



MORTARSTOWN WASTE TREATMENT PLANT UPGRADE

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This document has 39 pages including the cover.

Document history

Document title: Sustainability Report

Document reference: 5161805DG0471

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
0	Draft for Comment	FE	DE	DL	FQ	09/03/2026
1	Post Client Review	FE	EO	DL	FQ	29/05/2026

Client signoff

Client	Uisce Éireann
Project	MORTARSTOWN WASTE TREATMENT PLANT UPGRADE
Job number	5161805
Client signature/date	



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1. Introduction

This Sustainability Report has been prepared by AtkinsRéalis Ireland Ltd. (AtkinsRéalis) on behalf of Uisce Éireann (the applicant) as part of the supporting documents required for a planning application for a proposed upgrade to Mortarstown Wastewater Treatment Plant, Co. Carlow (hereafter referred to as the proposed project).

Uisce Éireann (UÉ) is seeking permission from An Coimisiún Pleanála (ACP) for the proposed project which includes the upgrade of the existing Mortarstown Wastewater Treatment Plant (WwTP), construction of a new inlet pump station at the treatment plant site, construction of a new microtunnel gravity sewer along Kilkenny Road, between the existing Kilkenny Road Pumping Station and the new inlet pump station, landscaping, boundary treatments, and all ancillary site works. This includes the associated internal roads, lighting, security fencing and landscaping.

The purpose of this Sustainability Report is to provide a clear framework for contractors to achieve the sustainability management requirements, targets and objectives for the design and construction phases of the proposed upgrade of the Mortarstown Wastewater Treatment Plant.

1.1 Aim of the Plan

AtkinsRéalis has prepared a preliminary design for the Project. It sets out the statutory requirements and outcomes that need to be achieved during design and construction of the proposed project. These outcomes are embedded through contractual requirements and performance monitoring frameworks. They are strategically aligned with key themes such as climate resilience, resource efficiency, waste management, and inclusive growth, ensuring that contractor contributions are measurable, transparent, and consistent with Uisce Éireann's sustainability ambitions.

The design and construction Contractors delivering the Mortarstown WwTP contract are expected to adhere to a comprehensive set of sustainability requirements, targets and objectives aligned to UÉ's Sustainability Framework. These cover environmental, social and economic goals designed to support Ireland's Climate Change goals and sustainable development targets. The following section discusses the key expectations from Contractors.

1.2 Project Description

1.2.1 Site Location

The proposed project is located in Mortarstown within the administrative area of Carlow County Council. The existing site comprises 3.79 hectares and the proposed site will comprise approximately 10.76 hectares of predominantly developed land, currently used for the existing Mortarstown WwTP and associated infrastructure. The proposed project will include developing the vacant area to the west of the existing WwTP.

The existing Mortarstown WwTP is located 2.2 kilometres to the south of Carlow town centre, in the townland of Mortarstown Upper located off Green Road, Mortarstown Upper, Co. Carlow, at approximate grid reference 52°49'09.2"N 6°56'19.1"W. The WwTP site is generally flat at ca.50m AOD. The WwTP is largely bounded by agricultural lands.

There are existing residential developments in close proximity and the South East Technological University (SETU) is located to the north and Tyndall College is located further to the South. The Kilkenny Road (R488), a field with livestock (sheep) and two existing dwellings to the West; and agricultural land, residential properties and residential development under construction to the East.



A strip just Northeast of WwTP has some C&D waste and a strip Northwest has horses and trailers. UE have purchased the vacant cottage which is situated along western boundary of existing WwTP. The existing WwTP site comprises infrastructure and equipment associated with the existing WwTP and a mixture of grassed, concreted, hardcore and paved areas throughout.

The existing Pumping Station site is located along the R448 to the north of the existing WwTP is bounded on the southern side by the Kilkenny Road (R448) and vegetation/trees; vegetation/trees and the River Barrow to the West; partially cleared vegetation/trees and the River Barrow to the North; and Kilkenny Road (R448), SETU and student accommodation to the East. The existing Pumping Station is located on the southern side of Carlow town centre, adjacent to the River Barrow (approximate grid reference 52°49'37.2"N 6°56'16.0"W). The Kilkenny Road Pumping Station site is generally level at ca. 47m AOD.

The route of the existing microtunnel between the existing Kilkenny Road PS and existing Mortarstown WwTP is within Kilkenny Road. The existing outfall location is in close proximity to three residential houses, and the area is grassed with thick vegetation.

Figure 1-1 below illustrates the site location.



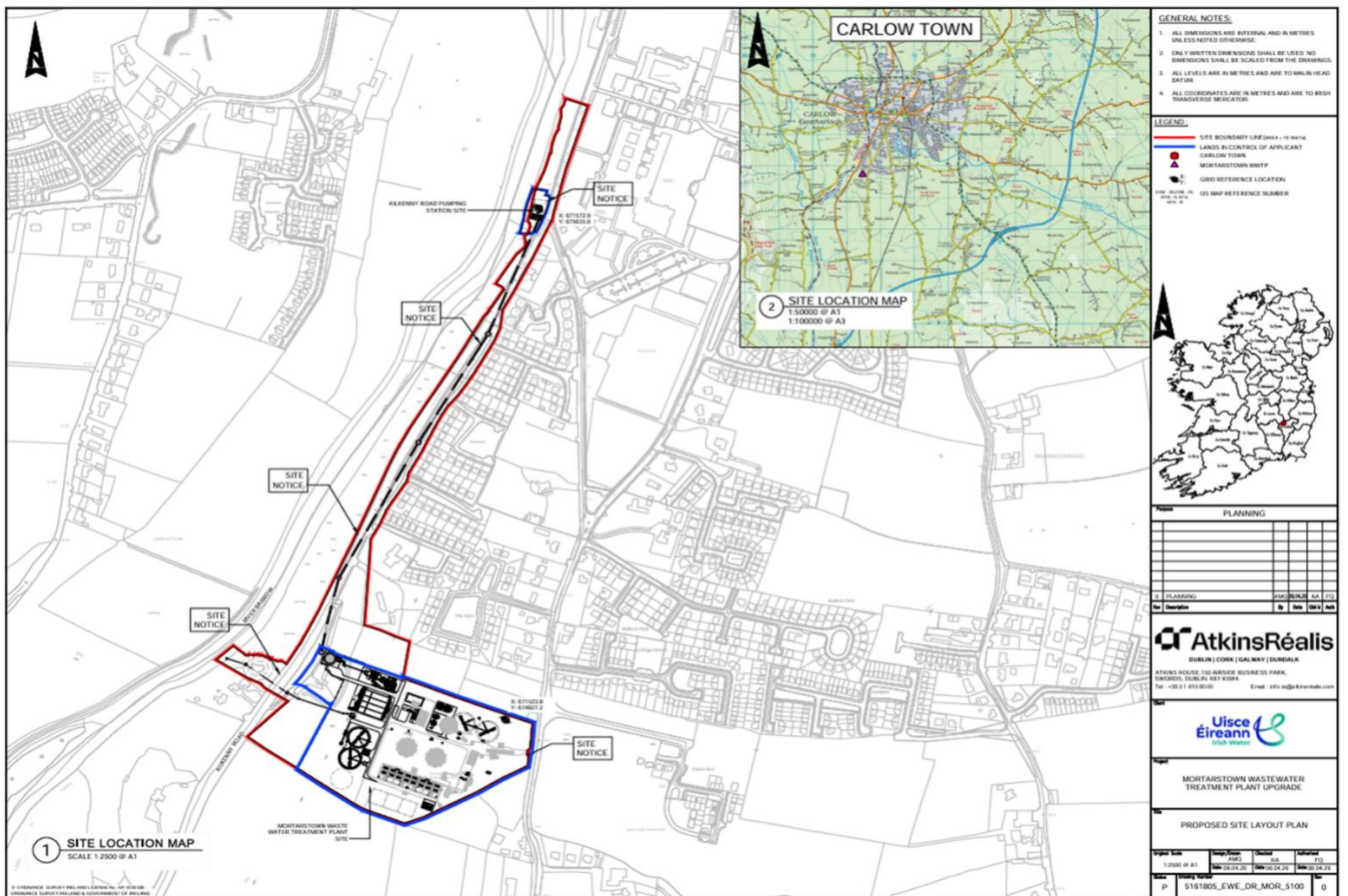


Figure 1-1 - Site Location

1.2.2 Overview of the Proposed Project

The proposed project involves an increase of treatment capacity to 58,500 PE. The proposed project includes the expansion of the existing infrastructure associated with Mortarstown WwTP into the adjoining land to the west, which forms part of the overall plot accommodating the existing WwTP and owned by UÉ. The works will include the construction of a new microtunnel gravity sewer from the existing Kilkenny Road Pump Station to the new Pumping Station (located adjacent to the proposed inlet works). A new outfall pipe will also be constructed from the proposed WwTP outfall chamber to the River Barrow. The existing WwTP site covers ca. 3.79 hectares (ha) and after completion of the upgrade works the Site will expand to ca. 5.53ha. The total proposed project area (Red line boundary) is ca. 10.76 ha in size. The Site location and proposed red-line boundary is presented in Figure 1-1.

