

Limerick WWTP Upgrade and Regional Bioresource Centre

ElAR Chapter 18 Material Assets

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Formerly JB Barry Partners who became part of Egis in 2023

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Glossary and Defined Terms

Acronym	Description
AA	Appropriate Assessment
AASR	Appropriate Assessment Screening Report
ACP	An Coimisiún Pleanála
AD	Anaerobic Digestion
AGS	Aerobic Granular Sludge
AER	Annual Environmental Report
BOD	Biochemical Oxygen Demand
BC	Bioresource Centre
C	Carbon
CAFÉ	Clean Air for Europe Directive
CHP	Combined Heat and Power
DIN	Dissolved Inorganic Nitrogen
ECJ	European Court of Justice
EIAR	Environmental Impact Assessment Report
ELV	Emission Limit Value
EPA	Environmental Protection Agency
ESB	Electrical Supply Board
EU	European Union
FOG	Fats Oils and Grease
FST	Final Settling Tank
GHG	Greenhouse Gas
HGV	Heavy Goods Vehicle
MAND	Major Accidents and Natural Disaster
MLPS	Main Lift Pumping Station
MCA	Multi-Criteria Analysis
MRP	Molybdate Reactive Phosphate
IDA	Industrial Development Agency
IFAS	Integrated Fixed-Film Activated Sludge
N	Nitrogen
NDP	National Development Plan
NHA	National Heritage Area
NIS	Natura Impact Statement
NPF	National Planning Framework
NSO	National Strategic Outcomes
NSS	National Spatial Strategy
NWSMP	National Wastewater Sludge Management Plan
P	Phosphorous
PE	Population Equivalent - The amount of wastewater received at a treatment plant (and its design capacity) is measured in units known as population equivalent (or PE). The wastewater received from all sources, e.g. industrial, tourism, commercial, residential, etc., is converted into these units, with one unit of PE representing the wastewater treatment load typically generated by a single person.
PFF	Pass Forward Flow
PFT	Picket Fence Thickener

Acronym	Description
SEA	Strategic Environmental Assessment
SBR	Sequencing Batch Reactor
SHC	Sludge Hub Centre
SIA	Stable Isotope Analysis
SID	Strategic Infrastructure Development
Sludge	Solid by-products of wastewater
SPA	Special Protection Area
SS	Suspended Solids
UWWTD	Urban Wastewater Treatment Directive
WFD	Water Framework Directive
WWDA	Wastewater Discharge Authorisation
WWTP	Wastewater Treatment Plant
WSPS	Water Services Policy Statement
ZTV	Zone of Theoretical Visibility
PS	Pumping Station
QI	Qualifying Interest
RAS	Return Activated Sludge
RBC	Regional Bioresource Centre
RSES	Regional Spatial and Economic Strategy
SAC	Special Area of Conservation
TDS	Total Dry Solids
THP	Thermal Hydrolysis Process
pNHA	Proposed National Heritage Area

Departments and Stakeholders

Acronym (where applicable)	Departments & Stakeholders
ACP	An Coimisiún Pleanála
DPER	Department of Public Expenditure and Reform
CACNaT	Department of Climate Action, Communication Networks and Transport
DCCAE	Department of Communications, Climate Action and Environment – Changed in 2020
DCHG	Department of Culture, Heritage and the Gaeltacht – Changed in 2020
DoF	Department of Finance
DHPLG	Department of Housing, Planning and Local Government – Changed in 2020
HLGaH	Department of Housing, Local Government and Heritage
EPA	Environmental Protection Agency
GSI	Geological Survey Ireland
GWS	Group Water Schemes
IFI	Inland Fisheries Ireland
IR	Irish Rail (Iarnród Éireann)
UÉ	Uisce Éireann
LCCC	Limerick City & County Council
LA	Local Authority
NMS	National Monuments Service
NPWS	National Parks & Wildlife Service
NRA	National Roads Authority
NTA	National Transport Authority
OPW	Office of Public Works
OSi	Ordnance Survey Ireland
SRA	Southern Regional Assembly

18 MATERIAL ASSETS

18.1 Introduction

18.1.1 Purpose of this Report

This Chapter of the Environmental Impact Assessment Report (EIAR) addresses the potential impacts on Material Assets (including infrastructure and utilities) associated with the Construction and Operational Phases of the Limerick Wastewater Treatment Plant (WWTP) and Regional Bioresource Centre (RBC) (hereinafter referred to as the “Proposed Development”). It brings together available information on existing utilities and the construction and operational characteristics of the Proposed Development, with the aim of identifying and, where necessary, mitigating all likely significant impacts (positive and negative).

The design has been developed to a stage at which the likely construction and operational characteristics can be defined, enabling an assessment of potential significant impacts. Existing utilities have been identified, and associated utility works have been incorporated into the design, with the resulting impacts assessed.

The assessment is based on a reasonable worst-case design scenario. While minor design refinements may occur during detailed design to reflect site-specific conditions or technological developments, these will remain within the assessed parameters and will not give rise to impacts greater than those identified in this EIAR. Utility diversion works may be undertaken either in advance of, or as part of, the main construction contract, as appropriate.

18.1.2 Outline Project Description

The Proposed Development comprises upgrades and new infrastructure at the existing Limerick Wastewater Treatment Plant (WWTP) and associated facilities at Corcanree Pumping Station (PS), located on the banks of Limerick Dock at the confluence of the Lower River Shannon and the Shannon Estuary.

The project will increase the treatment capacity of the WWTP from 130,000 Population Equivalent (PE) to 285,000 PE to accommodate projected population and industrial growth over the next 10 years, in line with the National Planning Framework (NPF) Implementation Roadmap and the Southern Region Regional Economic and Spatial Strategy (RSES). This will be achieved through the provision of a new Aerobic Granular Sludge (AGS) process stream with a capacity of up to 157,000 PE, operating alongside the existing treatment system.

