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Resource & Waste Management Plan

Gas to Bord na Mona, Edenderry



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1. INTRODUCTION

AWN Consulting, a Trinity Consultants Team, has prepared this Construction and Demolition (C&D) Resource & Waste Management Plan (RWMP) on behalf of Gas Networks Ireland (GNI) in respect of a c. 23.65 km 300mm NB steel pipeline (referred to herein as the 'GNI143 Ballykilleen Pipeline'), above ground compound at the pipeline offtake location (referred to herein as the 'Kilwarden Offtake Installation') and a new Above Ground Installation (AGI) (referred to herein as the 'Ballykilleen AGI') located just south of Edenderry, Co. Offaly.

This plan provides information necessary to ensure that the management of C&D waste at the site is undertaken in accordance with the current legal and industry standards including the *Waste Management Act 1996* as amended and associated Regulations ¹, *Environmental Protection Agency Act 1992* as amended ², *Litter Pollution Act 1997* as amended ³, the National Waste Management Plan for a Circular Economy 2024 - 2030 (NWMPCE) (2024) ⁴. In particular, this plan aims to ensure maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible. It also provides appropriate measures in relation to the collection and transport of waste from the site to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil and/or water).

This RWMP includes information on the legal and policy framework for C&D waste management in Ireland, estimates of the type and quantity of waste to be generated by the Proposed Development and prescribes measures for the management of different waste streams. The RWMP should be viewed as a live document and will be regularly revisited throughout the project's lifecycle so that opportunities to maximise waste reduction / efficiencies are exploited throughout, and that data is collected on an ongoing basis so that it is as accurate as possible.

2. OVERVIEW OF WASTE MANAGEMENT IN IRELAND

2.1 National level

The Irish Government issued a policy statement in September 1998, *Changing Our Ways*⁵, which identified objectives for the prevention, minimisation, reuse, recycling, recovery and disposal of waste in Ireland. The target for C&D waste in this report was to recycle at least 50% of C&D waste within a five year period (by 2003), with a progressive increase to at least 85% over fifteen years (i.e. 2018).

In response to the *Changing Our Ways* report, a task force (Task Force B4) representing the waste sector of the already established Forum for the Construction Industry, released a report entitled '*Recycling of Construction and Demolition Waste*'⁶ concerning the development and implementation of a voluntary construction industry programme to meet the Government's objectives for the recovery of C&D waste.

In September 2020, the Irish Government published a policy document outlining a new action plan for Ireland to cover the period of 2020-2025. This plan, '*A Waste Action Plan for a Circular Economy*'⁷ (WAPCE), replaces the previous national waste management plan, '*A Resource Opportunity*' (2012), and was prepared in response to the 'European Green Deal' which sets a roadmap for a transition to an altered economical model, where climate and environmental challenges are turned into opportunities.

The WAPCE sets the direction for waste planning and management in Ireland up to 2025. This reorientates policy from a focus on managing waste to a much greater focus on creating circular patterns of production and consumption. Other policy statements of a number of public bodies already acknowledge the circular economy as a national policy priority.

The policy document contains over 200 measures across various waste areas including circular economy, municipal waste, consumer protection and citizen engagement, plastics and packaging, construction and demolition, textiles, green public procurement and waste enforcement.

One of the first actions to be taken was the development of the *Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less'* (2021)⁸ to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity and was issued in December 2021. It is anticipated that the Strategy will be updated in full every 18 months to 2 years. There has been no additional revisions issued at the time of authoring the RWMP.

The Circular Economy and Miscellaneous Provisions Act 2022⁹ was signed into law in July 2022. The Act underpins Ireland's shift from a "take-make-waste" linear model to a more sustainable pattern of production and consumption, that retains the value of resources in our economy for as long as possible and that will work to significantly reduce our greenhouse gas emissions. The Act defines Circular Economy for the first time in Irish law, incentivises the use of recycled and reusable alternatives to wasteful, single-use disposable packaging, introduces a mandatory segregation and incentivised charging regime for commercial waste, streamlines the national processes for End-of-Waste and By-Products decisions, tackling the delays which can be encountered by industry, and supporting the availability of recycled secondary raw materials in the Irish market, and tackles illegal fly-tipping and littering.

The Environmental Protection Agency (EPA) of Ireland issued '*Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects*' in November 2021¹⁰. These guidelines replace the previous 2006 guidelines issued by The National Construction and Demolition Waste Council (NCDWC) and the Department of the Environment, Heritage and Local Government (DoEHLG) in 2006¹¹. The guidelines provide a practical approach which is informed by best practice in the prevention and management of C&D wastes and resources from design to construction of a project, including consideration of the deconstruction of a project. These guidelines have been followed in the preparation of this document and include the following elements:

- ▶ *Predicted C&D wastes and procedures to prevent, minimise, recycle and reuse wastes;*
- ▶ *Design teams roles and approach;*
- ▶ *Relevant EU, national and local waste policy, legislation and guidelines;*
- ▶ *Waste disposal/recycling of C&D wastes at the site;*
- ▶ *Provision of training for Resource Waste Manager (RM) and site crew;*
- ▶ *Details of proposed record keeping system;*
- ▶ *Details of waste audit procedures and plan; and*
- ▶ *Details of consultation with relevant bodies i.e. waste recycling companies, Local Authority, etc.*

Section 3 of the Guidelines identifies thresholds above which there is a requirement for the preparation of a bespoke RWMP for developments. The new guidance classifies developments on a two-tiered system. Developments which do not exceed any of the following thresholds may be classed as Tier 1 development, which require a simplified RWMP:

- ▶ *New residential development of less than 10 dwellings.*
- ▶ *Retrofit of 20 dwellings or less.*
- ▶ *New commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 1,250m².*
- ▶ *Retrofit of commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 2,000m²; and*
- ▶ *Demolition projects generating in total less than 100m³ in volume of C&D waste.*

A development which exceeds one or more of these thresholds is classed as Tier-2 development.

This development is classed as a Tier-1 development as it does not exceed any of the above criterion.

Other guidelines followed in the preparation of this report include '*Construction and Demolition Waste Management – a handbook for Contractors and Site Managers*'¹², published by FÁS and the Construction Industry Federation in 2002 and the previous guidelines, 'Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects' (2006).

These guidance documents are considered to define best practice for C&D projects in Ireland and describe how C&D projects are to be undertaken such that environmental impacts and risks are minimised and maximum levels of waste recycling are achieved.

2.2 Regional Level

The Proposed Development is located in both the Local Authority administrative areas of Offaly County Council (OCC) and Meath County Council (MCC).

The *Eastern Midlands Region (EMR) Waste Management Plan 2015 – 2021*, which previously governed waste management policy in the OCC and MCC areas, has been superseded as of March 2024 by the National Waste Management Plan for a Circular Economy 2024 – 2030 (NWMCE), the national waste management plan for Ireland.

The NWMCE does not dissolve the three regional waste areas. The NWMCE sets the ambition of the plan to have a 0% total waste growth per person over the life of the Plan with an emphasis on non-household wastes including waste from commercial activities and the construction and demolition sector. This Plan seeks to influence sustainable consumption and prevent the generation of waste, improve the capture of materials to optimise circularity and enable compliance with policy and legislation.

The national plan sets out the following strategic targets for waste management in the country that are relevant to the development:

National Targets

- ▶ *1B. (Construction Materials) 12% Reduction in Construction & Demolition Waste Generated by 2030.*
- ▶ *3B. (Reuse Facilities) Provide for reuse at 10 Civic Amenity Sites, minimum.*

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €140-160 per tonne of waste, which includes a €85 per tonne landfill levy introduced under the *Waste Management (Landfill Levy) (Amendment) Regulations 2015 (as amended)*¹³. *The Circular Economy (Waste Recovery Levy) Regulations 2024*¹⁴ will also incur a levy of €10 per tonne for waste accepted for recovery. This will include backfilling at authorised recovery sites and at municipal waste landfills.