The proposed microtunnel gravity sewer will run along Kilkenny Road and is 775m in length, which runs from the previous Kilkenny Road Pumping Station location to the new pumping station.

The upgrade works for the Mortarstown WwTP is summarised as follows:

- Microtunnel Gravity Sewer connecting the decommissioned Pumping Station(PS) to new Pumping Station
- New inlet Pumping station
- Decommissioning of Existing Kilkenny Road Pumping Station
- New Outfall chamber , Outfall Pipe including a microtunnel for the section crossing under the R448
- Provision of various new structures at existing Mortarstown WwTP which comprise the following structures:
- New foul pumping station for local agglomeration adjacent to existing inlet works (supplemented by standby generator).
- A new fuel storage tank and standby diesel generator to service the WWTP.
- New inlet works which includes the provision of an new odour treatment unit.
- 2 no. stormwater storage tanks and 2 no. stormwater return pumps.
- New primary settlement tanks and new primary sludge pumps
- Provision of 4 no. air blowers and modifications to existing air delivery pipework
- Provision of new air blower building and new bubble diffused air system
- Provision of 2 no. final settlement tanks with half-bridge scrapers.
- Provision of new RAS/WAS pumping station and station fitted with 2 no. RAS pumps and 2 no. WAS pumps.
- Provision of 2 no. additional picket fence tank thickener.
- Provision of 1 no. belt press, polymer prep unit and polymer dosing pumps.
- Provision of new pumped sludge transfer system.
- Provision of sludge import facility.
- Provision of minimum 6 no. odour control units
- Provision of Mechanical , Electrical , Instrumentation, Control and Automation (MEICA) and SCADA upgrades.
- New storage shed and associated gantry.

The following structures at Mortarstown WwTP will be refurbished:

- Structural refurbishment of picket fence tanks.
- Mechanical and electrical refurbishment of existing picket fence thickener and conversion of second existing tank to a sludge blending tank.
- Modifications to existing administration building.



1.2.2.1 Demolition Works

- The following structures will be demolished :
- Demolition of existing inlet works structure.
- Demolition of existing storm tank;
- Demolition of Various small chambers within the site;
- Demolition of Existing sludge cake transfer facility;

1.2.2.2 Decommissioning Works

- Existing plant/items to be decommissioned as part of the Proposed Development is as follows:
- Kilkenny Road pumping station;
- Existing rising main; and,
- Existing settlement tanks

1.2.2.3 Associated works

An area of approximately 155 m × 60 m within an existing grassed area located to the western side of the WWTP site has been allocated for the installation of ground-mounted photovoltaic (PV) solar panels. The proposed PV installation will have an installed capacity of approximately 382 kW and is expected to generate sufficient renewable energy to meet approximately 15% of the operational energy demand of the Proposed Development.

1.2.2.4 Potential Future works

The design lifespan of the upgraded plant is 25 years but it is anticipated that it will be maintained, with periodic upgrading undertaken over a longer lifetime to meet future demand and upgrades in technology.

UE have purchased the vacant cottage which is situated along western boundary of existing WwTP. No works are proposed for the vacant cottage at this stage. The vacant cottage and surrounding trees will remain in situ and UE will apply for the necessary consents should the cottage be repurposed at some point in the future.

Refer to the full planning drawing pack and full project description chapter of the EIAR submitted with the planning application.



2. Sustainability Reporting Framework

The Contractor will be required, to develop a Sustainability Management Reporting Framework for the delivery package of the proposed project. This is to be agreed with UÉ and the Employers Representative post award. The Site Environmental Manager will include any new or amended sustainability legislation that may be enacted over the lifecycle of the project in this Reporting Framework. This is the standard approach for UÉ contracts.

The Sustainability Management Reporting Framework will:

- Demonstrate compliance with International, European and National Programmes, Policies, Plans and legislation relating to sustainability by delivering on the requirements stated. The below list provides a non-exhaustive list of these documents.
 - Water Services Policy Statement
 - EU Water Framework Directive
 - Urban Wastewater Treatment Directive
 - EU Strategic Environmental Assessment Directive and Appropriate Assessment under the Birds Directive and the Habitats Directive
 - Water Services Acts 2007 to 2022
 - Water Action Plan 2024
 - Carlow Local Authority Climate Action Plan 2024-2029
- The Contractor will also comply with the conditions given in the planning permission for the proposed project.
- Demonstrate compliance with the Mitigation and Monitoring Measures given in Chapter 18 – Schedule of Commitments of the Environmental Impact Assessment Report (EIAR) and the mitigation measures in the Natura Impact Statement for the proposed project.
- Demonstrate Compliance with:
 - UÉ's Sustainability Framework;
 - UÉ's Water Services Strategic Plan 2050;
 - UÉ's National Wastewater Sludge Management Plan (NWSMP);
 - UÉ's Biodiversity Action Plan; and,
 - UÉ's Urban Wastewater Sectoral Action Plan.

As part of the Sustainability Management Reporting Framework the Contractor will prepare at minimum but not limited to the following reports that are required for the proposed project.

Construction and Demolition Resource and Waste Management Plan (RWMP):

All waste movement must be recorded and reported to the project's/ Resident Engineer or Project Manager (as appropriate) on a monthly basis via the UÉ Waste Management Tracker (IDD-FM-06). The Project Manager will forward the waste data to the Employers Representative. The project proposes to reuse as much of the excavated material as fill material as possible. Material that cannot be reused must be sent to an authorised disposal site. An outline RWMP has been prepared as part of this planning application.

Operational Waste Management Plan (OWMP):

The OWMP is a document that will be used by the operators to demonstrate correct handling of wastes that may arise during the operation of the WwTP. The plan calculates the quantities of waste that may be generated during the operational phase of the proposed project and ensures that adequate waste storage facilities are incorporated into the design of the project to meet all relevant waste management requirements. Waste management at the site will



comply with the requirements of the Waste Management Act 1996 as amended and other relevant waste legislation. An outline OWMP has been prepared as part of this planning application.

Incident Response Plan (IRP):

This Plan will describe the procedures, lines of authority and processes that will be followed to ensure that incident response efforts are prompt, efficient, and appropriate to particular circumstances. The IRP will contain a copy of the Contractor's Major Emergency Plan. The IRP shall detail the procedures to be undertaken in the event of a spillage of chemicals, fuel or other hazardous waste, non-compliance with any permit or license conditions/ requirements, or other such risks that could lead to a pollution incident, including flood risks. The IRP will be managed by the Site Environmental Manager.

Odour Management Plan (OMP):

The Contractor shall prepare an Odour Management Plan for the operational phase of the project in line with the Odour Management Plan provided by Odour Monitoring Ireland (2025), appended to the EIAR for Mortarstown WwTP Upgrade. This will form an integral part of facility operations (integrated into the Environmental Management System (EMS) for the operation of the facility) in order to ensure the minimisation of odour emissions from the operational facility. The primary focus for this document includes management tools and techniques to provide an integrated approach in odour management throughout the operating facility. This includes proactive monitoring, maintenance and control of odours in a progressive manner to ensure the minimisation of odours from the operating facility. The plan will also contain sampling protocol as well as complaints management procedures.

Dust Management Plan (DMP):

A DMP is a documented site-specific operational plan to prevent or minimise the release of dust from the site. It will describe the management and operational actions the site will use to deal with both anticipated (e.g. forecast) and actual high-risk conditions (e.g. dry days with measured winds above moderate breeze). The DMP will describe the conditions under which dust is most likely to pose a risk of disamenity at sensitive receptors close to the site and set trigger levels which, when exceeded, would require further dust control measures to be implemented (i.e. over and above the routine measures).