The design provides a 20% headroom allowance in accordance with Uisce Éireann guidelines for large urban settlements and will ensure continued compliance with the EPA Wastewater Discharge Licence (WWDL), the Urban Wastewater Treatment Regulations (UWWTR), and other relevant standards.

Provision is also made within the civil infrastructure to facilitate longer-term expansion of the agglomeration to approximately 325,000 PE over a 25-year period, subject to separate planning approval.

The development includes a stormwater storage tank at Corcanree Pumping Station, approximately 40 m in diameter and 10–15 m deep, providing a minimum additional storage capacity of 12,500 m³ to support network performance and future growth.

A Regional Bioresource Centre (RBC) will treat indigenous and imported sludge from Counties Limerick, Clare and Tipperary using anaerobic digestion and heat treatment, producing biosolids for agricultural reuse and generating biogas for on-site renewable energy use.

The WWTP will remain operational during the construction phase. All new structures will be constructed offline and connected during temporary shutdowns. The shutdowns will be planned in a manner that will not affect WWTP performance. Further information on the construction strategy and proposed works is included in Chapter 3 (The Proposed Development) and Chapter 4 (Construction Strategy).

Decommissioning of the Proposed Development is not envisaged at this time. Given the scale of the existing infrastructure, it is anticipated that Uisce Éireann will continue phased development to salvage and re-use as

much of the installed infrastructure as possible as the demand in Limerick grows. Consolidating additional infrastructure at this location is considered beneficial and will help minimise future capital investment. The proposed layouts are designed to optimise land take and preserve capacity for future expansion. On this basis, decommissioning has been screened out.

18.2 Methodology

Material assets are resources of both natural and human origin that have intrinsic value. The Environmental Protection Agency (EPA) Guidelines on the Information to be Contained in Environmental Impacts Assessment Reports (hereafter referred to as the EPA EIAR Guidelines) (EPA, 2022) discuss material assets as follows:

'The meaning of this factor is less clear than others. In Directive 2011/92/EU it included architectural and archaeological heritage. Directive 2014/52/EU includes those heritage aspects as components of cultural heritage. Material assets can now be taken to mean built services and infrastructure. Sealing of agricultural land and effects on mining or quarrying potential come under the factors of land and soils.'

The EPA EIAR Guidelines specifically list built services, roads and traffic, and waste management as topics which fall into the category of material assets. Further to this, the Guidance on the Preparation of the Environmental Impact Assessment Report (European Commission, 2017) references buildings, other structures, mineral resources, and water resources as material assets. This EIAR includes separate chapters covering a number of those listed material assets and other material assets as follows:

- Employment and land-use assets – Chapter 19 (Population and Human Health);
- Ecological assets – Chapter 13 (Biodiversity Terrestrial);
- Waterways, rivers, and streams – Chapter 16 (Water);
- Soils, lands, and mining or quarrying potential – Chapter 14 (Land and Soils);
- Roads and traffic – Chapter 06 (Traffic and Transport);
- Waste management – Chapter 17 (Resource and Waste Management);
- Cultural heritage assets – Chapter 11 (Archaeology, Architectural and Cultural Heritage); and
- Visual amenity assets – Chapter 15 (Landscape and Visual Amenity).

The focus of this Chapter is on land take and built services, specifically major infrastructure and utilities.

The source and nature of potential impacts are described in this Chapter, together with the mitigation measures proposed to avoid, reduce or manage these impacts. Given that the Proposed Development may interact with existing utilities, mitigation measures will primarily relate to the protection of existing services and the management of works in proximity to existing infrastructure, with site-specific measures developed where required. Residual impacts are also assessed for both the Construction and Operational Phases of the Proposed Development.

Existing utility information has been obtained from service providers and supplemented by site investigations. Potential interactions with existing utilities have been identified and considered in the design, with appropriate measures incorporated to facilitate construction and operation, while maintaining access for maintenance and continuity of service.

18.2.1 Study Area

The study area with regard to major infrastructure and utilities comprises only assets which enter within work areas within the Proposed Development, including both permanent and temporary land take boundaries. See Proposed Site Layout Drawings in Planning Drawings.

18.2.2 Relevant Legislation, Policy and Guidelines

This Chapter has been prepared in accordance with the following guidance:

- Environmental Impact Assessment– Guidance on the Preparation of the Environmental Impact Assessment Report (European Commission, 2017);

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022); and
- Institute of Sustainability & Environmental Professionals (ISEP) Guide to: Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach (ISEP, 2025).

18.2.3 Data Collection and Collation

Existing utility information was requested from utility companies and service providers. The following service providers provided utility information for the study area of the Proposed Development:

- Alt Comms Companies: Colt, ENET(Verizon), Smart, Vodafone, and EU Networks;
- BT Ireland: Communications network;
- Eir: Communications network;
- Electricity Supply Board Networks (ESBN): Medium and Low voltage overhead and underground distribution network. Also including ESB Telecoms: Communications network;
- Gas Networks Ireland: High pressure. Medium and low-pressure mains. Including also Aurora Communications ducting and cables;
- Local authorities: Limerick City and County Council (LCCC). Asset owners of: Public Lighting, Traffic, Local CCTV Fibre, and surface drainage; and
- Uisce Éireann: asset owners for potable water, foul drainage and combined drainage.

Information obtained was used to identify potential interactions between existing utilities and the proposed permanent and temporary works.

Utility location and specification details are based on records obtained from utility providers and are subject to limitations in accuracy. These have been supplemented by site investigations where available and are considered sufficient to inform the assessment.

The utility providers identified within the study area are outlined in Table 18-1.

