

1.0 INTRODUCTION

1.1 BACKGROUND

Bord na Móna Plc. (hereafter referred to as Bord na Móna or the Developer) operates the Drenid Waste Management Facility (which will be referred to as the Drenid WMF), situated near Carbury, County Kildare. The Drenid WMF is an integrated WMF which principally includes an existing landfill and a Composting Facility. A Mechanical Biological Treatment (MBT) facility was permitted at the facility, however that project will not be constructed. The Drenid WMF operates subject to an Industrial Emissions Directive (IED) licence, issued by the EPA, (W0201-03) and subject to the planning approval for the facility.

TOBIN Consulting Engineers (hereafter referred to as TOBIN) has led the preparation of this Environmental Impact Assessment Report (EIAR) on behalf of Bord na Móna. Bord na Móna intends to apply to An Bord Pleanála for planning permission for additional waste capacity at the Drenid WMF, with some additional infrastructure and processing capabilities.

For the purposes of this EIAR, the proposed development includes the additional landfill capacity (non-hazardous) as well as allowing for additional capacity for the processing of certain waste streams for materials recycling and recovery, and composting process. It also includes other associated works, buildings and roads, etc. as described in Chapter 2 of this EIAR (Description of the Proposed Development). The proposed development refers only to the elements of this for which planning permission is being sought as part of this application. The proposed development includes the proposed new infrastructure and activities only and does not include the significant amount of existing (previously permitted) infrastructure and activities which are located within the site. Although some of the existing ancillary infrastructure (for example the weighbridge) will be utilised during the various stages of the proposed development, these do not form part of the proposed infrastructure. This development, hereafter referred to as the proposed development is shown in Figure 1.1. A full description of the proposed development is provided in Chapter 2 (Description of the Proposed Development).

Each chapter of this EIAR may define a different study area to which its own assessment refers and which is suitable for that particular assessment, but the general EIAR study area' (which comprises all elements of the proposed project) is shown in red in Figure 1.1 and incorporates an area of approximately 262 hectares (ha).

The planning application is accompanied by this Environmental Impact Assessment Report (EIAR). An application for a review of the Industrial Emissions Directive (IED) Licence for the Drenid WMF is also being made to the Environmental Protection Agency (EPA). An appropriate Assessment Screening Report (AASR) accompanies the planning application, along with a Natura Impact Statement (NIS).

The application for planning approval for the proposed development is being made directly to An Bord Pleanála (ABP) through the Strategic Infrastructure Development (SID) process under the provisions of Section 37 of the Planning and Development Act, 2000 as amended and the associated Planning Regulations.

1.2 SITE LOCATION

The village of Derrinturn is located approximately 2.6 km to the west of the proposed development site boundary and Timahoe crossroads is located approximately 1.7 km to the east

of the closest edge of the proposed development site boundary. Carbury is located approximately 6 km to the north-west of the proposed development and Prosperous is approximately 8.3 km to the south-east.

The proposed development application area (the area within which the application for development is being made) is confined to an area of 262 hectares (ha), outlined in red on Figure 1.1. This proposed development is situated in the townlands of Timahoe West, Coolcarrigan, Killinagh Upper, Killinagh Lower, Drummond, Kilkeaskin, Loughnacush, and Parsonstown, County Kildare as outlined in red on Figure 1.1.

The overall Bord na Móna landholding comprises 2,544 ha and is outlined in blue on Figure 1.1. The overall landholding is located within the townlands of Drehid, Ballynamullagh, Kilmurry, Mulgeeth, Mucklon, Timahoe East, Timahoe West, Coolcarrigan, Corduff, Coolearagh West, Allenwood North, Killinagh Upper, Killinagh Lower, Ballynakill Upper, Ballynakill Lower, Drummond, Kilkeaskin, Loughnacush and Parsonstown, County Kildare.

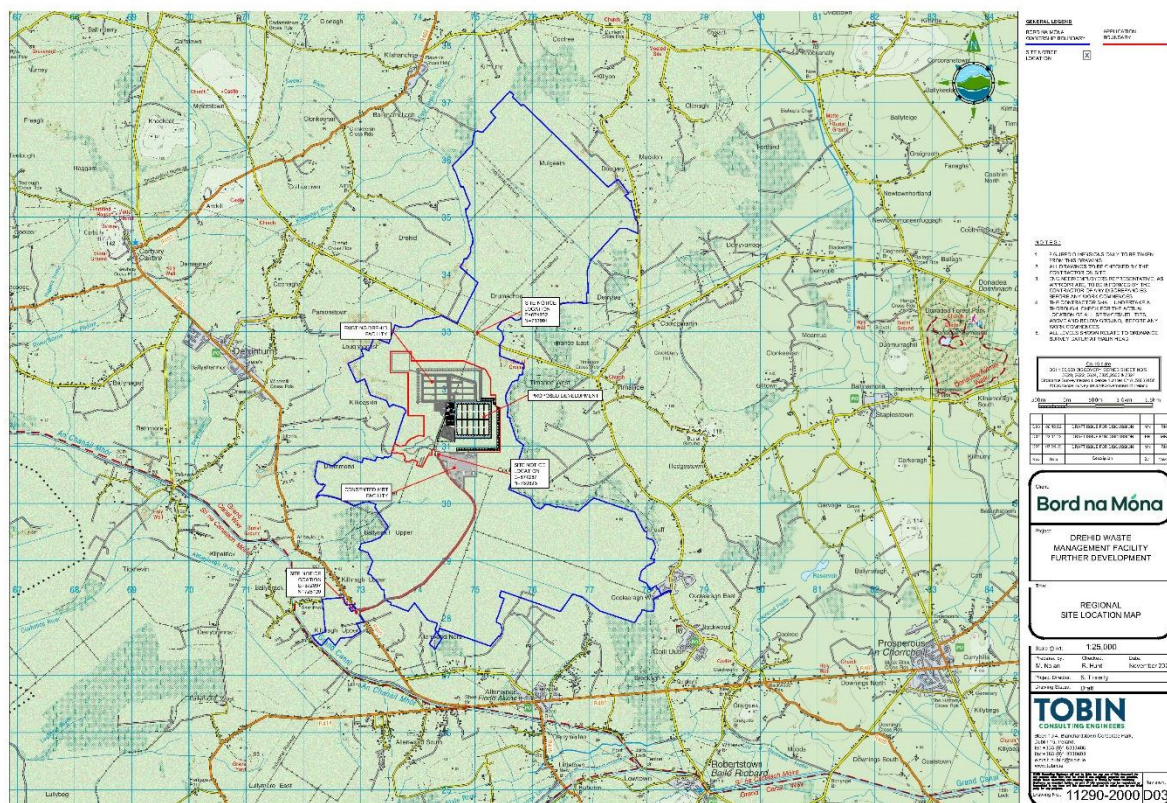


Figure 1.1 – Site Location Map (For larger version see drawing 11290-2000 in Appendix 2-1of this EIAR)

As the proposed development will share elements of infrastructure with the existing Drehid WMF, the application area includes the townlands of Killinagh Upper, Killinagh Lower, Drummond, Kilkeaskin, Loughnacush, and Parsonstown, wherein existing infrastructure to be shared is located. The proposed development site boundary includes the existing and operational WMF (licensed by the existing IED licence (W0201-03)) as they are intrinsically connected.

