FEHILY TIMONEY

CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

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 1 - Introduction

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

Thorntons recycling

Date: November 2022

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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1.1 Introduction

Padraig Thornton Waste Disposal Ltd. T/A Thorntons Recycling intends to apply for planning permission to expand an existing Materials Recovery Facility (MRF). The existing MRF is situated at Unit 1, Cappogue Industrial Park, Ballycoolin Road, Cappogue, Dublin 11. The proposed development will involve the construction and operation of an expanded Materials Recovery Facility at a development site (3.38 ha in size) which falls across the townlands of Cappogue and Dunsink, south of the Ballycoolin Road, Dublin 11.

Following consultations between the Applicant and An Bord Pleanála under Section 37B of the Planning and Development Act, 2000 as amended, the Board served notice under Section 37B(4)(a) that it is of the opinion that the proposed development falls within the scope of paragraphs 37A(2)(a) and (b) of the Act (See Case Reference: ABP-311902-21). Accordingly, the Board has decided that the proposed development would be 'Strategic Infrastructure' within the meaning of Section 37A of the Planning and Development Act, 2000, as amended.

The planning application for the proposed development is therefore being made directly to An Bord Pleanála under Section 37E of the Act.

Fehily Timoney & Company (FT) has prepared this Environmental Impact Assessment Report (EIAR) on behalf of the Applicant to accompany the application for planning permission made to An Bord Pleanála for the proposed development.

This chapter of the EIAR introduces the proposed development in the context of the application for permission, documents the procedure that was followed in preparing this EIAR, and provides detail on the competency and expertise of environmental impact assessors.

1.1.1 Statement of Competency

This chapter was prepared by Richard Deeney. Richard Deeney is a Senior Environmental Scientist with FT. Richard has over 10 years' experience in environmental and planning consultancy. Richard has a B.Sc. in Environmental Management and an Advanced Diploma in Planning and Environmental Law with the Kings Inns. He has a vast amount of experience coordinating and completing EIAR's for a wide variety of development types including waste facilities, tourism development, quarries and manufacturing facilities.

1.2 The Applicant

The Applicant for the proposed development is Padraig Thornton Waste Disposal Ltd. T/A Thorntons Recycling.

Thorntons Recycling is a family-owned business established in 1979. The company operates waste management facilities in Counties Dublin, Meath, Wicklow and Kildare serving over 5,500 commercial customers and 75,000 household customers each day. The company employs over 560 no. staff. Thorntons head office is in the Parkwest Business Park, Dublin 12. The company's customer base includes household, commercial and industrial (C&I) and construction and demolition (C&D) sectors.

In addition to their Cappogue waste facility, Thorntons own and operate a wide range of waste management facilities across the eastern region handling non-hazardous waste in the forms of residual municipal waste, recyclable waste, organic/food waste, construction and demolition (C&D) waste and paper shredding. These facilities are:

- Materials Recovery Facility, Killeen Road, Dublin 10 (Reg. No. W0044-02);
- Civic Amenity and Materials Recovery Facility, Dunboyne Industrial Estate, Co. Meath (W0206-01);
- Kilmainhamwood Compost Facility, Kilmainhamwood, Co. Meath (W0195-02);
- Waste Transfer Station, JFK Industrial Estate, Dublin 12 (W0227-01);
- Waste Recovery Facility, Balbriggan, Co. Dublin (P1014-01);
- Mixed Dry Recyclables (MDR) Facility, Parkwest Business Park, Dublin 12 (WFP-DC10-0021-04);
- Waste Transfer Station, Ballycoolin Road, Dublin 1 (WFP-FG-17-0001-04);
- Waste Transfer Station, Parkwest Business Park, Dublin 12 (WFP-DC-20-0055-01); and;
- Confidential Shredding Facility, Parkwest Business Park, Dublin 12 (WFP-DC-11-0023- 03).

Thorntons Recycling is one of Ireland's leading integrated waste management and recovery/recycling companies and is dedicated to the diversion of waste from landfill through the recovery and re-use of valuable resources to create closed material life cycles in accordance with circular economy principles.

Thorntons Recycles carries out all its waste management activities under a certified Quality Management Systems (ISO 9001), Environmental Management Systems (ISO 14001) and Occupational Health and Safety Management Systems (OHSAS 18001).

1.3 The Site

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 Ballycoolin 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.

A site location map detailing the site location, context and surrounding features is found in Volume 4 of this EIAR (Drawing Reference: P21-150-0000-0002)

The location and context of the proposed development is illustrated in Figure 1-1.