TABLE 18-1 UTILITY PROVIDERS IDENTIFIED WITHIN THE STUDY AREA

Type	Providers
Electrical Services (underground and overground)	ESB
Telecommunications	Alt Comms Companies: Colt, ENET(Verizon), Smart, Vodafone, and EU Networks BT Ireland Eir ESBN Telecoms Virgin media Ireland
Watermains & Foul / Combined Sewers	Uisce Éireann
Gas Mains	Gas Networks Ireland
Signals, Public Lighting	Limerick City and County Council (LCCC)

18.2.4 Appraisal Method for the Assessment of Impacts

The assessment of the potential impact of the Proposed Development on Material Assets has been undertaken having regard to the EPA EIAR Guidelines (EPA, 2022). The following have been considered as part of the assessment of impacts:

- The temporary and permanent acquisition of land and property;
- Potential for impacts on major infrastructure and public utilities and the need for proposed works to them during the Construction Phase;
- Requirement for connections to public utilities by the Proposed Development during both the Construction and Operational Phases; and

- Use of imported materials required for the construction of the Proposed Development.

Each impact has been categorised based on:

- Significance of the impact; and
- Magnitude of the impact.

The definition of these impact characteristics is per the EPA Guidelines (EPA, 2022) and is provided in Table 1-3 in Chapter 1 (Introduction) of this EIAR. These characteristics have been used to assess the quality and duration of all impacts.

Table 18-2 provides the significance criteria used to identify the significance of impacts on major infrastructure and utilities. For the purposes of assessing the impacts on major infrastructure and utilities, an impact is deemed to be not significant from a rating of Imperceptible to Moderate, and significant from Significant to Profound.

TABLE 18-2 SIGNIFICANCE CRITERIA FOR INFRASTRUCTURE AND UTILITIES (EPA, 2022)

Significance Level	Criteria
Profound	An effect which obliterates sensitive characteristics.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
Significant	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Imperceptible	An effect capable of measurement but without significant consequences.
*Disruption with respect to infrastructure refers to the closure or significant reduction in usability of the infrastructure.	

The following table considers the sensitivity of the infrastructure and utilities and the magnitude of impacts that could result from the Proposed Development.

TABLE 18-3 DEFINITION OF TERMS RELATING TO ENVIRONMENTAL SENSITIVITY

Sensitivity	Criteria
Very High	Are known to be insufficient in terms of production, supply and / or stock; and / or Comprise no sustainable features and benefits compared to industry-standard materials*
High	▪ Occupied residential property ▪ Occupied commercial property Schools and hospitals/ health centres etc
Medium	▪ Unoccupied residential property ▪ Land zoned for development Public open space/ recreational space
Low	▪ Derelict residential property Unzoned lands

Negligible	Roadbed/ Road Verge
*Subject to supporting evidence, sustainable features and benefits could include, for example, materials or products that: comprise of reused, secondary, or recycled content (including excavated and other arisings); support the drive to a circular economy; or in some other way reduce lifetime environmental impacts.	

For the purpose of this assessment, the magnitude of impact on infrastructure and utilities is defined in terms of the duration of any service interruption. A conservative worst-case approach has been adopted in assigning potential outage durations, recognising that actual interruptions will be agreed with the relevant utility providers and are typically of shorter duration.

TABLE 18-4: CRITERIA FOR ASSESSMENT OF INFRASTRUCTURE AND UTILITIES IMPACT MAGNITUDE DEVELOPED, BASED ON EPA GUIDELINES

Impact magnitude	Criteria
Very high	Disruption of service for more than one week. Where additional demand on a utility would consume all remaining capacity. Relevant stakeholders are notified at short notice or not at all prior to disruption taking place. The level of service provided by the original utilities or infrastructure is not reinstated.
High	Disruption of service for up to one week. Where there is significant additional demand on a utility. Relevant stakeholders are notified at short notice prior to disruption taking place. The level of service provided by the original utilities or infrastructure is reinstated.
Medium	Disruption of service for up to two days. Where the additional demand on a utility is relatively large. Relevant stakeholders are notified prior to disruption taking place. The level of service provided by the original utilities or infrastructure is reinstated or improved.
Low	Disruption of service for several hours. Where additional demand on a utility is relatively small. Relevant stakeholders are notified prior to disruption taking place. The level of service provided by the original utilities or infrastructure is reinstated or improved.
Negligible	Not applicable.

The significance of impacts has been assessed with reference to the magnitude of the impact and the sensitivity of the affected infrastructure and utilities, in accordance with EPA guidelines. Utilities are generally considered to be of High to Very High sensitivity, reflecting their importance in providing essential services.

Table 18-5 shows how the sensitivity of the baseline rating and the impact magnitude are combined to give the likely significance of the effect prior to any mitigation measures being implemented. The significance of effect ranges is then defined using the following categories: Imperceptible; Not Significant; Slight; Moderate; Significant; Very Significant; and Profound.

TABLE 18-5: SIGNIFICANCE OF EFFECTS

Sensitivity of Receptor	Magnitude of Impact					
		Negligible	Low	Medium	High	Very High
	Negligible	Imperceptible	Imperceptible	Not Significant	Not Significant	Not Significant

	Low	Not Significant	Not Significant	Slight	Slight	Moderate
	Medium	Slight	Slight	Moderate	Moderate	Significant
	High	Slight	Moderate	Significant	Significant	Very Significant
	Very High	Moderate	Significant	Very Significant	Profound	Profound

Following assessment of the potential effects, the Proposed Development was reviewed so that mitigation measures could be implemented that will avoid, prevent or reduce any adverse impacts as a result of the Proposed Development. These are described in further detail in Section 18.5.

With the implementation of the mitigation measures outlined in Section 18.6, the residual impacts are summarised in Section 18.7.

The impact evaluation is based on the understanding that existing best practices in design, construction and operation are employed for the Proposed Development, as set out in this EIAR.

