality

Construction Phase

Site clearance, demolition, ground excavation works and the movement of HGVs have the potential to generate fugitive dust. Construction vehicles and plant will give rise to exhaust and particulate emissions.

The air quality effects of emissions from construction vehicles and plant have been assessed in Chapter 10 of this report and determined to be negligible. No adverse effects on human health from vehicle and plant emissions during construction are anticipated.

The air quality effects of dust generated by site clearance, demolition, ground excavation works and the movement of HGVs have been assessed in Chapter 10 of this report and determined to be negligible. Measures to minimise dust generation are set out in Chapter 10 if this EIAR and reflected in the Construction Environmental Management Plan accompanying the planning application. With these mitigation measures in place, no adverse effects on human health from dust are anticipated.

Operational Phase

Once operational, the main potential cause of air pollution is traffic movements associated with the development. The operational air quality effects of traffic movements have been assessed in Chapter 10 of this report and determined to be negligible. The assessments in Chapter 10 include the cumulative effects of the wider Magee Barracks regeneration proposals.

The design and construction of all proposed buildings will ensure that they are thermally efficient thereby minimising the demand for heating and associated local air quality impacts.

In summary, effects on human health from air pollution during the operational phase of development are anticipated to be imperceptible.

3.5.7 Contaminated Land

No evidence of contamination has been identified in the course of site investigations carried out to date. Nevertheless, given its brownfield nature and historic uses as an artillery barracks and hospital, the presence of pockets of contamination on site cannot be completely ruled out at this stage.

Chapter 8 of this EIAR assesses contamination risks during construction and operation and recommends mitigation measures to ensure that risks are appropriately mitigated.

With these mitigation measures in place, no adverse effects on human health from land contamination are anticipated.

3.5.8 Noise

Construction Phase

Construction and demolition activities will result in a short term increase in noise levels at local receptors. Construction and demolition noise will include tonal and impulsive noise such as pneumatic breaking, cutting, excavating and movement of HGVs.

Construction and demolition noise is temporary / short term in nature and will be experienced to different degrees by different receptors as construction progresses on a phased basis across the development site. Measures to ensure that acceptable noise levels are not exceeded during construction / demolition are set out in Chapter 11 (Noise and Vibration) of this EIAR and reflected in the Construction Environmental Management Plan accompanying the planning application. With these mitigation measures in place, effects on human health from noise during construction and demolition are anticipated to be imperceptible. The noise effects of traffic during construction have been assessed in Chapter 11 and determined to be negligible.

Operational Phase

The main source of noise once the development is operational is road traffic noise associated with the development. The noise effects of additional road traffic on local roads have been assessed in Chapter 11 of this report and determined to be negligible. The assessment in Chapter 11 includes receptors both near to and within the proposed development and includes the cumulative effects of the wider Magee Barracks regeneration proposals. In summary, no adverse effects on human health from road traffic noise are anticipated.

3.6 POTENTIAL CUMULATIVE IMPACTS

The cumulative effects of development on population and human health have been assessed taking other planned developments in the surrounding area into account.

Construction of the proposed development in conjunction with the wider Magee Barracks regeneration proposals is likely to have a positive direct cumulative effect on local employment and economic activity, particularly in the construction sector. Construction will also have positive indirect effects on employment and economic activity in associated and secondary building services industries, e.g. quarrying, building supplies, retail and technical professions. These positive effects will be temporary (up to 5 years in duration) but will contribute to the overall viability of the local construction sector and associated industries and services during the period.

The proposed development and wider Magee Barracks regeneration masterplan proposals will cater for a portion of Kildare Town's planned population growth, enhance its urban structure and built fabric and provide new connections between existing residential areas to the north and east and the town centre, rail station and community facilities to the south and west. These new connections will include a road link between Hospital Street and Melitta Road, a specific local planning policy objective. New residents are likely to benefit from the wide range of community facilities available within walking distance of the site, and existing residents are likely to benefit from new community facilities to be delivered as part of the proposed development, including significant quantities of public open space.

No significant adverse cumulative effects on population and human health are anticipated during the construction or operational phases of the wider Magee Barracks regeneration masterplan proposals.