Path: R:\Map Production\2021\P21-150\Workspaces\EIAR\P21-150_GIS_Fig1-1_SiteLocation_A3.mxd

Junction 5 of M50

Stadium Business Park

Ballycoolin Road

Barn Lodge Grove Road

Premier Business Park

Coolbrook Cottages

Proposed Development Site

M50

Residences to the Southe - East

Dunsink Landfill

Junction 6 of M50

Legend

Proposed Site Boundary

N W E S

Meters
0 100 200 400

TITLE:	Site Location		
PROJECT:	SID Application, EIAR and IE Licence Application for Thorntons		
FIGURE NO:	1.1		
CLIENT:	Thorntons Recycling		
SCALE:	1:12500	**REVISION:**	0
DATE:	26/10/2022	**PAGE SIZE:**	A3

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1.4 Site Ownership

The development site (3.38 ha) encompasses the Applicant's existing waste facility site (0.75 ha) situated at Unit 1, Cappogue Industrial Park, Ballycoolin Road, Cappogue, Dublin 11, together with scrublands/grasslands (2.65 ha) to the south of this facility falling across the townlands of Cappogue and Dunsink, Dublin 11.

The Applicant owns the site of its existing waste facility.

Fingal County Council own the lands to the south of the existing facility which make up the entire proposed development site. The Applicant has an Option Agreement to purchase these lands from Fingal County Council subject to planning consent. FCC have provided a Letter of Consent to the Applicant which grants consent to make this planning application. This letter of consent is provided in Appendix 1.1 of Volume 3 of this EIAR.

1.5 The Proposed Development

Padraig Thornton Waste Disposal Ltd. T/A Thorntons Recycling intends to apply for planning permission to expand an existing Materials Recovery Facility (MRF). The existing MRF is situated at Unit 1, Cappogue Industrial Park, Ballycoolin Road, Cappogue, Dublin 11. The proposed development will involve the construction and operation of an expanded Materials Recovery Facility at a development site (3.38 ha in size) which falls across the townlands of Cappogue and Dunsink, south of the Ballycoolin Road, Dublin 11.

The proposed expanded facility will accept and process up to 300,000 tonnes per annum (tpa) of waste material, to include:

- 100,000 tpa of residual municipal solid waste (rMSW).
- 50,000 tpa food waste.
- 100,000 tpa construction and demolition (C&D) Waste.
- 50,000 tpa mixed dry recyclable (MDR) waste.

The proposed development will consist of the following:

1. Demolition of one annex of the existing building on-site (226 m^2, 9.46 m in height) and the removal of an existing weighbridge.
2. Clearance of lands to the south of the existing waste facility.
3. Culverting of an existing surface water drain traversing the site.
4. Development of a new second entrance ca. 35 m south of the existing site entrance to accommodate vehicles accessing and egressing the proposed facility.
5. Upgrade and expansion of the existing building on-site, to be referred to MRF 1 (2,659 m^2, to a maximum height of 12.48 m).
6. Development of a new building on-site, to be referred to as MRF 2 (1,735 m^2, to a maximum height of 13.65 m).
7. Development of a new building on-site, to be referred to as MRF 3 (4,320 m^2, to a maximum height of 13.85 m).
8. Development of ancillary infrastructure including:

a. advertising signage (8 m x 2 m) on the southern and western façades of the MRF 3 building and on the southern façade of the southern façade of the MRF 1 building,
b. internal site roads, parking and skip storage,
c. an administration building (272 m^2, to a maximum height of 6.96 m),
d. 2 no. at-grade weighbridges and a weighbridge office (18.5 m^2, 3.3 m in height),
e. an electrical sub-station (23 m^2, 2.98 m in height),
f. a vehicle workshop (519 m^2, to a maximum height of 8.44 m),
g. a vehicle refuelling facility adjoining the vehicle workshop, with an internal 45 m^3 bunded diesel storage tank,
h. a vehicle wash (176 m^2, 5.24 m in height),
i. perimeter fencing (2.4 m in height), gate access and perimeter landscaping (ca. 6 - 8 m in height),
j. site services,
k. surface water management infrastructure, including an overground rainwater harvesting tank (with a floor area of 86.6 m^2 and a capacity of 470 m^3),
l. fire pumps and a fire-fighting and control system,
m. a traffic management system,
n. an odour abatement system, with a 20 m high stack.

The proposed development will also consist of the following:

- Development of rooftop photovoltaic solar panels (with a cumulative area of 2,476 m^2).

Roof mounted solar panels covering a total cumulative area of 2,476 m^2 will be mounted atop western slope of the MRF 3 building roof and on the proposed extended portion of the MRF Building 1. This development constitutes exempted development under the S.I. No. 493/2022 - Planning and Development Act 2000 (Exempted Development) (No. 3) Regulations 2022 as it falls under the following class of exempted development, as defined in those regulations:

- The placing or erection on a roof or wall of an industrial building, or within the curtilage of an industrial building, or on a roof or wall of any ancillary buildings within the curtilage of an industrial building of a solar photo-voltaic and/or a solar thermal collector installation.