The area to which this planning application relates is 262 ha, although approximately 169 ha of this comprises existing infrastructure, buildings and built ground which currently form part of

the existing WMF, and this area includes the existing MSW landfill, buildings, roads, associated infrastructure and the existing borrow areas.

Access to the Drehid WMF is from the R403 regional road via an existing dedicated site entrance and a 4.8 km internal access road from the regional road. It is proposed that this entrance and road will also provide access from the R403 regional road to the proposed development. The R403 lies south, southwest and west of the site. The R403 joins the R402 at Carbury to the northwest of the site. The R402 connects to the M4 while the R403 connects to central and south County Kildare. The M4 (Dublin to Sligo / Galway) motorway is located approximately 9 km to the north of the proposed development, while the M7 (Dublin to Limerick / Cork) motorway is located approximately 17 km to the south of the proposed development.

1.3 BORD NA MÓNA

Bord na Móna Plc is a publicly owned company, originally established in 1934 as the Turf Development Board to develop Ireland's extensive peat resources for the purposes of economic development and to support energy security, Bord na Móna owns approximately 80,000 hectares of peatland, located mainly in the Irish Midlands. Up to 2020, this land was primarily used for peat harvesting for energy and for horticulture growing media.

Today, Bord na Móna is undertaking a number of highly significant actions in support of climate policy. These actions involve a radical transformation and decarbonisation of nearly the entire Bord na Móna business. This transformation will be driven by unlocking the full potential of the land and creating significant value for Ireland and the Midlands in particular.

Bord na Móna provides employment for approximately 1,500 people and is an integral part of the economic, social, and environmental fabric of Ireland and Irish life. As a key employer in the Midlands, the company is conscious that its obligations go beyond purely commercial and environmental – there is also a social responsibility to employees and the communities served by Bord na Móna. It is the company's role and absolute priority to ensure that its long-term strategy delivers on all of these important areas in a robust and balanced way.

Bord na Móna Recycling is the waste management division of Bord na Móna group and encompasses the Drehid WMF and an extensive waste collection & processing business throughout the Midlands, South East and Mid-West regions. The principal focus is on delivering exceptional customer service and maximising the re-use and recovery potential of managed waste materials, where possible.

The Drehid WMF is located at Killinagh Upper, Carbury, Co. Kildare, Ireland W91 RC82. The Drehid WMF is Bord na Móna's most extensive waste management facility. The facility was granted planning permission in 2005 and commenced operations in February 2008. Bord na Móna Recycling has made significant investment in the waste management sector and has since used the opportunity to develop landfill gas electricity generation, which is the process of gathering, processing and treating landfill gas to produce electricity. Currently, the landfill gas utilisation facility at Drehid WMF generates enough sustainable and renewable electricity to power 8,500 homes.

1.4 SUMMARY OF THE PROPOSED DEVELOPMENT

The existing (previously permitted) Drehid WMF is described in full in Section 2.1 of Chapter 2 (Description of the Proposed Development) in this EIAR. It includes the existing landfill, buildings and associated infrastructure and activities. The existing infrastructure including the

leachate storage area, gas plant, roads and weighbridge will be used to serve the proposed development.

The primary elements of the proposed development, and for which planning permission is being sought, are summarised below and are set out in more detail in Chapter 2 of this EIAR.

The development will consist of an extension of the existing Drehid WMF to provide for the acceptance of up to 440,000 TPA of non-hazardous waste material, comprising:

- Increase in acceptance of non-hazardous household, commercial & industrial and C&D waste at the existing landfill from the currently permitted disposal quantity of 120,000 TPA to 250,000 TPA until the permitted void space in the existing landfill is filled and no later than the currently permitted end date of 2028;
- Development of extended landfill footprint of approximately 35.75 ha to accommodate the landfilling of 250,000 TPA of non-hazardous household, commercial & industrial and C&D waste for a period of 25 years to commence once the existing landfill void space is filled. The new landfill will have a maximum height of approximately 32 m above ground level (115.75 mAOD);
- Provision, as part of the extended landfill infrastructure, for 30,000 TPA of contingency disposal capacity for non-hazardous waste, to be activated by the Planning Authority only as an emergency measure, for a period of 25 years;
- Development of a new Processing Facility, for the recovery of 70,000 TPA of inert soil & stones and C&D waste (rubble) and use of same for engineering and construction purposes within the site, including as engineering material in the landfill;
- Increase in acceptance of waste at the existing Composting Facility from 25,000 TPA to 35,000 TPA and removal of the restriction on the operating life of the Composting Facility contained in Condition 2(2) of ABP Ref. No. PL.09.212059;
- Extension to, and reconfiguration of, the existing Composting Facility to provide for a new MSW Processing and Composting Facility with an additional capacity of 55,000 TPA (giving a combined total for the MSW Processing and Composting Facility of 90,000 TPA), allowing for the combined facility to accept both MSW and other organic wastes;
- Construction of a new odour abatement system at the existing Composting Facility including two emissions stacks to a height of 17 m above ground level;
- Construction of a new odour abatement system as part of the new MSW Processing and Composting Facility including two emissions stacks to a height of 17 m above ground level;
- Development of a new Maintenance Building with staff welfare facility, office, storage and a laboratory;
- Installation of a new bunded fuel storage area to the rear of the new Processing Facility for the recovery of soil & stones and C&D waste (rubble);
- Construction of two new permanent surface water lagoons and one new construction stage surface water lagoon;
- Construction of a new integrated constructed wetland (ICW) area comprising five ponds;
- Car-parking provision for operational staff;
- Landscaping and screening berms; and
- All associated infrastructure and utility works necessary to facilitate the proposed development and the restoration of the facility following the cessation of waste acceptance.

The total waste intake of 440,000 TPA described above includes 30,000 TPA contingency capacity provided following pre-application consultation with the Regional Waste Officers at the Regional Waste Management Planning Office (RWMPO). This contingency capacity will not be utilised by the Applicant under normal operations and will only be activated in strict circumstances by Kildare County Council (KCC) in consultation with the RWMPOs and the EPA. Further detail on this contingency allowance is set out in Section 2.2.1.1 of Chapter 2 of this EIAR (Description of the Proposed Development).

