AtkinsRéalis

Appendix 14-1 - Construction Resource and Waste Management Plan

Uisce Éireann

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BALLINA AND LOUGH TALT WATER SUPPLY UPGRADE

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Abbreviations

Abbreviation	Meaning
ACMs	Asbestos Containing Materials
AR	AtkinsRéalis
C&D	Construction and Demolition
CEMP	Construction Environmental Management Plan
CMUR	Circular Material Use Rate
CRWMP	Construction Resource and Waste Management Plan
DoCCAE	Department of Communication, Climate Action and Environment
DoECLG	Department of Environment, Community and Local Government
EC	European Commission
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
EPD	Environmental Product Declarations
EU	European Union
GPP	Green Public Procurement
JIT	Just-in-Time
LoW	List of Waste
MCC	Mayo County Council
MCDP	Mayo County Development Plan
NPF	National Policy Framework
NWCPO	National Waste Collection Permit Office
RWMP	Resource and Waste Management Plan
RWMS	Resource Waste Management Strategy
RWPO	Regional Waste Management Planning Offices
SIP	Sustainable Infrastructure Policies
SIO	Sustainable Infrastructure Objectives
SCC	Sligo County Council
SCDP	Sligo County Development Plan
UÉ	Uisce Éireann
WAC	Waste Acceptance Criteria
WCP	Waste Collection Permit
WFD	Waste Framework Directive
WMC	Waste Management Coordinator / Co-Ordinator

WSA	Waste Storage Area
WSZ	Water Supply Zone

1. Introduction

This Construction Resource and Waste Management Plan (CRWMP) has been prepared by AtkinsRéalis Ireland on behalf of Uisce Éireann (the applicant) as part of the supporting documents for a planning application to support the delivery of the Ballina and Lough Talt Water Supply Upgrade (hereafter referred to as the 'Proposed Development'). This CRWMP is for the construction phase of the Proposed Development. It forms part of the Construction Environmental Management Plan (CEMP) and should be read in conjunction with the CEMP. The CRWMP covers the management of the materials used for construction and the construction phase waste and/or by-products.

The Proposed Development will deliver modern, resilient, and sustainable water infrastructure for communities across Counties Mayo and Sligo. The Proposed Development will significantly increase raw water abstraction and treatment capacity, ensuring a secure and reliable water supply for Ballina, the Lough Talt area, and surrounding communities. The upgraded infrastructure will also provide capacity to accommodate future population growth, increased demand, and potential economic and industrial development within the region.

The Proposed Development represents a critical investment in the long-term sustainability, resilience, and reliability of regional water services and aligns with national policy objectives, current environmental legislation, and best practice in resource and waste management.

The primary objective of this CRWMP is to establish a framework for the sustainable management of resources and waste throughout the Proposed Development's construction stage to commissioning. This CRWMP will guide the preparation and implementation of a Detailed CRWMP by the Appointed Contractor, setting out requirements and targets for waste prevention, resource efficiency, material re-use and recovery, and responsible waste management.

This CRWMP outlines measures to enhance resource efficiency and ensure compliance with regulatory and project-specific waste management requirements, with the goal of exceeding baseline standards through proactive planning, monitoring, and implementation.

1.1 Project Background

The Proposed Development is needed to provide a safe and reliable water supply to Ballina and surrounding areas, while also supporting future growth and development in the area. This project will benefit approximately 36,400 people as of June 2026 (Central Statistics Office (CSO), 2026), ensuring a reliable and sustainable water supply for Ballina and surrounding areas as well as allowing for future social economic growth in the region. Large sections of Ballina town are served by a critical aging trunk main, which will be replaced to improve the reliability of water supply.

The Proposed Development will comprise of upgrades to the capacity of the water infrastructure in Ballina and Lough Talt supply networks in excess of 2 million m^3/annum. More detail is provided in the Strategic Infrastructure Directive (SID) Engineer's Report submitted with this application and a Project Description is given in Chapter 3 of the EIAR. This will facilitate an extension to the Ballina network to areas currently served by the Lough Talt Water Supply Scheme, which is not sustainable in the long-term.

The Proposed Development will deliver a number of key benefits to the existing water infrastructure and network, including:

- Addressing both current and future water supply challenges in the region;
- Enabling future growth and development in the community and cater for an expected increase in population in the area;
- Enabling the cessation of abstraction from Lough Talt, helping to restore natural lake levels and deliver significant ecological benefits for local habitats and wildlife; and,

- Improve the resilience of the network and enhance long-term security of supply across North Mayo and South Sligo.

The Proposed Development, subject to detailed design, will consist of seven “key locations” and 5 discrete sections of pipeline, as follows:

- Upgrade to the existing Wherrew Raw Water Intake & Pumping Station (RWI&PS), Wherrew, Ballina, Co. Mayo;
- Upgrade to the existing Lisglennon Raw Water Storage and Pumping Station (RWS&PS), Lisglennon, Ballina, Co. Mayo;
- Proposed Pipeline A – Lisglennon RWPS to Lisglennon Water Treatment Plant (WTP);
- Upgrade to the existing Lisglennon Water Treatment Plant (WTP), Lisglennon, Ballina, Co. Mayo;
- Proposed Pipeline B – Lisglennon WTP to River Moy Pipeline Crossing;
- Proposed Pipeline C – River Moy Pipeline Crossing to Bonniconlon Booster Pumping Station (BPS);
- Proposed Pipeline D – Bonniconlon BPS to Windy Gap Break Pressure Tank (BPT);
- Proposed Pipeline E – Windy Gap BPT to Lough Talt WTP;
- Proposed Bonniconlon Booster Pumping Station (BPS) located at Bonniconlon, Ballina, Co. Mayo;
- Proposed Windy Gap Break Pressure Tank (BPT) located at the Windy Gap, Ballina, Co. Mayo;
- Repurposing the existing Lough Talt Water Treatment Plant (WTP), Co. Sligo;
- Proposed Treated Water Reservoir at the existing Bonniconlon Reservoir site, Ballina, Co. Mayo; and,
- All permanent and temporary works, including construction compounds, access routes, pipeline corridors, and trenchless crossings.

1.2 Objective of the Plan

This CRWMP sets out the approach to managing construction waste and provides sufficient information to ensure that the management of resources and waste is undertaken in compliance with relevant legislation and best practice (refer to Section 2). Its primary goal is to ensure efficient resource use, minimise waste generation, and reduce landfill disposal in line with the waste hierarchy. A secondary goal is to support the circular economy by limiting the need for virgin materials and reducing environmental impacts.

1.3 Methodology

This Plan has been prepared in line with the relevant industry standard guidance document; ‘*Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction and Demolition Projects*’ (Environmental Protection Agency (EPA), 2021). Additional best practice documents relevant to the Proposed Development have also been consulted to ensure a comprehensive and informed approach. These include but are not limited to the underlisted:

- ‘*Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous*’ (EPA, 2018);
- ‘*A review of Design and Construction Waste Management Practices on Selected Case Studies – Lessons Learned*’ (EPA, 2015);
- ‘*Design out Waste: Preparation of Waste Reduction Factsheets for Design Teams*’ (EPA, 2015);
- ‘*Development of an Audit Methodology to Generate Construction Waste Projection Indicators for the Irish Construction Industry*’ (EPA, 2009);
- The Circular Economy Programme 2012–2027 (EPA, 2021);

- *National Waste Management Plan for a Circular Economy (2024 – 2030);* DoCEE,2026. 'Whole of Government Circular Economy Strategy 2026 – 2028 Accelerating Action, 2026';
- Sligo County Development Plan 2024-2030 (Sligo County Council (SCC), 2024); and,
- Mayo County Development Plan 2022–2028 (Mayo County Council (MCC), 2022).

Additionally, the following reports have been referenced during the preparation of this Plan:

- Ballina and Lough Talt Water Supply- Upgrade Environmental Impact Assessment Report, Volume 2: Main Text (AtkinsRéalis, 2026);
- Ballina and Lough Talt Water Supply Upgrade Natura Impact Statement (AtkinsRéalis, 2026); and,
- Ballina and Lough Talt Water Supply Upgrade Construction and Environmental Management Plan (AtkinsRéalis, 2026).

1.4 Structure

Section 3.1 of the EPA, (2021) guidance states that '*it is recommended that planning authorities stipulate that a Resource and Waste Management Plan (RWMP) shall be submitted for all construction and demolition projects as best practice to inform the planning consent process. It is recommended that all planning permissions granted include compliance with the RWMP as a standard condition of planning*.'

This document applies only to the construction stage of the Proposed Development and defines roles and responsibilities for waste management, including contractor obligations, sets out procedures for documentation, tracking and reporting of waste in accordance with statutory requirements. In addition, it includes monitoring and auditing measures to ensure compliance with the CRWMP and to support continuous improvement throughout the construction phase.

1.5 Format of the CRWMP

This CRWMP provides the framework for resource and waste management during the construction phase of the Proposed Development Works. The Plan outlines the procedures and measures required to ensure compliance with relevant waste legislation, policy objectives, the waste hierarchy, and circular economy principles, while promoting efficient resource use and minimising waste generation. Following appointment, the Appointed Contractor will prepare a detailed CRWMP based on the requirements of this document prior to the commencement of works. The CRWMP will be maintained as a live document throughout the project, with regular updates to record waste data and monitor performance.

2. Policy, Legislation and Guidance

2.1 Relevant Policy

2.1.1 Waste Management Hierarchy

In 2011 the revised EU Waste Framework Directive was transposed into Irish law by the European Commission (Waste Framework Directive) Regulations 2011 (S.I. No. 126 of 2011) (EC, 2008). The Waste Framework Directive focused on sustainable and efficient materials management strategy and provides a legal basis for the waste hierarchy as shown in Figure 2-1.

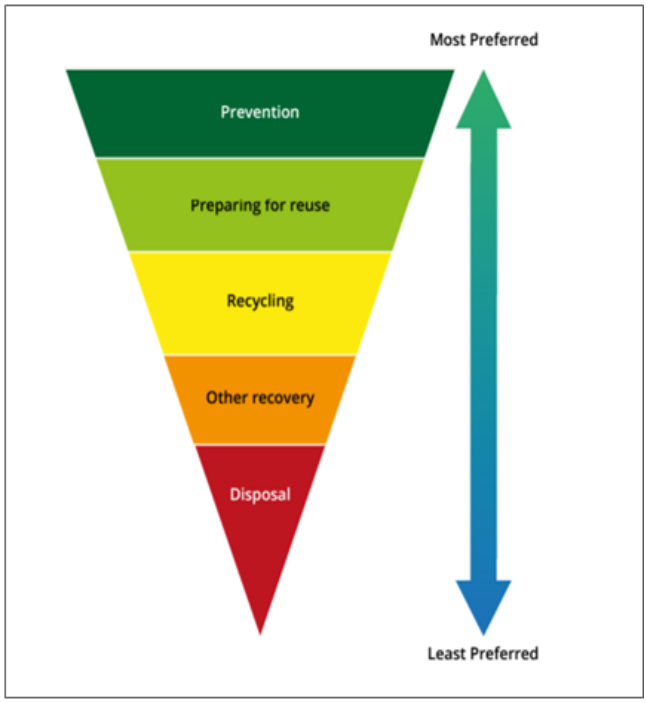


Figure 2-1 — The Waste Hierarchy

The Appointed Contractor shall adhere to the waste hierarchy by preventing waste and optimising the reuse and recycling of material. Only when all other options have been exhausted will the options to dispose be considered, in alignment with Uisce Éireann's Sustainability Principles.

2.1.2 A Resource Opportunity Waste Management Policy

In 2012 the Government published a new policy document entitled '*A Resource Opportunity Waste Management Policy in Ireland*' (DoECLG, 2012). This document sets out the steps to be implemented on a national scale to make further progress on resource efficiency and seeking the elimination of landfilling of municipal waste in Ireland. This approach is further supported by subsequent guidance including the EPA publication *'Green Procurement:* Guidance for the Public Sector' (EPA, 2014). This publication clearly sets out the responsibility of the Contractor with regard to waste management and disposal, as follows:

'*The Contractor must apply appropriate measures in order to reduce and recover waste that is produced during the construction activity. The Contractor shall prepare and submit a waste management plan with its tender which shall form part of the Construction Management Plan to be agreed with the Contracting Authority in advance of the*

commencement of works. The waste management plan must be prepared in accordance with the Department of Environment, Community and Local Government Best practice guidelines on the preparation of waste management plans for construction and demolition projects (2006).'

'*Contractors are responsible for disposing of all waste generated under the contract in accordance with the Waste Management Act 1996 as amended. The Contractor must have full use of, or access to, waste disposal facilities with appropriate licences and permits. The Contractor must provide copies of valid EPA Waste licences and Local Authority Waste Permits (including those relating to their subcontractors or brokers, where applicable) for collection and waste treatment/disposal/export facilities*.'

2.1.3 A Waste Action for a Circular Economy – Ireland's National Waste Policy 2020-2025.

According to the EPA (2021) updated 'Green Public Procurement: Guidance for the Public Sector': '*Ireland has committed to implementing green public procurement (GPP) in all tenders using public funds by 2023'*. The Department of Communication, Climate Action and Environment (DoCCAE) published 'A Waste Action for a Circular Economy – Ireland's National Waste Policy 2020-2025' report, in 2020. This document was prepared in response to the 'European Green Deal' and sets out a roadmap for the transition to a new economy, where climate and environmental challenges are instead seen as opportunities. This report replaces the previous National Waste Management Plan 'A Resource Opportunity Waste Management Policy in Ireland' (2012).

