APPENDIX 5-10

VESSEL MANAGEMENT PLAN

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1. SCEIRDE ROCKS VESSEL MANAGEMENT PLAN

1.1 Introduction

Anatec was commissioned by Fuinneamh Sceirde Teoranta (hereafter 'the Applicant') to undertake a Vessel Management Plan (VMP) for the proposed Sceirde Rocks Windfarm (hereafter 'the Project'), which consists of the Offshore Array Area and Offshore Export Cable Corridor.

This VMP covers the following:

- Specific measures to be implemented during the construction phase;
- Specific measures to be implemented during the operation and maintenance (O&M) phase;
- Measures to be implemented during the decommissioning phase;
- How information relating to the Project will be promulgated;
- Approach to indicative transit corridors from relevant ports to the array area;
- Consideration for areas where anchoring may occur and where it will not occur; and
- Consideration for any environmental sensitivities.

The decommissioning phase is anticipated to represent a similar scenario to the construction phase in terms of increased vessel activity and therefore similar procedures will be applied (see Section 1.2). This is referenced where appropriate in this document, noting that the VMP will be reviewed in advance of the decommissioning phase.

The VMP is also considered a live document at this stage, with some details to be added or reviewed as the Project progresses, e.g., appointment of contractors, determination of base ports.

1.2 Navigational Safety Measures during Construction/ Decommissioning

1.2.1 Marine Coordination

The Applicant will establish a marine coordination function which will be used during the construction and decommissioning phases. This will represent a central control base with overarching responsibility for ensuring impacts from project vessels to third party traffic are minimised. Measures in place on this basis to be managed by the marine coordinator will include as a minimum:

- Permission for construction vessels to enter the construction area, for example using a Permit to Work system (noting that third-party vessels will not require permission);
- Liaison with vessels with regards to agreed routeing destinations/ berth/ anchorage (where applicable, and noting that compliance with the Convention on the International Regulations for Preventing Collisions at Sea (COLREGs) (International Maritime Organization (IMO), 1972/77) will remain the navigational priority at all times i.e., the marine coordinator will provide project vessels with relevant information as opposed to direct instruction on routeing);
- Monitor vessels and personnel via communication with vessels and Automatic Identification System (AIS) for any potential vessel access conflicts;
- Defining of advisory safe passing distances (see Section 1.2.4);

- Obtain and provide localised weather information for project vessels to plan the work being undertaken;
- Being the central internal contact point for contractors in case of an emergency; and
- Issuing of Notices to Mariners (NtM) (see Section 1.4.1).

1.2.2 Temporary Lighting and Marking

Based on International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) Guidance on the Marking of Offshore Man-Made Structures G1162 (IALA, 2021), it is proposed that during the construction phase, all structures will be marked via temporary lighting, and a temporary buoyage construction area will be used to mark the overall Offshore Array Area. This will minimise allision risk, and alert passing mariners of the presence of the structures and works within the Offshore Array Area. Any lighting and marking during the construction phase will be agreed in consultation with Irish Lights.

The process by which the temporary lights will be removed relative to the activation of the operational lighting and marking will again be agreed with Irish Lights as part of the Lighting and Marking Plan (LMP) process. A LMP has been included with the Environmental Impact Assessment Report (EIAR) (see Appendix 5-9 : Lighting and Marking Plan) which is also compliant with the IALA G1162 (IALA, 2021).

Lighting and marking to be implemented during decommissioning will be agreed with Irish Lights; however, it is anticipated to likely be similar to that used during the construction phase in terms of use of temporary buoyage.

1.2.3 Guard Vessels

Guard vessels may be required at the Project at particular times during all phases, for example when other project vessels are particularly vulnerable due to partially completed works or a particular construction activity. During these periods, the construction area will be monitored by guard vessel(s) to further protect the area and to provide additional information to third-party vessels.

The decision(s) on when to use a guard vessel will be informed by a dynamic risk assessment process for the activities required to construct the Project.

1.2.4 Advisory Safe Passing Distances

There is currently no framework by which statutory safety zones can be deployed by developers at Irish offshore wind farms. However, the Applicant may utilise advisory safe passing distances around infrastructure or works associated with the construction and decommissioning phases. These advisory safe passing distances will be promulgated via the means set out in Section 1.4, and will serve to alert passing mariners to potential hazards.