There will be no significant change in the nature of the waste types accepted at the proposed development from those which are currently authorised and accepted at the existing Drehid WMF. Only non-hazardous waste types will be accepted at the facility, the nature of which is described further in Section 2.2.4 of Chapter 2 of this EIAR (Description of the Proposed Development). No hazardous waste will be accepted at the facility.

A detailed discussion of the need for the proposed development is provided in Chapter 4 of this EIAR (Planning Policy & Development Context).

1.5 LEGISLATIVE CONTEXT AND DEVELOPMENT GUIDELINES

This application by Bord na Móna is being made directly to An Bord Pleanála as ‘Strategic Infrastructure Development’ under the provisions of Section 37 of the Planning and Development Act, 2000 as amended, and the associated Planning Regulations.

Strategic Infrastructure Development (SID) comprises defined categories of development which are considered to be of national or regional strategic importance. SID provisions were inserted into the Planning and Development Act, 2000, as amended, by the Planning and Development (Strategic Infrastructure) Act 2006. The 2006 Act provides generally for applications for permission/approval for specified private and public strategic infrastructure developments to be made directly to An Bord Pleanála.

The Seventh Schedule to the Act lists the classes of infrastructure development which, if considered by An Bord Pleanála to be strategic infrastructure development, require direct application for permission to An Bord Pleanála, instead of the local planning authority. Specific SID project categories relating to private developers fall into three classes set out in the Seventh Schedule namely: energy infrastructure, transport infrastructure and environmental infrastructure.

The proposed development is of the type described in Paragraph 3 – Environmental Infrastructure, Section 5, Part 2, of the 2006 Act (as inserted as the 7th Schedule into the Planning and Development Act, 2000), namely:

“An installation for the disposal, treatment or recovery of waste with a capacity for an annual intake greater than 100,000 tonnes”.

As provided for under Section 37B of the Planning and Development Act 2000, as amended, Bord na Móna (the applicant) therefore entered into discussions and consultations with An Bord Pleanála in relation to the proposed development (Case Ref. ABP-312446-22). A meeting was held with An Bord Pleanála on the 16th of March 2022, with subsequent meetings on the 5th July 2022 and the 8th of December 2022. A Board Direction issued on 11th May 2023, where it was decided that the proposed development constituted strategic infrastructure, it being a class

of development that comes within the scope of the 7th Schedule and would, if carried out, fall within the following paragraphs of Section 37A(2) of the Act:

- a) the development would be of strategic economic or social importance to the State or the region in which it would be situate;
- b) the development would contribute substantially to the fulfilment of any of the objectives in the National Planning Framework or in any regional spatial and economic strategy in force in respect of the area or areas in which it would be situate;
- c) the development would have a significant effect on the area of more than one planning authority.

Please note that a copy of this notice from the Board dated 11th May 2022, in this regard, has been enclosed within Appendix 1-1..

Following the issuing of this notice by the Board under Section 37B(4)(a) of the 2000 Act, as amended, and in accordance with the provisions of Section 37E of the Planning & Development Act 2000, as amended, Bord na Móna is now making this application for the proposed development directly to An Bord Pleanála.

The proposed development is subject to EIA and to the requirements inter alia set out in the following legislative provisions:

- Part X of the Planning and Development Act 2000, as amended; and
- The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.

An Appropriate Assessment Screening Report (AASR), and NIS has also been prepared for the proposed development. The purpose of the NIS is to inform the planning authority in its undertaking of an AA of the proposed development, as required under Article 6(3) of the Habitats Directive (92/43/EC). An AA is required of the implications for the European site concerned of any plan or project not directly connected with or necessary to the management of that site but likely to have a significant effect thereon, either individually or in combination with any other plans or projects prior to its approval, and to take into account the cumulative effects which result from the combination of that plan or project with other plans or projects (in-combination effects) in view of the European site's conservation objectives. The AASR, which is accompanied by an NIS, is provided separately with the planning application. The Water Framework Directive (WFD) is addressed in Chapter 8 of this EIAR (Water).

The following EIA Guidelines have been taken into consideration in the preparation of this EIAR: Department of Housing, Planning and Local Government (DoHPLG), Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018);

- European Commission (EC), Guidance on Scoping (2017);
- European Commission (EC), Guidance on Screening (2017);
- EPA, Advice Notes on Current Practice in the Preparation of Environmental Impact Statements (2003);
- EPA, Draft Advice Notes on Preparing Environmental Impact Statements (September 2015); and,
- EPA, Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (May 2022).

In the context of waste infrastructure development, the following guideline documents, legislation and plans have been consulted:

- The Waste Framework Directive (2008/98/EC);
- The Landfill Directive (Council Directive 1999/31/EC);
- Ireland 2040 - Our Plan (National Planning Framework) [2018];
- National Development Plan 2018-2027;
- National Spatial Strategy;
- Planning Policy Statement;
- Waste Action Plan for a Circular Economy;
- Pending National Waste Management Plan for a Circular Economy;
- Climate Action Plan (2021 and 2023)
- Commission notice regarding application of the Environmental Impact Assessment Directive to changes and extension of projects (2021);
- Planning and Development Regulations 2001 as amended;
- Environmental Protection Agency Act (1992).

1.5.1 Information to be Contained in an EIAR

The minimum information that must be contained in an EIAR is set out in Part X of the Planning and Development Act, 2000, as amended, and Schedule 6 of the Planning and Development Regulations, 2001, as amended. They are also set out in the European Union Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (the 'EIA Directive') as amended by Directive 2014/52/EU. Article 5(1) of the Directive states:

The information to be provided by the developer shall include at least:

- a) a description of the project comprising information on the site, design, size and other relevant features of the project;*
- b) a description of the likely significant effects of the project on the environment;*
- c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;*
- d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;*
- e) a non-technical summary of the information referred to in points (a) to (d); and*
- f) any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected*

The structure and content of this EIAR fully complies with these legislative requirements. This EIAR has also been prepared in accordance with the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, published by the EPA in May 2022 as well as the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment published by the DoHPLG in August 2018 and all others listed in Section 1.5 above.

This EIAR contains information on the scale and nature of the proposed development, a description of the existing environment, impact assessment of the proposed development, mitigation measures to reduce or negate potential effects on the receiving environment and residual effects (if relevant).

This EIAR is arranged in four volumes, as follows:

- Volume I: Non-Technical Summary (NTS);
- Volume II: Main Environmental Impact Assessment Report;
- Volume III: Appendices; and
- Volume IV: Photomontages.

Volume I: Non-Technical Summary

This document provides an overview and summary of the EIAR using non-technical terminology. It is a standalone document and is intended to offer a clear and concise summary of the existing environment, characteristics of the development and mitigation measures for the development.

