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Acronyms and Abbreviations

Acronym	Definition
AMP	Archaeological Management Plan
COLREGs	International Regulations for the Prevention of Collision at Sea
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
ERCoP	Emergency Response Co-operation Plan
EU	European Union
FMMS	Fisheries Management and Mitigation Strategy
FST	Fuinneamh Sceirde Teoranta
GBS	Gravity Base Structure Foundation
HDD	Horizontal Direct Drilling
HP	Hazardous Property
HVAC	High Voltage Alternating Current
HWM	High Water Mark
LoW	List of Waste
LMP	Lighting and Marking Plan
MAC	Marine Area Consent
MARPOL	The International Convention for the Prevention of Pollution from Ships



MINNSMP	Marine Invasive Non-Native Species Management Plan
MMMP	Marine Mammal Mitigation Plan
МРСР	Marine Pollution Contingency Plan
MW	Megawatt
NHWMP	National Hazardous Waste Management Plan
NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Service
OAA	Offshore Array Area
OEC	Offshore Export Cable
OECC	Offshore Export Cable Corridor
OEMP	Offshore Environmental Management Plan
OSS	Offshore Substation
OWF	Offshore Windfarm
RM	Resource Manager
RWMP	Resource and Waste Management Plan
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SOLAS	International Regulations for the Safety of Life at Sea
SOPEP	Ship-board Oil Pollution Contingency Plan
ТЈВ	Transition Joint Bay
UK	United Kingdom



UXO	Unexploded Ordinance
VMP	Vessel Management Plan
WEEE	Waste Electrical and Electronic Equipment
WFD	Waste Frameworks Directive
WSA	Waste Storage Area
WTG	Wind Turbine Generator

1.3 **Glossary**

Term	Definition
Environmental Impact Assessment	EIA is a process used to evaluate the potential environmental effects of a proposed project ensures that environmental considerations are integrated into the planning and decision- making stages, helping to minimize negative impacts on the environment and promote sustainable development
Offshore Export Cable Corridor	The Offshore Export Cable Corridor (OECC) is approximately 62 km in length, approximately 1 km wide along the majority of its length and has a total area of approximately 73 km2.
National Hazardous Waste Management Plan	The Environmental Protection Agency (EPA) has prepared this National Hazardous Waste Management Plan (NWHMP) for the Republic of Ireland covering a six-year period from 2021 to 2027. It sets out the priorities to be pursued over the next six years and beyond to improve the prevention and management of hazardous waste. The purpose of this plan is to protect the environment and human health in Ireland through best-practice management of hazardous wastes.
Resource and Waste Management Plan (RWMP)	The Irish equivalent of a Waste Management Plan (RWMP)
Sceirde Rocks Offshore Wind Farm ('The Project')	Sceirde Rocks Offshore Wind Farm (The Project) is comprised of an Offshore Site and an Onshore Site. The transition between the Offshore and Onshore Sites (referred to as the Landfall) is the location at which the offshore export cable and communication cables emerge from the trenchless landfall duct and enter the transition joint bay (TJB).



	The Offshore Site refers to all development seaward of High-Water Mark (HWM); the Offshore Array Area (OAA) and Offshore Export Cable Corridor (OECC) and the infrastructure within the OAA and the OECC.		
	The OAA infrastructure will include 30 wind turbine generators (WTG), an offshore substation (OSS), 31 Gravity Base Structure (GBS) foundations which support the WTGs and OSS, and Inter- array Cables (IACs) and cable protection. The OECC infrastructure will include Offshore Export Cable (OEC) and cable protection. The OEC (total length of 63. 5 kilometres (km)) will transition to land using trenchless technology (e.g. Horizontal Directional Drilling (HDD)) landfall.		
	The Onshore Site will include the Onshore Landfall Location, the Onshore Grid Connection (OGC), and the Onshore Compensation Compound (OCC). The OEC will come ashore approximately 3.5 km northwest of Doonbeg. The OGC, with a total length of 22.3km, will be connected to the national grid via the proposed OCC located approximately 3km from Moneypoint, Co. Clare in the townland of Ballymacrinan.		
The Applicant	Fuinneamh Sceirde Teoranta (FST)		
Waste Hierarchy	The Waste Hierarchy is the guiding principle of Irish waste management arising from the Waste Frameworks Directive (WFD). The Waste Hierarchy has been designed to indicate a general direction to which waste should be treated. Its primary purpose directs how to manage hazardous waste in a way that hierarchizes actions to limit the quantity and hazardous nature of waste at the source.		
Waste Management Act, 1996	Ireland's primary legislation regarding the management of waste. It has been revised and updated since its inception to meet requirements set down by the EU.		
Waste Frameworks Directive (WFD)	Revised in 2018 in the EU Directive 2018/851 (the 2018 Directive) and subsequent updated within Irish legislation via the European Union (Waste Directive) Regulations, 2020 (S.I. No. 323 of 2020).		
	The WFD sets the basic concepts and definitions related to waste management, including definitions of waste, recycling and recovery.		