1.2.5 Cable Laying/Burial and Other RAM Operations

Restricted in their Ability to Manoeuvre (RAM) vessels will likely be utilised during the cable installation works and heavy lifting operations, and during decommissioning. RAM vessels are such as a result of the nature of the work they are undertaking and therefore are restricted in avoiding an approaching vessel(s). All RAM vessels involved in the construction of the Project will comply with the COLREGs (IMO, 1972/77). All vessels, regardless of their nationality, are required to comply with this convention to ensure that they do not interact with vessels that are restricted in their navigational ability.

RAM vessels will display lights and shapes to indicate their restrictions. They will transmit safety warnings on Very High Frequency (VHF) to inform other vessels of their actions using the 'Sécurité' message if the messages contain important information relating to navigation. Communications between RAM vessels and the marine coordinator will be ongoing throughout the operations.

RAM vessels will comply with vessel type regulation information transmitted through AIS and show current navigational status at all times to ensure other vessels equipped with AIS can identify that they are RAM.

Cable laying and burial activities will also be promulgated through the notification procedure, and, if necessary following internal risk assessment, guard vessels (see Section 1.2.3) or advisory safe passing distances (see Section 1.2.4) may be deployed during the cable laying and burial period.

Decommissioning will likely require similar types of activities involving RAM vessels, and therefore it is anticipated that similar measures will apply.

1.2.6 Emergency Response Cooperation Planning

The Applicant will work with the Irish Coast Guard (IRCG) to develop a document that bridges the Project's emergency response plans and those of the IRCG. This document will detail the procedures by which the Applicant will cooperate with IRCG in the event of an emergency incident.

The plan will be reviewed in advance of decommissioning and in liaison with IRCG.

1.3 Navigation Safety Measures during O&M

1.3.1 Marine Coordination

A marine coordinator will be employed during the O&M phase. This may be in a different location to during the construction phase, with Rossaveel Harbour currently assumed as the primary O&M base. However, the overarching responsibilities will remain the same. On this basis, responsibilities will include at a minimum:

- Permission for vessels to enter the Offshore Array Area, for example using a Permit to Work system (noting that third-party vessels will not require permission);
- Liaison with vessels with regards to agreed routeing destinations/ berth/ anchorage (where applicable, and noting that compliance with COLREGs will remain the navigational priority at all times i.e., the marine coordinator will provide project vessels with relevant information as opposed to direct instruction on routeing);
- Monitor vessels and personnel via communication with vessels and AIS for any potential vessel access conflicts;
- Defining of advisory safe passing distances (see Section 1.2.4);
- Obtain and provide localised weather information for project vessels to plan any maintenance work being undertaken;
- Being the central internal contact point for contractors in case of an emergency; and
- Issuing of NtMs (see Section 1.4.1).

1.3.2 Operational Lighting and Marking

It is expected that the Applicant will comply with IALA G1162 (IALA, 2021). Precise marine lighting and marking to be implemented during the O&M phase will be agreed with Irish Lights via the LMP process. Again, a LMP has been included with the EIAR (Appendix 5-9: Lighting and Marking Plan) which is compliant with IALA G1162.

1.3.3 Guard Vessels

As for the construction phase (see Section 1.2.3), guard vessels may be required at the Project at particular times, for example when other project vessels are particularly vulnerable during major maintenance activity. During these periods, the works will be monitored by guard vessel(s) to further protect the area and to provide additional information to third-party vessels.

The decision(s) on when to use a guard vessel will be informed by a dynamic risk assessment process for the activities required to maintain the Project.

1.3.4 Advisory Safe Passing Distances

As noted in Section 1.2.4, there is currently no framework by which statutory safety zones can be deployed by developers at Irish offshore wind farms, including during O&M. However, the Applicant may utilise advisory safe passing distances around project infrastructure or maintenance works. These advisory safe passing distances will be promulgated via the means set out in Section 1.4, and will serve to alert passing mariners to potential hazards.