18.3 Consultation

In order to determine the location of existing utilities and services within the Proposed Development, a desk-based study was undertaken to inform the baseline description of material assets. This included a review of available utility records and as-constructed (as-built) drawings.

In 2025, the Project team obtained the following utility information:

- ESB Networks – maps downloaded 9th May 2025; and
- Gas Networks Ireland – maps downloaded 7th May 2025.

Utility records obtained from service providers primarily identify incoming and external connections to the sites, while as-constructed (as-built) drawings have been used to define the internal utility layouts within the site boundaries. Existing utility drawings are provided in the Planning Drawings.

Telecommunications infrastructure in the area is operated by a number of providers including Eir (Open Eir), Virgin Media and others. Telecommunications services at the site are currently provided by Three Ireland. Detailed mapping of underground telecommunications infrastructure is not generally available; however, such services are typically located within established road and service corridors. Potential interactions have been identified based on available records and site knowledge. Any required protection measures will be undertaken in consultation with the relevant providers to ensure continuity of service during the works.

An existing ESB cable traversing the Corcanree PS site has been identified from available records and as-built drawings and has been taken into account in the design of the Proposed Development. Engagement with ESB Networks is ongoing to confirm current asset information and to agree appropriate construction methodologies in proximity to this infrastructure.

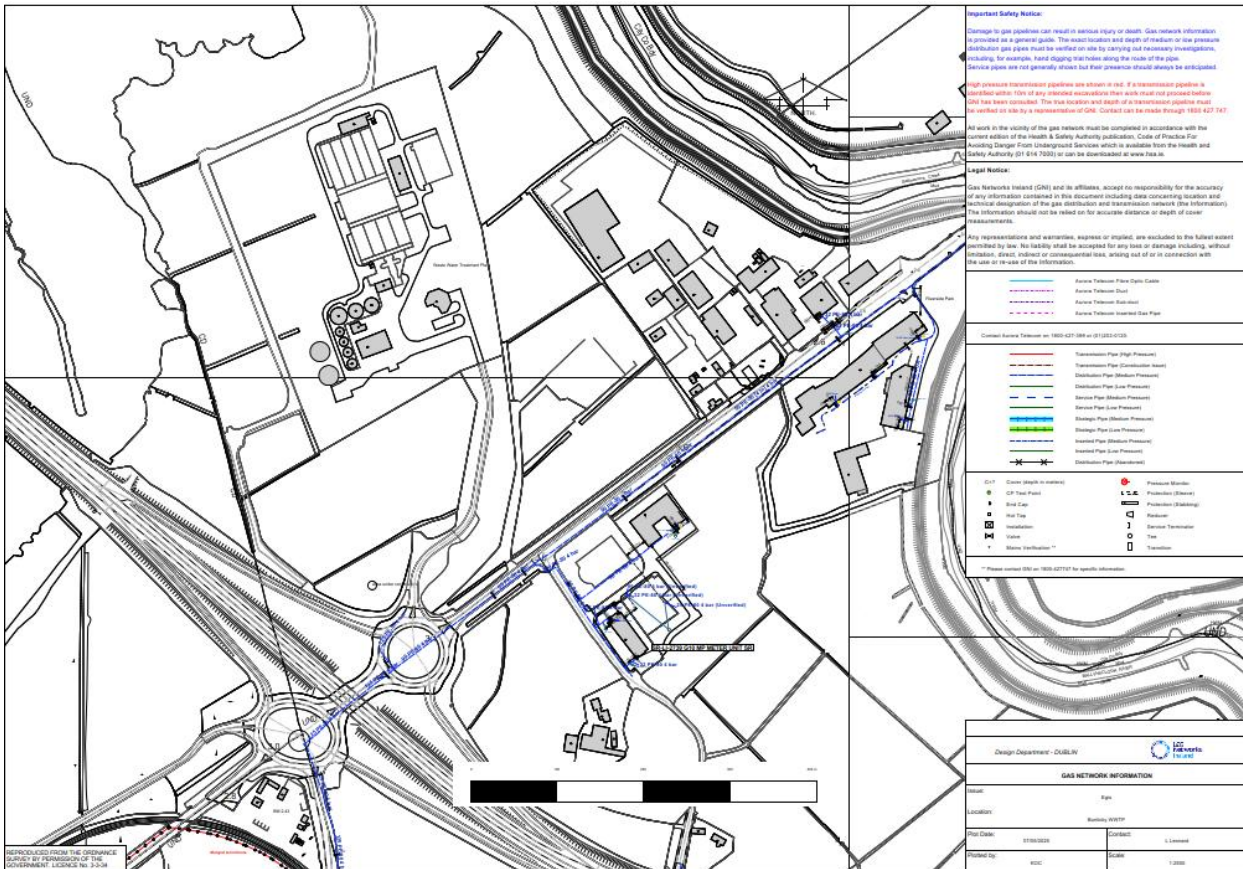


FIGURE 18-1: GAS NETWORK INFORMATION AT LIMERICK WWTP SITE

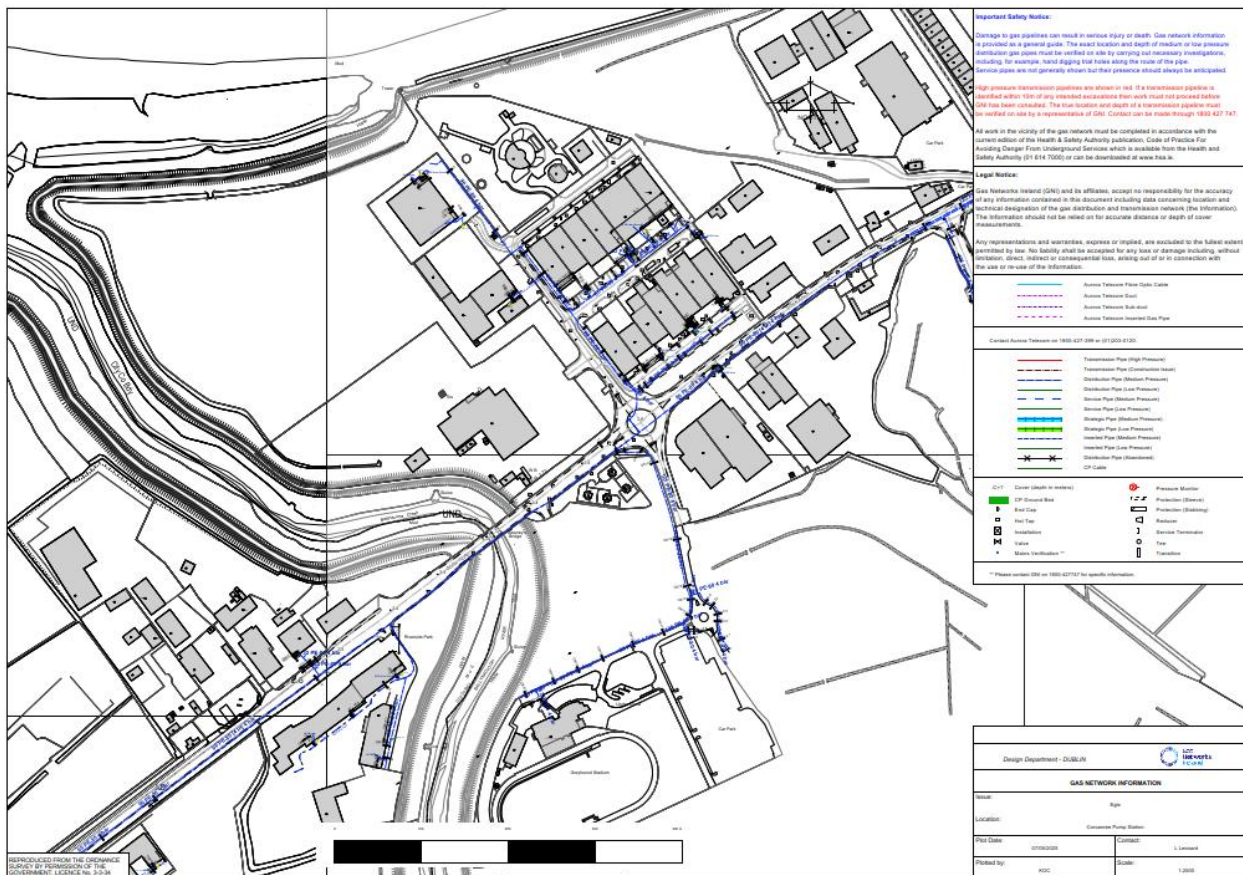


FIGURE 18-2: GAS NETWORK INFORMATION AT CORCANREE PS SITE

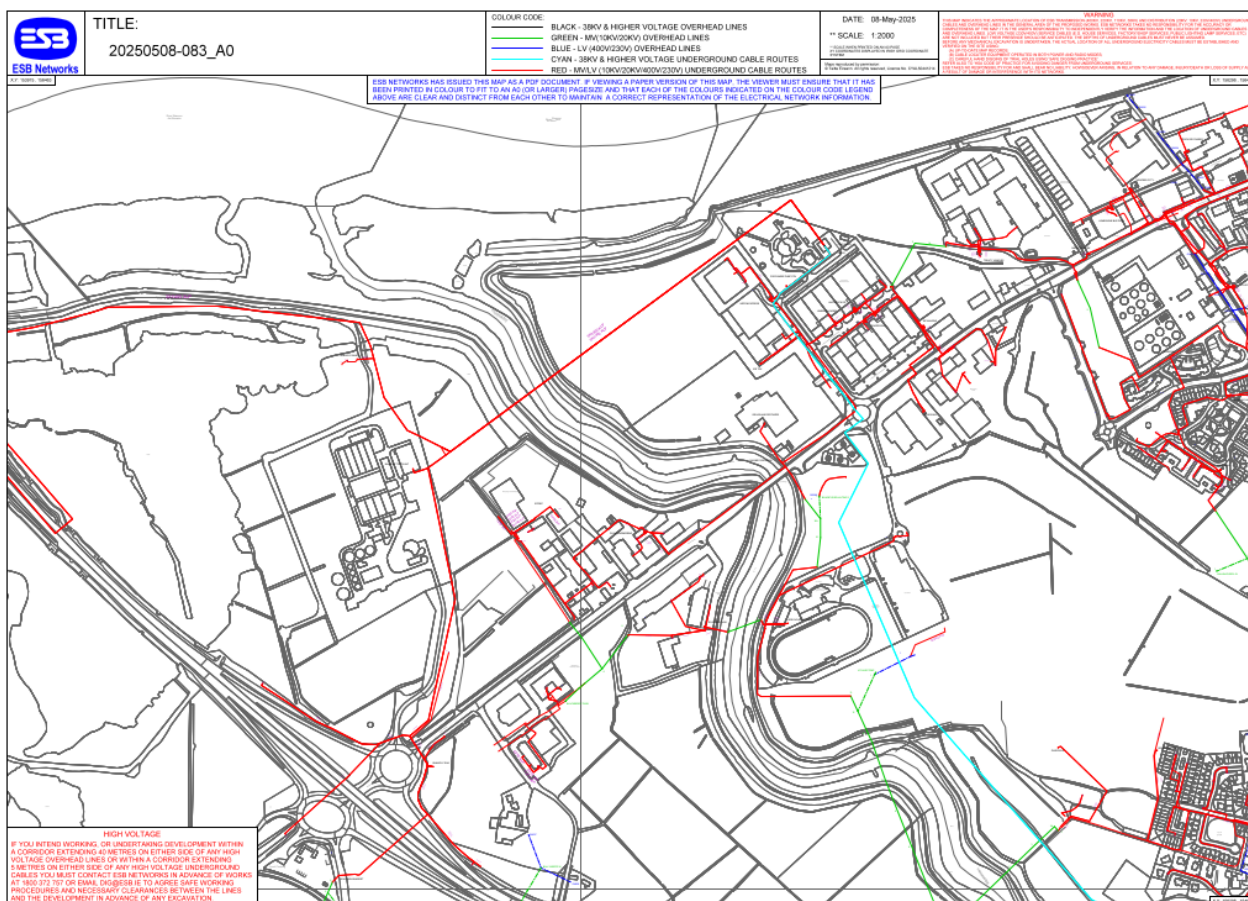


FIGURE 18-3: ESB NETWORK INFORMATION AT BOTH SITES

18.4 Baseline Environment

18.4.1 Land-use and property

The Proposed Development is located within the existing Limerick Wastewater Treatment Plant site and adjacent Corcanree Pumping Station, approximately 3 km south-west of Limerick City Centre. The site at Corcanree Pumping Station has historically been associated with utility infrastructure and was previously zoned for light industry under the former Development Plan.

Lands within the existing WWTP site are currently in active use for wastewater treatment infrastructure. Lands adjacent to Corcanree Pumping Station comprise a mix of operational utility lands and adjoining areas.

To the north of the WWTP, lands have previously been used as a construction compound while lands to the south are predominantly in agricultural use.