1. INTRODUCTION

Background

This Resource Waste Management Plan (WMP) forms part of the Offshore Environmental Management Plan (OEMP) and has been prepared by Xodus on behalf of Fuinneamh Sceirde Teoranta (FST) (hereafter referred to as the Applicant), for the construction, operation and maintenance and decommissioning of the Sceirde Rocks Offshore Wind Farm, and all its offshore component parts within the Offshore Site. The Offshore Site refers to the Offshore Array Area (OAA) and Offshore Export Cable Corridor (OECC) and the infrastructure within the OAA and the OECC.

The RWMP has been prepared in conjunction with the Environmental Impact Assessment Report (EIAR) and the Natura Impact Statement (NIS) which will accompany the planning application for the Project to be submitted to An Bord Pleanála.

Should the Sceirde Rocks Offshore Wind Farm secure development permission, the RWMP will be updated, in line with all conditions and obligations which apply to any grant of permission. The WMP should be read in conjunction with the EIAR and the planning drawings. The RWMP will also require updating by the appointed construction contractor in order to identify, assess and satisfy the contract performance criteria as set out by the various stakeholders. The RWMP, due to its structure and nature, will require constant updating and revision throughout the various phases of the project from construction to operation and maintenance and decommissioning.

The appointed construction contractor will be required to implement all of the requirements set out in this RWMP. The RWMP may be updated and revised throughout the construction phase of the Project, but all future iterations must meet or exceed the standards and requirements set out in this document and the Project Developer must be satisfied that all requirements set out in this document can and will be implemented in full by the appointed construction contractor.

1.2 Project Description

Sceirde Rocks Offshore Wind Farm is comprised of an Offshore Site and an Onshore Site. The transition between the Offshore and Onshore Sites (referred to as the Landfall) is the location at which the offshore export cable and communication cables emerge from the trenchless landfall duct and enter the transition joint bay (TJB). This RWMP Management Plan only considers the Offshore Site.

Sceirde Rocks Offshore Wind Farm Environmental Impact Assessment Report (EIAR), Chapter 5: Project Description describes the design details of the Offshore Site and all its component parts, situated off the South coast of Ireland, close to Connemara, Co. Galway.

The Offshore Site refers to the Offshore Array Area (OAA) and Offshore Export Cable Corridor (OECC) and the infrastructure within the OAA and the OECC.

The OAA infrastructure will include 30 wind turbine generators (WTG), an offshore substation (OSS), 31 Gravity Base Structure (GBS) foundations which support the WTGs and OSS, and Inter-array Cables (IACs) and cable protection. The OECC infrastructure will include Offshore Export Cable (OEC) and cable protection. Figure 1-1 shows the layout of the Offshore Site.





Figure 1-1 Sceirde Offshore Wind Farm Offshore Site



1.3 Purpose of this Document

The purpose of the RWMP is to set out the approach to waste management and mitigation in respect of the Offshore Site providing an outline of the proposed measures to be implemented to facilitate all aspects of waste management procedures. This RWMP provides the relevant information with respect to all aspects of waste management procedures from waste produced during the respective project stages i.e., construction (including pre-construction) and operation and maintenance and decommissioning.

At the highest level, the RWMP provides an analysis and management objects of waste (including marine litter). Subsequently, methods proposed to follow the Waste Hierarchy (see Section 2.2 for specific details on Waste Hierarchy) and material handling procedures produced are presented.

The RWMP will be further updated to support the construction programme.

