5.0 POPULATION AND HUMAN HEALTH

5.1 Introduction

This chapter of the *Environmental Impact Assessment Report* has been prepared by Tom Phillips + Associates and examines the potential impacts of the proposed quarry deepening on human beings (population). The scope of the work includes an evaluation of the potential direct and indirect effects on human beings and addresses impacts on amenity, the local economy and health.

5.2 Methodology

The following guidelines have informed the preparation of this chapter:

- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessments (Department of Housing, Planning and Local Government – August, 2018);*
- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, May 2022);*
- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2002);*
- *Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment (European Union, 2017);*
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (DHPLG, 2018).*

The preparation of this chapter was also informed by site visits and desktop studies of relevant policy documents and data sources including:

- Central Statistics Office (2016) - Census 2016;
- *Meath County Council Development Plan 2016-2022*;
- *Meath County Development Plan, 2021-2027*;
- ESRI (2021) - *Quarterly Economic Commentary, Winter 2021*;
- ESRI (2022) - *Quarterly Economic Commentary, Summer 2022*;
- Health Safety Authority – www.hsa.ie;

In order to assess the likely significant impacts of the proposed development on population and human health, an analysis of recent Census data was undertaken. Data relating to the economic, demographic and social characteristics of the Local Authority District within which the subject site is located were examined.

The assessment of impacts on population and human health entailed the identification of key populations potentially affected by the proposed development; a definition of the study area; and quantitative, qualitative, and documentary research.

Key populations potentially affected by the proposed development have been identified as persons residing and engaging in activities in close proximity to the quarry, persons with a stake in the general economy of the area, and persons enjoying the recreational and cultural amenities of the area.

The primary Study Area has been defined as the District Electoral Division (DED) of Ballyboggan (ED No. 71) which is located near the settlement of Kinnegad. The study area has been identified having regard to both data availability and the location of the subject site. DEDs are the lowest level of geography at which detailed demographic data (i.e., Small Area Population Statistics published by the Central Statistics Office) are available for rural areas.

Reference will also be made to the larger Trim Rural District (which contains the Ballyboggan Electoral Division, Trim Municipal District and to County Meath as a whole. Research involved review of relevant policy documents and the analysis of population data supplied by the Central Statistics Office.

5.3 The Proposed Development

The proposed development is intended to facilitate the continued operation of Breedon Cement Ireland Limited' operations at Kinnegad quarry and will take place within an area already permitted for quarrying activities[1]. The proposal will involve deepening of an area of c. 4.13 hectares by 4 extractive benches to a level of 10m OD, which is consistent with the floor level approved for the adjacent quarry area, as permitted under ABP Ref. PL17.111198.

Access to the quarry is currently provided from the local road (L8021) that runs in a north-south direction and bounds the eastern portion of the quarry site. The proposed development will not result in any increase to the output of the existing limestone quarry or to the production capacity to the existing cement plant. The proposed development will be served by the existing on-site haul road from the existing vehicular access point on the L8021 to the northeast of the site.

As outlined above, the proposed deepening of this section of the existing quarry will be consistent with the permitted depths of the adjacent permitted quarry area and is intended to facilitate the efficient extraction of material from the overall quarry.

5.4 Receiving Environment

Lands surrounding the subject site can be described as rural in character. Residential properties in the vicinity of the site comprise of one-off dwellings fronting onto the county roads primarily to the north-west of the site. In addition, there are a number of residential properties within the village of Ballinabrackey, which is located between approximately 2km south of the application site.

[1] Meath County Council Planning Ref: TA/900603

The site is set back from the public road and is largely screened from view by the trees and hedgerows vegetation along the boundary of the site. Further details of the receiving environment are provided in Chapter 2 of this EIAR.

5.4.1 Services and Population

The most proximate settlement centres is Kinnegad located c. 3km to the north. Approximately 26 km to the northeast of the subject site is Trim which is a large town settlement.

Population characteristics for the area have been obtained from the Central Statistics Office *Census of Population* for 2016.