The *Offaly Development Plan 2021 – 2027*¹⁵ sets out a number of policies for Offaly in line with the objectives of the regional waste management plan. The plan identifies the development of recycling in order to minimise the use of landfill as the main objective of the County Council. Waste policies with a particular relevance to the Proposed Development are:

Policies:

ENVP-09 *It is Council policy to facilitate the provision of adequate waste recovery and disposal facilities for the county.*

ENVP-10 *It is Council policy to promote circular economy principles, prioritising prevention, reuse, recycling and recovery, and to sustainably manage residual waste. New developments will be expected to take account of the provisions of the Waste Management Plan for the Region and observe those elements of it that relate to waste prevention and minimisation, waste recycling facilities, and the capacity for source segregation.*

ENVP-11 *It is Council policy to ensure that all waste disposal shall be undertaken in compliance with the requirements of the Environmental Protection Agency and relevant Waste Management Legislation.*

ENVP-12 *It is Council policy to continue to fulfil its duties under the Waste Management (certification of historic unlicensed waste disposal and recovery activity) Regulations 2008, including those in relation to the identification and registration of closed landfills.*

The *Meath County Development Plan 2021 – 2027*¹⁶ sets out a number of policies and objectives for Meath in line with the objectives of the regional waste management plan. Waste policies and objectives with a particular relevance to this development are:

Policies:

- ▶ ***INF POL 61:*** *To facilitate the implementation of National Waste legislation and National and Regional Waste Management Policy.*
- ▶ ***INF POL 62:*** *To encourage and support the provision of a separate collection of waste throughout the County in accordance with the requirements of the Waste Management (Household Food Waste) Regulations 2009, the Waste Framework Directive Regulations, 2011, the Waste Management (Commercial Food Waste) Regulations 2015 and other relevant legislation to meet the requirements of the Regional Waste Management Plan.*
- ▶ ***INF POL 64:*** *To encourage and support the expansion and improvement of a three bin system (mixed dry recyclables, organic waste and residual waste) in order to increase the quantity and quality of materials collected for recycling in conjunction with relevant stakeholders.*

- ▶ **INF POL 65:** *To adopt the provisions of the waste management hierarchy and implement policy in relation to the County's requirements under the current or any subsequent Waste Management Plan. All prospective developments in the County shall take account of the provisions of the regional waste management plan and adhere to the requirements of the Plan. Account shall also be taken of the proximity principle and the inter-regional movement of waste.*

Objectives:

- ▶ **INF OBJ 54:** *To facilitate the transition from a waste management economy to a green circular economy to enhance employment opportunities and increase the value recovery and recirculation of resources.*
- ▶ **INF OBJ 56:** *To support developments necessary to manage food waste in accordance with the requirements of the current Waste Management (Food Waste) Regulations and the regional Waste Management Plan.*
- ▶ **INF OBJ 68:** *To support the development of facilities to cater for commercial waste not provided for within the kerbside collection system such as the WEEE, C & D type waste and hazardous materials in accordance with the requirements of the Eastern Midlands Regional Waste Management Plan.*

2.3 Legislative Requirements

The primary legislative instruments that govern waste management in Ireland and applicable to the development are:

- ▶ *Waste Management Act 1996 as amended;*
- ▶ *Environmental Protection Agency Act 1992 as amended;*
- ▶ *Litter Pollution Act 1997 as amended;*
- ▶ *Planning and Development Act 2000 as amended* ¹⁷;
- ▶ *Circular Economy and Miscellaneous Provisions Act 2022.*

One of the guiding principles of European waste legislation, which has in turn been incorporated into the *Waste Management Act 1996* as amended and subsequent Irish legislation, is the principle of "Duty of Care". This implies that the waste producer is responsible for waste from the time it is generated through until its legal recycling, recovery or disposal (including its method of disposal). As it is not practical in most cases for the waste producer to physically transfer all waste from where it is produced to the final destination, waste contractors will be employed to physically transport waste to the final destination. Following on from this is the concept of "Polluter Pays" whereby the waste producer is liable to be prosecuted for pollution incidents, which may arise from the incorrect management of waste produced, including the actions of any contractors engaged (e.g. for transportation and disposal/recovery/recycling of waste).

It is therefore imperative that the Developer ensures that the waste contractors engaged by construction contractors are legally compliant with respect to waste transportation, recycling, recovery and disposal. This includes the requirement that a contractor handle, transport and recycle/recover/dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

A collection permit to transport waste must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO). Waste receiving facilities must also be appropriately permitted or licensed. Operators of such facilities cannot receive any waste, unless in possession of a Certificate of Registration (COR) or waste permit granted by the relevant Local Authority under the *Waste Management (Facility Permit & Registration) Regulations 2007 as amended* or a Waste Licence granted by the EPA. The COR / permit / licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, recovered and/or disposed of at the specified site.

3. DESIGN APPROACH

The client and the design team have integrated the '*Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects*' guidelines into the design workshops, to help review processes, identify and evaluate resource reduction measures and investigate the impact on cost, time, quality, buildability, second life and management post construction. Further details on these design principals can be found within the aforementioned guidance document.

The design team have undertaken the design process in line with the international best practice principles to firstly prevent wastes, reuse where possible and thereafter sustainably reduce and recover materials. The below sections have been the focal point of the design process and material selections and will continued to be analysed and investigated throughout the design process and when selecting material.

As noted in the EPA guidelines, the approaches presented are based on international principles of optimizing resources and reducing waste on construction projects through:

- ▶ *Prevention;*
- ▶ *Reuse;*
- ▶ *Recycling;*
- ▶ *Green Procurement Principles;*
- ▶ *Off-Site Construction;*
- ▶ *Materials Optimisation; and*
- ▶ *Flexibility and Deconstruction.*

3.1 Designing For Prevention, Reuse and Recycling

Undertaken at the outset and during project feasibility and evaluation the Client and Design Team considered:

- ▶ Establishing the potential for any reusable site assets (structures, equipment, materials, soils, etc.);
- ▶ The potential for refurbishment and refit of existing structures or buildings rather than demolition and new build;
- ▶ Assessing any existing buildings on the site that can be refurbished either in part or wholly to meet the Client requirements; and
- ▶ Enabling the optimum recovery of assets on site.

3.2 Designing for Green Procurement

Waste prevention and minimisation pre-procurement have been discussed and will be further discussed in this section. The Design Team will discuss proposed design solutions, encourage innovation in tenders and incentivise competitions to recognise sustainable approaches. They will also discuss options for packaging reduction with the main Contractor and subcontractors/suppliers using measures such as 'Just-in-Time' delivery and use ordering procedures that avoid excessive waste. The Green procurement extends from the planning stage into the detailed design and tender stage and will be an ongoing part of the long-term design and selection process for this development.

3.3 Designing for Off-Site Construction

Use of off-site manufacturing has been shown to reduce residual wastes by up to 90% (volumetric building versus traditional). The decision to use offsite construction is typically cost led but there are significant

benefits for resource management. Some further considerations for procurement which are being investigated as part of the planning stage design process are listed as follows:

- ▶ Modular buildings as these can displace the use of concrete and the resource losses associated with concrete blocks such as broken blocks, mortars, etc.;
- Modular buildings are typically pre-fitted with fixed plasterboard and installed insulation, eliminating these residual streams from site.
- ▶ Use of pre-cast structural concrete panels which can reduce the residual volumes of concrete blocks, mortars, plasters, etc.;
- ▶ The use of prefabricated composite panels for walls and roofing to reduce residual volumes of insulation and plasterboards;
- ▶ Using pre-cast hollow-core flooring instead of in-situ ready mix flooring or timber flooring to reduce the residual volumes of concrete/formwork and wood/packaging, respectively; and
- ▶ Designing for the preferential use of offsite modular units.

3.4 Designing for Materials Optimisation During Construction

To ensure manufacturers and construction companies adopt lean production models, including maximising the reuse of materials onsite as outlined in section 3.1, structures should be designed with the intent of designing out waste. This helps to reduce the environmental impacts associated with transportation of materials and from waste management activities. This includes investigating the use of standardised sizes for certain materials to help reduce the amount of offcuts produced on site, focusing on promotion and development of off-site manufacture.

3.5 Designing for Flexibility and Deconstruction

Design flexibility has and will be investigated throughout the design process to ensure that where possible products (including buildings) only contain materials that can be recycled and are designed to be easily disassembled. Material efficiency is being considered for the duration and end of life of a building project to produce; flexible, adaptable spaces that enable a resource-efficient, low-waste future change of use; durability of materials and how they can be recovered effectively when maintenance and refurbishment are undertaken and during disassembly/deconstruction.

4. DESCRIPTION OF THE DEVELOPMENT

4.1 Location, Size and Scale of the Development

Bord na Móna (BnM) are planning to convert the existing diesel-powered peaking plant, at its Renewable Energy Complex, located just south of Edenderry, Co. Offaly, to natural gas turbines to reduce CO₂ emissions. The purpose of this project is to supply the proposed new gas-fired power station, located just south of Edenderry, Co. Offaly, with natural gas.

The project development includes the following elements:

- ▶ Construction of a c. 23.65 km 300mm NB steel pipeline (GNI143 Ballykilleen Pipeline).
- ▶ Construction of an above ground compound at the pipeline offtake location (Kilwarden Offtake Installation), comprising a pipeline isolation valve and pigging facilities, enclosed within a 2.4m high palisade fence and a 1.2m high stook-proof fence.
- ▶ Construction of a new Above Ground Installation (AGI), Ballykilleen AGI, incorporating the following all enclosed within a 2.4m high palisade fence and 1.2m high weld mesh fence:
 - A Pressure Regulating System (PRS) Kiosk which includes gas filtering, metering, and pre-heating.
 - A Packaged Boiler Unit (PBU) Kiosk, which includes gas fired boilers and a gas fired backup generator.
 - An E&I kiosk.
 - A Gas Analyser Kiosk.
 - Associated lighting / CCTV columns and all ancillary services.

Figure 4.1 Proposed Development - Gas to Bord na Mona, Edenderry Pipeline, AGI and Tie-In Point. (site boundary indicated by redline).



