

14. INTERACTION OF EFFECTS

14.1 Introduction

The preceding chapters 5 – 13 of this EIAR identify the potential significant environmental effects that may occur in terms of Population and Human Health, Biodiversity (Flora and Fauna), Land, Soils and Geology, Water (Hydrology and Hydrogeology), Air and Climate, Noise and Vibration, Landscape and Visual, Cultural Heritage (Archaeological, Architectural and Cultural Heritage) and Material Assets (Roads and Traffic, and Built Services), as a result of the Proposed Development as described in Chapter 4 of this EIAR. However, for any development with the potential for significant environmental effects there is also the potential for interaction between these potential significant effects. The result for interactive effects may exacerbate the magnitude of the effects or improve them, or have a neutral effect.

The ‘Proposed Development’ considered for the purposes of this EIAR consists of six separate components of the proposed Masterplan development of the Applicant’s landholding in Moygaddy Co. Meath which forms part of a larger project, the first phase of which will require six separate planning applications.

- Site A – A Strategic Employment Zone
- Site B – Healthcare Facilities
- Site C – Strategic Housing Development
- The Maynooth Outer Orbital Road (MOOR)
- Kildare Bridge Planning Application
- Moyglare Bridge Planning Application

While these developments will be subject to separate planning applications, it was considered prudent to consider all six applications together under one EIAR, due to the proximity, construction timelines and shared infrastructure between the developments, therefore the interaction matrix presented in Table 13-1 considered the potential for interacting impacts in relation to the Proposed Development.

A matrix is presented as Table 13-1 below to identify the potential interaction of impacts between the various aspects of the environment assessed throughout this EIAR. The matrix highlights the potential for the occurrence of positive, neutral or negative effects during both the construction (C) and operational (O) phases. The matrix is symmetric, with each environmental component addressed in the chapters of this EIAR being placed on both axes of a matrix, and therefore each potential interaction is identified twice.

Table 14-1 Interaction Matrix: Potential for Interacting Impacts

| | Phase | Population and Human Health | Biodiversity, Flora and Fauna | Land, Soils and Geology | Water | Air and Climate | Noise and Vibration | Landscape and Visual | Cultural Heritage | Material Assets |
|-------------------------------|-------|-----------------------------|-------------------------------|-------------------------|------------|-----------------|---------------------|----------------------|-------------------|-----------------|
| Population and Human Health | C | Black | Light Blue | Pink | Pink | Pink | Pink | Pink | Light Blue | Pink |
| | O | Black | Light Blue | Light Blue | Light Blue | Light Green | Light Blue | Yellow | Light Blue | Light Blue |
| Biodiversity, Flora and Fauna | C | Light Blue | Black | Pink | Pink | Pink | Pink | Light Blue | Light Blue | Light Blue |
| | O | Light Blue | Black | Light Green | Pink | Light Green | Light Blue | Pink | Light Blue | Light Blue |
| Land, Soils and Geology | C | Pink | Pink | Black | Pink | Pink | Pink | Pink | Pink | Light Blue |
| | O | Light Blue | Light Blue | Black | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue |
| Water | C | Pink | Pink | Pink | Black | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue |
| | O | Light Blue | Pink | Light Blue | Black | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue |
| Air and Climate | C | Pink | Pink | Pink | Light Blue | Black | Light Blue | Light Blue | Light Blue | Pink |
| | O | Light Green | Light Green | Light Blue | Light Blue | Black | Light Blue | Light Blue | Light Blue | Light Blue |
| Noise and Vibration | C | Pink | Light Blue | Light Blue | Light Blue | Light Blue | Black | Light Blue | Light Blue | Light Blue |
| | O | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Black | Light Blue | Light Blue | Light Blue |
| Landscape and Visual | C | Pink | Pink | Pink | Light Blue | Light Blue | Light Blue | Black | Light Blue | Light Blue |
| | O | Yellow | Pink | Light Blue | Light Blue | Light Blue | Light Blue | Black | Pink | Light Blue |
| Cultural Heritage | C | Light Blue | Light Blue | Pink | Light Blue | Light Blue | Light Blue | Light Blue | Black | Light Blue |
| | O | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Pink | Black | Light Blue |
| Material Assets | C | Pink | Light Blue | Light Blue | Light Blue | Pink | Light Blue | Light Blue | Light Blue | Black |
| | O | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Light Blue | Black |

Legend: No Interacting Effect: Light Blue Positive Effect: Light Green
 Neutral Effect: Yellow Negative Effect: Pink

The potential for interaction of impacts has been assessed, throughout this EIAR, as part of the Impact Assessment process. While the work on all parts of the Environmental Impact Assessment Report (EIAR) was not carried out by MKO, the entire project and work of all sub-consultants was managed and coordinated by the company. This EIAR was edited and collated by MKO as an integrated report of findings from the impact assessment process, by all relevant experts, and impacts that potentially

interact have been assessed in detail in the individual chapters of the EIAR above and summarised in Section 14.2 below.