Volume II: Environmental Impact Assessment Report

To allow for ease of presentation and consistency when considering the various elements of the environment, a systematic structure will be adopted for the main body EIAR. This structure is known as a 'Grouped Format'. The structure is used for each particular environmental aspect, as provided below.

Chapter 1 – Introduction: this chapter of the EIAR provides an introduction and a brief background to the project and the legislative requirements under which the document is prepared. It describes the EIA consultation and scoping procedures, the structure of the EIAR, the study team and contributors to the EIAR.

Chapter 2 – Description of the Proposed Development: provides a detailed description of the proposed development, which includes details of the site layout and infrastructure. It details the construction procedures and the materials required, the operational and maintenance phases, in addition to the decommissioning and rehabilitation procedures. The chapter also sets out a description of the existing site infrastructure.

Chapter 3 – Reasonable Alternatives: provides a description of the reasonable alternatives, in terms of project design, technology, location, size and scale, which were considered by the Applicant and the Project Team in the preparation of the EIAR, along with providing the main reasons why the selected option was chosen and a comparison of the environmental effects.

Chapter 4 – Policy, Planning and Development Context: considers the proposed development works in terms of legislative context and in relation to strategic, national, regional and local planning policies and objectives, in order to ascertain whether it is consistent with the relevant legislation and with the proper planning and sustainable development of the area.

The remaining chapters in the EIAR are as follows:

- Chapter 5: Population and Human Health
- Chapter 6: Biodiversity
- Chapter 7: Soils Geology and Hydrogeology
- Chapter 8: Water
- Chapter 9: Material Assets
- Chapter 10: Noise and Vibration
- Chapter 11: Landscape and Visual

- Chapter 12: Air Quality & Climate
- Chapter 13: Cultural Heritage
- Chapter 14: Traffic and Transport
- Chapter 15: Interactions of the Foregoing
- Chapter 16: Schedule of Mitigation Measures

Each of the chapters (Chapters 5 – 16) provide an examination of specific environmental aspects and use the following standard approach and headings:

Introduction – this section specifies the content and background of the subsequent assessment.

Methodology – this section describes the study methodology employed in carrying out the assessment.

Existing Environment – this section provides a description of the existing environment (without the proposed development) into which the proposed development will be located, specifically in the context of the relevant environmental aspects under consideration. This section will also identify any other proposed developments (with decisions pending from the relevant planning authority) or existing and approved projects in the vicinity which are relevant to the assessment.

Potential Effects – this section provides a description of the direct, indirect, and cumulative effects, which the proposed development may have on the environment. This is carried out with reference to the existing environment and characteristics of the proposed development, while also referring to the magnitude, duration, consequences, and significance of the proposed development during the construction, operational and decommissioning phases. This includes a do-nothing scenario.

Mitigation Measures – this section includes a description of any remedial, or mitigation measures that are either practicable or reasonable having regard to the potential effects. It will also outline, where relevant, monitoring proposals to be carried out should consent be granted in order to demonstrate that the project in practice conforms to the predictions made. The monitoring can include remedial actions to be taken, as well as responsible parties.

Residual Effects – this section describes the degree of environmental impact (direct, indirect, and cumulative) that will occur after the proposed mitigation measures have been put in place.

Volume III: Appendices

Supporting documentation and references, referred to in the Main EIAR (Volume II) are included in this volume (with the exception of photomontages).

Volume IV: Photomontages

This volume consists of a set of photomontages identifying the visibility from a variety of locations towards the Drehid WMF site as described in Chapter 11 (Landscape and Visual).

1.5.2 Description Of Likely Significant Effects

As per the Guidelines on the Information to be contained in Environmental Impact Assessment Reports (May 2022), the main purpose of an EIAR is to identify, describe and present an assessment of the likely significant impacts of a project on the environment. The description of the likely significant effects on the environmental factors 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 project.

Annex III of the amended EIA Directive uses the following criteria to consider such impacts:

- the magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected);
- the nature of the impact;
- the transboundary nature of the impact;
- the intensity and complexity of the impact;
- the probability of the impact;
- the expected onset, duration, frequency, and reversibility of the impact;
- the cumulation of the impact with the impact of other existing and/or approved projects; and
- the possibility of effectively reducing the impact.

The classification and description of effects in this EIAR follows the terms provided in Table 3.4 of the 2022 EPA Guidelines and are duplicated in Table 1-1 below for reference. As per the Guidelines, the terms listed in Table 1-1 can be used to consistently describe specific effects, but all categories of terms do not need to be used for every effect.

The use of standardised terms for the classification of effects ensures that the EIAR employs a systematic approach, which can be replicated across all disciplines covered in the EIAR. The consistent application of terminology throughout the EIAR facilitates the assessment of the proposed development on the receiving environment.

Table 1-1: Description of Effects (extract from EPA Guidelines (May 2022))

Quality of Effects It is important to inform the non-specialist reader whether an effect is positive, negative or neutral.'	Positive Effects A change which improves the quality of the environment (for example, by increasing species diversity; or the improving 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).
Describing the Significance of Effects 'Significance' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful (also see <i>Determining Significance</i>).	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 baseline 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 alters most of a sensitive aspect of the environment.
	Profound Effects An effect which obliterates sensitive characteristics.
Describing the Extent and Context of Effects Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced.	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?)
Describing the Probability of Effects Descriptions of effects should establish how likely it is that the predicted effects will occur – so that the CA can take a view of the balance of risk over advantage when making a decision.	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.
Describing the Duration and Frequency of Effects 'Duration' is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful.	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 will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)
Describing the Types of Effects	Indirect Effects (a.k.a. Secondary or Off-site Effects) Impacts 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 effect is of greater significance than the sum of its constituents, (e.g. combination of SO _x and NO _x to produce smog).

1.5.3 EPA Licencing

The Drehid WMF operates subject to an IED licence, issued by the EPA, (W0201-03) and subject to the planning approval for the facility. An application for a review of the IED Licence for the Drehid WMF is also being made to the Environmental Protection Agency (EPA). The EPA licencing process is separate to the planning/EIA process, although the supporting documentation required for each is quite similar and the applications will be submitted at different times, with the former being submitted after the latter.

