

ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR THE EXPANSION OF A MATERIALS RECOVERY FACILITY AT CAPPOGUE AND DUNSINK, BALLYCOOLIN ROAD, DUBLIN 11.

Volume 2 – Main Body of the EIAR Chapter 7 – Population and Human Health

Prepared for: Padraig Thornton Waste Disposal Ltd. T/A Thorntons Recycling



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J5 Plaza, North Park Business Park,
North Road, Dublin 11, D11 PXT0, Ireland

T: +353 1 658 3500 | E: info@ftco.ie

CORK | DUBLIN | CARLOW

www.fehilytimoney.ie

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7. POPULATION AND HUMAN HEALTH

7.1 Introduction

The proposed development is defined in Chapter 1 – Introduction and a detailed description of the proposed development is set out in Chapter 4 - Existing and Proposed Developments. This chapter has been prepared to examine the potential effects of the proposed development on population and human health in the receiving environment, referred to in this chapter as the study area.

Directive 2011/92/EU, as amended by Directive 2014/52/EU requires the assessment of the potential impact of the proposed development on population and human health. Population and human health comprises a significant element of the overall environment. In carrying out a new development, one of the principal concentrations is that people should experience no diminution in their quality of life, their health and well-being or economic well-being because of the construction and operational phases of a development.

Ultimately, the effects of a potential development on the environment may impinge upon population and human health, directly and indirectly, positively and negatively. The key issues examined in this section of the EIAR include population, land use, economic activity and employment, human health and safety, and recreation, amenity and tourism (including landscape and visual impacts).

The potential significant impacts of the proposed development are considered, having taken account of mitigation measures to reduce or eliminate any residual impacts on population and human health.

7.1.1 Statement of Competency

This chapter was completed by Eoin O' Connor and Richard Deeney.

Eoin is a Project Environmental Scientist working as part of the Waste and Environment Team in Fehily Timoney & Company (FTCO). He has over 7 years' experience working in the area of environmental assessment and holds a BSc. in Environmental Science and Health and an MSc. in Environmental Technology. Eoin has a substantial amount of experience completing planning applications and EIAR chapters. He has carried out such work for a variety of project types particular to the waste sector, including materials recovery facilities, waste transfer stations, integrated waste management facilities and anaerobic digestion facilities.

Richard is a Senior Environmental Scientist working as part of the Waste and Environment Team in Fehily Timoney and Company (FTCO). Richard is a Chartered Environmentalist with the Society for the Environment. Richard has 10 years' experience working in the area of environmental assessment/management. Richard has a vast amount of experience coordinating the design, assessment and development of waste management facilities, from feasibility study stage to planning application / EIAR stage. Richard has close familiarity with the process of carrying out population and human health impact assessments.

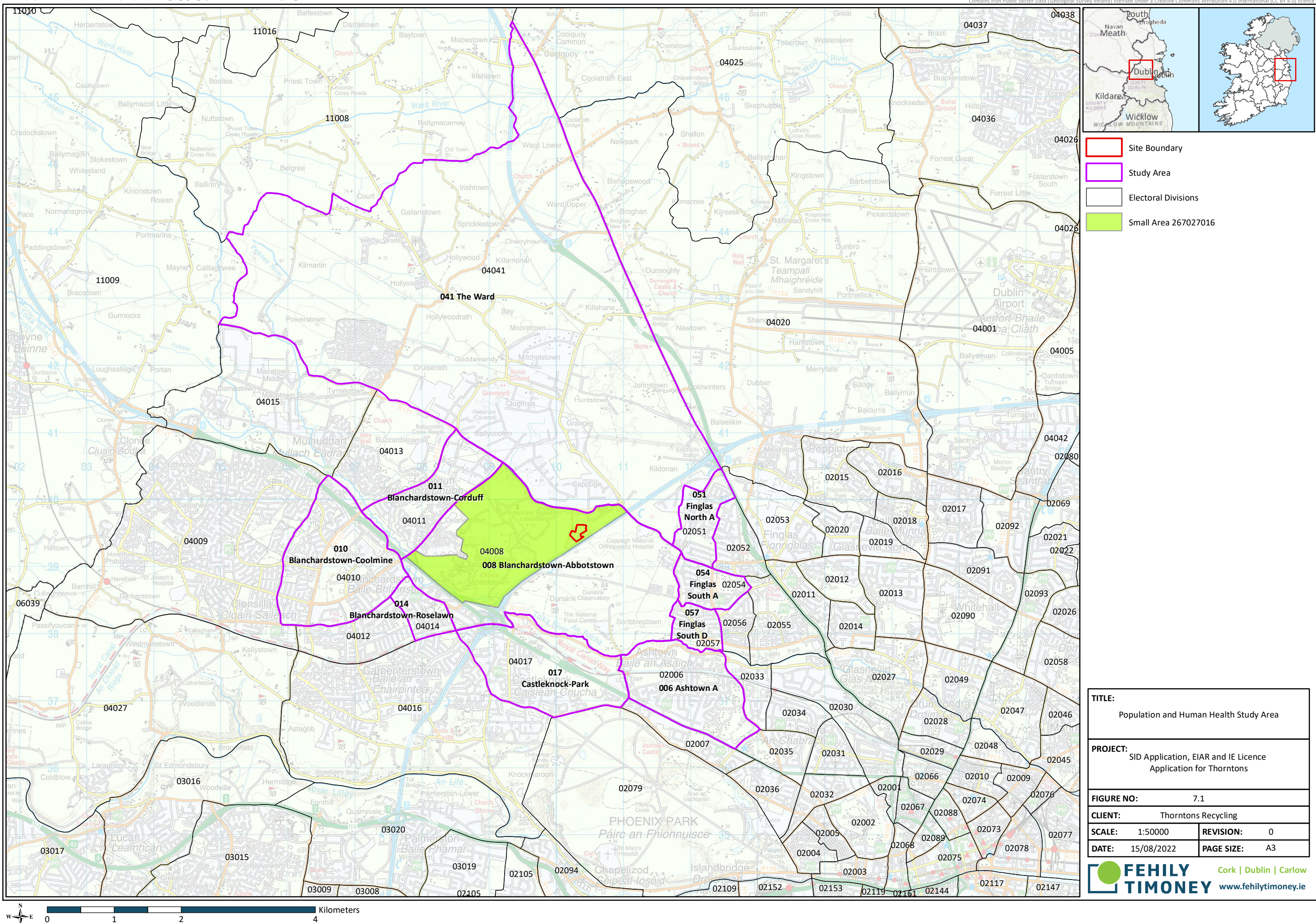


7.2 Study Area

The study area for the population and human health is defined in terms of the Electoral Divisions (ED). The study area includes the ED in which the proposed development is located (the Blanchardstown-Abbotstown ED (04008)), and nine other surrounding EDs, as follows:

- Ashtown A ED (02006)
- Blanchardstown-Coolmine ED (04010)
- Blanchardstown-Corduff ED (04011)
- Blanchardstown-Roselawn ED (04014)
- Castleknock-Park ED (04017)
- Finglas North A ED (02051)
- Finglas South A ED (02054)
- Finglas South D ED (02057)
- The Ward ED (04041)

A map delineating the study area for this assessment is shown in Figure 7-1.