1.4 **Construction programme**

A summary of the phases of the Offshore Site construction programme is shown in Table 1-1. The construction programme and durations of the campaigns are estimated and are subject to change depending on factors such as contractor / vessel availability, ground and weather conditions and any supply chain or logistical issue that may arise. Furthermore, specific details on installation will vary depending on the technologies adopted and may change due to improvements in both the technology and supply chain.

Shannon Foynes Port, Rossaveel, Cork and Belfast harbours, along with ports in the UK and continental Europe, are all being considered as ports during the construction of the Offshore Site. The location of the O&M based is still under consideration by the project team, however the current assumption is that the O&M base will be located in Rossaveel (further details can be seen in the Chapter 5 'Project Description' of the EIAR).

Activity	Description	
Pre-construction surveys and site investigations	Additional pre-construction surveys may be undertaken, including geophysical, geotechnical, benthic, unexploded ordnance (UXO) and metocean investigations. Other surveys, e.g. for birds, may also be undertaken as required.	
Site preparation	Seabed preparations will be required prior to the installation of GBS foundations and offshore cable infrastructure. This may include dredging, boulder clearance and UXO clearance. Site preparation works also include the placement of rock to form a stonebed for GBS foundations and for WTIV operations.	
GBS foundation and sub- substructure installation	The GBS foundations are proposed to be temporarily anchored at a temporary anchor facility prior to installation at the OAA. Foundations will be towed to site and installed ahead of the WTG and OSS topside structure.	
OSS installation/commissioning	OSS topside structure is installed after the installation of the GBS foundation. Following installation of the OSS and	

Table 1-1 Offshore Site activities from pre-installation to commissioning



Activity	Description	
	connection to the inter-array and export cabling, a process of testing and commissioning will be undertaken.	
OEC – landfall and offshore installation	Following the completion of the necessary onshore works (including the necessary landfall preparations) and the offshore site preparations, the OEC will be laid from the landfall out to the OSS, with the potential for pre-trenching works to be undertaken ahead of cable installation.	
	The export cable will be buried wherever possible and may be installed using a variety of techniques detailed further in section 5.6.1 Chapter 5: Project Description. Following cable lay and burial (which may occur simultaneously or sequentially) external cable protection will be installed, as necessary. Further details on cable protection are provided in the chapter 'Project Description' of the EIAR.	
Inter-array cable installation	The inter-array cables will be installed between the WTGs and between WTGs and the OSS.	
	The installation techniques for the inter-array cables will be similar to that of the OEC.	
WTG installation/ commissioning	The WTGs will be fabricated onshore and transported to the OAA for installation. Following installation of the WTG and connection to the inter-array cabling, a process of testing and commissioning will be undertaken.	

OEMP and Management Plans

The RWMP is an appendix to the overarching Project OEMP. Table 1-2 below sets out the other appendices that feed into the OEMP.

Table 1-2	Other	appendices	to	the	OEMP
		11			

Consents Management Plan	
Marine Pollution Contingency Plan (MPCP)	The MPCP sets out pollution prevention measures such as: a) storage of chemicals in secure designated areas in line with appropriate regulations and guidelines, b) adherence to vessel regulations such as MARPOL to reduce potential for vessel pollution, c) disposal of waste e.g. sewage, oil or litter at an authorised disposal facility.
	The MPCP will be included as an appendix to the Offshore Environmental Management Plan (OEMP).
Vessel Management Plan (VMP))	The VMP sets out how all vessels associated with the Offshore Site will comply with the provisions of the International Regulations for the Prevention of Collision at Sea (COLREGs) and the International Regulations for the Safety of Life at Sea (SOLAS).