The *'Waste Action for a Circular Economy'* report focuses on transition to a circular economy, shown in Figure 2-2, and the need to plan for waste management at the earliest possible stage in a construction project, ideally at concept stage.

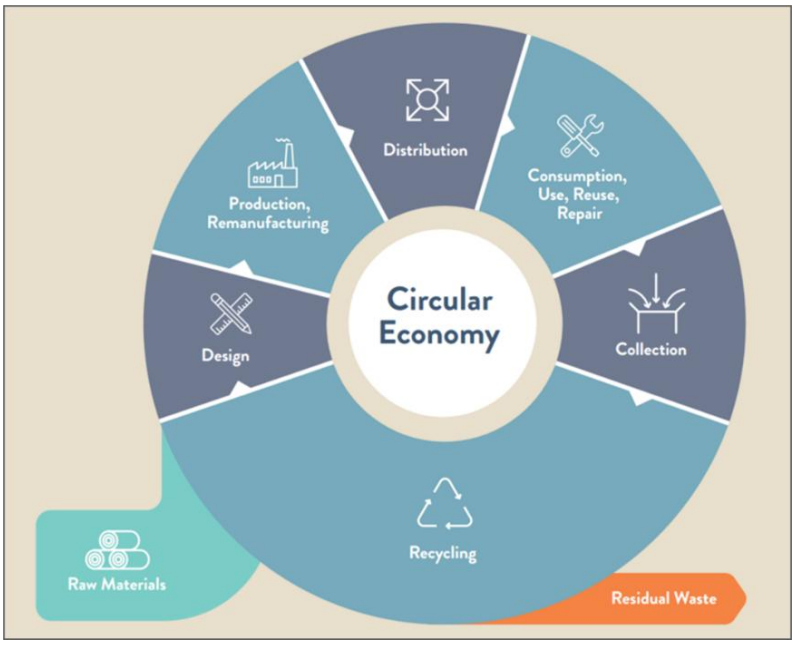


Figure 2-2 — The Circular Economy (DoCCAE, 2020)

The overarching objectives of this waste action plan are to:

- '*Shift the focus away from waste disposal and treatment to ensure that materials and products remain in productive use for longer, thereby preventing waste and supporting reuse through a policy framework that discourages the wasting of resources and rewards circularity;*

- *Make producers who manufacture and sell disposable goods for profit environmentally accountable for the products they place on the market;*
- *Ensure that measures support sustainable economic models (for example, by supporting the use of recycled over virgin materials); harness the reach and influence of all sectors including the voluntary sector, research and development (R&D), producers / manufacturers, regulatory bodies, civic society; and*
- *Support clear and robust institutional arrangements for the waste sector, including through a strengthened role for Local Authorities (LAs)*.'

The headline points on C&D waste in the Waste Action Plan are as follows:

- '*Project Ireland 2040 sets out the State's development goals over the next 20 years, which allows for the opportunity to forecast large, specific C&D waste streams, with a focus on preventing or efficiently managing the waste from these areas;*
- *Prevention of soil arisings, which are a significant financial burden on the sector, are to progress by placing value on the used material where possible. There is a strong focus on Article 27 by-product and Article 28 end-of-waste decision making process. These processes are to be streamlined and detailed guidance will be developed for specific problematic materials;*
- *The use of recycled construction materials will be incentivised (potentially by introducing a levy on virgin aggregates);*
- *The plan looks to make national end-of-waste decisions for specific construction and demolition waste streams at the earliest possible stage; and,*
- *The 2006 Best Practice Guidelines for construction and demolition waste will be revised to improve the Preparation of Waste Management Plans for Construction and Demolition Waste Projects*.'

2.1.4 Green Public Procurement Strategy and Action Plan 2024-2027

The Green Public Procurement Strategy and Action Plan 2024-2027 (Department of Climate, Energy and the Environment; Office of Government Procurement, 2024) was published in April 2024, replacing the 'Green Public Procurement: Guidance for the Public Sector'. This Plan aims to promote sustainable procurement practices across the public sector in Ireland, focusing on reducing environmental impacts and enhancing resource efficiency. The plan includes information, and actions, on the following:

- Policy and Legislative context at national and EU level;
- A mandate to accelerate Green Public Procurement implementation;
- A focus on key sectors with associated Green Public Procurement related targets;
- Monitoring and reporting;
- Training and awareness;
- EU and international partnership;
- Market engagement, networks and knowledge sharing;
- Research and innovation; and
- Green Public Procurement Strategy and Action Plan monitoring, evaluation and review.

2.1.5 Circular Economy Programme 2021-2027

The Circular Economy Programme 2021-2027 (EPA, 2021) 'builds upon the previous National Waste Prevention Programme to support national-level strategic programmes to prevent waste and drive the Circular Economy in Ireland' and 'responds to the commitment within the national policy document The Waste Action Plan for a Circular

Economy to reconfigure the National Waste Prevention Programme into Ireland's The Circular Economy Programme.' Its objectives are to:

- "*Provide LEADERSHIP on the circular economy to improve coherence and alignment of national, regional and local circular economy activities and ensure maximum impact.*
- *Maintain a competitive programme of SUPPORTS to drive the circular economy through providing innovation grants and seed-funding to nationally relevant initiatives.*
- *Implement actions that build KNOWLEDGE and an evidence base to inform circular economy development in Ireland, and to report on progress towards greater circularity.*
- *Realise the enterprise OPPORTUNITY of a circular economy by supporting new business models; promoting resource efficiency; and retaining material value through enhanced use of secondary/ recycled materials, applying the appropriate regulatory framework*."

2.1.6 National Waste Management Plan for Circular Economy 2024-2030

The National Waste Management Plan for a Circular Economy (2024 -2030) (Regional Waste Management Planning Offices (RWPO), 2024) sets out the framework for the prevention and management of waste across Ireland and replaces the regional waste management plans. This document is a statutory document underpinned by national and EU waste legislation, and reflects the targets set out for C&D waste in the Waste Framework Directive (WFD). The strategic vision of the National Waste Management Plan is to rethink the approach to managing waste, and to move towards a 'circular economy' approach where resources are reused or recycled as much as possible and the overall generation of waste is minimised. In order to achieve this vision, the National Waste Management Plan has set out a number of specific and measurable performance targets in relation to Construction and Demolition waste:

- Achieve a proposed 2% reduction per annum for total construction and demolition waste in order to achieve a cumulative 12% reduction by 2030 (Baseline is 9 million tonnes).
- Achieve a proposed recovery rate of 70% of C&D waste (excluding natural soils and stones and hazardous wastes) to be sent for reuse, recycling and other recovery.

The National Waste Management Plan aims to "*prioritise waste prevention and circularity*' in the construction and demolition sector to reduce the resources that need to be captured as waste.

2.1.7 Whole of Government Circular Economy Strategy 2026-2028: Accelerating Action

The Department of Climate, Energy and the Environment (DoCEE) has developed a programme committing the Government to ending the wasteful cycle of "*take-make-consume-throw-away*", promoting sustainable practices that extend the life of products and reduce waste and to supporting enterprises in the circular economy including repair and refurbishment centres.

The Circular Economy Strategy 2026-2028 (DoCEE, 2026) positions circularity as central to Ireland's economic competitiveness, environmental sustainability, and social wellbeing—moving Ireland from a linear "take–make–waste" model to a regenerative, closed-loop system where materials are kept in use for as long as possible.

The core objectives of this strategy are to:

- Raise Ireland's circular material use rate (CMUR): Increase Ireland's circular material use rate by two percentage points each year, with the aim of reaching 12% by 2030.

- Support economic expansion while improving resource productivity and reducing dependency on virgin raw materials.
- Enhance competitiveness and innovation: Strengthen Ireland's position as a centre for sustainable design, advanced manufacturing and innovative circular business models, enhancing competitiveness in domestic and export markets
- Enhance social equity: Ensure the benefits of the circular transition are widely shared by communities and workers.
- Empower people to make sustainable, cost-effective lifestyle choices.
- Actively support local authorities in developing coordinated, community-level circular initiatives.
- Digitalisation is established as an enabler of the circular economy by businesses adopting digital tools such as digital product passports, traceability and resource optimisation systems.

The Circular Economy and Miscellaneous Provisions Act 2022 underpins Ireland's shift to a more sustainable pattern of production and consumption, that retains the value of resources in the economy for as long as possible. Furthermore, there are a range of European laws and measures in this area which form part of this second whole of government Circular Economy Strategy.

This second whole of government Circular Economy Strategy includes actions and targets for specific sectors (Construction, Agriculture, Retail, Packaging, Textiles & Electronic Equipment) that will drive reductions in material resource consumption in addition to increases in the levels of repair and reuse and re-usable products and materials. These have been developed in co-operation and collaboration with relevant line Departments.

In 2024, the Department commissioned a 'circularity gap analysis', to determine Ireland's circularity baseline, by analysing how materials flow through the Irish economy. The Circularity Gap Report Ireland (Circular Economy, 2024) indicates that our Circularity Metric stands at 2.7% - meaning that over 97% of the materials flowing through our economy come from virgin sources. The Circularity Gap Report has also shown that whilst Ireland still operates within a linear model, with high material and carbon footprints, advancing the circular economy has transformative potential for the country. The Gap Report also demonstrates that transitioning to a more circular society helps decarbonisation, competitiveness and economic security. This evidence base was key to the development of the Circular Economy Strategy 2026-2028.

Chapter 5 of the document – Sectoral Focus: Actions and Targets for the Construction (Built Environment) highlights the lack of circulatory within the construction industry, with embedded carbon footprint, and the use of non-circular building materials, putting increased pressures on resources and the environment. The report publishes a number of targets for the construction industry. These are shown in Table 2-1 below. Targets T6 and T7 are relevant to this Project.

Table 2-1 — Actions and Targets for the Construction / Built Environment (Source: Table 5.1.4 of DoCEE, 2026)

Target	Construction/Built Environment
T5	45% reduction in GHG emissions (against 2018 levels) by 2030 for commercial and public buildings.
T6	By 2030, achieve a 12% reduction of C&D waste arisings.
T7	Maintain the GPP Target of a minimum proportion of construction materials procured by public bodies under new contract arrangements to comprise recycled materials. From 2028 at least 10%, by weight, of construction materials procured by public bodies for infrastructure projects and public non-residential buildings under new contract arrangements comprise recycled materials.

2.1.8 Mayo County Development Plan 2022-2028

MCC has developed and implemented a range of policies and actions in line with the Government's Waste Action Plan for a Circular Economy 2020-2025. The Mayo County Development Plan (MCDP) 2022-2028 (MCC, 2022) states that;

'"*Waste management involves measures to protect the environment and human health by preventing or reducing adverse impacts of the generation and management of waste. Waste management is regulated by national and European legislation, with policy and enforcement operated between the Department of the Environment, Climate Action and Communications, the EPA and Local Government. Mayo is located within the Connacht-Ulster Waste Management Region, governed by the Waste Management Plan 2015 – 2021. Mayo County Council is the regional lead authority, acting on behalf of the other authorities with responsibility for the successful implementation of the plan. The Council will support circular economy principles, prioritising prevention, reuse, recycling and recovery over the disposal of waste*."

The MCDP 2022-2028 specifically states the following Policies and Objectives with regards to Resource Management and the Circular Economy approach to construction and demolition waste management:

- INP 7 - To support the Implementation of the Connacht Ulster Regional Waste Management Plan 2015-2021 (as amended) or replacement plan with particular emphasis on reuse, recycling and disposal of residual waste in the most appropriate manner where it can be demonstrated that the development will not have significant adverse effects on the environment, the integrity of the Natura 2000 network, traffic safety, residential or visual amenity.
- INP 8 - To promote the sustainable management of waste generation and investment in different types of waste treatment and support a healthy environment, economy and society.
- INO 10 - Promote prioritising prevention, reuse, recycling and recovery, and to sustainably manage residual waste. New developments shall take account of the provisions of the Connacht Ulster Regional Waste Management Plan 2015-2021(as amended) and observe those elements of it that relate to waste prevention and minimisation, waste recycling facilities and the capacity for source segregation.

2.1.9 Sligo County Development Plan 2024-2030 (SCPD)

SCC has developed and implemented a range of policies and actions in line with the Government's Waste Action Plan for a Circular Economy 2020-2025. The Sligo County Development Plan 2024-2030 (SCC, 2024) states the following;

'*Sligo County Council supports the sustainable management of waste and seeks to enable a significant reduction in the production of waste in County Sligo, in line with the principles of the Waste Action Plan for a Circular Economy (DoECC, 2021). The identification and provision of facilities for the reception of C&D waste should be integrated into the project planning and design processes. In order to ensure that this occurs, conditions will be included in the permissions granted to particular developments, requiring resource and waste management plans be drawn up prior to the commencement of the development. These plans will be subject to approval by the Planning Authority and will include site inspections to ensure that all wastes generated during development are being handled in an environmentally-sound and sustainable manner. The plans must be prepared and carried out in accordance with the EPA's Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects (2021)*.'

