

## **Chapter 15**

### **Interactions of the Foregoing**

## **15.0 INTERACTIONS OF THE FOREGOING**

### **15.1 INTRODUCTION**

All environmental factors are interlinked to a degree such that interrelationships exist on numerous levels. Interactions within the study area can be one-way interactions, two-way interactions and multiple-phase interactions which can be influenced by the project. As this EIAR has been prepared by a number of specialist consultants an important aspect of the EIA process is to ensure that interactions between the various disciplines have been taken into consideration.

As this EIAR document has been prepared by a number of specialist consultants, an important aspect of the EIA process is to ensure that interactions between the various disciplines have been taken into consideration. This chapter of the EIAR was prepared by David Ferguson, BA, MRUP, MIPI, RTPI, Senior Planner with John Spain Associates, Planning & Development Consultants and reviewed by Stephen Blair, BA (Mod), MRUP, MIPI, MRTPI, Executive Director with John Spain Associates. In preparing this chapter, consideration has been given to the other inputs to this EIAR including.

The purpose of this chapter of the EIAR is to draw attention to significant interaction and interrelationships in the existing environment. In preparing and co-ordinating this EIAR, John Spain Associates Planning and Development Consultants ensured that each of the specialist consultants liaised with each other and dealt with the likely interactions between effects predicted as a result of the proposed development, ensuring that appropriate mitigation measures were incorporated into the design process.

A specific section on interactions with other relevant factors is included in each of the environmental topic chapters of this EIAR. This approach is considered to meet with the requirements of applicable EU and Irish law. In this regard, the aspects of the environment likely to be significantly affected by the proposed development during both the construction and operational phases have been considered in detail in the relevant chapters of this EIAR, and, in addition, likely interactions between one topic and another have been discussed under each topic chapter by the relevant specialist consultant. In practice many impacts have slight or subtle interactions with other disciplines. This chapter highlights those interactions which are considered to potentially be of a significant nature. Discussions of the nature and effect of the impact is primarily undertaken within each of the relevant chapters, while this chapter identifies the most important potential interactions.

### **15.2 INTERACTIONS**

The relevant consultants liaised with each other where necessary to review the proposed scheme and incorporate suitable mitigation measures wherever necessary. As demonstrated throughout this EIAR, most inter-relationships are neutral in impact when the mitigation measures proposed are incorporated into the design, construction or operation of the proposed development.

In addition to the above a series of standalone reports have been prepared to accompany the application and which have helped inform the above chapters of the EIAR where relevant. AECOM Consulting Engineers have prepared an Engineering Services Report, a Traffic and Transport Assessment, and an Outline Construction & Environmental Management Plan. Altemar have prepared an Appropriate Assessment Screening. Landscape Design Statement and drawings prepared by AECOM. Public Lighting layout prepared by AECOM. These are all included as separate standalone reports with the application and have informed the relevant environmental assessments and are clearly referenced where relevant.

This section identifies the potential of unplanned but potential interactions that could occur during construction and operation of the proposed development. The following table identifies where it is predicated that interactions could occur.

Interaction	Population & Human Health	Archaeology and Cultural Heritage	Biodiversity	Landscape and Visual	Land and Soils	Water	Air Quality and Climate	Noise and Vibration	Utilities	Waste	Traffic	Risk Management
Population & Human Health	✓			✓	✓		✓	✓		✓		✓
Archaeology & Cultural Heritage		✓										
Biodiversity			✓	✓	✓		✓	✓		✓		
Landscape and Visual	✓		✓	✓		✓						
Land and Soils	✓		✓		✓	✓	✓	✓		✓	✓	✓
Water				✓	✓	✓				✓		✓
Air Quality and Climate	✓		✓		✓		✓					✓
Noise and Vibration	✓		✓		✓			✓	✓			✓
Utilities								✓	✓			
Waste	✓		✓		✓		✓			✓		
Traffic					✓						✓	✓
Risk Management	✓				✓	✓	✓	✓			✓	✓
	✓Interaction    No Interaction											

**Table 15.1: Table of interactions between the environmental factors**

### 15.2.1 POPULATION & HUMAN HEALTH

As referenced throughout the chapter, there are numerous inter-related environmental topics described in detail throughout this EIAR document which are of relevance to human health. This chapter of the EIAR has been instructed by updated guidance documents reflecting the changes within the 2014 EIA Directive. These documents include the EU and Irish guidelines for preparation of an EIAR and carrying out an EIA<sup>1</sup>. Therefore, in line with the guidance documents referred to, this chapter of the EIAR focuses primarily on the potential likely and significant impact on Population and Human Health in relation to health effects/issues and environmental hazards from the other environmental factors and interactions that potentially may occur.