The rooftop solar panel installation will not breach any of the prescribed conditions or limitations pertaining to this class of development. It is noted that the development site does not lie within a Solar Safeguarding Zone defined under S.I. No. 492/2022 - Planning and Development (Solar Safeguarding Zone) Regulations 2022. Nonetheless, the potential impacts associated with this project element have assessed under this EIAR.

1.6 Proposed Development Design

The proposed waste facility development has been designed to operate in accordance with the following environmental protection standards particular to waste management facilities:

- European Commission (2018) BREF on Waste Treatment
- European Commission (2018) BATC on Waste Treatment
- EPA (2011) BAT Guidance Note on the Waste Sector
- Commission Implementing Decision (EU) establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council.

1.7 Planning and Regulatory Control

1.7.1 Regulatory Control of the Applicant's Existing Waste Facility

The Applicant operates an existing Construction and Demolition (C&D) MRF at the northern section of the proposed development site.

A planning application was originally lodged for the facility in April 2011 and planning permission, reference FW11A/0033, was granted by Fingal County Council in August 2011. Additional planning was applied for in May 2013 relating to an extension of the facility, retention of boundary fencing, the addition of shredding and storage areas and the construction of a vehicle maintenance garage. Planning permission, reference FW13A/0053, was granted by Fingal County Council in January 2014. Following purchase of the site in March 2019, Thorntons Recycling applied for retention permission to regularise the planning permission for the existing facility (FW19A/0128). This was granted by Fingal County Council in June 2020. Planning permission was then granted in September 2019 for an increase in the rate of waste acceptance and processing at the facility up to 49,500 tonnes per annum (FW20A/0122).

The facility commenced operating under the original Waste Facility Permit, WFP-FG-11-0008–01, in 2012 and is currently authorised under the waste management legislation by the Waste Facility Permit, WFP-FG-17-0001-04, issued by Fingal County Council in 2020. The facility is authorised to accept and process 49,500 tonnes of waste per annum comprising mixed C&D waste, bulky skip waste and wood waste.

1.7.2 Regulatory Control during the Construction of the Proposed Development

The Applicant intends on continuing operations at its existing waste facility whilst constructing the built elements of the proposed development to the south of the development site, which will be outside the boundary of the existing waste facility site. These operations will continue to be carried out in accordance with the grants of planning permission and WFP for this facility.

Once the infrastructural elements at the southern sections of the site are constructed, existing waste facility operations will cease and the WFP for the existing facility will be surrendered to FCC. The existing waste facility building will then be upgraded and expanded, as part of the proposed development.

1.7.3 Regulatory Control of the Proposed Development

Waste management activities associated with the proposed development (i.e., the expanded waste facility) will be regulated under an Industrial Emissions (IE) Licence granted by the Environmental Protection Agency (EPA).

This authorisation will allow for the continued regulation and control of the proposed waste activities to be undertaken on-site. The following aspects of the proposed development will be controlled through this authorisation:

- Emissions to air and surface water.
- Monitoring requirements for emissions.
- Resource use and energy efficiency.
- Waste management control documentation.
- Waste acceptance and records.
- Storage and transfer of substances.
- Changes to operations and the physical fabric of the facility.
- Facility management including the requirement for an environmental management system (EMS).
- Infrastructure management.
- Accident prevention and emergency response including fire water retention; and,
- Operational controls.

A Section 50 Consent from the Office of Public Works is required for the culverting of an existing surface water drain traversing the site.

The Applicant intends on applying for each of the consents listed above in the event of grant of planning permission for the proposed development.

1.8 Application and the EIA Process

1.8.1 Requirement for the Competent Authority to Conduct EIA

The European Union Directive 2014/52/EU (amending Directive 2011/92/EU) on the assessment of the effects of certain public and private projects on the environment, requires Member States to ensure that a competent authority carries out an appraisal of the environmental impacts of certain types of projects, as listed in the Directive, prior to development consent being given for the project. Throughout this EIAR, Directive 2011/92/EU, as amended by 2014/52/EU, on the assessment of the effects of certain public and private projects on the environment, shall be referred to collectively as “EIA Directive, as amended”.

With respect to waste-related projects, the EIA Directive, as amended, requires that an EIA is required in relation to applications for development consent. Article 4(2) of the EIA Directive, as amended, stipulates that Member States are responsible for setting applicable thresholds in respect of EIA.

