Appendix 1-2 – Scoping Document

TOBIN
CONSULTING ENGINEERS
BUILT ON KNOWLEDGE

Bord na Móna

PROPOSED FURTHER DEVELOPMENT AT DREHID WASTE MANAGEMENT FACILITY

Environmental Impact Assessment: Scoping Report

FURTHER WORKS AT DREHID WASTE FACILITY

EIAR SCOPING REPORT

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TOBIN Consulting Engineers

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1.0 INTRODUCTION

Bord na Móna Plc. (hereafter referred to as Bord na Móna) intends to develop further waste management capacity at Drehid Waste Facility, near Carbury, County Kildare and have commenced the process of Environmental Impact Assessment. It is proposed that the proposed development will be built within a site that extends to approximately 293 hectares (ha), all of which is owned by Bord na Móna. The landholding extends to approximately 2,543 ha at this location, and includes the existing Drehid landfill, a composting facility, offices, a permitted (now under construction) Mechanical Biological Treatment (MBT) facility and other associated infrastructure. The site location and current site outline are shown in Figure 1.1. below.

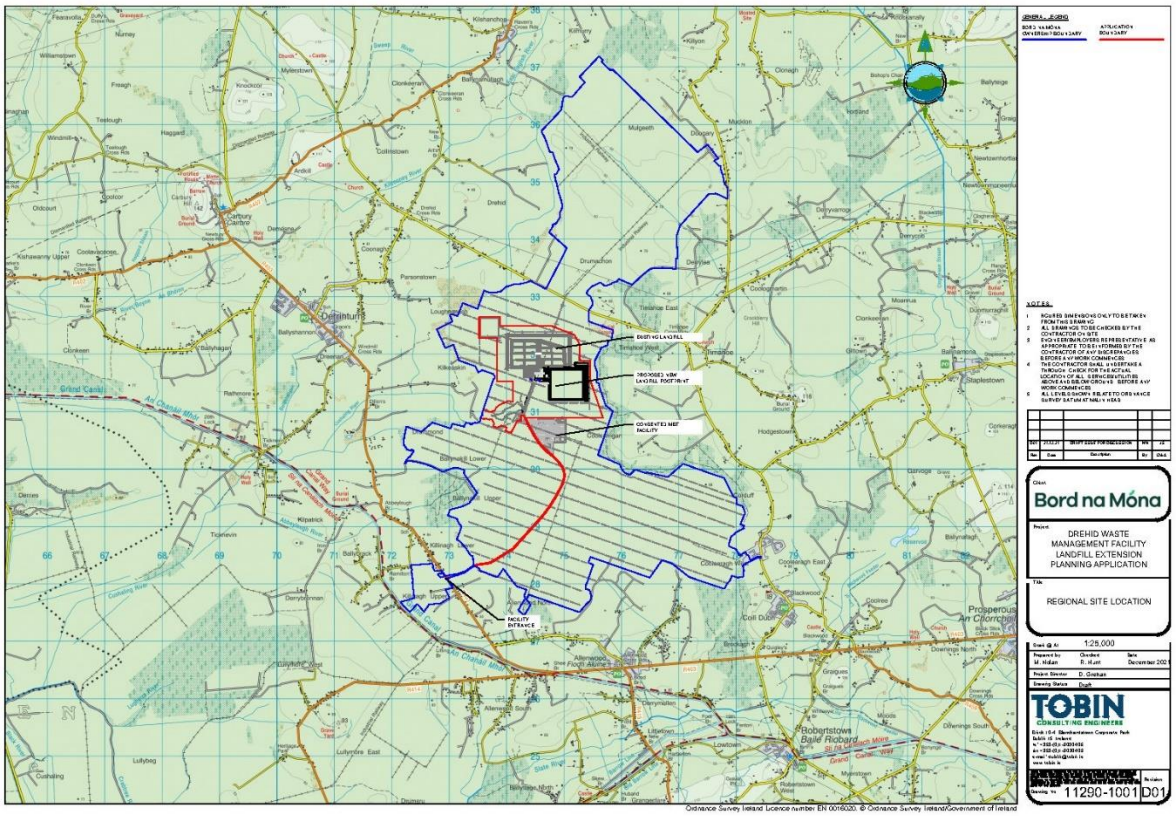

Figure 1.1 – Site Location Map

Note: The site boundary shown in Figure 1.1 is indicative only and is subject to change.

1.1 THE NEED FOR ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

Bord na Móna and TOBIN Consulting Engineers (hereafter referred to as TOBIN) consider that the proposed development is of a type of development that has the potential to have significant effects on the environment prior to the use of mitigation, due to the potential size, scale and

location of the proposed development. The waste facility will exceed the thresholds for completion of an Environmental Impact Assessment (EIA), as Planning and Development Regulations (S.I. No.600 of 2001), as amended, in Part 1 of Schedule 5, Class 10 and 11(b), as highlighted below:

> Schedule 5, Part 1: "*Class 10: Waste disposal installations for the incineration or chemical treatment as defined in Annex iiA to Directive 75/442/EEC under the heading D9, of non-hazardous waste with a capacity exceeding 100 tonnes per day".*
>
> Schedule 5, Part 2: "*Class 11(b) Installations for the disposal of waste with an annual intake greater than 25,000 tonnes not included in Part 1 of this Schedule".*

As such, it is not proposed to provide a report on the screening requirement for an EIA but to proceed on the basis of considering the potential effects of the waste facility through the process of Environmental Impact Assessment. Bord na Móna proposes to accompany the Planning Application for the waste facility with an Environmental Impact Assessment Report.

The European Commission's, "*Guidance on EIA Scoping*" (EU 2001) notes the following in Part A of the guidance,

"*EIA is a procedure required under the terms of European Union Directives 85/337/EEC and 97/11/EC on assessment of the effects of certain public and private projects on the environment. Article 2 of the Directive requires that*

> "*Member States shall adopt all measures necessary to ensure that, before consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects.*"

Article 8 then requires that

> *"The results of consultations and information gathered pursuant to (the EIA procedure) must be taken into consideration in the development consent procedure".*

In terms of legislative context, it is considered that the proposed development is subject to the requirements set out in the provisions of Part X of the Planning and Development Act 2000, as amended.

1.2 PURPOSE OF EIA SCOPING

The purpose of the scoping for the Environmental Impact Assessment is to provide a framework for the approach to be taken for the individual specialists evaluations, to identify environmental topics for which potential significant environmental impacts may arise, to provide a framework for the consultation process to take place with planning and environmental stakeholders as part of the environmental assessment work. The scoping report also sets out a structure for the preparation of the Environmental Impact Assessment Report (EIAR) to be prepared and the information required to be included therein.