1.3.5 Emergency Response Cooperation Planning

As noted in Section 1.2.6, the Applicant will work with the IRCG to develop a document that bridges the Project's emergency response plans and those of the IRCG. This document will detail the procedures by which the Applicant will cooperate with IRCG in the event of an emergency incident and will be updated in advance of the O&M phase with any relevant details (e.g., as built locations of structures).

1.4 Promulgation of Information

This section provides information on the proposed approach to the distribution and issuing of NtMs, and other appropriate notifications to the relevant stakeholders and other marine users.

1.4.1 Notice to Mariners

NtMs will be issued in advance of any activity associated with the Project which may impact upon navigational safety, the Applicant will issue the NtM 30 days prior to the commencement of activities. The Applicant will liaise with the Department of Transport (DoT) who may issue the NtM via their website as Marine Notices as detailed in Section 1.4.2. The marine coordinator will then issue the NtM to a list of relevant and national stakeholders. This marine stakeholder list will be regularly updated to ensure contact details remain up to date and all relevant parties are included.

The NtM will be concise, detailing navigational safety information and will include the information set out in Table 1, which is as per the DoT guidance on the Required Information for the Issue of Marine Notices (DoT, 2023).

Table 1 Content of NtM/ Marine Notice

Content	Description
Type of Activity	Type of activity being undertaken, e.g., subsea survey, deployment of buoy, etc.

Duration of Activity	Starting date and approximate finishing date for operations. Marine Notices will usually state that dates given are weather dependant.
Location	Coordinates that follow the conventional method of maritime positions, using World Geodetic System 1984 (WGS84), where latitude is given before longitude.
Vessels Involved	Name of vessel, type of vessel and call sign of vessel.
Safety Precautions Taken	e.g., buoys or markers to highlight area of activity, radio transmissions to notify other seafarers (i.e. VHF channel), etc.
If Buoys are Used	Information on the type/ colour of buoy and the colour and flashing sequence of any lights attached must be included.
Diagrams and/ or Maps	Will also be included. Will show extract(s) from an up-to-date United Kingdom Hydrographic Office (UKHO) Admiralty Chart.

Any vessels used in operations will be appropriately licensed for the area and have the requisite Certificates, e.g., Irish Load Line Cert, in place beforehand. Issuance of a Marine Notice does not grant permission for works or operations to commence. The required permissions/ licences/ certificates will be obtained in advance from the relevant authorities e.g., Maritime Usage Licence, license to dive/ survey etc.

1.4.1.1 NtM Issued Prior to the Commencement of Construction

The Applicant will, as soon as practicable prior to the commencement of any construction activities, ensure that marine stakeholders are made fully aware of such works through NtM (or any other appropriate means).

1.4.1.2 NtM upon Commissioning and During O&M

The Applicant will ensure marine stakeholders are made fully aware of the completion of the construction works and commissioning of the Project. The Applicant will ensure that relevant stakeholders are informed via NtM of any planned and unplanned maintenance activities that are outside the day-to-day maintenance activities associated with the Project.

1.4.1.3 Post Commissioning

The Applicant will, upon the commissioning of the Project, provide the 'as built' positions and maximum heights of all wind turbine generators (WTG), substations, and any subsea infrastructure to the UKHO (who produce Ireland's Admiralty Charts) for nautical charting purposes. WTGs will be charted by the UKHO using the WTG tower chart symbol or within the development area chart symbol (as presented in Symbols and Abbreviations used on ADMIRALTY Paper Charts NP5011 (UKHO, 2020)) on appropriately scaled charts.

The same information will be provided to the Marine Survey Office (MSO).

1.4.1.4 Decommissioning

The Applicant will, as soon as practicable prior to the commencement of any decommissioning activities, ensure that marine stakeholder are made fully aware of such works through NtMs and other

appropriate means such as newsletters and harbour notices. Stakeholders will also be made aware following completion of decommissioning.

1.4.2 Marine Notices

Marine Notices are issued by the DoT, and are intended to publicise important safety, regulatory and other information relating to the maritime sector in Ireland. The DoT will be included on the marine stakeholder distribution list (see Section 1.4.1) and will therefore be provided with NtMs issued by the Applicant. The DoT may choose to publish key information provided in the NtM as Marine Notices.