Consents Management Plan	
	The VMP will be included as an appendix to the Offshore Environmental Management Plan (OEMP).
Fisheries Management and Mitigation Plan (FMMS)	The FMMS sets out the activities designed to manage and mitigate the impacts of various projects on local fisheries.
	The FMMS will be included as an appendix to the Offshore Environmental Management Plan (OEMP).
Marine Mammal Mitigation Protocol (MMMP)	The MMMP sets out the mitigation measures to avoid injury and disturbance to marine mammals will be developed. This will be developed with full regard to the NPWS (2014) guidelines and industry good practice from other jurisdictions and could include the use of acoustic deterrent devices to temporarily displace animals away from the highest risk (injury) zones, and marine mammal visual and acoustic observers to ensure that there are no marine mammals in close proximity (1,000 metres) of the UXO being cleared.
	The MMMP will be included as an appendix to the Offshore Environmental Management Plan (OEMP).
Emergency Response Co- operation Plan (ERCoP)	The ERCoP sets out the actions to be taken during an emergency, the resources available to support those actions, and emergency contact details.
	The ERCoP will be included as an appendix to the Offshore Environmental Management Plan (OEMP)].
Marine Invasive Non-Native Species Management Plan (MINNSMP)	The MINNSMP sets out the approach to invasive species management and mitigation in respect of the Offshore Site providing an outline of the proposed measures to be implemented to facilitate biosecurity control and to minimise potential impacts on the local and wider offshore environment.
	The MINNSMP will be included as an appendix to the Offshore Environmental Management Plan (OEMP).
Lighting and Marking Plan (LMP)	The LMP sets out the marine lighting and marking requirements and procedures for the Offshore Site during the construction and operation and maintenance stages.
	The LMP will be included as an appendix to the Offshore Environmental Management Plan (OEMP).
Archaeological Management Plan	The AMP sets out the procedures to be followed on discovering any marine archaeological assets during the construction and operation and maintenance stages of the Project.
	The AMP will be included as an appendix to the Offshore Environmental Management Plan (OEMP)



1.6

Summary of measures, mitigation and monitoring

The embedded mitigation and monitoring measures detailed within the Environmental Impact Assessment Report (EIAR) and relevant to this MPCP are presented in

Table 1-3.

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Measures	Justification
Pollution planning	An MPCP will be developed outlining procedures to protect personnel working and safeguard the environment should a pollution event occur.
Marine Pollution Contingency Plan (MPCP)	An MPCP will be created for the Offshore Site with consideration of the National Maritime Oil/ Hazardous Noxious Substance (HNS) Spill Contingency Plan.
Dropped Objects	Procedures for dropped objects and claim processes for loss/ damage of fishing gear/ vessels that can be considered as waste.
Vessel Management Plan (VMP)	Adherence to the International Convention for the Prevention of Pollution from Ships (MARPOL) and Ballast Water Management (BWM) Conventions, including and shipboard oil pollution emergency plans (SOPEP).
	All project vessels will comply with international marine regulations as adopted by the Flag State including COLREGs and SOLAS.
Trenchless Landfall Design	Trenchless methods (e.g. Direct Pipe or HDD) will be undertaken at the Landfall to avoid any direct impacts to the intertidal area, ensuring that drill cuttings and chemicals are collected and disposed of to the correct licensed authorities.



2. LEGISLATION, POLICY AND GUIDELINES

The general framework of concepts and definitions with regards to waste management is set down in the EU Waste Framework Directive (WFD) (Directive 2008/98/EC), transposed into Irish Law via Waste Directive Regulations 2011 (S.I. No. 126 of 2011).

2.1 **Waste Hierarchy Legislation and Policy;**

The WFD was revised in 2018 in the EU Directive 2018/851 (the 2018 Directive) and subsequent updated within Irish legislation via the European Union (Waste Directive) Regulations, 2020 (S.I. No. 323 of 2020). Environment Protection Agency (EPA) (2021b) guidance provides a synthesis of the necessary information within the legislation including:

- > Establishment of Waste Management Plans (WMP);
- > Promotion of recycling of waste materials; and
- > The preparation for reuse, recycling and other material recovery of non-hazardous construction and demolition waste.

EU Legislation	Description & Equivalent in Irish Law
EU Waste Framework Directive (2008/98/EC) (the WFD)	Transposed into Irish Law as the Waste Directive Regulations 2011 (S.I. No. 126 of 2011). The regulations require the production of WMP and accompanying waste hierarchy.
EU Directive 2018/851 (the 2018 Directive)	A revision of the WFD focused on waste prevention and targets for waste reduction. Transposed into Irish Law as the European Union (Waste Directive) Regulations, 2020 (S.I. No. 323 of 2020).
EU's Environmental Impact Assessment (EIA) Directive (2011/92/EU as amended by 2014/52/EU)	Transposed into Irish law with the recent European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).
Strategic Environmental Assessment (SEA) Directive (2001/42/EC)	Transposed into Irish law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004, S.I. No. 435/2004, as amended. This regulation ensures that the environmental consequences of plans and programmes are assessed during preparation and adoption.
Birds Directive (79/409/ ECC as codified by Directive 2009/147/EC) and Habitats Directive (92/43/EEC)	Transposed into Irish Law by the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) as amended. This outlines requirements for performing Appropriate Assessments of Projects with the potential to affect Special Protection Areas (SPAs) and Special Areas of Conservation (SAC).

