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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 the sand pit at Ballynamonabeg, Ballymacoonoge and Glentire townlands, Ballaghkeen, Co. Wexford.

15.2 The proposed development being applied for under this current planning application is shown in plan on **Figure 2-2**, and in cross section on **Figure 2-3**, and will consist of:

- Continued use of the existing sand & gravel pit for completion of extraction and restoration (c. 4 hectares) under planning permission ref. 20191259);
- Extension to the existing sand & gravel pit over an extraction area of c. 11 hectares;
- Extraction to final level two metres above the groundwater table;
- Screening berms and operational landscaping;
- Continued processing of sand & gravel using permitted mobile screening plant located on the pit floor;
- Continuance of use of the existing permitted access and internal access road to / from the R744 regional road;
- Continuance of use of existing permitted ancillary facilities: Office, portaloo, storage container, wheelwash and fuel storage;
- Phased and final restoration of the lands to agricultural use;
- Proposed duration c. 18 years plus 2 years for final restoration, total permission duration of 20 years;
- Within an overall planning application area of c. 23.2 hectares.

15.3 Further information on the proposed development at the application sites 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 Ireland on behalf of Anthony D'Arcy Ltd. 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.

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15.8 A matrix method has been used[1], 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.

[1] As per EPA, Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2022)

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Table 15-1
Potential Impact Interaction and Key Interrelationships Matrix

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

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OVERVIEW OF KEY INTERACTIONS

Population and Human Health

15.10 In relation to the key interactions of human receptors with water, air quality, noise, material assets, landscape and traffic, these are addressed in EIAR Chapter 7 (Water), Chapter 8 (Air Quality), Chapter 10 (Noise), Chapter 11 (Material Assets), Chapter 13 (Landscape) and Chapter 14 (Traffic).

15.11 This EIA Report indicates that the proposed development and restoration works at the application site could proceed with acceptable limits for noise and dust emissions, while potential effects on water could be adequately addressed through good environmental management practices and mitigation measures to avoid accidental spillages of fuel, etc.

15.12 A review of material assets above and underground has been undertaken to ensure that these are protected and that there is no potential for disruption to essential local services.

15.13 The landscape and visual impact on human receptors were assessed and not considered to be significant. The design of the landscape and restoration plan for the proposed development has been developed in tandem with the landscape and visual assessment and have taken advantage of opportunities to enhance and augment natural topography/planting conditions to further reduce the potential for effects. As a result, the effects on all landscape receptors would reduce to minor / negligible over time and will reduce to neutral in nature.

15.14 The traffic assessment undertaken described in Chapter 14 (Traffic) concludes that the road network is capable of carrying the projected traffic associated with the proposed development, which will be unchanged from that for the existing pit operations granted planning permission under planning ref. 20191259.

Biodiversity

15.15 In relation to biodiversity there is potential for interaction with water, air quality and noise, and these interactions are addressed in Chapter 7 (Water), Chapter 8 (Air Quality) and Chapter 10 (Noise).

15.16 Examination of the identified potential impacts on the receiving environment show that, with the mitigation measures in place, there are no significant residual impacts with respect to surface water and groundwater and that the significance of all potential negative impacts identified will be reduced to **'**Not Significant'.

15.17 Following review of the existing dust deposition, noise results and detailed assessments it is concluded that the proposed operations within the application area will have a negligible dust, noise impact on ecological receptors – designated ecological sites.

Land, Soils and Geology

15.18 There is a potential increased risk to groundwater quality with the removal of the sand and gravel subsoil material overlying the application site. This aspect is addressed in Chapter 7 (Water), see below.

15.19 The proposed development also has the potential to interact with cultural heritage by providing for the recording of potential artefacts that may be discovered in the newly proposed extension area. In respect to geological heritage and to facilitate further development of geological knowledge and understanding, during the operational stage, the Applicant will facilitate access to any exposed pit faces by GSI staff for inspection,

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educational and scientific purposes, subject to advance notice and compliance with health & safety regulations.

Water

15.20 In relation to water, there is potential for interaction with human health, biodiversity and land, soils & geology due to the increased risk to groundwater quality and the potential of any contaminants entering a hydrological pathway and causing harm to human health. This is addressed in Chapter 6 (Land, Soil & Geology) and Chapter 7 (Water) of the EIAR.

15.21 There are existing mitigation and management measures in place to prevent spills and protect groundwater. Continued implementation of these measures will ensure that there will be no significant effects owing to these interactions.

Air Quality

15.22 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).

15.23 Following 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 / negligible dust impact on any assessed receptors.

15.24 Due to the separation distance between the site and the nearest designated European (Natura 2000) / proposed Natural Heritage Area (pNHA) sites, any potential dust impact on same will be negligible.

Climate

15.25 In relation to climate (weather conditions), there is potential for interaction with the water environment in terms of flood risk, which is addressed in Chapter 7 (Water).

15.26 As per the assessment of flood risk provided in Chapter 7 (Water), the proposed development is not located in an area at risk from flooding. Additionally, mitigation measures as set out in Chapter 9 (Climate) will minimise vulnerability to expected climate change effects (extreme rainfall, flash flood, storms, and winds).

Noise

15.27 In relation to noise there is potential for interaction with human and ecological receptors, and this is addressed in Chapter 10 (Noise).

15.28 The noise assessment described in Chapter 10 was undertaken with close consideration of the local resident settlement pattern. The prediction of potential impacts has been modelled on the likely impacts at each of the closest, representative residences.

15.29 Following review of the existing noise results and detailed noise assessment, it is concluded that the proposed development will have an insignificant / negligible impact on noise sensitive receptors following the adoption of mitigation measures.

15.30 Land resources (soils and subsoils) stripped as a result of earthworks are to be used to maximise the potential screening effect they represent as screening berms to protect local human/ecological receptors from noise emissions from the site.

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Material Assets

15.31 The main interactions between material assets and other topic areas are in relation to disturbance to the local population in terms of amenity and utility service (including waste management and water supply) provision. By definition, traffic infrastructure (Chapter 14), land use (Chapter 6) and cultural heritage (Chapter 12) also interact with the wider Material Assets topic area.

15.32 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

15.33 As stated earlier, the proposed land and soils handling raises an opportunity for discovery and recording of any artefacts discovered in the newly proposed extension area.

15.34 Based on the assessment completed, it is considered that there is no potential for any significant interaction between cultural heritage and the other environmental topics.

Landscape & Visual

15.35 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 impact would range from none for large parts of the study area, to moderate or less for a limited number of residential, recreational, vehicular receptors in the vicinity of the south-western site boundary, 1 km to the south-east, 1.5 km to the north-east and between 1-2 km north of the extension site (i.e. all impacts not regarded as significant).

15.36 All landscape and visual effects would reduce to minor/negligible after all of the extraction and restoration works are completed, due to the continued screening from the boundary topography and vegetation and as the pit faces become more and more colonised with locally occurring grass and scrub species. As a result, the site will increasingly merge with the surrounding agricultural landscape. The proposed development at the application site will not have a significant effect on any of the landscape and visual receptors.

Traffic

15.37 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 traffic assessment concluded that the low level of traffic generation will be similar to that generated by the existing pit operations. Going forward, this low level of HGV traffic generation does not have the potential to materially or discernibly affect the capacity performance of the road network.

15.38 Chapter 8 (Air Quality) provides details of the existing management / mitigation measures that are in place at the pit to prevent / minimise generation of traffic-related dust on the existing internal access roads and at the pit entrance.

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REFERENCES

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