<p>Project Name: GAS TO BORD NA MONA, EDENDERRY</p> <p>Drawing Title: SITE LOCATION OVERVIEW PLAN SHEET 1 OF 1</p>	<p style="text-align: center;">Legend</p> <p>Edenderry Pipeline Redline Boundary</p>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 5%;">0</td> <td style="width: 45%;">For Information</td> <td style="width: 10%;">RAS</td> <td style="width: 10%;">20/01/2028</td> <td style="width: 10%;">RAS</td> <td style="width: 10%;">JG</td> </tr> <tr> <td>Rev</td> <td>Description</td> <td>By</td> <td>Date</td> <td>Check</td> <td>Auth</td> </tr> </table> <div style="text-align: center; margin-top: 5px;"> </div> <p style="text-align: center; font-size: small;">Source: Google, 2025</p>	0	For Information	RAS	20/01/2028	RAS	JG	Rev	Description	By	Date	Check	Auth
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4.2 Details of the Non-Hazardous Wastes to be Produced

There will be soil, stones and clay excavated to facilitate site levelling to the necessary base level and construction of the pipeline and installation of associated services. The design team have estimated that c. 265,333.6 m³ of material will need to be excavated to do so. This volume consists of 232,650 m³ of topsoil across the pipeline working width, up to 31,725 m³ of subsoil for the pipeline trench, 260.6 m³ at the Kilwarden Offtake Installation and 708 m³ at the Ballykilleen AGI. It is anticipated that the majority (95% - c. 252,067 m³) of this clean excavated material will be reinstated as backfill provided that the soil excavated is deemed clean inert soil. Any remaining excavated material that is not intended for reuse will subsequently need to be removed off site. This material will be taken for appropriate offsite reuse, recovery, recycling and / or disposal. Should any contaminated soil be encountered and identified during the excavation, it shall be disposed of at a fully authorised soil recovery facility. Any removal of soil off-site shall be done by a fully licenced contractor.

During the construction phase there may be a surplus of building materials, such as timber off-cuts, broken concrete blocks, cladding, plastics and metals generated. There may also be excess concrete during construction which will need to be disposed of. Plastic and cardboard waste from packaging and supply of materials will also be generated. The contractor will be required to ensure that oversupply of materials is kept to a minimum and opportunities for reuse of suitable materials is maximised.

Waste will also be generated from construction workers e.g. organic / food waste, dry mixed recyclables (waste paper, newspaper, plastic bottles, packaging, aluminium cans, tins and Tetra Pak cartons), mixed non-recyclables and potentially sewage sludge from temporary welfare facilities provided on site during the construction phase. Waste printer / toner cartridges, waste electrical and electronic equipment (WEEE) and waste batteries may also be generated infrequently from site offices.

4.3 Potential Hazardous Wastes Arising

4.3.1 Contaminated Soil

Site investigations were undertaken by IGSL Limited between March and September 2025. The site investigation comprised rotary drilling, cable percussion boring, trial pitting and soakaway tests. Geotechnical, chemical and environmental laboratory testing was scheduled on a range of soil and rock samples. The geotechnical soil testing included moisture contents, Atterberg Limits and particle size distribution [PSD] testing. Suites of both chemical testing and environmental testing were undertaken on soils.

Site investigations took place along the entire Proposed Development length. The full IGSL report including the information below can be found in Appendix 5.2 of Chapter 5 (Land, Soils and Geology) of the EIAR.

Kilwarden Offtake

During the site investigations at the Kilwarden Offtake Installation location, 4 no. boreholes (BH01 - BH04) were established. They were each analysed to determine the classification of the soil in accordance with the criteria set out in Council Decision 2003/33/EC made under Directive 1999/31/EC, which classifies soil for landfill disposal purposes. Based on the samples collected, the soil would be classified as inert if offsite disposal is required.

The results obtained from the testing of the four inert borehole samples were also compared with published limits set out in the EPA Guidance on waste acceptance criteria at authorized soil recovery facilities (EPA, 2020). With regard to each of the criteria set for Total Organic Carbon and for the organic compounds BTEX, Mineral Oil, PAH and PCB's, all four samples were found to satisfy the criteria stipulated by the EPA.

In relation to the four samples, all exhibit metal concentrations within those published for EPA Guidance Geochemical Domain 2 and would therefore, based on their metal and Total Organic Carbon (TOC)/ organic compound contents be accepted at an authorised soil recovery facility.

No asbestos was detected in screens ran on the five soil samples.

Gas to Bord na Mona Edenderry Phase 1 GI – HCC1 (M4 Site Investigations)

Five shallow soil samples were selected from the boreholes at the M4.

They were each analysed to determine the classification of the soil in accordance with the criteria set out in Council Decision 2003/33/EC made under Directive 1999/31/EC, which classifies soil for landfill disposal purposes. Based on the samples collected, the soil would be classified as inert if offsite disposal is required.

The results obtained from the testing of the five inert borehole samples were also compared with published limits set out in the EPA Guidance on waste acceptance criteria at authorized soil recovery facilities (EPA, 2020). With regard to each of the criteria set for Total Organic Carbon and for the organic compounds BTEX, Mineral Oil, PAH and PCB's, all five samples were found to satisfy the criteria stipulated by the EPA.

No asbestos was detected in screens ran on the soil samples.

Gas to Bord na Mona Edenderry Phase 1 GI - HCC2 (Yellow River Site Investigations)

Eight shallow soil samples selected from boreholes were analysed to determine the classification of the soil in accordance with the criteria set out in Council Decision 2003/33/EC made under Directive 1999/31/EC, which classifies soil for landfill disposal purposes. Five of the eight samples tested, would be classified as inert if offsite disposal is required.

The three exceptions were soil specimens from BH22 (0.50m) - tested twice – and BH23A (0.50m). Each of the three were noted to exceed inert waste limits for Total Organic Carbon [TOC] and exceeded hazardous limits for TOC. The samples would therefore not be accepted by an inert landfill due to their TOC content and would be required to be disposed of by a suitably licensed waste facility, if offsite disposal is required.

The results obtained from the testing of the five inert samples were compared with published limits set out in the EPA Guidance on waste acceptance criteria at authorized soil recovery facilities (EPA, 2020). With regard to each of the criteria set for Total Organic Carbon and for the organic compounds BTEX, Mineral Oil, PAH and PCBs, the EPA limits were met.

In relation to the remaining five samples, each exhibit metal concentrations within those published for EPA Guidance Geochemical Domain 2 (Carboniferous limestone and related rocks) maximum concentrations and / or trigger levels in soil and stone for soil recovery facilities for Geochemical Domain 2 and would therefore, based on non exceedances of metal and TOC / organic compound contents would be accepted at an authorized soil recovery facility.

No asbestos was detected in screens ran on the soil samples.

Gas to Bord na Mona Edenderry Phase 1 GI – HCC3 (Kilwarden River Site Investigations)

Nine shallow soil samples were selected from the boreholes at the Kilwarden River. They were each analysed to determine the classification of the soil in accordance with the criteria set out in Council Decision 2003/33/EC made under Directive 1999/31/EC, which classifies soil for landfill disposal purposes. Based on the samples collected, the soil would be classified as inert if offsite disposal is required.

The results obtained from the testing of the nine inert borehole samples were also compared with published limits set out in the EPA Guidance on waste acceptance criteria at authorized soil recovery facilities (EPA, 2020). With regard to each of the criteria set for Total Organic Carbon and for the organic compounds BTEX, Mineral Oil, PAH and PCB's, eight of the nine samples were found to satisfy the criteria stipulated by the EPA. One of the nine samples was found to have an exceedance in relation to Total Of 17 PAH content (BH07 – 1.0m). The soil from the named location would therefore not be accepted at an EPA Soil Recovery Facility based on the sample collected.

In relation to the remaining eight samples, six exhibit metal concentrations within those published for EPA Guidance Limit Geochemical Domain 2 and would therefore, based on their metal and TOC / organic compound concentrations, be accepted at an authorized soil recovery facility. However, BH11 1.0m and BH49A exhibit Arsenic (As) and Nickel (Ni) metal concentrations which exceed that which is published for Geochemical Domain 2. Such concentrations would preclude soil from the areas where the two samples were collected from being accepted at a Geochemical Domain 2 facility where the more onerous trigger limits exist, is offsite removal is required.

Environmental soil testing found that all other soil samples tested were classified as inert as per the 2002 European Landfill Directive (2003/33/EC). All other soil samples showed concentrations of metals and TOC/ organic compound contents which are acceptable for soil recovery facilities. See Appendix A for a list of soil recovery facilities in the Region.

Note that, depending on the extent and depth of envisaged excavations and quantities for soil removal (if required), a landfill or Soil Recovery Facility may require additional testing to achieve the frequency of analysis (i.e. number of samples per unit volume of excavation) that meets their licence requirements.

No asbestos was detected in screens ran on the soil samples.

Gas to Bord na Mona Edenderry Phase 1 GI – HCC4 (Grand Canal Site Investigations)

Two shallow soil samples were selected from the boreholes at the Grand Canal (BH28A & BH30). They were each analysed to determine the classification of the soil in accordance with the criteria set out in Council Decision 2003/33/EC made under Directive 1999/31/EC, which classifies soil for landfill disposal purposes. Based on the samples collected, the soil would be classified as inert if offsite disposal is required.

The results obtained from the testing of the two inert borehole samples were also compared with published limits set out in the EPA Guidance on waste acceptance criteria at authorized soil recovery facilities (EPA, 2020). With regard to each of the criteria set for Total Organic Carbon and for the organic compounds BTEX, Mineral Oil, PAH and PCB's, both samples were found to satisfy the criteria stipulated by the EPA.