Environmental Operational Plan (EOP):

This EOP will cover the activities of the Contractor and its sub-contractors. It shall outline the environmental commitments in relation to the construction works and how these commitments are to be managed, including details of the monitoring systems and mitigation measures to be employed by the Contractor. It will also assign responsibilities for ensuring the effective implementation of the EOP. As a minimum the EOP will contain the mitigation and monitoring requirements set out in Chapter 18 - Schedule of Commitments of the EIAR, and the Natura Impact Statement for Mortarstown WwTP Upgrades. The EOP will provide details on reporting frequencies to UÉ and the Employer's Representative, auditing and reporting procedures and frequencies.

Biosecurity Management Plan (BMP):

The Contractor shall prepare a biosecurity management plan. A biosecurity protocol and management plan has been appended to the NIS along with the invasive species survey report to assist with this. The biosecurity management plan is also appended to the EIAR.

Construction Traffic Management Plan (CTMP):

The Contractor shall prepare a Construction Traffic Management Plan as per the appendix of the EIAR for Mortarstown WwTP Upgrades, Outline Traffic Management Plan as well as the traffic chapter. The appointed contractor shall liaise with the relevant authorities—including Transport Infrastructure Ireland, Carlow County Council,



and Emergency Services—to develop a CTMP. The purpose of the Traffic Management Plan (TMP) is to provide the basis for the management of traffic expected during construction of the project on the basis of the designs shown in the planning documents. The contractor will be required to prepare a Construction Traffic Management Plan (CTMP) that maximises the safety of the workforce and the public and minimises traffic delays, disruption and maintains access to properties. The traffic management plan will also address temporary disruption to traffic signals, footpath access and the management of pedestrian crossing points. The contractor shall provide an appropriate information campaign for the duration of the construction works.



3. Design and Construction of the Proposed Project

The Mortarstown Wastewater Treatment Plant (WwTP) Upgrade was subject to an Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS) to support an application for planning permission to An Coimisiún Pleanála. The Contractor shall comply with all conditions of the granted planning permission, along with the mitigation and monitoring measures set out in Chapter 18 (Schedule of Commitments) of the EIAR and the mitigation measures identified in the NIS.

In addition comply with the requirements set out in the following documents:

Mortarstown WwTP Upgrade CEMP, (AtkinsRéalis, 2026)

Mortarstown WwTP Upgrade RWMP, (AtkinsRéalis, 2026)

Mortarstown WwTP Upgrade OWMP, (AtkinsRéalis, 2026)

Mortarstown WwTP Upgrade OMP, (Odour Monitoring Ireland, 2025)

Mortarstown WwTP Upgrade Traffic Management Plan, (AtkinsRéalis, 2026)

Mortarstown WwTP Upgrade Biosecurity Plan, (INVAS, 2026), Table 3-1 below provides an example of relevant sustainability commitments identified within the EIAR chapters and NIS. This table is not exhaustive, and the Contractor shall familiarise themselves with all of the commitments and mitigation measures outlined in the EIAR and the NIS for the proposed development. The contractor shall also implement the mitigation measures and guidance in the various management plans appended to the EIAR and referenced Section 2.

Table 3-1 - Sustainability Commitments

EIAR Chapter	Mitigation Measure
Population and Human Health	A Health and Safety Plan will be prepared by the Contractor for the construction of the Proposed Development in line with Safety, Health and Welfare at Work Act 2005.
	Regular communication with community representatives before and during construction.
Biodiversity	Construction works during hours of darkness will be kept to a minimum. Works should be limited to normal working hours (08:00 to 18:00), with the site being secured and lighting being switched off outside of these hours, subject to safety and security requirements (This does not apply to areas within the existing WwTP which are subject to existing operational lighting).
	All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used
	LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability
	Tree felling and vegetation clearance shall be limited to the areas required for the construction of the proposed project. These areas shall be clearly delineated and



	marked out prior to commencement of tree felling and vegetation clearance. No tree felling or vegetation clearance will be permitted outside of these areas.
	The Tree Protection Plan shall be followed to ensure that there is no direct or indirect loss or damage to trees or other vegetation that is not within areas required to be cleared
	Replacement and additional planting in each area shall be established at the earliest opportunity, subject to any seasonal recommendations set out in the Landscape Plan and Specification (EBLA, 2025), landscape rationale
	To prevent the import of invasive non-native species to the proposed project site, all vehicles, plant, equipment, and PPE shall be thoroughly checked for any signs of invasive species or their propagules, e.g. seeds or fragments of rhizomes, before being allowed on site, paying particular attention to wheels and tracks
	Where tree felling or vegetation clearance is necessary between 1 st March and 31 st August, a suitably qualified and experienced ecologist will inspect the trees/vegetation and identify any active bird nests present. Any active nests will be protected and any surrounding cover not cleared until such time as the nest is no longer active, as advised by the Contractor's ecologist
	All open excavations shall be securely fenced off or covered outside of active working hours to prevent Otters or other species from becoming trapped within them.
	Key objectives in UÉ's Biodiversity Action Plan (2021) that are applicable to the proposed project include the following: <i>"Issue all Irish Water sites with a clear set of measures that will enhance and protect biodiversity."</i> <i>"Ensure 'no net loss' of biodiversity when carrying out activities, or delivering plans or projects."</i> <i>"Implement actions arising from the All-Ireland Pollinator Plan across all Irish Water sites, to support and increase our pollinator population."</i> <i>"Promote the use of nature-based solutions for water protection and wastewater treatment."</i> <i>"Manage invasive alien species at Irish Water sites."</i>
	The main actions that are applicable to the proposed project from the All-Ireland Pollinator Plan 2021-2025 are summarised as follows: Mow appropriate area under a pollinator-friendly regime (5 cut-and-lifts annually), Create meadows (1 cut-and-lift annually), Plant and manage native hedgerows for pollinators,



	Protect/create bare earth/sand banks for nesting pollinators, Create holes in wood or concrete for nesting pollinators, Where possible, eliminate the use of pesticides and, where not possible, ensure best practice, and Monitor and record actions and outcomes.
	The proposed planting strategy for Mortarstown WwTP is designed to integrate the site sensitively into the surrounding landscape, enhance visual screening, and support biodiversity. Retention of existing vegetation, supplemented with additional native hedgerows, grassland management, ponds and tree planting, will mitigate the visual and ecological impacts of the works while contributing to the overall landscape character of the area.
Air Quality	At the construction planning stage, the siting of activities and storage of materials will take note of the location of sensitive receptors and prevailing wind directions in order to minimise the potential for significant dust nuisance A complaints register will be kept on site detailing all telephone calls and letters of complaint received in connection with dust nuisance or air quality concerns, together with details of any remedial actions carried out Vehicles using site roads shall have their speed restricted, and this speed restriction will be enforced rigidly. On any unsurfaced site road and on hard surfaced roads speed shall be restricted to 20 km per hour Site vehicles and equipment will be serviced and maintained regularly to minimise air emissions associated with the equipment
Climate	Minimising waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the site. A construction waste management plan will be implemented to minimise construction waste sent to landfills. Recycling of materials will be promoted to and reduce the environmental footprint of the site Sourcing materials locally will be prioritised. This will help to reduce transport related GHG emissions and helps support local suppliers, further promoting economic sustainability Material choices and quantities will be reviewed during detailed design, to identify and implement any lower embodied carbon options, where feasible Maximise the use of low carbon concrete Maximise the use of recycled steel Installation of low energy equipment in buildings