The requirement for EIA of certain types of proposed development is transposed into Irish legislation under the Planning and Development Act, as amended, and the Planning and Development Regulations 2001 to 2022, as amended (the "2001 Regulations"). Part 1 of Schedule 5 to the 2001 Regulations, as amended includes a list of projects which are subject to mandatory EIA based on, inter alia, their scale, nature, location and context.

Part 2 of the same Schedule 5 includes a list of projects where, if specified thresholds are exceeded, or where it is determined that there is potential for significant environmental impact, an EIA is also required. "*Installations for the disposal of waste with an annual intake greater than 25,000 tonnes*" fall into Part 2 of Schedule 5 and therefore, pursuant to section 176 of the 2000 Act and article 94 of the 2001 Regulations, an EIA of the proposed development is required to be carried out by the Competent Authority prior to making a decision to grant development consent.

Accordingly, the EIA of the proposed development will be undertaken by An Bord Pleanála, in accordance with the requirements of the EIA Directive, as amended, Part X of the 2000 Act and the relevant provisions of the 2001 Regulations, as amended.

1.8.2 Appropriate Assessment

In compliance with the provisions of Article 6 of the Habitats Directive, as implemented by Part XAB of the Planning and Development Act 2000, as amended, in circumstances where a proposed plan or project is likely to have a significant effect on a European (or Natura 2000) site, either individually or in combination with other plans or projects, an Appropriate Assessment (AA) must be undertaken by the Competent Authority of the implications for the site in view of the site's conservation objectives.

European sites comprise both Special Protection Areas (SPAs) for birds and candidate Special Areas of Conservation (cSACs) for habitats and species. The Habitats Directive (Council Directive 92/43/EEC) formed a basis for the designation of SACs while SPAs are designated under the Birds Directive (Council Directive 79/409/EEC on the Conservation of Wild Birds, now Directive 2009/147/EC).

Article 6 of the Habitats Directive envisages a two-stage process, which is implemented in some detail by the provisions of sections 177U and 177V of the Planning and Development Act 2000, as amended.

A screening for appropriate assessment of an application for consent for proposed development shall be carried out by the competent authority to assess, in view of best scientific knowledge, if the proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site.

Plans or projects that can have no significant adverse effect on a European site are excluded, or screened out, at this stage of the process. Where screening concludes that the possibility of significant effects on a European site cannot be excluded, then it is necessary for the competent authority to carry out an Appropriate Assessment (AA) (Stage Two) for the purposes of Article 6(3). A report called a Natura Impact Statement (NIS) is produced for the purposes of the Stage Two AA. The NIS considers the potential impact of a project or plan on the integrity of a European site and on its conservation objectives.

In carrying out an Appropriate Assessment, the Competent Authority (in this case An Bord Pleanála) is required to make an examination, analysis, and evaluation, make findings, and reach conclusions and a final determination as to whether the proposed project would adversely affect the integrity of any relevant European site in view of its conservation objectives.

An Appropriate Assessment Screening Report has been completed for the subject proposed development and accompanies this planning application. This report 'screened out' the need for the carrying out a full Appropriate Assessment, otherwise referred to as a Natura Impact Statement.

1.9 EIAR Methodology and Structure

An EIAR presents relevant information such that an environmental impact assessment (EIA) can be undertaken to assess the potential effects of certain development projects on the environment. The EIA process is undertaken by the relevant Competent Authority.

The primary objective of an EIA is to ensure that projects which are likely to have significant effects on the environment are assessed and impacts avoided or reduced, where possible. This assessment process aims to achieve the most sustainable and environmentally friendly integration of a development with the local environment.

Firstly, the planning context, the background to the project including the need for the development, the alternatives assessed, and the existing and proposed development are described. The introductory sections of each chapter set out the context as to the practical and dynamic process undertaken.

Subsequent sections deal with specific environmental topics, for example, population, human health, air, water, noise, etc. These sections may involve specialist studies and evaluations. The methodology applied during these specific environmental assessments is a systematic analysis of the proposed development in relation to the existing environment.

The broad methodology framework for these assessments is outlined below and is designed to be clear and concise and allow the reader to logically follow the assessment process through each environmental topic. In some instances, more specific topic related methodologies are outlined in the relevant sections of the EIAR.

The broad format used to carry out impact assessment under each environmental topic is as follows:

- Introduction;
- Assessment Methodology;
- Receiving Environment;
- Potential Effects;
- Mitigation Measures;
- Residual Effects;
- Interactions;
- References.

The advantage of using this structure is that it is easy to investigate each environmental topic and it facilitates easy cross-reference to specialist studies undertaken in the preparation of the EIAR.