The SCDP 2022-2028 specifically states the following Policies and Objectives with regards to Resource Management and the Circular Economy approach to construction and demolition waste management;

NPO 56 – Sustainably manage waste generation, investing in different types of waste treatment and support circular economy principles, prioritising prevention, reuse, recycling and recovery, to support a healthy environment, economy and society.Relevant Legislation

It will be the responsibility of the Contractor to ensure that requirements of all relevant waste legislation are complied with for the duration of the project. The following non-exhaustive list of legislative requirements typically applies to the construction stage of major developments:

- Waste Framework Directive 2008/98/EC of the European Parliament and Council on waste, as amended,
- Circular Economy and Miscellaneous Provisions Act (2022) – S.I. No. 26 of 2022;
- European Committees (Birds and Natural Habitats) (Amendment) Regulations 2015-S.I. No. 355 of 2015;
- European Union (Waste Directive) Regulations Directive 2020 (S.I. No. 323 of 2020), as amended 2025 (S.I. 166 of 2025);
- European Union Waste Management (Environmental Impact Assessment) Regulations 2020 – S.I. No. 130 of 2020; European Union (Environmental Impact Assessment) (Waste) Regulations 2013- S.I. No. 505 of 2013 as amended 2020 (S.I. No. 130 of 2020);
- European Union (Properties of Waste Which Render It Hazardous) Regulations 2015 (S.I. No. 233 of 2015), as amended 2018 (S.I. No. 383 of 2018);
- European Communities (Birds and Natural Habitats) Regulations 2011 S.I. No. 477 of 2011;
- European Communities (Waste Directive) Regulations 2011- S.I. No. 350 of 2010;
- European Communities (Shipments of Hazardous Waste Exclusively within Ireland) Regulations 2011 (S.I. No 324 of 2011);
- Waste Framework Directive 2008/98/EC of the European Parliament and Council on waste, as amended, 2018 (S.I. No. 851 of 2018);
- Waste Management (Registration of Brokers and Dealers) Regulations 2008, S.I. No. 113 of 2008;
- Waste management (Tyres and Waste Types) Regulations 2007 -S.I. No. 664 of 2007; as amended 2017 (S.I. No. 400 of 2017), 2018 (S.I. No. 96 of 2018);
- Waste Management (Food Waste) Regulations 2009 (S.I. No 508 of 2009), as amended, 2015 (S.I. No. 430 of 2015), 2024 (S.I. No. 294 of 2024);
- Packaging and Packaging Waste Directive (94/62/EC);
- Hazardous Waste Directive (91/689/EEC);
- Waste Management (Waste Electrical and Electronic Equipment) Regulations 2005 -S.I. No. 340 of 2005 as amended 2011 (S.I. No. 397 of 2011), 2013 (S.I. No. 32 of 2013), 2014 (S.I. No. 149 of 2014), as amended 2019 (S.I No. 233 of 2019) and 2025 (S.I. No. 427 of 2025);
- Waste Management (Licensing) Regulations 2004- S.I. No. 395 of 2004, as amended 2010 (S.I. No. 350 of 2010) and 2019 (S.I. No. 618 of 2019);
- Waste Management (Collection Permit) Regulations 2007 (S.I. No. 820 of 2007), as amended, 2015 (S.I. No. 197 of 2015), 2016 (S.I. No. 24 of 2016), 2023 (S.I. No. 104 of 2023);
- Waste Management (Facility Permit and Registration) (Amendment) Regulations s 2007 (S.I. No. 821 of 2007), as amended, 2008 (S.I. No. 86 of 2008), 2015 (S.I. No. 198 of 2015), 2019 (S.I. No. 250 of 2019), 2023 (S.I. No. 471 of 2023);
- Waste Management (Miscellaneous Provisions) Regulations, 1998 (S.I. No. 164 of 1998);
- Waste Management (Hazardous Waste) (Amendment) Regulations, 2000 (S.I. No. 73 of 2000);
- Waste Management (Shipment of Waste) Regulations 2007 (S.I. No. 419 of 2007);
- Waste Management (Movement of Hazardous Waste) Regulations, 1998 (S.I. No. 147 of 1998);
- European Waste Catalogue (EWC) and Hazardous Waste List 2002;
- Environmental Protection Agency Act 1992;

- Landfill Directive 1999/31/EC;
- Planning and Development Acts 2000 to 2026, as amended; and
- Protection of the Environment Act 1992 as amended 2003.

2.2 Relevant Guidance

This CRWMP has been prepared in accordance with the following guidance documents:

- The Management of Waste from National Road Construction Projects, GE-ENV-01101 (Transport Infrastructure Ireland 2017);
- Guidance on Soil and Stone By-products in the context of Article 27 of the European Communities (Waste Directive) Regulations 2011 (EPA 2019)
- EPA (2023) National By-product Criteria for Site-Won Asphalt BP-N001/2023
- EPA (2024) National By-product Criteria Greenfield Soil and Stone BP-N002/2024
- EPA (2026) Position Paper Regulation 27 Consultation to inform development of Draft Guidance for Brownfield soil and stone by-product material incorporating a PFAS screen

'Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects' (EPA, 2021) supersedes the 'Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects' (Department of Environment, Heritage and Local Government (DoEHLG), 2006). Since the publication of DoEHLG (2006) guidelines, waste policy in Europe has shifted from the established linear economic model to a circular economic model. Circular economy-inspired interventions focus not only on increasing recycling quantitatively but also on:

- Reducing the use of virgin resources;
- Keeping materials in the economy as long as possible;
- Maintaining their intrinsic value/quality as high as possible; and
- Reducing hazardous substances in products and waste'. (EPA, 2021).

The resource and waste management approaches presented in the EPA (2021) guidelines are based on international principles of optimising resources and reducing waste on construction projects through:

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

These principles are applied to the RWMP through both the pre-construction phase and the construction phase. The evolution of a single plan through a project lifecycle is recommended to ensure preventative and resource efficiency initiatives are undertaken, data is captured, and targets set and measured throughout the project. The evolution of the plan through the project from initial pre-construction phase (in green) followed by implementation at construction phase (in orange) is illustrated in Figure 2-3.

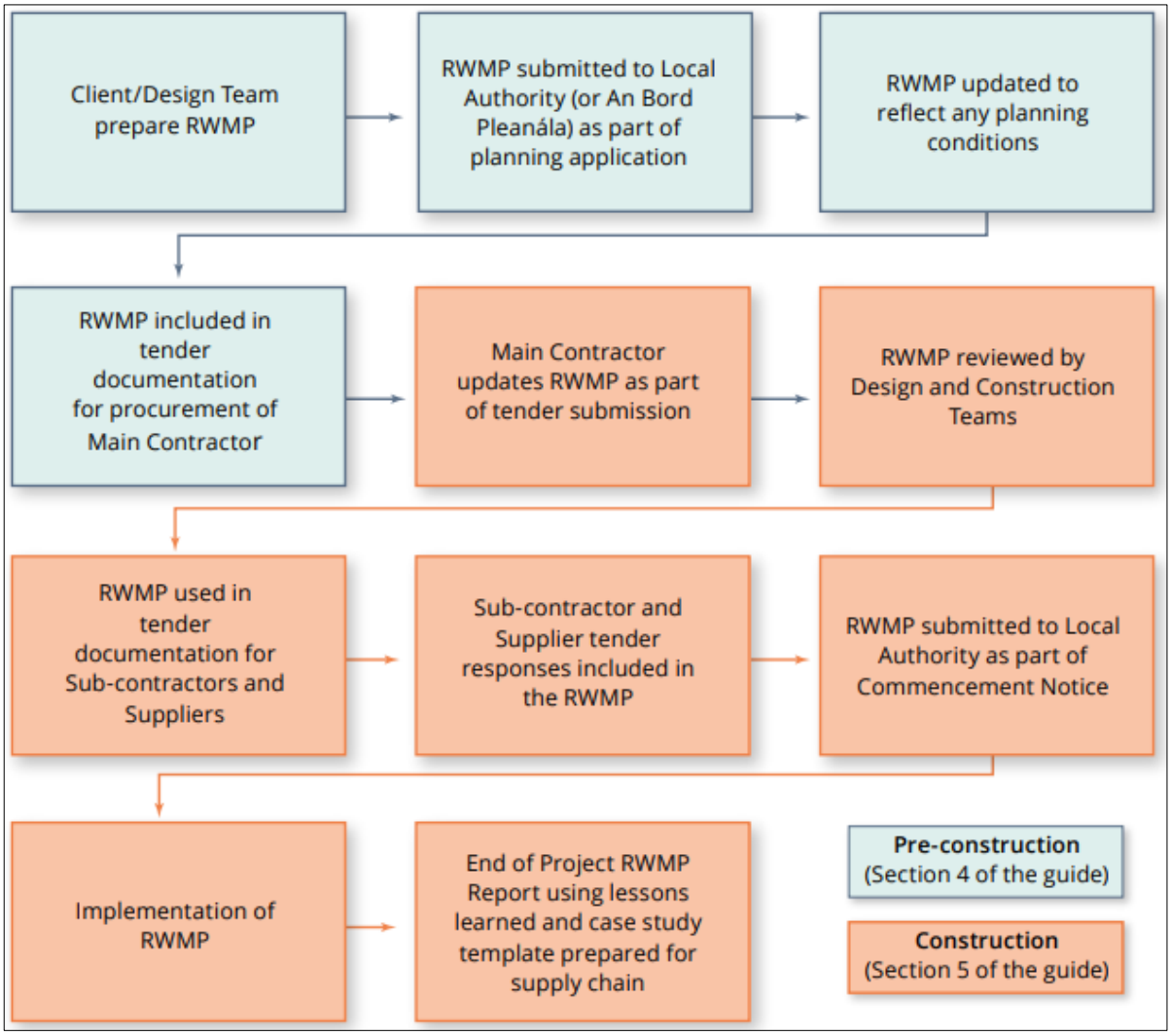


Figure 2-3 — Typical Project Life Cycle of the RWMP (EPA, 2021)[1].

2.2.1 EPAs Draft Guidance for Brownfield soil and stone by-product material incorporating a PFAS screen

By-products are substances/objects which meet the conditions of Regulation 27 of the European Union (Waste Directive) Regulations 2011-20201. These conditions are set out in Regulation 27(1) as follows:

"27. (1) the Agency shall take appropriate measures to ensure that a substance or object resulting from a production process the primary aim of which is not the production of that substance or object is considered not to be waste, but to be a byproduct if the following conditions are met:

a) further use of the substance or object is certain;

b) the substance or object can be used directly without any further processing other than normal industrial practice;
c) the substance or object is produced as an integral part of a production process;

[1] Note references to section 4 and 5 within the figure relate to the relevant EPA guidelines, 2021. An Bord Pleanála refers to An Coimisiún Pleanála.

d) further use is lawful in that the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts."

Regulation 27(2)(a) requires the holder of a by-product to notify the Agency and seek a determination on the matter from the Agency.

National by-product criteria are in place for greenfield soil and stone, brownfield soil and stone notifications are assessed on a case by case basis. The proposed approach for brownfield sites requires the comparison of laboratory results against a set of pollutant limit values (PLVs). The proposed PLV's are screening criteria against which leachate data and total solid soil analysis from the brownfield soil and stone can be compared. The PLV's are based on broad land use scenarios. When notifying brownfield soil and stone material, the notifier will be expected to identify the appropriate land use scenario based on the proposed end use of the material and apply the relevant PLV's.

2.3 Waste Management Legislative Exemptions

Under Article 2(1)(c) of the Waste Framework Directive (Directive 2008/98/EC), waste exclusions are set out which includes:

'Uncontaminated soil and other naturally occurring material excavated in the course of construction activities where it is certain that the material will be used for the purposes of construction in its natural state on the site from where it was excavated.'

Materials from the Proposed Development which fall under this provision are not subject to the requirements of EU or National waste legislation.

Article 27 of the European Communities (Waste Directive) Regulations 2011 allows an economic operator to determine if material is classified as a by-product or a waste under certain circumstances. The following conditions must be met:

- Further use of the substance or object is certain
- The substance or object can be used directly without any further processing other that the normal industrial practice
- The substance or object is produced as an integral part if a production
- Further use is lawful in that the substances or objects fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.

The site won asphalt and the surplus excavated greenfield soil and stone can be categorised under this exemption provided it meets the requirements listed above. The Appointed Contractor will be required to submit a Regulation 27 registration to the Local Authority.

2.4 Site Won Asphalt

The Environmental Protection Agency has published the National By-Product Criteria BP-N001/2023 ('the criteria') for site won asphalt by-product, generated during the removal of pavement on a project. This can be reused as reclaimed asphalt and subsequently bituminous mixtures at Reclaimed Asphalt Pavement (RAP) plants, which meets the requirements of the Irish Standard EN 13108 Bituminous Mixtures – Material Specifications.

2.5 Waste Soils Classification

According to EPA (2018) 'Waste Classification, List of Waste & Determining if Waste is Hazardous or Non-Hazardous': '*correct classification is the foundation for ensuring that the collection, transportation, storage and treatment of waste is carried out in a manner that provides protection for the environment and human health and in compliance with legal requirements*.'

- The waste classification system within EPA (2018) applies across the EU and is the basis for all national and international waste reporting obligations. Since 2015, waste classification is based on:Commission Decision of 18 December 2014, amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European parliament and of the Council (2014/955/EEC) (referred to hereafter as 'The List of Waste (LoW)').

- Commission Regulation (EU) No 1357/2014 of 18 December 2014, replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives.

Soils requiring offsite disposal should be appropriately characterised, prior to transport and disposal, as follows:

- Representative soil samples are subject to a chemical analysis, and the results are input into a waste classification tool in accordance with the EPA waste classification guidance (EPA, 2019) (to determine the relevant List of Waste (LoW) Code) and if the waste soils are hazardous or non-hazardous.
- Where required, Waste Acceptance Criteria (WAC) testing will be undertaken and the analytical results are then separately screened against the relevant screening values (as established under the European Communities Council Decision (EC) 2003/33/EC) 'COUNCIL DECISION of 19 December 2002 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC).