	Ensure all plant and machinery are well maintained and inspected regularly
	Prevention of on-site or delivery vehicles from leaving engines idling, even over short periods
Noise and Vibration	It is recommended that sites with static plant such as compressors and generators be supplied with manufacturers' proprietary acoustic enclosures where possible. The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the site. The least noisy item should be selected wherever possible For mobile plant items such as cranes, dump trucks, excavators and loaders, the installation of an acoustic exhaust and or maintaining enclosure panels closed during operation can reduce noise levels by up to 10dB. Mobile plant should be switched off when not in use and not left idling For percussive tools such as pneumatic concrete breakers and tools a number of noise control measures include fitting muffler or sound reducing equipment to the breaker 'tool' and ensure any leaks in the air lines are sealed. Erect localised screens around breaker or drill bit when in operation in close proximity to noise sensitive boundaries A designated noise liaison should be appointed to site during construction works. All noise complaints should be logged and followed up in a prompt fashion by the liaison officer. In addition, prior to particularly noisy construction activity, e.g. demolition, breaking, piling, etc., the liaison officer should inform the nearest noise sensitive locations of the time and expected duration of the noisy works
Water	Prior to the commencement of earthworks, silt fencing will be placed down-gradient of the construction areas where drains and drainage pathways are present Daily monitoring of excavation/earthworks and associated water management systems will be completed by a suitably qualified person during the construction phase. On-site re-fueling of machinery will be carried out using a mobile double skinned fuel bowser. The fuel bowser, a double-axel custom-built refueling trailer or truck will be re-filled off site and will be towed/driven around the site to where machinery is located. The 4x4 jeep/fuel truck will also carry fuel absorbent material and pads in the event of any accidental spillages. The fuel bowser will be parked on a level area in the construction compound when not in use and only designated trained and competent operatives will be authorised to refuel plants on site. Mobile measures such as drip trays and fuel absorbent mats will be used during all refueling operations The drilling fluid will be non-toxic and naturally biodegradable (i.e., Clear Bore Drilling Fluid or similar will be used) Complying with the Emission Limit Values (ELVs) and ensuring that no specified discharge from the wastewater works exceed these ELVs. By adhering to the ELVs as calculated, it can be ensured that the quality of the effluent is compatible with the long-term objectives for the receiving surface waterbody under the WFD (i.e. the



	discharge of treated effluent will not jeopardise the ability of the receiving SWB to achieve Good WFD status in the future)
	Ongoing maintenance of all plants and equipment to ensure that no unauthorised wastewater discharge takes place
Cultural Heritage	A programme of archaeological monitoring of ground excavation works during the construction phase will be undertaken by a suitably qualified archaeologist licensed by the National Monument Service within the following areas: ▪ Topsoil stripping works in greenfield areas within and to the west of the existing wastewater treatment plant ▪ Ground excavation works required to facilitate the construction of the proposed outfall within woodland, riverbank and in-channel areas to the west of Kilkenny Road ▪ Any ground excavation work required to facilitate the construction of a microtunnel gravity sewer along Kilkenny Road In the event that any archaeological remains are identified during the course of archaeological supervision of works they will be recorded and securely cordoned off while the National Monuments Service are consulted to determine further appropriate mitigation measures, which may entail preservation <i>in situ</i> by avoidance or preservation in record by archaeological excavation
Material Assets	The contractor will supply all waste containers / skips, as required, for each of the identified waste streams. Waste will be segregated and removed to licensed facilities by licenced hauliers and all containers will be emptied before they are full to avoid overflowing. The contractor is to provide a waste forecast for waste types and quantities expected to be generated
	Scheduling and planning the delivery of materials will be carried out on an 'as needed' basis to limit any surplus materials
	Where feasible, sub-contractors will be responsible for the provision of any materials they require onsite in order to help reduce any surplus waste
	Ensure Zero Recoverable waste to landfill
	Reuse of decommissioned materials in upgrade projects
	Good working practices and take back schemes will be used to reduce the amount of waste generated, as an initial step, with waste management routes for each waste stream to be recorded in the site Waste Management Plan. There is a target of 98% diversion of construction waste from landfill to be achieved with a minimum diversion of 90%. In order to reduce waste generation as far as possible, off cuts, surplus materials and packaging is to be returned to suppliers for closed loop recycling, single used plastics are to be avoided where possible and all materials are to be stored correctly to avoid waste generation from damage and contamination of incorrectly stored materials
	All waste will be removed from Site by one or more waste haulage contractor(s) who hold a current valid waste collection permit issued by the National Waste Collection Permit Office (NWCPO). All waste materials generated during the construction phase will be removed offsite to an appropriately permitted or licenced waste disposal /



	recovery facility. All waste removed offsite will be appropriately characterised (under the correct LoW / EWC code), transported and disposed of in accordance with relevant waste management legislation (including but not limited to the Waste Management Act of 1996 and 2001, as amended and all subsequent waste management regulations). All waste management and disposal / recovery records will be maintained onsite throughout the project and will be made available for viewing by the Client, Employer's Representative and statutory consultees (CCC, EPA) as required
	Secure lockable and controlled storage to be provided for the storage of chemicals and other hazardous materials, e.g., asbestos
	Sludge will be removed in sealed tankers by licenced hauliers and will be treated at a licenced waste facility. The sealed tankers will prevent release of odour emissions at any significant rate. The operation and disposal of the sludge will be in accordance with Urban Wastewater Treatment Directive 91/271/EEC and Waste Management Act 1996 as amended. The sludge cake will meet the Class A Bio Solids standards
Land, Soils and Geology	The overall excavation of material for the development, will be minimised as much as possible to reduce the impact on soils and geology. Subsoil where suitable will be reused onsite as fill material. Topsoil that can be used for amenity purposes will be stockpiled on the development area for use as required in the final landscaping of the development.
	Any surplus material, or materials which are deemed not suitable for onsite reuse (including any potentially contaminated materials), will be managed, transported and disposed of in accordance with the requirements of the Waste Management Act 1996, as amended, and the Waste Framework Directive 2008/98/EC of the European Parliament and Council on waste. A project specific Resource and Waste Management Plan (RWMP) will be fully implemented onsite for the duration of the project.
	Any soil or topsoil required to be removed offsite to an appropriately licenced/ permitted soil disposal or recovery facility will be characterised in advance in accordance with the Waste Classification List of Waste & Determining if Waste is Hazardous or Non-hazardous (EPA, 2015) and the waste acceptance criteria for the relevant facility.
Traffic	Deliveries restricted to 09:00–16:00 to minimise community impact.
	Inspections and spot checks will ensure compliance with the CTMP by all project staff and suppliers.

Section 8 of the NIS for Mortarstown WwTP Upgrade lists the mitigation measures required to mitigate the effects of the Mortarstown WwTP Upgrade on Natura 2000 sites. The Contractors must familiarise themselves with the mitigation measures set out in the NIS.

The Contractor must also employ when necessary personnel to fulfil crucial roles throughout the contract such as; Community Liaison Officer, Resource and Waste Manager, Site Ecologist etc.



4. Mortarstown WwTP Upgrade Priority Areas

To assist in the development of sustainability objectives and targets for the Mortarstown WwTP Upgrade, the documents and policies outlined in Section 2 and their own sustainability objectives were reviewed.

UÉ's Water Services Strategic Plan 2050 reflects compliance with International and European sustainability objectives with the report stating:

'Providing safe, secure and sustainable water services is vital for our society, supporting public health, supporting the delivery of housing and jobs and protecting our environment and precious water resources.'

This core principle is reflected in the purpose of the Mortarstown WwTP Upgrade which is to upgrade and increase the treatment capacity of the plant to meet the projected future growth of Carlow Town and surrounding areas. The upgrades to the treatment plant will ensure compliance with the discharge licence for the site and the protection of the River Barrow which is a Special Area of Conservation (SAC) under the Habitats Regulations, 2011. Upon completion of the proposed project the following benefits will accrue:

- Enable future growth and development in the community and cater for an expected increase in population in the area.
- Enhance Carlow's amenity sustainability value by providing a cleaner environment and act as a platform for social and economic development.
- Improve water quality in the River Barrow, benefitting the environment, ecology, sporting and tourism activities.
- Ensure that wastewater will be treated in accordance with European Union Urban Wastewater Treatment Directives and Environmental Protection Agency wastewater discharge licensing.

UÉ is aware that significant investment in public wastewater infrastructure can help transform local communities including the approximate 58,500 PE served by the upgraded WwTP. The investment in this infrastructure project will contribute to the Carlow region's environmental, economic and social development, bringing jobs, and supporting health, well-being and the local environment. By measuring the environmental effects and environmental saving through carbon reductions, waste management, the Circular Economy, biodiversity and archaeological for the Mortarstown WwTP Upgrade, UÉ will demonstrate its commitment to sustainability. These priority areas reflect International, National and National legislation, Programmes and Policies.