In terms of land use and amenity, it was considered that a 3 km buffer from the proposed development boundary would encompass all land uses potentially directly and indirectly impacted by the proposed development. Therefore, existing land uses within a 3 km buffer were considered when addressing this aspect of the overall assessment.

7.3 Assessment Methodology

The following steps were carried out in order to assess how the proposed development at Cappogue, Co. Dublin may impact upon population and human health in the receiving environment:

1. A walkover survey of the sites and the local areas was undertaken to ascertain the characteristics of the human environment on and surrounding the development site.
2. A desk-based study reviewing information and data from various relevant sources.
3. An evaluation of the proposed development and its impact upon aspects relating to population and human health.
4. The identification of mitigation measures to minimise and control potential adverse impacts upon Population and Human Health aspects.
5. An assessment of residual impacts on population and human health associated with the proposed development.
6. Preparation of a population and human health chapter for the EIAR.

7.3.1 Relevant Guidance, Discussion Documents, Legislation and Policy

In addition to the EIA Guidance listed in Chapter 1, other reference documents used in the preparation of this chapter included the following:

- Health in Environmental Impact Assessment, A Primer for a Proportionate Approach (IEMA 2017).
- Health Impact Assessment in Planning, Thought pieces from UK practice (IEMA, 2020)
- Fingal County Development Plan 2017 - 2023
- Project Ireland 2040 – National Planning Framework
- Project Ireland 2040 – The Midlands
- Eastern and Midlands Regional Assembly Regional Spatial and Economic Strategy (RSES)
- Mapping and aerial photography for the local area and wider region
- Population information from the Central Statistics Office (CSO), 2016 and 2022.
- Health in Ireland, Key Trends 2019 (Department of Health, 2019)

Further information on relevant key policy documents as detailed above can be found in Chapter 5 - Planning and Policy Context of Volume 2 of this EIAR.



7.3.2 Other Relevant Impact Assessment Chapters forming part of this EIAR

A number of other impact assessment chapters contained in this EIAR are considered to be relevant due to the interrelationship between the impacts described in these chapters and population and human health. For example, Air Quality Impacts described in Chapter 11 of this EIAR Air Quality and Climate have the potential to impinge upon human health, or Noise Impacts described in Chapter 12 of the EIAR have the potential to cause nuisance for sensitive human receptors.

The following chapters have been considered in-depth whilst completing the Population and Human Health Impact Assessment due to impact interrelationships that exist between the mentioned chapter and the population and human health chapter.

- Chapter 9 - Soils, Geology and Hydrogeology
- Chapter 10 - Hydrology and Surface Water
- Chapter 11 - Air Quality and Climate
- Chapter 12 - Noise and Vibration
- Chapter 13 - Traffic and Transportation
- Chapter 15 - Landscape and Visual Impact

7.3.3 Consultation

The scope for this assessment has been informed by consultation with statutory authorities and consultees, as summarised in Chapter 6 – Scoping and Consultation. Pre-application consultation discussions and stakeholder engagement responses which relate to potential human health impacts have been considered in the preparation of this chapter.

7.3.4 Impact Appraisal Methodology

The following steps were carried out in order to ascertain and characterise in detail the potential impacts associated with the proposed development upon population and human health aspects:

1. The identification of relevant population and human health aspects to be considered during the impact assessment process.
2. An in-depth evaluation of the proposed development to take place at the site in Cappogue, Co. Dublin.
3. The identification of potential significant effects upon the defined population and human health aspects.
4. The characterisation of identified potential impacts, having regard to the evaluation criteria as well as relevant health-based standards.
5. The identification of suitable mitigation measures for minimising and controlling potential adverse impacts upon population and human health.
6. The identification and characterisation of residual (post-mitigation) impacts on population and human health associated with the proposed development.



7.3.5 Evaluation Criteria

The assessment of effects has been undertaken having regard to the evaluation criteria defined in the EPA's Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2022). These evaluation criteria are re-produced in Chapter 1 of Volume 2 of this EIAR.

Health based standards relating to other environmental topic chapters have also been considered when evaluating human health impacts. Health based standards by their nature are set out to protect against human health effects. The level at which the standard is set is chosen to protect the vulnerable, not the robust. Detail regarding the health based standards taken into direct consideration in other relevant EIAR chapters is provided below:

- Chapter 9 – Soils, Geology and Hydrogeology:
 - Potential impacts on soil, geological and hydrogeological elements of the receiving environment associated with the proposed development were assessed in accordance with relevant guidance. During this assessment baseline groundwater quality monitoring results were compared with human health standards such as Groundwater Threshold Values (GTV's)(as defined in the Groundwater Regulations, as amended) and EPA Interim Guidelines Values (IGV's).
- Chapter 10 - Hydrology and Surface Water Quality:
 - An assessment of hydrological/surface water impacts associated with the proposed development was carried out. A desk top study including a review of local hydrology and surface waters as well the carrying out of baseline water quality monitoring was carried out as part to inform the assessment. The surface water quality monitoring results are compared to the quality standards as set out in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, (S.I. No. 272/2009), as amended. These quality standards take into account the effects of surface water quality on human health.
- Chapter 11 - Air Quality and Climate:
 - Air emission modelling was undertaken for odour and traffic emissions related to the project. Odour Assessment Criteria defined in this chapter were considered when assessing potential impacts of odour associated with the proposed development. Ambient air quality standards defined under the Air Quality Standards Regulations 2011 were considered when assessing potential impacts of traffic emissions associated with the proposed development.
- Chapter 12 - Noise and Vibration:
 - The receiving noise and vibration environment at both sites was characterised through baseline noise monitoring in accordance with the EPA's Noise Guidance Note 4 (NG4) (2016) guidance. Prediction of the construction and operational noise levels at both sites at the nearby noise sensitive locations were calculated having regard to noise limits (at Noise Sensitive Locations) defined in the EPA's NG4 guidance. These limits were set taking into account WHO (2000) Guidelines for Community Noise which recommends *"At night-time, outside sound levels about 1 metre from facades of living spaces should not exceed 45 dB LAeq, so that people may sleep with bedroom windows open."* It also recommends that *"to protect the majority of people from being seriously annoyed during the daytime, the outdoor sound level from steady, continuous noise should not exceed 55 dB LAeq on balconies, terraces and in outdoor living areas."*



Noise prediction results were compared with these health related noise standards to determine the potential for adverse noise effects (E.g. in terms of nuisance) due to the proposed development on people present at noise sensitive locations in the vicinity of the development site.