The European Commission's, "*Guidance on EIA Scoping*" (EU 2001) notes the following in Part B of the guidance, as being the benefits of scoping:

- *"It helps ensure that the environmental information used for decision making provides a comprehensive picture of the important effects of the project, including issues of particular concern to affected groups and individuals;*
- *It helps focus resources on the important issues for decision-making and avoids wasted effort on issues of little relevance;*
- *It helps ensure that the environmental information provides a balanced view and is not burdened with irrelevant information;*
- *It stimulates early consultation between the developer and the competent authority, and with environmental authorities, other interested parties and the public, about the project and its environmental impacts;*
- *It helps effective planning, management and resourcing of the environmental studies;*
- *It should identify alternatives to the proposed project and mitigating measures which ought to be considered by the developer;*
- *It can identify other legislation or regulatory controls which may be relevant to the project and provide opportunities for the necessary assessment work for different control systems to be undertaken in parallel, thereby avoiding duplication of effort and costs for all concerned;*
- *It reduces the risk of delays caused by requests for further information after submission of the development consent application and the environmental information; and*
- *It reduces the risk of disagreement about impact assessment methods (baseline surveys, predictive methods and evaluation criteria) after submission of the environmental information.*

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 Waste Management Facility 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 potential of managed waste materials, where possible.

The Drehid Waste Management Facility (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.

Bord na Móna Recycling have started construction on a previously consented Mechanical Biological Treatment (MBT) Facility located adjacent to the existing Drehid WMF. This MBT Facility will primarily accept and process municipal solid waste with an overall capacity of 250,000 tonnes per annum. The MBT Facility through a combination of mechanical processing and biological treatment will extract recyclable materials such as metals, plastics, wood etc, produce a solid recovered fuel (SRF) for thermal applications such as power generation and also biologically stabilise the remaining residual material that is not suitable for recycling or recovery prior to disposal in the adjacent landfill

1.4 EIA TEAM

TOBIN have been engaged by Bord na Móna to coordinate the Environmental Impact Assessment and prepare the EIAR for the proposed development. The relevant specialists included in the Study Team, who are both experienced and competent in their areas of expertise, are noted here:

- TOBIN staff will provide expertise in relation to Project Direction, Project Management, EIAR Production and expertise in relation to the environmental evaluation of the following topics: Planning, Reasonable Alternatives, Biodiversity, Land, Soils & Geology including Slope Stability Assessment, Hydrology & Hydrogeology, Flood Risk Assessment, Traffic, Population, Human Health, and Material Assets Impact Assessment;
- CDM Smith – Geotechnical Site Investigations and EIAR Chapters, Land, Soils & Geology and Hydrology & Hydrogeology;
- Malone Group – Mechanical and Electrical Design input;
- Macro Works – Landscape & Visual Impact Consultants & Production of Photomontages;
- TrafficWise – Technical input, Traffic & Transport
- AWN Consultants – Noise & Vibration, Air Quality & Climate; and
- ThroughTime Archaeology – Cultural Heritage.

1.5 SCOPING REPORT STRUCTURE

Individual specialists will undertake their evaluations of the environment including evaluation under following topics:

- Reasonable Alternatives

- Policy, Planning and Development Context
- Population and Human Health
- Biodiversity
- Land, Soils and Geology
- Hydrology and Hydrogeology
- Air Quality and Climate Assessment
- Material Assets
- Noise and Vibration
- Landscape and Visual Impact Assessment
- Cultural Heritage
- Traffic and Transport
- Interaction of the Foregoing

1.6 PROJECT DESCRIPTION

The project comprises of a development which includes:

- changes to the volume and nature of wastes to be accepted at the landfill disposal facility;
- development of additional landfill capacity to provide for landfill of these waste streams for a period of twenty-five years;
- screening or processing of certain waste streams for recovery of engineering materials prior to landfill;
- increasing the volume of waste to be accepted at the composting facility and the removal of the restriction on the operating life of the composting facility contained in Condition 2(2) of ABP Ref No. PL.09.212059; and
- development of associated buildings, plant, infrastructure and landscaping.

1.7 SITE LOCATION

The overall facility is located within a landholding, which comprises approximately 2,543 ha. The landholding is located approximately 3 km north of Allenwood and 9 km south of Enfield. Access to the facility is by means of a 4.8 km long dedicated access road from the R403 regional road at Killinagh Upper (between Allenwood and Derrinturn). 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.

The site is quite flat (with the exception of the existing landfill facility), and is located at approximately 85m (between 80-90m) AOD. The surrounding landscape is also quite flat. The site is mostly covered in peatlands with scrub encroachment, while the wider area has a land use comprising mostly of peatland, forestry and pastoral grassland.

The site has a number of drainage ditches, with the Cushaling river located adjacent to the site. The nearest Natura 200 designated site is the Ballynafagh Lake SAC, located >5km to the southeast. Hodgestown bog NHA is the nearest national designated site, at >3.5km to the southeast. The Grand Canal pNHA is located approximately 900m southwest of the site entrance.

2.0 ENVIRONMENTAL IMPACT ASSESSMENT

2.1 PROJECT SUMMARY

In the case of a waste facility development, the final project which will be subject to a planning application will have gone through a number of iterations during the EIA, including changes to design proposals and infrastructure layouts.

It is proposed that the following EIA guidelines will be followed during the process:

- Guidelines on the Information to be contained in Environmental Impact Statements" (EPA, 2002);
- "Advice Notes on Current Practice in the Preparation of Environmental Impact Statements" (EPA, 2003);
- "Draft Guidelines on the Information to be contained in Environmental Impact Statements" (EPA, September 2015);
- "Draft Advice Notes on Preparing Environmental Impact Statements" (EPA, September 2015); and
- Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, August 2017).

A Screening for Appropriate Assessment (AA) and, a Natura Impact Statement (NIS) will be prepared for the proposed development. The purpose of the AA/NIS will be to inform An Bord Pleanála in its undertaking of an 'Appropriate Assessment' of the proposal, as required under Article 6(3) of the EU Habitats Directive (92/43/EC). This is an assessment of the potential for significant or adverse effects resulting from the project, both individually and in-combination with other activities, plans and projects, on European Site(s) as designated under the EU Habitats Directive and the conservation objectives for their qualifying species and habitats.

2.2 THE SCOPING PROCESS

This report will form the basis for the scoping process to be undertaken by Bord na Móna with the Planning Authority and the prescribed Statutory Bodies.

The scoping will allow all relevant planning and environmental stakeholders with the opportunity to provide information, data or additional guidance to facilitate the iteration of the design and EIA process, to determine what the main potential significant effects might be and what sub-topics the EIAR should focus upon.

2.3 BASELINE ASSESSMENT

Following an introduction to the EIAR, the following information will also be presented:

- Description of the Existing Environment – a detailed description of the existing environment to allow the baseline conditions at the development site to be understood and existing areas of sensitivity to be recorded (as per the EPA EIAR Guidelines).
- Description of the proposed development, including site layout and infrastructural details, construction procedures and the materials required and the operational and decommissioning phases.
- Consideration of Reasonable Alternatives – This provides a detailed assessment of alternatives considered in the selection of site location and site layout.

2.4 ASSESSMENT METHODOLOGY

In the case of each of the environmental topics, it is proposed that the following elements will be evaluated, and that the format of the EIAR will follow the standard methodology and be presented in accordance with the above-mentioned legislation and guidelines. Individual chapter topics are discussed further below in this section. The development is assessed and described within each environmental topic in terms of:

- **Introduction -** includes a background to the assessment and describes the study methodology employed in carrying out the assessment.
- **Existing Environment –** Describes and assesses the existing environment in the context of the relevant environmental categories. This section also takes account of any other proposed and existing developments in the vicinity.
- **Potential Effects** - Provides the description of the potential specific direct, indirect and cumulative effects, associated with the development. This is done with reference to the existing environment and characteristics of the proposed development, while also referring to the magnitude, duration, consequences and significance of the effect associated with the construction and operation and decommissioning of the development. This section also considers cumulative effects with other proposed or permitted developments.
- **Mitigation Measures** - 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.