Furthermore, in relation to total metal concentrations, the EPA Guidance document employs a set of specific metal trigger limits to each of seven geochemical domains across the country. Depending on the domain in which the accepting recovery site falls, there are specific limits prescribed for certain metals. In order to further analyse the soils suitability for acceptance at an EPA recovery facility, the domain of the receiving facility would have to be known. For the purposes of this report, the maximum concentrations and / or trigger levels in soil and stone for soil recovery facilities for Geochemical Domain 2 (Carboniferous limestone and related rocks) are applied. In relation to the two samples, both exhibit metal concentrations within those published for Geochemical Domain 2 and would therefore, based on their metal and TOC / organic compound contents be accepted at an authorized soil recovery facility.

No asbestos was detected in screens ran on the soil samples.

Further Site Investigations

In the event that any contaminated material is found on site, this material will need to be segregated from clean/inert material, tested and classified as either non-hazardous or hazardous in accordance with the

EPA publication entitled 'Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous'¹⁸ using the *HazWasteOnline* application (or similar approved classification method). The material will then need to be classified as clean, inert, non-hazardous or hazardous in accordance with the *EC Council Decision 2003/33/EC*¹⁹, which establishes the criteria for the acceptance of waste at landfills.

In the event that Asbestos Containing Materials (ACMs) are found, the removal will only be carried out by a suitably permitted waste contractor, in accordance with *S.I. No. 386 of 2006 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010*²⁰ and the *Best Practice Guidance for Handling Asbestos (2023)*²¹ All asbestos will be taken to a suitably licensed or permitted facility.

In the event that hazardous soil, or historically deposited waste is encountered during the construction phase, the contractor will notify both Offaly County Council (OCC) and Meath County Council (MCC) and provide a Hazardous/Contaminated Soil Management Plan, to include estimated tonnages, description of location, any relevant mitigation, destination for disposal/treatment, in addition to information on the authorised waste collector(s).

4.3.2 Fuel/Oils

Fuels and oils are classed as hazardous materials; any on-site storage of fuel / oil, and all storage tanks and all draw-off points will be bunded and located in a dedicated, secure area of the site. Provided that these requirements are adhered to and the site crew are trained in the appropriate refueling techniques, it is not expected that there will be any fuel / oil waste generated at the site.

4.3.3 Invasive Plant Species

An Ecological Impact Assessment found a large infestation of Japanese knotweed (*Reynoutria japonica*) was recorded growing on the property of the cottage located on the R446 (Chainage 450) adjacent to the proposed pipe laying works.

Biosecurity protocols in relation to aquatic environment will be implemented by the construction contractor(s) in line with the IFI field work protocol for field survey work (2010). An Invasive Alien Species (IAS) Survey and IAS Management Plan (INVAS, 2024) has been developed that will be adhered to during construction. The full mitigation measures can be found in Chapter 7 (Biodiversity) of the EIAR.

The soil which is contaminated with Japanese Knotweed will be excavated and will be removed to a licensed landfill (IMS, Naul, Co. Dublin) under a Reg 49 licence from NPWS.

The necessary documents will be submitted for the removal of the contaminated soil, this includes: WAC certificate (with 2kg soil sample), waste acceptance document from IMS, haulier's permit, and management plan.

When contaminated soil is being removed from site, bio-secure loading of soil into trucks will be ensured along with ensuring trucks and equipment are clean before leaving the site.

In the event that any other Third Schedule Invasive species are found on site, the Invasive Species Management Plan will be updated to include an eradication and treatment program which is to be submitted to OCC and MCC. This management plan will be continued as required during the Operational Phase until eradication is complete.

4.3.4 Asbestos

Though no asbestos was detected during environmental soil testing, if Asbestos Containing Materials (ACM) are found on site, the removal of asbestos or ACMs will be carried out by a suitably qualified

contractor and ACMs will only be removed from site by a suitably permitted / licenced waste contractor, in accordance with *S.I. No. 589 of 2010 Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010*. All material will be taken to a suitably licensed or permitted facility.

4.3.5 Other Known Hazardous Substances

Paints, glues, adhesives and other known hazardous substances will be stored in designated areas. They will generally be present in small volumes only and associated waste volumes generated will be kept to a minimum. Wastes will be stored in appropriate receptacles pending collection by an authorised waste contractor.

In addition, WEEE (containing hazardous components), printer toner / cartridges, batteries (Lead, Ni-Cd or Mercury) and / or fluorescent tubes and other mercury containing waste may be generated from during C&D activities or temporary site offices. These wastes, if generated, will be stored in appropriate receptacles in designated areas of the site pending collection by an authorised waste contractor.

5. ROLES AND RESPONSIBILITIES

The *Best Practice Guidelines on the Preparation of Resource Waste Management Plans for Construction and Demolition Projects* promotes that a suitably qualified Resource Manager (RM) with expertise in waste and resource management to implement the RWMP should be appointed. The RM may be performed by number of different individuals over the life-cycle of the Project, however it is intended to be a reliable person chosen from within the Planning/Design/Contracting Team, who is technically competent and appropriately trained, who takes the responsibility to ensure that the objectives and measures within the Project RWMP are complied with. The RM is assigned the requisite authority to meet the objective and obligations of the RWMP. The role will include the important activities of conducting waste checks/audits and adopting construction methodology that is designed to facilitate maximum reuse and/or recycling of waste.

5.1 Role of the Client

The Client is the body establishing the aims and the performance targets for the project.

- ▶ The Client has commissioned the preparation and submission of this RWMP as part of the design and planning submission;
- ▶ The Client is to commission the preparation and submission of an updated RWMP as part of the construction tendering process;
- ▶ The Client will ensure that the RWMP is agreed on and submitted to the local authority and their agreement obtained prior to commencement of works on site;
- ▶ The Client will request the end-of-project RWMP from the Contractor.

5.2 Role of the Client Advisory Team

The Client Advisory Team or Design Team is formed of architects, consultants, quantity surveyors and engineers and is responsible for:

- ▶ Drafting and maintaining the RWMP through the design, planning and procurement phases of the project;
- ▶ Appointing a RM to track and document the design process, inform the Design Team and prepare the RWMP.
- ▶ Including details and estimated quantities of all projected waste streams with the support of environmental consultants/scientists. This will also include data on waste types (e.g. waste characterisation data, contaminated land assessments, site investigation information) and prevention mechanisms (such as by-products) to illustrate the positive circular economy principles applied by the Design Team;
- ▶ Handing over of the RWMP to the selected Contractor upon commencement of construction of the development, in a similar fashion to how the safety file is handed over to the Contractor;
- ▶ Working with the Contractor as required to meet the performance targets for the project.

5.3 Future Role of the Contractor

The future construction contractors have not yet been decided upon for this RWMP. However, once selected they will have major roles to fulfil. They will be responsible for:

- ▶ Preparing, implementing and reviewing the RWMP throughout the construction phases (including the management of all suppliers and sub-contractors) as per the requirements of the EPA guidelines;
- ▶ Identifying a designated and suitably qualified RM who will be responsible for implementing the RWMP;
- ▶ Identifying all hauliers to be engaged to transport each of the resources / wastes off-site;

- ▶ Implementing waste management policies whereby waste materials generated on site are to be segregated as far as practicable;
- ▶ Renting and operating a mobile-crusher to crush concrete for temporary reuse onsite during construction and reduce the amount of HGV loads required to remove material from site;
- ▶ Applying for the appropriate waste permit to crush concrete onsite;
- ▶ Identifying all destinations for resources taken off-site. As above, any resource that is legally classified as a 'waste' must only be transported to an authorised waste facility;
- ▶ End-of-waste and by-product notifications addressed with the EPA where required;
- ▶ Clarification of any other statutory waste management obligations, which could include on-site processing;
- ▶ Full records of all resources (both wastes and other resources) will be maintained for the duration of the project; and
- ▶ Preparing a RWMP Implementation Review Report at project handover.

6. KEY MATERIALS & QUANTITIES

6.1 Project Resource Targets

Project specific resource and waste management targets for the site have not yet been set and this information will be updated for these targets once these targets have been confirmed by the client. However, it is expected for projects of this nature that a minimum of 70% of waste is fully re-used, recycled or recovered. Target setting will inform the setting of project-specific benchmarks to track target progress. Typical Key Performance Indicators (KPIs) that will be used to set targets include (as per guidelines):

- ▶ *Weight (tonnes) or Volume (m³) of waste generated per construction value;*
- ▶ *Weight (tonnes) or Volume (m³) of waste generated per construction floor area (m²);*
- ▶ *Fraction of resource reused on site;*
- ▶ *Fraction of resource notified as by-product;*
- ▶ *Fraction of waste segregated at source before being sent off-site for recycling/recovery; and*
- ▶ *Fraction of waste recovered, fraction of waste recycled, or fraction of waste disposed.*

6.2 Main Construction & Demolition Waste Categories

The main non-hazardous and hazardous waste streams that could be generated by the construction activities at a typical site are shown in Table 6.1. The List of Waste (LoW) code (2018) for each waste stream is also shown.