1.4.3 Fishing Vessels

The approach to promulgation of information to fishing vessels is set out in the Appendix 5-7: Fisheries Management and Mitigation Strategy (FMMS).

1.4.4 Radio Navigational Warnings

Radio navigational warnings may be issued if an activity or incident poses a danger to other marine users. Examples of when radio navigational warnings could be issued are:

- Failures to light signals, fog signals, buoys, or other aids to navigation (AtoN);
- Establishing new AtoN;
- Cable laying and burial activities where a risk is posed to passing traffic, including exposed cable on the seabed;
- Other underwater operations that may constitute potential dangers in or near shipping lanes; and/ or
- Vessels not under command or undertaking significant RAM operations.

In the context of radio navigational warnings, the UKHO act as the Navigation Area (NAVAREA) 1 (NE Atlantic) Coordinator of the IMO and International Hydrographic Organization (IHO) Worldwide Navigational Warning Service. However, IRCG are the body responsible for broadcasting the warnings.

1.4.5 Incident Reporting

As required under the Merchant Shipping (Investigation of Marine Casualties) Act, 2000, any marine incidents/ casualties shall be reported to the MSO as soon as is practicable following the occurrence. Following the initial report any relevant details of the incident requested by the Marine Casualty Investigation Board (MCIB) will be provided.

1.5 Location of Working Ports

1.5.1 Construction Phase

Ports to be used during the construction phase are not yet confirmed. Shannon Foynes Port, Rossaveel, Cork and Belfast harbours, along with ports in the UK and continental Europe, are all being considered as ports which will support construction activities for the Project. This is subject to project-specific requirements and the availability of ports and other local facilities during construction, a multi-port approach may also be considered prior to commencement of construction.

1.5.2 O&M Phase

Ports to be used during the O&M phase as the O&M base are not yet determined. However, it is assumed that Rossaveel Harbour will be the primary O&M base. The O&M port will be confirmed post consent.

1.6 Vessel Movements

Vessels to be used during the construction, O&M phase and decommissioning of the Project cannot be precisely determined at this stage. However, this section provides indicative details of the vessel types that could be used during each phase, and how many vessel movements could be expected for each of those types.

1.6.1 Construction Phase

Table 2 summarises the maximum number of vessels and return trips for each construction activity. These numbers have been defined for assessment purposes within the EIAR with further detail provided in Chapter 5: Project Description.

Table 2 Breakdown of Construction Vessel Numbers

Construction Activity	Vessel Type	Vessel Numbers
Seabed Preparation	Fallpipe rock dumper	1
	Trailing Suction Hopper Dredger	1
OSS installation	Heavy lift vessel	1
	Tug	1
	Barge	1
Inter-array cable installation	Cable lay vessel	1
	Trenching support vessel	1
	Service operation vessel	1
	Fallpipe rock dumper	1
Export cable installation	Cable lay vessel	1
	Trenching support vessel	1
	Service operation vessel	1
	Fallpipe rock dumper	1
	Shallow water pull-in vessel	1
	Multi-cat landfall construction support vessel	1

GBS foundation installation	Main tug	1
	Assist tug	2
	Infield tug	1
WTG installation	WTG installation vessel (WTIV)	1
	Service operation vessel	1
	Crew transfer vessel	1
Construction and major maintenance operations	Guard vessel	1
Total		**23**

Total number of vessels is 23 vessels, noting that a vessel has not been included for WTIV. If a WTIV was engaged for the OSS installation it is assumed that the HLV would not be required.

1.6.2 O&M Phase

Table 3 summarises the maximum number of O&M vessels and return trips per year for each vessel type. Again, these numbers have been defined for assessment purposes within the EIAR with further details provided in Chapter 5 Project Description.

Table 3 Breakdown of O&M Vessel Numbers

Vessel Type	Return Trips per Year
Crew transfer vessel	730
Service operation vessel	365
Jackup vessel	2
Cable survey vessel	1
Total	**1,098**

1.6.3 Decommissioning Phase

Vessel movements per year during the decommissioning phase will closely resemble those during construction in terms of vessel type and numbers (see Section 1.6.1).