- **Residual Impacts -** Provides the description and assessment of the predicted residual impact associated with the development on the surrounding environment.
- **Conclusion –** Provides a summary of the salient points of the assessment chapter.

2.5 ASSESSMENT OF EFFECTS

As stated in the "Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (EPA, August 2017), an assessment of the likely significant effects of a proposed development is a statutory requirement of the EIAR process. The criteria for the presentation of the characteristics of potential significant effects will be described with reference to the magnitude, spatial extent, nature, complexity, probability, duration, frequency, reversibility, cumulative effect and transboundary nature (if applicable) of the effect.

The classification and description of effects in the Further works at Drehid Waste Facility EIAR will follow the terms provided in Table 3.3 of the Draft EPA Guidelines (2017) referenced above (and duplicated in Table 2.1 below for information purposes).

According to the Guidelines, the relevant terms listed in the table below 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 will ensure 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 will facilitate the assessment of the proposed development on the receiving environment.

Table 2.1: Descriptions of Effects (as per Table 3.3 of the August 2017 Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports).

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 *Determining Significance* below.).	**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)

2.6 POTENTIAL MITIGATION

The strategies for identification of appropriate Mitigation Measures, as detailed in the EPA EIAR Draft Guidelines (2017), will be followed in the preparation of the proposed development EIAR.

There are four established strategies for effects mitigation - avoidance, prevention, reduction and remedy/offsetting. As noted above, following the iteration of the design and EIA process, and following implementation of any design mitigation, the description of any remedial, or mitigation measures that have been incorporated into the design will be included to offset or minimise identified potential adverse impacts.

In accordance with the guidelines, these measures can mitigate impacts:

- *By Avoidance*
  When no impact is caused (often through consideration of alternatives).
- *By Prevention*
  When a potential impact is prevented by a measure to avoid the possibility of the impact occurring.
- *By Reduction*
  When an impact is lessened.
- *By Remedy/Offsetting*
  When an adverse impact is resolved by a remedial action or balanced by a positive impact.

2.7 NON-TECHNICAL SUMMARY AND CONSTRUCTION ENVRIONMENTAL MANAGEMENT PLAN

The non-technical summary (NTS) provides an overview and summary of the main EIAR using non-technical language. It is a standalone document which presents a clear and concise summary of the existing environment, characteristics of the proposed development, a clear outline of the potential significant impacts/effects which could result from the proposed development and mitigation measures adopted into the design of the development to minimise impacts on the surrounding environment.

A standalone Construction Environmental Management Plan (CEMP) will also be prepared which will set out the details of proposed construction compounds, construction methodologies, environmental mitigation measures and proposed reinstatement measures. The CEMP will

incorporate the relevant construction phase mitigation measures which will have been integrated into the project, EIAR and AA.

3.0 REASONABLE ALTERNATIVES

As set out in the EIA Directive, the EIAR is required to provide a description of the reasonable alternatives studied by Bord na Móna , which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.

3.1 ALTERNATIVE SITES

In respect of consideration of alternative sites, the EIAR will set out the reasonable alternative sites available to Bord na Móna. Details on the assessments carried out to identify the proposed site location as appropriate for this project will be provided.

3.2 ALTERNATIVE DESIGN

In the context of alternative design (incorporating scale and size), this section of the EIAR will set out the processes and assessments that were followed to arrive at the proposed infrastructure layout and dimensions. This section will be informed by comprehensive site surveys and ground investigations.

3.3 ALTERNATIVE TECHNOLOGY/ ALTERNATIVE PROCESSES

The proposed waste facility development will support European and National policy in waste treatment. Alternative processes and technologies will be assessed in this section for the proposed development

4.0 POLICY, PLANNING AND DEVELOPMENT CONTEXT

Given the scale of the project, Bord na Móna will engage with An Bord Pleanála under the Strategic Infrastructure Development (SID) consultation process to determine the consenting route for the project.

Within the EIAR, the planning assessment will include a review of relevant European, national and local planning policy documentation, planning legislation, strategies and plans and set the local context of the project.

At an international and European level, this will include:

- The Waste Framework Directive (2008/98/EC); and
- The Landfill Directive (Council Directive 1999/31/EC).

At a national level this will include:

- 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

At a regional level, the assessment will consider any policies, including the Regional Spatial and Economic Strategy (RSES) and the Eastern-Midlands Waste Region, (EMWR) Waste Management Plan 2015 – 2021. In addition, at local level all relevant planning and waste managementpolicies included in the Kildare County Development Plan, 2017-2023.

5.0 POPULATION AND HUMAN HEALTH

5.1 INTRODUCTION

A review of the current census data will be completed. The existing local population will be described and the projected change in the population, if any, will be assessed. This section will address, in particular, the effects of the proposed development on nuisance and residential amenities in the surrounding area. Any impacts on recreational activities as a result of the waste facility will be discussed in this chapter. In addition, the positive economic impacts will be examined, as employment will be created during the construction an operational phase of the

waste facility. The Human Health assessment will be prepared in accordance with the relevant guidelines produced by the Environmental Protection Agency (EPA), as detailed in 5.4 below. Aspects examined in this section of the chapter will primarily relate to impacts from the waste facility on socio-economic activities, tourism and on local community health.

5.2 STUDY AREA

The study area for the "Population and Human Health" assessment will include County level data in relation to Electoral Divisions. In addition, the mapping in relation to residential receptors will include an area within 1km of the proposed waste facility site boundary.

5.3 SENSITIVE RECEPTORS

All properties in close proximity to the site boundary will be mapped as potential sensitive receptors. Properties will include residential dwellings, commercial properties, derelict buildings, agricultural buildings and pre-planning infrastructure (including houses submitted for planning permission). All properties will then be reviewed by ground-truthing and further desktop assessment (in the case of planning applications) to identify potential sensitive receptors in the vicinity of the development.

5.4 DESKTOP AND FIELD SURVEYS

The following information sources and references are of relevance in relation to the desktop study for the Population and Human Health assessment;

- EPA Guidelines - Information to be contained in Environmental Impact Assessment Reports, Draft August 2017 (EPA, 2017);
- Revised Guidelines on the Information to be contained in Environmental Impact Statements, Draft September 2015 (EPA, 2015);
- OSI mapping and Aerial Photography to identify land use and possible amenity sites;
- Kildare County Development Plan 2017-2023;
- Central Statistics Office (CSO) information;
- Fáilte Ireland Information in relation to tourism amenity in conjunction with websites of relevant tourism sites and amenities for the area;
- Health Impact Assessment Resource and Tool Compilation (US EPA, 2016);
- Health in Environmental Impact Assessment - A Primer for a Proportionate Approach (IEMA, 2017);

- Health Impact Assessment (Institute of Public Health Ireland, 2009);
- Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011);
- Air Quality Guidelines (WHO, 2005);
- British Standard (BS) 5228-1:2009+A1:2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 1: Noise;
- Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) (EPA, 2016); and
- WHO Environmental Noise Guidelines for the European Region 2018.