The EIAR has been prepared in accordance with relevant EIA related legislation including:

- The EIA Directive (Directive 2011/92/EU as amended by Directive 2014/52/EU)
- Transposing national legislation, for example, the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018, as amended.
- The Planning and Development Act, as amended, and the Planning and Development Regulations 2001 to 2022, as amended (the "2001 Regulations")

The EIAR has been prepared in accordance with guidelines listed hereunder except where specific sectoral guidance was used e.g. traffic:

- EPA (2022), Guidelines on the Information to be contained in Environmental Impact Assessment Reports,
- Department of Housing, Planning and Local Government (2018), Guidelines for Planning Authorities and An Bord Pleanála on Carrying out Environmental Impact Assessment,
- European Commission (EC) (2017), Environmental Impact Assessment of Projects - Guidance on the preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU).

Where specific sectoral guidance was used e.g. traffic, this guidance will be listed in the relevant sections of the EIAR.

1.9.1 EIAR Methodology

Introduction

The main aim of this EIAR is to provide information on the project to the public, prescribed bodies and the Competent Authority. To this end, Article 3(1) of the EIA Directive, as amended requires that significant effects are identified, assessed and described in an 'appropriate manner'.

Article 5(1) sets the form – the information should be presented in an EIA Report that enables stakeholders and authorities to form opinions and to take decisions regarding the project. While there are no formal requirements concerning the format and the presentation of the report, this EIAR clearly sets out the methodological considerations and the reasoning behind the identification and assessment of significant effects.

Article 5(1) sets out what must be included as a minimum in the EIAR.

Annex IV to the Directive, expands on these requirements. In short, this includes the following:

- A description of the project: this is an introduction to the project, and includes a description of the location of the project, the characteristics of the construction, and the operational phases of the project, as well as estimates of the expected residues, emissions, and waste produced during the construction and operation phases;
- Baseline scenario: a description of the current state of the environment, and the likely evolution thereof without the implementation of the project;

- Environmental factors affected: a description of the environmental factors impacted by the project, with specific emphasis being placed on climate change, biodiversity, natural resources, and accidents and disasters;
- Effects on the environment: this section addresses the concept of 'significant effects' and the importance of cumulative effects;
- Assessment of alternatives: alternatives to the proposed development are described and compared, with an indication of the main reasons for the selection of the option chosen provided;
- Mitigation measures, i.e. Features or measures to avoid, prevent or reduce, and offset adverse effects should also be considered;
- Monitoring: monitoring measures proposed are included in the EIAR, where potentially significant adverse effects have been identified. This monitoring will be carried out during the construction and operation of a project;
- Non-technical summary, i.e. An easily accessible summary of the content of the EIA report presented without technical jargon, hence understandable to anybody without a background in the environment or the project;
- Quality of the EIAR: the experts responsible for preparing the EIA report are competent.

The EIAR has been prepared in accordance with the requirements of Directive 2011/92/EU of the European Parliament as amended by Directive 2014/52/EU. Schedule 6 of the Planning and Development Regulations 2001, as amended, and Annex IV of the EIA Directive, as amended set out the contents of an EIAR. In addition, in the preparation of this EIAR a scoping of possible impacts of the proposed development was carried out to identify impacts thought to be potentially significant, not significant or uncertain. Consultation with the relevant private and public agencies ensured that the most significant impacts and the areas of greatest concern were addressed during the EIA process. Details of the consultation carried out for the proposed development are outlined in Chapter 6 Scoping and Consultation of Volume 2 of this EIAR.

As set out in Schedule 6 of the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018), the information to be contained in an EIAR is as follows:

1. The following elements:

a) A description of the proposed development comprising information on the site, design, size and other relevant features of the proposed development;

b) A description of the likely significant effects on the environment of the proposed development;

c) A description of the features, if any, of the proposed development and the measures, if any, envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment of the development;

d) A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment.

2. Additional information, relevant to the specific characteristics of the development or type of development concerned and to the environmental features likely to be affected, on the following matters, by way of explanation or amplification of the information referred to in paragraph 1:

a) A description of the proposed development, including in particular:

i. A description of the location of the proposed development;

ii. A description of the physical characteristics of the whole proposed development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;

iii. A description of the main characteristics of the operational phase of the proposed development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; and;

iv. An estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during construction and operation phases.

b) A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and their specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects;

c) A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge;

d) A description of the factors specified in paragraph (b)(i) (I) to (V) of the definition of 'environmental impact assessment' in section 171A of the Act likely to be significantly affected by the proposed development: population, human health, biodiversity (for example flora and fauna), land (for example land-take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape;

e) (i) a description of the likely significant effects on the environment of the proposed development resulting from, among other things:

(I) the construction and existence of the proposed development, including, where relevant, demolition works,

(II) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources,

(III) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste,

(IV) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters),

(V) the cumulation of effects with other existing or approved development, or both, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources,

(VI) the impact of the proposed development on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the proposed development to climate change, and;