All waste soils removed from site must be transported by appropriately permitted hauliers and must be disposed of to an appropriately authorised disposal / recovery facility (via. valid Certificate of Registration, Waste Facility Permit, or Waste Facility Licence. It is recommended that the Appointed Contractor contacts the facility that will accept the surplus materials to determine their testing requirements for acceptance of the material to their facility.

3. Project Description

The Proposed Development, subject to detailed design, will consist of seven “key locations” and five discrete sections of pipeline, as follows:

- Upgrade to the existing **Wherrew Raw Water Intake & Pumping Station (RWI&PS)**, Wherrew, Ballina, Co. Mayo;
- Upgrade to the existing **Lisglennon Raw Water Storage and Pumping Station** (RWS&PS), Lisglennon, Ballina, Co. Mayo;
- **Proposed Pipeline A** – Lisglennon Raw Water Pumping Station to Lisglennon Water Treatment Plant (WTP);
- Upgrade to the existing **Lisglennon WTP**, Lisglennon, Ballina, Co. Mayo;
- **Proposed Pipeline B** – Lisglennon WTP to Existing River Moy Crossing;
- **Proposed Pipeline C** – Existing River Moy Crossing to Bonniconlon Booster Pumping Station (BPS);
- **Proposed Pipeline D** – Bonniconlon BPS to Windy Gap Break Pressure Tank (BPT);
- **Proposed Pipeline E** – Windy Gap BPT to Lough Talt WTP;
- Proposed **Bonniconlon Booster Pumping Station (BPS)** located at Bonniconlon, Ballina, Co. Mayo;
- Proposed **Windy Gap BPT** located at the Windy Gap, Ballina, Co. Mayo;
- Repurposing the existing Lough Talt WTP, Co. Sligo;
- Proposed Treated Water Reservoir at the existing **Bonniconlon Reservoir** site, Ballina, Co. Mayo; and,
- All permanent and temporary works, including construction compounds, access routes, pipeline corridors, and trenchless crossings.

A schematic overview of the development is shown in Figure 3-1. For ease of reference, raw water and treated water assets have been identified and shown separately. The pipelines have been labelled Pipeline A to Pipeline E, identified between origin and termination points. A graphical overview of the Proposed Development is provided in Figure 3-2.

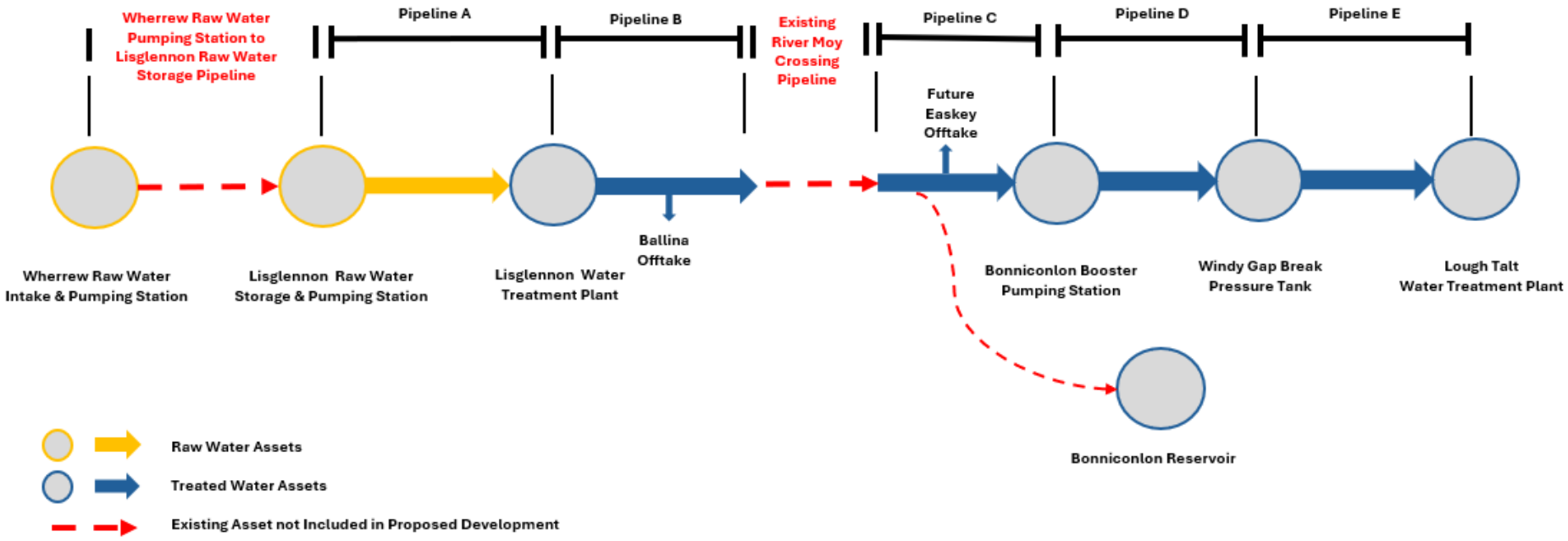


Figure 3-1 — Schematic Overview of the Proposed Development

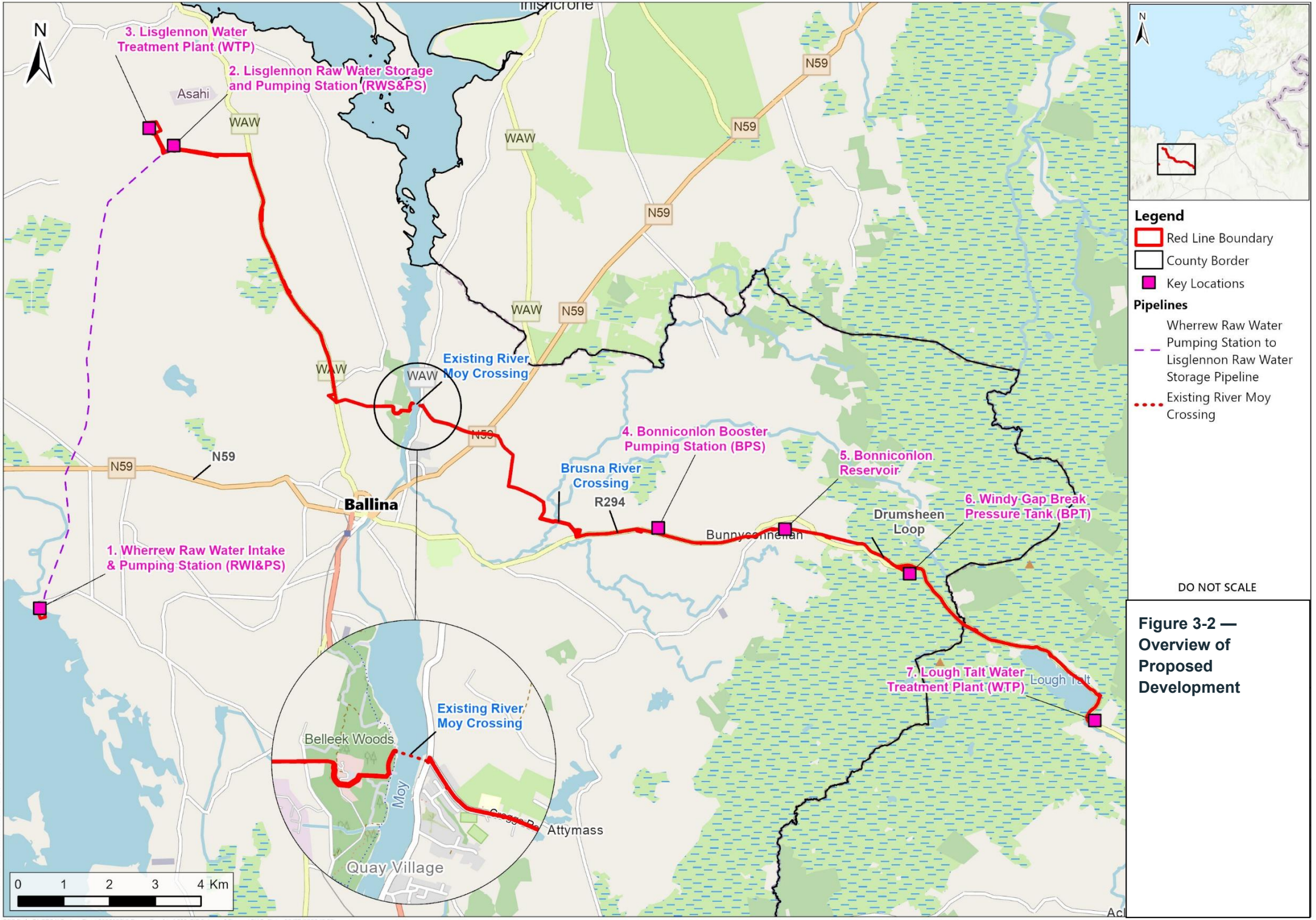


Figure 3-2 — Overview of Proposed Development

3.1 Key Project Elements

A breakdown of the multiple elements of the Proposed Development is as follows. Further details on the recommended design are provided in Section 3 of the EIAR Chapter 3 – Project Description.

- **Upgrades to Wherrew Raw Water Intake and Raw Water Pumping Station (RWI&PS)**
  - A new intake pipe (approx. 165 m long, 1,200 mm internal diameter) and intake screen on a precast concrete base (1.75 m by 1.75 m);
  - The existing intake channel will be infilled with suitable material to restore the original lakeshore profile;
  - Three new cardinal markers;
  - Upgrade and extension to the intake structure;
  - Proposed fish return system with acoustic hoods;
  - Proposed pressure and flow monitoring instrumentation and associated works;
  - Upgrade of the existing MCC, including provision of an HMI panel and associated Programmable Logic Controller (PLC) modification, located within the pumping station;
  - Facility to connect a temporary generator, by providing a connection point and change over switch between existing electrical supply and temporary generator, and a concrete slab for temporary generator set down; and,
  - Ancillary site development works, including access arrangements, hardstanding, security/fencing, surface water (stormwater) management, site lighting, landscaping.
  - Temporary works during construction include:
    - A temporary raw water abstraction arrangement; and,
    - A temporary cofferdam or equivalent temporary water-retaining structure to allow the intake structure upgrade works to be undertaken in dry conditions.
- **Wherrew RWPS to Lisglennon RWPS Raw Water Transfer Mains**
  - Retention of existing 11 km dual pumped 700 mmø pre-stressed concrete mains.
- **Lisglennon Raw Water Storage and Pumping Station (WRS&PS) Site**
  - Replacement of the existing, decommissioned pumps with two new pump sets within the pumping station;
  - Replacement of the pipework and valves within the pumping station to accommodate increased future flows;
  - Installation of pressure measuring instrumentation including pressure gauges and pressure transducers within the pumping station; and
  - Ancillary works, including installation of new flowmeter on Pipeline A, located in the car park of the pumping station, and landscaping.

- **Pipeline A - Lisglennon RWPS to Lisglennon WTP Raw Water Transfer Mains**
  - A new 630 mm internal diameter raw water pipeline, will be installed parallel to the existing 300 mm raw water pipeline between Lisglennon RWS&PS and Lisglennon WTP building for a total length of approx. 1 km;
  - The existing 300 mm diameter pipeline will be retained and connected to Pipeline A through strategically located cross-connections, allowing the pipeline to serve as a maintenance bypass during planned outages or maintenance activities; and,
  - Ancillary pipeline infrastructure, including valves, marker posts, fittings and associated chambers, will be installed as required to facilitate the operation, maintenance and identification of Pipeline A.

- **Lisglennon WTP**
  - Construction of new and upgraded coagulation, flocculation and clarification infrastructure;
  - Provision of additional rapid gravity filtration capacity;
  - Introduction of granular activated carbon filtration as a secondary filtration stage;
  - Construction of a new treated water storage reservoir, to operate in conjunction with the retained existing treated water reservoir;
  - Construction of new residuals management infrastructure, including washwater equalisation, washwater settlement, sludge balancing, sludge holding and dewatering facilities;
  - Provision of new process buildings, including filter gallery buildings, soda ash dosing building, pump station and UV building, and sludge dewatering building;
  - Provision of new electrical infrastructure, including an ESB medium voltage substation, control systems, telemetry and associated ducting;
  - Provision of solar PV infrastructure to supplement site power demand;
  - Ancillary works, including:
    - upgrades to internal access roads, hardstanding, drainage, fencing, lighting and site security;
    - decommission of the existing septic tank and its replacement with new wastewater treatment system with percolation area; and
    - landscaping.