The Population and Human Health impact assessment evaluates the receiving environment/land use and includes analysis of local population patterns. The assessment also includes a review of appropriate demographic documentation and incorporates Census Reports and Electoral Division Information, Land use, Population, Employment and Planning Permissions.

There are separate health profiles available for all local authority areas. The most recent profile published for Kildare will be used to establish a community health profile for the proposed waste facility. The assessment of human health for the proposed development, in terms of health protection, will follow the approach set out in the EPA 2017 Guidelines, Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018) and in the Commission's SEA Implementation Guidance.

5.5 CUMULATIVE EFFECTS

The potential cumulative impact of the proposed waste facility with other relevant projects in the area on the local community and human health will also be addressed. This may include other waste facility developments, other renewable energy projects or any proposed project which could have the potential to have a cumulative impact.

6.0 BIODIVERSITY

6.1 INTRODUCTION

Potential impacts on biodiversity from the proposed waste facility project will be addressed in line with the requirements of the Environmental Impact Assessment Directive 2011/92/EU as amended by Directive 2014/52/EU, and the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296/2018), which implements EU Directive 2014/52/EU into planning law. Due regard will be had to published guidelines and best practice including:

- EPA (2017) (Draft) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, and
- CIEEM (2019) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal, and Marine. Version 1.1 – Updated September 2019.

Currently, the desk study and field surveys have begun, to gather information on the biodiversity of the study area and surrounds. This information will used to inform the detailed design of the proposed waste facility.

6.2 STUDY AREA

The study area is the site of the proposed waste facility and the surrounding environs. Where required, the study area has been expanded to take into account sensitive receptors that may occur within the zone of influence of the project. The zone of influence depends on the particular sensitivities of ecological receptors and pathways along which impacts may be transmitted.

6.3 SENSITIVE RECEPTORS

Any sensitive ecological receptors within the study area will be identified during desk studies and ecological surveys. There are no European site(s), i.e. Special Areas of Conservation (SAC) or Special Protection Areas (SPA), within the proposed project site. The nearest European site is Ballynafagh Lake SAC, located >5km to the southeast. Hodgestown Bog NHA is the nearest national designated site, at >3.5km to the southeast. The Grand Canal pNHA is located approximately 900m southwest of the site entrance. The qualifying interests of the Ballynafagh Lake SAC are:

- Alkaline fens [7230],
- *Vertigo moulinsiana* (Desmoulin's Whorl Snail) [1016], and

- *Euphydryas aurinia* (Marsh Fritillary) [1065].

6.4 DESKTOP STUDY AND FIELD SURVEY

6.4.1 DESKTOP STUDY

A detailed desktop study will be carried out. The primary data sources for the desktop study will include:

- National Biodiversity Data Centre (NBDC) records,
- National Parks and Wildlife Service (NPWS) rare and protected species records,
- National Hen Harrier survey data,
- Irish Wetland Bird Survey (I-WeBS) site coverage information and data,
- Bat Conservation Ireland (BCI) database records,
- Irish Cave Database,
- NPWS designated area boundary data,
- NPWS site-specific conservation objectives and site synopsis documents,
- National Survey of Native Woodland sites,
- National Fen Database,
- Environmental Protection Agency (EPA) water quality data,
- Environmental information/data from Envision Online Environmental Map Viewer,
- Inland Fisheries Ireland (IFI) – data requests/consultation, project survey data and IFI website, and
- Review of Ordnance Survey Ireland (OSi) mapping (www.osi.ie) and aerial photography (Google Maps, Bing Maps).

6.4.2 FIELD SURVEYS

The following field surveys will be carried out (with some already started):

- Habitat survey and mapping,
- Detailed botanical surveys at proposed infrastructure locations,
- Invasive species survey,
- Protected mammal survey,
- Aquatic survey,
- Bat surveys, and
- Targetted species surveys (as required).

Surveys will be carried out in accordance with best practice guidelines including, '*Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*' (NRA 2009). The need for additional survey work to address any information gaps will be reviewed on an ongoing basis.

6.5 CUMULATIVE EFFECTS

Cumulative effects with other developments, including but not limited to other adjacent waste facilities, will be assessed for all sensitive receptors. Interactions with other environmental disciplines, especially hydrology and climate, will also be assessed as set out in Section 15.

6.6 APPROPRIATE ASSESSMENT

An Appropriate Assessment (AA) Screening Report and Natura Impact Statement (NIS) will be prepared and submitted to assess whether or not the proposed project either alone and/or in-combination with other plans or projects, is likely to result in a significant effect on a European site(s).

The AA Screening will detail the examination of the potential effects of the proposed project (alone and/or in-combination) using the source-pathway-receptor model to identify what European sites, and which of their qualifying interests, special conservation interest species, or conservation objectives, may potentially be at risk. This is required to determine the zone of influence of the proposed project. This process will identify the likely effects upon European site(s) within the zone of influence as a result of the proposed project, either alone and/or in-combination with other projects or plans, and will consider whether these effects are likely to be significant. Mapping using Geographic Information Systems will be used to illustrate and guide the reader to the location of the project in relation to surrounding European sites.

Where significant effects are likely, uncertain or unknown at the screening stage, a second stage AA will be required and a NIS will be completed. This will consider any identified impacts as a result of the proposed project on the integrity of the European site, either alone or in-combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Where potential adverse effects are identified; mitigation of the potential impacts will be required, and detailed, to reduce the effects to an insignificant level.

In line with best practice, the AA Screening and NIS will be separate documents to the EIAR.

7.0 LAND, SOILS AND GEOLOGY

7.1 INTRODUCTION

The principal objectives of the Land, Soils and Geology Chapter of the EIAR will be to identify and mitigate potential issues of the proposed development to ensure that the impact on the environment is minimised.

A desk study shall be undertaken to acquire all available topographic, geological, geotechnical and hydrogeological data (including geotechnical and site stability data) for the proposed development site and surrounding area. The desk study will include a geotechnical risk assessment to identify and mitigate potential issues that may arise during the construction stage (including geohazard, geomorphology features). The land cover on the site is currently mostly peatlands with some areas covered in existing infrastructure associated with the waste facility.

Due regard will be had to all published guidelines and best practice including:

- EPA (2017) (Draft) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, and
- Institute of Geologists of Ireland (2013) Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements

7.2 STUDY AREA

The EIAR study area of this chapter will primarily focus on the project site boundary. In addition, the assessment will consider the lands adjacent to the site boundary, environs downstream of the site area to an appropriate extent.

7.3 SENSITIVE RECEPTORS

Sensitive receptors will be identified at the outset of the scoping process and prior to site investigation.

Sites designated for nature conservation within 15 km of the proposed development site, will be identified and any potential impacts will be assessed.

The GSI's Landslide Susceptibility Mapping will be used to assist in the identification of areas which are subject to landslides and is low.

7.4 DESKTOP AND FIELD SURVEY

A desk study shall be undertaken to acquire all available topographic, geological, geotechnical and hydrogeological data (including geotechnical and site stability data) for the proposed development site and surrounding area. The desk study will include a geotechnical risk assessment to identify and mitigate potential issues that may arise during the construction stage (including geomorphology features).