(VII) the technologies and the substances used, and;

(ii) the description of the likely significant effects of the factors specified in paragraph (b)(i)(I) to (V) of the definition of 'environmental impact assessment' in section 171A of the Act should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the proposed development, taking into account the environmental protection objectives established at European Union level or by a Member State of the European Union which are relevant to the proposed development;

f) A description of the forecasting methods or evidence used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information, and the main uncertainties involved;

g) A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of an analysis after completion of the development), explaining the extent to which significant adverse effects on the environment are avoided, prevented, reduced or offset during both the construction and operational phases of the development;

h) A description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it. Relevant information available and obtained through risk assessments pursuant to European Union legislation such as the Seveso III Directive or the Nuclear Safety Directive or relevant assessments carried out pursuant to national legislation may be used for this purpose, provided that the requirements of the Environmental Impact Assessment Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for, and proposed response to, emergencies arising from such events.

Assessment Methodology

Specific topic related methodologies are outlined in each chapter of Volume 2 of this EIAR. This includes the methodology used in describing the existing environment and assessing effects. The study area may vary for each specific topic and is therefore set out in each individual chapter.

Mitigation Measures

A schedule of commitments is included as Chapter 17 of Volume 2 of this EIAR. It includes all the mitigation measures outlined in this EIAR.

References

Reports and data sources referenced in the preparation of this EIAR are listed in each chapter.

1.9.2 EIAR Structure

The EIAR has been structured in accordance with the European Commission's Guidance Environmental Impact Assessment of Projects - Guidance on the preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU).

The EIAR comprises four volumes:

Volume 1: Non-Technical Summary
Volume 2: Main Report
Volume 3: Appendices
Volume 4: Drawings

The following topics and related chapters are presented in this EIAR:

1. **Introduction**
2. **Need for the Proposed Development**
3. **Alternatives**
4. **Existing and Proposed Development**
5. **Planning and Policy Context**
6. **Scoping and Consultation**
7. **Population and Human health**
8. **Biodiversity**
9. **Soils, Geology and Hydrogeology**
10. **Hydrology and Surface Water**
11. **Air and Climate**
12. **Noise and Vibration**
13. **Traffic and Transportation**
14. **Archaeological, Architectural and Cultural Heritage**
15. **Landscape and Visual Impact**
16. **Inter-relationships and Interactions**
17. **Schedule of Commitments**

1.9.3 Assessment of Significant Effects – Evaluation Criteria

The identification and analysis of significant effects in this EIAR has been undertaken in accordance with best practice, legislation and guidance notes. The evaluation of significance considers the magnitude of the change and the sensitivity of the resource or receptor. Unless otherwise stated, this approach has been adopted throughout the EIAR.

The criteria for determining the significance of impacts and the effects are set out in Figure 1-2 taken from the EPA's Guidelines on the Information to be contained in Environmental Impact Assessment Reports.