The Proposed Development is accessed via Dock Road (R510), which connects to Limerick City Centre and the wider national road network, supporting existing industrial and port-related traffic.

The Limerick Main Drainage network predominantly conveys flows to Corcanree Pumping Station, from where wastewater is transferred to Limerick WWTP via twin rising mains, with a smaller proportion entering via Mungret Pumping Station. Treated effluent is discharged to the Shannon Estuary via an existing outfall pipeline.

18.4.2 Current Baseline Environment

The baseline environment describes the existing utilities and infrastructure within the Proposed Development, based on a review of utility records and as-constructed (as-built) drawings, and topographical survey data. The identified utilities have been categorised and assigned sensitivity ratings in accordance with the criteria set out above, which inform the assessment of impact significance.

Most utilities within the Proposed Development are located underground, primarily within and along internal roadways. At Corcanree PS, an existing ESB cable traverses the proposed works area and has been taken into account in the design of the Proposed Development.

Table 18-6 provides a summary of the types of utilities within the study area.

TABLE 18-6: UTILITIES WITHIN THE PROPOSED DEVELOPMENT STUDY AREA

Utility Provider	Service Type	Description
ESB	ESBN Distribution (LV and MV)	MV underground duct banks
		LV underground duct banks
Uisce Éireann	Potable Water	Trunk and distribution mains of various diameters and materials, with supporting infrastructure such as valves and Hydrants
	Sewer Lines	Foul sewer lines, combined sewers and associated infrastructure
LCCC	Surface Water Sewer Networks	Surface water sewer network and associated infrastructure
	Traffic Signals	Traffic ducting / cables, access chambers and associated infrastructure
Gas Networks Ireland	Gas Supply	High, medium and low pressure gas mains and associated infrastructure
Telecommunications Providers	Telecommunications	Underground cables, ducting and associated infrastructure operated by multiple providers; telecommunications services at the site are currently provided by Three Ireland.

18.5 Potential Impacts

18.5.1 Do- Nothing Scenario

In the absence of the Proposed Development, no construction-related impacts on existing material assets, including utilities and infrastructure, would occur and services would continue to operate as currently configured.

However, the existing wastewater infrastructure would remain unchanged. This includes the wastewater treatment plant, the Corcanree pumping and storage infrastructure, and sludge treatment facilities. As a result, available treatment, storage and processing capacity would remain constrained, limiting the ability to accommodate projected population and industrial growth.