- Chapter 13 - Traffic and Transportation:
 - This assessment has been undertaken using a combination of desk studies, the examination of existing traffic count data, and the examination of traffic movements associated with the proposed development. An assessment of potential impacts on the road network performance and condition was then carried out having due regard to human health and safety aspects as well as latest relevant guidance documents such as the Design Manual for Urban Roads and Streets.
- Chapter 15 - Landscape and Visual Impact:
 - Both desk based and field based assessment of the baseline landscape and visual environment were completed. Guidance from IEMA (2013), “*Institute of Environmental Management and Assessment (IEMA) Guidelines for Landscape and Visual Assessment (3rd edition 2013)*” was used in undertaking the impact assessment. It takes into account the fact that sensitivity of visual receptors has an anthropocentric basis, a potential impact on amenity and health and wellbeing resulting from changes in the visual environment. This guidance considers factors such as the perceived quality and values associated with the view, the landscape context of the viewer, the likely activity they are engaged in and whether this heightens their awareness of the surrounding landscape.

7.4 Baseline Environment

The following relevant population and human health aspects have been identified; Population, Land Use, Economic Activity and Employment, Human Health and Safety, and Recreation, Amenity and Tourism. This section describes the existing, receiving environment in which the proposed development is located having regard to these identified aspects.

7.4.1 Population

The CSO provides data on population and socio-economic trends by region, county, town and at local levels. A census was conducted in 2022. At the time of preparing this EIAR preliminary results have been published by the CSO. CSO population statistics from 2016 and 2022 relevant to the EDs forming the study area are set out in Table 7-1. Population statistics for the nation and County Dublin have also been presented for comparison.



Table 7-1: Population Change 2016 and 2022

Area	Number of Persons		
	2016	2022	% change between 2016 and 2022
Ireland – State	4,761,865	5,123,536	7.6%
Dublin County	1,347,359	1,450,701	4.5%
Blanchardstown-Abbotstown ED (04008)	6,195	6,573	6.1%
Ashtown A ED (02006)	10,566	12,012	13.7%
Blanchardstown-Coolmine ED (04010)	11,320	11,162	-1.4%
Blanchardstown-Corduff ED (04011)	3,871	3,652	-5.7%
Blanchardstown-Roselawn ED (04014)	1,688	1,658	-1.8%
Castleknock-Park ED (04017)	5,329	6,328	18.7%
Finglas North A ED (02051)	3,319	3,124	-5.9%
Finglas South A ED (02054)	2,904	2,891	-0.4%
Finglas South D ED (02057)	2,427	2,517	3.7%
The Ward ED (04041)	9,602	13,242	37.9%

From a review of Table 7-1, it can be seen that the population of the State grew by 7.6% from the period 2016 to 2022 and the population of Co. Dublin grew over the same period by 4.5%. The population of the Blanchardstown-Abbotstown ED grew by 6.1%, a similar level of increase to national population growth. Population changes in surrounding EDs contained in the study area differ depending on the ED, and are estimated to be relative to the level of residential development that has taken place between 2016 and 2022 in those EDs.

Small Area Population Statistics

In the 2011 Census, divisions to 'Small Areas' were established to give greater clarity to population trends. The Small Area code 267027016/02 covers the area in which the proposed development is situated (See Figure 7-1). This 'small area' was recorded as having a population of 969 recorded in 2016 and a housing stock of 180. Small area population statistics for 2022 have not yet been published.

7.4.2 Land Use

The proposed development site is 3.38 ha in size. The development site encompasses the Applicant's existing waste facility site (0.75 ha in size) together with lands to the south of this facility situated in the townlands of Cappogue and Dunsink, Dublin 11 (2.63 ha in size).

The development site is situated approximately 2 km north-west of Finglas village and 2 km east of Blanchardstown village. The site is located south of the Ballycool Road and immediately north of the M50, approximately midway between Junctions 5 and 6.



Dunsink Landfill and agricultural lands are situated further south of the site on the opposite side of the M50.

There are 4 no. residential dwellings adjacent to the site on Barn Lodge Grove beyond the western boundary, known as Coolbrook Cottages. Further to the south-west of the site on Barn Lodge Grove there is a cluster of residential properties, some of which border the site's south-western boundary. Agricultural lands are situated further west of the site. Ballycoolin Road is situated ca. 180 metres north of the site. A number of residential dwellings are situated along this road ca. 200 m north-west of the site.

Stadium Business Park is situated ca. 240 metres north of the site. Premier Business Park is situated ca. 270 metres to the north-east of the site.

The National Orthopaedic Hospital Cappagh is located ca. 755m to the south-east of the site on the opposite side of the M50.

Various industrial land uses are located to the north-east of the site along the Cappagh Road including a MRF, operated by Starrus Eco Holdings Limited t/a Panda; Huntstown Quarry, which is operated by Roadstone; and a concrete batching plant operated by Kilsaran Concrete.

Settlement data for area surrounding the development site is presented in Figure 7-2. This map further illustrates the type of settlement and land uses within the vicinity of the development site.

A map showing CORINE land use cover data for the wider area is presented in Figure 7-3. The proposed development sites lie across areas defined as 'Non-irrigated land' and 'Industrial and commercial units.' A variety of land uses occur within the defined study area, including:

- industrial or commercial units
- road and rail networks
- mineral extraction sites
- construction sites
- non-irrigated land
- pastures
- complex cultivation patterns
- land principally occupied by agriculture with areas of natural vegetation