4.1 Design Sustainability Measures

A number of sustainability measures have been incorporated into the design of the proposed project. These measures are outlined below;

- In accordance with UÉ's Annex 8 Energy Performance Measurement and Reporting Requirements, the works will incorporate permanent electrical metering infrastructure based on asset energy demand:
 - Site-level metering required where annual energy consumption exceeds 25,000 kWh/year
 - Sub-metering of significant energy users (e.g. pumps, blowers) exceeding 25,000 kWh/year
 - Dedicated three-phase meters required for individual assets exceeding 50,000 kWh/year
 - Renewable energy assets (e.g. solar PV) must have dedicated meters capable of measuring both generated and exported energy



- Implementation of solar panels have been considered on the grassed site at the west of the WwTP works. A Renewable Energy Assessment Report was prepared (AtkinsRéalis, 2026). The report concluded that a 382kW installed power will be installed at the available land on the proposed project site. The proposed solar panels can provide 15% of the energy demand of the Mortarstown WwTP.
- The new inlet pump station has been relocated to avoid sensitive ecological zones in the vicinity of the River Barrow SAC.
- Wastewater will be conveyed via a new gravity-led system from the existing Kilkenny Road Pump Station to the proposed inlet pumping station, thereby avoiding the requirement for pumped transfer over a distance of approximately 785 m. Microtunnelling also avoids surface disruption, vegetation loss, and impacts to SAC.
- The hydraulic capacity is sized to accommodate long-term population growth.
- An elevated inlet works to facilitate gravity flow through the treatment process will be constructed, thus negating the need for additional pumps.
- New primary settlement tanks will reduce organic loading and downstream aeration energy requirements.
- A2O biological treatment process retained and enhanced to improve nutrient removal.
- Existing aeration tanks will be retained and refurbished with new diffusers.
- Stormwater storage capacity increased to reduce untreated discharges.
- Screening and grit removal incorporated for excess storm flows prior to discharge.
- Internal return of stored storm flows for treatment once capacity is available.
- Surface water drainage from the WwTP site will be directed through an oil interceptor, which is designed to remove hydrocarbons, oils, grease and suspended sediments before the water is discharged via the existing outfall to the River Barrow.
- The site layout and relocation of electrical services has been configured to allow renewable integration without retrofit disruption.
- External lighting has been designed with cut-off and control to limit ecological (bats) disturbance.



5. Sustainability Requirements, Targets and Objectives

A series of sustainability requirements, targets and objectives for the Design and Construction of the Mortarstown WwTP Upgrade have been established. These were developed for actions that UÉ and the Contractor can conceivably control during the project and that will support the Water Services Strategic Plan 2050.

5.1 Sustainability Methodology

A systematic approach was undertaken to establish the key priorities, set objectives, delivery methods, metrics and reporting processes for the sustainability benefits that the project will bring during the Design and Construction Phases. This section expands on the approach.

Stage 1 – Understanding the Project Context and define the Sustainability Requirements

- Determination of the current status. The environmental impact assessment report and the Natura Impact Statement for Mortarstown WwTP Upgrade were examined to gather baseline environmental data.
- Review of the sustainability ambitions included in relevant Uisce Éireann publications including UÉ's Sustainability Framework and UÉ's Water Services Strategic Plan 2050. These were developed with a focus on international and National sustainability themes such as climate change, waste management, the circular economy, net zero carbon and biodiversity.
- Identification of key stakeholders and a thorough assessment of local needs, informed by socio-economic data, previous community consultations, and local authority place-based strategies.

Stage 2 – Legislative Context Review and Baselines

Review of current and potential environmental legislative requirements to ensure the sustainability objectives and targets are aligned with local, national and international targets. A carbon baseline assessment for the project was completed and is included in the Climate chapter of the EIAR.

Stage 3 – Develop the Sustainability Requirements

Informed by the information and requirements in Stage 1 and Stage 2, Sustainability Requirements were established. These are set out in Section 5.2.

5.2 Sustainability Requirements and Targets

The sustainability requirements and targets can be measured through various indicators, each focusing on the requirements for the different sustainability pillars. The Contractor will report their progress against the sustainability metrics for the proposed project. These are presented in detail in below.

It should be noted that 'ENV' denotes environmental sustainability requirements/ targets, while 'S' denotes socio-economic sustainability requirements/ targets.



Table 5-1 - Sustainability Requirements for Design and Construction of Mortarstown WwTP Upgrade

Mortarstown WwTP Upgrade Priority Areas	Sustainability Requirements for Design and Construction of Mortarstown WwTP Upgrade– Environment
ENV1: Climate Change and Mitigation	Support Ireland's 2030 climate goals, the 2040 GHG targets and 2050 Net Zero targets. Design and Construction of Mortarstown WwTP Upgrade to be climate resilient which will ensure safe services for the public. Encourage collaboration between teams to reduce carbon footprint during design, and construction of the project.
ENV2: Materials and Resources	Consideration and implementation of green procurement and the circular economy during the design and construction phase for the project. Meet the Government's requirements for green procurement for public projects for this project. Meet the requirements of the Draft Whole Government Circular Economy Strategy 2026-2028 Accelerating Action, 2025 regarding 10 % recycled materials targets.
ENV3: Cultural Heritage	Protect archaeology/cultural heritage by minimising disturbance and recording and protection of the archaeological and cultural features during the Design and Construction of Mortarstown WwTP Upgrade.
ENV4: Biodiversity	Protect biodiversity by minimising disturbance and pollution for species and habitats. Include any identified opportunities for biodiversity enhancement.
ENV5: Environmental Compliance	Compliance with all relevant Environmental legislation. Compliance with the requirements of the EIAR and NIS. Compliance with the planning permission.
S1: Community Engagement	Project team will engage with all stakeholders throughout the stages of the project lifecycle to keep them informed of progress and wherever possible encourage collaboration.
S2: Capacity Building for Local people	Through the commitment of leaving a positive lasting legacy the project will support local employability, education and business knowledge sharing programmes.
S3: Safety and Security	As a project priority the Safety and Security of the local community and the workforce will be enhanced through our local engagement with community groups to maximise the safety, security and accessibility.

The Priority Areas shown above are further discussed in the following sections.



5.2.1 ENV1: Climate Change Mitigation and Adaptation

The objectives of ENV1 are:

- Support Ireland's 2030 and 2040 climate goals and to be net zero by 2050.
- Provide a climate resilient wastewater treatment plant for future climate change

5.2.1.1 ENV1 Preliminary Design

Chapter 8 of the EIAR covers climate. A carbon baseline was prepared using the TII Online Carbon Tool (TII, 2025). The baseline assessment found that 9,099 tCO₂ e will be generated during construction. 63% of this is due to construction material, 15% is due to fuel usage on site and contractors travel to work accounts for 9% of the total figure.

The assessment found that the project is aligned with the plans, strategies and objectives outlined in Section 17 of the Climate Action & Low Carbon Development Act (Amended) 2021. It outlines various relevant targets for the project such as public bodies are now required under the Public Sector Mandate to use best practice project design to reduce embodied carbon; procure concretes with clinker replacements (lower carbon); and require that large construction projects produce a whole life cycle GHG emissions assessment. In the case of the proposed project, the results of the GHGA, carried out in Chapter 8 (Climate), showed the embodied carbon within the raw materials (life-cycle stages A1-A3) was the most significant contributor (50%) to total project GHG emissions (construction and operational phases). To reduce embodied carbon emissions associated with materials, the Contractor shall:

- Source materials locally, where possible, to help reduce transport related GHG emissions and support local suppliers, further promoting economic sustainability; and,
- Review material choices and quantities during detailed design, to identify and implement any lower embodied carbon options, where feasible.

The Contractor shall explore the following opportunities to reduce GHG emissions during design and construction, including:

- Efficient design: Reducing the quantities of higher-carbon materials required.
- Material substitution: Use of low-carbon concrete, e.g., Pulverised Fly Ash (PFA), Ground Granulated Blast Furnace Slag (GGBS), and higher recycled content steel.
- Construction practices: Adoption of electric / HVO plant and alternative construction methods.
- Procurement strategies: Prioritising locally sourced materials and suppliers with lower embodied carbon.

These opportunities are aligned with the PAS 2080:20231 carbon reduction hierarchy (Avoid, Reduce, Switch, Improve) and should be integrated into contractor requirements and procurement processes. These measures will contribute towards Uisce Éireann Sustainability Framework which sets out an ambition to reduce the carbon intensity of capital investment.

Achieving the specified climate change targets must be demonstrated by the Contractor in their Carbon Management Plan. The Plan must clearly set how who within the Contractors Team during design and construction is responsible for actively considering and addressing climate change commitments. All carbon data must be recorded and reported back to UÉ.

Uisce Éireann's Energy Efficient Design Standard aims to maximise the inclusion of onsite renewable energy generation in projects'. In this sense, implementation of solar panels has been considered on the grassed site at the west of the WwTP works. A Renewable Energy Assessment Report was prepared by AtkinsRéalis. The report



concluded that 382kW solar panels will be installed at the available land. The proposed solar panels will provide 15% of the energy demand of the Mortarstown WwTP.