Consultations will be undertaken and feedback requested from a number of statutory bodies, including:

- The Geological Survey of Ireland (GSI). Well data will be sourced and information on proposed Natural Heritage Areas (pNHAs), County Geological Sites (CGS) and any recorded Landslide Events (from the historical landslide database) in the region of the study area will be requested;
- Irish Peatland Conservation Council;
- Inland Fisheries Ireland (IFI);
- The Environmental Protection Agency (EPA);
- The Local Authority (Kildare) Environment Officer; and
- Scoping of geotechnical aspects of the EIA for peat sites will be agreed in conjunction with the multidisciplinary team, including but not limited to Geotechnical Engineer, Hydrogeologist, Hydrologist, Ecologist and the requirements of any and all of the design team as necessary e.g. Engineering designers deciding on construction methodologies.

The evaluation will include:

- Desk study of soils, subsoils, bedrock, geological, groundwater vulnerability, groundwater resources maps and aerial photography;
- Geomorphology assessment and mapping will be undertaken of geomorphological features;
- Aquifer assessment, in terms of the underlying aquifer and shallow groundwater system within the peat;
- Impact assessment on water schemes/ water supplies within 2km radius;
- Surface water and groundwater interaction (if existent);
- Desk top assessment for the identification of potential karst features or landforms;

- Site Investigation works have been carried out during 2021 with further investigations proposed in 2022. The site investigation will provide detail on soils, geology, peat types and depths and potential requirements for water management and drainage.
- The nature and requirements of the potential peat management will be informed by the information from the site investigation, site surveys and visits and the evaluations undertaken by the multi-disciplinary team;
- Development of Geotechnical Risk register;
- Design of appropriate erosion and sediment control measures; development of erosion and sediment control procedures for implementation on site;
- Use of monitoring wells, piezometers and surface hydrometric structures where required;
- Use geotechnical site investigation data to inform the following:
    - Identify the depth of peat across the site & any required specialist peat parameters e.g. shear vane strength etc;
    - Construction methodology;
    - Earthworks and Material Balance calculations;
    - Peat Management Works;
    - Groundwater management, as required;
    - Drainage Design;
    - Overburden (Soils/Peat) Storage and management;
    - Temporary works design; and
- Geohazard Mapping & Risk Assessment, verifying landslide hazards and associated risk if identified; and
- Interpretation and reporting of all geological, hydrogeological & geotechnical data collected from preliminary site investigations, with reference to data within the Geotechnical & Soil Stability Report.

7.5 CUMULATIVE EFFECTS

Based on the site investigation findings and the likely impacts and risks that may be anticipated, and the potential cumulative effects that may arise, guidance will be provided towards the mitigation of these impacts and minimisation of the associated risks during construction, operation and decommissioning of the proposed waste facility.

8.0 HYDROLOGY AND HYDROGEOLOGY

8.1 INTRODUCTION

The principal objectives of the Hydrology and Hydrogeology Chapter of the EIAR will be to identify and mitigate potential issues of the proposed waste facility to ensure that the impact on surface water and groundwater is minimised.

Due regard will be had to all published guidelines and best practice including:

- EPA (2017) (Draft) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, and
- Institute of Geologists of Ireland (2013) Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements

8.2 STUDY AREA

The EIAR study area of the Hydrology and Hydrogeology assessment will extend outside the site boundary and include watercourses which will receive surface water from the proposed development site.

8.3 SENSITIVE RECEPTORS

All surface water from the proposed development will drain to the west to the Cushaling River, which is a tributary of the Figile River. The existing access road from the R403 to the Drehid Waste Management Facility passes through the sub-catchment of the Abbeylough River, which is also a tributary of the Figile River. The Figile River is a sub-catchment of the River Barrow.

8.4 DESKTOP AND FIELD SURVEYS

A desk study shall be undertaken to acquire all published hydrological data for the proposed development site and surrounding area, including flood data and surface water quality data.

Consultations will be carried out with a number of statutory bodies including:

- The Geological Survey of Ireland (GSI). Well data will be sourced and information on Natural Heritage Areas (NHAs), County Geological Sites (CGS) and any recorded Landslide Events (from the historical landslide database) in the region of the study area will be requested;
- The Local Authority Environment Officer;
- Inland Fisheries Ireland (IFI); and the

- Environmental Protection Agency (EPA).

8.5 HYDROLOGICAL ASSESSMENT

As part of the EIAR, CDM Smith and TOBIN will establish baseline/existing hydrological conditions, identify potential impacts and proposed appropriate mitigation measures. CDM Smith/TOBIN will also:

- Identify the existing surface water drainage characteristics of the site (including any natural or man-made drainage). A surface water feature survey/catchment assessment of the study area will be carried out to record all streams, rivers and lakes within the site boundary and surrounding area; and
- Any historical water quality for this area will be reviewed and existing EPA water quality data will also be examined as part of the study including any available data relating to the river catchments in this area. Where required, surface water samples will be collected in order to provide a baseline set of water quality results for the area. Biological assessments of the rivers will also be carried out, if required.

CDM Smith/TOBIN will also assess the potential for siltation as a result of the proposed waste facility, particularly during the construction phase and propose mitigation measures for associated pollution control. Any existing siltation management practices will be reviewed as part of this assessment.

8.6 WATER QUALITY ASSESSMENT

CDM Smith/TOBIN will complete the following as part of the EIAR:

- Conduct water sampling (surface water and groundwater where possible) in accordance with industry standards;
- Interpret and identify surface and groundwater linkages through specific water quality parameters;
- Establish baseline/existing conditions, identify potential impacts and propose appropriate mitigation measures.

8.7 FLOOD RISK ASSESSMENT

The OPW's National Flood Risk Assessment (PFRA) mapping and Flood Maps will be reviewed. From an initial look, areas of pluvial flooding were noted on the OPW Preliminary Flood Risk Assessment PFRA mapping, but no records of fluvial flooding were noted on the OPW /CFRAM

website for the proposed development site. Drainage improvement works have rectified the drainage on the proposed development site, and reduced the potential for surface water ponding.

Data on historical flooding is limited but records do not indicate that flooding occurs on the Cushaling River downstream of the site. The network of drainage ditches effectively drain the proposed development site and surrounding area.

The Flood Risk Assessment for this project will include the following works:

- Review of available information, planning guidelines and historical flooding records;
- Topographical survey of site, including survey of smaller water courses;
- Assessment of hydrometric data (water levels and flows) for adjacent water bodies; and
- Assessment to take cognisance of climate change and the 1 in 100 year to 1 in 1000-year flood events.

The Flood Risk Assessment will be completed for the overall site and detailed within the EIAR. This assessment shall include undertaking the following tasks:

1. A visual Inspection of site and watercourses by hydrologist;
2. Site Topographical Survey;
3. Site survey of watercourses for hydraulic modelling;
4. A review of existing information and planning guidelines;
5. An assessment of historical flooding;
6. Estimation of the 100 and 1000 MRFS (Mid-Range Future Scenario) design flood events at the proposed development site, as recommended by *'The Planning System and Flood Risk Management Guidelines'*(OPW, 2009). The hydrological assessment of the site may include:
    i. Statistical estimation of design flood flow from available hydrometric data;
    ii. Analysis of watercourses using the OPW's Flood Studies Update Portal; and
    iii. Estimation of design flood flow from catchment descriptors and rainfall.
7. Hydraulic Modelling, using HEC-RAS or similar, of watercourses for the 100- and 1000-year design flood events. Where possible, the model shall be calibrated against historical

and gauged flow data if available from the OPW and EPA hydrometric station network in the vicinity of the site;

8. Modelling and assessment of one flood risk solution proposed by the design team; and Floodplain Mapping for the 100 and 1000-year MRFS design flood events for the watercourses.