The legislation provides that the planning authorities cannot impose emission limits on operational emissions, but the planning authorities must consider the environmental effects of the proposed emissions in granting permission. This is set out as follows in section 99F(1) of the EPA Act that where an industrial emissions licence will be required in relation to an activity, *An Bord Pleanála shall not, where it decides to grant a permission... in respect of any development comprising or for the purposes of the activity, subject the permission to conditions which are for the purposes of:*

- a) controlling emissions from the operation of the activity, including the prevention, elimination, limitation, abatement, or reduction of those emissions, or*
- b) controlling emissions related to or following the cessation of the operation of the activity.*

Section 99F (2) states that where a licence is or will be required in relation to an activity, An Bord Pleanála may, in respect of any development comprising or for the purposes of the activity, decide to refuse a grant of permission... *where the authority or An Bord Pleanála considers that the development, notwithstanding the licensing of the activity..., is unacceptable on environmental grounds or on the grounds of adverse effects on the integrity of a European site... having regard to the proper planning and sustainable development of the area in which the development is or will be situate."*

1.6 STUDY TEAM AND CONTRIBUTORS TO THE EIAR

TOBIN Consulting Engineers have been engaged by the developer to coordinate and prepare this EIAR for the additional capacity at the Drehid WMF and to submit it to An Bord Pleanála as part of the planning application for statutory consent. The relevant inputs of the various contributors and competent experts of the Project Team are provided in Tables 1-2 and 1-3.

Table 1-2: List of Company Contributors to the EIAR

Company	Name	Contribution to the EIAR
TOBIN Consulting Engineers	(EIAR Chapter number for which primary author) Damien Grehan Dr. John Staunton (1, 3, 5, 9, 15, 16) Robert Hunt (2) Siobhán Tinnelly Louise Byrne (4) Gael Gibson John Dillon Michael Nolan Samuele Pezzetta Maria Rooney (14) Áine Sands (6) Joao Martins Sinead O Reilly Patrick Fanning	Project Direction and Management, Scoping and Consultation, Co-Ordination, Preparation of Figures, and the following Chapters: Introduction Description of the Proposed Development Reasonable Alternatives Policy, Planning and Development Context Population and Human Health Biodiversity Flora & Fauna / Appropriate Assessment Screening and Natura Impact Statement Land, Soils and Geology (minor contribution) Hydrology and Hydrogeology (minor contribution) Material Assets Traffic and Transport Interactions of the Foregoing Schedule of Mitigation Measures TOBIN has also prepared the planning application and planning drawings
AWN Consulting	Jennifer Harmon (10) Dr. Avril Challoner (12)	Noise and Vibration Air Quality & Climate (including Odour)
Macroworks	Rory Curtis (11) Richard Barker	Landscape and Visual Impact
VESI Environmental Ltd.	Dr. Caolan Harrington Aila Carty	ICW Design
Through Time Ltd.	Martin Fitzpatrick (13)	Cultural Heritage
Malone Group Ltd.	Caoimhin O Luíng Garrick Brennan	Mechanical & Electrical Design
Independent Consultant	Dr. Martin Hogan (5)	Human Health
CDM Smith	Colin Fitzgerald Henning Moe (7, 8)	Land, Soils and Geology (main authors) Hydrology and Hydrogeology (main authors)
Trafficwise Ltd.	Julian Keenan	Traffic & Transport (Specialist advice / overview)
Ciaran Reilly & Associates	Dr Ciaran Reilly	Peat Stability Risk Assessment

Table 1-3: List of Competent Experts Contributing to the EIAR

Company/Individual	Competent Experts	Qualifications	No. of Years' Experience
TOBIN Consulting Engineers	Damien Grehan	Honours Degree in Engineering (1992), University College Dublin (UCD) Masters' Degree in Engineering Science (1994), UCD Chartered Engineer	27
TOBIN Consulting Engineers	Dr John Staunton	BSc. in Environmental Science, National University of Ireland Galway (NUIG) PhD. Environmental Science, NUIG	14
TOBIN Consulting Engineers	Robert Hunt	BEng (Hons) in Civil Engineering, University of Dundee MSc. in Environmental Engineering, QUB Associate Certificate in Environmental Management Chartered Engineer	13
TOBIN Consulting Engineers	Siobhán Tinnelly	Postgraduate Diploma in Management, Irish Management Institute (IMI), 2017 MSc. Applied Hydrogeology, University of Newcastle-upon-Tyne, 2013 Post Graduate Diploma in Environmental Engineering, Trinity College Dublin, 2004 B.A. (Mod) Natural Sciences (Env. Science), Trinity College Dublin, 1996-2000 Professional Geologist, P.Geo. Institute of Geologists of Ireland (IGI)	22
TOBIN Consulting Engineers	Louise Byrne	BA Hons International Geography & German (2004) UCD Masters in Regional & Urban Planning (MRUP) (2006), UCD Chartered Member of Royal Town Planning Institute (2010) PG Certificate GIS (2016), University of Leeds	8
TOBIN Consulting Engineers	Gael Gibson	Master in Town and Regional Planning (2008), UWE, Bristol Certificate in Strategic Environmental Assessment (2016), Oxford Brookes University Licentiate Member of the Royal Town Planning Institute Corporate Member of the Irish Planning Institute	22
TOBIN Consulting Engineers	John Dillon	BSc. Environmental Science (2000), NUIG MSc. and Diploma in Environmental Engineering (2003), Imperial College London Chartered Engineer, MCIWM Professional Geologist (PGeo) Member of the International Association of Hydrogeologists (Irish Group)	18
TOBIN Consulting Engineers	Michael Nolan	City & Guilds in Computer Aided Design (2001), Griffith College Dublin	18
TOBIN Consulting Engineers	Samuele Pezzetta	MSc. Environmental Science and Geohazards (2019), UPEM, MARNE-LA-VALLE (Paris)	3
TOBIN Consulting Engineers	Maria Rooney	BEng (Hons) Civil Engineering (2013), IT Carlow BEng (Ord.) Civil Engineering (2010), Dundalk Institute of Technology (DKIT) MIEI Member of Engineers Ireland	6

