

Spink Quarry, Knockbaun, Abbeyleix, Co. Laois

Spink Quarry

Environmental Impact Assessment Report

Section 4

Population & Human Health

2021



Part of the Breedon Group

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TABLE OF CONTENTS

4 POPULATION & HUMAN HEALTH..... 1

4.1 INTRODUCTION 1

4.2 METHODOLOGY 2

4.3 BASELINE DESCRIPTION OF RECEIVING ENVIRONMENT 4

4.3.1 Land Use 4

4.3.2 Population 6

4.3.3 Economy & Employment 11

4.3.4 Social Consideration 18

4.3.5 Tourism & Amenity 22

4.3.6 Human Health 26

4.3.7 Sensitive Receptors 30

4.4 ASSESSMENT OF IMPACTS..... 31

4.4.1 ‘Do-Nothing’ Impacts 32

4.4.2 Direct Impacts 32

4.4.2.1 Land Use 32

4.4.2.2 Population and Settlement 33

4.4.2.3 Economy & Employment 33

4.4.2.4 Social Consideration 33

4.4.2.5 Amenity, Tourism & Recreation 34

4.4.2.6 Property Values 35

4.4.2.7 Human Health 35

4.4.2.8 Other 36

4.4.3 Indirect Impacts 38

4.4.4 Cumulative Impacts 38

4.4.5 Transboundary Impacts 38

4.4.6 Residual Impacts 38

4.4.7 ‘Worst Case’ Impacts 39

4.5 MITIGATION & MONITORING 40

4.6 REFERENCES 42

4.7 FIGURES 44

Laois County Council Planning Authority, Viewing Purposes Only

LIST OF TABLES AND FIGURES

Table 4.1 Environmental Topics relating to Humans..... 1

Table 4.2 Population in the Local Area 2002-2016 11

Table 4.3 Employment by industry in County Laois and Dysartgallen ED in 2016..... 17

Table 4.4 Socioeconomic Group of Reference Person in Household..... 29

Table 4.5 Populations by General Health and Age Dependency..... 29

Table 4.6 Population & Human Health - Impact Matrix 31

Table 4.7 Direct Impacts by Stage of Development..... 37

Figure 4.1 Locations of residences within 1 km study area around application site boundary.
 45

Figure 4.2 Map of the Dysartgallen Electoral Division showing location of Site (marked X).. 45

Figure 4.3 Age Profile of Dysartgallen Electoral Division in 2016..... 45

Figure 4.4 Chart Showing Profile of Live Register for County Laois from March 2002 to
 November 2020. 45

Laois County Council Planning Authority, Viewing Purposes Only

4 POPULATION & HUMAN HEALTH

4.1 INTRODUCTION

The impact of proposed developments on human beings forms one of the most important aspects to be considered in an EIAR. Any likely significant impact on human beings, including their community and activities, must therefore be comprehensively addressed. The principal concern in respect to this proposed development is that human beings should experience no significant unacceptable diminution in an aspect, or aspects of 'quality of life' as a consequence of the construction and operation of the proposed development.

This section of the EIAR has been prepared in order to establish the human environment in the vicinity, and to assess the potential impact, if any, of the proposed continued operation of Spink quarry at Knockbaun on the existing environment in respect of human beings. Matters related to water, air quality, noise, landscape and other such environmental impacts are not considered here, as these are more appropriately dealt with in their respective sections. Thus, the impacts of the proposed development on human beings in relation to particular issues are addressed in the following sections:

Table 4.1 Environmental Topics relating to Humans

Section	Topic
6	Land, Soils & Geology
7	Water
9	Air
10	Noise & Vibration
11	The Landscape
12	Cultural Heritage
13	Material Assets
14	Roads & Traffic

The issues considered here include land use, population, economy & employment, social infrastructure, amenity, tourism and recreation and health and safety. The potential impact on human beings resulting from the proposed development is assessed, and possible mitigation measures proposed to reduce any significant impacts.

4.2 METHODOLOGY

The human environment was assessed by undertaking a desktop study and conducting visits to the site and the area. The desktop study was undertaken to compile, review and interpret available information and data pertaining to the human environment of the site and area.

The desktop study involved the assessment of all relevant demographic and socio-economic data for the area, much of which was sourced from the Central Statistics Office (CSO). The Laois County Development Plan (2017–2023) was also reviewed, whilst there are no plans for towns, villages or local areas relevant to the proposed development site.

The quarry is currently permitted under P.A. Ref. 10/383 which is for a 10 year period to work the quarry, plus two years for final re-instatement works, unless, prior to the end of the period, planning permission has been granted for its extension for a further period. A copy of the planning permission is included in Appendix 2.

This EIAR accompanies a planning application being submitted by Lagan under Section 34 of the Planning and Development Act 2000, as amended.

The development will consist of the continued use and operation of the existing quarry including deepening of the quarry. Extraction will be confined to the existing permitted quarry area (P.A. Ref. 10/383) comprising an extraction area of c. 14.5 ha within an overall application area of c. 19.6 ha. The development will include provision of new site infrastructure, including portacabin site office / canteen, toilets, concrete batching plant and truck washdown facility, hydrocarbon interceptors, mobile crushing and screening plant, upgrading of the water management system, provision of holding tank for wastewater, and other ancillaries. The proposed development will utilise/upgrade the existing insitu quarry infrastructure, including site access, internal roads, storeroom, wheel wash, weighbridge, aggregate storage bays, refuelling hard stand, water settlement pond system, and other ancillaries.

The desktop study used: (a) maps and site layout plans of the quarry development; (b) Regional Spatial and Economic Strategy for the Eastern and Midland Region (2019); (c) Regional Planning Guidelines for the Midland Region (2010); (d) the National Spatial Strategy 2002-2020 (DoEHLG 2002); and (e) Infrastructure and Capital Investment 2016-2021 (DoPER 2015), which replaced the the National Development Plan 2007-2013 (DoEHLG 2004). The National Spatial Strategy was revoked in 2013, as it had failed to meet its objectives, but its legacy persists having been incorporated into the current RPGs, CPDs and LAPs.

In early, 2018, the government published “Project Ireland 2040”, the new overarching public policy initiative, which consists of the National Planning Framework to 2040 and the National Development Plan 2018-2027 (DoHPLG 2018), which will replace the revoked NSS and the Infrastructure and Capital Investment Plan 2016-2021, respectively. This represents an alignment of the investment strategy with the strategic planning policy, to create a unified and coherent plan, which will drive the long-term economic, environmental and social progress across all parts of the country over the

next ten years. This will ultimately feed into the planning processes by incorporation into the new Regional Spatial and Economic Strategies (RSES) (EMRA 2019) that replaced the Regional Planning Guidelines (MRA 2010) in 2019.

In preparing this section, regard was given to the relevant guidelines and recommendations set out in the 'Draft Guidelines on the Information to be contained in Environmental Impact Statements', Draft, (EPA 2017) and 'Advice Notes on Current Practice in the preparation of Environmental Impact Statements', Draft (EPA 2015).

It is considered that there is a significant volume of available data and information, which is sufficient to adequately assess the local environment with respect to human beings.

The assessment of impacts on the human environment were considered using criteria such as: (a) location of nearest sensitive receptors; (b) disturbance to the general amenity of the local environment; and (c) pre-existing use of the land and area. The operational and decommissioning phases of the proposal were both considered. In carrying out the assessment both positive and negative impacts were considered, and the significance of the impacts are rated as being either: imperceptible; not significant; slight; moderate; significant; very significant or profound (See Appendix 3).

Laois County Council Planning Authority, View for Purposes Only

4.3 BASELINE DESCRIPTION OF RECEIVING ENVIRONMENT

In this section, land use, recent demographic trends, economic activity, social consideration, amenity and tourism, and health are examined.

4.3.1 LAND USE

The application site is located within the Townland of Knockbaun, at Irish Grid Ref. E653400, N683050, c. 4 km northwest of Swan, c. 7 km south of Timahoe, c. 9.5 km east of Abbeyleix, c. 10 km north of Castlecomer, c. 13.5 km southwest of Stradbally, c. 16 km south of Portlaoise, and c. 19.5 km northwest of Carlow Town (See Figures 1.1 and 1.2). The quarry is located on the south side of Regional Road R430, which connects the town of Abbeyleix to the west with the village of Swan to the southeast. The site is situated in a wide bow in the R430 as it swings around the hill into which the quarry has been excavated.

The site occurs at a maximum elevation of 261 m Above Ordnance Datum (AOD) along the southwestern boundary and a minimum elevation of 215 m AOD along the roadway (northeastern boundary). The surrounding lands are largely agricultural with varying degrees of intensity, with a forestry plantation abutting the site to the south. The site is situated on the northwestern flank of the Castlecomer Plateau, where elevations typically vary from 180 to 270 m AOD, and the topography of the area is that of rolling hills. The Castlecomer Plateau is a region of hills and uplands developed on an outlier of more indurated Upper Carboniferous rocks. The general topographical trend of the holding is the lower land to the north and east.

There is a hydrological divide through the centre of the site with the subcatchments of the River Clogh to the east and the River Owenbeg to the west. Both rivers are part of the River Nore Catchment. A tributary of the River Clogh rises in the vicinity of the site entrance, flows subparallel to the R430, and ultimately drains into the mainstream of the River Clogh near Swan. Two tributaries of the Owenbeg River, the Knockbaun and Garrintaggart, rise south and north, respectively, of the quarry and flow to the northwest to drain into the mainstream of the River Owenbeg c. 500 m from the site.

The quarry was re-opened by L. Behan & Sons Ltd in 2003. The local authority had historically worked the quarry up to the 1970s. The quarry was acquired by Lagan in 2014, which is now the full owner of the freehold interest (C. 19.6 ha) in the lands.

The quarry is currently permitted under P.A. Ref. 10/383 which is for a 10 year period to work the quarry, plus two years for final re-instatement works, unless, prior to the end of the period, planning permission has been granted for its extension for a further period. A copy of the planning permission is included in Appendix 2.

The historical annual extraction rate for the quarry was 300,000 to 350,000 tonnes per annum. However, the quarry is not currently in operation, and much of the infrastructure including the asphalt plant have been removed from the site.

To date, extraction has taken place in the northern and central sections of the quarry lands. The existing quarry comprises predominantly excavated or disturbed ground, with stockpiles of aggregate and upstanding areas of undisturbed ground. The historical

processing area is located in the northern section of the site, and currently a storeroom, wheel wash, weighbridge, aggregate storage bays, refueling hard stand, water settlement pond system, and other ancillaries remain in place (Refer to Figure 1.3).

The proposed development will utilise/upgrade the existing in-situ quarry infrastructure, including site access, internal roads, storeroom, wheel wash, weighbridge, aggregate storage bays, refuelling hard stand, water settlement pond system, and other ancillaries (Refer to Figure 1.3). The development will include provision of new site infrastructure, including portacabin site office / canteen, toilets, concrete batching plant and truck washdown facility, hydrocarbon interceptors, mobile crushing and screening plant, upgrading of the water management system, provision of holding tank for wastewater, and other ancillaries.

The 2018 Corine map shows that the predominant land use within the application site was pasture although by definition it should be defined as mineral extraction related to the hard rock quarrying of sandstone/shale. Prior to the commencement of quarrying, the lands had been kept in agriculture use (Refer Figure 11.6).

The land in the wider area surrounding the quarry is typically agricultural land with dispersed farmsteads and sporadic ribbon development along roadsides. Land-use in the area consists of a patchwork of agricultural fields with a wide range in sizes, which are predominantly held in pasture (CORINE Class 231), coniferous forest (312), transitional woodland scrub (324), and heterogeneous agricultural areas (243) (Refer Figure 11.6). Therefore, coniferous forest and woodland scrub is the second most abundant land use in the area, largely as afforestation, but also restricted to the hedgerows and river corridors. Although pasture is the dominant land use in the wider area, there is a history of quarrying, with multiple active and disused/restored quarries in the wider area, particularly around Ballinakill and east of Swan.

The application area comprises the full landholding of c. 19.6 ha of lands. As stated above, the lands are bounded to the north by the R430 Regional Road, while the other boundaries to the west, and east are bounded by farmland; the full length of the southern boundary is bounded by forestation. There are a number of residential dwellings located to the north and northwest of the site, particularly at Larkin's Cross, with the closest located c. 175 m west of the application site.

The landholding can be described as broadly rectangular in shape, with the current quarry comprising the northwest and central area of the landholding. The landholding has c. 700 m of frontage onto the R430 Regional Road, and is serviced by an existing secured, commercial-style gateway with a tarmac apron and internal access road to the wheelwash and weighbridge.

The site is strategically located on the R430 Regional Road, which connects Abbeyleix c. 10 km to the west with Carlow c. 20 km to the southeast. The proposed haulage route for all site-related HGV traffic is therefore directly onto the R430 (Refer to Figure 1.1). As such, site traffic will be immediately directed onto the regional road network and thus avoid significantly impacting the local road network.

The R430 at the quarry site entrance is an unaligned single lane 6–7 m single carriageway with 2 no. 1–2 m sloping grass verges. The pavement is in good condition, however the line markings of the right turning lane require renewal.

The existing site access junction has sight distances of 300–500 m and is located on a slightly curved section of road. There is an existing right turning lane for vehicles turning into the quarry on the western approach to the quarry access. The junction is located within an 80 km/hr speed limit area.

Outside of the immediate environs of the urban areas of Abbeyleix and Castlecomer, and the rural villages of Ballyroan, Ballinakill, Timahoe and Swan, the settlement pattern in the area can be described as low-density rural settlement, with diffuse ribbon development closer Abbeyleix. Residential property in the area typically comprises one-off single residences and farmsteads along public roads and to a minor extent, along and at the end of lanes off the public roads. There are a number of residential dwellings located to the northwest of the site, particularly at Larkin's Cross Roads, with the closest located c. 175 m west of the site. Similarly, there are widely scattered residences and farmsteads along all of the rural roads in the wider area.