8.8 CUMULATIVE EFFECTS

Based on the evaluation findings and the likely impacts and risks that may be anticipated, and the potential cumulative effects that may arise, guidance will be provided towards the mitigation of these impacts and minimisation of the associated risks during construction of the proposed waste facility.

9.0 AIR QUALITY AND CLIMATE

9.1 INTRODUCTION

The purpose of the Air Quality and Climate assessment will be to assess the potential impacts of the proposed waste facility on the Climate and Air environments. The assessment will also consider the direct and indirect effects of the project on climate change in the context of the current and proposed land use. An assessment of potential odour impacts will also be included in this section.

9.2 SENSITIVE RECEPTORS

Measurement results from the nearest air monitoring stations will be reviewed and evaluated in order to assess the current environment in relation to sensitive (residential) receptors.

9.3 DESKTOP AND FIELD SURVEY

The climate assessment within the EIAR will consist of a general overview of the climate for the eastern region. Specific meteorological data for the site will be obtained from the nearest meteorological and synoptic stations (data from Met Éireann). This information will provide historical and existing baseline information for the regional climate in this area.

The potential effects that the proposed development may have on climate will also be discussed in this chapter.

This air quality assessment will include the findings of a desk-based air quality assessment using available data from the Environmental Protection Agency in consideration of the Air Quality Standards Regulations, 2002 (SI No. 271 of 2002) and the EU Air Framework Directive.

9.4 CUMULATIVE EFFECTS

The air quality and climate assessment will also consider the potential cumulative impacts of other developments in the area.

10.0 MATERIAL ASSETS

10.1 INTRODUCTION

This chapter will detail the material assets baseline environment of the proposed facility and identify the possibility of potential impacts occurring to these. Material assets include telecommunications, water supply, power, waste and aviation. Traffic and transport will be dealt with separately.

10.2 SENSITIVE RECEPTORS

As part of the study of potential impact to material assets, all identified stakeholders will be approached with project details and asked to revert with any potential impacts on their infrastructure.

10.3 DESKTOP AND FIELD SURVEY

This will include:

- Liaison with service providers as required to assess impacts and address any queries or issues should they arise; and
- Providing recommendations for pre and post construction monitoring.

10.4 CUMULATIVE EFFECTS

Consideration will be given to other waste facility developments and relevant infrastructure as part of this assessment.

11.0 NOISE AND VIBRATION

11.1 INTRODUCTION

The Noise and Vibration Chapter of the EIAR will assess the potential impacts of the proposed development on sensitive receptors in the surrounding environment during the construction, operational and decommissioning phases. The principal objectives of the Noise and Vibration assessment will be to specify appropriate limit values and mitigation measures to ensure that the impact on the noise sensitive receptors is minimised to an acceptable level.

11.2 STUDY AREA

This section of the Environmental Impact Assessment Report (EIAR) assesses the noise and vibration effects associated with the proposed development at the Waste Management Facility (WMF) at the Drehid site, Carbury (South Timahoe Bog), County Kildare.

When considering the potential effects from this development, the key sources will relate to the short term phase during the construction of any on-site buildings and landfill areas and the long term effects associated with the proposed development including on-site fixed and mobile sources, on-site vehicles and traffic along the surrounding roads.

Potential Noise Sensitive Locations (NSL's) will include residential dwellings, commercial properties, derelict buildings, and pre-construction infrastructure (including relevant properties with planning permission). All properties will then be reviewed by ground-truthing and/or further desktop assessment to identify potential sensitive receptors in the vicinity of the development.

11.3 METHODOLOGY

The study is proposed to be undertaken using the following methodology:

- A baseline noise survey will be undertaken at off-site noise sensitive locations to determine the existing noise climate associated with the current site activity;
- A review of annual noise monitoring surveys conducted as part of the existing licensed WMF will be undertaken to supplement the baseline surveys in order to characterise the baseline noise levels;

- A review of the relevant noise guidance will be conducted in order to set a range of acceptable noise and vibration criteria for the construction and operational phases of the proposed development;
- Predictive calculations will be performed to assess the potential effects associated with the construction and operation of the development at the most sensitive locations surrounding the development site,
- Cumulative effects associated with the existing WMF, the permitted Mechanical Biological Treatment (MBT) facility and the proposed development will be calculated in order to review the potential worst case operational noise levels at the site, and;
- A schedule of mitigation measures will be proposed to reduce, where necessary, any identified potential effects relating to noise and vibration from the proposed development.

11.4 CUMULATIVE EFFECTS

A cumulative assessment considering existing and permitted local developments will be undertaken.

12.0 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

12.1 INTRODUCTION

The purpose of this section of the Scoping Report is to describe the scope of work and methods to be applied in the identification and assessment of landscape and visual impacts associated with the proposed Further works at Drehid Waste Facility.

This chapter will describe the landscape and visual effects of the proposed development at the Drehid Waste Management Facility, County Kildare in accordance with the relevant Environment Protection Agency (EPA) Guidelines and general national and international best practice guidelines on the preparation of Landscape and Visual Impact Assessments. The following sources and guidelines will be used in the assessment:

- '*Guidelines on the Information to be contained in Environmental Impact Statements*', EPA, 2002;
- '*Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)*', EPA, 2003;
- Draft "*Guidelines on the Information to be contained in Environmental Impact Assessment Reports*", EPA, May 2017;
- *Guidelines for Landscape and Visual Impact Assessment (GLVIA)*, *Third Edition*, Landscape Institute and Institute of Environmental Management and Assessment (IEMA); 2013;
- '*Photography and Photomontage in Landscape and Visual Impact Assessment*', Landscape Institute Advice Note 01/2011;
- Kildare County Development Plan 2017-2023;
- National Parks and Wildlife Service (NPWS), http://www.npws.ie/;
- Irishtrails; http://www.irishtrails.ie/; and
- Ordnance Survey Ireland, 1:50,000 Discovery Mapping.

The draft EPA guidelines from May 2017 provide a general methodology and impact ratings for all types of specialist assessments. Best practice guidance, such as the "Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, 2013, Landscape Institute (UK) & IEMA" provide specific guidelines for landscape and visual impact assessments. Therefore, a combination of the draft EPA guidelines, the Landscape Institute guidelines and professional experience will inform the methodology for the assessment. The Landscape Institute guidelines require the assessment to identify, predict and evaluate the significance of potential effects to landscape characteristics and established views. The assessment will be based on an evaluation of the sensitivity to

change and the magnitude of change for each landscape or visual receptor. For clarity, and in accordance with best practice, the assessment of potential effects on landscape character and visual amenity, although closely related, will be undertaken separately.