Site Boundary

Building Use

- Residential
- Commercial
- Mixed Commercial/Residential
- Unknown

TITLE:
Populations and Settlements within the Study Area

PROJECT:
SID Application, EIAR and IE Licence
Application for Thorntons

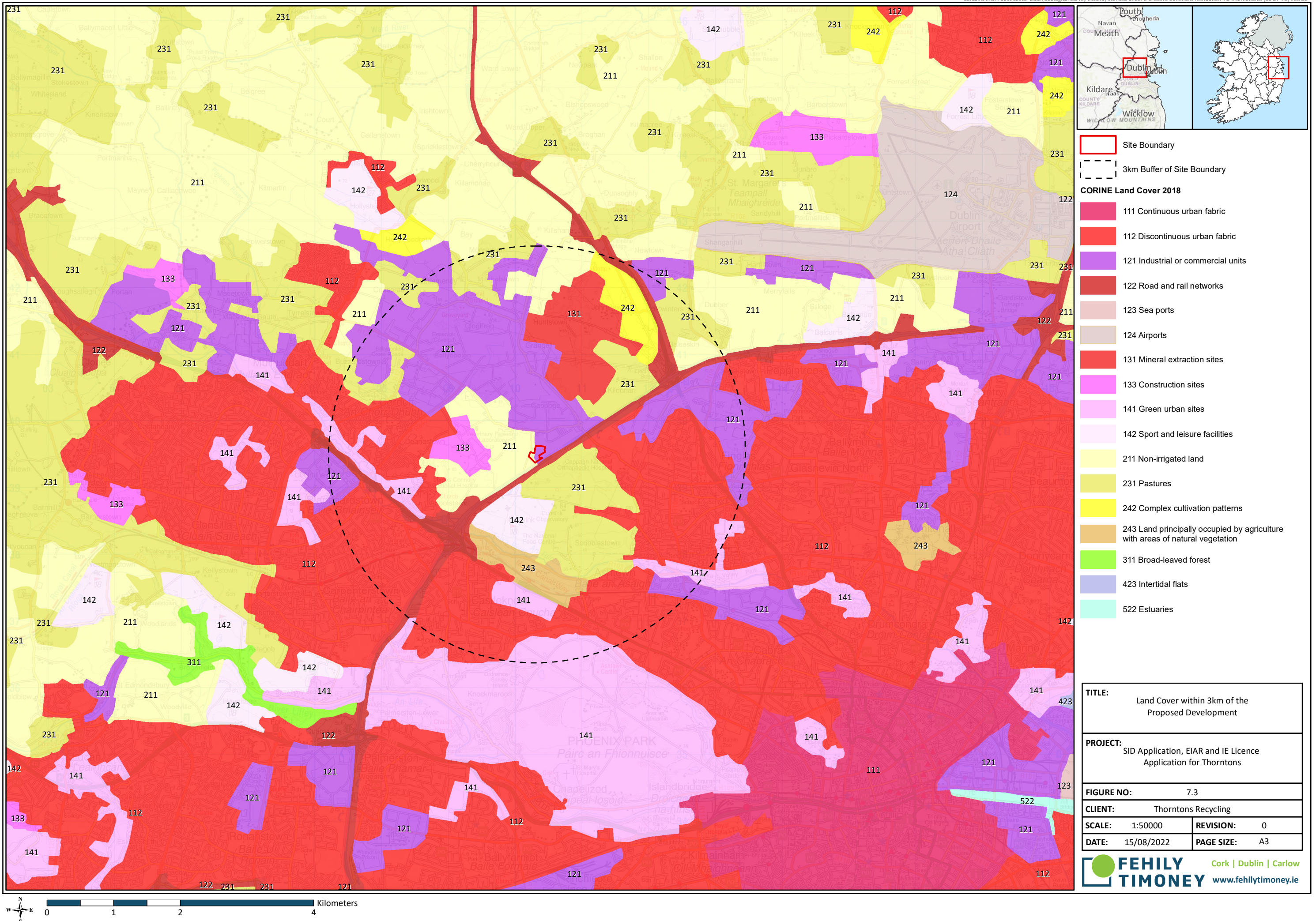
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7.4.3 Local Employment and Economic Activity

The CSO provides data in relation to the employment of persons with respect to industry type. Table 7-2 presents the three main employment sectors by industry type in the nation, Co. Dublin, the Blanchardstown-Abbotstown ED and all surrounding EDs which form the study area being considered under this assessment. This data originates from the 2016 census (employment statistics from 2022 have not yet been published).

Table 7-2: Employment by Industry Type (2016)

Electoral District	Employment ranked by industry type		
	1 st	2 nd	3 rd
Dublin County	Commerce and Trade	Professional Services	Other
State	Commerce and Trade	Professional Services	Other
Blanchardstown-Abbotstown ED	Professional Services	Commerce & Trade	Other
Ashtown A ED	Commerce & Trade	Professional Services	Other
Blanchardstown-Coolmine ED	Commerce & Trade	Other	Professional Services
Blanchardstown-Corduff ED	Professional Services	Other	Commerce & Trade
Blanchardstown-Roselawn ED	Professional Services	Commerce & Trade	Other
Castleknock-Park ED	Commerce & Trade	Professional Services	Other
Finglas North A ED	Other	Professional Services	Commerce and Trade
Finglas South A ED	Other	Commerce and Trade	Professional Services
Finglas South D ED	Professional Services and Commerce and Trade	Other	Transport and Communication
The Ward ED	Commerce and Trade and Other	Professional Services	Transport and Communications

Commerce & trade and professional services are the predominant industry types providing employment to the population within the study area. This is reflective of the presence of various commercial and industrial land uses within the study area and is consistent with the dominant industry types providing employment in County Dublin generally, and the State as a whole.



7.4.4 Human Health and Safety

The Department of Health's report 'Health in Ireland, Key Trends 2021' (Department of Health, 2021) (last reporting year) provides summary statistics on health and health care in Ireland over the past ten years. Population health at the national level presents a picture of decreasing mortality rates and high self-perceived health over the past ten years.

The population aged 65 and over has increased by 35% since 2012, which is considerably higher than the EU average increase of 15.7%. Ireland has the highest self-perceived health status in the EU, with 83.9% of people rating their health as good or very good. The number of people reporting a chronic illness or health problem is also better than the EU average, at around 25.8% of the population. Mortality rates have declined for all causes over the past decade by 16%.

There are currently no known existing human health risks associated with the development site or the existing waste facility on-site. The existing waste facility is managed in accordance with Waste Facility Permit No. WFP-FG-17-0001-04, as regulated by Fingal County Council. Conditions of this permit are designed to protect the environment from potential impacts associated with noise, emissions to air, water etc. Although this permit does not specifically regulate potential impacts on human health; some limits and conditions in place as part of the permit do indirectly reduce the risks to human health (e.g. the risk of exposure to excessive airborne dust).

7.4.5 Recreation, Amenity and Tourism

The concept of amenity is not defined in Irish planning legislation but a non-legislative definition of amenity states that it is 'the pleasant or normally satisfactory aspects of a location which contribute to its overall character and the enjoyment of residents or visitors' (Parker, Key Concepts in Planning, 2012). This contributes to the overall wellbeing of a population and is considered an aspect of human health.

Amenity is generally taken to comprise of a number of elements that, in combination, create the attractive aspect of the location in question. These elements include:

1. Visual appearance/landscape
2. Traffic levels
3. Noise levels
4. Air quality
5. Recreational and Tourism
6. Open spaces

The baseline environment for elements 1 – 4 above are addressed in further detail in Chapter 11 Air Quality and Climate, Chapter 12 Noise and Vibration, Chapter 13 Traffic and Transport, and Chapter 15 Landscape and Visual Impact, in Volume 2 of this EIAR. Elements 5 and 6 are discussed hereunder.

A variety of recreational land uses are present in the study area, including walking, cycling, golf, horse riding, swimming and various team sports at dedicated sports fields. A number of amenity parklands are located within 3 km of the development site, including Tolka Valley Park, Waterville Park, Corduff Park, Laurel Lodge Park, Kildonan Park, Mellows Park, and Phoenix Park. Elmgreen Golf Club is located c. 720m south of the site. The National Sports Campus, which includes numerous sports facilities is located <1km west of the site.



No recreational activities are carried out within the confines of the development site location or in its immediate environs.

Tourism related land use is not prominent in the area surrounding the development site. Some land uses in the study may cater to or accommodate tourists, however. Elmgreen Golf Club is located to the south west of the development site and can potentially cater to tourists. The M50 to the immediate south of the site serves as a major route for potential tourists to navigate the capital city and to travel elsewhere throughout the country.