There are a number of residences within 1 km of application site boundary, with 6 residences within 250 m, 9 residences within 500 m, and 36 residences within 1 km. Many of the residences (i.e., Nos. 1–3, 5 and 6, and 11 to 22 in Figure 4.1) occur in four clusters northwest and southwest of the site, and hence behind and sheltered by the hill into which the quarry is being developed.

4.3.2 POPULATION

The data presented below are based on the 2016 census data published by the Central Statistics Office (CSO). As the 2011-2016 inter-censal period records the changes since the depths of the recent economic crisis, commonly called the “Great Recession”, which bottomed-out in the middle of 2011, it is more perceptive to examine a longer period, such as the 2002-2016 period, in order to discern more meaningful long-term trends in the censal population data. Thus, trends in the population will be discussed here typically by reference to censal data spanning the 15-year period 2002-2016.

Analysis of the 2016 Census indicates that in the 2011–2016 period, Laois experienced one of the highest population increases amongst the 26 counties (i.e., from 80,559 to 84,697 or 5.14%). County Laois is the fourth least populace in Leinster after Longford (i.e., 40,873), Carlow (i.e., 56,873) and Offaly (i.e., 77,961). A population of 58,774 in 2002, 67,059 in 2006, 80,559 in 2011, and 84,697 in 2016, representing increases of 14.1%, 13.7%, 20.1% and 5.14% for the three inter-censal periods. The average inter-censal increase in population is 13.1%, whilst annual rate of population growth in the period was 2.62%. Births far outpaced and almost doubled the number of deaths, with a 2011-2016 inter-censal count of 8,929 births versus 4,506 deaths, adding 4,423 to the population. Thus, the increase in the population of Laois between 2011 and 2016 (i.e., 4,138) is entirely due to natural increase (births over deaths), while there were 285 less persons due to net migration from the county.

Since 2002, the population of Leinster increased by 25.1%, while the population of the State increased by 21.6%. Despite this significant population growth in both the Province and State, the population growth of Laois (44.1%) was only exceeded by that of Meath (i.e., 45.6%), with Kildare next at 35.7%. Nonetheless, Laois' share of the provincial population (i.e., 2,634,403 in 2016) grew from 2.79% in 2002 to 3.22% in 2016.

Dublin, along with Kildare, Louth, Meath and Wicklow, comprise the "Functional Area of the Dublin City Region" (FADCR), and with a population of c. 2.04 million, accounts for 43% of the population of the State (Walsh & McNicholas 2008). The latter authors noted a contrast between areas of population decline in the inner suburbs of Dublin and various rural parts, compared to areas of high increase in northeast Kildare, southeast Meath and Fingal. This is reflected in County Dublin having the lowest population growth rate (i.e., 20.0%) in Leinster for the 2002-2016 period, whilst the population of the FADCR increased by 24.4% in the same period. Laois is situated on the southwestern margin of the FADCR, and its record population growth reflects that proximity to the FADCR and the Dublin Metropolitan Area, the primary economic engine of the state.

There are several large to medium towns with legally defined boundaries in Co. Laois, namely Portlaoise (pop. 22,050), Portarlington (pop. 8,368), Mountmellick (pop. 4,777), Graiguecullen (pop. 4,692), Mountrath (pop. 1,774), and Abbeyleix (pop. 1,770). In 2016, there were thus six towns (pop. > 1,500) with legal defined boundaries and which are classified for the purpose of the census as urban settlements. The total urban population was 47,153, while the rural population was 37,544, giving a rural/urban divide of 55.7%.

In their settlement hierarchy, the Midland Regional Authority designated Portlaoise as a Principal Town; Portarlington as a Key Service Town; Mountmellick, Mountrath, Abbeyleix, Stradbally and Graiguecullen as Service Towns; and Rathdowney and Durrow as Local Service Towns (MRA 2010). Because of differences in the way boundaries between urban and rural areas are incorporated into the 2002-2016 censuses, it is often difficult to give a consistent statement on the population growth of these towns. Nonetheless, it is apparent that the population growth in the 2002-2016 period for Portlaoise was 81.8% (i.e., 12,127 versus 22,050), compared to Portarlington at 109.2% (i.e., 4,001 versus 8,368), Mountmellick at 42.1% (i.e., 3,361 versus 4,777), Graiguecullen at 291.3% (i.e., 1,199 versus 4,692), Mountrath at 33.3% (i.e., 1,331 versus 1,774), and Abbeyleix at 28.0% (i.e., 1,383 versus 1,770). Excluding Graiguecullen, which is a suburb of Carlow Town within County Laois, these data suggest that proximity to Dublin and the multi-modal transport corridors of the M7-M8 and Dublin to Limerick-Cork-Tralee-Galway-Ballina railway corridor are probably the principal determinants in the population growth.

The nearest town to the application site is Abbeyleix c. 9.5 km to the west, Castlecomer c. 10 km to the south, Stradbally c. 13.5 km to the northeast, Portlaoise c. 16 km to the north, and Graiguecullen and Carlow Town c. 20 km to the southeast, whereas Kilkenny City is c. 26.5 km to the south and Dublin City Centre is c. 83 km to the northeast. There are also several nearby villages or hamlets, such as Swan c. 4 km

to the east, Clogh c. 5 km to southeast, Moneenroe c. 7 km to the south, Ballinakill c. 7 km to the southwest, Doonane c. 7 km to the southeast, Timahoe c. 7 km to the north and Ballyroan c. 9 km to the northeast.

Laois County Council (Laois County Council 2017) designated the county town of Portlaoise as a Principal Town, comprising c. 25% of the county's population, and as such, is the largest urban centre and economic driver in the south Midlands with distinct local economies and strong links to the adjacent regions, as well as being a National Transport Node situated on a strategic multi-modal transport corridor (i.e., M7-M8 and the Dublin to Limerick-Cork-Tralee railway corridor).

Portarlinton is designated as a Key Service Town, and as such, is an important driver for local economies in area that are comparatively more remote from the main population centres of the region. It has the critical mass to support its own services and industry, and functions as a support to the development of Portlaoise and Tullamore. Portarlinton is located on the Dublin to Limerick-Cork-Tralee-Galway-Ballina railway corridor, but is c. 7 km distant from the M7-M8 road corridor.

Laois County Council designated Mountmellick, Mountrath, Abbeyleix, Stradbally and Graiguecullen as Service Towns because they are important resources for their hinterlands, providing community and infrastructural facilities and services and the population base to maintain them (Laois County Council 2017). These towns perform important retail, residential, service and amenity functions for local, essentially rural hinterland and support the upper tiers of the urban hierarchy, including the principal towns. These settlements provide employment opportunities that assist in reducing long distance commuting patterns and support sustainable communities.

The National Spatial Strategy (NSS) recognised the need to enhance the level of critical mass in the Midlands region by combining the complementary strengths of Athlone, Mullingar and Tullamore as a gateway at the heart of the region (DoEHLG 2002). Large towns, such as Portlaoise, that are strategically placed on national road and rail links, can help drive development at the county level, and Portlaoise has strong national development potential as a transport hub and distribution centre or inland 'port' given its location on the M7-M8 and the Dublin to Ballina-Galway-Limerick-Cork-Tralee railway corridor.

Within southern County Laois, the NSS identifies the four urban centres of Mountrath, Abbeyleix, Stradbally and Rathdowney, and the complete paucity of gateways, hubs and larger towns. The historically strong agriculture and natural resources sector, such as peat extraction and energy production, has supported an extensive village structure throughout the Midlands. Demand for housing within easy reach of larger towns can be harnessed positively to strengthen the residential and other functions of these smaller towns.

The quarry is located on the northwestern flank of the Castlecomer Plateau, interposed between the two arterial road corridors of the N77 (Portlaoise-Abbeyleix-Durrow-Kilkenny National Secondary Road) and N78 (Ballitore-Athy-Kilkenny National Secondary Road), and further afield the M8 (Dublin to Cork National Primary Road) c. 7.5 km west of Abbeyleix and the M9 (Dublin to Waterford National Primary Road) c. 23 km to the east near Carlow Town. With proximities of c. 4 km to Swan, c. 7 km to

Timahoe, c. 9.5 km to Abbeyleix, c. 10 km to Castlecomer, c. 13.5 km to Stradbally, c. 16 km to Portlaoise, and c. 19.5 km to Graiguecullen/Carlow Town, Knockbaun falls within the natural catchment of these settlements. However, with fuel prices forecasted to follow an overall upward trajectory, the practical limit for transport of stone and aggregate will continue to contract the natural catchment area of individual quarries.

Knockbaun also falls inside the large swathe of Laois that is identified as a *Structurally Weak Rural Area* (i.e., includes much of the southern and western half of the county; See Laois County Council 2017). These rural areas generally exhibit characteristics such as persistent and significant population decline as well as a weaker economic structure based on indices of income, employment and economic growth. The areas are more distant from the major urban areas and the associated pressure from urban generated housing. In order to stem decline and strengthen structurally weak areas, the Council will accommodate any demand for permanent residential development, subject to meeting normal planning and environmental criteria.

The NSS was revoked in 2013, but its legacy persists in the Regional Planning Guidelines (RPGs) (MRA 2010), which although replaced by the RSES in 2019 (EMRA 2019), form the basis of the current CDP.

Thus, the preferred rural development strategy adopted by Laois County Council is informed by the Regional Planning Guidelines (RPGs) and the environmental sensitivities of the county, and is based on “*promoting sustainable rural development aimed at maintaining vibrant and viable rural communities while also seeking to protect the amenity, recreational and heritage value of the rural landscapes and countryside of the county*”. The Council recognises that the continued trend of single houses in the open countryside is unsustainable and that the proliferation of one-off rural houses does not strengthen rural communities in the long term. The latter can only be achieved by making settlements more attractive places to live and by providing employment opportunities. Therefore, continuance of the quarry operations at Spink Quarry would be beneficial in this regard and support local employment, strengthen the local community and help stem migration out of the area.

As stated earlier, the quarry is located in the townland of Knockbaun, which is in the Electoral Division of Dysartgallen, the Civil Parish of Dysartgallen, and the Barony of Cullenagh. Dysartgallen ED has an area of 20.79 km² (2,089 ha or 5,162 acres) (Refer to Figure 4.2) and includes the following townlands: Knockbaun, Cleanagh, Graiguenahown, Knockardagur, Aghanacross, Keelagh, Graigue and Moat. The townland of Knockbaun has an area of 4.20 km² (420 ha or 1,038 acres).

The Dysartgallen ED has an area of 20.79 km² and a population of 255 persons, which translates into a low population density of 12.3 persons per km². This compares to the population densities of 49.2, 133.0, and 67.8 persons per km² for County Laois, Leinster, and the State, respectively, which themselves constitute low population densities relative to those in the UK (i.e., 255 persons per km²), although not compared with Europe (i.e., 112 persons per km²). The surrounding Electoral Districts include Blandsfort, Ballinakill, Clogh, Doonane, Rathaspick, Luggacurren and Fossy, whilst in the broader context, Dysartgallen is located in the relatively weakly populated area of southern County Laois.

The Electoral District has a sex ratio of 1.107 (i.e., 134 males versus 121 females), with the lower number of females, who in general preferentially migrate to the towns, resulting in a characteristic pattern more reflective of rural areas in Ireland.

The average age of the population in County Laois was 34.5 in 2016, which is significantly lower than the national average (i.e., 37.4). However, the average age in the Dysartgallen ED was 38.0 in 2016 (Refer to Figure 4.3). The proportion of the population aged 65 years and older in the Dysartgallen ED was 11.8% in 2016 (i.e., 30 persons), which compared favourably with 11.3% for Laois and 13.4% for the State. The 'Old Dependency' ratio, the ratio of persons aged +65 to working persons, in County Laois was 17.7% in 2016, which was lower than the average of 20.8% for the State. Similarly, the 'Young Dependency' ratio, the ratio of persons aged 0-14 to working persons, in County Laois was 38.3% in 2016, which is significantly higher than the average of 34.5% for the State. Thus, the 'Total Age Dependency' ratio in County Laois was 56.0% in 2016 compared to 55.3% in the State, due largely to a younger population. In the Dysartgallen ED, the 'Old Dependency' ratio was 18.8%, while the 'Young Dependency' ratio was 40.6, giving a high 'Total Age Dependency' ratio of 59.2%, again due largely to a younger population.

Table 4.2 gives population data for the electoral districts in the vicinity of Knockbaun, as well as for County Laois, Leinster, and the State from 2002-2016 (CSO 2017). Notably, the population of the eight electoral districts that together comprise the local area show a moderate growth of 11.6% (0.77% annually). Laois and Leinster both show strong double-digit population growth (i.e., 44.1% and 25.1%, respectively), while the State shows somewhat lower growth (i.e., 21.6%) in the same period. Indeed, the moderate population growth of the local area can be largely attributed to that of the small settlements of Doonane and Ballinakill.

Table 4.2 Population in the Local Area 2002-2016

District	2002	2006	2011	2016	%Change 2002-2016
Dysartgallen	219	243	266	255	16.4
Blandsfort	319	281	318	306	-4.1
Ballinakill	682	782	792	826	21.1
Clogh	1,249	1,255	1,276	1,221	-2.2
Doonane	570	550	751	771	35.3
Rathaspick	229	231	256	239	4.4
Luggacurren	298	327	324	300	0.7
Fossy	94	130	146	167	77.7
Total Local Area	3,660	3,799	4,129	4,085	11.6
County Laois	58,774	67,059	80,559	84,697	44.1
Leinster	2,105,579	2,295,123	2,504,814	2,634,403	25.1
State	3,917,203	4,239,848	4,588,252	4,761,865	21.6

Note: Data from CSO (2017).

The more rural electoral districts exhibit population growth rates that are comparatively stagnant (i.e., Blandsfort, Rathaspick, Luggacurren and Clogh, albeit the latter is a very large ED with prominent ribbon development in the Moneenroe area). The trend of decreasing population in the most rural parts of the local area is consistent with increasing urbanisation and migration to urban areas, towns and cities, whereby lower population growth has occurred in villages and rural areas instead of within the main urban areas. The urban population now amounts to 62.7% of the population of the State, up 4.9% since 2011.