1.7 Project Vessel Routeing

It is intended that indicative transit corridor routes will be defined in advance of the construction phase to provide an indication of the areas which project vessels may utilise for navigation. However, requirements for project vessels to comply with COLREGs (IMO, 1972/77) shall remain the key navigational priority at all times. On this basis it should be noted that these indicative routes will not be intended to be prescriptive for the purposes of navigation and will not be followed precisely by every project vessel. All project vessels shall passage plan as per the International Regulations for the Safety of Life at Sea (SOLAS) (IMO, 1974).

Indicative transit corridors will exist between the ports detailed in Section 1.5 and the Offshore Array Area. Project vessels may deviate from these indicative routes for a variety of reasons at the discretion of the vessel's Master, for example due to:

- Compliance with COLREGs (IMO, 1972/77) or SOLAS (IMO, 1974);
- Prevailing weather, tidal or sea state conditions;
- Navigational hazards as indicated on charts or notified through a NtM or other such sources;
- Due to the vessel originating from or being bound for a destination not indicated by the indicative transit routes;
- Advice from the marine coordinator or other responsible persons in charge of coordinating and managing construction vessel traffic; and
- Such other reasons as the Master of a vessel may deem relevant for the purposes of ensuring the safety of his vessel or another vessel.

For example, for Shannon Foynes Port, shipping and navigation related constraints anticipated for the indicative transit corridors include navigable water depths within the Shannon Estuary as well as pilotage and anchorage locations. For Rossaveel Harbour, such constraints anticipated include navigable water depths within Cashla Bay as well as leading lights, pilotage and anchorage locations, and foul grounds. Routes from all ports will also need to consider the various rocks located at the Offshore Array Area.

Consultation will be undertaken with the MSO with respect to if, how, and where the routes will be implemented.

1.8 Anchoring

1.8.1 Anchorage Areas

1.8.1.1 Project Vessel Anchoring

Anchoring is at the discretion of the vessel Master but can be in conjunction with the information provided by the marine coordinator or port authorities where relevant. However, standard marine practice requires that when a vessel proceeds to anchor, consideration is given to:

- Water depth;
- Seabed type and charted hazards including cables/ pipelines;
- Weather and tidal information including current and predicted weather;
- Avoidance of prohibited anchorage areas;
- Consideration of other anchored vessels;
- Avoidance of known areas of other marine activity such as fishing or recreational boating; and

- Avoidance of main commercial routes, pilot boarding areas or other navigational features such as spoil grounds or subsea cables.

All project vessels will take the above into consideration prior to anchoring as per standard marine practice. Where a project vessel requires anchorage within the Offshore Array Area permission will be requested from the marine coordinator.

1.8.1.2 Summary of NRA Findings

The NRA includes assessment of charted anchorage areas. Charted anchorages are situated throughout sheltered areas along the Irish coast, although none are located within any offshore component of the Project. Assessment of vessel traffic data undertaken in the NRA (Appendix 14-1: Navigational Risk Assessment) indicated that no vessels were deemed to be at anchor within proximity to the Project (i.e., within the respective study areas used for vessel traffic analysis).

Charted anchorage locations in proximity to the Project are shown in Figure 1, alongside ports and harbours. Following this Figure 2, details anchorage locations in proximity to Shannon Foynes. It is noted that these are not necessarily areas that project vessels will use for anchoring, and the factors listed in Section 1.8.1.1 will be considered by every project vessel prior to planned anchoring.