TOBIN Consulting Engineers	Áine Sands	BSc. In Applied Ecology (2013), UCC	7
TOBIN Consulting Engineers	Joao Martins	B.E. (Hons.) Environmental and Natural Resources Engineering (2007), Universidade de Trás-os-Montes e Alto Douro (UTAD) M.Sc. Environmental Engineering/Freshwater Ecology (2009), UTAD	15
TOBIN Consulting Engineers	Sinead O Reilly	Hons. BSc. in Science (2008), UCD Res. MSc. in Science (2015), University of Glasgow	15
TOBIN Consulting Engineers	Patrick Fanning	BTech in Civil Engineering (2011), TUD BEng in Civil Engineering (2013), TUD	10
Macroworks	Rory Curtis	BEng BA GDip LA MILI Landscape Architect	9
Macroworks	Richard Barker	PG Diploma in Forestry (1996) BA in Environmental Studies (1995) Master's Degree in Landscape Architecture (2003) Corporate Member of the Irish Landscape Institute	23
AWN Consulting	Dr. Avril Challoner	BE Environmental Engineering (2009) NUIG Diploma Statistics (2010) Trinity College Dublin PhD (2012) Trinity College Dublin Chartered Environmentalist (CEnv) Chartered Scientist (CSci) Member of the Institution Environmental Management and Assessment (MIEMA) Member of the Institution of Environmental Sciences (IES) Member of the Institute of Air Quality Management (IAQM)	13
AWN Consulting	Jennifer Harmon	BSc Hons Environmental Science (1999) Uni of Ulster Dip. Acoustics and Noise Control (2001) Institute of Acoustics Member of Institute of Acoustics (MIOA)	22
VESI Environmental Ltd.	Dr. Caolan Harrington	BSc. in Science (Zoology, 2005), UCD. PhD. in Environmental Engineering (2013), University of Edinburgh. Professional Wetland Scientist (PWS).	23
VESI Environmental Ltd.	Aila Carty	BSc. in Environmental Science (2005) Open University HDip EIA Mgmt (2007) UCD	20
Through Time Ltd.	Martin Fitzpatrick	Bachelor of Arts Archaeology and History 1989 NUIG Master of Arts in Archaeology (Research) 1995 NUIG Member IAI (Institute of Archaeologists of Ireland)	25
Malone Group Ltd.	Garrick Brennan	BEng Tech in Electrical Services C&G Electronics 224 Qualified Electrician Member of Institute of Engineers Ireland	24
Malone Group Ltd.	Caoimhin O Luing	BEng Mechanical Engineering Chartered Engineer Member of Institute of Engineers Ireland	16

Independent Consultant	Dr. Martin Hogan	MB BAO BCh UCC 1987 MFOM (Membership of the Faculty of Occupational Medicine) RCPI 1993 FFOM (Fellowship of the Faculty of Occupational Medicine) RCPI 1999 FRCPI (Fellowship of the Royal College of Physicians of Ireland) 2006	35
CDM Smith	Colin Fitzgerald	B.Sc. Geology (2011), University College Cork Diploma Environmental Engineering (2019), Trinity College Dublin Professional Geologist (PGeo), European Geologist (EurGeol)	11
CDM Smith	Henning Moe	B.Sc. Geology (1986), University College London M. Sc. Hydrogeology (1989), University College London Professional Geologist (PGeo), European Geologist (EurGeol)	34
Trafficwise Ltd.	Julian Keenan	Degree Civil Engineering BE (Hons) University College Galway (1990) BTech Highways & Transportation Engineering Diploma Quality Assurance to BS5950 MIEI, MCHIT	30
Ciaran Reilly & Associates	Dr Ciaran Reilly	BEng in Civil, Structural and Environmental Engineering, NUIG	16

1.7 SCOPING AND CONSULTATION

The EIAR Scoping and consultation activities were carried out in accordance with all relevant guidance documents as set out in Section 1.5.

Scoping is a process of deciding what information should be contained in an EIAR and what methods should be used to gather and assess that information. The purpose of scoping for the EIAR is to provide a framework for the approach to be taken by the individual specialists in carrying out their evaluations, identifying environmental aspects for which potential significant environmental impacts may arise. It also provides a framework for the consultation process and sets out the intended structure of the Final EIAR.

1.7.1 Consultation With An Bord Pleanála

The first pre-application consultation meeting was held with An Bord Pleanála via web conference on the 16th March 2022, with the second held on 5th July 2022, and a third on the 8th December 2022. The purpose of the first meeting was to introduce the proposed development to the Board, while the two subsequent meetings were to update the board on the proposed development and to provide the Board with the necessary information to enable it to decide on the strategic infrastructure development status of the project. The meetings were attended by Bord na Móna, TOBIN, Trafficwise and CDM Smith representatives.

The Board confirmed in a letter on 11th May 2022 that the proposed development constitutes strategic infrastructure development and that a planning application should be made directly to the Board.

1.7.2 Consultation With Statutory And Non-Statutory Bodies

An EIAR Scoping Report was prepared and electronically submitted to relevant statutory and non-statutory bodies in February 2022 for review and comment. The EIAR Scoping Report was accompanied by a cover letter introducing the proposed development and inviting comments or observations within a period of six weeks from the date of the letter. A copy of the Scoping Report, with a standard cover letter is provided in Appendix 1-2 and all responses received from consultees are provided in Appendix 1-3.

The list of consultees and (summary) record of consultation is provided in Table 1-4.

Table 1-4: List of Consultees Responses Received During EIA

<i>Consultee</i>	<i>Summary of Consultee Response</i>
An Taisce, The National Trust for Ireland	No response
Bat Conservation Ireland	Provided a response to say they do not have time to look in detail at the proposed development.
BirdWatch Ireland	No response
Commission for Regulation of Utilities	No response
Connaught-Ulster Waste Region	See “Eastern Midlands Waste Region” response
Coras Iompair Eireann (CIE)	No response
Department of Agriculture, Food and Marine	This response was received via the EPA. If any trees are to be removed, then a felling license is required. Further information relating to felling licenses was provided. They also note that all effects on the environment are to be assessed.
Department of Defence	No response
Department of Housing, Local Government and Heritage	No response
Department of the Environment, Climate and Communications,	No response
Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media	Response received with suggested email address for Development Application Unit (DAU) which they said may be more appropriate. All Heritage functions previously held by the Department of Culture, Heritage and the Gaeltacht now fall

<i>Consultee</i>	<i>Summary of Consultee Response</i>
	within the remit of the Department of Housing, Local Government and Heritage. The DAU should be contacted there.
Department of Transport	No response
Development Applications Unit	No response
Eastern and Midlands Regional Assembly	No response
Eastern Midlands Waste Region	A meeting was held on the 5th October with representatives of a number of Regional Waste Management Planning Offices (RWMPO). At this meeting the proposed development was presented by the project team to request feedback. They requested that 10% of the final project (available disposal volume) should be treated as a reserve, only to be used in exceptional circumstances where it is requested by the EPA using an activation protocol. This reserve should be held annually. It was acknowledged by the representatives of the RWMPOs that there was a national urgent need for the proposed development, and this would likely be the only general landfill disposal site after the next decade. They confirmed that they now view the Drehid Waste Facility as nationally important infrastructure. Some short follow up exchanges were held with these RWMPOs to clarify their requirements around this contingency capacity and the process with which it would be utilised if required.
Environmental Protection Agency (EPA)	EPA first responded on 23rd Feb 2022 to ask that a formal scoping request form be completed. This was done and returned to EPA who subsequently consulted with Kildare CoCo and a number of consultees. Their response stated that that the scope and level of detail to be included in the EIAR should as a minimum: i. identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of a project on each of the factors listed in Article 3 of the EIA Directive; ii. address the matters raised in the responses received from the bodies detailed above; iii. identify the waste streams proposed to be accepted and the processes to be used in processing these wastes; iv. for waste activities to take place outdoors, specify measures to be taken to prevent contamination of rainwater and to ensure contaminated stormwater is not discharged into the environment; v. the extent of groundwater or soil pollution beneath the facility, if any, should be identified and characterised as