The planned upgrades to the treatment process, stormwater storage and pumping infrastructure at Corcanree, and the provision of a Regional Bioresource Centre would not be implemented, reducing the overall performance and resilience of the wastewater network and associated infrastructure.

Overall, the Do-Nothing scenario represents a missed opportunity to enhance the capacity, efficiency and resilience of the existing wastewater treatment system and associated infrastructure.

18.5.2 Construction Phase

Construction activities have been designed to minimise interaction with existing utilities, with the majority of infrastructure constructed offline, allowing the existing plant to remain operational throughout the works. Potential impacts are therefore limited and relate primarily to localised works in proximity to existing services and temporary demands on utilities during construction.

Where interactions with existing utilities are required, these will be managed through appropriate protection measures and standard construction practices to avoid disruption to services. No significant or widespread utility diversions are anticipated as part of the Proposed Development.

18.5.2.1 Land-use and Property

Construction of the Proposed Development will require the permanent acquisition of land adjacent to Corcanree PS, which is being acquired by agreement. During construction, additional temporary working areas will be required at this location to facilitate installation of the stormwater storage tank. These areas include a defined construction compound and temporary working areas, which have been designed to be segregated from the operational pump station. The impact on land use at this location is considered slight, short-term and adverse.

Temporary land within the northern part of the Limerick WWTP site will be required to facilitate the construction compound, access and associated construction activities. The EIAR also assesses the potential use of an additional temporary construction compound on lands to the south of the existing WWTP site, should this construction arrangement be required. The layout of these areas has been designed to provide sufficient space for construction activities while maintaining segregation from the operational plant.

The northern lands have previously been used as a construction compound, and therefore the impact on land use in this area is short-term and neutral. The southern lands, which are currently in agricultural use, have been assessed to accommodate a potential additional temporary construction compound, should this arrangement be required. These areas will be reinstated to their existing condition following completion of the works. The impact is therefore short-term and slight.