There are no large residential settlements close to the site, with the nearest large population centre being Abbeyleix c. 9.5 km to the west, Castlecomer c. 10 km to the south, Stradbally c. 13.5 km to the northeast, Portlaoise c. 16 km to the north, and Graiguecullen and Carlow Town c. 20 km to the southeast, whereas Kilkenny City is c. 26 km to the south and Dublin City Centre is c. 83 km to the northeast. There are also several nearby villages or hamlets, such as Swan c. 4 km to the east, Clogh c. 5 km to southeast, Moneenroe c. 7 km to the south, Ballinakill c. 7 km to the southwest, Doonane c. 7 km to the southeast, Timahoe c. 7 km to the north and Ballyroan c. 8 km to the northeast. Residential development in the surrounding countryside consists of isolated farm dwellings and of owner occupied bungalow/houses along public roads (Refer to EIAR Figures 1.2 and 1.3).

4.3.3 ECONOMY & EMPLOYMENT

Laois is an inland county in the south midlands covering an area of 171,990 ha, which equates to 2.4% of the national landmass. Occupying a strategic position near the centre of the country, County Laois is land locked and shares borders with five

adjoining counties; Carlow, Kildare, Kilkenny, Offaly and Tipperary. County Laois is only c. 70 km from the Dublin metropolitan area, and this relative proximity to the capital has had a major effect on both the nature and extent of development and the associated traffic movements. In particular, the northern and eastern half of the county are increasingly coming under the influence of the Greater Dublin Area (GDA).

Laois benefits from this proximity to Ireland's primary economic hub and National Gateway, and the largest market in the State. The excellent, multi-modal transport infrastructure (i.e., road and rail), which provides ready access to Dublin Airport and Dublin Port, as well as to the other gateway cities of Limerick and Cork, also delivers strong connectivity for the county (i.e., M7 and M8).

County Laois consists of a central plain containing most of the productive agricultural land, surrounded by a number of upland areas, including the Slieve Bloom Mountains in the northwest, Killeslin Plateau in the southeast and Cullahill Mountain in the southwest. There are significant cutaway peatlands in the county mainly situated between Portlaoise, Mountrath and Abbeyleix.

The economic development strategy set out in the Regional Planning Guidelines (RPGs) identifies development of economic clusters centred on strategic economic growth corridors and growth towns (MRA 2010). The renewed focus along multi-modal growth corridors connecting the economic growth centres within the region favours Portlaoise and Portarlinton, which are located along or near the M7-M8 corridor and the Dublin to Limerick-Cork-Tralee-Galway-Ballina railway corridor.

Relative to the national average, Laois has a young population and high labour-force participation rates. Similar to national trends, the services sector in Laois continues to grow its share of the local economy in employment and productivity terms. The public service and retail/wholesale trade are the biggest employers in Laois. Increased demand for education workers and for retail workers is strongly linked to population growth. Portlaoise is the county's Principal Town and provides the bulk of retail and commercial services available in the county. Approximately 57% of the jobs in County Laois are based in Portlaoise although only 1 in 4 Laois residents live there.

Employment in manufacturing in Laois is low relative to the Midlands Region and the national average. Nonetheless, over 1,500 people work in the industrial sector in the county. Industrial parks are located in Portlaoise, Portarlinton and Mountmellick. A very small number of Laois-based service and manufacturing jobs are agency-supported (IDA, Enterprise Ireland). Laois has a limited share of high-value-added/high-technology manufacturing and service provision. However, a small cluster of clean-technology firms operate in the county, including Enva Ireland and LSM Engineering based in Portlaoise.

Some of Laois' manufacturing activities add value to local produce, for example, Dawn Meats' factory in Rathdowney, Sheeran's timber manufacturing plant in Mountrath, Laois Sawmills in Portlaoise and Glanbia's Oats Mill in Portlaoise all utilise locally-produced commodities. The manufacturing of concrete and stone products, using locally-quarried aggregate and stone, is a feature of the manufacturing sector in Laois. Adding value to locally-produced commodities within the county is a way of increasing the value, sustainability and importance of the commodity sector to the Laois economy.

Similarly, the manufacture of niche or specialist food products using local agricultural produce provides for sustainable rural development.

Currently, Laois contains a number of important employers, including Iarnrod Éireann, Glanbia, First Ireland, Trifol, Greenfield Global, McKeon Stone, Enva, SKOUT, Modus IT, Alpha Wireless, GON Studios, CJ Sheeran and Fingleton White. The major employment centres in County Laois are given below:

Portlaoise

Portlaoise is an expanding and vibrant town with a skilled workforce and world class infrastructure to attract inward investment and create local jobs. There are approximately 11,500 workers travelling out of the county to work every day, of which 8,847 are commuters with third level degrees (CSO 2016). The Council realises the daily skills loss and is committed to facilitating job creation in the town and surrounding area. Portlaoise has experienced exceptional population growth in recent years with the population growing by 82% from 2002–2016, making it one of the three fastest growing towns in Ireland.

Portlaoise is a National Transport Node situated on a strategic multi-modal transport corridor (i.e., M7-M8 and the Dublin to Limerick-Cork-Tralee railway corridor). The railway station is on the Dublin to Cork and also the Dublin to Limerick Intercity railway lines. It is also the terminus for the Southwestern Commuter also called the Portlaoise Commuter Line which forms part of the Dublin Suburban Rail network in the commuter belt for Dublin. The following are significant employment centres in Portlaoise:

- Clonminam Business Park – extensive complex of 5 contiguous parks;
- National Enterprise Park;
- Portlaoise Business & Technology Park;
- IDA Business Technology Park;
- Lismard Business Park;
- Kea-Lew Business Park;
- Keyes Business Park;
- Togher National Enterprise Park;
- Iarnrod Éireann Rail and Sleeper Depot;
- Glanbia Oats Mill;
- Laois and Kyle Shopping Centres;
- Parkside Shopping Centre;
- Portlaoise Retail Park;
- Midland Regional Hospital; and
- Midlands Prison - medium security with capacity of 516 inmates.

The Togher National Enterprise Park consists of a 191 hectares land bank on the southern outskirts of Portlaoise with access from the Togher interchange on the M7.

Although the National Traincare Depot opened here in 2008, the park is mostly undeveloped, and its potential has yet to be realised. It is expected to deliver an economic zone focused on heavy, light, and ICT industry, trade warehousing, distribution, logistics and other uses associated with the transport industry. The development of this new national enterprise area will be fully integrated with Clonminam Industrial estate and the IDA Business Technology Park which forms the Togher Masterplan. The area will comprise most of the southwestern section of Portlaoise and should provide the critical mass and synergies to be a driver for county and regional growth given its location in the immediate vicinity of road (M7/M8/N80) and rail corridors of national strategic importance.

Portarlinton

The following are significant employment centres in Portarlinton:

- Portarlinton Industrial Estate, Botley Lane;
- Portarlinton Business Park;
- Dublin Road Business Park;
- McMahon Builders Providers; and
- Odlums Mill.

Mountmellick

The following are significant employment centres in Mountmellick:

- Bayroad Business Park; and
- Mountmellick Development Association Business Park.

Mountrath

The following are significant employment centres in Mountrath:

- Mountrath Enterprise Park; and
- CJ Sheeran Ltd. Timber Products – largest manufacturer of timber packaging and pallets in Ireland.

Killenard

A significant employment centre situated in Killenard comprises:

- The Heritage Resort - spa, heath club and golf course, meeting and conference centre, and wedding venue.

Abbeyleix

Significant employment centres situated in Abbeyleix include:

- IDA Industrial Estate; and
- Booth Concrete, Ballymullen - quarry and concrete plant.

Stradbally

Significant employment centres situated in Stradbally include:

- McKeon Stone - quarries and manufactures Irish Blue Limestone dimension stone; and
- Stradbally Town & Country – Provides products and services in general and farm hardware, agrichemicals, animal feeds, pet and equine, garden and fuels.

Swan

A significant employment centre situated in Swan comprises:

- Lagan Clay Products Facility.

Agricultural activities occupy approximately 70% of the land area of the county, but agriculture's share of the income has declined sharply in recent decades. The remaining area includes considerable stretches of coniferous forest and raised bogs. Pasture is the dominant land use across most of Laois, followed by arable land in a wide swathe along the eastern border with Kildare and Carlow, coniferous forests on the Slieve Bloom and Castlecomer Plateau, and subordinate raised bogs.

Just over half of Laois residents live in rural areas, and rural economic sectors remain very important in Laois. According to Census 2016 data, 7.25% of Laois' workforce is engaged in farming and forestry, which is higher than the national average of 5%, whereas less than 1% are engaged in quarrying and peat extraction.

The county boasts a varied tourism portfolio with strong offerings in terms of heritage and recreation (i.e., walking and cycling trails golf courses and boating on the Barrow and Grand Canal waterways) (Refer to Section 5.13 of the CDP). The natural environment, landscape and built heritage play a key role in supporting tourism. Significant natural attractions include the Slieve Blooms Mountains and the waterways of the River Nore, River Barrow and Grand Canals. Laois' rich array of cultural assets offer a variety of attractions to sustain a vibrant cultural tourism sector. Laois is also one of the counties that is included in Ireland's Ancient East, an umbrella destination brand that provides significant future opportunity for the county. The aim of the branding is to inspire visitors to travel to the Ireland's Ancient East by appealing to their interest in local culture and heritage. Some of the attraction in include Emo Court, the Rock of Dunamase, Heywood Gardens, Timahoe Round Tower, Abbeyleix Heritage House, Donaghmore Workhouse, Agricultural Museum, Aghaboe Abbey, Killeslin Romanesque Church and others. Sport tourism, particularly cycling, golfing and boating, are significant contributors to the local economy. The Heritage, Portlaoise, Portarlington, Abbeyleix, Rathdowny and Heath golf clubs offer a selection of fine inland golf courses.

Although urban areas of Laois are home to a greater fraction of the population of Laois (i.e., 47,153 or 55.7% in 2016), rural areas are still home to a substantial population (i.e., 37,544 or 44.3% in 2016). This urban/rural divide in Laois (i.e., 1.26) is the lowest of any county inside the FADCR, and contrasts with that of the State, the Mid-East Region, and Dublin County (i.e., 1.68, 1.82 and 37.8, respectively). Although rural areas account for 44.3% of the population, only 7.25% are employed in agriculture, forestry and fishing in 2016. Nonetheless, agriculture is the primary land-use in the county, but the economy is only moderately reliant on this sector.

There are significant cutaway peatlands in the county mainly situated between Portlaoise, Mountrath and Abbeyleix, and these offer potential for tourism, amenity, educational and research purposes. They could also potentially accommodate large scale alternative energy production in the form of solar and wind. Peatlands are one of the world's most important ecosystems in that they are long-term carbon sinks in the terrestrial biosphere. Rewetting and restoration of peatland has the potential to secure existing carbon stock and reinitiate the carbon sequestration capacity of degraded peatlands, such as at Abbeyleix bog. Bord na Mona is moving from "brown" to "green". The rewetting bogs is already underway and carbon sequestration has significant potential for employment and income generation on a long-term basis.

In 2017, there were c. 26,462 ha of forest in County Laois, amounting to a 15.4% forest cover (DoAFM 2020). In addition, there were 12,000 ha of not-forest hedgerow, scrub and woodland (HSW), amounting to a further 7% cover under HSW. While the forests provide timber and other wood-based products, the bogs, forests and woodlands also provide recreational and tourism amenities for local communities and visitors.

Of the 38,597 workers recorded in 2011, 30,337 were at work, giving a nominal, non-seasonally adjusted unemployment rate of 21.4% at the height of the recession, compared to the national average of 19.0%. In 2016, of the 39,069 workers recorded, 35,541 were at work, giving a nominal, non-seasonally adjusted unemployment rate of 15.5%, amounting to a 27% reduction and indicating some economic recovery.

Examination of the CSO Live Register figures for County Laois during the recession (CSO 2020) shows that unemployment levels rose dramatically from the end of 2007 to 2013, and remained a factor of about 4 times the pre-recession levels, essentially fluctuating around 8,750 during 2010 and 2013 (See Figure 4.4). In the 2011 census, at the height of the recession, unemployment stood at 21.4% in Laois, compared to 19% nationally. The dramatic increase in unemployment was largely associated with the collapse of the construction industry and the associated service industries. The unemployment level in Laois began to fall gradually in 2013, and fell below the 8,000 mark in late 2014. The level of employment has continued to improve steadily, reflecting a broad economic recovery. In November 2020, there were only 3,731 on the live register in County Laois, while nationally, there were 194,058 on the live register. The national figures indicate almost a complete recovery in employment from the Global Financial Crisis (GFC), albeit tempered by the Covid-19 pandemic in early 2020. In contrast, the figures for Laois indicate a more modest recovery in employment, with unemployment standing at almost double the level prior to the GFC (i.e., c. 2,050 before versus 3,850 now). Nonetheless it is clear, even from the data bracketing the 2011-2016 inter-censal period alone, that Laois has experienced a very significant economic recovery.

From Table 4.3, it is apparent that the dominant employment sectors in Laois are professional services (23.0%), commerce and trade (21.8%), and other (17.5%), with all other sectors combined accounting for only 37.7%. Importantly, over c. 35% of the total workforce living in Laois works outside the county, mostly in Dublin (Laois County Council 2017).

Agriculture is the largest sectoral employer (30.4%) in the Dysartgallen ED, with 'Professional Services' being the second largest sectoral employer (26.5%). This is followed by 'Commerce and Trade' (13.7%), which includes wholesale and retail trade, banking and financial services, real estate, renting and business activities. Given that approximately 35% of the workforce in Laois works outside of county, and given the distance of the Dysartgallen ED to Dublin, it is probable that the importance of "Professional" and 'Commerce and Trade' reflects the large fraction of the workforce in the Dysartgallen ED that works outside both the electoral division and county and in the growth towns of Kildare, such as Naas, Newbridge, Kildare, Monastrevin and Kilcullen, and possibly not in the Dublin Metropolitan Area. The third most important sector is the 'Manufacturing' (9.80%), followed by 'Public Administration' (7.84%), 'Building and Construction' (5.65%), 'Other' (3.92%), while 'Transport and Communications' (2.94%) is the smallest employer (See Table 4.3).