<i>Consultee</i>	<i>Summary of Consultee Response</i>
	should historic and past activities at the site of the facility; vi. if it is proposed that food, residual or other odour forming waste is to be accepted, specify the measures to be taken to prevent odorous emissions arising at the facility. If there is to be an emission to point to air, relevant parameters, including odour, should be modelled in accordance with EPA guidance to ensure there will no exceedance of air quality standards and odour threshold values; vii. have regard to the Guidelines on the information to be contained in Environmental Impact Statements, 2002, as appropriate. (Note: there are also Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports, 2017 available. The final version was released in May 2022); viii. have regard to the relevant topics contained in the EPA's Advice Notes on Current Practice (in the preparation of Environmental Impact Statements) September 2003; ix. satisfy the requirements of the EIA Directive. The responses from GSI, Kildare CoCo and the Department of Agriculture, Food and Marine were also included (discussed here under each body). A separate (to this scoping exercise) meeting was held with the EPA with respect to the licencing procedure for the project.
Fáilte Ireland	A response was received with a copy of their EIAR guidelines attached, which request be consulted.
Forest Service	No response
Geological Survey Ireland (GSI)	Response received via EPA's scoping exercise. GSI advised the project team to consult their database online, and suggested some datasets that may be relevant. Their records show no County Geological Sites in the vicinity of the proposed development. They advised us that the Johnstown Public Water Scheme has an outer source protection area adjacent to the proposed development, with information provided in relation to this. They requested a copy of any reports detailing site investigations should the proposed development go ahead.
Health and Safety Authority (HSA)	No response
Health Service Executive	No response
Heritage Council	No response

Consultee	Summary of Consultee Response
Inland Fisheries Ireland (IFI)	IFI noted the development is located in the Cushaling/Figile catchment, which is a tributary of the Barrow SAC system. They noted the key species of concern for the system. They also note that salmon spawning/recruitment occurs on the Figile, with salmon spawning also recorded on the Cushaling (Figile tributary during Winter 2021-2022) downstream of the Drehid site. IFI note that salmon spawning is impacted by work that was associated with commercial peat harvesting, and restoration of spawning recruitment throughout the river system is important. The Figile/Cushaling have potential to be important spawning grounds for the wider SAC. The submission notes that the Cushaline River flows through Bord na Móna properties around the Drehid Waste Facility site, and goes on to discuss improvements that should be made to the restoration plans for the wider peatlands owned by Bord na Mona (watercourse modifications, etc.). They highlight some unhelpful modifications that had previously been made to watercourses in the area by Bord na Móna, including realignment, deepening, widening, culverting and construction of silt ponds. IFI include a number of recommendations for improvements that could be made to watercourses and procedures within the wider Bord na Móna property. It was offered to IFI hold a meeting to discuss their concerns on site. This was held on the 10th January 2023 at the Drehid Waste Facility. At this meeting a Senior Fisheries Environmental Officer from IFI attended in person and walked around key locations on and around the site. This was followed by a meeting with the project team to discuss the project. The key concern from a fisheries viewpoint was the potential for impacts on downstream water quality. The project team provided an explanation of the treatment that would be used for surface water runoff before being discharged and the parameter values that would be achieved in the water leaving the site. The proposed disposal method for leachate was described. Potential ways to improve and monitor watercourses within and around the Drehid site (in surrounding lands owned by Bord na Móna) were also discussed, although this would be separate to the proposed development, and Bord na Móna have agreed to continue working with IFI on their plans going forward.
Irish Aviation Authority	No response
Irish Trails/Sport Ireland	No response
Irish Water	No response

<i>Consultee</i>	<i>Summary of Consultee Response</i>
Irish Wildlife Trust	Provided a response to say they do not have time to look in detail at the proposed development.
Kildare County Council	An acknowledgement of receipt was received in writing. Following a number of subsequent communications to arrange a meeting, one was held on 15th June 2022. In this meeting, the project team provided an overview of the existing facility, described the current proposal, also described a previous application that was refused planning permission and the differences between that and the current proposal. A number of concerns were noted by the council, mainly related to potential impacts on roads/traffic and hydrogeology/hydrology. The potential impacts on groundwater and the local rivers was noted to be a concern, particularly following the reasons for refusal for the previous application on the site. The project team described the key differences between the current and previous proposal and described the extensive site investigations that have been carried out since to inform a very robust assessment. Heritage concerns related mostly around the local historical bridges, while there were no significant concerns raised by the fire department in the county council. The staff of Kildare County Council did however note that there is a requirement to provide waste facilities in Ireland, including for waste disposal and processing, and that the Drehid facility was already well established. It was noted that the project roads/traffic team should meet with the council roads team to discuss the details for the project once the traffic modelling has been completed. Email correspondence was also received from the water services team within Kildare County Council who could not attend the meeting on the 16th June 2022. They noted an absence of public water supply infrastructure within the site of the Drehid WMF. They also provided some feedback relating to site drainage design. A second meeting was held with Kildare County Council staff (Kildare roads and planning team members) on the 17th November, 2022. At this meeting, the estimated proposed traffic volumes were discussed, along with the details and specific concerns relating to potential impacts on the road network. Kildare County Council staff acknowledged that the facility was required and were satisfied that the proposed traffic volumes would be in line with current volumes on site, and that the proposed haul routes were acceptable in principle. A third meeting was held between the Kildare County Council roads team and project team members to discuss additional details around the proposed material haul routes, including road condition and potential road safety concerns. All routes were reviewed and it was noted by the Kildare County Council

<i>Consultee</i>	<i>Summary of Consultee Response</i>
	members that all of the proposed routes should be included in the application and assessment, and that they were appropriate. A written response was also received from Kildare County Council via the EPA. It stated: The proposed plans should consider the Water Framework Directive, and show how it will not impact on water bodies in the area. They note the current status of the waterbodies are less than good, so they ask that potential impacts are assessed for these in particular. They advise that the proposed development accounts for reducing the amount of waste being produced rather than merely planning around dealing with the current waste. They note that Chapter 8 of the EIAR should address potential increases in ammonia discharging to the surface waters. Finally, they ask that Chapter 9 includes odour and dust assessments with recommendations.
Met Eireann	No response
Office of Public Works (OPW)	No response
Southern Waste Region	See “Eastern Midlands Waste Region” response
Sustainable Energy Authority of Ireland	No response
Teagasc	No response
The Arts Council	No response
Transport Infrastructure Ireland (TII)	No response
Waterways Ireland	Waterways Ireland have no concerns with the proposed development
Irish Peatland Conservation Council	No response
Irish Native Woodland Trust	No response
Irish Explosives	No response
Monaghan Mushrooms	No response

1.7.3 Public Consultation

A public information event was held from 5pm to 9pm on the 14th of July 2022 in Carbury GAA clubhouse lounge. The event was advertised in local media in advance of the day. At this event some of the key project team members were present to discuss any questions or concerns that members of the public had. A number of informational posters were presented to provide key information on the proposed development, and the EIAR process. The majority of concerns related to the potential traffic coming to and from the site, and the potential for dust, noise and odour coming from the proposed facility.