Table 6.1 Typical waste types generated and LoW codes (individual waste types may contain hazardous substances)

Waste Material	LoW Code
Concrete, bricks, tiles, ceramics	17 01 01-03 & 07
Wood, glass and plastic	17 02 01-03
Treated wood, glass, plastic, containing hazardous substances	17-02-04*
Bituminous mixtures, coal tar and tarred products	17 03 01*, 02 & 03*
Metals (including their alloys) and cable	17 04 01-11
Soil and stones	17 05 03* & 04
Gypsum-based construction material	17 08 01* & 02
Paper and cardboard	20 01 01
Mixed C&D waste	17 09 04
Green waste	20 02 01
Electrical and electronic components	20 01 35 & 36
Batteries and accumulators	20 01 33 & 34
Liquid fuels	13 07 01-10
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13, 19, 27-30
Insulation materials	17 06 04
Organic (food) waste	20 01 08
Mixed Municipal Waste	20 03 01

* Individual waste type may contain hazardous substances

6.3 Demolition Waste Generation

There is no demolition work associated with this development and therefore there will be no demolition waste generated.

6.4 Construction Waste Generation

Table 6.3 shows the breakdown of C&D waste types produced on a typical site based on data from the EPA *National Waste Reports*²² and the joint EPA & GMIT study²³.

Table 6.2 Waste materials generated on a typical Irish construction site

Waste Types	%
Mixed C&D	33
Timber	28
Plasterboard	10
Metals	8
Concrete	6
Other	15
Total	100

Table 6.4, below, shows the estimated construction waste generation for the proposed Project based on the gross floor area of construction and other information available to date, along with indicative targets for management of the waste streams. The estimated amounts for the main waste types (with the exception of soils and stones) are based on an average large-scale development waste generation rate per m², using the waste breakdown rates shown in Table 6.3. These have been calculated from the schedule of development areas provided by the architect.

Table 6.3 Predicted on and off-site reuse, recycle and disposal rates for construction waste

Waste Type	Tonnes	Reuse		Recycle / Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	0.8	10	0.1	80	0.6	10	0.1
Timber	0.7	40	0.3	55	0.4	5	0.0
Metals	0.2	5	0.0	90	0.2	5	0.0
Concrete	0.1	30	0.0	65	0.0	5	0.0
Other	0.4	20	0.1	60	0.2	20	0.1
Total	2.3		0.5		1.6		0.2

In addition to the waste streams in Table 6.4, the quantity of excavated material that will be generated has been estimated to be c. 265,333.6 m³. It is anticipated that the majority (95%) of this clean excavated material will be reinstated as backfill provided that the soil excavated is deemed clean inert soil. Any remaining excavated material not intended for reuse will subsequently need to be removed off site for reuse or disposal. This material will be taken for appropriate offsite reuse, recovery, recycling and / or disposal.

It should be noted that until final materials and detailed construction methodologies have been confirmed, it is difficult to predict with a high level of accuracy the construction waste that will be generated from the proposed works as the exact materials and quantities may be subject to some degree of change and variation during the construction process.

6.5 Proposed Resource and Waste Management Options

Waste materials generated will be segregated on-site, where it is practical. Where the on-site segregation of certain wastes types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source, where feasible. All waste receptacles leaving the site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the Offaly region that provide this service.

All waste arisings will be handled by an approved waste contractor holding a current waste collection permit. All waste arisings requiring disposal off-site will be reused, recycled, recovered or disposed of at a facility holding the appropriate registration, permit or licence, as required.

National End-of-Waste Decision EoW-N001/2023 (Regulation 28) published by the EPA in September 2023, establishes criteria determining when recycled aggregate resulting from a recovery operation ceases to be waste. Material from this Proposed Development will be investigated to see if it can cease to be a waste under the requirements of the National End of Waste Criteria for Aggregates.

During construction, some of the sub-contractors on site will generate waste in relatively low quantities. The transportation of non-hazardous waste by persons who are not directly involved with the waste business, at weights less than or equal to 2 tonnes, and in vehicles not designed for the carriage of waste, are exempt from the requirement to have a waste collection permit (per Article 30 (1) (b) of the Waste Collection Permit Regulations 2007, as amended). Any sub-contractors engaged that do not generate more than 2 tonnes of waste at any one time can transport this waste off-site in their work vehicles (which are not designed for the carriage of waste). However, they are required to ensure that the receiving facility has the appropriate COR / permit / licence.

Written records will be maintained by the contractor(s), detailing the waste arising throughout the C&D phases, the classification of each waste type, waste collection permits for all waste contractors who collect waste from the site and COR / permit / licence for the receiving waste facility for all waste removed off-site for appropriate reuse, recycling, recovery and / or disposal.

Dedicated bunded storage containers will be provided for hazardous wastes which may arise, such as batteries, paints, oils, chemicals, if required.

The anticipated management of the main waste streams is outlined as follows:

Soil, Stone, Gravel & Clay

The waste hierarchy states that the preferred option for waste management is prevention and minimisation of waste, followed by preparing for reuse and recycling / recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal. The excavations are required to facilitate construction works so the preferred option (prevention and minimisation) cannot be accommodated for the excavation phase.

If material is removed off-site it could be reused as a by-product (and not as a waste). If this is done, it will be done in accordance with Regulation 27 of the European Communities (Waste Directive) Regulations 2011, as amended, which requires that certain conditions are met and that by-product notifications are made to the EPA via their online notification form. Excavated material should not be removed from site until approval from the EPA has been received. The potential to reuse material as a by-product will be confirmed during the course of the excavation works, with the objective of eliminating any unnecessary disposal of material.

The next option (beneficial reuse) may be appropriate for the excavated material, pending environmental testing to classify the material as hazardous or non-hazardous in accordance with the EPA *Waste*

Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous publication. Clean inert material may be used as fill material in other construction projects or engineering fill for waste licensed sites. Beneficial reuse of surplus excavation material as engineering fill may be subject to further testing to determine if materials meet the specific engineering standards for their proposed end use.

Any nearby sites requiring clean fill/capping material will be contacted to investigate reuse opportunities for clean and inert material. If any of the material is to be reused on another site as a by-product (and not as a waste), this will be done in accordance with Regulation 27. Similarly, if any soils/stones are imported onto the site from another construction site as a by-product, this will also be done in accordance with Regulation 27. Regulation 27 will be investigated to see if the material can be imported onto this site for beneficial reuse instead of using virgin materials.

If the material is deemed to be a waste, then removal and reuse / recovery / disposal of the material will be carried out in accordance with the Waste Framework Directive (Directive 2008/98/EC), the *Waste Management Act 1996* as amended, the *Waste Management (Collection Permit) Regulations 2007* as amended and the *Waste Management (Facility Permit & Registration) Regulations 2007* as amended. Once all available beneficial reuse options have been exhausted, the options of recycling and recovery at waste permitted and licensed sites will be considered.

In the event that contaminated material is encountered and subsequently classified as hazardous, this material will be stored separately to any non-hazardous material. It will require off-site treatment at a suitable facility or disposal abroad via Transfrontier Shipment of Wastes (TFS).

Bedrock

While it is not envisaged that bedrock will be encountered, if bedrock is encountered, it is anticipated that it will not be crushed on site. Any excavated rock is expected to be removed off-site for appropriate reuse, recovery and / or disposal. If bedrock is to be crushed on-site, the appropriate mobile waste facility permit will be obtained from OCC and MCC.

Silt & Sludge

During the construction phase, silt and petrochemical interception will be carried out on run-off and pumped water from site works, where required. Sludge and silt will then be collected by a suitably licensed contractor and removed off-site.

Concrete Blocks, Bricks & Ceramics

The majority of concrete blocks, bricks and ceramics generated as part of the construction works are expected to be clean, inert material and will be recycled, where possible. If concrete is to be crushed on-site, the appropriate mobile waste facility permit will be obtained from OCC and MCC.

Hard Plastic

As hard plastic is a highly recyclable material, much of the plastic generated will be primarily from material off-cuts. All recyclable plastic will be segregated and recycled, where possible.

Timber

Timber that is uncontaminated, i.e. free from paints, preservatives, glues, etc., will be disposed of in a separate skip and recycled off-site.

Metal

Metals will be segregated, where practical, and stored in skips. Metal is highly recyclable and there are numerous companies that will accept these materials.

Waste Electrical & Electronic Equipment (WEEE)

Any WEEE will be stored in dedicated covered cages / receptacles / pallets pending collection for recycling.

Other Recyclables

Where any other recyclable wastes, such as cardboard and soft plastic, are generated, these will be segregated at source into dedicated skips and removed off-site.

Non-Recyclable Waste

C&D waste which is not suitable for reuse or recovery, such as polystyrene, some plastics and some cardboards, will be placed in separate skips or other receptacles. Prior to removal from site, the non-recyclable waste skip / receptacle will be examined by a member of the waste team (see Section 9.0) to determine if recyclable materials have been placed in there by mistake. If this is the case, efforts will be made to determine the cause of the waste not being segregated correctly and recyclable waste will be removed and placed into the appropriate receptacle.

Asbestos Containing Materials

In the event that any asbestos or ACM is found on-site it will be removed by a suitably competent contractor and disposed of as asbestos waste before the construction works begin. All asbestos removal work or encapsulation work must be carried out in accordance with the *Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010*.

Other Hazardous Wastes

On-site storage of any hazardous wastes produced (i.e. contaminated soil if encountered and / or waste fuels) will be kept to a minimum, with removal off-site organised on a regular basis. Storage of all hazardous wastes on-site will be undertaken so as to minimise exposure to on-site personnel and the public and to also minimise potential for environmental impacts. Hazardous wastes will be recovered, wherever possible, and failing this, disposed of appropriately.