Historically, agriculture and businesses supporting agricultural production would probably have been the main source of employment in the area and in nearby villages and towns. Today, the nearby settlements of Swan, Timahoe, Ballyroan, Ballylynan, Abbeyleix and Castlecomer, still offer few employment opportunities, whereas as Kilkenny, Carlow, Athy, Kildare, Newbridge, Naas, and the Dublin Metropolitan Area offer significant employment opportunities. There would also be some opportunities on nearby farms, golf courses, nurseries, and quarries.

Table 4.3 Employment by industry in County Laois and Dysartgallen ED in 2016

Industry	County Laois		Dysartgallen ED	
	Count	Percentage	Count	Percentage
Agriculture, forestry and fishing	2,431	7.25%	31	30.4%
Building and construction	1,976	5.89%	5	4.90%
Manufacturing	3,423	10.21%	10	9.80%
Commerce and trade	7,307	21.79%	14	13.7%
Transport and communications	2,286	6.82%	3	2.94%
Public administration	2,548	7.60%	8	7.84%
Professional services	7,717	23.01%	27	26.5%
Other	5,853	17.45%	4	3.92%
Total	33,541	100.0%	102	100.0%

Note: Data from CSO (2017).

The average journey times to work, school or college was c. 22 minutes for residents of the Dysartgallen ED in 2016, whereas the journey times of 20% and 10% of the commuters were c. 45 and 90 minutes or longer, respectively. Journey times of c. 22 minutes are consistent with commuting to work in Portlaoise, Athy or Carlow, c. 45 minutes is consistent with Kilkenny, Newbridge or Naas, whereas c. 90 minutes is consistent with the Dublin Metropolitan area. The latter is confirmed by the finding that 10.5% of the population of Laois work in the Dublin Metropolitan Area, and almost all of Laois lies outside the Dublin Hinterland Area, except for the northeast corner of Laois (EMRA 2017). The M7 is accessible from a node at Portlaoise via the N77 at Ballyroan, c. 8.5 km to the northwest of Knockbaun.

The company expects to employ up to 3 people directly on site, plus a number of people indirectly.

4.3.4 SOCIAL CONSIDERATION

Spink Quarry is located in a rural area, which is defined as a structurally weak rural area. Such areas exhibit persistent and significant population decline as well as a weaker economic structure based on indices of income, employment and economic growth. The areas are more distant from the major urban centres and the associated pressure from urban generated housing. There are numerous established individual residences, clusters of residences, hamlets or graigs in the area with 36 residences within a 1 km radius of the quarry site (See EIAR Figure 4.1). The closest residence is located c. 175 m west of the site and is one of a cluster of three houses at Larkin's Cross. There are only four residences within 250 m of the site, but all but one of these residences (i.e., No. 4; Refer Figure 4.1) are sheltered behind the hill into which the quarry is developed. Indeed, another 12 residences between 500 m and 1 km of the site (i.e., Nos. 11 to 22) are similarly sheltered behind the hill. Of the 13 residences within 1 km of the site that are not sheltered behind the hill, one lies within 250 m (No. 4), four more lie between 250 m and 500 m (i.e., Nos. 7-10), and seven more lie between 500 m and 1 km (i.e., 23-30). There has been a long historical association with quarrying at this location and consideration has been given to screening of the development, phasing and direction of working with respect to receptors.

There are many residential settlements close to the site, with the settlement of Swan c. 4 km to the east, Clogh c. 5 km to southeast, Moneenroe c. 7 km to the south, Ballinakill c. 7 km to the southwest, Doonane c. 7 km to the southeast, Timahoe c. 7 km to the north, Ballyroan c. 9 km to the northeast, Abbeyleix c. 9.5 km to the west, Castlecomer c. 10 km to the south, Stradbally c. 13.5 km to the northeast, Portlaoise c. 16 km to the north, and Graiguecullen/ Carlow Town c. 20 km to the southeast. Of these, Portlaoise lies on the M7-M8 Strategic Radial Transport Corridor, Abbeyleix and Portlaoise lie on the N77, Castlecomer lies on the N78, while Stradbally and Graiguecullen/Carlow Town lie on the N80. The concentration of villages and small towns, and paucity of large towns (except for Portlaoise and Carlow Town), in the region reflects the lower population densities in southern Laois, particularly on the Castlecomer Plateau.

With exception of the M7, N77, N78 and N81, the roads in the wider area are of a local character and typical of a rural location. The M7/M8 junction lies c. 10.0 km west of Abbeyleix on the R430, while the M7 is also accessible c. 12.5 km north near Portlaoise (at Junction 17 Portlaoise South). Spink Quarry lies roughly equidistant along the R430 Regional Road from the N-S oriented N77 National Secondary Road at Abbeyleix and the NE-SW oriented N78 National Secondary Road at Newtown. The Dublin-Limerick and Cork mainline railway runs north and west of Knockbaun, with the nearest station at Station Road north of Rathdowney c. 26 km to the west.

The nearest Post Office outlet is at the Geneva Stores, Crettyard, c. 7 km to the southeast, while the next nearest Post Office is the Abbeyleix Post Office, Main St., Abbeyleix. The nearest ATM is located at the Bank of Ireland, also on Main Street, Abbeyleix, which is also the nearest bank, and where a large range of shops is also available.

The nearest childcare facility is Knock Kids Playschool, Spink, while other facilities are available nearby in Ballinakill, Newtown, and Abbeyleix.

The nearest primary schools are:

- Scoil Naisiunta Molaise, Knock, c. 2.0 km to the west on the R430, with enrollment of the primary education of 64 boys and girls. Roman Catholic.
- Swan National School, Swan, with enrollment of approximately 31 boys and girls. Roman Catholic.
- Ballinakill Mixed National School, Ballinakill, with enrollment of approximately 92 boys and girls. Roman Catholic.
- Holycross National School, Firoda, Castlecomer, with enrollment of approximately 93 boys and girls. Roman Catholic.
- St. Patricks National School, Boneyarrow, Clogh, with enrollment of approximately 76 boys and girls. Roman Catholic.
- Scoil Mhuire Fatima, Timahoe, with enrollment of approximately 147 boys and girls. Roman Catholic.
- Abbeyleix Sth National School, Abbeyleix, with enrollment of approximately 106 boys and girls. Church of Ireland.
- Scoil Mhuire, Ballyroan Road, Abbeyleix, with enrollment of approximately 312 boys and girls. Roman Catholic.

The nearest secondary schools are:

- Heywood Community School, Ballinakill, with enrollment of approximately 384 boys and 359 girls in 2019/20. Inter-denominational.
- Castlecomer Community School, Castlecomer, with enrollment of approximately 290 boys and 266 girls in 2019/20. Inter-denominational.
- Tyndall College, Mortarstown, Kilkenny Road, Carlow, with enrollment of approximately 299 boys and 236 girls in 2019/20. Inter-denominational.

- Athy Community College, Athy, with enrollment of approximately 222 boys and 206 girls in 2019/20. Inter-denominational.
- Scoil Mhuire, Rathstewart, Athy, with enrollment of approximately 299 girls in 2019/20. Roman Catholic.
- Portlaoise College, Mountrath Road, Portlaoise, with enrollment of approximately 326 boys and 248 girls in 2019/20. Inter-denominational.
- Dunamase College - Colaiste Dhún Másc, Railway Street, Portlaoise, with enrollment of approximately 90 boys and 94 girls in 2019/20. No ethos specified.

The nearest third level Institutions are:

- The European College of Management, Naas;
- Institute Technology Carlow (or ITC), Carlow Town;
- Institute Technology Tallaght (or ITT), Tallaght;
- Blanchardstown Institute of Technology (or BIT), Blanchardstown;
- Dublin Institute of Technology (or DIT), Dublin City; and
- Dun Laoghaire Institute of Art, Design & Technology (or IADT), Dun Laoghaire.

The nearest universities are:

- National University of Ireland in Maynooth;
- Trinity College Dublin (TCD) in Dublin City;
- University College Dublin (UCD) at Belfield, Dublin City; and
- Dublin City University (DCU) in Glasnevin, Dublin City.

Other Further Education facilities are:

- Portarlington Further Education Centre, providing QQI level 3 and 5 courses, and 6 to 8 in association with other institutions, colleges and universities;
- Portlaoise Institute of Further Education, providing QQI level 5 and 6 courses; and
- Shooting Stars Athy Stage School, Athy.

The nearest Roman Catholic churches are:

- Doonane Catholic Church, Donnane;
- Sacred Heart Catholic Church, The Glen, Moneenroe;
- Church of the Immaculate Conception, Castlecomer;
- Holy Rosary Catholic Church, Knockahonagh;
- Fossy Church, Knocklaide, Timahoe - medieval church and National Monument;
- St Patrick's Catholic Church, Chapel St, Ballyroan;
- Catholic Church of the Most Holy Rosary, Knocknamoe, Abbeyleix; and
- Church of St. Michael and All Angels, Knocknamoe, Abbeyleix.

The nearest Church of Ireland churches are:

- Church of Ireland, Castlemarket, Rosconnell, Co. Kilkenny; and
- St. Mary's Church of Ireland, Dublin Rd, Drumgoole, Co. Kilkenny.

The nearest churches or houses of worship of other major denominations are:

- Presbyterian: Mountmellick Presbyterian Church, Mountmellick, and
▪ Athy Presbyterian Church, Athy;
- Methodist: Portlaoise Methodist Church, Portlaoise, and
▪ Athy Methodist Church, Athy;
- Baptist: Laois Bible Church, Knocknamoe, Abbeyleix, and
▪ Portlaoise Life Church, Portlaoise;
- Islam: Carlow Islamic Cultural Centre, Graigue, Carlow.

The nearest Primary Health Care Centre is Abbeyleix Medical Centre, Knocknamoe, Abbeyleix, while the next nearest is the Health Centre, Durrow. The HSE Health Centre, Oakley Park, Graiguecullen is c. 19.5 km to the southeast, while there is a multitude of Health Centres in Portlaoise c. 16 km to the north. The nearest public hospital is the Castlecomer District Hospital, Castlecomer, followed by the Midlands Regional Hospital, Portlaoise, which offers acute services for the catchment area of Laois, Offaly, Kildare, Carlow and Tipperary. The next nearest are St. Vincents Hospital, Athy, Carlow District Hospital, Carlow and St. Dymphna's Psychiatric Hospital, Carlow.

The nearest nursing home is Abbeyleix Community Nursing Unit, Abbeyleix, while Sacred Heart Hospital, Carlow, provides long-term, respite services and rehabilitation, normally to persons over the age of 65. There is also Brookhaven Nursing Home, Donaghmore, Ballyragget, and Droimnin Nursing Home, Brockley Park, Droimnín.

The nearest Fire Station is located in Abbeyleix, while the next closest is Carlow Town Fire Station, Carlow, where both stations are retained services. The Laois Fire Brigade is headquartered at the Portlaoise Station, while the Carlow Fire Brigade is headquartered at the Carlow Town Fire Station.

The nearest Garda Station is located on the Abbeyleix Garda Station, Knocknamoe, Abbeyleix, followed by the Castlecomer Garda Station, Castlecomer and the Ballylinan Garda Station, Ballylinan, which fall within the Kildare, Laois and Offaly Division of An Garda Síochána's Eastern Region. Other facilities in the wider area, include the community centres and sports and leisure centres in the larger settlements.

The Spink Community Field and GAA Club is located c. 4 km west of the site where the L7797 meets the R430 at Boleybeg. The other local GAA clubs in the area are the Ballypickas GAA Club, Crettyard GAA Club, Ballinakill GAA Club and Shanahoe GAA Club, Boley, Abbeyleix. Soccer clubs are located nearby at Abbeyleix Athletic Football Club, St. Abban's Athletics Club, Crettyard, Deen Celtic, Castlecomer, and St. Annes Football Club, Ballylinan. Rugby clubs are located at Portlaoise Rugby Club, Portlaoise, County Carlow Rugby Club, Carlow Town and Athy Rugby Football Club,

Athy. There is also the Abbeyleix Hockey Club at Fr. Breen Park, Abbeyleix and the Carlow Cricket Club, Carlow.

There are several golf clubs located in the wider area, including Abbeyleix Golf Club, Castlecomer Golf Club, Portlaoise Golf Club, the Heath Golf Club, Portlaoise, the Heritage Golf Resort, Killenard, the Athy Golf Club, Athy, and the Quinagh House Par 3 Golf Course, Carlow Town. Tennis is available at the Abbeyleix Lawn Tennis Club, Castle Durrow Pavilion and Tennis Court, the Carlow Lawn Tennis Club and the Athy Tennis Club. The Laois Cricket Club is located at Main Street, Stradbally.

Swimming and gym training are available at Portlaoise Leisure Centre, K Leisure, Athy, Graiguecullen Swimming Pool, Kilkenny Activity Centre, and the Watershed, Kilkenny, as well as at many of the Spa Hotels in the region. Various other activities are available at The Mind & Body Yoga and Fitness Studio, Abbeyleix, Lisduff Adventure Farm, Errill, Glosna House Holistic Centre, Portlaoise Leisure Centre, Roll'n Bowl, Portlaoise, Fit & Joy Fitness Centre, Portlaoise, Athy Sports Hub, Laois Angling Centre, Coolrain.

Other facilities in the region include community centres and halls, some of which are stand-alone or are associated with local GAA grounds.

Power to local residences is provided by over-head lines. Most residential properties in the area are served by private bored wells as there is no mains supply in the area. Most houses are serviced by septic tank systems and proprietary effluent treatment systems.

4.3.5 TOURISM & AMENITY

Laois is a landlocked, inland county in the south midlands and occupies a strategic position near the centre of the country—yet is only c. 70 km from the Dublin metropolitan area. Dublin is the primary economic hub and National Gateway, and the largest market in the State, and the northern and eastern half of the county are increasingly coming under its influence. The excellent, multi-modal transport infrastructure (i.e., road and rail) provides strong connectivity with ready access to Dublin Airport and Dublin Port, as well as to the other gateway cities of Limerick and Cork.