The overall predicted likely impact of the construction phase will be short-term and neutral. The measures set out in the Outline CEMP and above in Section 3.6 will seek to address any potential residual impact from the construction stage.

#### Noise and Vibration

The potential impacts associated with Noise and Vibration are contained within Chapter 10 written by Redkite Environmental.

The relevant chapter in this EIAR contains a more detailed assessment in respect of the interaction of noise and vibration with human health although summarised findings are contained within this chapter.

Construction activities, traffic flows can give rise to effects on human health through noise and vibration. The potential effect of this has been described in throughout this chapter.

#### Air Quality & Climate

The potential impacts associated with Air Quality and Climate are contained within Chapter 7 written by TMS Environmental Ltd. The relevant chapter in this EIAR contains a more detailed assessment in respect of the interaction of air quality and human health although summarised findings are contained within this chapter.

Where there are identified associated and inter-related potential likely and significant impacts which are more comprehensively addressed elsewhere in this EIAR document, these are referred to. However, the relevant environmental topic chapter of this EIAR document contains a more detailed assessment in respect of the interaction of each environmental topic with population and human health.

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<sup>1</sup> Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (published in August 2018); Guidelines on the Information to be Contained In Environmental Impact Assessment Reports Draft 2017 published by the EPA; and the European Commission's Guidance Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report (2017)

### **15.2.2 ARCHAEOLOGY AND CULTURAL HERITAGE**

None identified.

### **15.2.3 BIODIVERSITY**

The biodiversity elements of this EIAR have involved consultation with a wide section of the Project Team particularly in relation to the Construction Management, design, drainage, lighting and landscape elements of the proposed Project. Enhancement measures were put in place where possible, particularly in the vicinity of the open space and riparian areas. There are numerous inter-related environmental topics described in detail throughout this EIAR document which are of relevance to the biodiversity chapter. There is potential for interaction between the biodiversity and other chapters outlined in the EIAR, during construction and operation. The mitigation measures that will be put in place for the proposed development will ensure that the impact on biodiversity would be negligible following the implementation of mitigation measures.

### **15.2.4 LANDSCAPE AND VISUAL IMPACT ASSESSMENT**

#### **Population and Human Health**

The proposed development would deliver a high quality mixed density residential neighbourhood well served by public and communal open space and within 1km of the town centre and Skerries train station. The related change to the landscape character, i.e. the planned expansion of the urban area (as indicated by the site's RA zoning) into a previously peri-urban landscape, would have significant positive population and human health benefits (by providing homes offering a high level of residential amenities).

#### **Biodiversity**

The proposed Landscape Masterplan includes a range of open spaces of varying character, which, in addition to providing recreation amenities and contributing to the area's place-identity, would deliver a range of ecosystem services. These include habitat provision and water management (through SUDs measures). The parkland area in the northern part of the site includes (1) wet meadow areas (the swales), (2) wildflower meadow areas, and (3) stands of trees in line with National Pollinators Guide – all habitats of high biodiversity value. A total of 209 no. trees and 3,668 sqm of meadow planting are proposed across the site.

#### **Water**

The proposed SUDs measures include (1) part of a large swale which is a key element of the proposed AI Works in the valley to the north of the site; (2) rain gardens along the main street; (3) permeable paving for all parking spaces.

### **15.2.5 AIR QUALITY AND CLIMATE**

The main interactions with air quality are in relation to human beings and flora and fauna.

#### **Population and Human Health**

The impact of air quality on human beings living in the area of the proposed development has been addressed above for both the construction and operational phase of the proposed development. The impact assessment shows that the air quality impacts that will be experienced by human beings in the vicinity of the proposed development are all within the prescribed criteria. This interaction is described as negative for the construction phase and neutral for the operational phase and is quantified as Not Significant for the construction phase and Imperceptible for the operation phase.

## **Biodiversity**

In relation to the interaction of emissions to atmosphere from the proposed development with flora and fauna, Table 7.4 sets out Air Quality Standards for the protection of vegetation and ecosystems. This assessment has shown that the emissions generated from the development are very limited and do not have potential to generate a significant adverse impact on the local ecosystems including birdlife and wildlife. Air quality in the area is good as shown in Section 7.3 and the Air Quality Standards will not be exceeded as a result of the development thereby ensuring that no significant adverse impact on ecosystems arises. This interaction is described as neutral and quantified as Not Significant.