Table 2-1 Relevant legislation.



Commission Decision of 18 December 2014, amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European parliament and of the Council (2014/955/EEC) [referred to hereafter as 'The List of Waste (LoW)']	Provided within the EPA (2018) List of Waste (Guidance). See Section 2.2 for LoW details.
Commission Regulation (EU) No 1357/2014 of 18 December 2014, replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives.	Provided within the EPA (2018) List of Waste (Guidance). See Section 2.2 for LoW details.
Council Regulation (EU) 2017/997 of 8 June 2017 amending Annex 111 to Directive 2008/98//EC of the European parliament and of the Council as regards the hazardous property (HP) 14 'Ecotoxic'.	Provided within the EPA (2018) List of Waste (Guidance). See Section 2.2 for LoW details.

As stated above, the WFD is the overarching legislation governing the production of a RWMP for projects likely to produce waste and as such, is required for the Sceirde Rocks Offshore Wind Farm. In the Republic of Ireland, hazardous waste legislation originates from EU directives transposed into Irish Law by the Waste Management Act 1996 as amended, which further lays out the relevant definitions of hazardous waste disposal and recovery. Furthermore, the Waste Management Act 1996 still follows the same name but has been updated at regular intervals to ensure its contemporary use, most recently as of July 2024. Hazardous wastes are covered in the Environments Protection Agency's (EPA) National Hazardous Waste Management Plan (NHWMP) 2021-2027 (EPA, 2021a)1 which outlines the waste classification in Ireland as well as all the relevant European Union (EU) and Irish Legislation and subsequent guidance on the production of a RWMP (EPA, 2021b). The NHWMP is mainly tailored for onshore waste management but has been adapted for the marine environment. The EPA is required to develop an NHWMP under section 26 of the Waste Management Act.

With regards to policy, Ireland has abated the Waste Action Plan for a Circular Economy, Ireland's National Waste Policy 200-2025. The policy was adapted to reflect the EU 2020 Circular Economy Plan and to provide a roadmap for waste planning and management in Ireland (Gov.ie, 2021). Furthermore, the Circular Economy Programme 2021-2017 is a policy adaptation of goals of the European Green Deal. The circular economy is a concept which involves the driving of resource and material sustainability at the EU and national level (i.e., the Waste Action Plan and the Circular Economy Programme) by optimising material cycles (EPA, 2021a) through:

- > Reuse and disposal of materials; and
- > The minimisation of waste to make the most of the resources within that process.

2.2 Waste Hierarchy

The Waste Hierarchy is the guiding principle of Irish waste management arising from the WFD, discussed in Section 0. The Waste Hierarchy has been designed to indicate a general direction to which waste should be treated. Its primary purpose directs how to manage hazardous waste in a way that hierarchizes actions to limit the quantity and hazardous nature of waste at the source.

¹ The NHWMP (2021): <u>https://www.epa.ie/publications/circular-economy/resources/national-hazardous-waste-management-plan-</u> 2021–2027.php



All waste management options have the potential to impact the environment. Prevention is placed at the top of the Waste Hierarchy as it is the most idea\preferred category. The Department for Environment Food and Rural Affairs (Defra) (2011) in the United Kingdom (UK) provides an explanation of the purpose of each level of the Waste Hierarchy:

- **Prevention:** the selection of less hazardous materials along with optimised design options. is placed at the top as it is the ideal category within the hierarchy;
- **Re-use:** the refurbishment of project components to be used again;
- **Recycling:** entails turning wate in a new product or substance;
- > Other Recovery: the retrieving of waste from energy such as from fuel and heat; and
- **Disposal:** Involves either incineration or removal of waste to a landfill without any energy recovery.