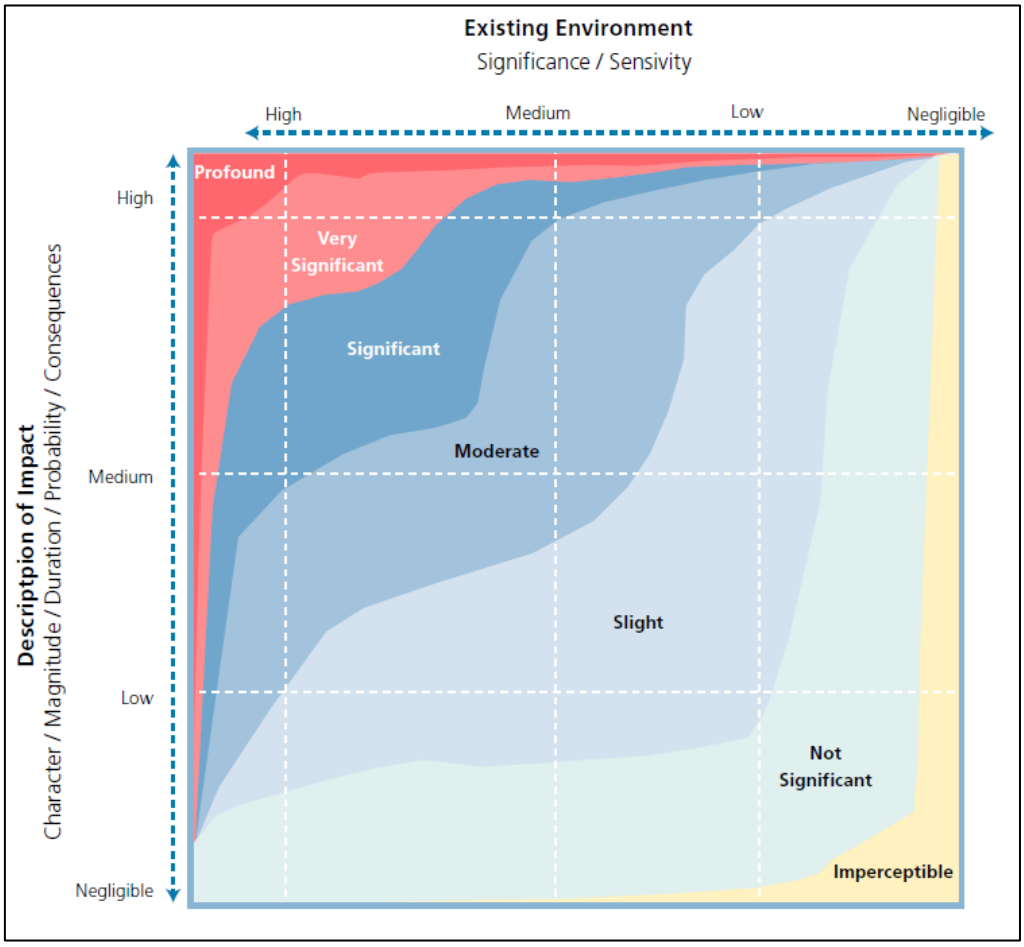

Figure 1-2: Description of Impacts

Definitions of impact (as defined in Table 3.4 of the EPA's Guidelines on the Information to be contained in Environmental Impact Assessment Reports.) are reproduced in the tables below and apply throughout this EIAR unless otherwise stated within a specific chapter.

Table 1-1 defines the quality of effects from positive to negative on the environment:

Table 1-1: Quality of Effect

Type of Effect	Quality of Effect
Positive Effects	A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
Neutral Effects	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error
Negative / adverse Effects	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).

Table 1-2 outlines the descriptions of significance of effects which range from imperceptible to profound effects:

Table 1-2: Describing the Significance of Effects

Classification	Criteria
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baselines trends.
Significant Effects	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly most of a sensitive aspect of the environment.
Profound Effects	An effect which obliterates sensitive characteristics.

Table 1-3 describes the terminology used to discuss the extent and context of effects:

Table 1-3: Describing the extent and context of Effects

Magnitude	Description
Extent	Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
Context	Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?).

Table 1-4 shows how likely an impact is to occur:

Table 1-4: Describing Probability of Effect

Probability	Description
Likely Effects	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely Effects	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.

Table 1-5 discusses the duration and frequency of effects. Momentary effects lasting from seconds to minutes will often be less concerning than long term and permanent effects, depending on their severity:

Table 1-5: Describing Duration and Frequency of Effects

Duration	Description
Momentary Effects	Effects lasting from seconds to minutes.
Brief Effects	Effects lasting less than a day.
Temporary Effects	Effects lasting less than a year.
Short-term Effects	Effects lasting one to seven years.
Medium-term Effects	Effects lasting seven to fifteen years.
Long-term Effects	Effects lasting fifteen to sixty years.
Permanent Effects	Effects lasting over sixty years.
Reversible Effects	Effects that can be undone, for example through remediation or restoration.
Frequency of Effects	Describe how often the effect can occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).

Table 1-6 defines the types of effects that can potentially occur:

Table 1-6: Describing Types of Effects

Type	Description
Indirect Effects (a.k.a. Secondary or Off-site Effects)	Effects on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
Cumulative Effects	The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.
Do-Nothing Effects	The environment as it would be in the future should the subject project not be carried out.
'Worst case' Effects	The effects arising from a project in the case where mitigation measures substantially fail.
Indeterminable Effects	When the full consequences of a change in the environment cannot be described.
Irreversible Effects	When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
Residual Effects	The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
Synergistic Effects	Where the resultant effects is of greater significance than the sum of its constituents.

1.10 Cumulative Assessment

Cumulative assessment is an assessment of the changes to the environment that are caused by activities/projects in combination with other activities/projects. The potential significant effects of the proposed project are assessed in conjunction with other existing or proposed development located nearby or in the vicinity of the development in question. The potential combined environmental impacts can be accurately assessed in the event of the proposed development proceeding.

Cumulative effects are changes to the environment that are caused by an action in combination with other actions and can arise from:

- The interaction between all of the different Projects in the same area;
- The interaction between the various impacts within a single Project.

The co-existence of impacts may increase or decrease their combined impact. Impacts that are not considered to be significant when assessed individually, may become significant when combined with other impacts.

The requirement for cumulative assessment derives from the EIA Directive, as amended, where Annex IV requires that the EIAR should describe:

"*the likely significant effects of the project on the environment resulting from… the cumulation of effects with other existing and/or approved projects taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources".*

In the context of an EIAR, cumulative effects can be applied to two different aspects of a development.