The subject site at Killaskillen is located within the northern half of the Electoral Division of Ballyboggan (ED No. 071). In the 2022 Census (Preliminary Results), this ED had a population of 572 No. persons representing a population percentage increase of 8.3% from the 2016 total population of 528 No. persons. This percentage change in population is significantly higher than the neighbouring EDs as seen in Table 5.1 below.

Table 5.1: Population Change in Ballyboggan, Co. Meath

Area	2011	2016	2022 (Preliminary Results)	Population Change (2016-2022)	% Change
Ballyboggan	536	528	572	+44	**+8.3%**
Castlejordan	471	427	441	+14	**+3.3%**
Ardnamullan	842	864	880	+16	**+1.9%**
Source: CSO Data					

The Electoral Division of Ardnamullan (ED No. 069), is the nearest most populated DED located to the northeast of the subject site, which had a population of 880 No. persons in 2022. A population change of +1.9 % is recorded since the population of 864 No. persons in 2016.

5.4.2 Employment

The Preliminary census 2022 results were not used for this section as data relating to this theme is not yet published. As a result, the Census 2016 data was examined, which illustrates that 17.7% of the population in Ballyboggan are involved in agriculture, forestry and fishing, while only 9.3% are involved in the building and construction sector and 0.45% in transport and communications. The next most significant industry is of professional services, employing 19.1% of working population while the remaining industries employ c. 10 to 12% as seen in Table 5.2 below.

Table 5.4: Persons at work by industry, Ballyboggan, Co. Meath.		
Industry	**Persons at work**	**% Total**
Agriculture, forestry and fishing	38	**17.7%**
Building and construction	20	**9.3%**
Manufacturing industries	24	**11.2%**
Commerce and trade	36	**16.7%**
Transport and communications	1	**0.45%**
Public administration	5	**2.3%**
Professional services	41	**19.1%**
Other	50	**23.2%**
Total	**215**	**100.0%**
Source: CSO Data 2016		

5.4.3 Live Register

At the time of the 2016 census, some 5.9% of the labour force in Ballyboggan ED are classed as 'Unemployed'. This figure is lower than Trim Municipal District and County Meath which had unemployment rates at this time of 6.6% and 4.5%, respectively.

More recent information regarding unemployment is provided by Live Register data. The Live Register is a monthly measurement of the numbers of people (with some exceptions) registering for Jobseekers Benefit (JB) or Jobseekers Allowance (JA) or for various other statutory entitlements at local offices of the Department of Employment Affairs and Social Protection (DEASP). As a result, this data source, whilst not providing an unemployment figure, can provide a good indication of up-to-date employment trends and economic activity in the subject site area.

Live Register figures are available at a national, county and local DEASP welfare office level. At local level, the relevant DEASP Social Welfare Office is located in Trim. Figures at national, county and local levels, referenced in Table 5.3, all reflect a significant downward trend in the numbers recorded on the Live Register between January 2016 (the last census year) and November 2021. However, it is noted that between January 2022 and June 2022 Live Register figures at local, county and state levels have all increased at local and regional levels.

Table 5.3: A Comparison of Live Register Figures			
Area	**Jan. 2016**	**Jan 2022**	**June 2022**
State	321,513	162,578	186,819
Meath	7,561	3,658	4,137
Trim	2,460	1,089	1,247
Source: CSO Data 2022			

The proposed development will aim to maintain existing employment levels at the Kinnegad quarry and will support direct and indirect employment for the duration of the lifespan of the quarry.

5.4.4 Employment and Economic Activity in Ireland

With respect to national employment figures, (ESRI) *Quarterly Economic Commentary (ESRI QEC) – Summer 2022* anticipates that the national unemployment rate as a percentage of the total labour force is expected to fall to 4% in 2023 from 5% recorded in 2022[2]. The report further states that:

> *''The strong labour market performance, along with the continued increases in Exchequer receipts, means that the Irish public finances are in a relatively robust state, notwithstanding the recent challenges posed by the pandemic and the Ukrainian crisis.''*
>
> (Our emphasis) (Source: *ESRI Quarterly Economic Commentary, Summer 2022.)*

May 2022 marked the first month in which the unemployment rate (4.7 per cent) has fallen below its pre-pandemic rate (4.8 per cent in February 2020). Given the rapid recovery of the labour market in the first half of 2022, the *ESRI QEC* expects the unemployment rate to continue to improve gradually. In 2022 and 2023, the unemployment rate is forecasted to be just 5.0 and 4.0 per cent, respectively which means the Irish economy will be operating at or close to full employment over the period ahead.