Temporary disturbance to vegetation associated with construction activities will be managed through reinstatement and appropriate replanting measures following completion of the works, with potential ecological effects assessed separately in Chapter 13 (Biodiversity Terrestrial).

18.5.2.2 Major Infrastructure and Utilities

Potential impacts on major infrastructure and utilities arise primarily during the Construction Phase and are generally limited, localised and temporary in nature. The following sections describe the potential Construction Phase impacts on key utility services associated with the Proposed Development.

Electricity Supply

The construction compounds will require electricity to power temporary office and welfare facilities during the Construction Phase. Power will be provided via connection to the existing electricity network where available, or by generators where required. Temporary traffic management measures and construction equipment will also be powered by generators, as necessary. Where practicable, low-energy or solar-powered equipment will be utilised for site lighting and minor power requirements.

The electricity demand during the Construction Phase will be temporary and localised in nature and is not expected to place significant additional load on the existing electricity network. The impact is therefore considered to be Slight, Short-term negative effect.

Construction activities will in some areas be undertaken in proximity to existing electricity infrastructure, including known ESB networks in the vicinity of the proposed works. These works will be carefully managed through standard protection measures and good construction practices, with engagement with ESB Networks undertaken as required to confirm asset locations and appropriate working methods. Any required works will be localised and are not expected to result in significant disruption to electricity services.

In practice, any interruptions to electricity supply, if required, would be short-duration and planned in advance with the site and network operators.

Water Supply

The construction compounds and working areas will require a water supply for welfare facilities and for activities such as dust suppression where required. Water will be supplied via connection to the existing Uisce Éireann local mains network where available, or by alternative means such as tankered supply if necessary.

The potable water demand during the Construction Phase will be temporary and localised in nature and is not expected to place significant additional demand on the existing water supply network. The impact is therefore considered to be Slight, Short-term negative effect.

Construction activities will in some areas be undertaken in proximity to existing water infrastructure. These works will be carefully managed through standard protection measures and established construction practices, in consultation with Uisce Éireann, to avoid damage to existing services and maintain continuity of supply. No significant diversion or disruption of existing water services is anticipated.

Any interruptions to water supply, if required, would be short-duration and planned in advance in consultation with site operations personnel. The impact is therefore considered to be Slight, Short-term negative effect.

Wastewater and Surface Water Runoff

Wastewater generated during the Construction Phase will arise primarily from welfare facilities within the construction compounds and working areas. As the Proposed Development is located within an operational wastewater treatment plant, wastewater will be directed to the existing treatment system for on-site treatment, either via direct connection to the foul or combined sewer network or, where required, via controlled transfer to existing intake infrastructure.

Excavation works may require localised dewatering, with any arising groundwater managed through temporary settlement or treatment systems (e.g. settlement tanks) and monitoring prior to controlled discharge, in accordance with standard construction practices and the Construction Environmental Management Plan (CEMP).

Construction activities will in some areas be undertaken in proximity to existing wastewater infrastructure. These works will be carefully managed through standard protection measures and established construction practices, in consultation with Uisce Éireann, to avoid damage to existing services and maintain continuity of service. No significant diversion or disruption of existing wastewater infrastructure is anticipated.

The additional demand on the existing wastewater network during the Construction Phase will be temporary and limited in scale and is therefore considered to be Not significant, short-term negative effect.

Surface water runoff arising during construction will be managed through standard construction-phase drainage and sediment control measures, as set out in the Construction Environmental Management Plan (CEMP).

Gas Supply

No connection to existing gas infrastructure is required during the Construction Phase of the Proposed Development, and therefore no impact on the gas network is anticipated.

Construction activities may be undertaken in the vicinity of existing gas mains; however, these works will be localised and managed in accordance with standard construction practices to avoid damage to infrastructure.

On this basis, no significant impact on the gas network is anticipated during the Construction Phase.

Telecommunications

Telecommunications will be required at the construction compounds to support site operations and will be provided via existing networks or mobile communications, as appropriate. Services at the site are currently provided by Three Ireland. The demand during the Construction Phase will be temporary and limited in nature and is therefore considered to be of Low significance.

Telecommunications infrastructure within the site is limited and primarily associated with control buildings and SCADA systems. As such, interactions with telecommunications infrastructure during construction are expected to be minimal.

Prior to the commencement of construction works, the contractor will undertake appropriate checks with relevant telecommunications providers to confirm asset locations and implement standard protection measures where required. No significant disruption to telecommunications infrastructure is anticipated, therefore the impact is considered Not significant, short term negative effect.

18.5.2.3 Construction Phase Impact Summary

Overall, the potential impacts on material assets during the Construction Phase of the Proposed Development are considered to be limited, localised and temporary in nature. Construction activities have been designed to minimise interaction with existing utilities and infrastructure, with the majority of works undertaken offline and the existing wastewater treatment plant remaining operational throughout.

Where works are required in proximity to existing infrastructure, these will be managed through standard construction practices and appropriate coordination with relevant stakeholders. No significant disruption to existing services is anticipated.

On this basis, the significance of impacts on material assets is generally assessed as slight to low, short-term, negative effects.

18.5.3 Operational Phase

18.5.3.1 Land-use and Property

The permanent acquisition of land adjacent to Corcanree PS to facilitate the stormwater storage tank will result in a permanent loss of a small area of land and a change from its existing use to utility infrastructure. The impact is therefore considered slight, long-term negative effect on land-use.

At Limerick WWTP, the Proposed Development will be accommodated within the existing site boundary and will comprise new process structures and associated infrastructure. As such, no additional permanent land-take is required at this location, and the operational impact on land-use is considered to be neutral.

Temporary working areas used during construction will be reinstated following completion of the works. In addition, landscaping and biodiversity mitigation measures will be implemented to integrate the development into the surrounding environment and to support long-term land-use compatibility.