Firstly, the various impacts of a particular project can interact in a manner which causes additional effects, which when taken together are greater than they appear when documented under separate topic headings.

Secondly, a project may magnify effects already associated with other built development.

This may mean that, when a development is proposed at a greenfield location which is devoid of other significant built development, its impact is acceptable. By contrast, where it is proposed in conjunction with other development, the cumulative effect may be much greater. In some cases, the impacts of these multiple developments collectively may exceed that which is tolerable or sustainable development.

In terms of assessing the potential for cumulative effects in this EIAR, a review of other projects and existing development within Cappogue and Dunsink townlands and the wider area surrounding the development site was carried out. Projects and existing development that have the potential to have a cumulative impact in-combination with the proposed development have been identified and are listed in Appendix 1.2, Projects considering during Cumulative Assessment, in Volume 3 of this EIAR.

1.11 Contributors to the EIAR

Fehily Timoney and Company (FT) is a consultancy based in Cork, Carlow and Dublin, specialising in civil and environmental engineering, planning and environmental science. The company has established a professional team specialising in EIA and Planning infrastructure development, particularly in the areas of renewable energy and waste management development. This team has the support of many in-house engineers, scientists and planners.

FT was retained by the applicants to undertake the detailed environmental appraisals and prepare the EIAR for the proposed development, as well as preparing a planning application to accompany this EIAR for submission to An Bord Pleanála

The competent experts involved in the preparation of the EIAR are outlined in Table 1-7 and a CV for each competent expert is included in Appendix 1.3, EIAR Contributor CV's, in Volume 3 of this EIAR.

Table 1-7: Contributors and Competent Experts to the EIAR

EIA Topic	Company	Name and Qualifications
Chapter 1 - Introduction	FT	Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 2 - Need for the Proposed Development	FT	Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 3 - Alternatives	FT	Eoin O' Connor, Project Scientist, B.Sc. M.Sc. Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 4 – Existing and Proposed Development	FT	Chris Cronin, Technical Director, CEng., B.Sc., M.Sc. Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 5 – Planning and Policy	FT	Eoin O' Connor, Project Scientist, B.Sc. M.Sc. Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 6 - Scoping and Consultation	FT	Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 7 - Population and Human Health	FT	Eoin O' Connor, Project Scientist, B.Sc. M.Sc. Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM

EIA Topic	Company	Name and Qualifications
Chapter 8 - Biodiversity	FT	David Daly, Project Scientist, B.Sc. M.Sc. Jon Kearney, Principal Scientist, BSc MSc MCIEEM Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 9 - Soils, Geology and Hydrogeology	FT	Declan Morrissey, Senior Project Scientist, B.Sc., M.Sc., MIAH Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 10 - Hydrology and Surface Water Quality	FT	Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 11 - Air Quality and Climate	AWN Consulting Ltd / FT	Ciara Nolan, Senior Environmental Consultant, B.Sc., M.Sc. Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 12 - Noise and Vibration	FT	John Cullen, Senior Project Engineer, B.Sc. Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 13 - Traffic and Transportation	Trafficwise / FT	Julian Keenan, Director, B.Eng, MIEI, MCHIT Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 14 - Archaeology, Architectural and Cultural Heritage	Colm Flynn Archaeology / FT	Colm Flynn, Director, BA, MIAI Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 15 - Landscape and Visual Impact	MacroWorks / FT	Rory Curtis, Senior Landscape Architect, BA LA Hons, MILI Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM
Chapter 16 – Interactions and Interrelationships	FT	All personnel named above.
Chapter 17 - Schedule of Mitigation	FT	Bruna Felipe, Project Engineer, BE (Hons) Richard Deeney, Senior Environmental Scientist, B.Sc., CEnv., MIES, MIEMA, Ass.MIAQM Bernie Guinan, Director, MSc, BSc. MCIWM

1.12 Difficulties Encountered

No difficulties were encountered in undertaking this EIA.

1.13 Viewing of the EIAR

Copies of this EIAR including the Non-Technical Summary, the Appendices and EIAR Drawings may be inspected free of charge or purchased by any member of the public during normal office hours at An Bord Pleanála, 64 Marlborough St, Rotunda, Dublin 1, D01 V902.

1.14 References

- EPA (2022), Guidelines on the Information to be contained in Environmental Impact Assessment Reports.
- Department of Housing, Planning and Local Government (2018), Guidelines for Planning Authorities and An Bord Pleanála on Carrying out Environmental Impact Assessment.
- European Commission (EC) (2017), Environmental Impact Assessment of Projects - Guidance on the preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU).

FEHILY TIMONEY

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