County Laois consists of a central plain containing most of the productive agricultural land, surrounded by a number of upland areas, including the Slieve Bloom Mountains in the northwest, Killeslin Plateau in the southeast and Cullahill Mountain in the southwest. There are also significant cutaway peatlands in the county mainly situated between Portlaoise, Mountrath and Abbeyleix.

County Laois is home to a number of nationally renowned visitor attractions including: the Rock of Dunamase, The Round Tower Timahoe, Aghaboe Abbey, the Slieve Bloom Mountains, the Rivers Nore and Barrow. Laois is also one of the counties that is included in Ireland's Ancient East, an umbrella destination brand that will provide significant future opportunity for the county. The aim of the branding is to inspire visitors to travel to the Ireland's Ancient East by appealing to their interest in local culture and heritage. Under the Ireland's Ancient East Programme, signage has been installed at the following sites: Emo Court, the Rock of Dunamase, Heywood Gardens,

Timahoe Round Tower and Abbeyleix Heritage House. The Council aims to facilitate signage at further sites of importance including Donaghmore Workhouse and Agricultural Museum, Aghaboe Abbey, Killeshin Romanesque Church and others.

County Laois has also much to offer visitors in terms of its wide variety of parks, urban culture and attractive and vibrant towns and villages. Fáilte Ireland has recognised the Slieve Bloom Mountains as a unique and distinctive experience.

The growing trend towards activity-based tourism and adventure tourism also provides a significant opportunity for County Laois. The Council can capitalise on the growing demand for experiential holidays in a perceived 'wild' setting with outdoor activity opportunities on offer throughout the county with an emphasis on walking and angling. Participation in adventure activities is becoming increasingly popular amongst visitors and includes the popular activities such as: walking and cycling; game and coarse angling; kayaking & canoeing; and golf and equestrian pursuits. The Council may support, where appropriate, opportunities to create water-based trails or 'Blueways'.

There are community facilities in Knock, which include the Knock Community Hall, Scoil Naisiunta Molaise, and the St. Laserians Church, Knock, which are all located c. 1.5 km west of the site. The Spink Community Field and GAA Club is located c. 4 km west of the site at Boleybeg, while the Ballypickas GAA Club is based at Ballypickas Lower, c. 6 km west of the site.

There are also numerous community and recreational facilities in the nearby villages and towns of Swan, Ballinakill and Abbeyleix. Abbeyleix has two national schools, a library, three churches, a community centre, Montessori school, a nursing home, and a primary health centre. Abbeyleix also boasts a GAA club, soccer club, athletics club, golf club, while lawn tennis, hockey and yoga and fitness are also available. Ballinakill has one national school, one secondary school (i.e., Heywood Community School), two churches, a community centre, creche, and a health centre. It also boasts a GAA club and an outdoor swimming pool. There are no gyms, leisure and sports centres in the Abbeyleix, Ballinakill, Swan area. There is one national school at Swan.

Spink benefits from the many amenities and attractions located within the county, as well as being within easy reach of the vibrant Capital City of Dublin. The Spink area contains numerous historical and archaeological sites, with clusters of Protected Structures at Ballinakill, Durrow and Abbeyleix, Heywood Demesne, Da Vesci Demesne and Abbeyleix Demesne. The distribution of Recorded Monuments in the lowlands is largely dispersed but with distinct to minor clusters at Durrow, Ballinakill, Da Vesci Demesne, Loughill, Knockbaun and Slatt Lower. Notably, the distribution of Recorded Monuments is very thinly dispersed over much of the Castlecomer Plateau.

Heritage attractions in Laois include: Emo Court, the Rock of Dunamaise, Heywood Gardens, Timahoe Round Tower, Abbeyleix Heritage House, Donaghmore Workhouse, Agricultural Museum, Aghaboe Abbey, Killeshin Romanesque Church and others. Other attractions include the Dunamaise Arts Centre, Portlaoise, Mountmelick Embroidery Museum, County Carlow Military Museum, Carlow Town, Roscrea Castle and Damer House, and Athy Heritage Centre and Shakleton Museum, as well as a profusion of heritage attractions in Kilkenny such as Kilkenny Castle.

The natural environment and landscape of Laois contains many natural attractions, such as the Slieve Bloom Mountains in the northwest, Killeslin Plateau in the southeast and Cullahill Mountain in the southwest. There are significant cutaway peatlands, mainly situated between Portlaoise, Mountrath and Abbeyleix, while the River Nore, River Barrow and the Grand Canal offers miles of navigable waterways for the more leisurely pursuit of cruising.

Golf enthusiasts visiting the area can enjoy a choice of excellent golf courses within a reasonable driving distance. As stated above these include, Abbeyleix Golf Club, Castlecomer Golf Club, Portlaoise Golf Club, the Heath Golf Club, Portlaoise, the Heritage Golf Resort, Killenard, the Athy Golf Club, Athy, and the Quinagh House Par 3 Golf Course, Carlow Town.

Horse racing is available at Punchestown, Naas, the Curragh and Gowran Park Racecourse, Kilkenny. There are equestrian activities at numerous nearby equestrian centres, such as the Gales Hill Stables, Ballickmoyler, Calendi Stables, Crettyard, Ballyhyland Cross Country Equine Centre, Ballyhyland, Castlewood Equestrian Centre, Durrow, Rockafoyle Stables, Castlecomer and Kylebrook Equestrian Centre, Stradbally.

There are numerous walking and cycling trails, including the Heyword Gardens, Ballinakill; Kilamuck Bog Loop Walk, Abbeyleix, Lords Walk Loop, Abbeyleix; Castle Durrow Grounds Walking Tour, Durrow Heritage Walking Tour, Durrow Leafy Circular Walk, Dunmore Loop Walk, Durrow, South Laois Bike Tour, Durrow; Slieve Bloom Mountain Bike Trail, Cardtown, Bawnrush, Cardtown; Rosenallis Glenbarrow Red Trail, Meelick, Slieve Bloom Way, Clonaslee, Old Mill Track, Clonaslee; Ridge of Capard, Capard; and Emo Lake Trail, Keeper's Wood.

The Goldstone Drift Track, Firoda, south of Ballinakill, offers a racetrack for motor enthusiasts, while Castelcomer Discovery Park offers a variety of outdoor adventure activities. Various other activities are available locally at The Mind & Body Yoga and Fitness Studio, Abbeyleix, Lisduff Adventure Farm, Errill, Glosna House Holistic Centre, Roll'n Bowl, Portlaoise, and Laois Angling Centre, Coolrain.

There are a host of festival and events held throughout the year in the Laois, which act as significant visitor and tourism attractions, including the following notables:

- Annual Mountmellick Drama Festival, March;
- Half Door Club International Music & Set Dance Festival, Castletown, May;
- National Drawing Day, Laois Arthouse, Stradbally, May;
- Laois Bealtaine Festival, County-wide, May;
- Slieve Bloom Walking Festival, Slieve Bloom Mountains, May;
- Laois Walks Festival, 25 locations around the county, June;
- Forest Fest, Emo Village, June;
- Gordon Bennett Classic Car Run, June;
- Timahoe Heritage Festival, June;

- Buds & Blossoms Laois Garden Festival, Spink, June;
- Laois Heartlands Car Rally, Portlaoise, June;
- The Old Fort Quarter Festival, Portlaoise, June;
- The Folly Festival Cullahill Castle, Galesquarter, July;
- The Ossory Agricultural Show, July;
- Durrow Scarecrow Festival, July – August;
- National Steam Rally, Stradbally, July – August;
- The Power of Words Festival, Abbeyleix, August;
- National Heritage Week, Portlaoise, August;
- Electric Picnic, Stradbally, September;
- Thread Softly Through Ireland, Mountmellick Embroidery Museum, September;
- Culture Night, Portlaoise, September; and
- Leaves Festival of Writing & Music, Portlaoise, November.

There are several areas of high amenity in the county, including the Slieve Bloom Mountains, Grand Canal Corridor, River Barrow Valley, and River Nore Valley. Spink Quarry lies within the Hills and Upland Landscape Character Type, which is characterised by remoteness and low-density development, but is also rich in heritage. There are no amenity views and prospects within c. 7.5 km of Knockbaun, the nearest being just southeast of Timahoe at Fossy Mountain (Laois County Council 2017).

Knockbaun and its environs are steeped in history and have numerous historical and archaeological sites. The application site offers few good views of the surrounding countryside, mostly towards the north. In terms of archaeological, architectural or cultural heritage features, there are 5 Recorded Monuments (RMPs) within c. 1 km of the site, which are part of a cluster of 9 RMPs in the townland of Knockbaun and Cleanagh (Refer to Appendix 12.1). The nearest Protected Structure (RPSs) is c. 1.75 km west of the site in Knock, and the next nearest is c. 3 km east of the site in Swan. These RPSs are as follows:

Reg. No: 12802409

Name: St. Lazerian's Roman Catholic Church

Location: Graiguenahowan

Coordinates: 251622, 183577

Rating: Regional

Category: Architectural Artistic Social

Original Use: Church/chapel

In Use As: Church/chapel

Date: 1845 - 1850

Location: Knock

Description

Detached five-bay Gothic Revival Roman Catholic church, dated 1847, on a cruciform plan with sacristy projection and bellcote to gable. Double-pitched slate roof with bituminous membrane covering and bellcote and wrought iron finials to gables. Roughcast rendered walls, painted, with limestone diagonal buttresses with pinnacles, limestone stringcourses, plaque and shields. Paired lancet-arch window openings with limestone sills, limestone hood mouldings and timber fixed-pane windows. Lancet- and pointed-arch door openings with limestone surrounds, limestone hood mouldings and timber paneled doors. Full-height interior on a cruciform plan renovated and partly remodeled, c.1980, with altar relocated to crossing; timber lobby, c.1980; stained glass windows (one signed Mayer and Company, Munich); plaster cornice to coved ceiling to nave; pointed arch to chancel on Corinthian pilasters; stone reredos with timber paneling; timber ceiling to chancel. Church is set back from road in own grounds; tarmacadam forecourt to front; landscaped grounds to site with various cut stone grave markers, c.1850 - present. Gateway to site comprising limestone ashlar piers with limestone wheel guards and cast-iron gates.

Reg. No: 12803103

Name: Fleming's Fireclays

Location: Slatt Lower

Coordinates: 256611, 182259

Rating: Regional

Category: Architectural Technical

Original Use: Kiln

Date: 1930 - 1940

Description

Pair of freestanding brick firing kilns, built c.1935, on hemispherical plans. Pair of freestanding chimneys, dated 1948 and 1953, to site. Domed brick roof with cast-iron or steel band including cornice, brick chimneystacks, steel corner reinforcements. Red brick walls laid in English Garden Wall bond. Round-headed openings with yellow brick dressings, fittings now gone. Terracotta tiles to floor and yellow brick piers to interior walls. Kilns are set back from road in shared site; tarmacadam yard to site. Gateway to site comprising red brick piers with cast-iron gates and railings.

4.3.6 HUMAN HEALTH

This section describes the existing human environment in terms of the health and safety of the receiving population, as well as that of the workforce of the application site, which are protected by employment legislation, including principally the provisions of the "Safety, Health and Welfare at Work Act, 2005", and amendments and regulations made thereunder.

The constitution of the World Health Organization (WHO) defines health as 'a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity' (WHO 2018). Thus, any assessment of a proposed development should consider the potential impacts on physical, mental, and social health (IPH 2009). Public health pertains to the promotion and protection of health and well-being, prevention of ill-health, and prolongation of life, and emphasises a collective responsibility for the health of the population.

Health is determined by access to quality healthcare services, lifestyle choices, and the socioeconomic conditions in which people live (IPH 2009). The latter include many factors that lie outside the healthcare sector, such as housing, education, employment, transport, drinking water and sanitation, and access to high quality food. Thus, policies in ostensibly non-healthcare sectors can have a significant impact on the health and well-being of a population. There may also be significant health inequalities within a population, in that there are arbitrary disparities in health outcomes depending on socio-economic status. Individuals in higher socioeconomic groups are more likely to live longer and to experience good health longer than those in lower socioeconomic groups, while men and women experience notable differences in health outcomes. From a public policy perspective, addressing the social determinants of health can have positive impacts on health inequalities, and thus should inform the planning and development process.

Common concerns in terms of human health, particularly to vulnerable sections of the receiving population, with respect to developments such as the proposed project, are generally associated with noise, air quality, water contamination, traffic safety, and accidents and disasters. Consequently, human health impacts are assessed through these environmental factors, such that the human health of the receiving environment is primarily addressed here under the individual chapters dedicated to each of the relevant factors. Thus, in respect of human health, the baseline conditions associated with soil and land are described in Section 6, with groundwater in Section 7, with dust and air quality in Section 9, with noise and vibration in Section 10, and with roads and traffic in Section 14.

The primary residential and commercial receptors have been outlined in preceding sections. The immediate receptors were identified to determine the number of residential and commercial addresses within the vicinity of the proposed development. The residential development in the vicinity of Knockbaun is low density, diffuse to clustered, consisting predominantly of owner-occupied bungalow/houses and farm dwellings along public roads and lanes. There are 36 residences in the immediate area (i.e., within 1 km) of the application site.

The closest residence is located c. 175 m west of the site and is one of a cluster of three residences at Larkins Cross that lie within 250 m of the northern corner of the site, while another cluster of five residences lies between c. 500 and 1 km of the northern corner of the site at Garrintaggart (i.e., Nos. 11-15 in Figure 4.1). Two smaller clusters of residences (i.e., Nos. 16-18 and 19-22) are located to the southwest between 500 m and 1 km of the site and behind the hill into which the quarry has been developed.

There is a single commercial property within 1 km of the site, namely Headen's Bar at Spink, as well as numerous farms. The local farms are significant environmental receptors, not simply by way of being local residents, but also as land uses/economic enterprises.

There is an unidentified auto mechanics and motor sales at Aughatubbrid c. 1 km to the south, the Lagan clay products facility and the Swan Inn at Swan c. 3 km to the east, as well as Glanbia Agri-business c. 3.5 km west of the site on the R430 at Ballyhenry. Kilsaran operate a sand and gravel pit at Ballinakill c. 4 km to the west, while there is a large piggery across the road from Kilsaran in the townland of Graigue.