12.2 STUDY AREA

A study area radius will be set from the centre of the proposed development for the assessment of landscape and visual effects. The extent of the study area will be based on initial findings during the desktop study and later during verification on site.

12.3 SENSITIVE RECEPTORS

Viewpoint selection will be carried out according to the current best practice standards and the following industry guidelines:

- Photography and Photomontage in Landscape and Visual Impact Assessment, Landscape Institute Advice Note 01/2011.

It is not feasible to produce photomontages from every possible viewpoint in the study area. Photomontages will be produced from key viewpoints, which are representative of the nature of visibility at various distances, from landscape designations and in various contexts.

12.4 SURVEY METHODS

12.4.1 DESKTOP AND FIELD SURVEY

The desktop study will comprise of the following:

- Review of relevant County Development Plans, particularly with regard to sensitive landscape and scenic view/route designations;
- Selection of potential Viewshed Reference Points (VRPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity

Fieldwork will consist of:

- Select a refined set of VRP's for assessment.
- Record a description of the landscape elements and characteristics within the Study Area generally and also within view from each VRP.

- Capture high quality base photography from which to prepare photomontages of the proposal.

12.5 IMPACT ASSESSMENT

The assessment of landscape effects involves establishing the landscape baseline. This includes consideration of the geographic location and landscape context of the proposed waste facility site as well as the essential landscape character and salient features of the wider Study Area and is discussed with respect to; landform and drainage and; vegetation and land use. The visual baseline is more population based, but still overlaps with elements of the landscape baseline. The visual baseline is discussed in relation to; centres of population and houses; transport routes and; public amenities and facilities. Once the baseline environment is established an assessment of the potential significant effects associated with the proposed development will be carried out. In accordance with the Guidelines for Landscape and Visual Impact Assessment (2013), the method for estimating the significance of landscape impacts and visual impacts is very similar. This is summarised in the diagram below.

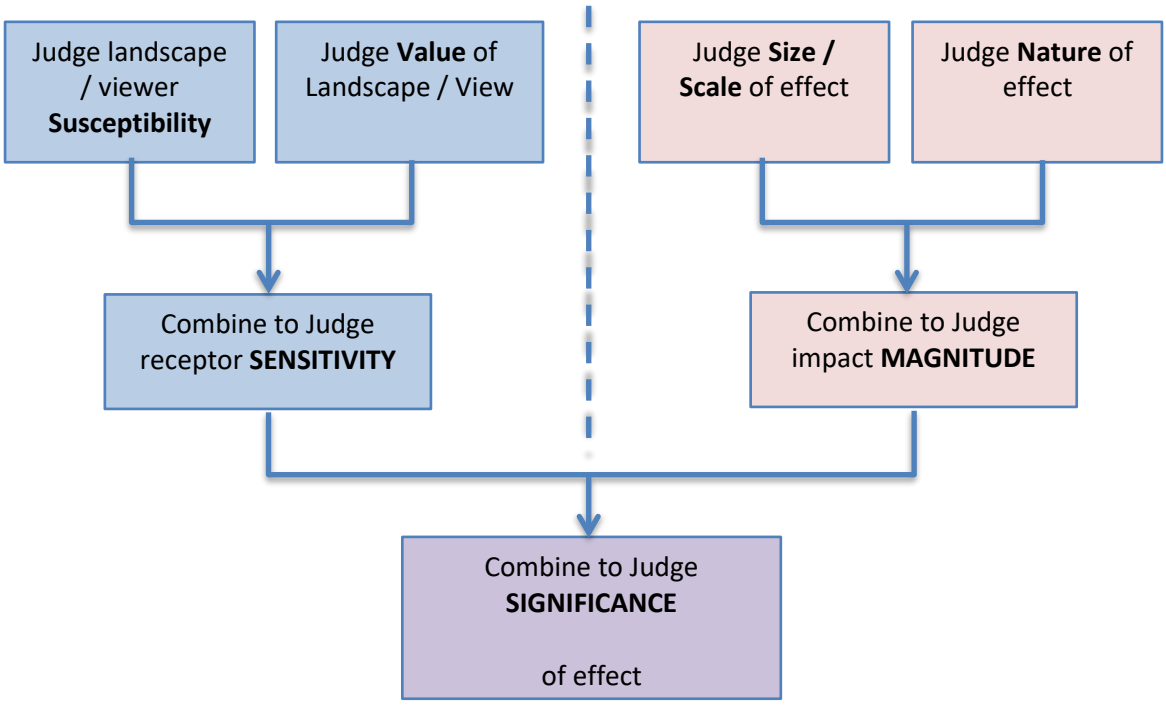

Figure 12.1 - Method for assessing Landscape Impact significance and Visual Impact significance (based on GLVIA – 2013)

Photomontages are photo-realistic depictions of the proposed development superimposed on baseline photography at selected receptor/viewpoint locations. The photomontages will be fully compliant with the most recent SNH guidelines (2014).

12.6 CUMULATIVE EFFECTS

A cumulative assessment considering existing and permitted local developments will be undertaken.

13.0 CULTURAL HERITAGE

13.1 INTRODUCTION

The principle aim of the Cultural Heritage Assessment is to anticipate and avoid impacts on the cultural heritage resource. Detailed constraints mapping will form the basis of this work, followed by further analysis of sites that will potentially be impacted upon, and field surveys to ground truth the results of the desk-based assessment and ascertain the significance of any potential impacts.

13.2 STUDY AREA

ThroughTime Archaeology will map the Study Area and identify the cultural heritage resource within the broader area. The various data sources (including but not limited to OSI mapping and historic mapping, aerial photography, archaeological sites, architectural sites and other cultural heritage sites) will be utilised.

13.3 SENSITIVE RECEPTORS

The archaeological and architectural sites noted above will be reviewed to ascertain whether there is a potential for direct or indirect impacts or for impacts on the setting of cultural heritage sites. Where sites are in visually prominent locations and may be susceptible to impacts on their setting from visually prominent development in the wider area these will also be mapped. Sensitive receptors within and in the vicinity of the study area of the proposed development will be identified as part of the scoping, constraints and EIAR process.

13.4 METHODOLOGY

Cultural heritage sites located in the immediate vicinity of the proposed development which could be subject to direct physical impacts during the construction phase will be highlighted for review of design to avoid impacts where possible. We will also undertake a review of the data to highlight sites with particular sensitivity to impacts on setting that are located within the surrounding landscape. ThroughTime Archaeology will assist the lead consultant in the layout optimisation process as necessary, providing specialist feedback in relation to cultural heritage issues. A review of cartographic sources and aerial photography will be carried out at this stage, and any anomalies observed will be mapped and recorded. Any issues arising will be flagged at this stage for further investigation.

Field inspection will be carried out to investigate any identified anomalies and ground truth the desktop analysis. This will, where possible, involve viewing sites from nearby roads or field visits. The survey team allocated to this task will note, record and locate vernacular features which could be impacted upon by the proposed works. This will include Protected Structures, bridges, street furniture etc. and other cultural heritage features as well as other cultural heritage features in the vicinity of these proposed development.