3.7 'DO NOTHING' IMPACT

In order to provide a qualitative and equitable assessment of the proposed development, this section considers the proposed development in the context of the likely impacts upon the receiving environment should the proposed development not take place.

A 'do nothing' scenario would involve the subject site remaining in its currently disused state. From a sustainable development perspective, this would represent the underutilisation of land, given that the site is a serviceable, brownfield site located within walking distance of Kildare town centre and train station zoned for regeneration (which includes residential development) under the Kildare Town Local Area Plan 2012-2018.

The local economy would not experience the direct and indirect positive effects of the construction phase of development, including employment creation. The local construction sector and associated industries and services would be less viable than they might otherwise be.

Failure to deliver the proposed residential units would result in existing housing need and demand remaining unmet. The new pedestrian and cycling links, retail units, childcare facility, café / gallery and public open spaces to be provided in the development and serving the wider area would also not be provided and the former barracks site would continue to harm permeability and connectivity in Kildare town.

3.8 AVOIDANCE, REMEDIAL & MITIGATION MEASURES

Avoidance, remedial and mitigation measures describe any corrective or mitigative measures that are either practicable or reasonable, having regard to the potential likely and significant environmental impacts.

Construction Phase

A range of construction-related mitigation measures are proposed throughout this EIAR with reference to the various environmental topics examined and the inter-relationships between each topic. These measures are likely to result in any adverse effects on population and human health during the construction phase being avoided. Readers are directed to Chapter 15 of this EIAR for a summary of mitigation measures proposed as a result of this EIA.

Operational Phase

The operational phase of development is anticipated to have positive effects on population and human health, particularly in relation to the provision of housing and high quality open space to cater for the demands of a growing population in accordance with the zoning objective pertaining to the site.

3.9 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

This section allows for a qualitative description of the resultant specific direct, indirect, secondary, cumulative, short, medium and long-term permanent, temporary, positive and negative effects as well as impact interactions which the proposed development may have, assuming all mitigation measures are fully and successfully applied. It should be noted that in addition to remedial and mitigation measures, impact avoidance measures have also been built in to the EIA and project design processes through the assessment of the alternatives described in Chapter 2 of this EIAR.

Construction Phase

The construction phase of the proposed development will consist of site clearance, demolition, excavation and construction works, taking place on a phased basis over 3-5 years.

It is anticipated that, subject to the careful implementation of the mitigation measures made reference to in Section 3.8 of this chapter, adverse effects on population and human health during construction will be avoided or suitably mitigated.

Positive impacts are anticipated to arise from an increase in local employment and economic activity. Further positive cumulative employment and economic effects will result from the wider Magee Barracks regeneration proposals.

Operational Phase

The proposed development will cater for a portion of Kildare Town's planned population growth, enhance its urban structure and built fabric and provide new connections between existing residential areas to the north and east and the town centre, rail station and community facilities to the south and west. New residents are likely to benefit from the wide range of community facilities available within walking distance of the site, including public transport, and existing residents are likely to benefit from new community facilities to be delivered as part of the proposed development, including significant quantities of public open space.

Further positive cumulative effects will result from the wider Magee Barracks regeneration proposals, which include a permitted supermarket, proposed cancer treatment clinic and completion of a road link between Hospital Street and Melitta Road, a specific local planning policy objective.

3.10 MONITORING

No ongoing monitoring is considered necessary in relation to the effect of the proposed development on population and human health, other than those measures set out in other relevant chapters of the EIAR.

3.11 REINSTATEMENT

No reinstatement works are proposed in the case of the proposed development.

3.12 INTERACTIONS

No interactions between effects assessed in this chapter or elsewhere in this report that could significantly affect population and human health, or the description of any effects assessed in this chapter were identified.

3.13 DIFFICULTIES ENCOUNTERED IN COMPILING

No significant difficulties were experienced in compiling this chapter of this EIAR.

3.14 REFERENCES

Eastern & Midland Regional Assembly – Regional Spatial and Economic Strategy

Kildare County Development Plan 2017-2023

Kildare Town Local Area Plan 2012-2018

Central Statistics Office Quarterly National Household Survey, Q1 2019 (www.cso.ie)

ESRI Quarterly Economic Commentary, Winter 2019

Central Statistics Office, 2016 census data