### **15.2.6 LANDS AND SOILS**

#### **Traffic and Transportation**

Delivery of materials to site (e.g. aggregates for road construction, concrete for foundations, delivery of construction plant to site) will only lead to a potential impact on the surrounding road network during construction. Therefore, the interaction between Land, Soils & Geology and Material Assets with Traffic and Transportation is considered to be short term.

#### **Water and Hydrology**

Stripping of topsoil will result in exposure of the underlying subsoil layers to the effects of weather.

Surface water run-off may have the potential to infiltrate into underlying soils as the site's groundwater vulnerability is determined to be poor and the aquifer, locally important. Implementation of appropriate mitigation measures as outlined in the CEMP for the site will eliminate the potential for infiltration of surface contaminants into the underlying geology and hydrogeology. Therefore, the interaction between Land, Soils & Geology and Hydrology & Hydrogeology is considered to be imperceptible.

#### **Noise and Vibration**

Development of the site will result in a level of noise and vibration related effects on the environment during the construction phase. The interaction between Land, Soils, & Geology and Noise and Vibration is considered to be moderate and temporary in nature.

#### **Air Quality**

There is a potential for soil excavation activity to impact on air quality in terms of dust generated. Dust generation can also occur during extended dry weather periods as a result of construction traffic. However, the implementation of suitable mitigation measures as outlined in Chapter 9 Air Quality and Climate and the CEMP for the site will ensure a neutral impact. The interaction between Land, Soils & Geology and Air Quality is considered to be short term-imperceptible-neutral.

## **Biodiversity**

Removal of the existing topsoil layer will be required across the site as well as removal of some trees, hedgerows etc. Chapter 5 (Biodiversity) identifies that the removal of hedgerow habitats will result in some mortality to species and that there will be a loss of ecological corridors and semi-natural habitats until such time as new planting becomes established. These interactions are not considered to be significant.

## **Risks to Human Health**

The following risk to human health from land, soils and geology can occur during construction: Dust generation can also occur during extended dry weather periods as a result of construction traffic.

With the implementation of the aforementioned mitigation measures, the likelihood of such events occurring would be local and not significant. The damage to human health is unlikely.

### **15.2.7 MATERIAL ASSETS – WATER**

No interaction identified.

### **15.2.8 MATERIAL ASSETS – NOISE AND VIBRATION**

#### Human Health

The World Health Organisation (WHO) identifies that noise is a public health issue. It has negative impacts on human health and well-being and is a growing concern. In particular, the effects from long term exposure to anthropogenic sources including transportation sources (road, air and rail), wind turbines and leisure have been identified in the WHO Environmental Noise Guidelines for the European Region, 2018, as sources of concern as they potentially contribute to sleep loss and deprivation. The effects of additional road traffic arising as a result of the impact of the proposed project on human health have been assessed in this chapter.

#### Biodiversity

Construction noise has the potential to temporarily impact on fauna. This has been specifically addressed in Chapter 5 dealing with biodiversity and is outside the scope of this chapter.

#### Material Assets – Utilities

Construction vibration has the potential to impact on the Dublin-Belfast Rail line. Limits specified by Irish Rail will be complied with. The contractor will be required to contractually comply with these limits.

### **15.2.9 MATERIAL ASSETS - TRAFFIC**

No impact interactions have been identified and it is considered that any minor impacts will be avoided through the implementation of best working practices as stipulated within the Construction Traffic Management Plan and Mobility Management Plan prepared in support of the proposed development.

### **15.2.10 MATERIAL ASSETS - WASTE**

Waste management impacts have the potential to interact with human beings and all aspects of the wider environment including flora and fauna, soil and water. Where wastes generated are not managed in the correct manner there is potential for littering and pollution of soils and waters.

The impact assessment shows that there will be no adverse impacts on the receiving environment or on human beings in the vicinity of the proposed development once the proposed mitigation measures are implemented and works for construction phase are completed in accordance with the requirements of the RWMP and the operation of the development is carried out in accordance with the requirements of the Operational Waste Management Plan.

### **15.2.11 MATERIAL ASSETS - UTILITIES**

No interaction identified.

### **15.2.12 RISK MANAGEMENT**

There are interactions with Population and Human Health, Land and Soils, Water, Noise, Climate and Air, Material Assets, Traffic and Transport. However, subject to implementation of mitigation measures, good working practices and codes, the interactions between these areas have been sufficiently considered in relation to risk management.