- **Treated water pipelines B, C, D and E: Lisglennon WTP to Lough Talt WTP**
  - Pipeline B – Lisglennon WTP to Existing River Moy Crossing:
    - New circa 710 mm diameter pipeline from Lisglennon WTP to Junction R314 and Belleek Rd;
    - New circa 560 mm diameter pipeline from Junction R314 and Belleek Rd to Existing River Moy Crossing;
    - Tie in with the existing watermain to the west of the Existing River Moy crossing;
    - Transfer of a number of supply connections from the existing network to the new trunk main, including provision of flowmeters connected to the telemetry system;
    - Connection to existing Ballina Offtake;
    - Abandon existing 400 mm – 500 mm diameter trunk main between Lisglennon WTP and Ballina Town; and
    - Abandon existing 350 mm mains between the R314 and Quay Road.
  - Pipeline C – Existing River Moy Crossing to Bonniconlon BPS Trunk Main:
    - Tie in with the existing watermain to the east of the Existing River Moy crossing;
    - New circa 500 mm to 560 mm diameter pipeline from River Moy Crossing to Bonniconlon BPS; and
    - New offtake to facilitate a future connection to Lough Easkey Regional Water Supply Scheme (RWSS) will be provided at the Creggs Road and N59 junction.
  - Pipeline D – Bonniconlon BPS to Windy Gap BPT Trunk Main:
    - New circa 500 mm – 560 mm diameter pipeline from the new Bonniconlon BPS to Windy Gap BPT on the R294 / L51172 / L51357.
  - Pipeline E – Windy Gap BPT to Lough Talt WTP Trunk Main:
    - New circa 450 mm diameter pipeline from Windy Gap BPT to the existing Lough Talt WTP on the R294.

- **Bonniconlon BPS**
  - A new 320 kW booster pumping station (approx. 150 m^2, approx. 8 m tall) with pumping area, control room and welfare facilities, noise proofing by means of thick walls and sound-proofing measures on doors and windows;
  - ESB substation (approx. 20 m^2, 3 m tall) with dedicated fence and entrance;
  - A new permanent standby generator;
  - Two surge vessels (approx. 20 m^3 each); and,
  - Ancillary site development works, including renewable energy, access scour management, storm water management including pond, wastewater management, site lighting, fencing, flowmeter and associated works and landscaping.

- **Bonniconlon Treated Water Reservoir**
  - A new reservoir approx. capacity of 185 m^3 and associated works;
  - New dechlorination chamber;
  - Relocation of ESB pole; and
  - Ancillary site development works, including alterations to access arrangements, hardstanding, surface water management, site lighting, fencing, security, landscaping works.

- **Windy Gap BPT**
  - A new BPT with a storage capacity of approx. 80 m^3;
  - A new scour extraction kiosk and a new control kiosk;
  - Associated inlet pipe (Pipeline D), outlet pipe (Pipeline E), overflow pipe and scour line;
  - A new Precast Cement Concrete inspection/collection chamber approx. 900 mm diameter; and,
  - Associated works including underground flowmeter chambers, valve chambers, pipework;
  - Ancillary site development works, including access arrangements, hardstanding, surface water management, site lighting, fencing, security and landscaping.

- **Lough Talt WTP**
  - New infrastructure:
    - A new treated water reservoir of approx. 3,300 m^3 capacity and associated works.
    - Installation of roof mounted solar panels.
  - Repurposed existing infrastructure:
    - Repurposing of existing approx. 330 m^3 Chlorine contact tank as reservoir.
  - Retained existing infrastructure:
    - Control building;
    - Chemical storage container, tanks and associated works; and,
    - Disinfection (chlorination and ammonia) and orthophosphate dosing infrastructure.
  - Removed existing infrastructure:
    - Disused Microstrainer building;
    - Rapid Gravity Filtration units, backwash holding tank, pumps and associated works;
    - Raw Water Feed Container, Raw Water Balance Tank and associated works;
    - Containerised UV unit and associated works; and,
    - Used Wash Water Equalisation Settlement Tank (UWWEST), Settlement tanks, Sludge holding tank and associated works.
  - Decommissioning of redundant process units.

- Ancillary site development works, including alterations to access road, hardstanding, surface water management, wastewater management, site lighting, fencing and landscaping.

3.2 Construction Programme

Construction of the Proposed Development will be phased over a three-year period, with several construction elements anticipated to be undertaken concurrently. As a result, waste generation will vary throughout the construction programme, with peak waste arisings expected during periods of extensive excavation and structural works across the construction sites. The estimated waste arisings represent the cumulative quantities anticipated to be generated over the entire construction period.

4. Project Roles and Responsibilities

For the purposes of clarity, the roles, and responsibilities of the project team for the Proposed Development development will be determined at the very outset of the construction stage of the works. Key roles are typically performed by the Client, Engineer, and Contractor as presented in Table 4-1 below. Specific details will be determined during the Detailed Design and Contract stage. The Construction Deliver Partners will comprise several tiers of contractors appointed to deliver a given work contract.

Table 4-1 — Roles and Responsibilities

Employer		**Planning Agents**	
The Client:	Uisce Éireann	The Planner:	TBC
Contact:	TBC	Contact:	TBC
Tel:	TBC	Tel:	TBC
Project Supervisor Construction Stage (PSCS)		Civil, Structural and Environmental Team	
The Contractor	TBC	The Engineer:	TBC
Contact:	TBC	Contact:	TBC
Tel:	TBC	Tel:	TBC
Employers Representative		Contractor	
The Engineer:	TBC	The Contractor:	TBC
Contact:	TBC	Contact:	TBC
Tel:	TBC	Tel:	TBC
Project Supervisor for the Design Process (PSDP)		Environmental Manager	
The Engineer:	TBC	The Contractor:	TBC
Contact:	TBC	Contact:	TBC
Tel:	TBC	Tel:	TBC

In line with the '*Best Practice Guidelines on the Preparation of Resource Waste Management Plans for Construction and Demolition Projects*' (EPA, 2021), a number of responsibilities for the development of resources & waste management plans are identified for parties under Waste Framework Directive 2008/98/EC including a Waste Management Coordinator (WMC) to be appointed by the Contractor.

The role of WMC may be fulfilled by different individuals throughout the project lifecycle but must be assigned to a technically competent and appropriately trained member of the Appointed Contractor team. The WMC is responsible for ensuring compliance with the objectives and measures outlined in the Appointed Contractor's Detailed CRWMP and is granted the necessary authority to do so. Key responsibilities include conducting waste audits and implementing construction and demolition practices that maximise reuse and recycling.

The WMC shall report monthly on the following:

- Type(s) of waste material and associated List of Waste (LoW) code (where applicable), including quantity (in tonnes) or volume (m^3) taken off-site for reuse/recycling or disposal;

  The volumes of groundwater taken off-site for treatment or disposal (m^3), should it arise during the construction;

- Weighbridge dockets from the receiving facility to verify accepted quantities/volumes;
- Registrations to Mayo County Council and Sligo County Council;
- Notifications to the Environmental Protection Agency;
- Haulier details, including name, Waste Collection Permit (WCP) number, and vehicle registration of the contractor(s) taking waste offsite for re-use/recovery/disposal;
- Destination facility details for waste (including groundwater) leaving the site, including name and relevant authorisation (e.g. Waste Licence, Permit, Certificate of Registration, or by-product determination);
- The Waste Transfer Form(s) (WTFs) for exported wastes. If hazardous waste arises during the Contract that cannot be treated in Ireland, then a copy of the WTF for each shipment shall be kept in a WTF Register on site and be available for review by Uisce Éireann when requested. This information will be provided monthly to Uisce Éireann or when requested;
- Weighbridge dockets from the receiving facility to verify accepted quantities/volumes;
- End-use or treatment details provided by the waste contractor; and,
- The WMC will be responsible for maintaining detailed records of all material deliveries to the sites, and C&D waste generated throughout the project. Each waste consignment transported from the site will be individually tracked and documented to ensure full traceability from origin to final destination.

4.1 Client/Employer

The responsibilities of the Client/Employer are as follows:

- Require the preparation and submission of an updated detailed CRWMP as part of the construction tendering process;
- Ensure that the CRWMP is agreed and submitted to Mayo County Council and Sligo County Council prior to commencement of works on site;
- Request the end-of-project CRWMP from the Appointed Contractor. This will provide details of the volumes/quantities of waste taken off site for disposal (tonnes/m^3), the LoW Codes for the material, final disposal destination of the material and associated waste acceptance dockets for the waste acceptance facility. The Appointed Contractor will provide monthly information on the types and quantities of material (tonnes/m^3) sent as a by-product under Article 27 or end-of -waste under Article 28 and waste acceptance dockets for same to Uisce Éireann. Registration records under Article 27 to local authorities and notification records to the Environmental Protection Agency will be retained by the Client; and,
- The Appointed Contractor will provide monthly, evidence to Uisce Éireann on the quantities of materials brought to site for construction.

4.2 Design team

The responsibility of the design team is to prepare an CRWMP at preliminary design stage, including details and estimated quantities of all projected waste streams. This information should be classified as type of material, for example C&D waste (m^3), block (tonnes), timber (tonnes), steel (tonnes), blacktop (m^3), and soil and stone (m^3).

4.3 Appointed Contractor

The responsibility of the Appointed Contractor is as follows:

- Preparing, and implementing a Detailed CRWMP through construction (including the management of all suppliers and sub-contractors) as per the requirements of the EPA guidelines. The site specific CRWMP will include any conditions imposed by An Coimisiún Pleanála as part of the planning permission for the Proposed Development

- Identifying a designated and suitably qualified Waste Management Coordinator (WMC) who will be responsible for implementing the CRWMP;
- Identifying all hauliers to be engaged to transport each of the resources / waste streams off-site;
- End-of-waste and by-product notifications addressed with 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) should be maintained for the duration of the project;
- Carry out training and site inductions;
- The Appointed Contractor will ensure that any facilities to which waste is brought are licensed / permitted / registered in compliance with waste management legislation. Similarly, the transportation of waste away from any of the construction sites or compounds will be carried out by vehicles in possession of Waste Collection Permits in compliance with legislation;
- The Appointed Contractor will also be responsible for management of the ordering of supplies, ensuring that supplies are ordered as needed to avoid over-ordering or the requirement for long-term storage of materials, thus reducing the potential for damage or expiration of supplies while being stored on site;
- The Appointed Contractor (including the management of all suppliers and sub-contractors) is legally required to manage waste in compliance with relevant legislation, ensuring it is stored, transferred, treated, and disposed of safely during the construction Phase. Waste management must not endanger human health or the environment, including risks to water, air, soil, flora, fauna, or cause nuisance through noise or odour;
- The necessary authorisations and documentation must be in place before waste is removed from site. The Appointed Contractor must maintain a register of waste transfers, including details of carriers and receiving facilities. All waste must be accompanied by appropriate duty of care documentation, which must be retained as required by law; and
- A tracking system or register will be maintained for all waste and excavated materials leaving the site to ensure traceability, support monitoring, and enable accurate reporting.

4.4 Waste Management Coordinator

The Appointed Contractor will appoint a suitably qualified and experienced Waste Management Coordinator (WMC) for the duration of the construction works. The WMC will be responsible for overseeing the implementation of the construction waste management measures, including waste segregation, storage, re-use, recovery and disposal activities. Key responsibilities will include:

- Ensuring compliance with relevant waste legislation, maintaining waste tracking and documentation records, undertaking regular inspections and audits;
- Ensure waste is segregated at source and stored in designated areas to maximise opportunities for re-use, recycling and recovery;
- Maintain accurate records of the soil and stone reused for backfilling of the water main trenches and used at the individual sites for landscaping or backfilling;
- Maintain records of the companies responsible for the removal of materials off-site including details of the Waste Collection Permit(s) held by the company;
- Details of the wastes collected, the LoW Code, description and quantities/volumes of the waste;
- Names, location, waste permit/licence details of the companies accepting the by-products or waste;
- Undertake sampling and analysis of suspected contaminated/hazardous materials. The WMC will interpret the data using the HazWaste Online tool and classify the material as non-hazardous or hazardous. This assessment can be carried out by a qualified contractor in waste management. Depending on the classification, correct reuse/recovery of this material will be determined by the WMC;

- The WMC will be responsible for the preparation of the notification and submission of the by-product notification to the EPA
- Maintain accurate records of all waste movements, including waste transfer documentation, weighbridge tickets and relevant permits/licences;
- Undertake regular inspections and audits of waste management practices to ensure compliance with project requirements and relevant legislation;
- Monitor waste generation rates and identify opportunities for waste minimisation and improved resource efficiency;
- Liaise with authorised waste contractors and receiving facilities to ensure the appropriate recovery and disposal of all waste streams;
- Deliver waste management training and toolbox talks to site personnel and subcontractors, promoting awareness of waste management procedures and environmental responsibilities;
- Investigate and address any waste management non-conformances, incidents or complaints that may arise during the construction phase; and
- Prepare periodic waste management reports for the Client/Employer and other relevant stakeholders, as required.

5. Design Approach

The waste hierarchy prioritises waste prevention and minimisation, followed by reuse, recycling/recovery, energy recovery (e.g. incineration), and lastly, disposal.

Key design approaches and initiatives were identified at the preliminary design and planning stage of the project, in order to optimise material recovery where feasible. The following initiatives are relevant to the future detailed design and construction phases of the Ballina Lough Talt Water Supply Upgrade:

- The Appointed Contractor will be required to maximise the use of secondary or recycled aggregates in line with tender specifications for back filling of the water pipe trenches.
- Where possible materials will be re-used/recycled to reduce the need for procurement of new materials, in accordance with the Whole of Government Circular Economy Strategy 2026-2028 (see Section 2.1.7) where a minimum proportion of construction materials procured by public bodies under new contract arrangements to comprise recycled materials. From 2028 at least 10%, by weight, of construction materials procured by public bodies for infrastructure projects and public non-residential buildings under new contract arrangements comprise recycled materials. Uisce Éireann is currently drafting a sustainability strategy to align with the national strategy.