In addition to this in person public event, the Drehid Waste Facility (and Bord na Móna) have public contact details available on an ongoing basis, where members of the public can send in any comments or queries that they have.

1.8 COMMUNITY BENEFIT

The Drehid WMF has an ongoing Community Grant Scheme which provides funding to a number of local bodies and groups in the area surrounding the facility. See Appendix 1-4 for further information on how this operates. It is proposed that this scheme would continue through the operational life of the proposed development so that those living nearest to the facility would continue to benefit from its operation.

1.9 ASSUMPTIONS AND LIMITATIONS OF ASSESSMENT

Specific assumptions relevant to environmental aspects are set out in the corresponding EIAR Chapters. Some general assumptions that have been made during preparation of this EIAR are set out below:

In undertaking cumulative assessments, consented, but as yet un-built, developments have been assumed to have been built in accordance with and within the duration permitted by the associated grant of permission; and

Information provided by third parties, including publicly available information and databases, is correct at the time of publication.

Specific limitations relevant to certain environmental aspects are set out in the corresponding EIAR Chapter. Some general limitations associated with the preparation of this EIAR are set out below:

Baseline conditions and assessments are assumed to be accurate at the time of the physical surveys but may be subject to change, due to the nature of the surrounding environment and surrounding activities; and

The assessment of cumulative effects from built or consented developments is partially reliant on the availability of information provided by relevant third parties. Local Authority and An Bord Pleanála public planning registers were reviewed as part of the assessment process. None of the individual specialists have highlighted any limitations that are considered significant in terms of the undertaking of these specialist cumulative assessments.

The activities carried out in researching, surveying and preparing this EIAR were carried out, in the main, between November 2021 and February 2023. Varying levels of COVID-19 related restrictions and public health guidance may have partly coincided with the carrying out of some

surveys for this project, but there are no limitations associated with the content of this EIAR as a result of COVID-19 and the associated public health measures.

1.10 LIST OF PLANNING DRAWINGS

Table 1-5 provides a list of the drawings submitted with the planning application which are referenced throughout this EIAR.

Table 1-5: List of Planning Drawings

Drawing No.	Drawing Title
11290-2000	REGIONAL SITE LOCATION MAP
11290-2001	SITE LOCATION MAP - Sheet 1 of 2
11290-2002	SITE LOCATION MAP - Sheet 2 of 2
11290-2003	SITE LAYOUT PLAN
11290-2004	EXISTING SITE TOPOGRAPHY
11290-2005	SITE DRAINAGE LAYOUT
11290-2006	SITE FENCING LAYOUT
11290-2010	FACILITY MASTER PLAN
11290-2011	LANDFILL PHASING PLAN
11290-2012	LEACHATE COLLECTION SYSTEMS
11290-2013	LANDFILL GAS & LEACHATE RECIRCULATION LAYOUT
11290-2014	SURFACE WATER AND FOUL DRAINAGE MASTER PLAN
11290-2015	UTILITIES MASTER PLAN
11290-2016	DRAINAGE AND UTILITIES LAYOUT PLAN 1 of 9
11290-2017	DRAINAGE AND UTILITIES LAYOUT PLAN 2 of 9
11290-2018	DRAINAGE AND UTILITIES LAYOUT PLAN 3 of 9
11290-2019	DRAINAGE AND UTILITIES LAYOUT PLAN 4 of 9
11290-2020	DRAINAGE AND UTILITIES LAYOUT PLAN 5 of 9
11290-2021	DRAINAGE AND UTILITIES LAYOUT PLAN 6 of 9
11290-2022	DRAINAGE AND UTILITIES LAYOUT PLAN 7 of 9
11290-2023	DRAINAGE AND UTILITIES LAYOUT PLAN 8 of 9
11290-2024	DRAINAGE AND UTILITIES LAYOUT PLAN 9 of 9
11290-2028	UNDERCELL DRAINAGE SYSTEMS
11290-2030	CELL LAYOUT
11290-2031	PROPOSED LANDFILL - LONGITUDINAL SECTIONS
11290-2032	PROPOSED LANDFILL - CROSS SECTIONS
11290-2045	PROPOSED ROADS KEY PLAN
11290-2046	PROPOSED WASTE TRAFFIC LAY BY & NEW SITE EGRESS LANE
11290-2047	SIGNAGE AND ROAD MARKINGS
11290-2048	FOUL PUMP STATION DETAILS
11290-2049	SURFACE WATER PUMP STATION DETAILS
11290-2050	ATTENUATION LAGOONS PLAN AND SECTION
11290-2051	CARPARK AND ROAD CONSTRUCTION DETAILS
11290-2054	TRENCH BEDDING AND SWALE DETAILS
11290-2057	FENCING DETAILS
11290-2058	PROPOSED PIPE CONTROL DAM DETAILS
11290-2059	PRIMARY TREATMENT TANK AND OIL INTERCEPTOR DETAILS
11290-2060	EMBANKMENT & LINER DETAILS
11290-2061	GROUNDWATER PUMP STATION - DETAILS
11290-2062	LEACHATE HEADWALL - DETAILS
11290-2063	LANDFILL GAS MANAGEMENT & CAPPING DETAILS

11290-2064	INTEGRATED CONSTRUCTED WETLANDS - DETAILS
11290-2070	LANDFILL CAP FINAL RESTORATION LEVELS
11290-2071	LANDSCAPE PLAN
11290-2080	STRUCTURES GENERAL ARRANGEMENT
11290-2081	MSW PROCESSING & COMPOSTING BUILDING, NEW BIOFILTERS & PLANT CONTROL ROOM - PLAN
11290-2082	MSW PROCESSING & COMPOSTING BUILDING, NEW BIOFILTERS & PLANT CONTROL ROOM - ELEVATIONS & SECTION
11290-2083	MSW PROCESSING & COMPOSTING BUILDING, NEW BIOFILTERS & PLANT CONTROL ROOM - ELEVATIONS
11290-2085	SOIL & STONES AND C&D WASTE (Rubble) PROCESSING BUILDING & FUEL STORAGE AREA - PLAN, ELEVATIONS & SECTION
11290-2096	MAINTENANCE BUILDING PLAN
11290-2097	MAINTENANCE BUILDING SECTION AND ELEVATIONS