The National Sports Campus is located relatively close to the site - <1 km west of the site. This campus includes the national aquatic centre, the national gymnastics training centre, national indoor training centre and national indoor athletics training centre, national horse sport arena, national modern pentathlon centre and national diving centre. Some of these facilities cater to members of the general public, including potential tourists (e.g. the National Aquatic Centre).

7.5 Potential Impacts

7.5.1 'Do Nothing' Impacts

A 'Do Nothing' scenario will result in the development site remaining in its current state. The effects associated with the proposed development (E.g. traffic levels) will not come to fruition. The effects of a Do Nothing Scenario will for the most part be **Neutral** (I.e. Imperceptible).

If the proposed development does not proceed, potential exists for a deficit in waste management capacity in the Eastern-Midlands region, having regard to the need for such capacity as defined in Chapter 2 – Need for the Proposed Development of this EIAR. Potential exists for the 'Do Nothing' scenario leading to the creation of a **significant adverse impact** on population due to limited waste management capacity in the region.

7.5.2 Construction Phase Impacts

7.5.2.1 *Population*

The construction phases of the proposed development will create employment/labour demand for construction workers in the region. In this respect, it is considered that the proposed development will have a **short-term moderate positive impact** in terms of local jobs creation and the local economy.

As a consequence, the construction phases of the proposed development may have a **short-term, negligible to slight, positive impact** on local population numbers. Employees involved in construction may reside locally during the construction of the development.

7.5.2.2 *Land Use*

Proposed construction activities at the development site will not have a significant adverse impact on surrounding land use. Construction activities will take place within the footprint of the development site and will be strictly managed and controlled.



This is supported by the results of construction dust impact analysis and traffic emission modelling undertaken in Chapter 11 – Air and Climate, and the construction phase noise prediction modelling undertaken in Chapter 12 Noise and Vibration. These assessments show that, with the adoption of the appropriate mitigation, construction works undertaken as part of the proposed development will not have any significant effect on sensitive land uses in terms of air quality or noise.

7.5.2.3 *Economic Activity and Employment*

Construction activities forming part of the proposed development will secure employment/labour for an estimated 30 – 50 employees over a 12 month period. In this respect, it is considered that the proposed development will have a **short-term, slight, positive impact** in terms of local job creation and the local economy during both the initial lining stage and the final capping stage.

The construction phase of the proposed will positively impact on the existing businesses operating in the area through the potential for direct employment and indirectly through the purchase of construction equipment, tools, materials and ancillary products from suppliers in the local area and beyond. This will result in a **short-term, slight, positive effect** for local businesses.

7.5.2.4 *Human Health and Safety*

The carrying out of construction activities during the construction phases of the proposed development will create health and safety risks for workers involved in construction. In particular, site clearance and demolition, excavation and earthworks, building construction and associated machinery operations present various health and safety risks for exposed workers including falls, vehicle/mobile plant strikes, falling loads, falling rock or soil, slope failure and excavation collapse.

In the absence of any health and safety management and control/mitigation measures, such works create risks which may lead to **moderate to very significant adverse** effects on worker safety, health and welfare (i.e. serious injury, fatality). Noise emissions associated with construction phase activities may also present a risk to the health and welfare of construction workers in the absence of any mitigation (i.e. damage to hearing, tinnitus).

All health and safety aspects associated with construction activities will be comprehensively managed however in accordance with the provisions of the Safety, Health and Welfare at Work (Construction) Regulations 2013, as amended (S.I. No. 291 of 2013), the Safety, Health and Welfare at Work Act 2015, as amended, and the Safety Health and Welfare at Work (General Application) Regulations 2007, as amended. This will reduce the likelihood of a risk occurring, the severity of a risk if it occurs and will eliminate risks. Further detail on health and safety management measures and mitigation measures with regards to construction safety are contained in Section 7.7.

In relation to this proposed development five key human health related exposure pathways are air quality, hydrology, hydrogeology/geology, traffic and noise. The EPA guidelines highlight that potential effects of these pathways are best carried out by referencing accepted standards of safety in dose, exposure or risk.



Specific direct and indirect impacts which have therefore the potential to impact on human health have been addressed in subsequent chapters of this EIAR.

- Chapter 9 Soils, Geology and Hydrogeology
- Chapter 10 Surface Water and Hydrology
- Chapter 11 Air Quality and Climate
- Chapter 12 Noise and Vibration
- Chapter 13 Traffic and Transportation

Each of the above chapter concluded that the construction phase of the proposed development would not have a significant adverse effect on the receiving environment, including human receptors, with the adoption of appropriate mitigation measures for controlling environmental impacts.

7.5.2.5 Recreation, Amenity and Tourism

There are no areas of high amenity or sensitive or valuable recreation or tourism areas within the 500 m of the development site. As such, construction phase activities will have a **negligible** impact on recreation, amenity and tourism in the receiving environment. The assessment carried out in Chapter - 15 Landscape and Visual Impact Assessment of Volume 2 of this EIAR has determined that there will be no significant visual or landscape impacts associated with construction phase operations.

7.5.3 Operational Phase Impacts

7.5.3.1 Population

The development and operation of the proposed facility will secure 24 full-time jobs. The operation of the facility will also result in the creation of an unknown yet significant amount of additional jobs indirectly relating to waste collection activities. The securing of this employment will likely have a **long-term, negligible to slight, positive** terms of local population numbers.

7.5.3.2 Land Use

Proposed operational phase activities will have not have a significant adverse impact on surrounding land use. Operational phase activities will take place within the footprint of the development site and will be strictly managed and controlled under an Industrial Emissions (IE) licence granted and enforced by the Environmental Protection Agency (EPA).

This is supported by the results of odour modelling / impact assessment and operational phase traffic emission modelling undertaken in Chapter 11 – Air and Climate, and the operational phase noise prediction modelling undertaken in Chapter 12 Noise and Vibration. These assessments show that, with the adoption of the appropriate mitigation, facility operations will not have any significant effect on sensitive land uses in terms of air quality or noise.



7.5.3.3 *Economic Activity and Employment*

The development and operation of the proposed facility will secure 24 full-time jobs. The operation of the facility will also result in the creation of an unknown yet significant amount of additional jobs indirectly relating to waste collection activities. The securing of this employment will likely have a **long-term, slight, positive effect** in terms of local job creation and the local economy.

Facility operations will also positively impact existing businesses operating in the area through the potential for direct employment and indirectly through the purchase of goods, materials and support services for the facility from suppliers in the local area and beyond. This will result in a **long-term, slight, positive effect** for local businesses.

The proposed facility will serve to promote and maximize the recovery and recycling of material in accordance with Circular Economy principles. In addition, the proposed facility will contribute to meeting projected waste management capacity demands into the future, regionally and nationally. The proposed development has the potential therefore to have a **long-term, significant, positive impact** on the regional economy and economic sustainability.

7.5.3.4 *Human Health and Safety*

Facility operations will create occupational health and safety risks for on-site employees.

Facility operations have the potential to generate of various forms of emissions which may impinge on human health, in the absence of any form of mitigation (namely air emissions, noise emissions, aqueous emission).