In order to ascertain the socio-economic and health status of the population in the local area around Knockbaun, relevant statistics from the 2016 census have been compiled in Tables 4.4 and 4.5. The socioeconomic group of the reference person per household in the Dysartgallen ED and County Laois have been compiled in Table 4.4. It is apparent that the employer, managerial and professional groups represent 29.1% of the population in the Dysartgallen ED, which compares favourably with 28.0% in County Laois. This demonstrates that under one third of the population of the Dysartgallen ED are from higher socioeconomic groups, which are typically advantaged in terms of education, housing, diet, lifestyle and access to healthcare services. In view of the well-established correlation between socioeconomic status and good health, it would be expected that the population of the Dysartgallen ED would have moderate health.

The Pobal HP Deprivation Index Relative Score for Laois is -2.5 indicating a marginally below average score relative to the State average (EMRA 2017). However, Dysartgallen ED received a marginally above average score, indicating its population is slightly more affluent than the State average.

From Table 4.5, it is apparent that persons with either good or very good health comprise 91.8% of the population in the Dysartgallen ED, which is notably higher than the 86.8% for County Laois. A total of 26 persons with disability were recorded in Dysartgallen ED in 2016, which equates to 10.2% of the population, and is significantly lower than the average for both Laois and the State of 13.5%. In addition, the old age dependency ratio of 18.8 and average age of 38.0 (national average is 37.4) indicate a slightly older population. Furthermore, population growth in the Dysartgallen ED has been modest, having increased from 219 in 2002 to 255 in 2016—an increase of 16.4% compared to 44.1% for Laois (the second highest rate in the State after Meath) and 21.6% for the State in the same period. Thus, the population of Dysartgallen ED is slightly older yet relatively healthy and likely to be more resilient by comparison with the populations of County Laois and the State.

The receiving environment of the development is therefore characterised by a slow growing population with a higher proportion of an older age cohort compared to county and national averages, but who are also in somewhat better health.

Table 4.4 Socioeconomic Group of Reference Person in Household

Socio-Economic Group	Dysartgallen ED	%	County Laois	%
Employers and managers	16	6.30	10,953	13.11
Higher professional	15	5.91	3,480	4.17
Lower professional	43	16.93	8,934	10.70
Non-manual	38	14.96	16,223	19.42
Manual Skilled	7	2.76	9,029	10.81
Semi-skilled	11	4.33	6,998	8.38
Unskilled	9	3.54	3,146	3.77
Own account workers	10	3.94	4,334	5.19
Farmers	79	31.10	5,770	6.91
Agricultural workers	5	1.97	874	1.05
All others gainfully occupied and unknown	21	8.27	13,793	16.51
Total	254	100.00	83,534	100.00

Table 4.5 Populations by General Health and Age Dependency

Health	Dysartgallen ED	(%)	County Laois	(%)
Very Good	175	68.6	50,132	59.2
Good	59	23.1	23,413	27.6
Fair	18	7.1	6,805	8.0
Bad	1	0.4	1,145	1.4
Very Bad	1	0.4	198	0.2
Not Stated	1	0.4	3,004	3.5
Total	255	100.0	84,697	100.0
Average Age	38.0		34.5	
Young Dependency	40.6		38.3	
Old Dependency	18.8		17.7	
Total Age Dependency	59.4		56.0	

4.3.7 SENSITIVE RECEPTORS

The surrounding lands are largely agricultural and held in pasture, although a forestry plantation abuts the site to the south. The R430 Regional Road bounds landholding to the north with c. 700 m of frontage.

Residential property in the area typically comprises one-off single residences and farmsteads along public roads and to a minor extent, along and at the end of lanes off the public roads.

There are numerous established individual residences, clusters of residences, hamlets or graigs in the area with 36 residences within a 1 km radius of the quarry site (See EIAR Figure 4.1). The closest residence is located c. 175 m west of the site and is one of a cluster of three houses at Larkin's Cross. There are only four residences within 250 m of the site, but all but one of these residences (i.e., No. 4; Refer Figure 4.1) are sheltered, in terms of visual, noise and dust impacts, behind the hill into which the quarry is developed. Indeed, another 12 residences between 500 m and 1 km of the site (i.e., Nos. 11 to 22) are similarly sheltered behind the hill. Of the 13 residences within 1 km of the site that are not sheltered behind the hill, one lies within 250 m (No. 4), four more lie between 250 m and 500 m (i.e., Nos. 7-10), and seven more lie between 500 m and 1 km (i.e., 23-30). There has been a long historical association with quarrying at this location and consideration has been given to screening of the development, phasing and direction of working with respect to receptors so as to reduce visual impact, while impacts due to noise and dust are substantially attenuated.

The Knock National School is located c. 1.75 km to the west, while Headen's Bar in Spink is located c. 850 m to the west along the R430, both of which community facilities are sheltered behind the hill. There are no industrial and commercial developments within 1 km, such that the number of sensitive receptors primarily relates to residences 4, 7, 8 and 10 (Refer to Figure 4.1) which have partial views of the quarry workings.

4.4 ASSESSMENT OF IMPACTS

The following Impact Assessment matrix provides an indication of the significance of potential effects arising during the life cycle of the development not accounting for any mitigation measures.

The operation of the quarry at Knockbaun arises from the continued demand of human beings to have their buildings, roads and structures, modified and improved. The supply of construction materials is therefore essential to the aspirations and material progress of humans and their settlements and infrastructure.

Potential negative impacts on human beings and amenity of the area arising from the development relate mainly to nuisance from noise, dust, water pollution, traffic and visual intrusion. The following sections of this report provide detailed information on these potential impacts and mitigation measures proposed.

Table 4.6 Population & Human Health - Impact Matrix			
'Do Nothing' Impacts	X		
Factors	Construction	Operation	Decommissioning
Direct Impacts	X	●	●
Indirect Impacts	X	●	X
Cumulative Impacts	X	X	X
Residual Impacts	X	X	X
'Worst Case' Impacts	X	●	●
None/imperceptible: X ; Slight: ●; Moderate: ●; Significant/Very significant: ●. Refer to Appendix 3 for definition of Significance			

The impact on human beings resulting from the proposed recommencement of quarry operations is assessed here, and possible mitigation measures proposed to reduce any significant impacts. The general guidance on baseline environment and impacts given in Appendix 3 identifies the levels of impacts which are used here in order to evaluate the significance of potential impacts resulting from the proposed quarry reopening. These impact ratings are in accordance with impact assessment criteria provided in EPA (2015; 2017).

There are a number of potential environmental impacts associated with the quarry that may directly, or indirectly, affect the local "human" environment. These potential

impacts and the mitigation measures proposed are described in the following sections of this report under the headings detailed below:

- Biodiversity – Section 5
- Land, Soils & Geology – Section 6
- Water – Section 7
- Air Quality – Section 9
- Noise – Section 10
- Landscape – Section 11
- Cultural Heritage – Section 12
- Material Assets – Section 13
- Roads & Traffic – Section 14

4.4.1 'DO-NOTHING' IMPACTS

If the development did not proceed, the aggregate resource would remain unused in situ, and the local supply of quality aggregates and concrete products would be more restricted. The existing site permitted under P.A. Ref. 10/383 comprises a moderate-sized (i.e., c. 16.8 ha), hardrock quarry, which has been extensively worked with some remaining infrastructure and stockpiles on the quarry floor. Under the 'Do Nothing' scenario, all quarrying and ancillary activities would cease. The site would be restored as per the requirements of the existing planning permission (P.A. Ref. 10/383).

Terminating the operation of the quarry would miss the opportunity to maintain local jobs in the area, and thus would have a direct negative impact on the local human environment.

4.4.2 DIRECT IMPACTS

Potential impacts on human beings can arise out of the construction and decommissioning phases, but particularly the operational phase of the quarry development, and these include noise, dust, water quality, visual impact, traffic and safety (Refer to Table 4.7 below).

4.4.2.1 Land Use

As a quarry has been intermittently active at the Knockbaun site since before the 1970s, and was in full production between 2003 and 2009, recommencement of quarry operations for the extraction of aggregate, represents a minimal impact in the context of change in land use. The quarry has had a number of mitigation measures with respect to screening and landscaping, environmental management and monitoring put in place to ensure that operations do not result in significant impacts on the surroundings, including the human environment.

The site has a long history of quarrying, and these activities have co-existed with other land uses in the area, particularly medium intensity agriculture. On completion of site activities, the site of the quarry will be decommissioned and left safe and secure. Furthermore, the quarry will be restored in accordance with an approved restoration scheme, and thus integrated back into the surrounding landscape with the attendant improvement to the visual amenity of the area.

4.4.2.2 Population and Settlement

It is not anticipated that the quarry operations will result in any change in population. However, the development will have a positive impact with respect to supporting and maintaining the workforce in the area for the duration of quarrying activities.

4.4.2.3 Economy & Employment

The quarry has contributed indirectly to sustaining and developing the local and regional economy through the supply of building products, and has provided employment for local people, both directly and indirectly. The quarry will directly employ 3 people, while indirect employment, including local hauliers, will also be generated.

4.4.2.4 Social Consideration

The quarry operations have provided a valuable and necessary resource to the county and wider region.

The Company has established an environmental management system (EMS) designed to comply with the environmental requirements of the ISO 14001:2015 standard and the Quality Management requirements of ISO 9001:2015 (Refer to EIAR Section 3.3.3.1.2). A copy of the Environmental Management Plan (EMP) for the Spink Quarry is included in Appendix 10. This will be updated in accordance with any new planning consents or licences.

Headen's Bar at Spink is c. 750 m west of the site and is thus the nearest community facility. There are no other community facilities within close proximity of the quarry, with the next nearest being the St. Lazerian's Church at Knock, Knock national school and Knock community hall, all of which are c. 1.5 km west of the site.

There would have been a sustained level of HGV traffic for the duration of quarry operations while the development was open prior to the collapse of the construction industry during the Global Financial Crisis. HGV traffic will be directed westward on the R430 to Abbeylax, Ballinakill and Ballyroan or eastward on the R430 to Swan, Killeslin and Carlow. From Abbeylax, the HGV traffic could access the N77 to Portlaoise in the north or Durrow in the south, while the M7-M9 is accessible a further c. 8.5 km northwest along the R430. From the R430 east of Swan, HGV traffic could access the N78 to Crettyard and Castlecomer to the southwest or Ballylinan and Athy to the northeast. As such, site traffic will be able to use the regional and national road networks for the bulk of the journeys to customer sites and thus will likely have

negligible impact on local road networks and sensitive receptors. The proposed main haulage route is shown on Figure 1.1.

The R430 Regional Road in the vicinity of the quarry site entrance is an unaligned single lane 6-7 m single carriageway with 2 No. 0.5-1 m sloping grass verges. The pavement is in good condition, although the line markings of the right turning lane require renewal.

There is a well set-back, splayed, and paved entrance with large lockable metal gates that services the quarry development. The existing site access junction has sight distances of 300-500 m and is located on a slightly curved section of road. There is an existing right turning lane for turning into the quarry on the western approach to the quarry access. The junction is located within an 80 km/hr speed limit area. Hedge lines and verges will be regularly maintained by the developer in order to maintain sufficient visibility at the site entrance. Appropriate advance warning signage will be provided at locations to be agreed with the Planning Authority.

Thus, it is expected that there will be slight to moderate impact on the local community as a result of the continued operation of the quarry.

4.4.2.5 Amenity, Tourism & Recreation

There are no major tourism attractions in the immediate vicinity (<5 km) of the quarry. As previously mentioned above, while there will be a sustained level of HGV traffic for the duration to the quarry development, this traffic will be largely directed westward on the R430 Regional Road. The nearby national primary roads of the M7-M9 west of Abbeyleix, the N77 at Abbeyleix and the N78 east of Swan are all accessible via the R430. As such, site traffic will be directed onto regional and national roads at the earliest opportunity.

There are numerous attractions and amenities in southern County Laois and northern County Kilkenny, but all of these are relatively remote to the quarry, and therefore will not be impacted upon.

Traffic entering and leaving the site will use the established quarry site access. The R430 regional road servicing the site is generally in good condition and is considered suitable for the expected volumes of HGV traffic, and has done so in the past prior to cessation of quarrying activities during the Global Financial Crisis. The site entrance has been adequately set-back and splayed in accordance with P.A. Ref. 10/383 to the satisfaction of the Planning Authority. Further details with respect to the impact and mitigation of traffic are contained within this report (Refer to Section 14).

There will be no significant additional visual intrusion on recommencement of quarry operations. Presently, there are only intermittent views of the workings along the R430 north of the entranceway with most views of the current quarry workings screened by existing perimeter berms and screen planting along the roadside boundary.

There will be a potential moderate, medium to long term, negative impact as extraction extends to southeast during the operational phase of the development. However, reinforcement of the screening berm along the public road boundary will be provided. Consideration will also be given to the direction, phasing, preservation of buffer zones and

reinforcement of perimeter landscaping with respect to the eastern, northern, and western site boundaries as quarrying develops.

The quarry does not lie on a designated scenic route, nor is it visible from any of the designated scenic routes and viewpoints within the wider area around Spink Quarry (< 5 km; Laois County Council 2017). The hill into which the development has been driven forms a screen to all views from the west. It is considered that the development will not have any significant visual impact on the views and prospects in the county.

The visual impact of the quarry is discussed in more detail in Section 11 - Landscape. However, upon decommissioning, the site will be restored in accordance with an approved restoration scheme for the quarry so that the site is assimilated in a planned manner back into the landscape in the long term.

4.4.2.6 Property Values

The local authority used the lands at Knockbaun for rock extraction, which ceased in the 1970s. Mr. Laurence Behan re-opened the quarry in 2003 and operated a medium to large scale quarrying operation prior to becoming dormant in 2009 due to the Global Financial Crisis. Thus, the site has a history of quarrying extending back before the 1970s having co-existed with other land uses in the area, such that property values should be unaffected by the recommencement of quarrying.

