

## 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.

This chapter of the EIAR was prepared by Paul Turley (BA, MRUP, Dip Environmental & Planning Law, MIPI) Executive Director at JSA, and approved by John Spain, Managing Director of JSA.

### 3.2 STUDY METHODOLOGY

This chapter has been prepared with reference to recent national publications providing guidance on the 2014 EIA Directive, including:

- The Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, published by the EPA in August 2017; and
- The Key Issues Consultation Paper on the Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems, published by the Department of Environment, Community and Local Government in May 2017.

The Department of Environment, Community and Local Government provide a proposed approach to reflect the requirements of the 2014 EIA Directive in relation to population and human health in the Key Issues Consultation Paper. The paper states that:

*'..it is considered that the change from "human beings" to "population and human health" in relation to EIA is primarily clarificatory and to ensure consistency with, in particular, the SEA Directive.'*

In terms of practical implications with respect to the assessment of effects, the paper states that:

*'..it is intended that the consideration of the effects on populations and on human health should focus on health issues and environmental hazards arising from the other environmental factors, for example water contamination, air pollution, noise, accidents, disasters, and not requiring a wider consideration of human health effects which do not relate to the factors identified in the Directive.'*

The Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports states that:

*'..in an EIAR, the assessment of impacts on population and 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 contains a desk-based assessment of the likely significant land-use and socio-economic effects of development. Source data from the Central Statistics Office (CSO) and ESRI was used to construct the socio-economic baseline.

In accordance with the Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, the assessment of impacts on human health in this chapter refers to the assessments of those environmental factors under which human health effects might occur, as addressed elsewhere in this EIAR. These factors are considered to be flood risk and water quality, air quality, contaminated land and noise, and the reader is directed to the relevant chapters of this EIAR for relevant background information where appropriate.

### **3.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SITUATION)**

#### **3.3.1 Introduction**

In describing the receiving environment, the context, character, significance and sensitivity of the baseline receiving environment into which the proposed development will fit is assessed. This takes account of any other proposed developments that are also likely to proceed. The existing environment is considered in this section under the following headings:

- Employment and Economic Activity
- Social Patterns
- Land-Use and Settlement Patterns

#### **3.3.2 Employment and Economic Activity**

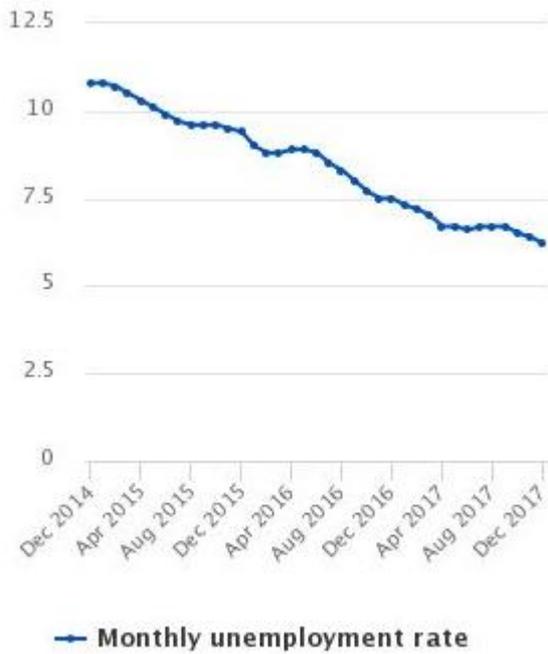
The CSO's Quarterly National Household Survey for Q2 2017, published in September 2017, identifies that unemployment decreased nationally by 46,300 (-18.5%) in the year to Q2 2017 bringing the total number of persons unemployed to 141,500. This is the twentieth quarter in succession where unemployment has declined on an annual basis.

There was an annual increase in employment of 2.4% or 48,100 in the year to the second quarter of 2017, bringing total employment to 2,063,000.

According to the same CSO document, the long-term unemployment rate decreased from 4.4% to 3.1% over the year to Q2 2017. Long-term unemployment accounted for 48.7% of total unemployment in Q2 2017 compared with 51.1% a year earlier and 56.1% in the second quarter of 2015.

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 2017, the ESRI forecast that 2018 will see a further fall in unemployment:

*‘As the Irish economy continues to perform strongly and the construction sector recovers, we believe that the unemployment rate will average 6.2 per cent through 2017 and 5.4 per cent through 2018. Employment is set to exceed 2.07 million by the end of 2017 and increase to 2.12 million by the end of 2018.’*

The ESRI forecasts GDP growth of 4.2 per cent in 2018. Growth will be driven by domestic sources, particularly household spending.

In summary, further improvement in the national economy and employment levels is expected in 2018. 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 (10.83 hectares of an overall 20.78 hectares) in 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. An existing school and site for an additional permitted school (currently at an advanced stage of construction) 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 supermarket and a cancer treatment clinic, to be brought forward via separate planning applications.

### **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 16 no. disused buildings on site and the construction of a residential development consisting of 264 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 16 no. buildings to be demolished have a combined GFA of 16,115 sq. m. The 264 no. residential units will consist of 200 no. houses, two to three storeys in height, and 64 no. apartments / duplexes of three storeys in height. The neighbourhood centre will include 3 no. retail units, a café unit (including gallery / exhibition area) and a childcare facility (115 sq. m., 105 sq. m., 100 sq. m., 300 sq. m. and 680 sq. m. GFA respectively). The associated site and infrastructural works include foul and surface water drainage, attenuation tanks, an electricity substation, 540 no. car parking spaces including 482 no. residential spaces, 26 no. guest spaces and 32 no. spaces to serve the proposed retail, café and childcare units, public open space measuring 1.9 hectares, bin and bike stores, landscaping and boundary walls, railings and fences.

The proposed development comprises Phase 1 (11.14 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 future phases on the remainder of the lands, which include a supermarket, a cancer treatment clinic (proton therapy), and a Phase 2 residential development of c. 179 units, which will be subject to separate applications.

### **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.

#### **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 264 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 179 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 179 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 of 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, in particular the wider Magee Barracks regeneration proposals which include approximately 179 no. residential units, a supermarket and a cancer treatment clinic (to be the subject of separate planning applications).

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 10 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 14 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 supermarket, 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**

Regional Planning Guidelines for the Greater Dublin Area 2010-2022

Kildare County Development Plan 2017-2023

Kildare Town Local Area Plan 2012-2018

Central Statistics Office Quarterly National Household Survey, Q2 2017([www.cso.ie](http://www.cso.ie))

ESRI Quarterly Economic Commentary, winter 2017

Central Statistics Office, 2016 census data