Details regarding the nature, characteristics and significant of these emissions is contained in the following EIAR Chapters - Chapter 9 Geology and Hydrogeology, Chapter 10 Surface Water and Hydrology, Chapter 11 Air Quality and Climate, and Chapter 12 Noise and Vibration.

Traffic movements to and from the development site may present health and safety risks to the general public using the local road network. (I.e. Road Traffic Accidents, Traffic related emissions) Details regarding potential traffic and transportation impacts are contained in Chapter 13 Traffic and Transportation whilst details on potential traffic emission impacts are contained in Chapter 11 Air Quality and Climate.

All of the above aspects have been addressed in the sections below. Please note that health and safety risks associated with major accidents are addressed in Section 7.5.5.

Potential Occupational Health and Safety Impacts

The carrying out of facility operations will create health and safety risks for employees. Operating activities such as waste material handling, mobile plant operation, vehicle movements plant and equipment servicing and maintenance, electrical works, mechanical works, hazardous material handling and storage, and hot works create health and safety risks including risk of falls, risk of falling loads, mobile plant/vehicle strikes, excessively loud noise, electrocution, chemical exposure/contact, risk of burns and fire. The occurrence of such risk may result in significant to serious injury or death.



In the absence of any mitigation the health and safety risks presented on-site have the potential to lead to **moderate to very significant, negative impacts** on the safety, health and welfare of site employees (i.e. moderate injury, serious injury, fatality). All health and safety aspects associated with operations will be comprehensively managed in accordance with the Safety, Health and Welfare at Work Act 2005, as amended. Further detail on health and safety management measures and mitigation measures with regards to safe operations at the proposed facility are contained in Section 7.7

Air Emission Impacts on Human Health and Welfare

An assessment of the impact of air emissions on human health was undertaken in Chapter 11 of Volume 2 of this EIAR.

Odour dispersion modelling and traffic emission modelling was undertaken within this chapter to assess the impact of proposed development emissions on human health. The analysis and modelling undertaken determined that odour and traffic emissions will not have a significant adverse impact on population and human health.

Impact of Aqueous Emission on Human Health and Welfare

Impacts on receiving surface and groundwater quality have the potential to indirectly impact on drinking water quality which may be consumed and used by humans. An assessment as to the potential impacts on hydrology, hydrogeology and water quality is presented in Chapter 9 Geology and Hydrogeology and Chapter 10 Hydrology and Surface Water.

Facility operations will not give rise to any significant impacts on the hydrological or hydrogeological regimes of the study area or on the quality of the receiving surface or ground waters. Wash water (otherwise referred to as 'dirty water') generated on-site will be contained on-site before being discharge to foul sewer. These liquids will not be discharged to the environment.

Given the assessments contained in Chapters 9 and 10 undertaken took into account quality standards for the purposes of human health protection defined in the European Union (Drinking Water) Regulations 2014 (S.I. No. 122/2014), as amended, the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I. No. 272/2009), as amended, as well as the European Union Environmental Objectives (Groundwater) Regulations 2016 (S.I. No. 366 / 2016), it can be concluded that potential aqueous emission associated with operations at the proposed facility will not have the potential to have any adverse impact upon human health.

Noise Impact on Human Health and Welfare.

Noise modelling was undertaken under this EIAR to assess the impact of facility operations on nearby sensitive receptors. The assessment identified that there is potential for an increase in daytime, evening and night time noise levels at the nearest noise sensitive locations in the vicinity of the site. The combined predicted and measured noise impact due to the operation of the proposed facility will not cause an exceedance of relevant noise limits at these noise sensitive locations, however.



Having regard to the conclusions of the noise impact assessment/noise prediction modelling contained in Chapter 12 – Noise and Vibration of this EIAR, it has been determined that noise associated with facility operations will not have any significant, adverse impact on amenity or human health/welfare in the local area in terms of noise nuisance.

Traffic Impacts relevant to Human Health and Safety

The following conclusion was reached in the Traffic and Transportation Chapter of this EIAR (Chapter 13):

‘The residual effects on traffic conditions is not significant and can reasonably be categorised as imperceptible. Any residual impacts on traffic capacity on the receiving road network can be categorised similarly.’

Having regard to the above conclusion that traffic impacts are **not significant and imperceptible**; it is concluded that increased traffic associated with the proposed development does not create any additional health and safety risks to the public on the local road network and will not have a significant impact in terms of local road network/traffic safety.

In the absence of any control and mitigation, mobile plant and traffic movement associated with facility operations on-site have the potential to result in **significant to very significant, negative impacts** on human health and well-being (i.e. Serious injury, fatality).

7.5.4 Decommissioning Phase Impacts

A Closure, Restoration and Aftercare Management Plan (CRAMP) will be developed for the proposed facility in accordance with IE licence requirements. Decommissioning/closure, restoration and aftercare of the facility will be carried out in accordance with this plan, which will be submitted to the EPA for approval prior to commencement of operations as part of the IE licence application process. This plan will be reviewed on an annual basis by the Applicant. Following cessation of operation on-site, the Applicant will be required to decommission, render safe or remove for disposal/recovery any soil, subsoil, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.

As a result of the operator’s plans to manage decommissioning in a careful, comprehensive and environmentally friendly manner, the decommissioning phase of the proposed development will not result in the generation of any emissions or nuisance that will have any significant adverse effect on population and human health in the receiving environment.

7.5.5 Risk of Major Accidents

As with all waste management facilities a risk of a major accident occurring that could have a negative impact on the receiving environment and human health exists. Potential major accidents which may occur on-site include a major fire, (associated with improper storage of, or fire spread to, large quantities of combustible waste material; or improper delivery, storage and/or use of flammables), contaminated firewater run-off (mixing of waste material with firewater applied during a fire and subsequent discharge to the environment, a major plant or traffic accident (associated with associated plant and vehicle operations) and chemical/environmental spillage (associated with bulk diesel storage).



In the absence of any mitigation, such events may have a **significant to profound** impact on human health for on-site staff and visitors and the general public off-site (Serious injury, significant to profound negative environmental effects, fatality, multiple fatalities). All these risks will be comprehensively controlled and mitigated however in accordance with relevant health and safety and environmental legislation, and in accordance with the IE licence which will be granted for the facility. Further detail on how such risks are controlled is contained in Section 7.7.2 of this EIAR.

According to assessment undertaken in Chapter 10 Hydrology and Surface Water, the proposed development will not create any significant flood risks at the development site, or at any other location.

7.5.6 Cumulative Impacts

Following a review of aerial photography for the study area and the planning register, a number of impactful developments in proximity to the proposed development site were identified. A list of impactful development contained within the study area and context is provided in Appendix 1.1 of Volume 3 of this EIAR.

These developments may generate a cumulative impact in combination with the proposed development.