In addition, the following initiatives should be considered at the detailed design stage:

- Procure materials for major asset components that have verified Environmental Product Declarations (EPD) as per ISO 14025.
- Materials will be reused as much as possible within the extent of the sites.
- Excavated soil will be re-used onsite where possible. Re-use of excavated material will require a site-specific risk assessment in line with the Waste Management Act. Any surplus soil and stone will be sent to a licensed facility, for re-use where possible, such as the application of the Article 27 by-product.
- The Appointed Contractor will assess the availability of recycled materials locally. Recycled aggregates will meet IS EN 13242 standards.
- New materials with recycled content will be considered if they meet performance, regulatory, and cost criteria.
- During site preparation (excavation for foundations, roads, and utilities), materials will be ordered as needed to avoid excess and waste.
- Zero major pollution incidences during construction and operation and zero accidental or non-consented releases. Implement measures to monitor and report all pollution events and near misses.
- Prioritise the local sourcing of materials, transported through low carbon logistics.

5.1 Design for Reuse/Recycling

In accordance with industry best practice, excavated soils will be reused onsite wherever feasible and suitable, including for boundary treatment and landscaping purposes. Any excess topsoil requiring offsite removal will be transported to an appropriately licensed, permitted, or registered facility. All soils will be characterised in accordance with the EPA guidance document '*Waste Classification: List of Waste and Determining if Waste is Hazardous or Non-Hazardous*' and Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills.

Where appropriate, an application may be made to the EPA under Article 27 of the European Communities (Waste Directive) Regulations 2011 to classify excess soil or other materials as a by-product, provided a definite use for, and demand for, the material can be demonstrated. Similarly, an application may be made under Article 28 of the Regulations, which sets out the conditions under which a material recovered or recycled from waste may achieve End-of-Waste status. These conditions include demonstrating that the material is intended for a specific purpose, that

there is a market or demand for it, that it meets relevant technical requirements and standards, and that its use will not result in adverse impacts on human health or the environment.

During the construction phase, the Appointed Contractor will review the availability of recycled aggregates and other secondary materials within the local area and will seek to implement the most sustainable sourcing options where practicable. This may include the use of an onsite crusher to recycle residual concrete and generate aggregate for reuse within the development, subject to the necessary regulatory approvals and compliance with relevant industry standards. Any recycled aggregate produced for reuse will be required to meet the specification requirements of IS EN 13242 and any applicable End-of-Waste criteria.

The Appointed Contractor will also evaluate opportunities to incorporate materials containing recycled content into the Proposed Development, provided such materials meet the required functional, performance, quality, and regulatory standards and are available locally at a reasonable cost.

Designing for reuse and recycling represents one of the most effective approaches to delivering low-carbon infrastructure and supports the transition to a circular economy. Unlike the traditional linear model, in which materials are discarded as waste at the end of their service life, a circular economy seeks to retain the value of materials and products for as long as possible through reuse, recovery, and recycling, thereby reducing resource consumption and waste generation.

5.2 Design for Green Procurement

As outlined in Section 2.3, *Green Public Procurement Strategy and Action Plan 2024-2027* (Department of the Environment, Climate and Communications (DECC), 2024) is Ireland's national policy framework for embedding environmental, climate, and circular economy principles into all public sector procurement activities. The strategy includes the following target:

"*T1: Built Environment: From 2025, a minimum proportion of construction materials procured by public bodies under new contract arrangements will comprise recycled materials. This target will be updated following further data analysis and the publication of the Second Whole of Government Circular Economy Strategy, which will include sectoral targets for the construction sector*."

Waste prevention and minimisation measures at the pre-procurement stage have been discussed previously and are further considered in this section. The Design Team will seek to identify design solutions that promote resource efficiency, encourage innovation through the tendering process, and incentivise sustainable approaches. Opportunities to reduce packaging waste will also be explored with the Appointed Contractor, subcontractors, and suppliers through measures such as Just-in-Time delivery systems and ordering procedures that minimise material surplus and avoid excessive waste generation.

Green procurement considerations will be integrated throughout the project lifecycle, from planning and detailed design through to tendering and contractor selection, forming an ongoing component of the development's long-term design and procurement strategy.

When selecting suppliers, it is essential to assess their technical capability to provide the goods and services required. This ensures that suppliers who are unable to meet project requirements are excluded from the procurement process. It also provides suppliers with a clear understanding of the Client's commitment to sustainability and the environmental performance standards expected for successful tender submissions.

At an early stage of the procurement process, Uisce Éireann will engage with potential contractors, subcontractors, and suppliers to discuss the following:

- Waste prevention and minimisation measures during construction;

- Design solutions that encourage innovation and recognise sustainable approaches through the tendering process;
- Ordering procedures that reduce waste generation, including avoiding over-ordering and implementing take-back schemes for surplus materials and offcuts;
- Opportunities to reduce packaging waste through measures such as Just-in-Time delivery;
- Establishing reuse and recycling targets for construction materials and waste streams; and
- Identifying and specifying materials that can be sourced responsibly in accordance with recognised industry standards, including opportunities for materials (e.g. steel and concrete elements) to be returned to suppliers for future reuse.

5.3 Design for Off Site Construction

The EPA (2021) notes that:

"*The use of off-site manufacturing reduces residual wastes by up to 90% compared with traditional volumetric construction methods*."

While the decision to adopt off-site construction methods is often influenced by cost considerations, such methods can also deliver significant benefits from a resource efficiency and waste management perspective. Off-site manufacturing can reduce material wastage, improve quality control, minimise packaging waste, and optimise the use of raw materials throughout the construction process.

As part of the ongoing design development process, a number of procurement and design measures are being considered to further enhance resource efficiency, including:

- Designing for the preferential use of off-site and modular construction components where technically and economically feasible;
- Maximising opportunities for standardisation and prefabrication to reduce material waste and improve construction efficiency;
- Specifying products and materials with high durability, reparability, and reuse potential; and
- Encouraging suppliers and manufacturers to provide resource-efficient solutions that support circular economy principles.

5.4 Design for Material Optimisation

As stated in the EPA (2021) guidelines, a key design principle for material optimisation is:

"*To ensure manufacturers and construction companies adopt lean production models, including maximising the reuse of materials onsite. This helps to reduce the environmental impacts associated with transportation of materials and from waste management activities*."

Material optimisation seeks to minimise the consumption of resources and the generation of waste throughout the design and construction process. This can be achieved through the adoption of lean design and construction principles, including the use of standardised material dimensions to reduce the generation of offcuts and waste onsite. Opportunities for off-site manufacture and prefabrication should also be maximised, as these approaches can improve material efficiency, reduce waste generation, and enhance quality control.

Additional material optimisation measures that will be considered during the design process include:

- Simplifying building layouts and structural forms to minimise material requirements;

- Applying standardised design parameters and dimensions to reduce material wastage;
- Balancing cut and fill activities, where practicable, to maximise the reuse of excavated materials onsite and minimise the need for import or export of materials;
- Prioritising the use of renewable, responsibly sourced, and low-carbon materials;
- Maximising the use of materials with recycled content where they meet the required technical and performance specifications; and
- Selecting materials from sustainable or low-carbon sources to reduce the overall environmental footprint of the development.

Through the implementation of these measures, the Proposed Development will seek to optimise material use, reduce waste generation, minimise transport-related impacts, and support the principles of the circular economy.

5.5 Design 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 where possible.

As per the EPA (2021) guidelines '*consider material efficiency for the duration and end of life of a building project; 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*'.

6. Key Materials and Quantities

6.1 Types of Waste to be Generated by the Proposed Development

Waste generated onsite typically originates from two main sources:

- Imported materials: These include construction inputs such as concrete, aggregates, asphalt, block, steel, piping, cabling, and associated packaging. This waste stream is produced from a range of potentially preventable activities. Such activities include damaged materials and the over ordering of materials. This waste stream is described as construction (C) waste within the CRWMP.
- Site-generated materials: These are materials found within the project footprint, such as topsoil and subsoil, asphalt, concrete and block categorised as excavated (E) waste in the CRWMP.

Refer to Table 6-1 for a detailed breakdown of expected waste types. Effective waste management will consider:

- Waste reduction and segregation;
- Proper disposal methods;
- Financial implications; and,
- Monitoring, education, and data review

The Appointed Contractor is responsible for developing a comprehensive sampling and analysis plan for excavated materials to ensure the following:

- Proper segregation and storage to avoid cross-contamination between Article 27-compliant and non-compliant materials;
- Separation and stockpiling of inert, non-hazardous, and hazardous materials;
- Identification of materials suitable for reuse on-site and;
- Appropriate testing (including sufficient sampling and analysis of relevant parameters) to confirm the suitability of materials for reuse and ensure compliance with the acceptance criteria of off-site facilities.

Table 6-1 — Breakdown of the Types of Waste

Type of waste	Description
Imported material	Materials brought onto a site for construction or demolition purposes that may be subsequently discarded as waste. These materials can include soil, stone, concrete, brick, steel, concrete, diesel, piping, tiles, metal, plastic, and wood. Any waste produced through the importation of materials needs to be monitored and included in the CRWMP under construction works. Where possible, consideration should be given to the use of recycled imported material such as steel, crushed concrete, which has a higher recycled content.
Excavated materials (E)	Excavated materials—primarily soil and stone—will be placed in clearly marked stockpiles, and chemical testing will be conducted to assess their suitability for on-site reuse. If materials are unsuitable due to geotechnical or chemical properties, or if they are surplus to requirements, testing results will inform appropriate off-site treatment or disposal routes. Soils should be placed in clearly identified stockpiles and chemical testing undertaken to confirm the potential for re-use on site, or, if considered inappropriate for re-use (due to geotechnical or chemical properties or being surplus), to inform off site treatment and/or disposal routes. Where soil materials meet the geotechnical and chemical criteria for re-use

Type of waste	Description
	given the proposed end use scenario, such materials may be re-used on site, if required. Disposal of excavated material will be by licensed carriers, to licensed landfill sites and handled in accordance with the Waste Management Regulations.
Concrete	This waste will be generated predominantly from concrete-breaking activities associated with the proposed works.
Construction materials	Comprising bricks, blocks, stone, tiles, slate and glass
Gypsum-based construction material	Predominantly from demolition works.
Wood	Packaging such as pallets.
Packaging	From construction materials, etc.
Plastic	Offcuts of pipework/ducting etc.
Vegetation	Vegetation removal is required to facilitate the proposed works.
Metals	Offcuts from reinforced concrete for building foundations. Metal components or assets removed for site clearance.
Paper and Cardboard	Packaging from components delivered to site.
Canteen Waste	Food waste from site canteens
Asbestos containing materials	Predominantly from demolition works and to a lesser degree possibly encountered during utility diversions including pipe works and insulation.
Segregated Hazardous Waste	A nominal allowance of 1% has been included to account for packaging associated with hazardous materials, such as oils, solvents, sealants, and similar products. Where present, waste may also arise from the removal and disposal of hazardous construction materials, including Asbestos-Containing Materials (ACMs)
Miscellaneous Wastes	Wastes containing batteries, electronic equipment, waste fuel and diesel.

6.1.1 Potential Non-Hazardous Waste Streams

A large portion of waste arising during the construction phase of the Proposed Development will be non-hazardous comprising:

- Excavated soil and stone from the water main trenches and the infrastructure sites
- Concrete
- Waste generated from horizontal directional drilling (HDD)
- Pile arisings
- Asphalt (post 1980's) and aggregates
- Mixed municipal waste, recyclables and food waste.

6.1.2 Potential Hazardous Waste Streams

It is estimated that small quantities of hazardous waste arising will arise during the construction phase of the Proposed Development. These hazardous waste streams will include:

- Asbestos Containing Materials
- Empty oil, paint, lubricant containers
- Oil contaminated cloths and oil contaminated spill absorbent materials
- Contaminated soil and stone (low probability)
- Road surfacing material on old roads containing coal-tar.

All waste arising from the construction phase will be removed from the site by suitably authorised waste contractors holding the necessary waste collection and transport permits. Waste materials destined for reuse, recycling, recovery, or disposal will be transferred to appropriately authorised facilities operating under a Certificate of Registration, Waste Facility Permit, or Waste Licence, as applicable.

A range of hazardous and non-hazardous waste streams are expected to be generated during the construction phase. These waste streams are identified in Table 6-2, together with their corresponding List of Waste (LoW) codes, which inform the appropriate management, treatment, recovery, and disposal requirements for each waste type.

The LoW code (also referred to as European Waste Catalogue (EWC) code) serves as a common method of characterising various waste streams. Assignment of waste codes will determine how and where the generated waste can be disposed of LoW codes must be selected for each waste type. While the Table 6-2 provides a useful reference, it is not exhaustive. It is the Appointed Contractor's responsibility to ensure all waste types are correctly identified, managed, and disposed of in full compliance with relevant waste legislation.