On completion of site activities, the site of the quarry will be decommissioned and left safe and secure. Furthermore, the quarry will be restored in accordance with an approved restoration scheme, and thus integrated back into the surrounding landscape with the attendant improvement to the visual amenity of the area.

4.4.2.7 Human Health

Common concerns in terms of human health, particularly to vulnerable sections of the receiving population, with respect to developments such as the proposed project, are generally associated with noise, air quality, water contamination, traffic safety, and accidents and disasters. Any impacts arising with respect to these environmental factors are addressed under the relevant chapters where relevant. i.e.

- Land, Soils & Geology – Section 6;
- Water – Section 7;
- Climate - Section 8;
- Air Quality – Section 9;
- Noise & Vibration – Section 10;
- The Landscape – Section 11;
- Cultural Heritage – Section 12;
- Material Assets – Section 13; and
- Roads & Traffic – Section 14.

On completion of site activities, the quarry site will be decommissioned and left safe and secure. Furthermore, the site will be reinstated in accordance with the approved quarry restoration scheme, and thus integrated back into the surrounding landscape with the attendant improvement to the visual amenity of the area (Refer to EIAR Figures 3.2 and 3.3). The restoration of the site to beneficial after-use will result in a moderate positive effect in the medium term.

Industrial accidents involving dangerous substances pose a significant threat to humans and the environment, both on and off the site of the accident. The Seveso Directive (Directive 82/501/EEC) was adopted in 1982 for the purpose of prevention and control of such major accidents, and was amended in 1996 (Seveso II Directive 96/82/EC) and again in 2012 (Seveso III Directive 2012/18/EU). The Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015 (S.I. No. 209 of 2015) (the "COMAH Regulations"), implement the Seveso III Directive. Under the Regulations, there are two tiers of establishment, i.e., upper tier and lower tier, which are related to the quantities of dangerous substances present, and allow tiered controls on the operators of establishments subject to the regulations. However, there are no upper or lower tier establishments in either counties Laois or Kilkenny, such that the Spink Quarry is not at risk of such accidents. Furthermore, the quarry lies in a sparsely populated, rural area, where the nearest industrial development is the Lagan clay products facility at Swan 3 km to the southeast, indicating that the site is not vulnerable to major accidents or disasters.

The COMAH Regulations also do not apply to the quarry site itself, as the proposed development only relates to the extraction and processing of inert materials. Details with respect to accident and emergency response are addressed in EIAR Section 3.3.5 and mitigation measures are proposed (Refer to EIAR Section 4.5 below).

The greater risk of accident probably arises from the nature of the quarrying activities on-site. However, the design, construction and operation of the proposed development will be carried out in accordance with all relevant Irish and European legislation/regulations governing safety in the workplace. In particular, specific regard will be given to the regulations implemented under the Safety, Health & Welfare at Work Act 2005 and amendments and regulations made thereunder, including the Safety, Health & Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013), as amended. A 'Health & Safety Plan' will be implemented for the development in accordance with the regulations.

A copy of the Company's Health Safety and Wellbeing Policy Statement is also attached (Refer to Appendix 5). Lagan are committed to preventing injuries and work-related ill-health by achieving and maintaining the highest standards of health, safety and wellbeing, through continuous improvement and the promotion and sharing of good practice.

4.4.2.8 Other

There are no recorded archaeological, architectural or cultural heritage features within the area of land take. There are five Recorded Monuments (RMPs) within the 1 km study area. There are no Protected Structures (RPSs), Architectural Conservation

Areas or NIAH structures within the proposed development area or within the 1 km study area. There are no NIAH historic gardens or designed landscapes within the proposed development area or within the 1 km study area. There are no National Monuments in State Care within the proposed development area or the 1 km study area. There are no sites with Preservation Orders or Temporary Preservation Orders within the proposed development area or the 1 km study area. There are no World Heritage Sites or Candidate World Heritage Sites within the proposed development area or the 1 km study area. There are no Areas of Special Archaeological Interest within the proposed development area or the 1 km study area.

Table 4.7 Direct Impacts by Stage of Development

Direct Impact	Construction Stage	Operational Stage	Decommissioning Stage
Human Health (Employment)	Significant, short term, positive due to contractors hired for construction works.	Moderate, medium to long term, positive for quarry employees and hauliers.	Long term, moderate, negative due to closure.
Human Health (Safety)	Significant, negative, short term due to construction works.	Moderate, medium term, negative due to quarry operations.	Slight, short-term, negative due to demolition and removal of plant and infrastructure off-site.
Water Quality	Imperceptible, short term.	Imperceptible to, medium to long term, negative due to discharge to external watercourse.	Long term, neutral as quarry dewatering ceases.
Noise	Slight to moderate, short term, negative due to construction works associated with new office, processing plant, recommissioning wheelwash, weighbridge, batching plant, etc.	Moderate, medium to long term, negative due to extraction, processing, concrete batching and transport activities.	Slight, short term, negative becoming positive as final restoration of the quarry is achieved.
Dust	Slight, short term, negative due to construction works.	Moderate, medium to long term, negative due to extraction, processing concrete batching and transport activities.	Slight, short term, negative becoming positive as final restoration of the quarry is achieved.
Visual Amenity	Moderate, medium to long term, positive as boundary screening berms are reinforced and vegetated.	Moderate, medium to long term, negative as extraction extends to southeast.	Significant, long term, positive as site is restored to beneficial after-use.
Traffic	Slight, short term, negative due to contractors entering/ exiting site during construction works.	Moderate, medium to long term, negative due to HGV entering/ exiting site delivering product to market.	Slight, short term, negative to positive as final restoration works are completed.

There will be no direct and/or indirect impacts on any known items of archaeology, cultural heritage or buildings of heritage or special architectural interest in the application area or the vicinity.

It is considered there will be negligible direct impact, including operational visual impact, on the archaeological resource.

The impact of extraction will not result in any significant loss of heritage values in the locality. In the medium to long term, the site will be restored in accordance with an approved restoration scheme for the quarry.

4.4.3 INDIRECT IMPACTS

Apart from the direct impact of the deposition of particulate material, there may be an associated slight visual impact with fugitive dust generation. This impact will be minimised by both the mitigation measures described to minimise dust in EIAR Section 9.6, and those described to minimise visual impacts in Section 11.

There will be no other significant indirect impacts associated with the operation of the quarry.

4.4.4 CUMULATIVE IMPACTS

There are several quarries in the Abbeyleix-Ballinakill area c. 5-8.5 km to the west, while the Lagan Clay Products facility is located c. 3 km to the east at Swan. As such, it is considered that there will be no significant cumulative impacts with respect to the operation of the quarry given that the site is removed from any other commercial development in the locality.

4.4.5 TRANSBOUNDARY IMPACTS

The EIA Directive 2014-52-EU invokes the Espoo Convention on Environmental Impact Assessment in a Transboundary Context, 1991, and applies its definition of transboundary impacts. Given the location (c. 135 km from the border with N. Ireland), nature, size and scale of the proposed development, it is expected that the impacts of the development would not have any significant transboundary effects on population and human health.

4.4.6 RESIDUAL IMPACTS

Based on the mitigation measures provided for during the operational phase, there will be no significant residual impacts envisaged in terms of community and other socio-economic issues. On completion of the full restoration and closure of the site, it is expected that there will not be any significant, long-term, adverse impacts.

4.4.7 'WORST CASE' IMPACTS

A possible worst case impact would have been significant in the medium term if the quarry was developed in an uncontrolled manner with no consideration given to provision of screening of the development along the northeastern boundary, which would open up the quarry from views from the north and east. However, consideration has been given to screening using reinforcement of existing screening berms as necessary, progressive restoration of the upper quarry face, and the final restoration of the quarry site once operations at the site cease (Refer to EIAR Sections 3.4 and 11.6 and EIAR Figures 3.2 and 3.3).

For the purposes of evaluating the worst-case scenario, it is that 'end of life' dewatering volume that has been simulated. Hydrological survey for receiving waters capacity suggests that discharge to the Owenbeg River system to the west, for the worst-case scenario discharge volume, can be accommodated with no risk of flooding. Hydrochemical assimilation capacity simulation for receiving waters capacity suggests that discharge to the west's system, for the worst-case scenario discharge volume, can be accommodated and maintain compliance with the Surface Water Objective's Good Status Objective. (Refer to Section 7).

Another possible worst case impact would have been the generation of dust from crushing and screening of aggregates and internal haul roads in the absence of dust suppression resulting in a moderate impact on the immediate surrounds. Various mitigation measures, such as siting processing plant on the existing quarry floor being sheltered from outside views by the quarry face and perimeter screening, will be implemented to minimise any impacts as much as practical to ensure the operation of the quarry will not result in any significant impact on residences or local amenities (Refer to EIAR Section 9.6).

Noise prediction modelling (Refer to EIAR Section 10) indicates that the quarry operations can be kept to acceptable levels by the implementation of good design, effective operation and management and by the implementation of measures which are deemed to be best practice.

Given the extraction method and the inert nature of the end product and process, no 'Worst Case' impacts after mitigation are apparent, other than a potential traffic accident involving a HGV from the site. However, mitigation measures will be put in place to minimize any such risks (See Section 14. Roads & Traffic).

4.5 MITIGATION & MONITORING

With regard to the human beings, there are no mitigations proposed beyond normal site management including phasing and site restoration and maintaining screening along the R430. Mitigation measures with regard to environmental issues such as water quality, air quality, noise, traffic and visual impacts will be provided for and are described in detail under the relevant sections (See list in Table 4.1 above). Any impact on the natural environment will be mitigated against to the greatest degree practical, thereby minimising any associated impact on the “human” environment.

The mitigation measures that relate to the human environment, and the sensitive receptors in particular, mainly involve water, air, noise and vibration, landscape and traffic. As the proposed development relates to the recommencement of extraction at an existing quarry, there will be a minimal requirement for a construction stage and attendant mitigation measures. During the operational stage, mitigation measures proposed by the operator and those conditioned by the Planning Authority will be in effect and controlled and monitored by the Environmental Management System (EMS) and environmental monitoring programme. During the closure and decommissioning stage, the site will be restored to beneficial after-use, and no additional mitigation measures are proposed.

The Company has established an environmental management system (EMS) designed to comply with the environmental requirements of the ISO 14001:2015 standard and the Quality Management requirements of ISO 9001:2015 (Refer to EIAR Section 3.3.3.1.2). A copy of the Environmental Management Plan (EMP) for the Spink Quarry is included in Appendix 10. This will be updated in accordance with any new planning consents or licences. The EMP addresses such matters as Emergency Preparedness & Response in dealing with accident and emergency situations resulting in effects on the environment (Refer to EIAR Section 3.3.5).

A copy of the Company's Health Safety and Wellbeing Policy Statement is also attached (Refer to Appendix 5). Lagan are committed to preventing injuries and work-related ill-health by achieving and maintaining the highest standards of health, safety and wellbeing, through continuous improvement and the promotion and sharing of good practice.

The applicant, Lagan, has established an environmental monitoring programme for the quarry site. The programme allows for on-going monitoring of environmental emissions (e.g., noise, dust, blasting, water) from the site, thereby assisting in ensuring compliance with requirements or regulations. Future environmental monitoring programmes for the site will be submitted to Laois Co. Co. for their approval prior to the recommencement of quarry activities

The development will be controlled and regularised in accordance with the scheme as outlined in this document, through continued environmental monitoring and by planning conditions imposed by the competent authority. The proposal will have no major and/or long-term effect on the human environment.

It is, and has been, the policy of the operator to ensure the health and welfare of its employees by maintaining a safe, clean and tidy working environment, and employing safe working procedures that accord with the requirements of employment legislation, regulations, and best work practices in the industry.

Access to the site has and will be restricted at all times, and all visitors and contractors will undergo a site induction before entering the site. The wearing of protective clothing such as footwear, helmets and high visibility clothing will be mandatory in operational areas. Careful attention will be paid to safe practices when carrying out machinery maintenance and ensuring appropriate guarding of moving parts.

Adequate fencing, signage and other barriers have been erected around the existing site for the safety of the general public and to prevent livestock straying into the development. Large lockable gates are in place to guard against unauthorised and unsupervised entry to the site outside of working hours.