Upon completion of a final design, ThroughTime Archaeology will undertake the preparation of the Cultural Heritage Chapter of the EIAR. This work will be completed to the highest standards of professional best practice and cognisant of EPA guidelines, relevant County Development Plans, Best Practice Guidelines and legislative protection afforded to the archaeological, architectural and cultural heritage resource. ThroughTime Archaeology will ensure that the scope and extent of the cultural heritage chapter are appropriate to form the basis of the EIAR to be submitted with the application.

ThroughTime Archaeology will work closely with the landscape consultant in highlighting the most important archaeological and architectural sites and coordinate with them in the production of photomontages from the most sensitive archaeological and architectural receptors if necessary.

A detailed assessment will be carried out on any potential impacts that the proposed development may have on the cultural heritage resource, based on analysis of the data sources listed above and elsewhere herein. Any potential impacts identified will be discussed with the project team and amendments made to the proposed design where possible to eliminate or minimise the potential impact.

13.5 CUMULATIVE EFFECTS

Based on the findings and the likely impacts and risks that may be anticipated, and the potential cumulative effects that may arise, guidance will be provided towards the mitigation of these impacts and minimisation of the associated risks during construction.

14.0 TRAFFIC AND TRANSPORT

14.1 INTRODUCTION

The objective of this Chapter of the EIAR is to identify the likely potential impacts of traffic arising at the proposed development and assessing impact on the receiving road network focusing on operational haul routes and identified potential sensitive receptors. Matters of traffic management will be included as part of the EIAR process. Trafficwise ltd. will contribute to the technical input of this EIAR Chapter.

14.2 SENSITIVE RECEPTORS

Sensitive receptors will be identified as set out in Chapter 5, those considered likely to be affected by development traffic will be assessed in this EIAR Chapter.

14.3 METHODOLOGY

The following documents will be consulted as part of this assessment:

- Transport Infrastructure Ireland (TII) (2014) *Traffic and Transport Assessment Guidelines*, referred to hereafter as the *TTA Guidelines*;
- Kildare County Development Plan 2017-2023;
- Clane Local Area Plan 2017-2023;
- Kilcullen Local Area Plan 2014-2020;
- Newbridge Local Area Plan 2013-2019 (extended to Dec 2021);
- Kildare Town Local Area Plan 2019-2025;
- Naas Local Area Plan 2021-2027; and
- Department of Transport, Tourism and Sport (2019) *Traffic Signs Manual;*
- Transport Infrastructure Ireland (TII) (2014) *Traffic and Transport Assessment Guidelines*, referred to hereafter as the *TTA Guidelines*;
- TII (2016) *Project Appraisal Guidelines for National Roads Unit 16.1 – Expansion Factors for Short Period Traffic Counts*;
- TII (2019) *Unit 5.3 Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections*;
- TII (2017) *Rural Road Link Design DN-GEO-03031*;
- TII (2017) *Geometric Design of Junctions (priority junctions, direct accesses, roundabouts, grade separated and compact grade separated junctions) DN-GEO-03060-02*; and
- Other relevant TII Publications (Standards).

This Chapter will examine site infrastructure including the geometry, capacity and safe operation of the existing direct vehicle access. The existing arrangements will be assessed against the relevant national roads design standards of good practice.

Baseline traffic flows and characteristics will be determined from a comprehensive series of traffic turning count and automatic traffic counter sites due to be carried out across the identified haul route network serving the existing site and proposed development. Based upon examination of site records and industry standard practices the EIAR assessment will provide empirically verifiable estimates of site traffic generation during both the operational and construction phases of the development. Combined with the baseline traffic data this information will facilitate a standard assessment of the increases in traffic arising relative to existing and future network flows which will aid in estimating the likely level of traffic impact whilst providing necessary data to assist in preparing related EIAR chapters on noise and air quality. A detailed scoping study will be undertaken at the pre-planning stages with the Roads, Transportation and Public Safety Department of Kildare County Council as required under Kildare County Development Plan 2017-2023 Section 17.7.23 and this Chapter of the EIAR will include the assessments directed in the NRA Traffic and Transportation Assessment Guidelines, May 2014 (PE-PAV-02045).

As part of the EIAR process where the traffic study and assessment shows the level of impact arising is significant mitigation measures will be proposed. Part of such mitigation will be the preparation of a Construction Traffic Management Plan for the Haul Route network which will identify the routes, provide detailed estimates of traffic flows, estimate traffic impact arising from increased volume of HGV traffic. The CTMP will generally include the following:

- Objectives
- Existing conditions
- Proposed operation (Traffic volumes, staffing levels, construction equipment and material volumes)
- Proposed Traffic Management Plan (Accesses, Signage, Vehicle Routing, Material Deliveries, Speed Limits, Road Cleaning and CTMP Enforcement); and
- Proposed Emergency Procedures

The requirement for the preparation of a Stage 1 Road Safety Audit (RSA) will be considered and discussed with the Roads, Transportation and Public Safety Department of Kildare County Council. Where required, this will be completed by suitably qualified traffic experts and the RSA included in the EIAR. The recommendations of the Auditors will be considered and all resulting changes arising will be clearly set out in the EIAR.

14.4 1.4 CUMULATIVE EFFECTS

Based on the site investigation findings and the likely impacts and risks that may be anticipated, and the potential cumulative effects that may arise, guidance will be provided towards the mitigation of these impacts and minimisation of the associated risks during construction, operation and decommissioning.

15.0 INTERACTION OF THE FOREGOING

A section of the EIAR entitled "Interaction of the Foregoing" will summarise the primary interrelationships of aspects of the various environmental topics with the potential for significant effects as a result of the proposed development.

16.0 SCHEDULE OF MITIGATION MEASURES

A summary chapter collating all of the mitigation measures relevant to the proposed development will be included in a standalone section of the EIAR i.e. a Schedule of Mitigation Measures.

17.0 CONSULTATION

17.1 SCOPING CONSULTATION

Following the preliminary design of the Further works at Drehid Waste Facility layout, it is proposed that the project team will commence consultation initially with the bodies listed below, in order to allow sufficient time for receipt of meaningful feedback.

A request to enter into pre-application consultation with An Bord Pleanála was submitted in January 2022 and a date for an initial consultation meeting is awaited.

Consultee List
Prescribed Bodies
Kildare County Council -
Department of Environment, Climate and Communications
Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media
Department of Housing, Local Government and Heritage (incl. Development Applications Unit)
Department of Agriculture, Food and Marine
Transport Infrastructure Ireland
An Taisce - The National Trust for Ireland
Fáilte Ireland
The Heritage Council
Eastern and Midlands Regional Assembly
Inland Fisheries Ireland
Waterways Ireland
Irish Aviation Authority
Coras Iompair Eireann (CIE)
Department of Transport
Health Service Executive
Commission for Regulation of Utilities
Irish Water
Department of Defence
Other Consultees
Eastern Midlands Waste Region
Southern Waste Region
Connacht-Ulster Waste Region
Geological Survey of Ireland

BirdWatch Ireland
Teagasc
The Arts Council
Environmental Protection Agency
Health & Safety Authority
Sustainable Energy Authority of Ireland
Irish Wildlife Trust
Bat Conservation Ireland
Office of Public Works
Forest Service
Irish Trails/Sport Ireland
Met Eireann

Additional consultees will be contacted throughout the preparation of the EIAR and through discussions with the planning authority and local authority.

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