18.5.3.2 Major Infrastructure and Utilities

During the Operational Phase, the Proposed Development will result in only minor additional demand on utility services, and overall impacts are anticipated to be minimal. The following sections describe the potential Operational Phase impacts on key utility services associated with the Proposed Development.

Electricity

Electricity will continue to be supplied to the upgraded infrastructure from the national grid (ESB Networks), supplemented by on-site energy generation associated with the Regional Bioresource Centre (e.g. CHP). While the overall energy demand of the site will increase, this will be offset by on-site energy recovery. As sludge imports increase over time, biogas production and associated on-site energy generation are expected to increase, contributing to a reduction in reliance on the national grid. The main WWTP site has the potential to move towards energy neutrality over the operational period.

At Corcanree Pumping Station, electricity demand will remain broadly consistent with existing operations, with upgraded pumps and improved efficiency partially offsetting any increases in pumping requirements.

Overall, the impact on the electricity network is considered to be Slight, long-term positive effect, due to the contribution of on-site energy generation (CHP) which will partially offset grid demand over the operational period.

Water Supply

Potable water will continue to be required for certain process and operational uses. However, no significant increase in demand relative to the existing situation is anticipated.

In addition, treated final effluent (following UV treatment) will be reused on site for non-potable purposes, reducing reliance on the potable water supply.

Overall, the impact on potable water supply infrastructure is therefore considered to be Imperceptible.

Wastewater and Surface Water Runoff

Wastewater generated at the site will be consistent with the existing situation. As such, no additional demand on external wastewater infrastructure is anticipated.

Surface water runoff from the new/ additional hard standing areas will be managed through the incorporation of Sustainable Drainage Systems (SuDS), including features such as swales and permeable paving. These measures will provide attenuation and treatment of runoff prior to discharge. Surface water will be discharged via the existing final effluent discharge infrastructure. Potential effects on receiving waters are assessed separately in Chapter 16 (Water) of this EIAR.

Overall, the impact on surface water drainage infrastructure during the Operational Phase is considered to be Imperceptible.

Gas Supply

Gas infrastructure is present at the site and will continue to operate as part of the existing arrangement. The Proposed Development does not require any changes to the existing gas connection or result in any significant increase in demand.

The impact on gas infrastructure during the Operational Phase is considered to be Imperceptible.

Telecommunications

Telecommunications infrastructure is already in place at both sites, primarily associated with control systems and SCADA. The Proposed Development will not result in any significant increase in demand on external telecommunications networks.

Minor upgrades to SCADA and associated communications systems may be required as part of the Proposed Development; however, these will be accommodated within the existing site infrastructure and are expected to enhance system performance and operational control.

The impact on telecommunications infrastructure during the Operational Phase is therefore considered to be Slight.

18.5.3.3 Operational Phase Impact Summary

The Proposed Development will result in limited additional demand on existing utilities and infrastructure. Overall, impacts on material assets are considered to be Slight to Imperceptible.

Where changes occur, such as increased electricity demand or minor upgrades to telecommunications systems, these will be accommodated within existing networks or offset through on-site measures, including energy recovery and efficient system design.

On this basis, the operational impacts on material assets are considered to be not significant, with no adverse residual effects anticipated.

18.6 Mitigation Measures

This section outlines the measures to be implemented to ensure that potential impacts on material assets are avoided or minimised during the Construction and Operational Phases of the Proposed Development.

18.6.1 Construction Phase

The Proposed Development has been designed to minimise interactions with existing utility infrastructure, with the majority of works undertaken offline. Where works are required in proximity to existing utilities, these will be managed through standard protection measures and established construction practices.

Prior to the commencement of works, the Contractor will obtain up-to-date utility records, consult with relevant service providers, and undertake confirmatory surveys as necessary to verify the location of existing infrastructure.

Works in the vicinity of utilities will be carried out in accordance with best practice methodologies and the requirements of the relevant service providers. Protection measures will include appropriate signage and marking of services, use of safe digging techniques, and implementation of exclusion zones where required.

Where localised works are required near existing infrastructure, these will be carefully planned and coordinated to avoid damage and minimise disruption. Any required service interruptions will be short-term and planned in advance in consultation with the relevant site and utility operators.

18.6.2 Operational Phase

No specific mitigation measures are required during the Operational Phase, as impacts on material assets are minimal.

The Proposed Development has been designed to integrate with existing infrastructure and to maintain access for inspection, maintenance and operation of utilities. Standard operational procedures will ensure the continued safe and efficient operation of all services.

18.7 Residual Impacts

18.7.1 Construction Phase

Given that potential impacts are limited, localised and temporary in nature, and that mitigation measures are inherent in the design and standard construction practices, no significant residual impacts on material assets are predicted.

18.7.2 Operational Phase

During the Operational Phase, impacts on material assets are minimal and, in most cases, imperceptible. No significant residual impacts have been identified.

18.8 Cumulative Impacts and Interactions

Given the nature and scale of the developments identified, no cumulative effects on material assets are predicted to occur if anyone, or all of these developments occur concurrent to the construction of the Proposed Development. However, there is the potential for physical and temporal overlap between the Proposed Development and the proposed Limerick City and Environs Flood Relief Scheme.

The design and construction of the overlapping elements of each of the schemes will be implemented in an integrated manner in so far as possible. Further, it will be the responsibility of contractors to ensure effective coordination and communication throughout construction in relation to utilities and services diversions. This approach therefore ensures that the cumulative effects on material assets arising from the construction of the Proposed Development and the proposed Limerick City and Environs Flood Relief Scheme is mitigated and avoided in so far as possible.

18.9 Difficulties encountered in Compiling Information

No significant difficulties were encountered in compiling the information for this assessment.

18.10 References

- Assessment, I. o. (2020). *Guide to: Materials and Waste in Environmental Impact Assessment - Guidance for a Proportionate Approach*. UK: Institute of Environmental Management and Assessment.
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