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INTRODUCTION

- 15.1 This chapter of the Environmental Impact Assessment Report (EIAR), prepared by SLR Consulting Ireland, addresses the potential interaction of environmental impacts arising from the proposed development at Rossmore, Carrigtwohill, Co. Cork.
- 15.2 The proposed development being applied for under this current planning application is shown on EIAR Figure 2-2 and will consist of:
- extension of the existing quarry over an extraction area of c. 12.5 hectares to a level of minus 35mOD;
 - extraction and processing of limestone using the industry standard blasting and processing techniques in place at the existing quarry;
 - provision of overburden storage area;
 - provision of a vehicular tunnel underneath the local private road to link the extension area to the existing quarry;
 - operational landscaping including perimeter screening berms around the proposed extension area;
 - restoration of the quarry to natural habitat after-uses; and
 - all related ancillary site works within an overall application area of c. 22.3 hectares, and all for a period of 35 years and a further 2 years to complete final restoration of the site.

The proposed development, in conjunction with the existing quarry permitted under planning ref. 21/6983 (ACP Ref. ABP-313-903-22), will result in a combined extraction capacity of 500,000 tonnes per annum. The permitted extraction capacity of the existing quarry area will remain unchanged.

- 15.3 Further information on the proposed development, site activities, environmental management systems and controls at the application site are provided in the Chapter 2 of this EIAR.
- 15.4 All of the predictable significant impacts of the proposed development and the existing and proposed measures in place to mitigate them have been outlined in this EIAR.
- 15.5 However, for any development with the potential for significant environmental impact there is also the potential for interaction amongst these impacts. The result of these interactions may either exacerbate the magnitude of the impact or ameliorate it. The interaction of impacts on the surrounding environment needs to be addressed as part of the Environmental Impact Assessment process.
- 15.6 This Environmental Impact Assessment Report was prepared by SLR Consulting on behalf of Breedon Materials Ltd., trading as Breedon Ireland as an integrated document, rather than a collection of separate reports. The impacts that arise as a result of the interaction between several aspects of the development have, therefore been addressed in the main body of each EIAR chapter.

The Interaction of the Foregoing

- 15.7 The interaction between the various environmental topics has been covered within each of the EIAR chapters, 4 through to 14, where relevant.

INTERACTION OF THE FOREGOING 15

- 15.8 A matrix method has been used¹, in which the environmental components addressed in the previous sections of this EIAR have been placed on both axes of a matrix; these interactions are summarised in **Table 15-1** below.
- 15.9 The purpose of the effects matrix is to identify potential interactions. Actual interactions and their significance are dealt with in the relevant chapter of the EIAR. An overview of the key interactions is provided below in this chapter.

Table 15-1
Potential Impact Interaction and Key Interrelationships Matrix

	Population & Human Health	Biodiversity	Land, Soils & Geology	Water	Climate	Air Quality	Noise & Vibration	Material Assets	Cultural Heritage	Landscape and Visual	Traffic
Population & Human Health											
Biodiversity											
Land, Soils & Geology											
Water											
Climate											
Air Quality											
Noise & Vibration											
Material Assets											

¹ As per EPA guidelines (2022)

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	Population & Human Health	Biodiversity	Land, Soils & Geology	Water	Climate	Air Quality	Noise & Vibration	Material Assets	Cultural Heritage	Landscape and Visual	Traffic
Cultural Heritage											
Landscape and Visual											
Traffic											

Overview of key INTERACTIONS

Population and Human Health

15.10 In relation to the key interactions of human receptors with air quality, noise & vibration, landscape and traffic, these are addressed in EIAR Chapter 8 (Air Quality), Chapter 10 (Noise & Vibration), Chapter 13 (Landscape) and Chapter 14 (Traffic).

Biodiversity

15.11 In relation to biodiversity there is potential for interaction with air quality and noise & vibration, and these interactions are addressed in Chapter 8 (Air Quality) and Chapter 10 (Noise & Vibration).

15.12 Following review of the existing dust deposition, noise & vibration results and detailed assessments it is concluded that the proposed operations within the application area will not have any significant dust, noise and / or vibration impact on ecological receptors.

Land, Soils and Geology

15.13 The interaction between Land, Soils & Geology and Cultural Heritage is addressed in Chapter 6 (Land, Soils & Geology). The proposed development will not impact any County Geological Sites. Interaction with Water is addressed in Chapter 7 (Surface Water & Groundwater), see below.

Water

15.14 In relation to water there is potential for interaction with land, soils & geology and climate, and these are addressed in Chapter 7 (Surface Water & Groundwater) of the EIAR.

15.15 The water management at the site considers climate (weather conditions). There are existing mitigation and management measures in place to prevent spills and manage the water environment. Continued implementation of these measures will ensure that there will be no

significant effects owing to the interaction of land, soils and geology and the water environment.

Climate

- 15.16 The interaction of climate (weather conditions) with the water environment is addressed in Chapter 7 (Surface Water & Groundwater), in terms of surface water, groundwater and water management at the site.

Air Quality

- 15.17 In relation to air quality (in particular dust deposition) there is potential for interaction with human and ecological receptors, and this is addressed in Chapter 8 (Air Quality).
- 15.18 Following review of the existing dust deposition results and a detailed dust assessment it is concluded that the proposed development, with the range of mitigation and management measures to be implemented, and with the design measures incorporated into the working scheme, will have an insignificant dust impact on human or ecological receptors.

Noise & Vibration

- 15.19 In relation to noise and vibration there is potential for interaction with human and ecological receptors, and this is addressed in Chapter 10 (Noise & Vibration).
- 15.20 Following review of the existing noise results and detailed noise & vibration assessments it is concluded that the proposed development will have an insignificant / negligible impact on human or ecological receptors.

Material Assets

- 15.21 Based on the assessment completed it is considered that there is no potential for any significant interaction between material assets (waste management and built services) and the other environmental topics.

Cultural Heritage

- 15.22 Potential interactions associated with Land, Soils and Geology in terms of Geological Heritage are addressed in Chapter 6 – Land, Soil & Geology. The proposed development will not encroach impact any County Geological Sites.

Landscape & Visual

- 15.23 The proposed development has the potential to impact on population (human) amenity through changes to the landscape and views / prospects. The detailed landscape & visual assessment provided in Chapter 13 (Landscape) concludes that the visual effects on views would range from none for the vast majority of locations within the study area, to moderate or less for the residential receptors identified and moderate / minor or less for the vehicle users with views towards the application area (i.e. impacts not considered to be significant).
- 15.24 On completion of all restoration works the predicted landscape effects would reduce to minor and visual effects would reduce to minor / negligible.

Traffic

- 15.25 Potential interactions associated with traffic movements from the proposed development with the general population in the form of other road users are addressed in Chapter 14 (Traffic). The detailed traffic assessment concluded that the road network will continue to operate within capacity for the Opening Year (2027), 2032 and 2042.
- 15.26 Chapter 8 (Air Quality) provides details of the existing management / mitigation measures that are in place at the quarry to prevent / minimise generation of traffic-related dust on the existing internal access roads, at the quarry entrance, and on the local road network.

REFERENCES

Environmental Protection Agency (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.