5.2.1.2 ENV 1 Targets

The following climate change actions and targets will be implemented by the Contractor when designing and constructing Mortarstown WwTP Upgrade:

- Contractors will comply with the Mitigation and Monitoring Measures (Chapter 16-Schedule of Commitments) given in the EIAR for Mortarstown WwTP Upgrade, the mitigation measures in the NIS, and the requirements of the planning permission conditions.
- Contractors will comply with International, European and National climate legislation, policies, guidelines and standards.
- Contractors will comply with the relevant requirements of UÉ's Sustainability Framework, UÉ's Water Services Strategic Plan 2050, UÉ's National Wastewater Sludge Management Plan (NWSMP), UÉ's Biodiversity Action Plan, UÉ's Urban Wastewater Sectoral Action Plan.
- Uisce Éireann's recent sustainability and renewable energy policies aims to maximise the inclusion of onsite renewable energy generation in projects.
- Contractor(s) shall prepare a Carbon Management Plan for their contracts. The Carbon Management Plan will be aligned with PAS2080 and will inform the design and construction of Mortarstown WwTP Upgrade. The Carbon Management Plan will describe how the Contractor intends to reduce and report on the carbon footprint of the design and construction of Mortarstown WwTP. The Plan will demonstrate the carbon savings in design and construction. This Plan shall be prepared and agreed with UÉ after the award of the Contract. The Contractor shall identify and include areas in the design and construction of Mortarstown WwTP to reduce GHG emissions. The Contractor will submit monthly carbon reports to UÉ demonstrating carbon emissions for the Construction and Operational phases. The data will be reported as kgCO₂e/tonne or kgCO₂e/m³ of material or kgCO₂/tonne/km of material transported to site.
- The Contractor will not surpass the predicted carbon emissions set out in the Climate EIAR chapter.
- The Contractor shall carry out the design and construction activities for Mortarstown WwTP upgrade compliant to the requirements specified in UÉ's Energy Efficient Design Standard TEC-600-04.

Climate Reduction goals:

- Maximise the opportunities identified in the Climate EIAR chapter, and meet the climate reduction target over the duration of the Project
- Maximise the opportunities to use low carbon concrete
- Maximise the opportunities to use recycled steel during construction
- Installation of low energy equipment in buildings
- Maximise the reuse of material on site and minimise the quantities of waste generated
- Maximise the use of local supplier and minimise materials transport to the site.
- Utilise and implement renewable energy sources for powering the plan

5.2.2 ENV2: Materials and Resources

The key objectives of ENV2 are to:

- Minimise the quantities of waste removed off site for disposal by identifying and incorporating opportunities for reuse on site in accordance with the site-specific Detailed Construction Resource and Waste Management Plan which the Contractor will develop for the project.



- The Contractor will comply with the Government's Policy on Green Procurement for Public Projects as well as UÉ's Circular Economy Design Standard (CEDS) requirements.
- The Contractor shall demonstrate compliance by issuing monthly updates on green procurement to UÉ and the IPT.
- The Contractor will maximise the sustainable use of materials during construction. The Contractor will demonstrate compliance by issuing quarterly updates on green procurement to UÉ and the IPT.
- The Contractor will identify and implement the use of equipment and products that support a circular economy.

5.2.2.1 ENV2 Preliminary Design

The EIAR for Mortarstown WwTP Upgrade estimates that the proposed project of the Mortarstown WwTP will require an excavation of approximately 88,834 m³ of material. Approximately 2,500 m³ of this material is provisionally estimated to be suitable for re-use on site. An anticipated 334 m³ contaminated soil to be removed off site and a further 86,000 m³.

The Contractor will ensure that contaminated soil is correctly stored and classified. The Contractor will submit soil samples to an accredited laboratory for a range of analysis, for example, the Rilta Suite. A waste characterisation report will be prepared, using for example the Online HazWaste Tool, to characterise the material as either non-hazardous or hazardous. Waste Acceptance Criteria (WAC) analysis will be prepared to determine the suitability of the material for disposal at a suitably licenced facility. Waste will be adequately managed by the Contractor and a sufficient distance (20 m) will be allowed between the stockpiles and the nearest water course. Materials will be taken from site by a licenced waste carrier to a permitted/licenced facility that can accept the category and type of waste. The Contractor will supply waste dockets and gate waste acceptance dockets to the UÉ on a monthly basis, either as a hard copy or electronically.

Contractors shall prepare a Resource and Waste Management Plan (RWMP) for the Design and construction of the proposed project contract. The CDWMP will follow the EPA's Best Practice Guidelines for Resource & Waste Management Plans and the requirements given in the Resource Waste Management Strategy appended to the EIAR. The UÉ Waste Tracker (IDD-FM-06) must be completed and updated throughout the construction phase by the Contractor.

5.2.2.2 ENV 2 Targets

The goals for the management of materials and resources that the Contractor needs to put in place are outlined below;

- Minimise the amount of waste going to landfill by maximising Article 27. Seek opportunities to reuse clean material between sites within the red line boundary of the Planning Application in the design and construction of Mortarstown WwTP Upgrade. Zero recoverable waste will go to landfill.
- Local sourcing of materials that are transported through low carbon logistics.
- During design, maximise the assets inventory to facilitate end of life redeployment e.g. pre-cast concrete and the circular economy.
- Maximise the use of the Circular Economy. Look at leasing, product takeback, repairability of the products purchased as well as repurposing existing aspects of upgrading projects.
- Conduct pre-demolition asbestos surveys and removal prior to demolition. This will allow for maximum reuse of non-hazardous C&D materials.
- Identify and use appropriately licenced waste disposal/recycling facilities close to the Mortarstown WwTP site. This will minimise transport requirements and reduce GHG emissions.
- Examine and implement opportunities during design to ensure energy efficiency of buildings and examine opportunities to maximise the use of renewable energy in these buildings. Incorporate low energy electrical



equipment in the design. Contractor must comply with Annex 8 Energy Performance Measurement and Reporting Requirements.

5.2.3 ENV3 Archaeology and Cultural Heritage

The objective of ENV3 is to support the protection of cultural heritage and archaeological features in the areas close to Mortarstown WwTP.

5.2.3.1 ENV3 Preliminary Design

Chapter 13 of the EIAR Cultural Heritage examines the site at Mortarstown WwTP and takes into consideration any relevant culturally significant heritage in the area and any potential impacts to these as a result of the proposed project. No potential cultural heritage effects are predicted during the construction phase as the areas within the existing WwTP has been previously subject to ground disturbance works during the construction of the existing infrastructure. However, this chapter also sets out mitigation measures that will be implemented by the Contractor throughout the works to avoid any potential effects that may arise.

5.2.3.2 ENV3 Targets

The Contractor shall:

- Engage the services of a licenced archaeologist during construction at Mortarstown WwTP.
- An experienced archaeologist shall be appointed by the Contractor prior to the commencement of the construction stage at Mortarstown WwTP. The project archaeologist will ensure that all proposed works are carried out appropriately and that any potential risk to archaeological / architectural features are minimised.
- All construction work such as the excavation within the Mortarstown WwTP Upgrade site, will have to be monitored by a licensed archaeologist. Should archaeological remains be confirmed, further archaeological mitigation such as preservation in situ or full archaeological preservation by record (excavation) will be required.
- Ensure compliance with the Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023.
- Comply with the requirements of the cultural heritage mitigation measures in the EIAR.
- Where possible retain historical/industrial archaeology features at the WwTP.
- The Contractor will ensure that the following initiatives are implemented during the design and construction of the Mortarstown WwTP Upgrade.

Cultural heritage initiatives include the following;

- Protection and Restoration of local cultural heritage
- In the event that any archaeological remains are identified during the course of archaeological supervision of works they will be recorded and securely cordoned off while the National Monuments Service are consulted to determine further appropriate mitigation measures, which may entail preservation in situ by avoidance or preservation in record by archaeological excavation.

5.2.4 ENV4 Biodiversity

The objectives of ENV4 are to:

- Protect and enhance biodiversity
- Implement UE's Biodiversity Action Plan
- Ensure compliance with the Natural Impact Statements for the Mortarstown WwTP Upgrade, the Biodiversity chapter of the EIAR, and the requirements in the Mitigation and Monitoring Measures given in Chapter 16 – Schedule of Commitments of the EIAR for Mortarstown WwTP Upgrade.