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4.6 REFERENCES

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Laois County Council Planning Authority, Viewing Purposes Only

4.7 FIGURES

Laois County Council Planning Authority, Viewing Purposes Only

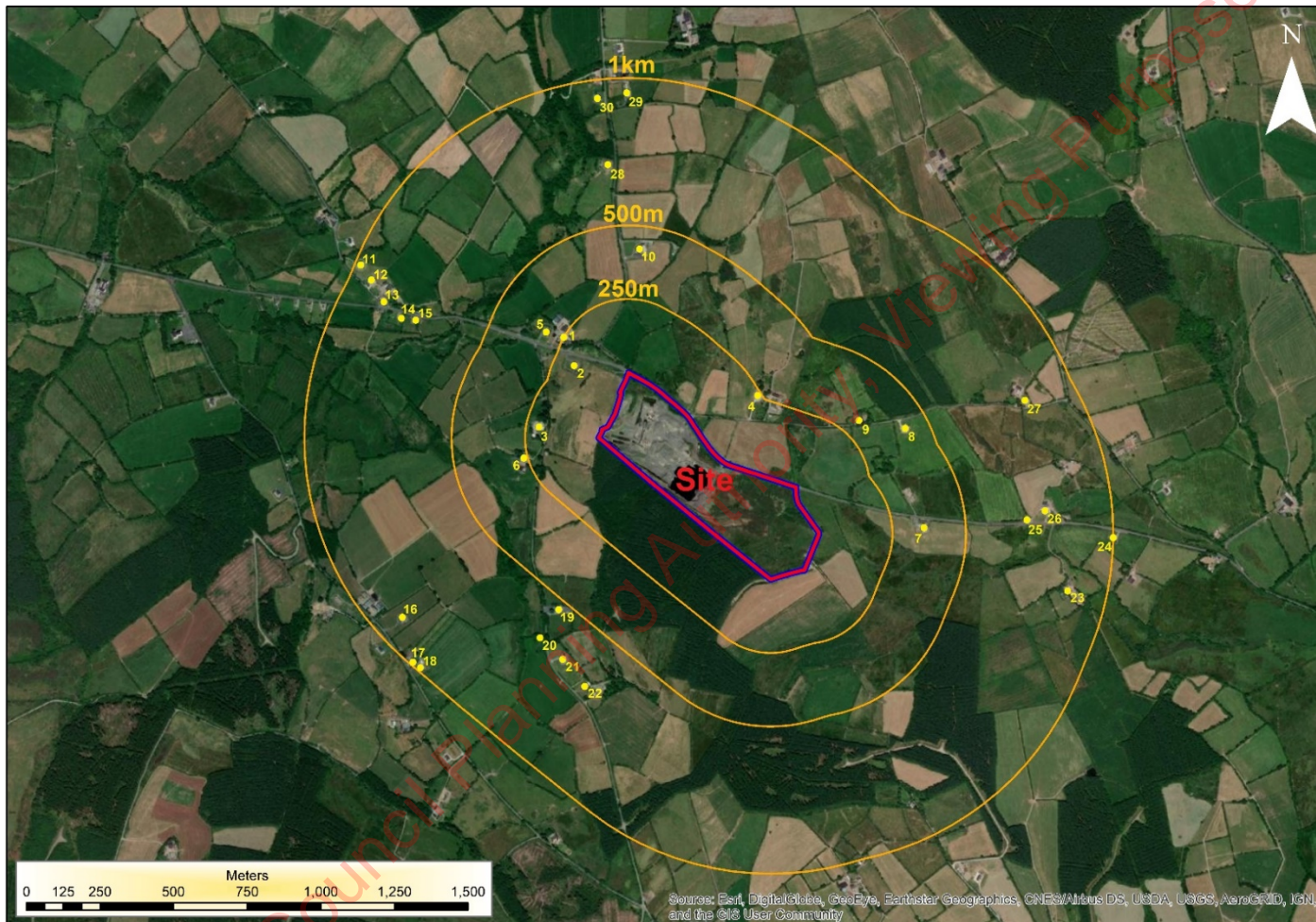


Figure 4.1 Locations of residences within 1 km study area around application site boundary.

Landholding (in blue) and application site (in red). Note locations of residences within 1 km study area around application site boundary.

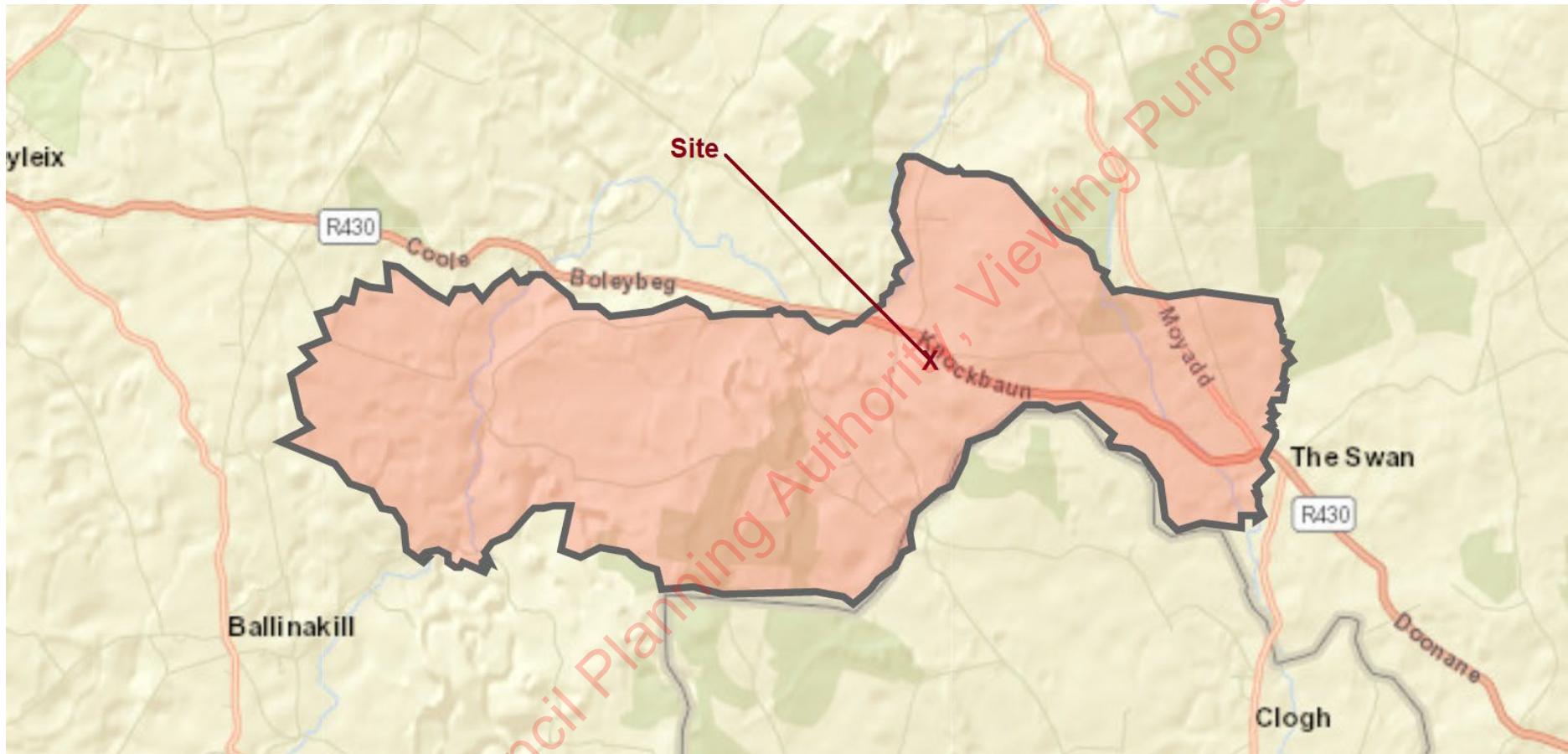


Figure 4.2 Map of the Dysartgallen Electoral Division showing location of Site (marked X).

Rendered in ArcGIS 10.3 using aerial image from ESRI's world imagery.

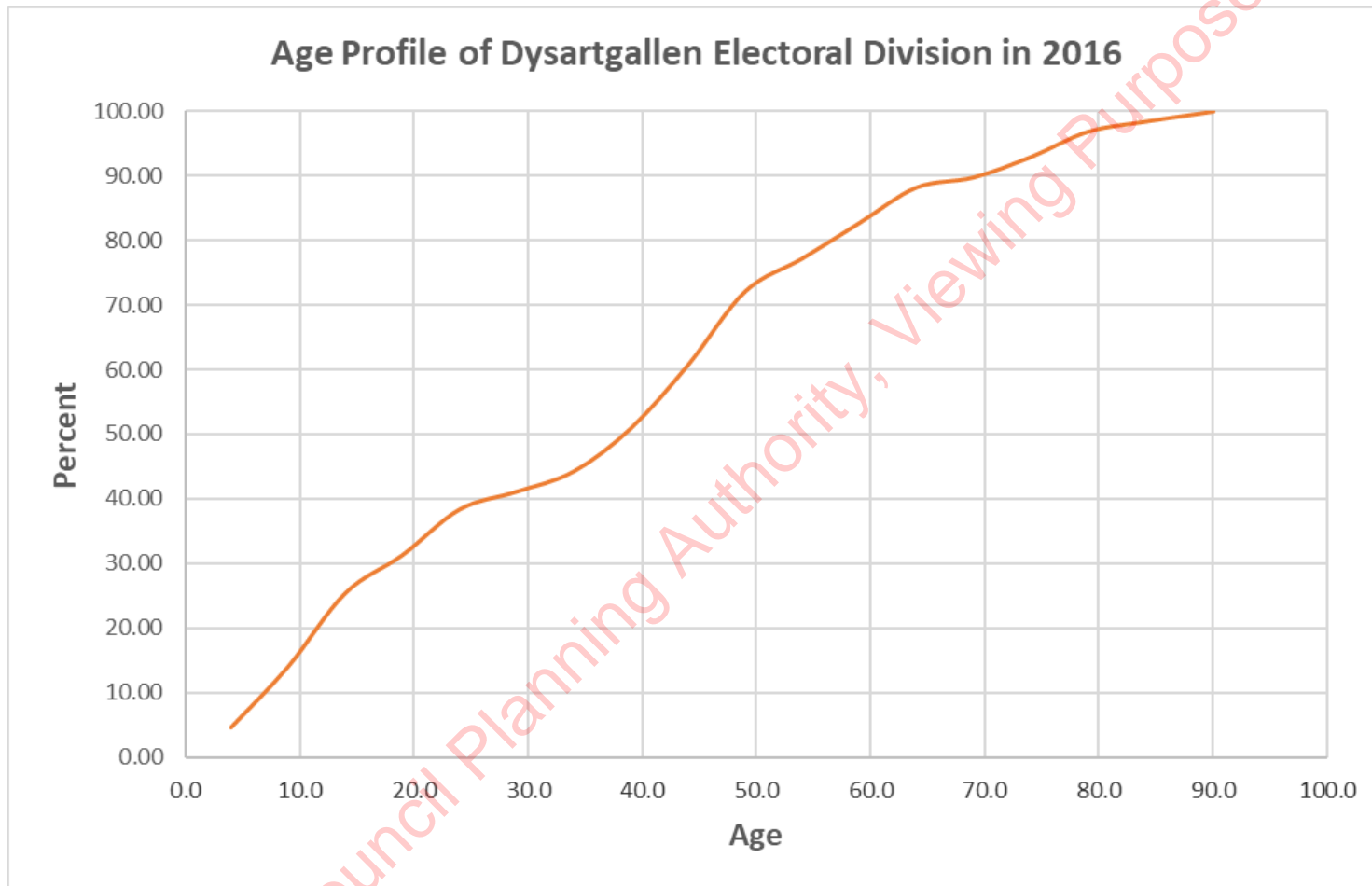


Figure 4.3 Age Profile of Dysartgallen Electoral Division in 2016.

Average age of 38.0 at the 50 percentile.

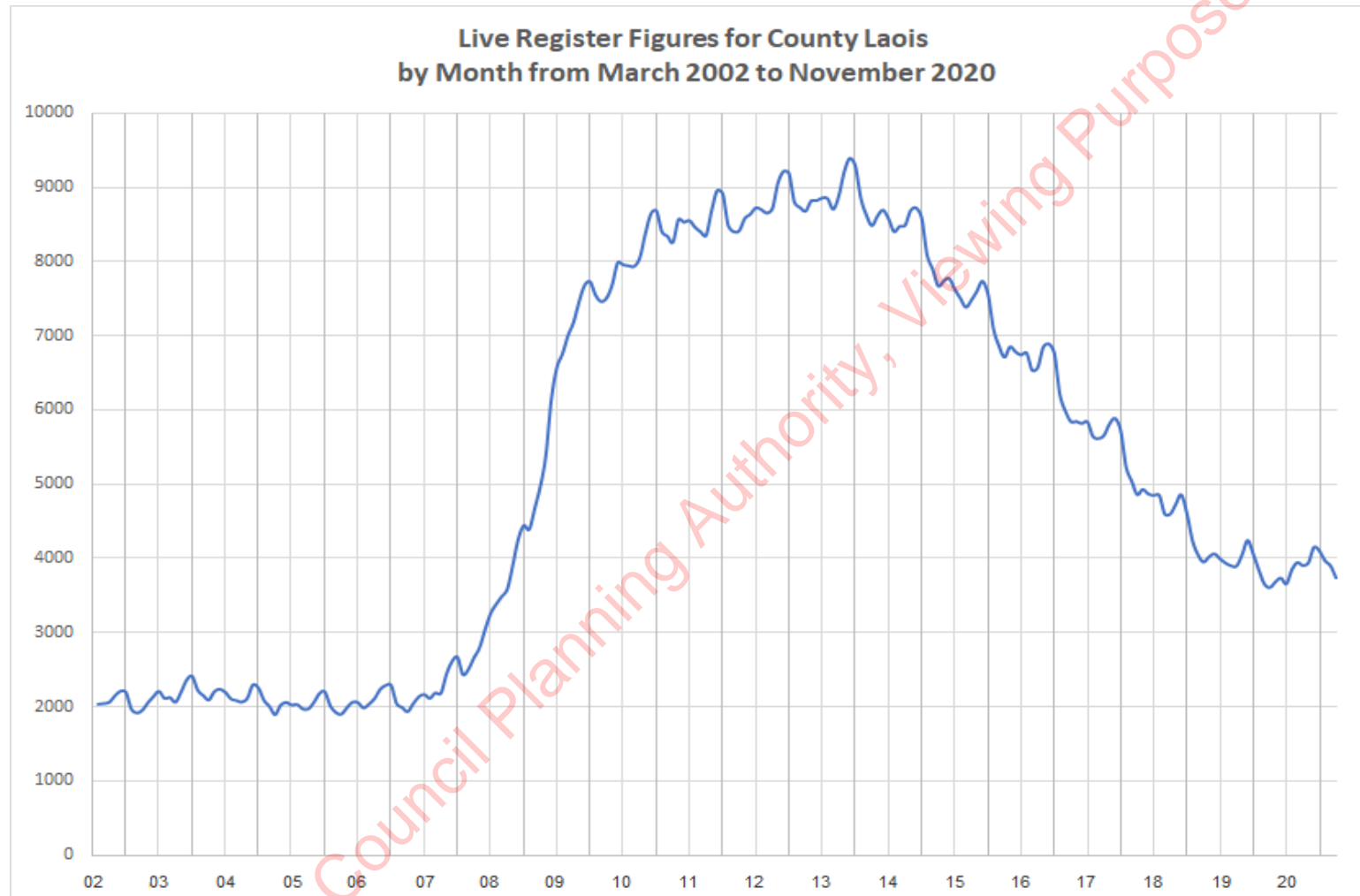


Figure 4.4 Chart Showing Profile of Live Register for County Laois from March 2002 to November 2020.