On-Site Crushing

It is currently not envisaged that the crushing of waste materials will occur on-site. However, if the crushing of material is to be undertaken, a mobile waste facility permit will first be obtained from OCC and MCC and the destination of the accepting waste facility or if an application under Regulation 28 will be made using National End-of-Waste Decision EoW-N001/2023, will be supplied to the OCC and MCC waste units.

It should be noted that until a construction contractor is appointed it is not possible to provide information on the specific destinations of each construction waste stream. Prior to commencement of construction and removal of any waste offsite, details of the proposed destination of each waste stream will be provided to OCC and MCC by the project team.

6.6 Tracking and Documentation Procedures for Off-Site Waste

All waste will be documented prior to leaving the site. Waste will be weighed by the contractor, either by a weighing mechanism on the truck or at the receiving facility. These waste records will be maintained on site by the nominated project RM (see Section 9.0).

All movement of waste and the use of waste contractors will be undertaken in accordance with the Waste Framework Directive (Directive 2008/98/EC), the *Waste Management Act 1996* as amended, *Waste Management (Collection Permit) Regulations 2007* as amended and *Waste Management (Facility Permit &*

Registration) Regulations 2007 and amended. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO. The nominated project RM (see Section 9.0) will maintain a copy of all waste collection permits on-site.

If the waste is being transported to another site, a copy of the Local Authority waste COR / permit or EPA Waste Licence for that site will be provided to the nominated project Waste Manager (see Section 9.0). If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) notification document will be obtained from DCC (as the relevant authority on behalf of all Local Authorities in Ireland) and kept on-site along with details of the final destination (COR, permits, licences, etc.). A receipt from the final destination of the material will be kept as part of the on-site waste management records.

All information will be entered in a waste management recording system to be maintained on-site.

7. ESTIMATED COST OF WASTE MANAGEMENT

An outline of the costs associated with different aspects of waste management is outlined below. The total cost of C&D waste management will be measured and will take into account handling costs, storage costs, transportation costs, revenue from rebates and disposal costs.

7.1 Reuse

By reusing materials on site, there will be a reduction in the transport and recycle / recovery / disposal costs associated with the requirement for a waste contractor to take the material off-site. Clean and inert soils, gravel, stones, etc., which cannot be reused on-site may be used as access roads or capping material for landfill sites, etc. This material is often taken free of charge or at a reduced fee for such purposes, reducing final waste disposal costs.

7.2 Recycling

Salvageable metals will earn a rebate, which can be offset against the costs of collection and transportation of the skips.

Clean, uncontaminated cardboard and certain hard plastics can also be recycled. Waste contractors will charge considerably less to take segregated wastes, such as recyclable waste, from a site than mixed waste.

Timber can be recycled as chipboard. Again, waste contractors will charge considerably less to take segregated wastes, such as timber, from a site than mixed waste.

7.3 Disposal

Landfill charges are currently at around €140 - €160 per tonne which includes a €85 per tonne landfill levy specified in the *Waste Management (Landfill Levy) Regulations 2015* as amended. *The Circular Economy (Waste Recovery Levy)* will also incur a levy of €10 per tonne for waste accepted for recovery. This will include backfilling at authorised recovery sites and at municipal waste landfills. In addition to disposal costs, waste contractors will also charge a collection fee for skips.

Collection of segregated C&D waste usually costs less than municipal waste. Specific C&D waste contractors take the waste off-site to a licensed or permitted facility and, where possible, remove salvageable items from the waste stream before disposing of the remainder to landfill. Clean soil, rubble, etc., is also used as fill / capping material, wherever possible.

8. TRAINING PROVISIONS

A member of the construction team will be appointed as the RM to ensure commitment, operational efficiency and accountability in relation to waste management during the C&D phases of the development.

8.1 Resource Manager Training and Responsibilities

The nominated RM will be given responsibility and authority to select a waste team if required, i.e. members of the site crew that will aid them in the organisation, operation and recording of the waste management system implemented on site.

The RM will have overall responsibility to oversee, record and provide feedback to the client on everyday waste management at the site. Authority will be given to the Waste Manager to delegate responsibility to sub-contractors, where necessary, and to coordinate with suppliers, service providers and sub-contractors to prioritise waste prevention and material salvage.

The RM will be trained in how to set up and maintain a record keeping system, how to perform an audit and how to establish targets for waste management on site. The RM will also be trained in the best methods for segregation and storage of recyclable materials, have information on the materials that can be reused on site and be knowledgeable in how to implement this RWMP.

8.2 Site Crew Training

Training of site crew in relation to waste is the responsibility of the RM and, as such, a waste training program will be organised. A basic awareness course will be held for all site crew to outline the RWMP and to detail the segregation of waste materials at source. This may be incorporated with other site training needs such as general site induction, health and safety awareness and manual handling.

This basic course will describe the materials to be segregated, the storage methods and the location of the Waste Storage Areas (WSAs). A sub-section on hazardous wastes will be incorporated into the training program and the particular dangers of each hazardous waste will be explained.

9. TRACKING AND TRACING / RECORD KEEPING

Records will be kept for all waste material which leaves the site, either for reuse on another site, recycling or disposal. A recording system will be put in place to record the waste arisings on Site.

A waste tracking log will be used to track each waste movement from the site. On exit from the site, the waste collection vehicle driver will stop at the site office and sign out as a visitor and provide the security personnel or RM with a waste docket (or Waste Transfer Form (WTF) for hazardous waste) for the waste load collected. At this time, the security personnel will complete and sign the Waste Tracking Register with the following information:

- ▶ Date
- ▶ Time
- ▶ Waste Contractor
- ▶ Company waste contractor appointed by, e.g. Contractor or subcontractor name
- ▶ Collection Permit No.
- ▶ Vehicle Reg.
- ▶ Driver Name
- ▶ Docket No.
- ▶ Waste Type
- ▶ LoW
- ▶ Weight/Quantity
- ▶ Receiving Waste Facility Details

The waste vehicle will be checked by security personal or the RM to ensure it has the waste collection permit no. displayed and a copy of the waste collection permit in the vehicle before they are allowed to remove the waste from the site.

The waste transfer dockets will be transferred to the RM on a weekly basis and can be placed in the Waste Tracking Log file. This information will be forwarded onto the OCC and MCC Waste Regulation Units when requested.

Each subcontractor that has engaged their own waste contractor will be required to maintain a similar waste tracking log with the waste dockets / WTF maintained on file and available for inspection on site by the main contractor as required. These subcontractor logs will be merged with the main waste log.

Waste receipts from the receiving waste facility will also be obtained by the site contractor(s) and retained. A copy of the Waste Collection Permits, CORs, Waste Facility Permits and Waste Licences will be maintained on site at all times and will be periodically reviewed by the RM. Subcontractors who have engaged their own waste contractors, will provide the main contractor with a copy of the waste collection permits and COR / permit / licence for the receiving waste facilities and maintain a copy on file, available for inspection on site as required.

10. OUTLINE WASTE AUDIT PROCEDURE

10.1 Responsibility for Waste Audit

The appointed RM will be responsible for conducting a waste audit at the site during the C&D phase of the proposed Project. Contact details for the nominated RM will be provided to the OCC and MCC Waste Regulation Units after the main contractor is appointed and prior to any material being removed from site.

10.2 Review of Records and Identification of Corrective Actions

A review of all waste management costs and the records for the waste generated and transported off-site will be undertaken mid-way through the construction phase of the proposed Project.

If waste movements are not accounted for, the reasons for this will be established in order to see if and why the record keeping system has not been maintained. The waste records will be compared with the established recovery / reuse / recycling targets for the site. Each material type will be examined, in order to see where the largest percentage waste generation is occurring. The waste management methods for each material type will be reviewed in order to highlight how the targets can be achieved.

Upon completion of the C&D phase, a final report will be prepared, summarising the outcomes of waste management processes adopted and the total recycling / reuse / recovery figures for the development.

10.3 Pest Management

A pest control operator will be appointed as required to manage pest onsite during the construction phase of the project. Organic and food wastes generated by staff will not be stored in open skips, but in closed waste receptacles. Any waste receptacles will be carefully managed to prevent leaks, odours and pest problems.

11. CONSULTATION WITH RELEVANT BODIES

11.1 Local Authority

Once construction contractors have been appointed and have appointed waste contractors, and prior to removal of any C&D waste materials off-site, details of the proposed destination of each waste stream will be provided to the OCC and MCC Waste Regulation Units.

OCC and MCC will also be consulted, as required, throughout the excavation and construction phases in order to ensure that all available waste reduction, reuse and recycling opportunities are identified and utilised and that compliant waste management practices are carried out.

11.2 Recycling / Salvage Companies

The appointed waste contractor for the main waste streams managed by the construction contractors will be audited in order to ensure that relevant and up-to-date waste collection permits and facility registrations / permits / licences are held. In addition, information will be obtained regarding the feasibility of recycling each material, the costs of recycling / reclamation, the means by which the wastes will be collected and transported off-site, and the recycling / reclamation process each material will undergo off-site.