The cumulative impacts associated with these developments combined with the subject proposed development has been assessed for various relevant environmental topics in the following chapters:

- Chapter 9 Geology and Hydrogeology
- Chapter 10 Surface Water and Hydrology
- Chapter 11 Air Quality and Climate
- Chapter 12 Noise and Vibration
- Chapter 13 Traffic and Transportation
- Chapter 15 Landscape and Visual Impact

The carrying out of the proposed development will not give rise to any cumulative health and safety effects when considered together and in combination with other surrounding development. All occupational activities will take place within the confines of the development site and there will be no relationship between the health and safety risks present at the development site and any other mentioned development site.

As determined, traffic associated with proposed operations will not have a significant impact on the road network or capacity, which in turn means there will be no material change in terms of health and safety risk on the local road network as a result of the proposed development.

Overall, having regard to the assessments undertaken for the above-mentioned environmental topics, and having regard to the lack of potential cumulative health and safety affects associated with other developments in proximity to the proposed development site, it has been determined that the proposed development combined other development in the area will not have any significant cumulative direct or indirect impact on population and human health.



7.5.7 Summary of Potential Effects

Table 7-3: Summary of Potential Effects on Population and Human Health

Activity	Potential Impact	Receptor	Quality / Duration	Probability	Significance
'Do Nothing' Scenario					
'Do Nothing' Scenario	Continued existence of existing development	Local population and economy	Neutral, long-term	Likely	Negligible
'Do Nothing' Scenario	Deficit in regional waste management capacity	Local population and economy	Negative, long-term	Likely	Significant
Construction Phase					
Construction Activity/Works	Securing generating employment /	Exiting future employees /	Positive, short-term	Likely	Moderate
Construction Activity/Works	Local population numbers	Local population	Positive, short-term	Likely	Negligible to slight
Construction Activity/Works	Benefits to local businesses	Local businesses	Positive, short-term	Likely	Slight
Construction Activity/Works	Health and Safety Impacts	Site workers	Negative, short-term	Likely	Moderate to very significant
Construction Activity/Works	Impact on recreation, amenity and tourism	Amenity value	Neutral, long-term	Likely	Negligible
Operational Phase					
Operation of the facility	Local population numbers	Local population	Positive, long-term	Likely	Negligible to slight
Operation of the facility	Securing generating employment /	Exiting future employees /	Positive, long-term	Likely	Slight
Operation of the facility	Benefits to local businesses	Local businesses	Positive, long-term	Likely	Slight
Operation of the facility	Circular Economy Benefits	Local population and economy	Positive, long-term	Likely	Significant
Operation of the facility	Health and Safety Impacts	Site Workers / Visitors	Negative, long-term	Likely	Moderate to very significant
Traffic on local roads	Traffic Accidents	Members of the Public	Negative	Unlikely	Not significant and imperceptible
On-site traffic	Traffic Accidents	Site staff	Negative	Unlikely	Significant to very significant
Operation of the facility	Major accident	Humans on and off-site	Negative, long-term	Unlikely	Significant to profound



7.6 Material Assets

For the purposes of completeness an assessment of the potential impacts associated with each proposed development on material assets used or utilise by humans has been carried out within this chapter. Due regard has been had for the following material asset elements at both sites:

- The site and its immediate environs
- Housing and settlement
- Land use and property
- Built services / resource usage
- Waste management
- Tourism and recreational infrastructure

It is not considered the proposed development will have any significant impact on material assets used or utilised by human for the following reasons:

- Activities and environmental impacts/emission at the proposed facility will be managed and controlled in accordance with the conditions of an IE licence granted and enforced by the EPA.
- The proposed facility will not place excess demand on local/regional energy infrastructure, having regard to existing and future energy supply capacity in the region. The facility will be served by an on-site ESB sub-station to ensure the successful transmission of electricity to the site. The facility will also source renewable energy from the proposed rooftop solar installation forming part of the proposed development.
- All utility related works connected to the development (e.g. electricity line re-routing, main connections) will be carried out by statutory undertakers following the completion of detailed design and authorization process.
- All waste generated during the construction, operation and decommissioning phases of the proposed development will be managed at appropriately authorized waste management facilities in accordance with waste management legislation, Waste Hierarchy principles and Circular Economy thinking.

Potential impacts on the local road network have been assessed separately within Chapter 13 Traffic and Transport.

7.7 Mitigation Measures

7.7.1 Construction Phase Mitigation

All construction phase activities undertaken as part of the construction phase of the proposed development will be carried out in accordance with a robust Construction Environmental Management Plan (CEMP). This CEMP provides for the management and control of dust emissions, noise emissions, materials management, surface water management, spill control, waste management and archaeological, architectural and cultural heritage management. With the adoption of this plan, the proposed development will not have any significant impacts on these receiving environmental elements and associated sensitive human receptors (i.e. site staff and visitors, local dwellings, local land use, users of receiving surface water bodies).



Construction Phase Mitigation Measures defined in other EIAR Chapters

Mitigation measures defined within the following chapters would be applicable in the protection of the environment and human health during the construction phase of the proposed development:

- Chapter 9 Geology and Hydrogeology Measures in relation to water management and spill control are defined within this chapter. These measures will ensure the protection of receiving groundwater bodies potentially utilized by humans for drinking water.
- Chapter 10 Hydrology and Surface Water Quality – Measures in relation to surface water management and spill control are defined within this chapter. These measures will ensure the protection of receiving surface water bodies and human users of these water bodies (e.g. anglers).
- Chapter 11 Air Quality and Climate – Measures in relation to dust mitigation are defined within this chapter. These measures will ensure the minimization of dust and the prevention of dust nuisance impacting local sensitive receptors such as dwelling or agricultural land.
- Chapter 12 Noise and Vibration – measures in relation to construction noise control/minimization are defined within this chapter. This will reduce the potential for nuisance noise affecting sensitive receptors in the locality.
- Chapter 13 Traffic and Transportation – Measures in relation to traffic management are defined within this chapter. This will reduce the risk of road traffic accidents occurring on or within the vicinity of the site.

Construction Phase Health and Safety Management

Prior to construction a site-specific Safety and Health Risk Assessment/Management Plan and a Safety Statement will be prepared for the project at the CAR site in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 / 2013), as amended. Where elimination of the risk is not feasible, appropriate mitigation and/or control measures will be established. The contractor will be obliged under the construction contract and current health and safety legislation to adequately provide for all hazards and risks associated with the construction phase of the project. FÁS Safe Pass registration cards are required for all construction, delivery and security staff. Construction operatives will hold a valid Construction Skills Certificate Scheme card where required.

The contractor will be responsible for the implementation of procedures outlined in the Safety & Health Plan. Public safety will be addressed by restricting site access during construction. Appropriate warning signs will be posted, directing all visitors to the site manager.

During the construction phase, access to the site will be restricted to ensure that the public will not come into contact with the construction works.