5.2.4.1 ENV4 Preliminary Design

UÉ published its Biodiversity Action Plan in 2021. The plan recognises the need to urgently increase and accelerate efforts to halt the decline of biodiversity. The plan's aim is to conserve, enhance and work with the natural environment. It provides a comprehensive handbook to all infrastructure staff and gives site managers the tools to manage each site in ways that will benefit and enhance biodiversity to protect the natural environment. The guidelines state that appropriate actions to be undertaken to manage invasive alien species at all Irish Water sites, ensure 'no net loss' of biodiversity when carrying out activities, or delivering plans or projects and Implement actions arising from the All-Ireland Pollinator Plan across all Irish Water sites. A Biodiversity Net Gain Register is a required deliverable of all UÉ projects, it provides information of the biodiversity units of a project site in the pre, planned and post construction phases.

Chapter 4 (Biodiversity) of the EIAR for Mortarstown WwTP Upgrade sets out the mitigation measures that will be implemented by the Contractor throughout the project to avoid/reduce the effects on biodiversity. The Natura Impact Statements carried out for Mortarstown WwTP Upgrade includes mitigation measures to prevent/reduce any significant effects on Natura 2000 sites in the vicinity of the works.

5.2.4.2 ENV4 Targets

The following biodiversity requirements will be implemented by the Contractor during the Design and Construction phase of Mortarstown WwTP Upgrade to ensure:

- Compliance with the requirements of the EIAR, the NIS and the planning conditions for Mortarstown WwTP Upgrade.
- Pre-construction surveys as listed in the EIAR and NIS will be carried out pre-construction.
- Contractors will be required to demonstrate where Nature Based Solutions have been incorporated in the designs for Design and Construction of Mortarstown WwTP Upgrade.
- Contractors will be required to provide an Invasive Species Avoidance and Management Plan as part of the CEMP for any soil imported for landscaping.
- Contractors will comply with the relevant local authority's biodiversity management guidance during construction.
- The Construction Environmental Management Plan for the contract shall include references to the mitigation measures to protect biodiversity as outlined in the EIAR and NIS for Mortarstown WwTP Upgrade. The Contractor will ensure that the following initiatives are implemented during the design and construction of the Mortarstown WwTP Upgrade.
- A Biodiversity Net Gain register will be completed to quantify the pre, planned and post construction biodiversity status for the project site.

Biodiversity Initiatives include the following;

- Implement green infrastructure where practical e.g. planting native hedgerows around site boundaries, encouraging pollinator – friendly seed mixes/plants in the flowerbeds
- Ensure 'no net loss' of biodiversity
- Manage Invasive Alien Species
- Manage grassland on site to promote biodiversity and encourage long-flowering meadows which provide important for feeding and undisturbed nesting areas for pollinators

5.2.5 ENV5 Environmental Compliance

The Environmental Impact Assessment Report for Mortarstown WwTP Upgrade sets out in Chapter 16 Schedule of Commitments, processes that the Contractor must follow to monitor and mitigate the effects of the project on the



environment. The Contractor must familiarise themselves with the requirements of the EIAR and the Natura Impact Statement.

5.2.5.1 ENV5 Preliminary Design

A Construction Environmental Management Plan shall be prepared by the Contractor that is aligned with the Construction Environmental Management Plan (CEMP) submitted as part of this planning application for Mortarstown WwTP Upgrade. The CEMP will set out the Contractors overall management and administration of the construction project. The CEMP must include a detailed Incident Response Plan and Emergency Plan in the event of a fire, chemical spill, cement spillage, collapse of a structure, road incident etc. Contact details for the Garda, Ambulance, and Fire Services must be provided. Contact details for UÉ must also be included.

The CEMP will set out the Contractors approach to managing environmental issues associated with the construction work and provide documented evidence of how mitigation measures were implemented during the construction. All environmental commitments and mitigation measures included as part of the planning approval process and any requirements of statutory bodies such as the NPWS and IFI shall be documented in the CEMP.

Chapter 16 of the EIAR sets out mitigation and monitoring measures for:

- Population and Human Health
- Biodiversity
- Land, Soils and geology
- Water
- Air Quality
- Climate
- Noise and Vibration
- Landscape and Visual
- Traffic
- Material Assets
- Cultural Heritage
- Major Accidents and Disasters

The Contractor must review these mitigation measures to see which are applicable to the Design and Construction phase of Mortarstown WwTP Upgrade.

5.2.5.2 ENV5 Requirements

The Contractor shall comply with all applicable environmental legislation. All sampling and environmental monitoring shall be carried out by qualified personnel using recognized standard techniques. Laboratories used for analysis of the samples must be UKAS accredited, or ILAB accredited and the analytical methods employed must be to a recognized standard. The Contractor is required to issue monthly environmental monitoring reports to UÉ. Non-compliances must be explained and methods/mitigation to prevent recurrence of the non-compliance must be provided in the report.

5.2.6 S1 Community Engagement

The Contractor shall provide regular and informative engagement throughout the project life cycle, to keep Stakeholder's informed of the progress, sustainability ambitions and encourage collaboration. The Contractor shall actively involve local communities to ensure their needs are heard and included in the delivery of Contract.



5.2.6.1 S1 Preliminary Design

Public consultations were held to inform the local communities of the details of the proposed project in advance of project commencement.

To support the delivery and meaningful ambitions, Communication & Engagement and Sustainability guidelines have been developed, embedding key principles into the requirements for all Contractors, Suppliers, and the Internal teams as the project advances.

These principles have been formalised into contractual requirements encouraging contractors to uphold effective communication, foster meaningful engagement, and operate with transparency.

5.2.6.2 S1 Targets

- Contractors to develop and maintain a Community Engagement Policy, to enable effective and meaningful communication including the approach to the development, the delivery and the reporting of Sustainability initiatives.
- A community liaison officer (CLO) will be appointed by UÉ for the public to bring their concerns and queries to.

5.2.7 S2 Capacity Building for Local People

Mortarstown WwTP Upgrade aims to create a long-term positive social impact for local people through outcomes from the delivery phases. The Project Team, Contractors and Supply Chain will support local employability programmes, education facilities and business knowledge sharing programme to create capacity building opportunities for local beneficiaries.

5.2.7.1 S2 Preliminary Design

The Mortarstown WwTP Upgrade presents an opportunity to use the information gathered from the Socio-Economic assessments of the local areas to identify the key social priorities for socially disadvantaged groups, and what capacity building initiatives would offer the greatest impact.

5.2.7.2 S2 Targets

Contractor will support Community Enhancement by:

- Supporting local businesses through business knowledge transfer.
- Offer accessible training and career pathways.
- Building civic capacity and empowering communities to influence future local enhancements.

5.2.8 S3 Community Safety and Security

The safety and security of both local community and the workforce is to be prioritised by embedding these principles into every stage of planning, design and delivery.

5.2.8.1 S3 Preliminary Design

UÉ has implemented a range of initiatives to maximise the safety and security of local communities and their workforce through workplace safety and operational protocols, collaborating with local authorities, investments in infrastructure and community engagement.



5.2.8.2 S3 Targets

Contractor shall enhance the safety of the community through:

- Having Zero Harm Vision: through design, proactive risk management and a continuous safety culture.
- Contractor to host stakeholder forums and gain feedback to shape solutions.



6. Implementation

6.1 Environmental Delivery

Contractors will fulfil their mandatory requirements under the Mitigation and Monitoring Measures given in Chapter 16 – Schedule of Commitments of the Environmental Impact Assessment Report for Mortarstown WwTP Upgrade, the mitigation measures given in Natura Impact Statement, and the requirements set out in the planning permission. It is the responsibility of the Contractor to fulfil the requirements set out as a condition of the project's Contract.

6.2 Carbon Baseline Assessment

A carbon baseline assessment was completed for the Mortarstown WwTP Upgrade as part of the Climate EIAR Chapter. It was estimated that the carbon baseline for the Design and Construction of Mortarstown WwTP Upgrade across the 25-year life span are predicted to be 59,045 tCO₂e. Annual GHG emissions equate to 2,362 tCO₂e. The Contractor shall prepare a Carbon Management Plan after the award of Contract. The Carbon Management Plan (CMP) shall set out:

- Strategies for achieving a reduction in the 59,045 tCO₂e baseline carbon for the Design and Construction of Mortarstown WwTP Upgrade.
- A methodology for monitoring and tracking carbon during design and construction and reporting mechanisms to UÉ.
- Detail how the Contractor will collaborate with sub-contractors to meet the carbon requirements.
- Early warning systems that will be put in place to warn of not achieving carbon reduction targets.