12. SUMMARY AND CONCLUSION

Adherence to this plan will also ensure that waste management during the construction phase at the Proposed Development is carried out in accordance with the requirements in the EPA's Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects and the *OCC and MCC Waste Bye-Laws* and the NWMPCE.

13. REFERENCES

1. Waste Management Act 1996 as amended.
2. Environmental Protection Agency Act 1992 as amended.
3. Litter Pollution Act 1997 (S.I. No. 12 of 1997) as amended.
4. Regional Waste Management Planning Offices, *The National Waste Management Plan for a Circular Economy 2024 – 2030 (2024)*.
5. Department of Environment and Local Government (DoELG) *Waste Management – Changing Our Ways, A Policy Statement (1998)*.
6. Forum for the Construction Industry – *Recycling of Construction and Demolition Waste*.
7. Department of Communications, Climate Action and Environment (DCCAE), *Waste Action Plan for the Circular Economy - Ireland's National Waste Policy 2020-2025 (Sept 2020)*.
8. DCCAE, *Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less' (2021)*.
9. Circular Economy and Miscellaneous Provisions Act 2022.
10. Environmental Protection Agency (EPA) *'Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects' (2021)*.
11. Department of Environment, Heritage and Local Government, *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (2006)*.
12. FÁS and the Construction Industry Federation (CIF), *Construction and Demolition Waste Management – a 14 (2002)*.
13. Waste Management (Landfill Levy) Regulations 2015 (as amended).
14. Circular Economy (Waste Recovery Levy) Regulations 2024.
15. *The Offaly Development Plan 2021 – 2027*.
16. *The Meath County Development Plan 2021 – 2027*
17. Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended.
18. EPA, *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous (2018)*.
19. Council Decision 2003/33/EC, establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC.
20. *Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010*.
21. Local Government Ireland, *Best practice guidance for handling asbestos (2023)*.
22. Environmental Protection Agency (EPA), National Waste Database Reports 1998 – 2020 and the Circular Economy and National Waste Database Report 2021 – 2022 (2024).
23. EPA and Galway-Mayo Institute of Technology (GMIT), *EPA Research Report 146 – A Review of Design and Construction Waste Management Practices in Selected Case Studies – Lessons Learned (2015)*.

APPENDIX A. WASTE FACILITIES IN THE MEATH AND OFFALY AREAS

A full list of currently licensed waste facilities that can potentially be used for this development can be found on the National Waste Collection Permit Office Website - <https://facilityregister.nwcpo.ie/>.

There is a number of licensed, permitted and registered waste facilities in the Meath and Offaly regions, in the surrounding counties, the eastern midlands waste region and in Ireland and Northern Ireland. However, these sites may not be available for use when required or may be limited by the waste contractor selected to service the development in the appropriate phase. In addition, there is potential for more suitably placed waste facilities or recovery facilities to become operational in the future which may be more beneficial from an environmental perspective.

Licensed waste facilities have annual limitations on material that they can import as part of their license agreements. Because of this it would not make it possible to commit to a singular specific receiving facility as it is not may not be available throughout the project or at the time the project begins. It would not be viable to cease a development and wait until a receiving facilities annual receiving quotas are reset. In a normal development waste facilities would switch between facilities with available capacity.

The ultimate selection of waste contractors and waste facilities would be subject to appropriate selection criteria proximity, competency, capacity, serviceability, and cost.

13.2 Waste Facilities in the Meath Area

Authorisation Reference	Name	Trading As	Address
WFP-MH-12-0002-02	Labroc Limited	A&B Recyclers	Boolies Little Duleek Co Meath A92 DE40
WFP/MH/09/0008/04	OMD Waste Recycling Ltd		Ballynaskea Rathcore Enfield Co. Meath
WFP/MH/20/0006/01	Tomas Kairys		Unit 2, Elmhurst Industrial Estate Clonmagaddan Navan Co. Meath
WFP/MH/20/0005/01	Shane Thornton		Barrockstown Stud Barrockstown Maynooth Co. Meath W23 A5Y0
WFP/MH/18/0008/02	Food Surplus Management Limited		Unit 17A Oaktree Business Park Trim Co Meath C15 A567
SSF-COR-MH-21-0001-01	Biocore Environmental Limited		Crossanstown Ballivor Co Meath
WFP-MH-10-0001-03	Oristown Auto Recyclers Limited		Oristown Kells Co. Meath
WFP-MH-21-0006-01	Maynooth Spare Parts Ltd	Maynooth Car Dismantlers	Killeaney Maynooth Co.Meath
WFP/MH/21/0004/01	Michael Keane	Keen Oil	Carrollstown Estate Ardgreagh Trim Co Meath

Authorisation Reference	Name	Trading As	Address
WFP/MH/15/0004/02	N2 Auto Salvage Limited		Bullstown and Wotton The Ward Ashbourne Co Meath
WFP/MH/10/0013/03	Nicro Metals Recycling Limited		Balnagon Upper Crossakiel Kells, Co. Meath A82 YR59
WFP/MH/21/0003/01	McKenna Utility Services Limited		East Commons Drogheda Road Duleek Co Meath
WFP/MH/16/0001/02	John Conaty Limited		Balnagon Lower Carnaross Kells Co Meath
WFP-MH-21-0009-01	Rossmore Civils Limited		Knockmark Drumree Co Meath
COR/MH/21/0004/01	BIGbin Waste Tech Limited		Centra Slane Collon Road Slane Co Meath
COR/MH/17/0002/02	Tarstone Road Maintenance Limited		Hayestown Navan Co Meath C15 P9X9
WFP-MH-22-0002-01	Larry Kiernan Plant Hire Limited		Legganhall Bellewstown Co.Meath
COR/MH/22/0001/01	Bigbin Waste Tech Limited		Circle K Kinnegad Service Station Kinnegad Co Meath
COR/MH/22/0002/01	Bigbin Waste Tech Limited		Circle K Navan Service Station Proudstown Road Navan, Co. Meath
WFP-MH-22-0001-01	Keegan Quarries Ltd		Newcastle Enfield Co Meath
WFP-MH-21-0010-01	Novelplast Teoranta		Gibstown Navan Co.Meath
WFP-MH-17-0004-02	Carno International Limited		Unit 1, Phase 3 Summerhill Enterprise Centre Summerhill Co Meath A83 PD82
WFP-MH-21-0002-02	Davin Plant Hire Limited (Moyfin)		Moyfin Longwood Co. Meath
WFP-MH-22-0004-01	Ronan Sheridan Plant Hire Limited		Mullaghteelin Stamullen Co. Meath
WFP-MH-09-0003-06	Irish Metal Refineries Ltd		Unit 1 & 2 Duleek Business Park Duleek Co Meath A92 TK20
SSF-COR-MH-22-0001-01	Adrian Lindsay Fynn		Carrollstown Estate Ardgreagh Trim Co Meath
SSF-COR-MH-12-0002-03	Enva Ireland Limited		Knockersally or Colehill Ballinbrackey Co. Meath
WFP-MH-22-0005-01	AgriLife Limited		Culmullin Drumree Co Meath

Authorisation Reference	Name	Trading As	Address
WFP-MH-23-0001-01	Kenny Timmons Developments Limited		Fordstown Navan Co Meath
WFP-MH-22-0006-01	Christopher Rafter		Augherskea Drumree Co.Meath
WFP-MH-23-0002-01	GlassVAC Manufacturing Limited		Kennedy Building Paddingstown Clonee Co Meath D15 X4EY
WFP-MH-12-0005-03 (T)	Silvio Rabbitte & Sons Limited		Mabestown The Ward Co. Meath D11 XN0K
COR-MH-23-0001-01	Mid Cork Pallets & Packaging Ltd		Oranstown Dunboyne Co.Meath
WFP-MH-23-0003-01	Eoin Smith Limited		Staholmog & Ardlonan Carlanstown Kells Co.Meath
WFP-MH-22-0003-01	Oristown Auto Recyclers Limited		Raneevage Ballinlough Co.Meath
WFP/MH/17/0001/02	Windtown Galtrim Limited		Windtown Summerhill Co. Meath A83 F984
WFP-MH-23-0004-01	Reask Landfill Limited		Gillinstown, Duleek, Co. Meath
WFP-MH-14-0002-03 (T)	Gannons City Recovery & Recycling Services Ltd.		Raystown Industrial Estate Raystown Ratoath Co. Meath A84 T867
WFP-MH-21-0008-02 (T)	Clean (Irl) Refuse & Recycling Company	Clean Ireland Recycling	33 & 34 Oaktree Business Park Trim Co Meath
COR-MH-23-0004-01	BIGbin Waste Tech Ltd.		Ashbourne Retail Park Ballybin Rad Ashbourne Co. Meath A84 YX63
WFP-MH-23-0005-01	Kilsaran Concrete Unlimited Company		Castletown Quarry Trommon Rathmolyon Co. Meath A83 K298
WFP-MH-23-0007-01	Next Generation Plastics Limited		Gibbstown Kells Co. Meath
COR-MH-19-0002-02	Pure Oil Limited		Unit 11A Mullaghboy Industrial Estate Navan Co Meath C15 CF85
SSF-COR-MH-13-0002-03	Paddy Brady Agri Ltd		Rosmeen Kells Co Meath
SSF-COR-MH-12-0003-03	Enva Ireland Ltd		Carrollstown Estate Kilcooly Trim Co Meath C15 V489
WFP-MH-24-0001-01	Fintan Mulchrone		Hawkinstown & Cushinstown Garristown Co. Meath