7.7.2 Operational Phase Mitigation

Operational Phase Mitigation Measures defined in other EIAR Chapter

Mitigation measures defined within the following chapters would be applicable in the protection of the environment and human health during the operational phase of the proposed development at EPP:

- Chapter 9 Geology and Hydrogeology Measures in relation to water management and spill control are defined within this chapter.
- Chapter 10 Hydrology and Surface Water Quality – Measures in relation to surface water management and spill control are defined within this chapter.
- Chapter 11 Air Quality and Climate – Measures in relation to odour and dust emissions are defined within this chapter.
- Chapter 12 Noise and Vibration – measures in relation to noise control/minimization are defined within this chapter.
- Chapter 13 Traffic and Transportation – Measures in relation to traffic management are defined within this chapter.

Health and Safety

Activities at the proposed facility will be controlled from a health and safety perspective in accordance with the Safety, Health and Welfare at Work Acts 2005 (as amended). A Health and Safety Management System will be in place for the site. In particular, a Safety Statement, a Traffic Management Plan, an Emergency Plan, an Environmental Accident Prevention Procedure and a Corrective-Preventative Action procedure will in place to manage and control health safety risks posed to persons on and off-site.

A Safety Statement will be developed in order to allow for the comprehensive identification, assessment and control of health and safety risks present on-site.

A detailed traffic/movement plan addressing site control, gate control, speed limit, employee access/egress and visitor movement management will be in place to control movements on-site. As a result, it is considered that all risk associated with mobile plant and traffic movements will be comprehensively managed and controlled.

An Emergency Plan will be in place for the site. This will address emergency preparedness and response plans in the event of an unplanned accident or emergency (E.g. fire, environmental incident, site security breach, accidents and incidents).. A Fire Protection and Mitigation Plan will be developed and agreed with the fire authority prior to commencement of operations on-site. This plan will serve to ensure the prevention and management of fire on-site.

All of the above health and safety plans and procedures will continue to be implemented on-site for the duration of the operational phase of the proposed development.

Major Accidents

A comprehensive and detailed emergency plan in place for managing and responding to potential accidents including major accidents will be adopted and implemented at the facility.



In addition to this, the operator has an Environmental Accident Prevention procedure in place onsite which further addresses the management and control of environmental accidents. Health and safety procedures at the proposed facility will address the following aspects:

- Controlling access to site
- Emergency response and preparedness
- Fire protection and mitigation
- Emissions to atmosphere
- Emissions to water
- Accidents and occupational first-aid
- System safety rules
- Application of safety rules
- Workplace noise and dust
- Hot working
- Working in confined spaces
- Work at heights
- Control of chains, ropes and lifting gear
- Risk assessments and method statements
- Accident & incident reporting investigation
- Oil and chemical spillage control

All of the above health and safety plans and procedures will continue to be implemented on-site for the duration of the operational phase of the proposed development.

Industrial Emissions Licence

The proposed facility will operate under an IE Licence which is administered and enforced by the EPA. All site operations and activities will be undertaken in accordance with this licence. Environmental emissions which may impinge upon human health including noise, air emissions and aqueous emissions will be monitored, regulated and controlled under this license. As such, all potential environmental impacts and emission associated with site operations, as well as decommissioning, restoration and aftercare will be regulated, controlled and monitored in accordance with the terms of this licence.

Decommissioning Plan

A comprehensive closure, restoration and aftercare management plan will be in place for the proposed facility under the terms of the prospective IE licence for the facility. This plan will provide for the management, control and mitigation of known and unknown environmental risks, liabilities and impacts associated with each site. The regulating authority, the EPA, will be responsible for enforcing the adoption and implementation of these plans and the successful and environmentally safe decommissioning of both sites.



The implementation of this plan will mitigate against the potential for any adverse impacts on the receiving environment and human health as a result of potential environmental impacts/emissions from the site.

7.8 Monitoring

Environmental monitoring will be undertaken during the operational, decommissioning/closure, restoration and aftercare phases of the proposed development, in accordance with the terms and conditions of each of the proposed facility's IE licence. This licence will provide for the ongoing monitoring of surface water emissions, groundwater quality, odour and dust emissions, and noise emissions.

Such monitoring will allow for a continued understanding of potential effects upon the receiving environment as well human health aspects associated with environmental media.

7.9 Residual Impacts

With the adoption of the above mitigation measures, as well the associated mitigation measures defined in interrelated EIAR topic Chapters which are relevant to human health, the proposed development will not have any significant residual effect on any population or human health element.

The proposed development will result in a number of negligible to slight, slight, moderate and significant positive impacts on population and human health elements including positive effects on employment, local population, local business and in terms of contribution to the circular economy. Post-mitigation significant impacts are summarized below:

'Do Nothing' Impact

- Significant, long-term impact on local population and economy due to a deficit in regional waste management capacity.

Residual Operational Phase Impacts

- Significant, positive, long-term impact in terms of promoting the circular economy.

7.10 Interactions

Population and Human Health aspects have the potential to interact with various other environmental topics. Examples of such interaction with respect to the proposed development in this instance are as follows:

- Air quality impacts can lead to negative health effects for human.
- Aqueous discharges to surface water may affect human users of the receiving surface water body (e.g. Bathers, anglers, water sports enthusiasts).



- Aqueous discharges to groundwater bodies may affect humans who utilise the groundwater in question for drinking water.
- Traffic associated with a proposed development may create health and safety risks on local roads or may result in the generation of traffic emissions which pose a risk to human health.
- Noise emission associated with a proposed development may cause nuisance for sensitive human receptors in the receiving environment.
- Landscape effects associated with a proposed development may reduce visual amenity for human in a receiving environment.

The ways in which population and human health aspects interact with other environmental aspects are assessed in an intrinsic manner throughout this chapter, with other relevant chapters and sections being cross-referenced appropriately throughout. No significant negative residual interacting impacts have been identified following the carrying out of this assessment. Further detail on interactions and interrelationships contained within this EIAR are presented in Chapter 16 – Inter-relationships and Interactions

7.11 References

1. EPA (2022), Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.
2. DoHPLG (2018), Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.
3. Fingal County Council (2017), Fingal County Development Plan 2017 – 2023.
4. Government of Ireland (2018), Project Ireland 2040 – National Planning Framework.
5. Eastern and Midlands Regional Assembly (2018) Regional Spatial and Economic Strategy (RSES).
6. CSO (2016) Census Report for 2016.
7. CSO (2016) Census Report for 2022 – Preliminary Results.
8. OSI Geohive (2021), Mapping and Aerial Photography for the local area and wider region.
9. CSO (2021/2022), CSO Live Register/most recent Labour Force Survey.
10. Department of Health (2019), Health in Ireland, Key Trends 2019.
11. Parker (2012), Key Concepts in Planning.



**CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING**

www.fehilytimoney.ie

CORK OFFICE

Core House
Pouladuff Road,
Cork, T12 D773,
Ireland
+353 21 496 4133

Dublin Office

J5 Plaza,
North Park Business Park,
North Road, Dublin 11, D11 PXT0,
Ireland
+353 1 658 3500

Carlow Office

Unit 6, Bagenalstown Industrial
Park, Royal Oak Road,
Muine Bheag,
Co. Carlow, R21 XW81,
Ireland
+353 59 972 3800