Where any potential negative impacts have been identified during the assessment process, these impacts have been avoided or reduced by design and the proposed mitigation measures, as presented throughout the EIAR and highlighted in Section 14.2 below.

14.1.1 Statement of Authority

This section of the EIAR was written by Niamh McHugh and Daire O'Shaughnessy and reviewed by Michael Watson, of MKO. Niamh is an Environmental Scientist who has been working with MKO since 2021. Niamh holds a BSc (Env) in Environmental Science from the National University of Ireland, Galway. Niamh has been involved in the preparation of a number of Environmental Impact Assessment Reports across several sectors. Daire is a Project Environmental Scientist who holds a B.Sc (Hons) in Environmental Science with three years of consultancy experience with MKO and has been involved in a range of EIAR applications. Michael Watson is a Project Director with MKO; with over 18 years' experience in the environmental sector. His project experience includes the management and productions of Environmental Impact Assessments (EIS/EIAR), particularly within the wind energy sector.

14.2 Impact Interactions

14.2.1 Population and Human Health

Population & Human Health and Hydrology & Hydrogeology

Any impacts associated with any development on water has the potential to impact on human health, in particular where water abstraction sources are present. The Proposed Development has limited potential to give rise to water pollution as a result of a site activities due to the construction methodologies being used. Also, there are no water abstraction points in the vicinity of the site.

The construction works on both the Kildare Bridge and Moyglare bridge applications have the potential to impact on human health due to a decline in water quality. However, mitigation measures have been presented in Chapter 8 to minimise the risk of any such issues.

Population & Human Health and Air & Climate

The Proposed Development has the potential to create dust and other less noticeable air pollutants, which could give rise to nuisance for occupants of nearby sensitive receptors. Mitigation measures are presented in Chapter 9 to minimise the risk of any such issues.

Population & Human health and Noise & Vibration

The Proposed Development has the potential to create noise and some vibration during the construction phase, which could give rise to nuisance for occupants of nearby sensitive receptors. Mitigation measures are presented in Chapter 10 to minimise the risk of any such issues.

Population & Human Health and Landscape

The construction of the Proposed Development will lead to the removal of areas of mature native hedgerows. The potential landscape and visual effects on the local population will result as the site changes from an area of agricultural land to a construction site of considerable size. However the operational phase of the Proposed Development will bring mitigation, remedial and avoidance

measures to ensure no further impacts on the landscape to nearby sensitive receptors. It is proposed that native trees and hedgerows be planted throughout the proposed development, enhancing the landscape of the surrounding area.

14.2.2 Biodiversity

Biodiversity, Flora & Fauna and Land, Soils & Geology

The disturbance of soils and potentially bedrock within the Proposed Development area will result in habitat loss and some disturbance of fauna in the areas surrounding the works area. Where possible, the excavated soil will be used for reinstatement and landscaping works around the site.

Biodiversity, Flora & Fauna and Hydrology & Hydrogeology

Site activities have the potential to give rise to some water pollution (although this is limited), and consequential impacts on flora and fauna that rely on or use that water within the same catchment. These potential impacts have been assessed, and the relevant measures will be in place to avoid any water pollution and subsequent effect on flora and fauna. The mitigation presented throughout this EIAR will minimise any potential effects.

Biodiversity, Flora & Fauna and Noise & Vibration

Site activity during the construction of the Proposed Development has the potential to give rise to noise and some vibration that could disturb fauna. This will occur only during the construction phases which will be temporary and the site is located within an urbanised area so potential effects are limited.

14.2.3 Land, Soils and Geology

Land, Soils & Geology and Hydrology & Hydrogeology

The movement and/or removal of soils, overburden and rock as part of the construction activity has the potential to have secondary impacts on water quality in the absence of mitigation. Mitigation measures are presented in Chapter 7.

14.2.4 Air and Climate

Air & Climate and Material Assets

The movement of construction vehicles both within and to and from the site has the potential to give rise to dust nuisance effects during the construction phase. This is assessed further in Chapter 9 of this EIAR, and mitigation measures are presented to minimise any potential effects.

14.3 Mitigation and Residual Impacts

Where any potential interactive negative impacts have been identified in the above, a full suite of appropriate mitigation measures have been included in the relevant sections (Chapters 5-13) of the EIAR. The implementation of these mitigation measures will reduce or remove the potential for these effects. Information on potential residual impacts and the significance of effects, is also presented in each relevant chapter.