Authorisation Reference	Name	Trading As	Address
WFP-MH-24-0004-01	Michael Ferguson Ltd	GT Group	Whitecross Julianstown Co Meath A92 KN84
COR-MH-14-0003-03	Enva Ireland Ltd		Lands at Cloneylogan Kildalkey Co Meath
WFP-MH-24-0006-01	Kilsaran Concrete Unlimited Company		Annagor Quarry Annagor Duleek Co. Meath A92 XR22
WFP-MH-24-0008-01	Kilsaran Concrete Unlimited Company		Piercetown Dunboyne Co. Meath A86 W820
WFP-MH-24-0005-01	James Kiernan		Culmullen Drumree Co. Meath
WFP-MH-24-0003-01	GlassVac Manufacturing Ltd		Bracetown Clonee Co. Meath
WFP-MH-25-0001-01	J & S Motor Repair Ltd		Gainstown Navan Co. Meath C15 Y302
WFP-MH-25-0002-01	Rudder Transport Limited		Lacystown Stamullen Co Meath A92 EC82
WFP-MH-19-0005-02	Food Surplus Management		Unit 16 Oaktree Business Park Trim Co Meath C15 A567
WFP-MH-19-0008-02	JMN Waste Services Limited		Rahinstown Rathmolyon Co. Meath
SSF-COR-MH-24-0001-01	Paddy Brady Agri Limited		Collierstown Bellewstown Co Meath
WFP-MH-25-0004-01	Enva Ireland Ltd		Rosmeen Kells Co. Meath A82 AH52
WFP-MH-25-0005-01	Padraig Davis		Grange Bective Navan Co. Meath, C15 YD85
WFP-MH-20-0008-02	Great White Destruction Ltd		Unitrs 2A & 2B Enterprise Centre Summerhill Co Meath A83 AW66
WFP-MH-25-0006-01	Rossmore Civils Limited		Foxhill Rathmoylon Co. Meath
WFP-MH-25-0007-01	Tyres2Oil Limited		Sites 1,2&3 Eamonn Duggan Industrial Estate Athboy Road Trim, Co Meath
WFP-MH-15-0002-03	Roadstone Limited		Deerpark Quarry Carrickdexter Slane Co Meath C15 F860
COR-MH-24-0001-01	Thomas Gaughran	T Gaughran Plant Hire Limited	Spiddal Nobber Kells Co. Meath
WFP-MH-14-0003-03	Patrick Brady Agri Limited		Rosmeen, Grange Glebe, Milltown, Bartramstown, Kilbrew, Riggins, Teltown, Ballymaglassan,

Authorisation Reference	Name	Trading As	Address
			Batterstown & Prestonvale, Co Meath
WFP-MH-24-0006-01	Kilsaran Concrete Unlimited Company		Annagor Quarry Annagor Duleek Co. Meath A92 XR22
WFP-MH-24-0008-01	Kilsaran Concrete Unlimited Company		Piercetown Dunboyne Co. Meath A86 W820
WFP-MH-24-0005-01	James Kiernan		Culmullen Drumree Co. Meath
WFP-MH-24-0003-01	GlassVac Manufacturing Ltd		Bracetown Clonee Co. Meath
WFP-MH-25-0001-01	J & S Motor Repair Ltd		Gainstown Navan Co. Meath C15 Y302
WFP-MH-25-0002-01	Rudder Transport Limited		Lacystown Stamullen Co Meath A92 EC82
W0195-02	Padraig Thornton Waste Disposal Limited		Ballynalurgan, Kilmainhamwood, Kells, Meath

13.3 Waste Facilities in the Offaly Area

Authorisation Reference	Name	Trading As	Address
WFP-15-99999-01	Tom Bloggs		Unit 21b Bloggs Street Tullamore Co Offaly
WFP-OY-14-0197-01	Pat Mangan		Ballycon Mount Lucas Daingean Co. Offaly
COR-OY-11-0004-02	Killeshal Precast Concrete Ltd		Killeshal Daingean Co Offaly R35 YK85
WFP-OY-10-0184-02	Gregory Kinahan Sales Ltd		Fearboy Moate Co. Offaly N37 PY66
WFP-OY-10-0183-03	Guessford Limited	Oxigen Environmental	Barnan Daingean Co Offaly R35 EE64
WFP-OY-19-0203-01	Waste Matters Limited		Ballycumber Road Clara Co Offaly R35 XR57
COR-OY-20-0008-01	Ellsport Ltd		Derrygolan Tullamore Co. Offaly
WFP-10-OY-0182-03	David Bracken Junior	Brackens	The Pound Ballycumber Co Offaly R35 VN81

Authorisation Reference	Name	Trading As	Address
<u>WFP-OY-10-0180-03</u>	Condron Car Dismantlers Ltd		Cappancur Industrial Estate Cappancur Tullamore Co. Offaly R35 PX77
<u>WFP-OY-20-0205-01</u>	Dermot Nally Stone Ltd.		Carowkeel Clonfinlough Co. Offaly
<u>WFP-OY-15-0198-02</u>	Condron Concrete Limited		Arden Road Tullamore Co. Offaly R35 N522
<u>WFP-OY-16-0199-02</u>	Anthony Cocoman		Shean Edenderry Co. Offaly
<u>WFP-OY-17-200-02</u>	Hinch Plant Hire Ltd		Ballydownan Geashill Co Offaly
<u>WFP-OY-18-0202-02</u>	John Mallen		Ballycon Mount Lucas Co Offaly
<u>WFP-OY-18-0201-02</u>	Healion Contractors Ltd		Glaskill Mucklagh Co Offaly R35 K1H9
<u>WFP-OY-23-0207-01</u>	J. Ryan Haulage Ltd.		Cushina, Portarlinton, Co. Offaly
<u>WFP-11-OY-0191-03</u>	Orla Canton & Damien Barry		Cloncreen Clonbullogue Co Offaly R45 CF10

13.4 Waste to Energy Facilities

Currently licensed Waste to Energy Facilities in the EMR.

Facility Name & License No.	Location	Status
Dublin Waste to Energy Limited W0232-02 (IED)	Dublin Waste to Energy Limited, Pigeon House Road, Poolbeg Peninsula, Dublin 4	Licensed
Indaver Ireland Limited W0167-03 (IED)	Indaver Ireland Limited (Duleek), Carranstown, Duleek, Meath.	Licensed

13.5 Soil Recovery Facilities

Currently licensed Soil Recovery Facilities in the EMR.

Facility Name & License No.	Location	Status
Kiernan Sand & Gravel Limited W0262-01	Kiernan Sand & Gravel Ltd, Foxtown, Summerhill, Co. Meath, Meath.	Licensed
Clashford Recovery Facilities Limited W0265-01	Clashford Recovery Facilities LTD, Naul Townland, Naul, Meath.	Licensed

Roadstone Limited W0278-01	Roadstone Limited, Mullaghcrone Quarry, Platin and Cruicerath Townlands, Donore, County Meath	Licensed
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Inert landfill facilities accept wastes which comply with the waste acceptance criteria limits for inert landfills as described in the EU Landfill Directive. The currently licensed inert landfill facilities in Ireland

Facility Name & License No.	Location	Status
Integrated Materials Solution (IMS) (W0129-02)	MS Hollywood, Hollywood Great, Nag's Head, Naul, Co. Dublin	Licensed
Walshestown Restoration (W0254-01) County Kildare;	Blackhall Naas Co. Kildare	Licensed
Kyletalesha Landfill (W0026-03) County Laois.	Kyletalesha, Portlaoise, Co. Laois	Licensed

In addition, Boliden Tara Mines Limited (P0516-04) located County Meath is not an inert landfill, however, the site's waste acceptance criteria, as per the IE Licence for Tara Mines, includes waste acceptance of greenfield and non-greenfield soil and stone for backfill.

13.6 Landfills

The following operational municipal landfills are situated within the EMR, and their respective waste management capacities (EPA, 2022) are noted:

Facility Name License No. Location	Total Capacity	Waste Types accepted for Disposal	Waste Types accepted for Recovery
Knockharley Landfill (W0146-02) County Meath:	Total capacity for waste accepted for disposal (maximum tonnes per annum) - 175,000;	Waste types accepted for disposal (maximum tonnes per annum) - 100,000 household, 45,000 commercial, and 30,000 industrial;	Waste types accepted for recovery (maximum tonnes per annum) - 25,000 construction & demolition and 70,000 inert waste.
Drehid Landfill (W0201-03) County Kildare:	Total capacity for waste accepted for disposal (maximum tonnes per annum) - 175,000;	Waste types accepted for disposal (maximum tonnes per annum) - 120,000 non-hazardous municipal, commercial and industrial wastes;	Waste types accepted for recovery (maximum tonnes per annum) - No limit for inert waste where used in landfill engineering.
• Ballynagran Landfill (W0165-02) County Wicklow:	Total capacity for waste accepted for disposal (maximum tonnes per annum) - 175,000;	Waste types accepted for disposal (maximum tonnes per annum) - 62,500 household, 67,500 commercial, and 45,000 industrial;	Waste types accepted for recovery (maximum tonnes per annum) - 28,000 construction & demolition