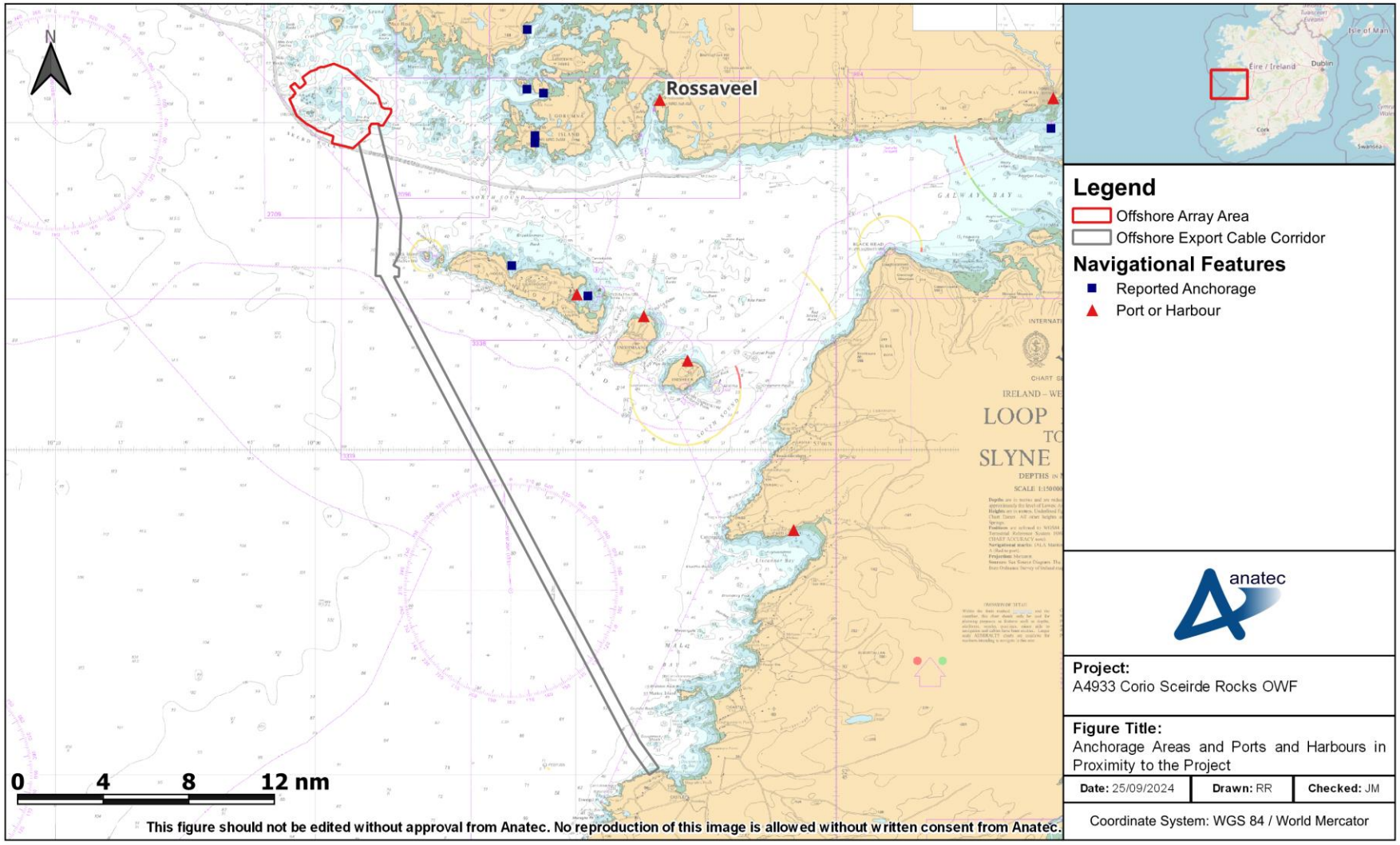

Figure 1 Anchorage Areas and Ports and Harbours in Proximity to the Project

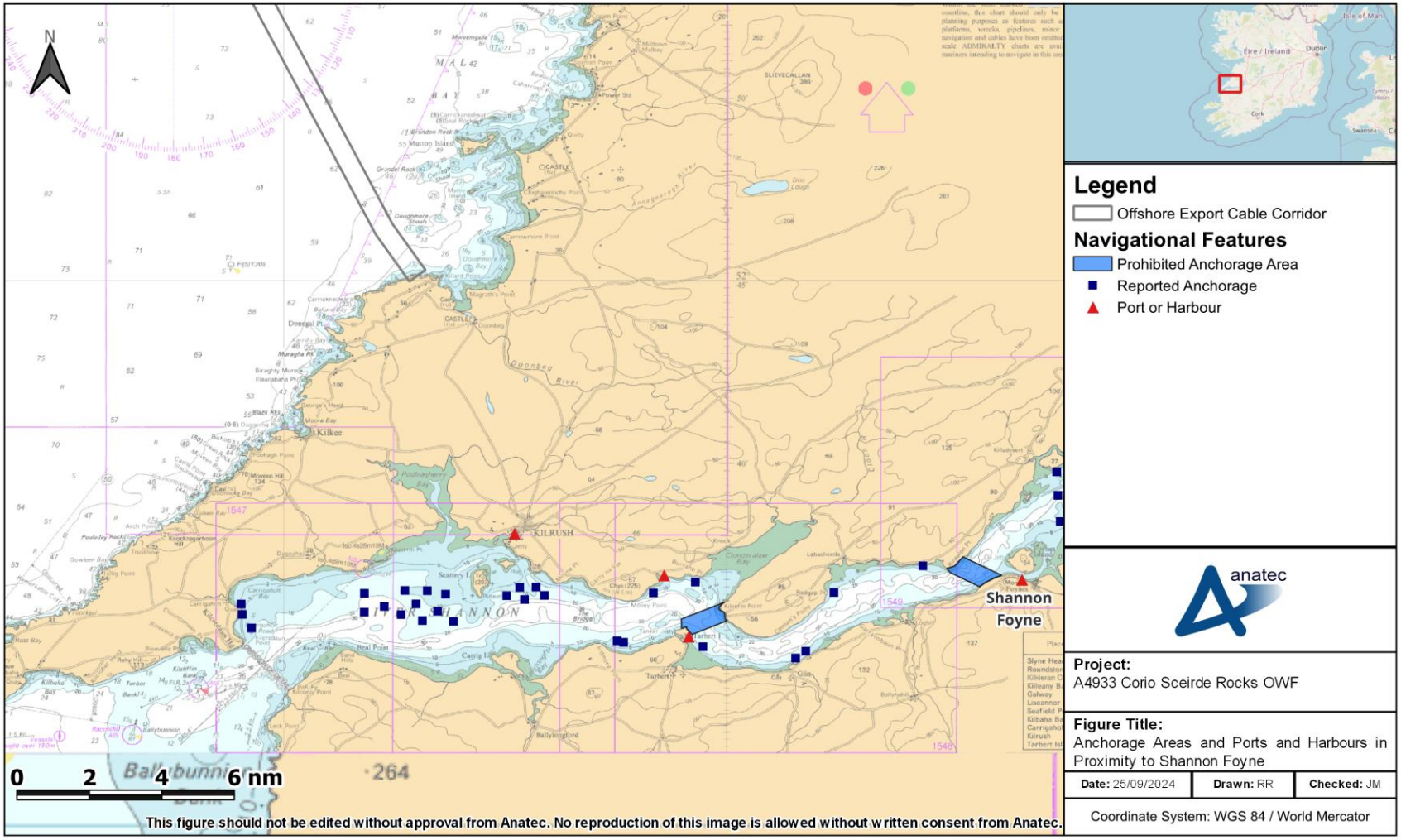

Figure 2 Anchorage Areas and Ports and Harbours in Proximity to Shannon Foynes

1.8.1.3 Areas to Avoid when Anchoring

There is no charted information to indicate that anchoring is prohibited in any areas within the vicinity of the Project. However, there are two areas of prohibited anchoring within the River Shannon in the approaches to Shannon Foynes Port (see Figure 2).

1.9 Environmental Sensitivities

Details of any sensitivities relevant to vessel traffic associated with construction and O&M of the Project will be included here. Provisionally, the following receptors will be considered:

- Cetaceans (whales, dolphins and porpoises), which occur either as individuals or as groups (pods), notably the bottlenose dolphin population resident within the Shannon Estuary or ranging around the west coast of Ireland;
- Aggregations (resting or foraging) of seabirds or other migratory birds; and
- Basking sharks, which occur west of Ireland primarily during summer months and are frequently observed close to the surface.

Specific, detailed mitigation measures will be included here, particularly in relation to the indicative vessel routes detailed in Section 1.7. These measures will include speed restrictions on Project vessels operating in sensitive areas.

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