The *Commentary* also suggests that public finances are set to remain stable due to the 'strong and robust rebound in taxation revenues' as well as 'declining debt ratios'. However, the possibility of a need to introduce targeted measures to assist with increased cost of living coupled with the influx of refugees due to the Ukrainian Crisis is likely to strain public finances in Ireland.

The consumption forecast improvement predicted previously has been affected by two major economic forces since early 2022, '*the improving COVID-19 epidemiological situation*' and the '*deteriorating geopolitical conflict in Ukraine*'. As a result, although a robust recovery in Irish consumption was evident throughout 2021, the geopolitical situation in Ukraine is expected to negatively impact consumption decisions at greater levels and further increase inflation. Inflation in 2022 is expected to reach 7.1% while falling to 4.0 % in 2023. However, consumption is still expected to grow by 4.6 % in 2022 and 3.8 % in 2023 owing to the rebound from the pandemic coupled with increased household savings over the last two years.

[2] *ESRI (Summer 2022) Quarterly Economic Commentary*.

5.5 Potential Environmental Impacts on Human Beings

5.5.1 Air & Climate

The impact of the proposed extension of the quarry on air quality is outlined in Chapter 9 of this EIAR. In summary, there will be no change in the substances which may be present in the emissions from the quarry operation and the associated activities on-site.

The main potential impact on ambient air quality from the current activities will be that associated with deposition of dust generated by excavation, transfer, and processing operations.

The assessment of the potential impact of the fugitive dust emissions arising from all sources at the site is based on the impact of the dust deposition rates in the vicinity of the site. The results of the comprehensive dust deposition monitoring programme carried out at the site since July 2000 clearly show that the existing site activities do not exert an adverse impact as average dust deposition rates are substantially lower than the limits specified in the IED Licence.

Table 9.4.2 in Chapter 9 shows the average dust deposition levels at locations around the Breedon Cement site. The average monthly dust deposition rate measured in the area during the period January 2018 to May 2022 was 7.5 mg/m2-day or 5% of the limit value of 130 – 240 mg/m2-day. The dust deposition monitoring programme continues to show that site activities do not result in unacceptable fugitive dust emissions extending beyond site boundaries and that best management practices at the site are effective in minimising fugitive dust emissions even during the drier summer months when the potential for fugitive dust emissions is at a maximum.

There is potential for cumulative impacts on air quality to arise during the construction phase of the proposed nearby solar development[3]. However, the existing monitoring programme demonstrates that dust and air quality impacts are well within permissible levels and whatever minor emissions may be released during the construction phase of the proposed solar development will not exert a significant adverse impact on air quality in the area even in combination with the existing emissions from the cement plant and quarry, which will be unchanged if the proposed quarry deepening proceeds.

5.5.2 Noise & Vibration

The impact of the proposed development in terms of noise is assessed in Chapter 10 of this EIAR. On-going noise monitoring has taken place at the existing quarry, which to date show full compliance.

It should be noted that there will be no change to the rates of extraction or to the nearby cement manufacturing process as a result of this proposal. Raw material extraction rates will remain at current levels as will the output of cement product. In particular there will be no change in the frequency or magnitude of blast events.

[3] Meath County Council Planning Register Ref 22/958

The impacts associated with the quarry extension will remain the same as the current impacts associated with the operation of the quarry and there will be no change in the noise and vibration impacts associated the quarry operation. There will be no increase in plant or machinery associated with the quarry extension and consequently the current overall level of noise and vibration impact from the quarry will not change.

Noise monitoring is carried out annually at times when the site activities are operating normally. Data for the period 2018 – 2021 was reviewed and a summary of the data is presented in Table 10.4.1 (day time), Table 10.4.2 (evening time) and Table 10.4.3 (night time). The detailed monitoring reports note that no exceedances of the permitted limits were recorded as a result of existing site activities during these surveys and therefore demonstrates that the existing activity is fully compliant with the existing Licence limits and that the existing activity is not having an unacceptable adverse impact on the environment in the area.