Table 6-2 — Waste materials and their corresponding LoW Codes

Waste Material	LoW Code
Concrete, bricks, tiles and ceramics	
Concrete	17 01 01
Bricks	17 01 02
Tiles and ceramics	17 01 03
Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	17 01 07
Wood, glass and plastic	
Wood	17 02 01
Glass	17 02 02
Plastic	17 02 03
Bituminous mixtures, coal	
Bituminous mixtures containing coal tar	7 03 01*
Bituminous mixtures other than those mentioned in 17 03 01	7 03 02
Metals (including their alloys)	
Mixed metals	17 04 07
Soil (including excavated soil from contaminated sites), stones and dredging spoil	
Soil and stones containing hazardous substances	17 05 03*
Soil and stones other than those mentioned in 17 05 03	17 05 04

Waste Material	LoW Code
Gypsum-based construction material	
Gypsum-based construction material	17 08 02
Other construction and demolition wastes	
Mixed construction and demolition waste other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	17 09 04
Wastes from electrical and electronic equipment	
Discarded equipment containing chlorofluorocarbons, HCFC, HFC	16 02 11*
Discarded equipment containing free asbestos	16 02 12*
Discarded equipment containing hazardous components (16) other than those mentioned in 16 02 09 to 16 02 12	16 02 13*
discarded equipment other than those mentioned in 16 02 09 to 16 02 13	16 02 14
Hazardous components removed from discarded equipment	16 02 15*
Components removed from discarded equipment other than those mentioned in 16 02 15	16 02 16
Insulation materials and asbestos-containing construction materials	
Insulation materials containing asbestos	17 06 01*
Construction materials containing asbestos	17 06 05*
Miscellaneous Waste	
Paper and cardboard	20 01 01
Biodegradable waste (Green waste)	20 02 01
Batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries	20 01 33*
Batteries and accumulators other than those mentioned in 20 01 33	20 01 34
Waste fuel oil and diesel	13 07 01*
Waste petrol	13 07 02*
Waste other fuels (including mixtures)	13 07 03*
Chemicals – Solvents	20 01 13*
Chemicals – Pesticides	20 01 19*
Chemicals – paint, inks, adhesives and resins containing hazardous substances	20 01 27*
Chemicals – paint, inks, adhesives and resins other than those mentioned in 20 01 27	20 01 28
Chemicals – detergents containing hazardous substances	20 01 29*
Chemicals – detergents other than those mentioned in 20 01 29	20 01 30
Insulation materials other than those mentioned in 17 06 01 and 17 06 03	17 06 04

Note 1: The use of an asterisk on a LoW code denotes that the material is characterised as hazardous.

6.2 Estimated Quantities of Waste Generation

The estimated waste volumes identified for the Proposed Development are summarised below. These quantities have been developed based on the information available at this stage of the design process. Once the detailed design has been finalised and construction methodologies and material specifications have been confirmed, the Appointed Contractor will review and refine these estimates in accordance with relevant EPA guidance and best practice.

It should be noted that the estimated soil and waste volumes are significant. Consequently, the Appointed Contractor will be required to prepare a Soil Management and Remediation Plan (SMRP) during the detailed design stage which will provide specific details regarding the excavation, handling, storage, transport, recovery and/or disposal of all soil waste streams, including inert, non-hazardous and hazardous soils in compliance with regulatory requirements.

6.2.1 Excavated Material

The total estimated volume of excavated material is 94,639 m³, as presented in Table 6-3.

Table 6-3 — Excavated Material

Description of Works	Total Excavation (m^3)	Estimated Volume of excavated material for re-use/recovery on site (m^3)	Estimated Volume of Excavated Material to be taken off-site for reuse/recovery (m^3)
Pipeline (30.2 km)	79,095	16,951	62,144
Sites	15,544	10,545	4,999
Total	94,639	27,496	67,143
Approximate %		29	71

6.2.2 Construction Waste

The total estimated construction waste volume is approximately 168,745 tonnes. This quantity has been further categorised into individual waste streams, with the estimated tonnages for each waste type presented in Table 6-4.

Table 6-4 — Estimated Quantities of Waste generated Construction Waste

Waste Stream	Estimated Quantity (tonnes)	Basis
Soil and stone unsuitable for reuse	121,000	Derived from 67,143 m³ unsuitable excavated material using 1.8 t/m³ bulk density.
Soil and stone suitable for re-use on site	49,500	Derived from 27,500 m³ reusable excavated material
Concrete	1,200	Reservoir construction, chambers, foundations, hardstandings and limited demolition works
Masonry	150	Existing chambers, plinths and ancillary structures
Bituminous materials	5,840	Road crossings, reinstatement and site access modifications

Ferrous / non-ferrous metals	300	Pipework, valves, decommissioned plant and structural steel
WEEE	50	MCCs, telemetry, SCADA, instrumentation and electrical infrastructure at existing sites
Cabling	20	Electrical and control system modifications
Timber	80	Formwork, pallets and packaging timber
Plastic	60	Pipe offcuts, membranes and packaging
Packaging waste	120	Project-wide material deliveries
Mixed C&D waste	250	General construction waste not otherwise segregated
Municipal waste	50	Site offices and welfare facilities
Hazardous waste including asbestos containing material	15 -	Oils, contaminated absorbents, batteries and chemical residues and possibly asbestos containing materials
Total (excluding reused soil)	129,135	
Total waste generated	178,635	Includes reusable excavated material

6.2.3 Other Waste

In addition to the above waste streams, other waste materials will be generated during the construction phase. These residual wastes will typically comprise non- recycling waste such as soiled paper / cardboard / plastics / cloth, canteen food waste, fibreglass, polystyrene insulations, and plasterboard. These materials will be stored separately to all other waste streams in order to prevent any cross contamination.

6.2.4 Waste Minimisation

In line with the waste hierarchy (Figure 2-1), waste prevention is the best option for managing waste during the construction phase of the Proposed Development. The Appointed Contractor will consider the following measures to minimise waste generation during construction:

- Ordering ‘just in time’
- Ensure adequate storage of materials on site
- Ensure that materials that can be re-used, for example excavated soil and stone, is store remotely from hazardous materials or material that may contaminate the soil and stone
- Maximise the reuse of excavated materials at other sites of the Proposed Development.
- Maximise the declaration of suitable soil and stone as ‘by-product’ under Article 27 of the European Communities (Waste Directive) Regulation, 2011, as amended
- Ensure separation of waste streams by using appropriately labelled skips with adequate cover to prevent windblown litter
- Waste management will form part of the Site Induction Training for all employees and sub-contractors
- Waste audits will be regularly undertaken and recorded. Non-compliances with waste management or storage will be immediately rectified
- Windblown litter, if it arises, will be immediately collected
- Food waste will be managed and no food, which could attract vermin, will be left on site

- Foul water generated from the site compounds will be collected to a storage tank. This tank will be regularly removed for off-site disposal at a licenced facility
- All waste removal records will be maintained by the Waste Management Co-ordinator. These records will be made available to Uisce Éireann on a monthly basis
- All waste will be stored away from waterbodies such as streams, rivers or lakes.

6.2.5 Waste and By-products storage

Excavated soil and stone from the installation of the water main and the individual sites will require monitoring, assessment and segregation to maximise the potential for reuse as a by-product. The Appointed Contractor will reuse suitable material on site as much as possible and the surplus material that will be reused will be registered with either Mayo County Council or Sligo County Council for consideration or notified to the EPA for determination.

The Appointed Contractor will ensure that by-products suitable for reuse will be stored separately from waste material that is suitable for recovery or disposal. Stockpiles will be appropriately labelled. If the material does not meet the assessment as a by-product but is suitable for recovery or recycling under Article 28 at a soil recovery/treatment facility, this material will be stored in a separate stockpile.

The Appointed Contractor will strategically position the waste storage areas throughout the site to enable easy access to waste collection vehicles. Wastes will be stored at locations that will not cause environmental pollution by ensuring that the stockpiles are set back a minimum 20 m from watercourses. Where wastes and by-products are excavated during water mains pipe laying, backfilling of the trenches will be completed on the day of installation to minimise the storage of wastes and by-products.

The Appointed Contractor will ensure that all waste is stored on impermeable ground and/or within suitable containers which are located away from watercourse. Waste storage containers will be suitably labelled to identify its contents and thus prevent mixing of waste streams.

The Appointed Contractor will ensure that liquid wastes generated during the construction phase of the Proposed Development are stored on impermeable ground and in suitably bunded containers (110%). The tanks will be inspected on a regular basis to ensure the bund is not retaining rainfall.

Any hazardous waste that is encountered or generated during construction must be stored in a designated secure area. The Appointed Contractor will ensure that a designated hazardous waste storage area is set up and is adequately secure and sized to handle the estimated volumes of hazardous wastes expected. If asbestos waste is generated from any construction site, the Appointed Contractor will ensure that storage is carried out as per the requirements of the regulatory requirements in properly labelled storage containers. Asbestos containing materials will be collected by licenced waste hauliers and transferred to licenced facilities that are licenced to accept asbestos wastes. The Appointed Contractor will retain all transport, transfer and disposal records and make the records available to Uisce Éireann.

The Appointed Contractor will ensure that wastes are collected in a timely manner by approved waste transport companies and transferred to the appropriate permitted/licenced facilities for reuse or recovery/disposal. The Appointed Contractor will retain records of all surplus materials taken off-site for reuse or recovery/disposal.

Some types of packaging wastes such as pallets will be returned to the supplier for reuse. Where this is not possible, the packaging materials will be segregated onsite and placed in labelled skips with covers. If the packaging has contained hazardous materials then the empty containers will be managed as a hazardous waste.

Uncontaminated concrete waste will be placed in skips and taken off-site for recycling or disposal as an inert waste.

Surplus soils generated during the HDD process will be disposed of as a non-hazardous waste. The Appointed Contractor will place this material into a separate labelled container for disposal off-site.

Pile arisings from the construction works on site may be contaminated and will need to be assessed at each of the construction sites to identify if the material is suitable for reuse or sent for disposal off-site.

Wastes generated in the site compounds will comprise a mixture of mixed municipal, recyclables and food waste generated from the welfare facilities. The Appointed Contractor will have suitability labelled waste containers to collect compostables, recycling and other waste streams. Collection frequencies will vary depending on the construction stages and personnel on site. The Waste Management Coordinator (WMC) will organise collection frequencies to ensure that waste storage in the compounds is kept to a minimum.

WEEE generated during the construction of the site infrastructure will be stored separately in dedicated, labelled containers. The WMC will be responsible for recording the volumes of WEEE going off-site for recovery. Records of the volumes of WEEE taken off-site will be made available to Uisce Éireann.

6.3 Tracking and Documentation Procedures for Off-Site Waste

All waste transport and recovery/disposal activities will be undertaken in accordance with the relevant waste management legislation outlined in Section 0, together with any subsequent legislation applicable at the time of construction. A Waste Management Coordinator (WMC), appointed by the Appointed Contractor, will be responsible for ensuring that appropriate waste tracking and record-keeping procedures are implemented for all waste removed from the site. Each waste consignment will be tracked and recorded, with site records maintained detailing the date of removal, vehicle registration number, waste type, estimated quantity and destination facility. These records will be retained on-site together with the corresponding collection dockets and weighbridge tickets from the receiving recovery or disposal facility. Copies of all relevant waste collection permits, waste permits and/or waste licences associated with the authorised recovery and disposal facilities will also be maintained on-site for the duration of the construction works.

The WMC will be responsible for the preparation of Article 27 by-product notifications to the EPA on EDEN and will submit the following information:

- Demonstrating that further use of the material is certain
- Demonstrating that the material can be used without further processing
- Demonstrating that the material is produced as an integral part of the construction process
- Demonstrating that further use of the material is lawful and no adverse impacts during its use.

The by-products notification will be accompanied by a signed Material Producer's Declaration. The soil and stone by-product notification will be accompanied by the following two declarations:

- Declaration of Soil and Stone Suitability – Civil
- Declaration of Soil and Stone Suitability – Environmental

Any material on site that is the subject of a by-product notification will not be moved by the Appointed Contractor until a determination by the EPA has been made.

6.4 Construction Waste Management Costs

Under the Waste Framework Directive 2008/98/EC and in accordance with the polluter-pays principle, there is a legal requirement that the costs of disposing waste must be borne by the holder of waste or by the producers of the product from which the waste came, thereby placing the legal obligation for the management of the waste on the Client.

In terms of waste management and recovery/disposal costs, it is not feasible at this stage to accurately estimate the overall costs associated with waste management for the Proposed Development. These costs will be determined by the Appointed Contractor during the detailed design and construction planning stages, when waste quantities, classifications, management requirements, and recovery/disposal routes have been further defined.

7. Site Management

The Appointed Contractor will nominate a WMC for the duration of the Construction Phase. The responsibilities of the WMC are listed in Section 4.4.

7.1 General Site Maintenance

A number of waste management practices will be implemented by the Appointed Contractor to ensure that waste arisings are managed in a controlled and orderly manner, thereby minimising potential environmental effects as far as practicable:

- A regular programme of site tidying will be established to ensure a safe and orderly site.
- Debris netting will be erected to prevent materials being scattered by the wind.
- In the event of any litter or debris escaping the site, it will be collected immediately and removed to storage on site and subsequently recovered / disposed of in the normal manner.
- Food waste will be strictly controlled on all parts of the site in order to minimise the attraction of vermin and other pests.
- Waste receptacles such as skips will be adequately labelled and will be secured so as to minimise impact from fly-tipping.
- Waste will be collected in a timely fashion so as to prevent overly large volumes of waste accumulating.
- Provision of a site layout map showing key areas such as first aid posts, material storage, spill kits, material and waste storage and welfare facilities.
- Waste and chemical inventories will be developed/recorded/updated.
- Details of site managers contact numbers and public information signs (including warning signs) will be provided at the boundaries of the working areas. Any complaints from the public regarding waste and housekeeping will be entered in the complaints register and actioned as required.
- Provision of appropriate waste management facilities at each working area and regular collections to be arranged.
- No bonfires or burning of waste materials.