The Contractor will comply with the climate change requirements of ENV1 outlined above, which includes but are not limited to:

- Using low carbon concrete mixes with verified Environmental Product Declarations where possible in line with the Department of Climate and Environment Procurement Guidelines.. The levels and quantities shall be reported monthly to UÉ.
- Use of low carbon or recycled materials on the site. The levels and quantities shall be reported monthly to UÉ.
- Reducing the embodied carbon compared to the preliminary design as given in the carbon baseline assessment report (59,045 tCO₂e). Reductions in carbon, in line with the requirements, with verifiable evidence, shall be reported monthly to UÉ.
- Implement a site wide energy management plan to reduce fuel consumption.
- Contractor will provide evidence to UÉ on the reduction of C&D waste going to landfill including the requirement of zero recoverable waste going to landfill. Evidence will be in the form of dockets to a recycling facility that is licenced/permitted to accept the materials, or via an electronic tagging system.
- Reduce site-related transport emissions by sourcing materials locally.
- The Contractor shall provide evidence of the supplier and materials purchased from the supplier and its proximity to the site.

6.3 Resources and Materials

The Contractor's Construction and Demolition Waste Management Plan will align with the UE Circular Economy Design Standard requirements and provide details on how any of the surplus excavated material which cannot be re-



used on site will be managed and disposed of off-site. The Contractor will comply with the requirements of ENV2 under Resource and Waste Management, which includes but is not limited to:

- Purchasing material for major asset components that are verified Environmental Products Declarations (EPD) as per ISO 14025.
- The Contractor shall comply with the Government's Policy on Green Procurement for Public Projects. The Contractor shall demonstrate compliance by issuing monthly updates on green procurement to UÉ.
- The Contractor shall comply with the requirements of the Circular Economy and Miscellaneous Provisions Act 2022. The Contractor shall demonstrate compliance by issuing quarterly updates on green procurement to UÉ.
- The Contractor shall maximise the sustainable use of materials during construction and maintenance. The Contractor shall demonstrate compliance by issuing quarterly updates on green procurement to UÉ.
- The Contractor shall utilise equipment and products that support a circular economy.

6.4 Archaeology & Cultural Heritage

The contractor shall:

- Engage the services of a licenced archaeologist during construction at Mortarstown WwTP Upgrade where necessary. The Contractor and the licenced archaeologist shall prepare a Method Statement for sensitive work at Mortarstown WwTP Upgrade which clearly identifies how the excavation works will be managed to prevent damage to unknown archaeological features.
- Design and Construction of Mortarstown WwTP Upgrade will ensure that all construction work such as the excavation within Mortarstown WwTP Upgrade site, will have to be monitored by a licensed archaeologist. Should archaeological remains be confirmed, further archaeological mitigation such as preservation in situ or full archaeological preservation by record (excavation) will be required. The findings of this assessment shall be reported to UÉ.
- Ensure compliance with the Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023.
- Comply with the requirements of the cultural heritage mitigation measures in the EIAR.
- Where possible retain historical/industrial archaeology features at Mortarstown WWTP.

6.5 Biodiversity

The Contractor shall ensure:

- Compliance with the requirements of the EIAR and the NIS for Mortarstown WwTP Upgrade.
- That Contractors will be required to demonstrate where Nature Based Solutions have been incorporated in the Design and Construction of Mortarstown WwTP Upgrade.
- That Contractors will be required to provide an Invasive Species Avoidance and Management Plan for any soil imported for landscaping at the Mortarstown WwTP Upgrade site.
- That Contractors will comply with the relevant local authority's biodiversity management guidance during construction.
- The Construction Environmental Management Plan for the Contract shall include references to the mitigation measures to protect biodiversity as outlined in the EIAR and NIS for Mortarstown WwTP Upgrade.



6.6 Socio-Economic Delivery

Contractors will fulfil their mandatory requirements and additionally, deliver against the selected number of socio-economic initiatives above S1, S2 and S3. The measures and commitments provided by the Contractor forms the basis of performance targets which will be integrated into the contract management process. Contractors will need to demonstrate their ability to deliver against these performance targets, which should be proportional, relevant and achievable to their business and their specific contract.

Through the development of the Contractors Sustainability and Environmental Management Reporting Framework, post award, the Contractor will outline their approach to the delivery of the mandatory requirements and Socio-Economic Initiatives. This will include alignment to any identified Community and Local Partnerships that UÉ may have.

6.7 Responsibility of Delivery

6.7.1 Environmental Delivery

The Contractors Lead Designer, Project Manager and the Site Environmental Manager will be required to develop and implement the Contractor Sustainability and Environmental Management Reporting Framework and the Carbon Management Plan upon award. The Site Environmental Manager will be responsible for ensuring that the other plans required for example the Construction Environmental Management Plan and the Construction and Demolition Resource and Waste Management Plan are in place post award. The Site Environmental Manager will be responsible for liaising with UÉ, issuing copies of the required reports/updates at the frequencies required.

6.7.2 Socio-Economic Delivery

UÉ have appointed a Community Liaison Officer will facilitate open communication with the public and relevant stakeholders regarding the project when necessary.

6.8 Changes of Law or Standards

The Contractor shall ensure that the proposed project is carried out in accordance with the terms of the Contract Documents following any Change in Law or Change in Industry Standards, including legislative, policy and government guidance around the application and reporting requirements for both Climate Action and Social Value.

6.9 Costs

6.9.1 Environmental Delivery

The Contractor will deliver the sustainability management requirements within their tender sum.

6.9.2 Socio-Economic Delivery

The Contractor shall deliver the Socio-Economic requirements, for the delivery of the scope, at no cost to UÉ or included within the Target Price submitted. The Client will not reimburse the supplier for any cost incurred in the delivery of Socio-Economic initiatives. Contractors are encouraged to familiarise themselves with the resources



available to support delivery of Socio-Economic requirements (grants or other public funding that may be available to offset the costs of delivering the Socio-Economic outcomes).

6.10 Reporting

The Contractor will submit a monthly sustainability report to UÉ containing the following;

- The progress against the sustainability metrics for the proposed project.
- All project waste movement must be recorded and reported via the UÉ Waste Management Tracker (IDD-FM-06). Waste dockets and gate waste acceptance dockets must be included either as a hard copy or electronically.
- All carbon data demonstrating carbon emissions for the Construction and Operational phases. The data will be reported as kgCO₂e/tonne or kgCO₂e/m³ of material or kgCO₂/tonne/km of material transported to site. The carbon reporting will include evidence of actively considering and addressing climate change commitments and progress towards achieving the specified climate change targets demonstrated by the Contractor in their Carbon Management Plan.
- Environmental sampling and monitoring data including any non-compliances which must be explained and methods/mitigation to prevent recurrence of the non-compliance must be provided in the report.
- Demonstrate compliance updates on green procurement.
- Evidence of the reduction of C&D waste going to landfill including the requirement of zero recoverable waste going to landfill. Evidence will be in the form of dockets to a recycling facility that is licenced/permited to accept the materials, or via an electronic tagging system.



7. Delivering Compliance

All actions and requirements in this document are aligned, where relevant, with the schedule of commitments in the EIAR and the NIS. They also meet established standards, regulations and best practice, whilst ensuring positive outcomes for the environment, people and the economy.

7.1 Environmental Compliance

Through the employment of a Lead Designer, Project Manager and a Site Environmental Manager for the Contract, waste management co-ordinators, a site ecologist and the preparation of the required reports, the Contractor will ensure that sustainability requirements are met. Compliance with the requirements of the EIAR and the mitigation measures in the NIS will ensure that the Contractor will meet the sustainability requirements for the contract.

7.2 Social & Economic Compliance

Through focusing on people and communities, the programme delivery teams will ensure that an open dialogue is maintained with local communities, ensuring they are included in development, promotion, opportunities and outcomes of Socio-Economic initiatives.



8. Conclusion

This structured approach ensures that sustainability is not only a guiding principle but a measurable and enforceable key component of project delivery.

Performance and outcomes are key components of the review process. This will involve assessing the Contractor progress against the established requirements across the environmental and the socio-economic dimensions. The data used in reporting will be accurate, complete, and relevant, enabling informed decision-making and transparent communication with stakeholders.

Compliance with current regulations and policies shall also be verified. Ongoing reviews will identify any changes in legislation or industry standards that may necessitate updates to the Contractor Sustainability Management Plan. This ensures that the Contractors remain legally compliant and avoids potential risks associated with non-compliance. All updates and decisions will be to the satisfaction of the client, well-documented and communicated transparently.

Accounting for the sustainable design measures already implemented, the preventative mitigation measures outlined here and in the EIAR and NIS and following the sustainability framework set out in this report, the proposed project is expected to prove an overall sustainable and beneficial development.



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PAS 2080:20231 carbon reduction hierarchy

Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023



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