5.5.3 Landscape and Visual

Chapter 10 of this EIAR assesses the landscape and visual impacts of the proposed quarry deepening. As outlined in the chapter, it is considered that the magnitude of landscape impact is in the order of Low in the immediate vicinity of the application site (c. <500m from site boundaries). The magnitude of impact will soon reduce thereafter as the proposed deepening to the existing extraction area in the north-eastern portion of the existing quarry becomes a smaller component of the overall landscape fabric and will be worked in conjunction with the existing quarry.

Further to this, the Low landscape sensitivity judgement attributed to the study area coupled with a Low magnitude of landscape impact is considered to result in an overall significance of no greater than Slight-imperceptible within the immediate vicinity of the site and reducing to slight and Imperceptible at greater distances.

5.5.4 Water

The impact of the proposed development on the hydrology and hydrogeology of the area is assessed in Chapter 8 of this EIAR and includes a summary table of potential impacts associated with each phase the development (Table 8.16).

As outlined in chapter, there is an Industrial Emissions (IE) Licence (as issued by the EPA) regulating all site emissions and a daily discharge volume of 6,150m3/ is permitted to the Kinnegad River. The application site sits in the catchment of the Kinnegad River, and the natural hydrological regime is thereby retained. The Groundwater quality and discharge quality at the site is considered good and data are returned to the EPA each year in the AER for the IE & IPPC Licences.

A Summary of Mitigation Measures & Residual Impact Assessment is outlined in table 8.19 of Chapter 8, which concludes that the majority of scenarios where impacts may arise are considered unlikely and would result in imperceptible impacts.

Alterations to the IE Licence are not considered necessary because both flow measurements in the storm scenario and water balance calculations demonstrate that there is adequate

capacity in the current IE Licence. The monitoring programme currently in place will be retained.

5.5.5 Traffic

The potential for traffic impact arising from the proposed development is addressed in Chapter 12 of this EIAR. Potential impacts arising in the form of increased noise levels and impact on air quality and climate are negligible since there is no intensification of operations as a result of the proposed development.

In terms of the carrying capacity of the receiving local road network and junctions, the impact of the proposal development is negligible as demonstrated from forecast assessments contained in Chapter 12 of this EIAR. Therefore, any residual impacts on traffic capacity on the receiving road network can be categorised as imperceptible.

5.5.6 Waste

The potential for impact on human beings living in the area of the proposed development has been addressed in Chapter 11 of the EIAR. Waste management is an integral part of the applicant's Environmental Management System (EMS), which is accredited to ISO 14001, the Environmental Standard for Environmental Management Systems. Part of Breedon's Environmental Policy commits them to 'promote improvements in energy efficiency and resource usage while having due regard for sustainable development and waste minimisation'. The core principles of their waste management strategy are:

- *to prevent and minimise waste at source*
- *to reuse waste where possible by returning it to the production process*
- *to segregate and store any wastes that cannot be reused*
- *to dispose of any waste in an environmentally sensitive manner that cannot otherwise be recycled or recovered.*

The impact assessment in Chapter 11 demonstrates that waste will continue to be managed in accordance with all local, regional and national waste management legislation and in accordance with the requirements of the IE Licence. This interaction is described as neutral for the operational phase and is quantified as imperceptible.

5.6 Socio-Economic Impacts

The proposed development essentially relates to the deepening of the existing quarry extraction area at the permitted quarry site. The proposed development will support the existing number of workers employed directly at the facility, with also positive knock-on effects for indirect employment in the local community and beyond.

5.7 'Do Nothing' Impact

In the absence of the proposed development, the existing quarry would continue to operate until all reserves in the area originally permitted under ABP Ref. PL17.111198 (MCC Reg. Ref. 98/2026) and MCC Reg. Ref. TA/900603 are depleted.

Thus, in the absence of the proposed development, the long-term security of both direct and indirect employment within the local area will be impacted upon.

5.8 Mitigation Measures

No mitigation measures are deemed necessary other than those outlined elsewhere in this EIAR.

5.9 Residual Impacts

The residual impact of the proposed development will not be significant in terms of its effect on human beings.