The Waste Hierarchy as per the EPA (2021a; 2021b) is provided below in Figure 2-1.



Most Preferred

Figure 2-1 Waste Hierarchy from EPA (2021b)



TYPES OF WASTE 3

Overview of waste 3.1

Within the WFD, waste² is described as objects or substances discarded, intended to discard or is required to discard. Waste can be divided into three broad categories, Non-Hazardous (General) Waste, Hazardous (Special) Waste and Mirror Waste which are described as:

- > Non-Hazardous (General) Waste: Waste that is liable to decay such as sewage, grey waters and kitchen waste or other inert solids such as scrap material;
- > Hazardous (Special) Waste: Waste classified as too dangerous or difficult to dispose by conventional means. This waste requires special provisions for disposal such as certain chemicals (note that packaging of hazardous waste is also considered hazardous waste; and
- > Mirror Waste: Waste that can be classified as either hazardous or non-hazardous such as asbestos or sludge. This type of waste is subject to further assessment.

If a project produces waste, the project is required to declare and classify the types of waste generated by that project (i.e., hazardous, non-hazardous and mirror). Upon classification waste must be assigned the relevant List of Waste (LoW) code. The LoW process is an approach adopted by the EU to generate harmonised lists of waste (EPA, 2021a). Waste classification is characterised in the Waste Classification, List of Waste³ and Determining if Waste is Hazardous or Non-Hazardous (EPA, 2018) guidance. Waste is classified within the EPA (2018) guidance based on:

- > Commission Decision of 18 December 2014, amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European parliament and of the Council (2014/955/EEC) [referred to hereafter as 'The List of Waste (LoW)'];
- > Commission Regulation (EU) No 1357/2014 of 18 December 2014, replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives;
- > Council Regulation (EU) 2017/997 of 8 June 2017 amending Annex 111 to Directive 2008/98//EC of the European parliament and of the Council as regards the hazardous property (HP) 14 'Ecotoxic'.

Other legislation pertinent to waste is discussed in Section 0.

Waste likely to be generated 3.2

Waste should be disposed of in accordance with the Waste Hierarchy (see Section 2.2). This process allows for the minimisation of waste products and thereby minimising the potential impact on the environment. As per the EPA (2021b) guidance, all waste should be removed from sight and sent to 'suitably authorised waste facilities for disposal and or recovery (see Section 3.3 for a detailed description of waste management). A list of waste likely to be generated is provided below in

Table 3-1.

² Note that offshore waste is referred to as garbage under the Merchant Shipping (Prevention of Pollution by Garbage) Regulations 1998.

³ LoW code system can be found in the EPA (2018) guidance: <u>https://www.epa.ie/publications/monitoring</u>assessment/waste/EPA_WasteClassificationGuidanceReport2019.pdf



Table 3-1 Types of waste anticipated to be generated from the Project, adapted from EPA (2018; 2021a; 2021b).

Waste	Description
Hazardous (Special) Waste	
Chemicals	Fuels such as gasoline or diesel leaking from vessels or containers
Chemical drums and containers	Any containers or drums containing hazardous chemicals
Medical waste	Dressings, bandages, or medicines
Lighting and electronics	Used bulbs, fluorescent, computer or electronic equipment
PPE gear	Used PPE that may be dirty from contaminated with chemicals and oils
Oils and any oil contaminated materials	Oily rags, used sorbents, hydraulic hoses, used grease/lubricant.
Aerosol containers	Paints or solvents
Non-Hazardous Waste	
Black water (sewage) and grey water (domestic water	From personnel aboard vessels from bathrooms, sinks and showers
Food waste	From vessel galleries/ food halls and cooking oils
Glass, general plastics and paper/carboard	Bottles, packaging, newspapers, magazines used during crew downtime

3.3 Dropped Objects

All dropped objects will be recorded and reported to the competent authority using a Dropped Object Procedure Form. The format of dropped object form to be agreed prior to commencement of construction activities. Dropped objects will also be covered in the MPCP.





4. WASTE MANAGEMENT

4.1 **Roles and Responsibilities**

As per the WFD and discussed in the EPA (2021b) guidance, it is the responsibility of the waste producers (anyone who's activities produce waste, i.e., the Applicant or any contractors) and Waste Holder to effectively handle hazardous waste in conjunction with the RWMP.