7.2 Site Compounds/Temporary Work areas

Indicative site compound locations and Temporary Working Areas (TWAs) will be required throughout the construction phase to facilitate the safe movement of vehicles and personnel, the loading and unloading of equipment and materials, and the provision of welfare facilities. These areas will also accommodate the temporary storage and segregation of construction materials and waste prior to reuse, recovery, recycling or off-site disposal. These locations are shown in Figures 3-38 to 3-45 in Chapter 3 Project Description of the EIAR.

The detailed layout and management of all temporary compounds and TWAs will be developed by the Appointed Contractor and incorporated into the Detailed CRWMP.

7.3 Disposal/Recycling Proposals for Each Waste Stream

During the construction phase, all construction and demolition (C&D) waste materials will be segregated on-site into designated waste streams using clearly labelled skips and storage areas. Waste will be removed by suitably authorised waste contractors holding valid waste collection permits issued by the National Waste Collection Permit

Office (NWCPO), and transported to appropriately permitted or licensed recovery and disposal facilities. The detailed CRWMP will identify all proposed waste haulage contractors and outline the procedures for the management of waste generated during the works.

7.3.1 Soils / Made Ground

Non-contaminated excavated materials will be reused on-site, where practicable, for landscaping, backfilling, or other non-engineering purposes, thereby minimising the quantity of waste requiring off-site management. Any surplus excavated material requiring removal from the site will be transported as a by-product under Article 27 an authorised reuse facilities. Brownfield soil and stone will be sent to a soil recovery or disposal facility in accordance with the Waste Management Acts and associated regulations.

If suspected contaminated soils are identified during the construction phase, it will be sampled and subject to laboratory analysis. The suspected material will be classified in accordance with the EPA guidance document Waste Classification: List of Waste and Determining if Waste is Hazardous or Non-Hazardous (EPA, 2018) and characterised in accordance with the relevant Waste Acceptance Criteria (WAC) established under Council Decision 2003/33/EC. The suspected soil can also be classified using the HazWaste Online tool. Such materials will be transported by appropriately permitted waste contractors and disposed of at suitably authorised waste recovery or disposal facilities in accordance with all applicable waste management legislation.

Prior to off-site removal, all waste soils will be appropriately characterised through chemical analysis and WAC testing to determine the applicable List of Waste (LoW) code, hazard classification, and suitable reuse, recovery or disposal route. All waste soils will be transported by authorised waste contractors to appropriately permitted facilities, and records of waste transfer and final destination will be maintained by the Appointed Contractor as part of the project waste management documentation.

7.3.2 Mixed C&D Waste

Following segregation onsite, any residual mixed C&D waste will be collected in containers specifically for mixed C&D waste; these will be transported by appropriately permitted hauliers and must be removed offsite for subsequent offsite separation and disposal to an appropriately authorised disposal / recovery facility (via. valid Certificate of Registration, Waste Facility Permit, or Waste Facility Licence).

For all site clearance works and excavation works, suitably qualified, experienced, licensed and trained personnel will be required to undertake this specialist work such as those specified in accordance with the ‘measures for working with asbestos’. Any Asbestos Containing Materials (ACMs) discovered in areas required for excavation, will be required to be disposed of by a licensed contractor to a licensed waste facility in accordance with waste management legislation, including but not limited to the Waste Management Act of 1996, 2001 and 2003 and all subsequent waste management regulations as amended.

7.3.3 Wood / Timber

Wood/Timber waste will be segregated from other waste streams to prevent contamination and will be stored in a manner that minimises deterioration and water ingress. Where practicable, wooden pallets will be returned to suppliers for reuse, and timber offcuts will be reused on site wherever feasible. Waste timber that cannot be reused will be stored in a dedicated covered container within the designated waste storage area pending collection by a suitably permitted waste contractor. The material will subsequently be transported to an appropriately permitted recovery or recycling facility. The WMC will keep records of the wood/timber going off-site for reuse/recovery.

7.3.4 Metals

Metal waste will be generated during the construction phase of the project. Metal wastes will be segregated at source and stored in dedicated skips or containers within a secure, designated waste storage area pending collection. Due to the high recovery potential and scrap value of metal waste, all metal arisings will be sent to an appropriately permitted recovery facility where they will be reused or recycled, where feasible. Regular collections will be scheduled to minimise stockpiling on site and reduce the risk of unauthorised access, theft and associated health and safety risks. The WMC will keep records of the metals going off-site for reuse/recovery.

7.3.5 Paper, Plastics, and Packaging

Packaging waste arising from construction activities, including paper, cardboard, plastic and residual packaging materials, will be segregated and stored in designated containers within the site waste storage area. Waste packaging will be collected by a suitably permitted waste contractor and transported off site to an appropriately permitted recovery or recycling facility for further segregation, treatment and recovery wherever feasible. The storage and management of packaging waste will be undertaken in a manner that maximises recycling opportunities and minimises the quantity of waste requiring disposal. The WMC will keep records of the paper, plastics and packaging going off-site for reuse/recovery.

7.3.6 Canteen / Office Waste

Dedicated, clearly labelled waste receptacles will be provided within all canteen and welfare areas to facilitate the segregation of waste at source. Brown bins will be provided for compostable food waste, green bins for mixed dry recyclables (including packaging, hard plastics, paper, cardboard and beverage cartons), and black bins for residual waste. The use of colour-coded bins and appropriate signage will promote correct waste segregation and maximise opportunities for recycling and recovery while minimising the quantity of waste sent for disposal. The WMC will keep records of the canteen/office waste going off-site for reuse/recovery/disposal.

7.3.7 Hazardous Waste

Any hazardous waste generated during the construction phase, including hazardous contaminated soils if encountered, will be managed in accordance with the Waste Management (Hazardous Waste) Regulations and other relevant legislation. Hazardous waste will be kept separate from non-hazardous waste, clearly labelled, and stored in designated areas with appropriate containment until collected by authorised waste contractors.

Fuels, oils and other hazardous materials used during construction will be stored in secure designated areas. Fuel tanks will be double-skinned or appropriately bunded, and refuelling will take place in designated areas within the site compound. Paints, varnishes, adhesives, cleaning products and other chemicals will be stored in a dedicated bunded chemical store.

Plant and equipment will be checked regularly for leaks and defects. Any damaged equipment will be repaired or removed from service as required. Spill kits and Safety Data Sheets (SDS) will be available at fuel and chemical storage areas. Site personnel will receive appropriate training in the handling and storage of hazardous materials, refuelling procedures and spill response.

Small quantities of hazardous wastes, such as waste electrical and electronic equipment (WEEE), batteries, printer cartridges, fluorescent lamps, waste oils and contaminated absorbents, may be generated during the works. These wastes will be stored appropriately and managed in accordance with the waste hierarchy, with recovery and recycling undertaken where feasible.

Significant quantities of hazardous waste are not expected to be generated during construction. However, any hazardous waste arising will be removed from site by authorised contractors and taken to appropriately permitted recovery or disposal facilities.

ACMs have been identified on site (Asbestos Refurbishment Survey Report, Irish Drilling Ltd, 2025). These will be removed and disposed of by appropriately licensed contractors in accordance with relevant legislation and guidance.

Records of all hazardous waste movements will be maintained and retained for a minimum of three years in accordance with legislative requirements.

7.4 Training

All site personnel will receive a comprehensive environmental and waste management training prior to commencing work. The Site Manager will maintain training records. This induction will include information on resource and waste management aligned with the CRWMP.

The training will cover:

- Scope and objectives of the CRWMP;
- Project-specific commitments and waste reduction targets;
- Anticipated resource and waste types and volumes;
- Procedures for waste identification, segregation, and storage;
- Locations of Waste Storage Areas (WSAs); and
- Hazardous waste handling protocols and associated risks.

The training will be tailored to the roles and responsibilities of all personnel, from management to site operatives. Key control measure such as refuelling procedures and storage of oil, fuel, and chemicals will be clearly communicated to ensure compliance with site-specific environmental requirements.

In addition, regular toolbox talk on resource management will be conducted throughout the construction phase to reinforce best practices and ensure ongoing awareness of waste management responsibilities.

7.5 Record Keeping

7.5.1 Site Tracking System

The WMC, will be responsible for maintaining detailed records of all material deliveries, on-site movements, and construction and demolition (C&D) waste generated throughout the project. Each waste consignment transported to or from the site will be individually tracked and documented to ensure full traceability from origin to final destination.

For each consignment, the Appointed Contractor will obtain and retain weighbridge tickets or receipts from the receiving facility to accurately quantify the volume of waste removed per waste stream. These records will be stored on-site and made available for audit purposes.

In accordance with relevant legislation and EPA (2021) guidelines, the following information will be electronically recorded for each off-site movement:

- Type of material and associated List of Waste (LoW) code (where applicable), including quantity (in tonnes).
- Haulier details, including name, Waste Collection Permit (WCP) number (if applicable), and vehicle registration.

- Destination facility details, including name and relevant authorisation (e.g., Waste Licence, Permit, Certificate of Registration, or by-product determination).
- Weighbridge dockets from the receiving facility to verify accepted volumes.
- End-use or treatment details provided by the waste contractor in regular waste reports.

In accordance with the recently published Whole of Government Circular Economy Strategy 2026-2028: Accelerating Action (DoCEE, 2026), from 2028 at least 10%, by weight, of construction materials procured by public bodies for infrastructure projects and public non-residential buildings under new contract arrangements comprise recycled materials.

7.6 Communication

The following communication tasks are recommended for the Appointed Contractor's WMC throughout the construction phase:

- Internal Reporting: Monthly reporting on resource usage. These updates should be a standing agenda item at site meetings.
- Regulatory Engagement: Liaise with the relevant local authority during site inspections or enforcement audits. All corrective actions must be documented and reported accordingly.
- Stakeholder Communication: Engage with external stakeholders, including the EPA and the public, as appropriate, regarding on-site resource management practices.
- Final Reporting: Upon project completion, prepare a comprehensive report detailing resource management outcomes, including reuse and recovery rates and final destinations of off-site materials. This report must be submitted to the Client, Appointed Contractor management, and the local authority. The local authority may require formal sign-off as a condition of planning compliance.

7.7 Outline Waste Audit Procedures

As outlined in the EPA (2021) '*Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for C&D Projects*', a Resource Audit is a systematic evaluation of waste management practices. Its purpose is to identify potential issues and highlight the benefits of waste prevention and minimisation. The Appointed Contractor's WMC will conduct routine onsite audits throughout the construction phase. These audits will assess:

- When materials arrive on site, they will be properly recorded including the assignment of such materials to specific uses within the works;
- Onsite waste management processes / material management from materials delivery through to waste disposal / recovery (including the quantity, type and composition of all waste) will be reviewed to identify any opportunities for waste reduction;
- Corrective actions will be highlighted and implemented following each audit. Such actions include applying 'lessons learned' regarding efficient waste management on this project to other projects in the future to enable further waste reduction; and
- The key steps and findings from each waste audit should be presented in a summary report.

7.8 Non-conformity and Corrective/ Preventative Actions

The appointed WMC will establish a formal procedure for identifying, documenting, and investigating environmental accidents, incidents, and non-compliances. This procedure will also define corrective and preventative actions to minimise environmental impacts and prevent recurrence.

An Environmental Incident is defined as any unplanned or undesired event that:

- Causes or results in environmental harm;
- Has the potential to impact the environment; or
- Requires an emergency response by the Local Authority.

A Non-Compliance refers to any deviation from environmental procedures, regulations, or management systems that could directly or indirectly affect the environment.

In the event of an incident or non-compliance, the following steps must be undertaken as a minimum:

- Identify the root cause;
- Develop and implement corrective actions;
- Establish and verify preventative measures;
- Confirm the effectiveness of corrective actions; and,
- Update relevant procedures accordingly.

Responsibility for investigation, mitigation, and prevention must be clearly assigned. All subcontractors are required to comply with these procedures.

7.9 Off-site Waste Management Licensing/Permitting

All waste materials generated during construction will be assessed for potential reuse. Where reuse is not feasible, waste will be transported off-site in compliance with Duty of Care obligations and subject to the necessary approvals from relevant statutory authorities.

The Appointed Contractor is responsible for ensuring that all waste is transferred only to authorised carriers and facilities licensed to handle the specific waste type, in accordance with the *Waste Management Act 1996* (as amended). The *Waste Collection Permit Register*, maintained under the *Waste Management (Collection Permit) Regulations 2007*, will be consulted to verify the validity of waste carrier permits.

To comply with the proximity principle and minimise emissions from transport, all off-site waste will be directed to the nearest appropriate licensed facility. The Appointed Contractor will consult with these facilities in advance of works to confirm their capacity and suitability to receive the waste streams generated.

8. Consultation with Relevant Bodies

Following the appointment of construction and waste contractors, the WMC will engage with relevant authorities prior to the removal of any C&D waste. Ongoing consultation will ensure that all opportunities for waste reduction, reuse, and recycling are identified and implemented.

The appointed waste contractors will be consulted to confirm their capacity to manage the anticipated waste volumes that may be generated during construction. Audits will be conducted to verify that all contractors hold valid waste collection permits and facility licences. In addition, the cost, transport logistics, and off-site recovery, recycling, and disposal arrangements for each waste stream will be assessed

Relevant authorities and organisations to be consulted include, but are not limited to:

- MCC as the relevant local authority for waste matters and registration of Article 27 registrations;
- Sligo County Council as the relevant local authority for waste matters and registration of Article 27 registrations;
- EPA as the relevant regulatory body for environmental matters and notification for Article 27;
- National Waste Collection Permit Office (NWCPO);
- Permitted waste collection contractors/hauliers; and
- Suitably permitted/licensed reuse, waste recovery and disposal facilities.

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