FST is fully responsible for the waste generated during construction and operations and will be financially accountable for the clean-up of any exposure of hazardous waste to the environment. Any transference of waste to licensed carriers and facilities (local/ national authorities, contractors or subcontractors) should be noted and documented for record.

4.1.1 **The Applicant**

The Applicant, Fuinneamh Sceirde Teoranta (FST) has responsibility to establish the performance of targets within the RWMP. Commitments and targets with regards to the Waste Hierarchy must be recorded in any project briefs. The planned RWMP must be submitted as a part of any design and planning submission included pre-qualification requirements and invitations to tender. The RWMP must be submitted to relevant local authority(ies) prior to the commencement of any work. The Applicants design team will be responsible for the drafting of the RWMP, including relevant details and quantities of projected waste and relevant conditions laid down in the planning permission. The Applicants Resource Manager (RM) should conduct audits to ensure tracking of waste estimations, conditions imposed in the planning permission, handover and liaison with contractors and reviews of the RWMP. The Applicants design team will then hand over the RWMP to a contractor prior to the commencement of works. An end-of-project must then be requested off an any contractors hired to oversee the further compilation and implementation of the RWMP.

4.1.2 Local Authority

It is the responsibility of the respected local authorities whose administrative boundaries the project exists within to ensure that the RWMP aligns with the EPA (2021b) guidance. Contractors hired by the Applicant undertaking construction and operation activities are responsible for preparing, implementing, and reviewing the RWMP. The contractor should hire a suitable Resource Manager (RM) to effectively implement the RWMP.

4.1.3 **Contractors and subcontractors**

The transport of waste falls under the European Communities (Shipments of Hazardous Waste exclusively within Ireland) Regulations 2011. The contractor is responsible for tracking the transport of hazardous waste off-site, ensuring that the waste is only carried by a haulier with a registered Waste Collection Permit). Vessels transporting materials off site must, under law, carry a Waste Transfer Form. The final destinations of transported waste must all be identified. A full record of all waste must be maintained for the duration of the project while an RWMP Implementation Report must be completed upon project handover.

Contractors are responsible for ensuring that appropriate pollution prevention and response training to relevant personnel, and that appropriate equipment is available on Project vessels for any exposure of waste to the marine environment. Relevant personnel must ensure that each vessel under their management has a Ship-board Oil Pollution Contingency Plan (SOPEP) (The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78 Annex I, reg. 26) or an equivalent spill



plan for spills involving Project vessels or operations. Any response to the spillage of hazardous waste such as oils is covered in the Maine Pollution Contingency Plan (MPCP) (See Appendix 5-3: Marine Pollution Contingency Plan).

Furthermore, all vessels carrying ≥ 15 personnel or weigh in excess and/or ≥ 400 gross tonnage must carry an onboard Garbage Management Plan. The plan must be accompanied by a Garbage Record Book to track and record generated waste. Any drilling fluids and cuttings generated from HDD works in the nearshore, like other wastes, will be collected and disposed of by licensed carriers to licensed sites.

The RM appointed by the contractor or subcontractor should conduct audits and checks to ensure

- > Type, quantity /weight and designated location (i.e., waste management facilities of the waste;
- > Correct labelling and signage is applied;
- > Waste management designation (re-use, recycling etc.);
- Contractors and subcontractors have the correct waste procedures in place for waste segregation; and
- > Facilities hold the required permits and licenses.

4.2 **Storage and Handling**

Any hazardous waste such as chemicals produced during project activities will be stored and clearly labelled in containers or drums, with the type of waste. These containers should be kept in a segregated and designated Waste Storage Area (WSA) of the ship to ensure safety and for record of waste compilation. The WSA, as per the guidance should be:

- > Assessed as fit for purpose;
- Suitably contained, bunded or defined as required;
- Designated to reduce any potential for impact on the marine environments (e.g., Special Area of Conservation (SACs) and Special Protection Area (SPAs));
- A suitable buffer applied;
- Labelled and signed to inform the WSA requirements and restrictions; and
- > Provide information on any signage of good resource practice across the site.

The appointed RM will perform regular auditing of the WSA and workplace in the Offshore Site to ensure the adequacy of labelling, signage, storage, compliance with resource segregation protocols and an assessment of the contractor or subcontractor work practices. Reviews of waste records (including assigned LoW codes), movements and quantities being transported (see 4.1.3 for details) are also required.

Waste should be subsequently returned to shore by the contractor and subsequently delivered to the relevant waste facility. The waste material generated should be treated as per the Waste Hierarchy (see Section 2.2) and classified based on the potential to harm the environment (i.e., hazardous, non-hazardous, mirror) (see Section 3.1).

4.3 Waste Treatment

Approximately 65 % of Ireland's hazardous waste is exported to other European countries for treatment as Ireland does not have the infrastructure to treat the total amount of produced waste. Off-site waste treatment is primarily limited to oil recovery, blending of solvents and the physio-chemical treatment of waste.



Practicality is advised when dealing with designated waste. Waste should be transported to shore and disposed of at the licensed waste facilities by a licensed handler. A list of disposal methods are presented in Table 4-1.

Waste	Disposal Method	
Hazardous (Special) Waste		
Chemicals	Re-used and recycled where possible. Some chemicals may be treated on site. Disposal will take place at an authorised facility.	
Chemical drums and containers	Re-used and recycled where possible. Disposal will take place at an authorised facility if hazardous containers or drums cannot be cleaned.	
Medical waste	Treated via autoclaving (using steam and pressure to sterilise) or incineration. Where this is not possible, medical waste is disposed of at an authorised facility.	
Lighting and electronics	Take back scheme operated by the producers including waste electrical and electronic equipment (WEEE).	
PPE gear	Treated via autoclaving (using steam and pressure to sterilise) or incineration. Where this is not possible, medical waste is disposed of at an authorised facility.	
Oils and any oil contaminated materials	 Two primary methods: Energy recovery for later reuse and recycling; and Pre-treatment and fractional distillation and re-refining to recover any oils which can be reused later in industrial processes. 	
Aerosol containers	Paints and paint thinners, solvents etc	
Non-Hazardous Waste		
Blackwater (sewage) and greywater (domestic water)	For vessels with suitable sewage treatment systems, it will be treated and discharged in line with MARPOL requirements. For vessels without suitable treatment systems, the Contractor is required to supply vessels with tanks that can receive sewage at a capacity in line with duration and number of personnel on board the vessel. Containers will be brought back to shore for disposal by licensed handlers.	
Food waste	Macerated or ground and may be discharged at sea (beyond 3 nautical miles (NM) from shore), or 12 NM from shore if not macerated or ground, in line with MARPOL.	
Glass, general plastics and paper/carboard	Re-used and recycled where possible	





4.4 Monitoring and Reporting

As discussed in Section 4.1, types of waste and its intended destination/ method of disposal amongst others should be recorded and reported. Audits should be undertaken by an RM from the client and contractor to ensure practices and procedures on vessels and designated facilities are aligned with legislation (e.g., the Waste Management Plan, 1996, WFD, MARPOL Garbage Record Books etc.) and by-proxy the RWMP.

Ecological monitoring is conducted during offshore activities, including water and sediment sampling and marine life monitoring to detect any environmental changes. The Applicant and any contractors are required to send their sampling and waste report to the EPA. The EPA may also conduct their own audits to ensure compliance with regulations and the RWMP.



5.

REFERENCES

EPA (2018). Available online at: https://www.epa.ie/publications/monitoring-assessment/waste/national-waste-statistics/list-of-waste-low-guidance-guidance-document-low-queries-.php [Accessed 26/09/2024]

EPA (2021a). National Hazardous Waste Management Plan 2021-2027. Available online at: https://www.epa.ie/publications/circular-economy/resources/national-hazardous-waste-management-plan-2021-2027.php

EPA (2021b). Best Practice Guidelines for The Preparation of Resource & Waste Management

Plans for Construction & Demolition Projects. Available online at: https://www.epa.ie/publications/circular-economy/resources/best-practice-guidelines-for-the-preparation-ofresource-waste-management-plans-for-construction-demolition-projects.php [Accessed 26/09/2024]

Defra (2011). Guidance on applying the waste hierarchy. Available online at: https://www.gov.uk/government/publications/guidance-on-applying-the-waste-hierarchy [Accessed 26/09/2024]